Appendix A

Air Quality and Greenhouse Gas Modeling Results

Oxnard Central Trunk Sewer V2 Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Oxnard Central Trunk Sewer V2
Construction Start Date	3/1/2024
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.20
Precipitation (days)	21.2
Location	34.19889440743019, -119.17536250451269
County	Ventura
City	Oxnard
Air District	Ventura County APCD
Air Basin	South Central Coast
TAZ	3435
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.14

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

Road Construction	0.82	Mile	1.00	0.00	0.00	—	—	—
Other Asphalt Surfaces	2.88	1000sqft	0.07	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

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.	4.27	3.59	31.9	32.7	0.06	1.43	2.54	3.19	1.31	1.19	1.79	—	7,305	7,305	0.29	0.13	2.75	7,353
Mit.	1.04	0.98	7.18	39.9	0.06	0.18	2.54	2.58	0.17	1.19	1.23	—	7,305	7,305	0.29	0.13	2.75	7,353
% Reduced	76%	73%	77%	-22%	—	87%	—	19%	87%	—	31%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.26	3.57	31.9	32.5	0.06	1.43	1.76	3.19	1.31	0.26	1.57	—	7,285	7,285	0.29	0.13	0.07	7,331
Mit.	1.04	0.96	7.23	39.7	0.06	0.18	1.76	1.94	0.17	0.26	0.43	—	7,285	7,285	0.29	0.13	0.07	7,331
% Reduced	76%	73%	77%	-22%	—	87%	—	39%	87%	—	72%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	1.65	1.38	12.3	12.6	0.02	0.54	0.76	1.30	0.50	0.20	0.70	—	2,617	2,617	0.11	0.04	0.34	2,631
Mit.	0.35	0.33	2.97	14.6	0.02	0.06	0.76	0.82	0.06	0.20	0.26	—	2,617	2,617	0.11	0.04	0.34	2,631
% Reduced	79%	76%	76%	-16%	—	89%	—	37%	88%	—	63%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.30	0.25	2.24	2.29	< 0.005	0.10	0.14	0.24	0.09	0.04	0.13	—	433	433	0.02	0.01	0.06	436
Mit.	0.06	0.06	0.54	2.66	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	—	433	433	0.02	0.01	0.06	436
% Reduced	79%	76%	76%	-16%	—	89%	—	37%	88%	—	63%	—	—	—	—	—	—	—

2.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.27	3.59	31.9	32.7	0.06	1.43	2.54	3.19	1.31	1.19	1.79	—	7,305	7,305	0.29	0.13	2.75	7,353
2025	1.28	1.07	8.95	10.0	0.02	0.33	0.00	0.33	0.30	0.00	0.30	—	1,801	1,801	0.07	0.01	0.00	1,807
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.26	3.57	31.9	32.5	0.06	1.43	1.76	3.19	1.31	0.26	1.57	—	7,285	7,285	0.29	0.13	0.07	7,331
2025	1.28	1.07	8.95	10.0	0.02	0.33	0.00	0.33	0.30	0.00	0.30	—	1,801	1,801	0.07	0.01	0.00	1,807
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.65	1.38	12.3	12.6	0.02	0.54	0.76	1.30	0.50	0.20	0.70	—	2,617	2,617	0.11	0.04	0.34	2,631
2025	0.25	0.21	1.75	1.96	< 0.005	0.06	0.00	0.06	0.06	0.00	0.06	—	352	352	0.01	< 0.005	0.00	354
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.30	0.25	2.24	2.29	< 0.005	0.10	0.14	0.24	0.09	0.04	0.13	—	433	433	0.02	0.01	0.06	436

2025	0.05	0.04	0.32	0.36	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	—	58.4	58.4	< 0.005	< 0.005	0.00	58.6

2.3. Construction Emissions by Year, Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.04	0.98	7.18	39.9	0.06	0.18	2.54	2.58	0.17	1.19	1.23	—	7,305	7,305	0.29	0.13	2.75	7,353
2025	0.32	0.30	4.34	11.0	0.02	0.06	0.00	0.06	0.06	0.00	0.06	—	1,801	1,801	0.07	0.01	0.00	1,807
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.04	0.96	7.23	39.7	0.06	0.18	1.76	1.94	0.17	0.26	0.43	—	7,285	7,285	0.29	0.13	0.07	7,331
2025	0.32	0.30	4.34	11.0	0.02	0.06	0.00	0.06	0.06	0.00	0.06	—	1,801	1,801	0.07	0.01	0.00	1,807
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.35	0.33	2.97	14.6	0.02	0.06	0.76	0.82	0.06	0.20	0.26	—	2,617	2,617	0.11	0.04	0.34	2,631
2025	0.06	0.06	0.85	2.15	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	—	352	352	0.01	< 0.005	0.00	354
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.06	0.06	0.54	2.66	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	—	433	433	0.02	0.01	0.06	436
2025	0.01	0.01	0.15	0.39	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	—	58.4	58.4	< 0.005	< 0.005	0.00	58.6

2.4. Operations 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.	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.06	0.05	0.15	0.13	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	27.0	27.0	< 0.005	< 0.005	0.00	27.1
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.01	0.03	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	4.47	4.47	< 0.005	< 0.005	0.00	4.49

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Total	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Area	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Total	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.06	0.05	0.15	0.13	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	27.0	27.0	< 0.005	< 0.005	0.00	27.1
Total	0.06	0.05	0.15	0.13	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	27.0	27.0	< 0.005	< 0.005	0.00	27.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.01	0.01	0.03	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	4.47	4.47	< 0.005	< 0.005	0.00	4.49
Total	0.01	0.01	0.03	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	4.47	4.47	< 0.005	< 0.005	0.00	4.49

2.6. Operations Emissions by Sector, Mitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Total	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Total	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Stationar	0.06	0.05	0.15	0.13	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	27.0	27.0	< 0.005	< 0.005	0.00	27.1
Total	0.06	0.05	0.15	0.13	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	27.0	27.0	< 0.005	< 0.005	0.00	27.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.01	0.01	0.03	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	4.47	4.47	< 0.005	< 0.005	0.00	4.49
Total	0.01	0.01	0.03	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	4.47	4.47	< 0.005	< 0.005	0.00	4.49

3. Construction Emissions Details

3.1. Site Preparation (2024) - 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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.70	1.43	13.7	12.9	0.02	0.65	—	0.65	0.59	—	0.59	—	2,064	2,064	0.08	0.02	—	2,071
Dust From Material Movement	—	—	—	—	—	—	2.44	2.44	—	1.17	1.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.71	< 0.005	0.04	—	0.04	0.03	—	0.03	—	113	113	< 0.005	< 0.005	—	113
Dust From Material Movement	—	—	—	—	—	—	0.13	0.13	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	18.7	18.7	< 0.005	< 0.005	—	18.8
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.51	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.44	104
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.40	5.40	< 0.005	< 0.005	0.01	5.47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.89	0.89	< 0.005	< 0.005	< 0.005	0.91
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Preparation (2024) - Mitigated

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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.19	1.01	11.9	0.02	0.04	—	0.04	0.04	—	0.04	—	2,064	2,064	0.08	0.02	—	2,071
Dust From Material Movement	—	—	—	—	—	—	2.44	2.44	—	1.17	1.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.65	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	113	113	< 0.005	< 0.005	—	113

Dust From Material Movement	—	—	—	—	—	—	0.13	0.13	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.7	18.7	< 0.005	< 0.005	—	18.8
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.51	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.44	104
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.40	5.40	< 0.005	< 0.005	0.01	5.47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.89	0.89	< 0.005	< 0.005	< 0.005	0.91
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2024) - 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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.70	1.43	13.7	12.9	0.02	0.65	—	0.65	0.59	—	0.59	—	2,064	2,064	0.08	0.02	—	2,071
Dust From Material Movement	—	—	—	—	—	—	2.44	2.44	—	1.17	1.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.71	< 0.005	0.04	—	0.04	0.03	—	0.03	—	113	113	< 0.005	< 0.005	—	113
Dust From Material Movement	—	—	—	—	—	—	0.13	0.13	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	18.7	18.7	< 0.005	< 0.005	—	18.8

Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.51	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.44	104
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.40	5.40	< 0.005	< 0.005	0.01	5.47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.89	0.89	< 0.005	< 0.005	< 0.005	0.91
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2024) - Mitigated

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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.19	1.01	11.9	0.02	0.04	—	0.04	0.04	—	0.04	—	2,064	2,064	0.08	0.02	—	2,071
Dust From Material Movement	—	—	—	—	—	—	2.44	2.44	—	1.17	1.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.65	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	113	113	< 0.005	< 0.005	—	113
Dust From Material Movement	—	—	—	—	—	—	0.13	0.13	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.7	18.7	< 0.005	< 0.005	—	18.8
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.51	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.44	104
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.40	5.40	< 0.005	< 0.005	0.01	5.47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.89	0.89	< 0.005	< 0.005	< 0.005	0.91
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2024) - 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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.36	1.13	9.44	10.1	0.02	0.37	—	0.37	0.34	—	0.34	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.36	1.13	9.44	10.1	0.02	0.37	—	0.37	0.34	—	0.34	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.24	2.03	2.18	< 0.005	0.08	—	0.08	0.07	—	0.07	—	388	388	0.02	< 0.005	—	389
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.37	0.40	< 0.005	0.01	—	0.01	0.01	—	0.01	—	64.2	64.2	< 0.005	< 0.005	—	64.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2024) - Mitigated

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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.30	4.34	11.0	0.02	0.06	—	0.06	0.06	—	0.06	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.30	4.34	11.0	0.02	0.06	—	0.06	0.06	—	0.06	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.93	2.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	388	388	0.02	< 0.005	—	389

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.17	0.43	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	64.2	64.2	< 0.005	< 0.005	—	64.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2025) - 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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.75	1.96	< 0.005	0.06	—	0.06	0.06	—	0.06	—	352	352	0.01	< 0.005	—	354
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.32	0.36	< 0.005	0.01	—	0.01	0.01	—	0.01	—	58.4	58.4	< 0.005	< 0.005	—	58.6
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2025) - Mitigated

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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.32	0.30	4.34	11.0	0.02	0.06	—	0.06	0.06	—	0.06	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.30	4.34	11.0	0.02	0.06	—	0.06	0.06	—	0.06	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	0.85	2.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	352	352	0.01	< 0.005	—	354
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.15	0.39	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	58.4	58.4	< 0.005	< 0.005	—	58.6
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Linear, Grading & Excavation (2024) - 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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.07	3.42	31.2	30.4	0.06	1.42	—	1.42	1.31	—	1.31	—	6,495	6,495	0.26	0.05	—	6,518
Dust From Material Movement	—	—	—	—	—	—	1.24	1.24	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	4.07	3.42	31.2	30.4	0.06	1.42	—	1.42	1.31	—	1.31	—	6,495	6,495	0.26	0.05	—	6,518
Dust From Material Movement	—	—	—	—	—	—	1.24	1.24	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	4.28	4.17	0.01	0.19	—	0.19	0.18	—	0.18	—	890	890	0.04	0.01	—	893
Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	0.78	0.76	< 0.005	0.04	—	0.04	0.03	—	0.03	—	147	147	0.01	< 0.005	—	148
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.16	0.16	2.19	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	443	443	0.02	0.02	1.91	451
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.3	31.3	< 0.005	< 0.005	0.09	32.8
Hauling	0.02	0.01	0.45	0.11	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	335	335	0.01	0.05	0.75	352

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.14	0.19	1.98	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	424	424	0.02	0.02	0.05	429
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.3	31.3	< 0.005	< 0.005	< 0.005	32.7
Hauling	0.01	0.01	0.47	0.11	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	335	335	0.01	0.05	0.02	351
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.27	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	58.5	58.5	< 0.005	< 0.005	0.11	59.3
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.29	4.29	< 0.005	< 0.005	0.01	4.49
Hauling	< 0.005	< 0.005	0.06	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	45.9	45.9	< 0.005	0.01	0.04	48.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.68	9.68	< 0.005	< 0.005	0.02	9.82
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.71	0.71	< 0.005	< 0.005	< 0.005	0.74
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.60	7.60	< 0.005	< 0.005	0.01	7.97

3.10. Linear, Grading & Excavation (2024) - Mitigated

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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.85	0.81	6.52	37.6	0.06	0.17	—	0.17	0.17	—	0.17	—	6,495	6,495	0.26	0.05	—	6,518
Dust From Material Movement	—	—	—	—	—	—	1.24	1.24	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.85	0.81	6.52	37.6	0.06	0.17	—	0.17	0.17	—	0.17	—	6,495	6,495	0.26	0.05	—	6,518
Dust From Material Movement	—	—	—	—	—	—	1.24	1.24	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.11	0.89	5.15	0.01	0.02	—	0.02	0.02	—	0.02	—	890	890	0.04	0.01	—	893
Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.94	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	147	147	0.01	< 0.005	—	148
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.16	0.16	2.19	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	443	443	0.02	0.02	1.91	451

Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.3	31.3	< 0.005	< 0.005	0.09	32.8
Hauling	0.02	0.01	0.45	0.11	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	335	335	0.01	0.05	0.75	352
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.14	0.19	1.98	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	424	424	0.02	0.02	0.05	429
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.3	31.3	< 0.005	< 0.005	< 0.005	32.7
Hauling	0.01	0.01	0.47	0.11	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	335	335	0.01	0.05	0.02	351
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.27	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	58.5	58.5	< 0.005	< 0.005	0.11	59.3
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.29	4.29	< 0.005	< 0.005	0.01	4.49
Hauling	< 0.005	< 0.005	0.06	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	45.9	45.9	< 0.005	0.01	0.04	48.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.68	9.68	< 0.005	< 0.005	0.02	9.82
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.71	0.71	< 0.005	< 0.005	< 0.005	0.74
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.60	7.60	< 0.005	< 0.005	0.01	7.97

3.11. Linear, Grading & Excavation (2024) - 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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.07	3.42	31.2	30.4	0.06	1.42	—	1.42	1.31	—	1.31	—	6,495	6,495	0.26	0.05	—	6,518

Dust From Material Movement	—	—	—	—	—	—	1.24	1.24	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	4.28	4.17	0.01	0.19	—	0.19	0.18	—	0.18	—	890	890	0.04	0.01	—	893
Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	0.78	0.76	< 0.005	0.04	—	0.04	0.03	—	0.03	—	147	147	0.01	< 0.005	—	148
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.16	0.16	2.19	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	443	443	0.02	0.02	1.91	451
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.3	31.3	< 0.005	< 0.005	0.09	32.8
Hauling	0.01	0.01	0.40	0.09	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	—	298	298	0.01	0.05	0.67	313

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.27	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	58.5	58.5	< 0.005	< 0.005	0.11	59.3
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.29	4.29	< 0.005	< 0.005	0.01	4.49
Hauling	< 0.005	< 0.005	0.06	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	40.9	40.9	< 0.005	0.01	0.04	42.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.68	9.68	< 0.005	< 0.005	0.02	9.82
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.71	0.71	< 0.005	< 0.005	< 0.005	0.74
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.76	6.76	< 0.005	< 0.005	0.01	7.10

3.12. Linear, Grading & Excavation (2024) - Mitigated

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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.66	0.66	6.16	37.5	0.06	0.12	—	0.12	0.12	—	0.12	—	6,495	6,495	0.26	0.05	—	6,518
Dust From Material Movement	—	—	—	—	—	—	1.24	1.24	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.09	0.84	5.14	0.01	0.02	—	0.02	0.02	—	0.02	—	890	890	0.04	0.01	—	893
Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.94	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	147	147	0.01	< 0.005	—	148
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.16	0.16	2.19	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	443	443	0.02	0.02	1.91	451
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.3	31.3	< 0.005	< 0.005	0.09	32.8
Hauling	0.01	0.01	0.40	0.09	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	—	298	298	0.01	0.05	0.67	313
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.27	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	58.5	58.5	< 0.005	< 0.005	0.11	59.3
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.29	4.29	< 0.005	< 0.005	0.01	4.49

Hauling	< 0.005	< 0.005	0.06	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	40.9	40.9	< 0.005	0.01	0.04	42.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.68	9.68	< 0.005	< 0.005	0.02	9.82
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.71	0.71	< 0.005	< 0.005	< 0.005	0.74
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.76	6.76	< 0.005	< 0.005	0.01	7.10

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4.1.2. Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4.2. Energy

4.2.1. Electricity Emissions By Land Use - 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.2. Electricity Emissions By Land Use - Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.3. Natural Gas Emissions By Land Use - 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

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

Consum Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3.1. Mitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipme	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.4. Water Emissions by Land Use

4.4.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.4.1. Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5. Waste Emissions by Land Use

4.5.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5.1. Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.6. Refrigerant Emissions by Land Use

4.6.1. 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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.6.2. Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

Equipment Type	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

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

Equipment Type	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Total	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396

Total	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.01	0.01	0.03	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	4.47	4.47	< 0.005	< 0.005	0.00	4.49
Total	0.01	0.01	0.03	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	4.47	4.47	< 0.005	< 0.005	0.00	4.49

4.8.2. Mitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Total	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Total	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.01	0.01	0.03	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	4.47	4.47	< 0.005	< 0.005	0.00	4.49

Total	0.01	0.01	0.03	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	4.47	4.47	< 0.005	< 0.005	0.00	4.49

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

Equipment Type	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

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

Equipment Type	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. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Jack and Bore	Site Preparation	5/10/2024	6/6/2024	5.00	20.0	—
Lift Station Site Prep	Site Preparation	8/16/2024	9/12/2024	5.00	20.0	—

Lift Station Construction/Electrical	Building Construction	9/13/2024	4/10/2025	5.00	150	—
Open Cut Excavation	Linear, Grading & Excavation	3/1/2024	5/9/2024	5.00	50.0	—
Open Cut Trenching	Linear, Grading & Excavation	6/7/2024	8/15/2024	5.00	50.0	—

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
Jack and Bore	Graders	Diesel	Average	1.00	8.00	148	0.41
Jack and Bore	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40
Jack and Bore	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Lift Station Site Prep	Graders	Diesel	Average	1.00	8.00	148	0.41
Lift Station Site Prep	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40
Lift Station Site Prep	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Lift Station Construction/Electrical	Cranes	Diesel	Average	1.00	6.00	367	0.29
Lift Station Construction/Electrical	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Lift Station Construction/Electrical	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Lift Station Construction/Electrical	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Lift Station Construction/Electrical	Welders	Diesel	Average	3.00	8.00	46.0	0.45
Open Cut Excavation	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Open Cut Excavation	Excavators	Diesel	Average	3.00	8.00	36.0	0.38

Open Cut Excavation	Graders	Diesel	Average	1.00	8.00	148	0.41
Open Cut Excavation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Open Cut Excavation	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Open Cut Excavation	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Open Cut Excavation	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Open Cut Excavation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Open Cut Trenching	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Open Cut Trenching	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Open Cut Trenching	Graders	Diesel	Average	1.00	8.00	148	0.41
Open Cut Trenching	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Open Cut Trenching	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Open Cut Trenching	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Open Cut Trenching	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Open Cut Trenching	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Jack and Bore	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Jack and Bore	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	7.00	367	0.40
Jack and Bore	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Lift Station Site Prep	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Lift Station Site Prep	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	7.00	367	0.40
Lift Station Site Prep	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Lift Station Construction/Electrical	Cranes	Diesel	Tier 4 Final	1.00	6.00	367	0.29

Lift Station Construction/Electrical	Forklifts	Diesel	Tier 4 Final	1.00	6.00	82.0	0.20
Lift Station Construction/Electrical	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Lift Station Construction/Electrical	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	6.00	84.0	0.37
Lift Station Construction/Electrical	Welders	Diesel	Tier 4 Final	3.00	8.00	46.0	0.45
Open Cut Excavation	Crawler Tractors	Diesel	Tier 4 Final	1.00	8.00	87.0	0.43
Open Cut Excavation	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Open Cut Excavation	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Open Cut Excavation	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Open Cut Excavation	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Open Cut Excavation	Rubber Tired Loaders	Diesel	Tier 4 Final	1.00	8.00	150	0.36
Open Cut Excavation	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Open Cut Excavation	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Open Cut Excavation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Open Cut Trenching	Crawler Tractors	Diesel	Tier 4 Final	1.00	8.00	87.0	0.43
Open Cut Trenching	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Open Cut Trenching	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Open Cut Trenching	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Open Cut Trenching	Rubber Tired Loaders	Diesel	Tier 4 Final	1.00	8.00	150	0.36
Open Cut Trenching	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Open Cut Trenching	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Open Cut Trenching	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Open Cut Excavation	—	—	—	—
Open Cut Excavation	Worker	32.5	18.5	LDA,LDT1,LDT2
Open Cut Excavation	Vendor	1.00	10.2	HHDT,MHDT
Open Cut Excavation	Hauling	4.74	20.0	HHDT
Open Cut Excavation	Onsite truck	—	—	HHDT
Open Cut Trenching	—	—	—	—
Open Cut Trenching	Worker	32.5	18.5	LDA,LDT1,LDT2
Open Cut Trenching	Vendor	1.00	10.2	HHDT,MHDT
Open Cut Trenching	Hauling	4.22	20.0	HHDT
Open Cut Trenching	Onsite truck	—	—	HHDT
Jack and Bore	—	—	—	—
Jack and Bore	Worker	7.50	18.5	LDA,LDT1,LDT2
Jack and Bore	Vendor	0.00	10.2	HHDT,MHDT
Jack and Bore	Hauling	0.00	20.0	HHDT
Jack and Bore	Onsite truck	—	—	HHDT
Lift Station Site Prep	—	—	—	—
Lift Station Site Prep	Worker	7.50	18.5	LDA,LDT1,LDT2
Lift Station Site Prep	Vendor	0.00	10.2	HHDT,MHDT
Lift Station Site Prep	Hauling	0.00	20.0	HHDT
Lift Station Site Prep	Onsite truck	—	—	HHDT
Lift Station Construction/Electrical	—	—	—	—
Lift Station Construction/Electrical	Worker	0.00	18.5	LDA,LDT1,LDT2
Lift Station Construction/Electrical	Vendor	0.00	10.2	HHDT,MHDT
Lift Station Construction/Electrical	Hauling	0.00	20.0	HHDT
Lift Station Construction/Electrical	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Open Cut Excavation	—	—	—	—
Open Cut Excavation	Worker	32.5	18.5	LDA,LDT1,LDT2
Open Cut Excavation	Vendor	1.00	10.2	HHDT,MHDT
Open Cut Excavation	Hauling	4.74	20.0	HHDT
Open Cut Excavation	Onsite truck	—	—	HHDT
Open Cut Trenching	—	—	—	—
Open Cut Trenching	Worker	32.5	18.5	LDA,LDT1,LDT2
Open Cut Trenching	Vendor	1.00	10.2	HHDT,MHDT
Open Cut Trenching	Hauling	4.22	20.0	HHDT
Open Cut Trenching	Onsite truck	—	—	HHDT
Jack and Bore	—	—	—	—
Jack and Bore	Worker	7.50	18.5	LDA,LDT1,LDT2
Jack and Bore	Vendor	0.00	10.2	HHDT,MHDT
Jack and Bore	Hauling	0.00	20.0	HHDT
Jack and Bore	Onsite truck	—	—	HHDT
Lift Station Site Prep	—	—	—	—
Lift Station Site Prep	Worker	7.50	18.5	LDA,LDT1,LDT2
Lift Station Site Prep	Vendor	0.00	10.2	HHDT,MHDT
Lift Station Site Prep	Hauling	0.00	20.0	HHDT
Lift Station Site Prep	Onsite truck	—	—	HHDT
Lift Station Construction/Electrical	—	—	—	—
Lift Station Construction/Electrical	Worker	0.00	18.5	LDA,LDT1,LDT2
Lift Station Construction/Electrical	Vendor	0.00	10.2	HHDT,MHDT
Lift Station Construction/Electrical	Hauling	0.00	20.0	HHDT
Lift Station Construction/Electrical	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)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Jack and Bore	—	—	18.8	0.00	—
Lift Station Site Prep	—	—	18.8	0.00	—
Open Cut Excavation	791	1,105	1.00	0.00	—
Open Cut Trenching	701	980	1.00	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Road Construction	1.00	100%
Other Asphalt Surfaces	0.07	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	58.7	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

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)
0	0.00	0.00	0.00	172

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Other Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Other Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Other Asphalt Surfaces	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Other Asphalt Surfaces	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Other Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	2.00	50.0	235	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

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

5.18.1.2. Mitigated

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

5.18.1.2. Mitigated

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)

5.18.2.2. Mitigated

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	10.4	annual days of extreme heat
Extreme Precipitation	4.85	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	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 (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth 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 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
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	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
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	1	1	1	2
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	24.9
AQ-PM	35.8
AQ-DPM	82.4

Drinking Water	72.9
Lead Risk Housing	75.1
Pesticides	64.9
Toxic Releases	48.7
Traffic	51.4
Effect Indicators	—
CleanUp Sites	63.7
Groundwater	87.3
Haz Waste Facilities/Generators	89.4
Impaired Water Bodies	43.8
Solid Waste	0.00
Sensitive Population	—
Asthma	69.4
Cardio-vascular	64.7
Low Birth Weights	54.6
Socioeconomic Factor Indicators	—
Education	98.7
Housing	29.7
Linguistic	96.4
Poverty	97.6
Unemployment	74.7

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	9.316052868

Employed	12.60105223
Median HI	15.35993841
Education	—
Bachelor's or higher	5.671756705
High school enrollment	100
Preschool enrollment	14.57718465
Transportation	—
Auto Access	20.85204671
Active commuting	69.43410753
Social	—
2-parent households	20.69806236
Voting	23.54677274
Neighborhood	—
Alcohol availability	21.98126524
Park access	48.55639677
Retail density	58.89901193
Supermarket access	37.49518799
Tree canopy	6.813807263
Housing	—
Homeownership	26.45964327
Housing habitability	31.91325549
Low-inc homeowner severe housing cost burden	53.86885667
Low-inc renter severe housing cost burden	57.20518414
Uncrowded housing	14.69267291
Health Outcomes	—
Insured adults	5.479276274
Arthritis	39.1

Asthma ER Admissions	4.5
High Blood Pressure	13.3
Cancer (excluding skin)	82.6
Asthma	12.1
Coronary Heart Disease	9.8
Chronic Obstructive Pulmonary Disease	15.6
Diagnosed Diabetes	5.6
Life Expectancy at Birth	25.4
Cognitively Disabled	3.3
Physically Disabled	6.8
Heart Attack ER Admissions	2.9
Mental Health Not Good	8.1
Chronic Kidney Disease	2.7
Obesity	8.3
Pedestrian Injuries	91.2
Physical Health Not Good	5.0
Stroke	13.0
Health Risk Behaviors	—
Binge Drinking	75.2
Current Smoker	15.5
No Leisure Time for Physical Activity	3.8
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	33.8
Elderly	69.3
English Speaking	8.9

Foreign-born	92.2
Outdoor Workers	2.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	23.8
Traffic Density	34.7
Traffic Access	23.0
Other Indices	—
Hardship	92.9
Other Decision Support	—
2016 Voting	19.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	89.0
Healthy Places Index Score for Project Location (b)	10.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
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

Screen	Justification
Construction: Construction Phases	Phase lengths adjusted to account for weekends and to match proposed 12 month construction schedule.
Operations: Emergency Generators and Fire Pumps	Annual usage per VCAPCD limit of 50 hrs/year. Assumes 2 hour daily (25 days of operation in a year) maintenance operation usage time.

Appendix B

Biological Resources Assessment

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October 23, 2023
Rincon Project No: 22-13891

Jorge Espinoza, Project Manager
City of Oxnard
6001 Perkins Road
Oxnard, California 93033
Via email: jorge.espinoza@oxnard.org

Subject: Biological Resources Assessment for the City of Oxnard Central Trunk Rail Yard Crossing and Lift Station Project, Oxnard, Ventura County, California

Dear Mr. Espinoza,

Rincon Consultants, Inc. (Rincon) is pleased to submit this Biological Resources Assessment (BRA) report for the Central Trunk Rail Yard Crossing and Lift Station Project (herein referred to as "proposed project" or "project") to the City of Oxnard (City). Specifically, this BRA assessed project activities associated with the installation of a new sewer pipeline, a new gravity sewer, and the construction of a new sewer lift station located in an existing parking lot. This BRA provides technical information and impact analysis in sufficient detail to determine to what extent the proposed project may directly or indirectly impact sensitive biological resources. Rincon understands the City is seeking funding from the State Water Resources Control Board (SWRCB) for the project through the Clean Water State Revolving Fund, which SWRCB administers in California on behalf of the United States (U.S.) Environmental Protection Agency, a federal agency. Therefore, this BRA was completed in accordance with California Environmental Quality Act (CEQA)-Plus standards for compliance with CEQA, the National Environmental Policy Act, and the federal Endangered Species Act (ESA).

Project Location and Area of Potential Effects

The project site is located in the central portion of the city of Oxnard in Ventura County, California. The project site is north of and within E. 5th Street/State Route (SR) 34 amongst existing Union Pacific Railroad (UPRR) tracks. The project site is located approximately 0.2-mile east of S. Oxnard Boulevard and 2.2 miles south of U.S. Highway 101. Figure 1 shows the regional location of the project site and Figure 2 shows the project location and project's Area of Potential Effect (APE). The project APE depicted in Figure 2 includes all areas expected to be affected by the proposed project, including two potential laydown yards.

Project Description

The City owns and maintains the Central Trunk Sewer (CTS), a sewer main which conveys wastewater to the Oxnard Wastewater Treatment Plant. A portion of the CTS travels underneath 11 UPRR tracks near the intersection of E. 5th Street/SR 34 and Richmond Avenue. In January 2017, the casing of the CTS underneath the northernmost UPRR tracks collapsed due to corrosion and lost structural integrity.

Figure 1 Regional Project Location

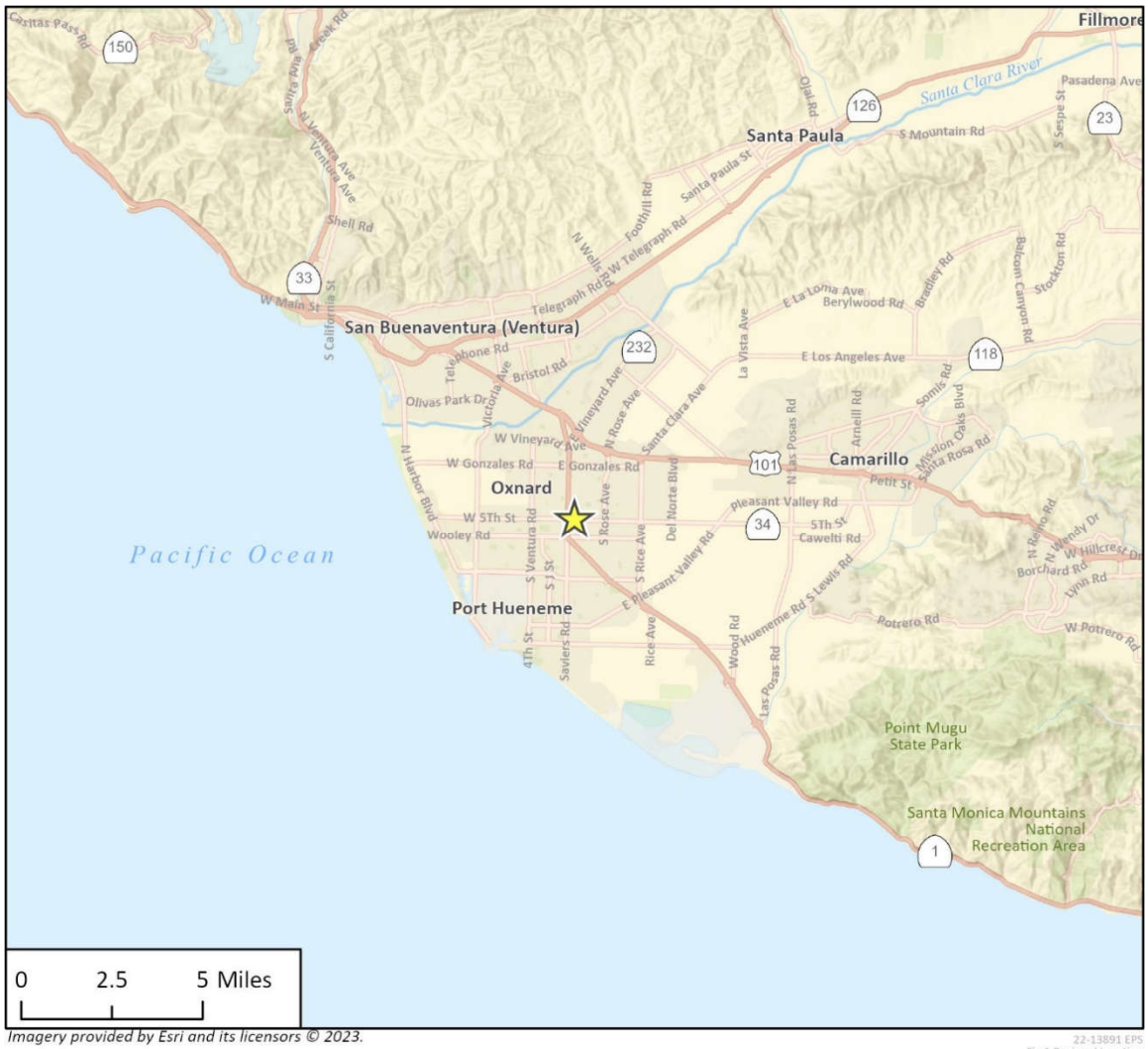
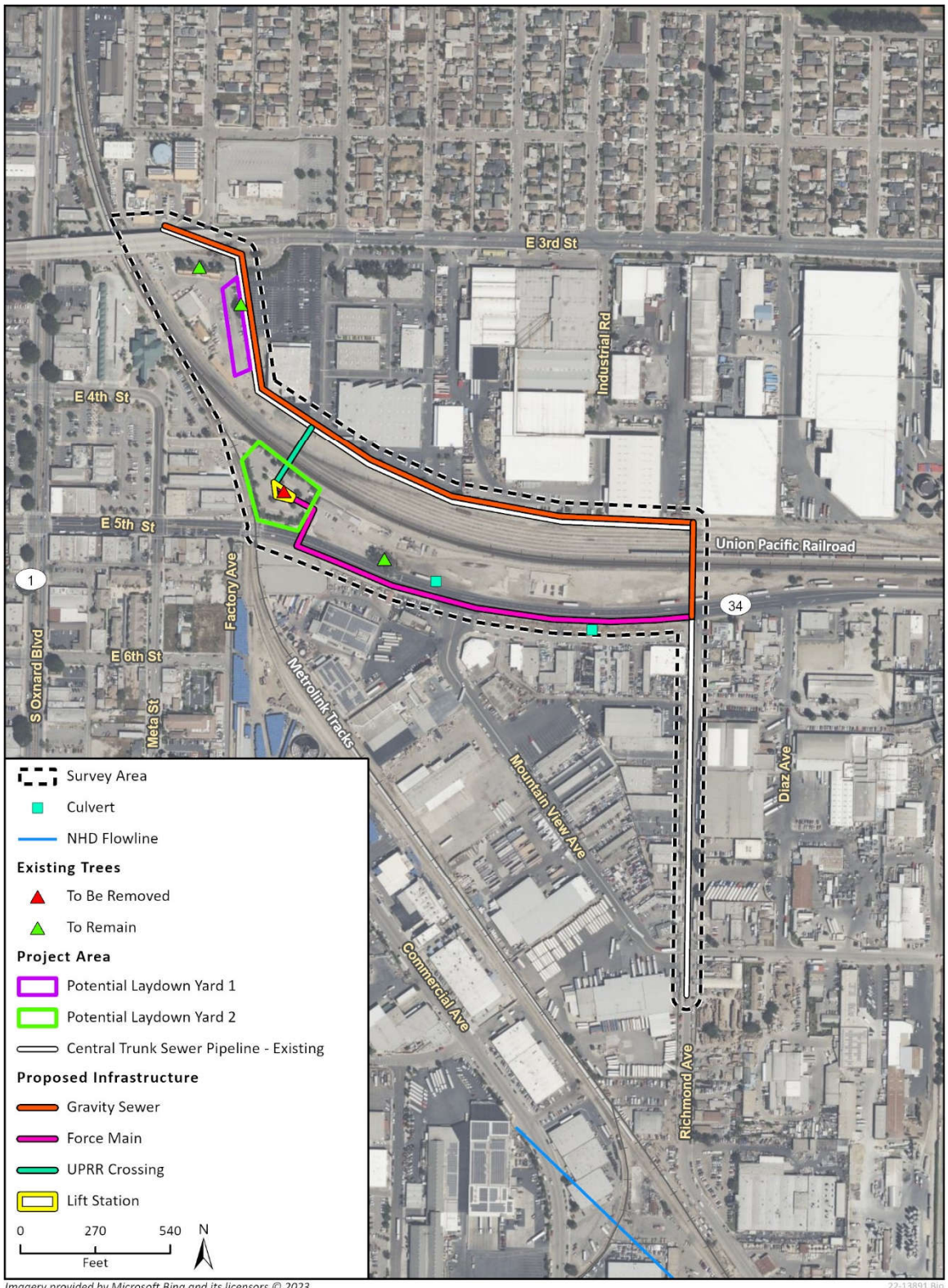


Figure 2 Project Location and Area of Potential Effect



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Additional data provided by USGS, 2023.

22-13891 Bio
BioAssess Fig 2 Project Location and APE

The City completed a temporary emergency repair, which diverted wastewater from the CTS into an adjacent sewer line and slip-lined the collapsed line so it could serve as an overflow (Kennedy Jenks 2021). The collapsed portion of the CTS is no longer in compliance with UPRR design standards, and the City intends to replace this portion to comply with these standards and fully restore the functionality of the CTS. The project would involve installation and operation of a new force main sewer pipeline, a new gravity sewer, and a new sewer lift station, as well as the cured in place pipeline (CIPP) relining repair of an existing 18-inch sewer and abandonment of the collapsed portion of the CTS.

The new sewer pipeline would tie into the existing CTS approximately 1,700 feet west of the collapsed portion of the CTS, and travel south toward and then underneath the UPRR tracks. The new sewer pipeline alignment would connect to the proposed sewer lift station within an existing parking lot south of the UPRR tracks, and travel east within the right-of-way of E. 5th Street/SR 34 toward Richmond Avenue. The new sewer pipeline would tie into the existing CTS at the intersection of E. 5th Street/SR 34 and Richmond Avenue. Unused segments of the existing CTS would be abandoned in place and filled with grout or cellular concrete. Approximately 140 feet of new pipeline would be installed underneath the UPRR tracks via jack and bore and approximately 2,020 feet of new pipeline would be installed via open-cut excavation south of the UPRR tracks within the E. 5th Street/SR 34 right-of-way.

Approximately 2,270 feet of 12-inch polyvinyl chloride gravity sewer would be installed via traditional open-cut excavation methods north of the UPRR tracks and approximately 250 feet would be installed within a portion of existing 18-inch sewer parallel to the existing CTS to be repaired via CIPP relining repair methods. The new 12-inch gravity sewer would begin at 3rd Street north of the UPRR tracks, would travel along the existing CTS alignment, continue south across the UPRR tracks, and would terminate at the intersection of E. 5th Street/SR 34 and Richmond Avenue where it would connect to the new sewer pipeline.

The new sewer lift station would be constructed within an existing landscaped area of the Oxnard Transportation Center parking lot, south of the UPRR tracks. The lift station would house two 10-horsepower submersible pumps, one of which would serve as the primary pump and the other as a stand-by pump. A standby generator would be located at the lift station site. The lift station would be primarily subterranean, with visible aboveground features including access hatches, electrical control panels (with metal canopy), an odor control unit, and an electrical transformer. Construction of the lift station would require the removal of three trees.

Methodology

Sensitive biological resources studied and analyzed herein include special-status plant and wildlife species, nesting birds and raptors, sensitive plant communities, and jurisdictional waters, including wetlands. This assessment also includes a review of adopted Habitat Conservation Plans, Natural Community Conservation Plans, and local policies or ordinances the project may be subject to.

For the purposes of this report, special-status species include:

- Species listed as threatened or endangered under the federal ESA; species that are under review may be included if there is a reasonable expectation of listing within the near future
- Species listed as candidate, threatened, endangered, or rare by the California Department of Fish and Wildlife (CDFW) under the California Endangered Species Act (CESA) or Native Plant Protection Act
- Plants occurring on lists 1 and 2 of the California Native Plant Society (CNPS) California Rare Plant Rank system (CRPR)

- Species designated as Fully Protected, Species of Special Concern (SSC), or Watch List (WL) by the California Fish and Game Code (CFGC) or CDFW

Prior to visiting the APE, recent aerial imagery of the APE and surrounding region (Google Earth 2023) was reviewed. The CNPS *Online Inventory of Rare and Endangered Plants* (CNPS 2023) was reviewed for records of CRPR list 1 and 2 plants within the following U.S. Geological Survey (USGS) 7.5' quadrangles: *Oxnard, Santa Paula, Saticoy, Camarillo, Ventura* and *Point Mugu*. Additionally, the California Natural Diversity Database (CNDDB) (CDFW 2023a) was queried for records of special-status species within a 5-mile radius of the APE. The CNPS and CNDDB lists were further evaluated and presented in a potential to occur table (Attachment 3). The U.S. Fish and Wildlife Service (USFWS) Critical Habitat Portal (USFWS 2023a) was reviewed for designated critical habitat areas for listed species. The USFWS National Wetlands Inventory (NWI) Wetlands Mapper (USFWS 2023) and USGS National Hydrography Dataset (USGS NHD 2023a) were utilized to assist in the analysis of waters and wetlands resources in the APE.

A reconnaissance-level field survey was conducted between 0700 and 0845 on July 5, 2023 by Rincon Biologist Shannon Morris within a defined Survey Area, illustrated in Figure 2. The Survey Area included the APE, consisting of all project components, and an approximate 50 to 100 foot buffer, depending on adjacent private property access restrictions. The field survey was completed to determine the potential for sensitive biological resources to occur, including special-status species, sensitive plant communities, and aquatic resources, and to document the extent of biological resources within the APE and adjacent areas within the Survey Area. All portions of the Survey Area were surveyed on foot. Photographs were taken to document site conditions (Attachment 1). Observations or signs (e.g., scat, tracks, burrows/dens) of special-status animal species were also noted. Plant species were documented and vegetation communities were characterized using *The Manual of California Vegetation, Second Edition* (MCV2; Sawyer et al. 2009). The Survey Area was inspected for aquatic features exhibiting stream characteristics such as a defined bed, banks, or channel; ordinary high-water mark; or potential wetland indicators. Current federal and state methods and guidelines were used to identify and delineate aquatic features.

Existing Setting

The following summarizes the existing setting, including land use, hydrology, vegetation, and soil types in the Survey Area based on the reconnaissance-level field survey and literature review.

Topography, Climate, and Land Use

Topography within the Survey Area is relatively consistent, with elevations ranging between approximately 49 feet to 57 feet above mean sea level. Regional land uses in the vicinity of the Survey Area primarily include residential communities, commercial buildings, public roads, and railroad tracks running through the center of the Survey Area. The climate in Oxnard is characterized by mild summers and mild winters. Temperatures range with average highs at 69 degrees Fahrenheit and average lows at 52 degrees Fahrenheit, with an annual average precipitation of 15.64 inches (U.S. Climate Data 2023).

Hydrology

The project is located within the Calleguas Creek watershed (HUC 8 18070103) and in the tighter sub-watershed (HUC 12) of McGrath Lake-Frontal Pacific Ocean. The northern boundary of the Calleguas Creek watershed is formed by the northern Santa Susana Mountains, South Mountain, and Oak Ridge;

and the southern boundary is formed by the Simi Hills and Santa Monica Mountains. Its major tributaries include Revolon Slough, Conejo Creek, Arroyo Conejo, Arroyo Santa Rosa, and Arroyo Simi. The NHD and NWI do not identify any waters or wetlands within the Survey Area, however, several agricultural ditches occur near the Survey Area, with the nearest occurring 0.5 mile south of the APE. These agricultural ditches provide water flow downstream to Revolon Slough, that eventually flows to Calleguas Creek. Calleguas Creek is identified by NHD as an intermittent stream, with direct connectivity to the Pacific Ocean, a traditionally navigable water.

Soils

The U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA NRCS 2003a) depicts two soil units within the Survey Area. Mocho loam with 0 to 2 percent slopes, warm Mean Annual Air Temperature, and Major Land Resource Areas 19 (symbolized as: MoA), and Hueneme loamy fine sand with 0 to 2 percent slopes (symbolized as: Hn).

Mocho series soils are very deep, well drained soils derived from sandstone and shale. These soils are typically found on alluvial fans between 20 to 3,500 feet above mean sea level and consist of fine loamy texture. A typical soil profile consists of a very dark greyish brown loam topsoil of 18 inches above fine sandy loam to a depth of 72 inches (USDA, NRCS 2023a). This soil map unit is not included on the National Hydric Soils List (USDA NRCS 2023b).

The Hueneme loamy fine sand has poor drainage and often needs artificial draining, as these soils are prone to periodic flooding. Runoff is slow to very slow and permeability is moderately rapid. These soils are in nearly level alluvial plains and basins and are at elevations from near sea level to approximately 1,000 feet above mean sea level (USDA, NRCS 2023a). This soil unit may be considered prime farmland if drained. This soil map unit is not included on the National Hydric Soils List (USDA, NRCS 2023b).

Vegetation Communities and Land Covers

The vegetation communities described below are based on the dominant plant species observed within the Survey Area during the field visit. The Survey Area mostly consisted of developed areas that generally consist of paved roads, and previously disturbed areas where vegetation has been mostly removed, but some vegetation consisting of non-native pioneering (ruderal) species are present. Specifically, within the Survey Area the proposed new pipeline alignment is approximately one-third mile long along E. 5th Street/SR 34 which is almost entirely devoid of vegetation apart from some patchy occurrences of ice plant (*Carpobrotus* sp.) directly to the south of the street and a few scattered non-native blue gum eucalyptus (*Eucalyptus globulus*) trees to the north of the street.

In addition, the APE has two proposed laydown yards: Potential Laydown Yard 1, which is a dirt parking lot that is partially paved and Potential Laydown Yard 2 which is the Oxnard Transit Centers long-term paved parking lot. Land cover at Potential Laydown Yard 2 consists of non-native ornamental ground cover and vines, and a few standard ornamental trees. Ornamental species identified included jasmine vine (*Trachelospermum sp.*), camphor tree (*Cinnamomum camphora*), callery pear (*Pyrus calleryana*), queen palm (*Syagrus romanzoffiana*), lemon-scented gum (*Eucalyptus citriodora*) and broad-leaved paperback (*Melaleuca quinquenervia*).

Wildlife

The Survey Area provides suitable habitat for a few common wildlife species. Pedestrian and vehicle traffic is high throughout the Survey Area, however, wildlife that are adjusted to the noise and traffic associated with the activities in the APE may still occur. Telephone poles, ornamental shrubs, trees, and existing structures may provide suitable nesting habitat for some common bird species and raptors that have adapted to urbanized areas. Birds observed during the survey included house finch (*Haemorhous mexicanus*), song sparrow (*Melospiza melodia*), American crow (*Corvus brachyrhynchos*), rock dove (*Columba livia*), and California gull (*Larus californicus*). No other wildlife, or signs of wildlife, were observed in the Survey Area during the time of the survey; however, it is expected that other common wildlife may occur in the APE, including, but not limited to, the following terrestrial species: western side-blotched lizard (*Uta stansburiana elegans*), western fence lizard (*Sceloporus occidentalis*), brown rat (*Rattus norvegicus*) and Virginia opossum (*Didelphis virginiana*).

Wildlife Movement Corridors

Wildlife movement corridors are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as between foraging and denning areas, or they may be regional in nature, allowing movement across the landscape. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Examples of barriers or impediments to movement include housing and other urban development, roads, fencing, unsuitable habitat, or open areas with little vegetative cover. Regional and local wildlife movements are expected to be concentrated near topographic features that allow convenient passage, including roads, drainages, and ridgelines.

The APE is not located in any essential connectivity areas or natural landscape blocks (Spencer et al. 2010) or in an area zoned by the County of Ventura as a Habitat Connectivity Wildlife Corridor (County of Ventura Resource Management Agency 2019), and does not include any features, such as native habitat, creeks, drainages, and ravines, that would be used by wildlife for local or regional movement.

Results

This section discusses and evaluates the potential for the APE to support special-status species and other sensitive biological resources. Assessments for the potential occurrence of special-status wildlife and plant species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDB within 3 miles of the APE, and the results of the reconnaissance-level survey of the Survey Area conducted by Rincon. Attachment 2 presents a summary of special-status species with documented occurrences in the region (within 3 miles from the APE). The potential for each species to occur was evaluated according to the following criteria:

- **Not Expected.** Habitat on and adjacent to the APE is clearly unsuitable for the species requirements (e.g., foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable within the APE if present (e.g., oak trees).
- **Low Potential.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the APE.

- **Moderate Potential.** Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the APE is unsuitable. The species has a moderate probability of being found on the APE.
- **High Potential.** All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the APE is highly suitable. The species has a high probability of being found on the APE.
- **Present.** Species is observed on the APE or has been recorded (e.g., CNDDB, other reports) on the APE recently (within the last five years).

For the purpose of this BRA, special-status species are those plants and animals listed, proposed for listing, or candidates for listing as Threatened or Endangered by the USFWS under the ESA; those listed or candidates for listing as Rare, Threatened, or Endangered by the CDFW under the CESA or Native Plant Protection Act; those identified as Fully Protected under Sections 3511, 4700, 5050, and 5515 of the CFGC; those identified on WLs as important resources to identify and conserve; those recognized as SSC by the CDFW; and plants occurring on lists 1 and 2 of the CNPS CRPR system, per the following definitions:

- **CRPR 1A** = Plants presumed extinct in California
- **CRPR 1B.1** = Rare or endangered in California and elsewhere; seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
- **CRPR 1B.2** = Rare or endangered in California and elsewhere; fairly endangered in California (20 to 80 percent occurrences threatened)
- **CRPR 1B.3** = Rare or endangered in California and elsewhere, not very endangered in California (less than 20 percent of occurrences threatened or no current threats known)
- **CRPR 2** = Rare, threatened or endangered in California, but more common elsewhere

Special-Status Species

Three special-status plants have been documented between 0.02 and 0.65 mile from the APE including Verity's Dudleya (*Dudleya verityi*), Blochman's Dudleya (*Dudleya blochmaniae ssp. blochmaniae*), and salt marsh birds-beak (*Chloropyron maritimum ssp. maritimum*). These species are not expected to occur within the APE based on the absence of suitable habitat.

Monarch butterfly (*Danaus plexippus plexippus*) was observed within 0.20 mile of the APE in 2021 (iNaturalist 2023) and just over 2 miles from the APE in 2022 (CDFW 2023). A handful of eucalyptus trees are present near the APE, within the northern portion of the Survey Area; however, it is unlikely that these trees would be used for roosting since they are not a part of a large stand, no butterflies were observed during the field survey, and no previous documented occurrences have been reported in the Survey Area.

Nesting Birds

No special-status nesting bird species are anticipated to nest within the APE. However, as discussed previously, telephone poles, ornamental shrubs, trees, bridges and existing structures may provide suitable nesting habitat for some common bird species and raptors that have adapted to urbanized areas such as house finch (*Haemorhous mexicanus)*, song sparrow (*Melospiza melodia*), American crow (*Corvus brachyrhynchos*), red-tailed hawk (*Buteo jamaicensis)*, rock dove (*Columba livia*), barn swallows (*Hirundo rustica*) and others.

Under the provisions of the Migratory Bird Treaty Act (MBTA), it is unlawful "by any means or manner to pursue, hunt, take, capture (or) kill" any migratory birds except as permitted by regulations issued by the USFWS. The term "take" is defined by the USFWS regulation to mean to "pursue, hunt, shoot, wound, kill, trap, capture or collect" any migratory bird or any part, nest, or egg of any migratory bird covered by the conventions, or to attempt those activities. In addition, the CFGC (State of California 2017) extends protection to non-migratory birds identified as resident game birds and any birds in the orders Falconiformes or Strigiformes (birds-of-prey) (CFGC Sections 3500 et seq.).

Sensitive Habitat Communities

Plant communities are considered sensitive by CDFW if they have limited distributions, have high wildlife value, support special-status species, or are particularly susceptible to disturbance. CDFW ranks natural and sensitive communities using the "Heritage Methodology", the same system used to assign global and state rarity ranks for plant and animal species in the CNDDB. There are no sensitive habitat communities within or adjacent to the APE.

Critical Habitat

According to the USFWS Critical Habitat Portal (USFWS 2023a), no critical habitat exists within or near the Survey Area.

Waters and Wetlands

No state or federal wetlands, flowing or ponded water was observed within the Survey Area. Two storm drains were observed perpendicular to the new sewer pipeline alignment at locations 34°11'49.64"N, 119°10'21.26"W and 34°11'48.89"N, 119°10'14.79"W. These storm drains gather surface water from industrial areas from the north into an isolated catch basin south of E. 5th Street/SR 34. These storm drains are cement lined and do not include features indicating they are within state or federal jurisdiction. There are a series of small agricultural ditches approximately a half mile to the south and east of the APE, respectively, that appear to drain into Revolon Slough, which drains into Calleguas Creek. However, the project would not have any direct or indirect effects on the agricultural ditches. No waters or wetlands occur within the Survey Area. Refer to Figure 2 for a map of the drainages within the region.

Resources Protected by Local Policies and Ordinances

Three ornamental trees are planned for removal within the sewer lift station site and are represented by the red triangle in Figure 2. The remainder of ornamental trees within Potential Laydown Yard 2 would remain in place. Other ornamental trees located within the Survey Area are anticipated to remain in place are depicted by green triangles within Figure 2. The City of Oxnard Municipal Code, Section 20-5 states that "the superintendent may remove any tree or any part thereof that appears to be dead, liable to fall, dangerous or obstructing the public right-of-way, if the tree is on public property or if the tree is on private property and overhangs or projects into any public right-of-way". Section 20-6 states that the removal can only occur if "ten days' written notice is provided to the owner, tenant or occupants or the agent of the owner, tenant or occupants of the property upon which the tree is located."

Habitat Conservation Plans

The APE is not located within an area with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

Conclusions and Recommendations

The Survey Area is developed and disturbed, consisting of concrete and asphalt surfaces, compressed dirt in developed areas, and non-native and/or ornamental vegetation, providing minimal habitat for wildlife species. The Survey Area does not contain any sensitive plant communities or critical habitat. No wildlife movement corridors or habitat linkages are present in or near the Survey Area. Wildlife activity within the disturbed Survey Area is minimal and limited to common urban adapted species, such as western fence lizard, brown rat, and common opossum. No state or federally protected waters or wetlands occur within or adjacent to the Survey Area. There are two storm drains that run underneath E. 5th Street/SR-34, along the APE, but do not connect to jurisdictional waterways, rather it appears that water from these drains collects in an isolated catch basin south of the APE.

No special-status plants or wildlife were observed or are expected to occur within or adjacent to the APE.

The trees and existing structures within the APE can provide suitable nesting habitat for several common bird species protected by the MBTA and CFGC, Section 3503. Direct project impacts may result in mortality of birds if an active nest occurs within a tree proposed for removal. The project could indirectly disturb nesting birds through construction noise, dust, and other human disturbances that can cause nest failure. For these reasons, impacts to nesting birds may result from the proposed project and therefore implementation of Mitigation Measure BIO-1 is recommended to avoid and/or minimize these impacts.

The mature eucalyptus trees north of the proposed new sewer line and adjacent to the proposed sewer lift station are not suitable for monarch butterflies to use for roosting or overwintering because they are not a part of a large stand, no butterflies were observed during the field survey, and no previous documented occurrences have been reported in the APE.

Recommended Avoidance and Minimization Measures

BIO-1 Nesting Bird Avoidance

The following avoidance and minimization measures should be implemented during project construction activities:

- Initial site disturbance should occur outside the general avian nesting season (February 1 through September 15), if feasible.
- If initial site disturbance occurs in a work area within the general avian nesting season indicated above, a qualified biologist should conduct a pre-construction nesting bird survey no more than 14 days prior to initial disturbances in the work area. The survey should include the entire area of disturbance area plus a 100-foot buffer (relevant to non-raptor species) and 300-foot buffer (relevant to raptors) around the site. If active nests are located, all construction work should be conducted outside a buffer zone from the nest to be determined by a qualified biologist. The buffer should be a minimum of 100 feet for non-raptor bird species and 500 feet for non-listed raptor species. Larger buffers may be required and/or smaller buffers may be established depending upon the species, status of the nest, and construction activities occurring in the vicinity of the nest. The buffer area(s) should be closed to all construction personnel and equipment until the adults

and young are no longer reliant on the nest site. A qualified biologist should confirm that breeding/nesting is completed and young have fledged the nest prior to removal of the buffer.

- If construction activities in a given work area cease for more than 14 days, additional surveys should be conducted for the work area if work recommences during the nesting season. If active nests are located, the aforementioned buffer zone measures should be implemented.

Limitations, Assumptions, and Use Reliance

This BRA has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. Weather conditions may impact species observations as well. Drought conditions may prevent many plant species from reproducing during a given year and wildlife species may not occupy a normally suitable habitat due to a lack of water. Reconnaissance biological surveys for certain taxa also may have been conducted as part of this assessment but were not performed during a particular blooming period, nesting period, or particular portion of the season when positive identification would be expected if present, and therefore, reconnaissance biological survey results cannot be considered definitive. The biological surveys are limited also by the environmental conditions present at the time of the surveys. In addition, general biological surveys do not guarantee that the organisms are not present and will not be discovered in the future within the site. In particular, mobile wildlife species could occupy the site on a transient basis or re-establish populations in the future. Our field studies were based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from site reconnaissance, jurisdictional areas, review of CNDDB RareFind5, and specified historical and literature sources. Standard data sources relied upon during the completion of this report, such as the CNDDB, may vary with regard to accuracy and completeness. In particular, the CNDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to Rincon's contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

Thank you for the opportunity to provide this biological resource assessment. Please contact us at any time with any questions.

Sincerely,
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Attachments

Attachment 1 Site Photographs

Attachment 2 Special-Status Species Potential to Occur Table

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Attachment 1

Site Photographs



Photograph 1. Potential Laydown Yard 2, sewer lift station. Paved parking lot with ornamental trees.



Photograph 2. Potential Laydown Yard 2, sewer lift station. Paved parking lot with ornamental trees.



Photograph 3. View of one of two storm drains north of the APE, allowing flow underneath E. 5th Street/SR 34.



Photograph 4. View of second storm drain inlet north of the APE, allowing flow underneath E. 5th Street/SR 34.



Photograph 5. View of Potential Laydown Yard 1, in paved parking lot with ornamental trees.



Photograph 6. View of Potential Laydown Yard 1 in dirt and paved parking/storage area. Eucalyptus trees observed in the Survey Area, located outside of the APE, in foreground.



Photograph 7. View of eucalyptus trees north of E. 5th Street/ SR 34, adjacent to where the proposed new sewer line will be trenched.



Photograph 8. View of the Survey Area, along E. 5th Street/SR 34; facing the most eastern section of where the new sewer line will be trenched.



Photograph 9. View of the Survey Area, along E. 5th Street/SR 34; facing the most western section of where the new sewer line will be trenched.

Attachment 2

Special-Status Species Potential to Occur (PTO) Table

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in APE	Habitat Suitability/ Observations
Plants and Lichens				
Aphanisma blitoides aphanisma	None/None G3G4/S2 1B.2	Annual herb. Coastal bluff scrub, coastal dunes, coastal scrub. Gravelly (sometimes), sandy (sometimes). Elevations: 5-1,000 feet (1-305 meters). Blooms February-June.	Not Expected	Coastal bluff scrub, coastal dunes and coastal scrub does not occur within the APE.
Astragalus brauntonii Braunton's milk-vetch	FE/None G2/S2 1B.1	Perennial herb. Chaparral, coastal scrub, valley and foothill grassland. Recent burns or disturbed areas; usually on sandstone with carbonate layers. Soil specialist; requires shallow soils to defeat pocket gophers and open areas, preferably on hilltops, saddles or bowls between hills. Elevations: 15-2,100 feet (4-640 meters). Blooms January-August.	Not Expected	Chaparral, coastal scrub, valley and foothill grasslands do not occur within the APE. No recent burn areas or shallow soils occur within the APE.
Astragalus didymocarpus var. *milesianus* Miles' milk-vetch	None/None G5T2/S2 1B.2	Annual herb. Coastal scrub. Clay soils. Elevations: 65-295 feet (20-90 meters). Blooms March-June.	Not Expected	This species is out of the elevation range of the APE.
Astragalus pycnostachyus var. *lanosissimus* Ventura Marsh milk-vetch	FE/SE G2T1/S1 1B.1	Perennial herb. Coastal dunes, coastal scrub, marshes and swamps. Within reach of high tide or protected by barrier beaches, more rarely near seeps on sandy bluffs. Elevations: 5-115 feet (1-35 meters). Blooms (June) August-October.	Not Expected	Coastal dunes, coastal scrub, marshes and swamps do not occur within the APE. The APE is not within reach of any beaches.
Atriplex coulteri Coulter's saltbush	None/None G3/S1S2 1B.2	Perennial herb. Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland. Alkaline (sometimes), clay (sometimes). Elevations: 10-1,510 feet (3-460 meters). Blooms March-October.	Not Expected	Coastal bluff scrub, coastal dunes, valley and foothill grasslands and coastal scrub does not occur within the APE.
Atriplex pacifica south coast saltscale	None/None G4/S2 1B.2	Annual herb. Coastal bluff scrub, coastal dunes, coastal scrub, playas. Alkali soils. Elevations: 0-460 feet (0-140 meters). Blooms March-October.	Not Expected	Coastal bluff scrubs, coastal dunes, coastal scrub and playas do not occur within the APE.
Atriplex serenana var. *davidsonii* Davidson's saltscale	None/None G5T1/S1 1B.2	Annual herb. Coastal bluff scrub, coastal scrub. Alkaline. Elevations: 35-655 feet (10-200 meters). Blooms April-October.	Not Expected	Coastal bluff scrubs and coastal scrub does not occur within the APE.
Calochortus clavatus var. *gracilis* slender mariposa-lily	None/None G4T2T3/S2 S3 1B.2	Perennial bulbiferous herb. Chaparral, coastal scrub, valley and foothill grassland. Shaded foothill canyons; often on grassy slopes within other habitat. Elevations: 1,050-3,280 feet (320-1,000 meters). Blooms March-June (November).	Not Expected	Chaparral, coastal scrub, canyons, grassy slopes, valley and foothill grasslands do not occur within the APE. This species is out of the elevation range of the APE.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in APE	Habitat Suitability/ Observations
Calochortus fimbriatus late-flowered mariposa-lily	None/None G3/S3 1B.3	Perennial bulbiferous herb. Chaparral, cismontane woodland, riparian woodland. Serpentinite (sometimes). Elevations: 900-6,250 feet (275-1,905 meters). Blooms June-August.	Not Expected	Chaparral, cismontane woodland, riparian woodlands do not occur within the APE. This species is out of the elevation range of the APE.
Chaenactis glabriuscula var. *orcuttiana* Orcutt's pincushion	None/None G5T1T2/S1 1B.1	Annual herb. Coastal bluff scrub, coastal dunes. Sandy sites. Elevations: 0-330 feet (0-100 meter). Blooms January-August.	Not Expected	Coastal bluff scrub, coastal dunes and sand does not occur within the APE.
Chloropyron maritimum ssp. *maritimum* salt marsh bird's-beak	FE/SE G4?T1/S1 1B.2	Annual herb (hemiparasitic). Coastal dunes, marshes and swamps. Limited to the higher zones of salt marsh habitat. Elevations: 0-100 feet (0-30meter). Blooms May-October (November).	Not Expected	Coastal dunes, marshes and swamps do not occur within the APE. However, one observation was made in June of 2015 adjacent to Potential Laydown Yard 1 and another in December of 2022 approximately 0.05 mile from the new proposed sewer line (iNaturalist 2023).
Dudleya blochmaniae ssp. *blochmaniae* Blochman's dudleya	None/None G3T2/S2 1B.1	Perennial herb. Chaparral, coastal bluff scrub, coastal scrub, valley and foothill grassland. Open, rocky slopes; often in shallow clays over serpentine or in rocky areas with little soil. Elevations: 15-1,475 feet (5-450 meters). Blooms April-June.	Not Expected	Chaparral, coastal bluff scrub, coastal scrub, valley and foothill grasslands do not occur within the APE. However, one observation was made in April of 2020 approximately 0.65 mile from the proposed new sewer line (iNaturalist 2023).
Dudleya verityi Verity's dudleya	FT/None G1/S1 1B.1	Perennial herb. Chaparral, cismontane woodland, coastal scrub. On volcanic rock outcrops in the Santa Monica Mountains. Elevations: 195-395 feet (60-120 meters). Blooms May-June.	Not Expected	Chaparral, cismontane woodlands and coastal scrub does not occur within the APE. Although this species is also out of elevation range of the APE, an observation was made in May of 2023 approximately 0.02 mile from the proposed new sewer line (iNaturalist 2023).
Eriogonum crocatum conejo buckwheat	None/SR G1/S1 1B.2	Perennial herb. Chaparral, coastal scrub, valley and foothill grassland. Conejo volcanic outcrops; rocky sites. Elevations: 165-1,905 feet (50-580 meters). Blooms April-July.	Not Expected	Chaparral, coastal scrub, valley and foothill grasslands do not occur within the APE.
Erysimum insulare island wallflower	None/None G3/S3 1B.3	Perennial herb. Coastal bluff scrub, coastal dunes. Mesas and cliffs. Elevations: 0-985 feet (0-300 meters). Blooms March-July.	Not Expected	Coastal bluff scrub, coastal dunes, mesas and cliffs do not occur within the APE.
Lasthenia glabrata ssp. *coulteri* Coulter's goldfields	None/None G4T2/S2 1B.1	Annual herb. Marshes and swamps, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands. 1-. Elevations: 5-4,005 feet (1-1,220 meters). Blooms February-June.	Not Expected	Marshes and swamps, playas and vernal pools do not occur within the APE.
Malacothrix similis Mexican malacothrix	None/None G2G3/SH 2A	Annual herb. Coastal dunes. Elevations: 0-130 feet (0-40 meters). Blooms April-May.	Not Expected	Coastal dunes do not occur within the APE. Last documented observation of this species was in 2007 (CNPS 2003).

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in APE	Habitat Suitability/ Observations
Monardella hypoleuca ssp. *hypoleuca* white-veined monardella	None/None G4T3/S3 1B.3	Perennial herb. Chaparral, cismontane woodland. Dry slopes. Elevations: 165-5,005 feet (50-1,525 meters). Blooms (April) May-August (September-December).	Not Expected	Chaparral and cismontane woodlands do not occur within the APE. This species is also out of the elevation range of the APE.
Monardella sinuata ssp. *gerryi* Gerry's curly-leaved monardella	None/None G3T1/S1 1B.1	Annual herb. Coastal scrub. Sandy openings. Elevations: 490-805 feet (150-245 meters). Blooms April-June.	Not Expected	Coastal scrub does not occur within the APE. This species is out of the elevation range of the APE.
Navarretia ojaiensis Ojai navarretia	None/None G2/S2 1B.1	Annual herb. Chaparral, coastal scrub, valley and foothill grassland. Openings in shrublands or grasslands. Elevations: 900-2,035feet. (275-620 meters) Blooms May-July.	Not Expected	Chaparral, coastal scrub, valley and foothill grasslands do not occur within the APE. This species is out of the elevation range of the APE.
Pseudognaphalium leucocephalum white rabbit-tobacco	None/None G4/S2 2B.2	Perennial herb. Chaparral, cismontane woodland, coastal scrub, riparian woodland. Sandy, gravelly sites. Elevations: 0-6,890 feet (0-2,100 meters). Blooms (July) August-November (December).	Not Expected	Chaparral, cismontane woodland, coastal scrub, riparian woodlands do not occur within the APE. Last documented observation of this species was in 2007 (CNPS 2023).
Senecio aphanactis chaparral ragwort	None/None G3/S2 2B.2	Annual herb. Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. Elevations: 50-2,625feet (15-800 meters). Blooms January-April (May).	Not Expected	Chaparral, cismontane woodland, and coastal scrub does not occur within the APE.
Suaeda californica California seablite	FE/None G1/S1 1B.1	Perennial evergreen shrub. Marshes and swamps. Margins of coastal salt marshes. Elevations: 0-50feet (0-15 meters). Blooms July-October.	Not Expected	Marshes and swamps do not occur within the APE.
Suaeda esteroa estuary seablite	None/None G3/S2 1B.2	Perennial herb. Marshes and swamps. Coastal salt marshes in clay, silt, and sand substrates. Elevations: 0-15 feet (0-5 meters). Blooms (January-May) July-October.	Not Expected	Marshes and swamps do not occur within the APE.
Animals				
Invertebrates				
Bombus crotchii Crotch bumble bee	None/SCE G2/S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, *Dendromecon*, *Eschscholzia*, and *Eriogonum*.	Not Expected	Food resources are not available for this species within the APE.
Cicindela hirticollis gravida sandy beach tiger beetle	None/None G5T2/S2	Inhabits areas adjacent to non-brackish water along the coast of California from San Francisco Bay to northern Mexico. Clean, dry, light-colored sand in the upper zone. Subterranean larvae prefer moist sand not affected by wave action.	Not Expected	Sandy areas and non-brackish water does not occur within the APE.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in APE	Habitat Suitability/ Observations
Cicindela senilis frosti senile tiger beetle	None/None G2G3T1T3/ S1	Inhabits marine shoreline, from Central California coast south to salt marshes of San Diego. Also found at Lake Elsinore. Inhabits dark-colored mud in the lower zone and dried salt pans in the upper zone.	Not Expected	The APE is not close enough to marine shorelines and salt marshes do not occur within the APE.
Coelus globosus globose dune beetle	None/None G1G2/S1S2	Inhabitant of coastal sand dune habitat; erratically distributed from Ten Mile Creek in Mendocino County south to Ensenada, Mexico. Inhabits foredunes and sand hummocks; it burrows beneath the sand surface and is most common beneath dune vegetation.	Not Expected	Coastal dune habitat does not occur within the APE.
Danaus plexippus plexippus pop. 1 monarch - California overwintering population	FC/None G4T1T2Q/S 2	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Not Expected	This species was observed within 0.20 mile of the APE in 2021 (iNaturalist 2023) and just over 2 miles from the APE in 2022 (CNDDB). This species also has an overwintering site just over 2 miles from the APE (Xerces Society 2023). A handful of eucalyptus trees are present near the APE; however, it is unlikely that these trees would be used for roosting since they are not a part of a large stand.
Helminthoglypta traskii traskii Trask shoulderband	None/None G1G2T1/ S2S3	Known from Ventura, Los Angeles, Orange, and San Diego counties. Also reported from northwestern Baja California.	Not Expected	This species is not recorded on CNDDB or iNaturalst (2023) within or within a 5-mile radius of the APE.
Panoquina errans wandering (=saltmarsh) skipper	None/None G4G5/S2	Southern California coastal salt marshes. Requires moist saltgrass for larval development.	Not Expected	This species was observed within 1.80 miles of the APE in 2020 (iNaturalist 2023). With that said, salt marshes and saltgrass do not occur within the APE.
Trimerotropis occidentiloides Santa Monica grasshopper	None/None G2/S2	Known only from the Santa Monica Mountains. Found on bare hillsides and along dirt trails in chaparral.	Not Expected	This APE is not within the Santa Monica Mountains.
Tryonia imitator mimic tryonia (=California brackishwater snail)	None/None G2/S2	Inhabits coastal lagoons, estuaries and salt marshes, from Sonoma County south to San Diego County. Found only in permanently submerged areas in a variety of sediment types; able to withstand a wide range of salinities.	Not Expected	Coastal lagoons, estuaries and salt marshes do not occur within the APE and is not a permanently submerged area.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in APE	Habitat Suitability/ Observations
Fish				
Catostomus santaanae Santa Ana sucker	FT/None G1/S1	Endemic to Los Angeles Basin south coastal streams. Habitat generalists, but prefer sand-rubble-boulder bottoms, cool, clear water, and algae.	Not Expected	Streams do not occur within the APE.
Eucyclogobius newberryi tidewater goby	FE/None G3/S3	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	Not Expected	Streams and rivers do not occur within the APE.
Gasterosteus aculeatus williamsoni unarmored threespine stickleback	FE/SE G5T1/S1 FP	Weedy pools, backwaters, and among emergent vegetation at the stream edge in small Southern California streams. Cool (<24 degrees Celsius), clear water with abundant vegetation.	Not Expected	Streams do not occur within the APE.
Gila orcuttii arroyo chub	None/None G2/S2 SSC	Native to streams from Malibu Creek to San Luis Rey River basin. Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mojave and San Diego river basins. Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	Not Expected	Streams do not occur within the APE.
Oncorhynchus mykiss irideus pop. 10 steelhead - southern California DPS	FE/SCE G5T1Q/S1	Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County). Southern steelhead likely have greater physiological tolerances to warmer water and more variable conditions.	Not Expected	Streams and rivers do not occur within the APE.
Amphibians				
Rana boylii pop. 6 foothill yellow-legged frog - south coast DPS	Proposed Endangered /SE G3T1/S1	Partly shaded shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying and at least 15 weeks to attain metamorphosis.	Not Expected	Streams and rocky, cobble-sized substrate does not occur within the APE.
Rana draytonii California red-legged frog	FT/None G2G3/S2S3 SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11 to 20 weeks of permanent water for larval development. Must have access to estivation habitat.	Not Expected	Emergent riparian vegetation does not occur within the APE.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in APE	Habitat Suitability/ Observations
Reptiles				
Anniella spp. California legless lizard	None/None G3G4/S3S4 SSC	Contra Costa County south to San Diego, within a variety of open habitats. This element represents California records of *Anniella* not yet assigned to new species within the *Anniella* pulchra complex. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	Not Expected	Moist, loose soils do not occur within the APE.
Anniella stebbinsi Southern California legless lizard	None/None G3/S3 SSC	Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	Not Expected	This species was observed in the early 2000's approximately 4 miles west of the APE. The APE does not have moist soil, although the soil is loamy.
Aspidoscelis tigris stejnegeri coastal whiptail	None/None G5T5/S3 SSC	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy, or rocky.	Not Expected	Deserts do not occur within the APE. The APE has sparse vegetation and open areas.
Emys marmorata western pond turtle	None/None G3G4/S3 SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6,000 feet elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 kilometer from water for egg-laying.	Not Expected	Ponds, marshes, rivers and streams do not occur within the APE. Irrigation ditches and suitable upland habitat also does not occur within the APE.
Phrynosoma blainvillii coast horned lizard	None/None G4/S4 SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Not Expected	Historically this species has been observed adjacent to the APE. iNaturalist (2023) documented this species approximately 1.70 miles to the northeast of the APE in 2021. With that said, sandy washes and scattered low bushes do not occur within the APE.
Thamnophis hammondii two-striped gartersnake	None/None G4/S3S4 SSC	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 feet elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	Not Expected	Permanent fresh water does not occur within the APE.
Thamnophis sirtalis pop. 1 south coast gartersnake	None/None G5T1T2/S1S2 SSC	Southern California coastal plain from Ventura County to San Diego County, and from sea level to about 850 meters. Marsh and upland habitats near permanent water with good strips of riparian vegetation.	Not Expected	Marsh and upland habitat with permanent water does not occur within the APE.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in APE	Habitat Suitability/ Observations
Birds				
Agelaius tricolor tricolored blackbird	None/ST G1G2/S2 SSC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	Not Expected (breeding, foraging)	This species nests mostly in mulefat and triticale fields. Open water foraging areas do not occur within or adjacent to the APE.
Athene cunicularia burrowing owl	None/None G4/S3 SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Not Expected (breeding, foraging)	Grasslands, deserts and scrubland does not occur within the APE. Ground squirrel burrows are minimal within the APE.
Buteo regalis ferruginous hawk	None/None G4/S3S4 WL	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats. Eats mostly lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.	Not Expected (breeding, foraging)	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats do not occur within the APE.
Charadrius nivosus nivosus western snowy plover	FT/None G3T3/S3 SSC	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	Not Expected (breeding, foraging)	Sandy beaches, salt pond levees, and alkali lake shores do not occur within the APE.
Coccyzus americanus occidentalis western yellow-billed cuckoo	FT/SE G5T2T3/S1	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	Not Expected (breeding, foraging)	Riparian forest and flood-bottoms, willow, cottonwood with dense understory of blackberry, nettles or grape do not occur within the APE.
Elanus leucurus white-tailed kite	None/None G5/S3S4 FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Not Expected (breeding, foraging)	Rolling foothills, valley margins with scattered oaks, river bottomlands or marshes, open grasslands and deciduous woodland do not occur within the APE.
Empidonax traillii extimus southwestern willow flycatcher	FE/SE G5T2/S3	Riparian woodlands in Southern California.	Not Expected (breeding, foraging)	Riparian woodlands do not occur within or adjacent to the APE.
Eremophila alpestris actia California horned lark	None/None G5T4Q/S4 WL	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	Not Expected (breeding, foraging)	Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields and alkali flats do not occur within the APE.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in APE	Habitat Suitability/ Observations
Falco peregrinus anatum American peregrine falcon	FD/SD G4T4/S3S4 FP	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	Low Potential ((breeding, foraging)	An observation was made in February of 2022 (iNaturalist 2023) of a peregrine falcon 0.20 mile south of the APE. The CNDDB (2023) also documents the bird within the APE in 2017. Human made structures (telephone poles) are within the APE, and this species could be observed perched, or flying over the site. However, there is no suitable nesting habitat within the APE and adequate foraging habitat is minimal.
Laterallus jamaicensis coturniculus California black rail	None/ST G3T1/S2 FP	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	Not Expected (breeding, foraging)	Dense vegetation for nesting, freshwater marshes and wet meadows do not occur within the APE. No water is present within the APE.
Passerculus sandwichensis beldingi Belding's savannah sparrow	None/SE G5T3/S3	Inhabits coastal salt marshes, from Santa Barbara south through San Diego County. Nests in Salicornia on and about margins of tidal flats.	Not Expected (breeding, foraging)	Salicornia, salt marshes and tidal flats do not occur within the APE but can be found nearby.
Pelecanus occidentalis californicus California brown pelican	FD/SD G4T3T4/S3 FP	Colonial nester on coastal islands just outside the surf line. Nests on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators. Roosts communally.	Not Expected (breeding, foraging)	No islands are nearby the APE where brown pelicans might nest. The closest body of water is approximately 3 miles west of the APE.
Polioptila californica californica coastal California gnatcatcher	FT/None G4G5T3Q/S2 SSC	Obligate, permanent resident of coastal sage scrub below 2,500 feet in Southern California. Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	Not Expected (breeding, foraging)	Coastal sage scrub, washes, mesas and slopes do not occur within the APE.
Rallus obsoletus levipes light-footed Ridgway's rail	FE/SE G3T1T2/S1 FP	Found in salt marshes traversed by tidal sloughs, where cordgrass and pickleweed are the dominant vegetation. Requires dense growth of either pickleweed or cordgrass for nesting or escape cover; feeds on mollusks and crustaceans.	Not Expected (breeding, foraging)	Saltmarshes with cordgrass and pickleweed do not occur within the APE.
Riparia riparia bank swallow	None/ST G5/S3	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	Not Expected (breeding, foraging)	Vertical banks/cliffs near streams, rivers, lakes or the ocean do not occur within the APE.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in APE	Habitat Suitability/ Observations
Setophaga petechia yellow warbler	None/None G5/S3S4 SSC	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	Not Expected (breeding, foraging)	Riparian plants such as willow, cottonwood, sycamore, ash and alders do not occur within the APE. This species was observed 0.30 mile to the west of the APE in 2022 (eBird, 2023).
Sternula antillarum browni California least tern	FE/SE G4T2T3Q/S2 FP	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	Not Expected (breeding, foraging)	Sand beaches, alkali flat and, landfills do not occur within the APE.
Vireo bellii pusillus least Bell's vireo	FE/SE G5T2/S3	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2,000 feet. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, baccharis, mesquite.	Not Expected (breeding, foraging)	Dry river bottoms, willow, baccharis and mesquite do not occur within the APE.
Mammals				
Antrozous pallidus pallid bat	None/None G4/S3 SSC	Found in a variety of habitats including deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts in crevices of rock outcrops, caves, mine tunnels, buildings, bridges, and hollows of live and dead trees which must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Not Expected	Deserts, grasslands, shrubland, woodland and forests do not occur within the APE. Although there is a bridge north of the APE, this APE is exceptionally busy with vehicular traffic.
Chaetodipus californicus femoralis Dulzura pocket mouse	None/None G5T3/S3 SSC	Found in a variety of habitats including coastal scrub, chaparral, and grassland in San Diego County, Baja California, and Mexico. Attracted to grass-chaparral edges.	Not Expected	This species does not occur within the range of the APE.
Choeronycteris mexicana Mexican long-tongued bat	None/None G3G4/S1 SSC	Common throughout Mexico, this species is occasionally found in San Diego and Imperial counties. Feeds on nectar and pollen of night-blooming succulents. Roosts in desert canyons, caves, and rock crevices. Also uses abandoned buildings. canyons, deep caves, mines, or rock crevices.	Not Expected	This species does not occur within the range of the APE.
Eumops perotis californicus western mastiff bat	None/None G4G5T4/S3S4 SSC	Occurs in open, semi-arid to arid habitats, including coniferous and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces and caves, and buildings. Roosts typically occur high above ground.	Not Expected	Coniferous and deciduous woodlands, coastal scrub, grasslands and chaparral do not occur within the APE.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in APE	Habitat Suitability/ Observations
Microtus californicus stephensi south coast marsh vole	None/None G5T2T3/S2 SSC	Occurs in tidal marshes of Orange, Los Angeles, and Ventura counties.	Not Expected	Tidal marshes do not occur within the APE.
Sorex ornatus salicornicus southern California saltmarsh shrew	None/None G5T1?/S1 SSC	Coastal marshes in Los Angeles, Orange and Ventura counties. Requires dense vegetation and woody debris for cover.	Not Expected	Coastal marshes do not occur within the APE.
Taxidea taxus American badger	None/None G5/S3 SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Not Expected	Suitable foraging or denning habitat does not occur within the APE.

Status: Federal/State

FE = Federally Endangered
FT = Federally Threatened
FC = Federal Candidate
FS = Federally Sensitive
ST = State Threatened
SC = State Candidate
SR = State Rare
SSC = CDFW Species of Special Concern
FP = CDFW Fully Protected
WL = CDFW Watch List

CRPR (CNPS California Rare Plant Rank)

1B = Rare, Threatened, or Endangered in California and elsewhere
2B= Rare, Threatened, or Endangered in California, but more common elsewhere

CRPR Threat Code Extension

.1 = Seriously endangered in California (>80% of occurrences threatened/high degree and immediacy of threat)
.2 = Moderately threatened in California (20-80% of occurrences threatened/moderate degree and immediacy of threat)
.3 = Not very endangered in California (<20% of occurrences threatened/low degree and immediacy of threat)

Other Statuses

G1 or S1 Critically Imperiled Globally or Subnationally (state)
G2 or S2 Imperiled Globally or Subnationally (state)
G3 or S3 Vulnerable to extirpation or extinction Globally or Subnationally (state)
G4/5 or S4/5 Apparently secure, common and abundant

Additional notations may be provided as follows

T - Intraspecific Taxon (subspecies, varieties, and other designations below the level of species)
Q - Questionable taxonomy that may reduce conservation priority

Appendix C

Historic Property Inventory Report



Central Trunk Rail Yard Crossing and Lift Station Project

Historic Property Inventory Report

prepared for

City of Oxnard
6001 Perkins Road
Oxnard, California 93033
Contact: Jorge Espinoza, Project Manager

prepared by

Rincon Consultants, Inc.
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October 2023

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Executive Summary

Rincon Consultants, Inc. (Rincon) performed a cultural resources study and prepared a Historic Property Inventory Report (HPIR) for the City of Oxnard Central Trunk Rail Yard Crossing and Lift Station Project (proposed undertaking; project) in Oxnard, Ventura County, California. The purpose of this HPIR is to document the tasks conducted by Rincon; specifically, the Area of Potential Effects (APE) delineation, a cultural resources records search, Native American and local historical group outreach, historical imagery review, additional background research, and a field survey. Rincon understands the proposed undertaking would be funded through the California State Water Resources Control Board (SWRCB) Clean Water State Revolving Fund (SRF) Program on behalf of the United States Environmental Protection Agency. Because there is federal involvement through the SRF program, the cultural resources study was completed in accordance with California Environmental Quality Act (CEQA)-Plus standards for compliance with CEQA, the National Environmental Protection Act, and Section 106 of the National Historic Preservation Act. The City of Oxnard (City) is the CEQA lead agency; and the SWRCB would be the lead agency for federal Section 106 compliance.

The proposed undertaking would involve installation and operation of a new force main sewer pipeline, a new gravity sewer, and a new sewer lift station, as well as the cured in place pipeline relining repair of an existing 18-inch sewer and abandonment of the collapsed portion of the existing Central Trunk Sewer.

No cultural resources were identified within or immediately adjacent to the APE during the records search, Native American outreach, local historical group outreach, and field survey.

To date, five responses from Native American Tribes have been received, three of which had recommendations and/or requests. In addition, two responses from local historical groups or interested parties have been received, one of which had information about Ventura County Historical Landmarks.

Ms. Violet Walker, Chairperson for the Northern Chumash Tribal Council stated the APE is outside her Tribal area so she did not have any concerns regarding the proposed undertaking; however, Ms. Walker indicated she would like to be notified if cultural resources are identified during construction. Mr. Matthew Vestuto from the Cultural Resource Committee for the Barbareño/Ventureño Band of Mission Indians stated that he would like the Tribe to be able to consult with the City on the proposed undertaking, so that the Tribe could monitor ground disturbing activities, if the project funding would allow. In addition, Mr. Anthony Morales, Chairperson for the Gabrieleno/Tongva San Gabriel Band of Mission Indians, stated that he would like to be kept updated on the proposed undertaking, and if Gabrieleno cultural resources or human remains are identified during construction, he would like to be the person to consult regarding the items/remains, and he would like a Gabrieleno monitor to be present during ground disturbances moving forward from that point. Mr. Morales also stated he would like to be kept updated if Chumash artifacts and/or human remains are identified.

Mr. Dillan Murray, Associate Planner for the Ventura County Resource Management Agency, stated that there are two Ventura County Historical Landmarks (No. 16 - Sugar Beet Factory Site and No. 141 - Ventura County Railway) located near the APE and requested that a digital copy of any cultural resource studies resulting from the proposed undertaking be provided to him.

No other recommendations or requests were received by Rincon as part of this outreach.

Based on the lack of previously recorded cultural resources within the vicinity of the APE, the amount of previous disturbances within the APE, and the nature of the proposed undertaking, the proposed undertaking has a low potential to impact intact cultural resources. However, the lack of surficial cultural resources does not preclude the existence of subsurface resources. As a result, the following mitigation measure is recommended by Rincon in case of the unanticipated discovery of cultural resources. Compliance with existing regulations would be required in the unlikely event of an unanticipated discovery of human remains.

Mitigation Measure CR-1 Unanticipated Discovery of Cultural Resources

In the event archaeological resources are unexpectedly discovered during ground-disturbing activities, work within 50 feet of the find shall halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (NPS 1983) shall be contacted immediately to evaluate the resource. If the resource is determined by the qualified archaeologist to be prehistoric, then a Native American representative shall also be contacted to participate in the evaluation of the resource. If the discovery cannot be avoided by project redesign and if the qualified archaeologist and/or Native American representative determines it to be appropriate, archaeological testing for NRHP eligibility shall be completed. If the resource proves to be eligible for the NRHP and significant impacts to the resource cannot be avoided via project redesign, a qualified archaeologist shall prepare a data recovery plan tailored to the physical nature and characteristics of the resource, per the requirements of California Code of Regulations (CCR) Guidelines Section 15126.4(b)(3)(C). The data recovery plan shall identify data recovery excavation methods, measurable objectives, and data thresholds to reduce any significant impacts to cultural resources related to the resource. Pursuant to the data recovery plan, the qualified archaeologist and Native American representative, as appropriate, shall recover and document the scientifically consequential information that justifies the resource's significance. The City shall review and approve the treatment plan and archaeological testing as appropriate, and the resulting documentation shall be submitted to the regional repository of the CHRIS SCCIC, per CCR Guidelines Section 15126.4(b)(3)(C).

Based on these findings, Rincon recommends ***no historic properties affected*** under Section 106, and ***no impact to historical resources,*** and ***less than significant impact with mitigation to archaeological resources*** under CEQA.

1 Introduction

Rincon Consultants, Inc. (Rincon) performed a cultural resources study and prepared a Historic Property Inventory Report (HPIR) for the City of Oxnard Central Trunk Rail Yard Crossing and Lift Station Project (proposed undertaking; project) in Oxnard, Ventura County, California. The purpose of this HPIR is to document the tasks conducted by Rincon; specifically, Area of Potential Effects (APE) delineations, a cultural resources records search, Native American and local historical group outreach, historical imagery review, additional background research, and a field survey. Rincon understands the proposed undertaking would be funded through the California State Water Resources Control Board (SWRCB) Clean Water State Revolving Fund (SRF) Program on behalf of the United States Environmental Protection Agency (USEPA). Because there is federal involvement through the SRF program, the cultural resources study was completed in accordance with California Environmental Quality Act (CEQA)-Plus standards for compliance with CEQA, National Environmental Protection Act (NEPA), and Section 106 of the National Historic Preservation Act (NHPA). The City of Oxnard (City) is the CEQA lead agency; and the SWRCB would be the lead agency for federal Section 106 compliance.

1.1 Proposed Undertaking Location

The proposed undertaking is located in the central portion of the city of Oxnard in Ventura County, California. More specifically, the proposed undertaking is in Section 03 of Township 1 North, Range 22 West of the *Oxnard, California* 7.5-minute quadrangle map (Figure 1). The proposed undertaking is situated in a primarily industrial and commercial area north of and within E. 5th Street/State Route (SR) 34, amongst existing Union Pacific Railroad (UPRR) tracks. Surrounding land uses include commercial uses, industrial warehouses, and railyards to the north and east; the Oxnard Metrolink Station, Oxnard Transportation Center, and commercial uses to the west; and industrial warehouses and shipping facilities to the south. The proposed undertaking is located approximately 0.2 mile east of S. Oxnard Boulevard and 2.2 miles south of U.S. Highway 101.

1.2 Proposed Undertaking Description

The City owns and maintains the Central Trunk Sewer (CTS), a sewer main which conveys wastewater to the Oxnard Wastewater Treatment Plant. A portion of the CTS travels underneath the UPRR tracks near the intersection of E. 5th Street/SR 34 and Richmond Avenue. In January 2017, the casing of the CTS underneath the northernmost UPRR tracks collapsed due to corrosion and lost structural integrity. The City completed a temporary emergency repair, which diverted wastewater from the CTS into an adjacent sewer line and slip-lined the collapsed line so it could serve as an overflow. The collapsed portion of the CTS is no longer in compliance with UPRR design standards, and the City intends to replace this portion to comply with these standards and fully restore the functionality of the CTS.

The proposed undertaking consists of two main components:

- **Pipeline installation**: The proposed undertaking would involve installation of approximately 2,160 feet of new 24-inch sewer pipeline. Pipeline installation would consist of 70 feet of open-cut trench north of the existing UPRR crossing; 140 feet of jack and bore crossing underneath the three UPRR mainline tracks; and 2,020 feet of open-cut trench for the new force main south

of a proposed lift station, along E. 5th Street to Richmond Avenue. The proposed undertaking would also involve installation of approximately 2,270 feet of new, parallel, 12-inch gravity sewer via traditional open-cut excavation methods north of the UPRR tracks with approximately 250 feet installed within a portion of the existing 18-inch sewer parallel to the existing CTS to be repaired via cured in place pipeline (Figure 2).

- **Sewer lift station:** The proposed undertaking would involve construction of a new sewer lift station located in an existing parking lot north of the E. 5th Street/SR 34 right-of-way (ROW) (Figure 2).

1.3 Area of Potential Effects

The APE is the geographic area or areas in which an undertaking may directly or indirectly cause changes in the character or use of historic properties. Determination of the APE is influenced by the undertaking's setting, the scale and nature of the undertaking, and the different kinds of effects that may result from the undertaking (36 CFR 800.16[d]).

The APE was developed by Rincon in coordination with the City to identify resources in the area that have potential for historic significance, which should be evaluated for eligibility for the National Register of Historic Places (NRHP), and that may be directly or indirectly affected by the undertaking, pursuant to 36 CFR 800.16(d).

For the proposed undertaking, the APE consists only of the undertaking footprint, including the locations of proposed and existing pipelines to be replaced, the location of the proposed sewer lift station, and all proposed staging areas (Figure 2). During archival research for the proposed undertaking, two Ventura County Historical Landmarks (No. 16 - Sugar Beet Factory Site plaque commemorating the landmark and No. 141 - Ventura County Railway) were identified nearby. However, due to the nature of the proposed undertaking, and these resource types, they were not included in the APE since there is no potential for them to be affected by the proposed undertaking.

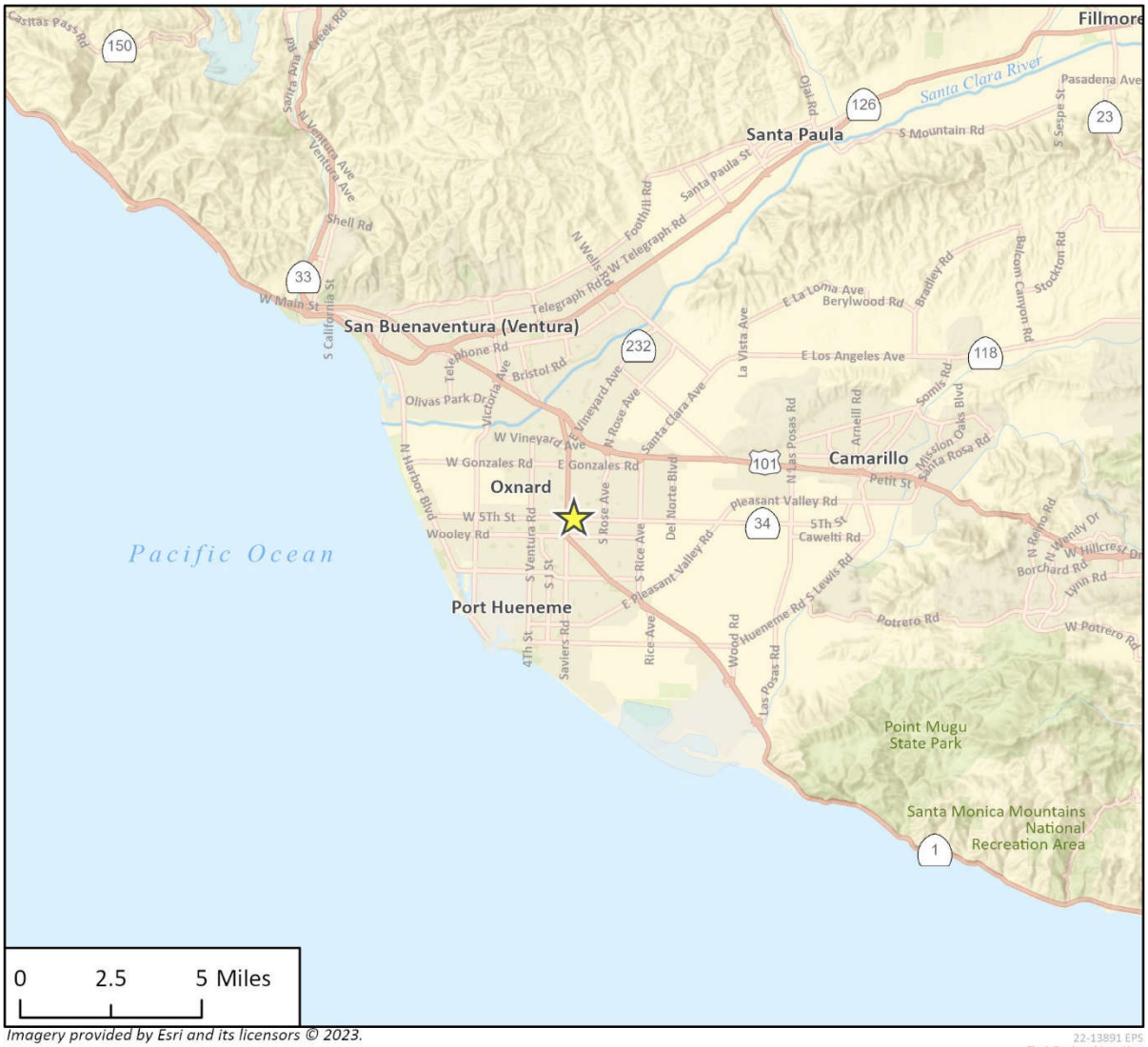
The APE must be considered as a three-dimensional space including any ground disturbance associated with construction. The belowground vertical APE is assumed to be a maximum of 30 feet below ground surface to account for the maximum depth of excavations for the sewer lift station.

There would be no aboveground vertical APE since all new pipelines and the sewer lift station would all be installed at or below the ground surface. After construction is complete, all sewer pipeline construction areas would be restored to pre-construction conditions (i.e., no permanent disturbance footprint). The proposed lift station would include minor aboveground features, including access hatches, electrical control panels (with metal canopy), an odor control unit, and an electrical transformer. Furthermore, the APE is located in a mostly developed area alongside UPRR tracks and rail facilities surrounded by both commercial buildings and industrial warehouses. Due to the existing developed nature of the APE and its surroundings, and because most of the project elements would be subterranean, no indirect effects (i.e., visual, auditory, or atmospheric) are anticipated for the undertaking.

1.4 Project Personnel

Rincon Senior Archaeologist/Project Manager Matthew Gonzalez, BA, managed the cultural resources study, conducted Native American and local historical group outreach, conducted the cultural resources field survey, and authored the report. In addition, Mr. Gonzalez provided the City with an Assembly Bill (AB) 52 package to assist the City with conducting Native American consultation. Rincon Senior Principal Investigator Ken Victorino, MA, Register of Professional Archaeologist (RPA), reviewed this report for quality control. Mr. Victorino meets the Secretary of the Interior's Professional Qualifications Standards for prehistoric and historic archaeology and serves as the Principal Investigator for archaeological resources (National Park Service [NPS] 1983). Geographic Information System Analyst Abby Robles prepared the figures found in this report. Resumes for qualified staff can be found in Appendix A.

Figure 1 Regional Location Map



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22-13891 EPS
Fig 1 Regional Location

Project Location

N

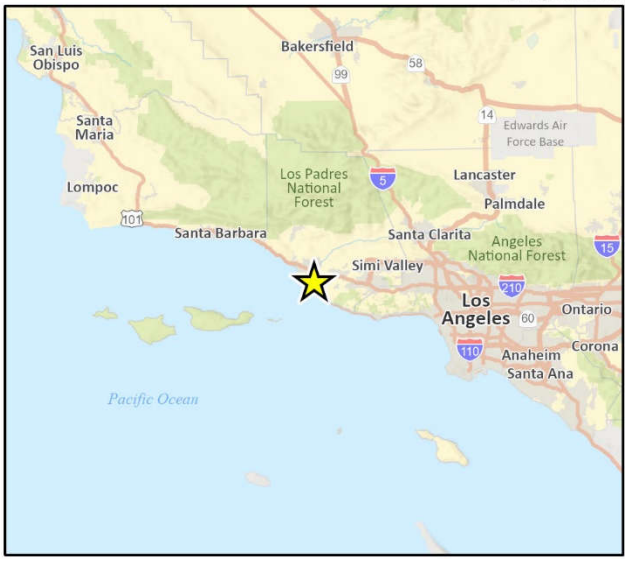
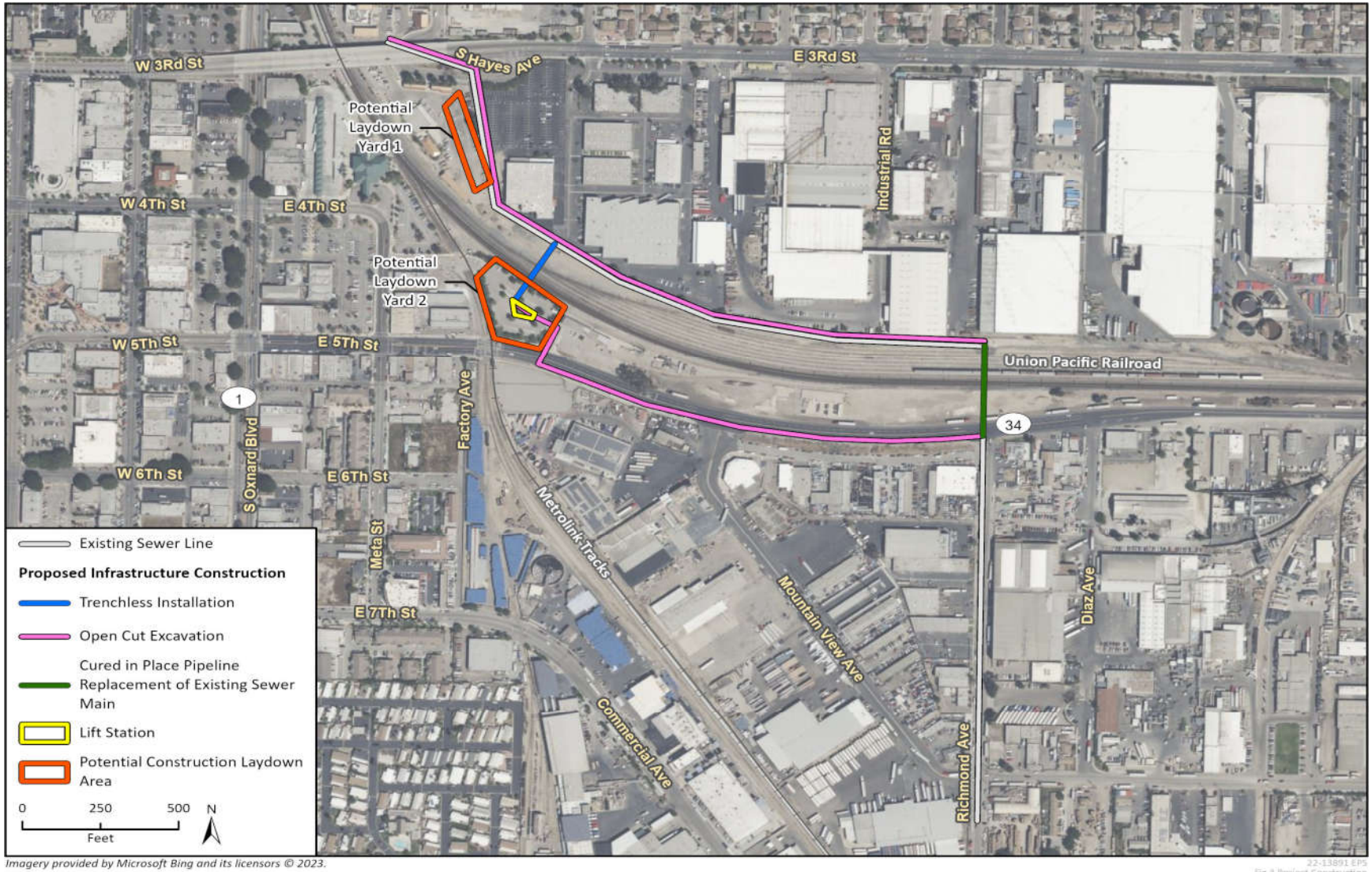


Figure 2 Area of Potential Effects and Construction Map



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2 Regulatory Setting

This section includes a discussion of the applicable federal and state laws, ordinances, regulations, and standards governing cultural resources, to which the proposed undertaking should adhere before and during implementation.

2.1 CEQA-Plus Studies

A CEQA-Plus study includes compliance with state regulations, as well as specific federal cross-cutting regulations pursuant to the requirements of NEPA, in the event a federal nexus is established during the course of the undertaking's execution. A federal nexus may be established if federal funding and/or permitting is obtained or required. Compliance with both regulations allows the lead agency to apply the results of this technical study to both levels of regulation should a nexus be established later.

2.2 Federal

2.2.1 Section 106 of the National Historic Preservation Act

Section 106 (16 United States Code 470f) requires federal agencies to account for the effects of their undertakings on historic properties and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. Historic properties are defined as buildings, structures, districts, sites, or objects which are included in or eligible for inclusion in the NRHP. Section 106 is implemented through 36 Code of Federal Regulations (CFR) Part 800, which outlines the process for historic preservation review, including participants, identification efforts, and the assessment and resolution of adverse effects. Per 36 CFR 800.16(y), a federal undertaking is defined as any project requiring or receiving a federal permit, license, approval, or funding. Federal agencies must take steps to determine if the undertaking would result in adverse effects to historic properties and take measures to avoid or resolve those effects as feasible.

2.2.2 National Register of Historic Places

Authorized by Section 101 of the NHPA, the NRHP is the nation's official list of cultural resources worthy of preservation. The NRHP recognizes the quality of significance in American, state, and local history, architecture, archaeology, and engineering, and that culture is present in districts, sites, buildings, structures, and objects. Per 36 CFR Part 60.4, a property is eligible for listing in the NRHP if it meets one or more of the following criteria:

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

Criterion B: Is associated with the lives of persons significant in our past

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

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

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

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

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

Setting: The physical environment of a historic property

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

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

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

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

Certain properties are generally considered ineligible for listing in the NRHP, including cemeteries, birthplaces, graves of historical figures, properties owned by religious institutions, relocated structures, or commemorative properties. Additionally, a property must be at least 50 years of age to be eligible for listing in the NRHP. The NPS states that 50 years is the general estimate of the time needed to develop the necessary historical perspective to evaluate significance (NPS 1997). Properties which are less than 50 years must be determined to have "exceptional importance" to be considered eligible for NRHP listing.

2.3 State

2.3.1 California Environmental Quality Act

California Public Resources Code (PRC) Section 21084.1 requires lead agencies to determine if a project could have a significant impact on historical or unique archaeological resources. As defined in PRC Section 21084.1, a historical resource is a resource listed in, or determined eligible for listing in, the California Register of Historical Resources (CRHR), a resource included in a local register of historical resources or identified in a historical resources survey pursuant to PRC Section 5024.1(g), or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant. PRC Section 21084.1 also states resources meeting the above criteria are presumed to be historically or culturally significant unless the preponderance of evidence demonstrates otherwise. Resources listed in the NRHP are automatically listed in the CRHR, as are California Historical Landmarks 770 and above; both are therefore historical resources under CEQA. Historical resources may include eligible built environment resources and archaeological resources of the precontact or historic periods.

CEQA Guidelines Section 15064.5(c) provides further guidance on the consideration of archaeological resources. If an archaeological resource does not qualify as a historical resource, it may meet the definition of a "unique archaeological resource" as identified in PRC Section 21083.2. PRC Section 21083.2(g) defines a unique archaeological resource as an artifact, object, or site about

which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria: 1) it contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information, 2) has a special and particular quality such as being the oldest of its type or the best available example of its type, or 3) is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological resource does not qualify as a historical or unique archaeological resource, the impacts of a project on those resources would be less than significant and need not be considered further (CEQA Guidelines Section 15064.5[c][4]). CEQA Guidelines Section 15064.5 also provides guidance for addressing the potential presence of human remains, including those discovered during the implementation of a project.

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

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

The requirements for mitigation measures under CEQA are outlined in CEQA Guidelines Section 15126.4(a)(1). In addition to being fully enforceable, mitigation measures must be completed within a defined time period and be roughly proportional to the impacts of the project. Generally, a project which is found to comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings (the Standards) is considered to be mitigated below a level of significance (CEQA Guidelines Section 15126.4 [b][1]). For historical resources of an archaeological nature, lead agencies should also seek to avoid damaging effects where feasible. Preservation in place is the preferred manner to mitigate impacts to archaeological sites; however, data recovery through excavation may be the only option in certain instances (CEQA Guidelines Section 15126.4[b][3]).

2.3.2 California Register of Historical Resources

The CRHR was established in 1992 and codified by PRC Sections 5024.1 and Title 14 Section 4852. The CRHR is an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change (PRC, 5024.1(a)). The criteria for eligibility for the CRHR are consistent with the NRHP criteria but have been modified for state use in order to include a range of historical resources that better reflect the history of California (PRC, 5024.1(b)). Unlike the NRHP however, the CRHR does not have a defined age threshold for eligibility; rather, a resource may be eligible for the CRHR if it can be demonstrated sufficient time has passed to understand its historical or architectural significance (California Office of Historic Preservation 2011). Furthermore, resources may still be eligible for

listing in the CRHR even if they do not retain sufficient integrity for NRHP eligibility (California Office of Historic Preservation 2011). Generally, the California Office of Historic Preservation recommends resources over 45 years of age be recorded and evaluated for historical resources eligibility (California Office of Historic Preservation 1995:2).

A property is eligible for listing in the CRHR if it meets one of more of the following criteria:

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

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

Criterion 3: Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values

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

2.3.3 Assembly Bill 52

As of July 1, 2015, AB 52 was enacted and expands CEQA by defining a new resource category, "tribal cultural resources". AB 52 establishes, "a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (PRC Section 21084.2). It further states the CEQA lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3).

PRC Section 21074 (a)(1)(A) and (B) define tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and that meets at least one of the following criteria, as summarized in CEQA Guidelines Appendix G:

1) Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k)
2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

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

2.3.4 California Health and Safety Code

Section 7050.5 of the California Health and Safety Code states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlie adjacent remains until the Coroner of the County in which the remains are discovered has determined if the remains are subject to the Coroner's authority. If the human remains are of Native

American origin, the Coroner must notify the Native American Heritage Commission (NAHC) within 24 hours of this identification.

2.3.5 California Public Resources Code Section 5097.98

Section 5097.98 of the California PRC states that the NAHC, upon notification of the discovery of Native American human remains pursuant to Health and Safety Code Section 7050.5, shall immediately notify those persons (i.e., the Most Likely Descendant [MLD]) that it believes to be descended from the deceased. With permission of the landowner or a designated representative, the MLD may inspect the remains and any associated cultural materials and make recommendations for treatment or disposition of the remains and associated grave goods. The MLD shall provide recommendations or preferences for treatment of the remains and associated cultural materials within 48 hours of being granted access to the site.

3 Natural and Cultural Setting

3.1 Natural Setting

The APE lies within the central portion of the city of Oxnard, Ventura County, California. The APE is situated at an elevation between approximately 49 and 56 feet above mean sea level. The nearest water sources are the Santa Clara River located approximately 2.7 miles to the northwest and the Pacific Ocean located approximately 4 miles to the west of the APE. The native vegetation of the region would have primarily consisted of riparian vegetation, riparian woodland, and alluvial sage scrub. Currently, vegetation within the vicinity of the APE consists of manicured landscapes including ornamental trees and low ground cover, consistent with urban environmental settings. Prior to the development of this area, the region would have been a prime corridor for a large range of fauna due to the presence of the Santa Clara River and the Pacific Ocean nearby. The fauna would have included coyotes, bobcats, deer, and a wide variety of birds, rodents, reptiles, and insects.

Due to the developed nature of the APE, the soil immediately below the development with the APE likely consists of fill soils, or heavily disturbed native soils. However, the soil within the APE is mapped as Hueneme series (California Soil Resource Lab 1997). Hueneme Series soils consists of stratified sediments found along valleys and coastal plains of southern California. These soils are found at elevations from sea level to 1,000 feet above mean sea level, near alluvial plains and basins formed from alkaline sedimentary rocks. A typical soil profile features grayish to dark grayish brown weak loamy fine sand from 0 to 2 inches; grayish brown hard and friable light sandy loam from 2 to 23 inches; grayish brown loamy sand from 23 to 37 inches; light to dark grayish brown sandy loam from 37 to 41 inches; gray and fine single grained sand from 41 to 65 inches; and light brownish gray to dark grayish brown stratified silt and sand from 65 to 70 inches. Buried A horizons are not identified in this series (California Soil Resource Lab 1997).

3.2 Cultural Setting

3.2.1 Indigenous History

The APE is located in what is generally described as the Northern Bight archaeological region, one of eight organizational divisions of California designated by Jones and Klar (2007). The California Bight is located along the southern California coastline and encompasses the previously designated Southern Coast archaeological region described by Moratto (1984). The Northern Bight archaeological region primarily includes the counties of Santa Barbara, Ventura, and portions of Los Angeles, extending from the coastline at Vandenberg Space Force Base (previously Vandenberg Air Force Base) inland to the Cuyama River Valley and south to the Santa Monica Mountains and the Los Angeles Basin. Following Glassow et al. (2007), the prehistoric cultural chronology for the Northern Bight is generally divided into six periods: Paleo-Indian Period (13,000 to 9000 before present [BP]), Millingstone Period (9000 to 7000 BP), Early Period (7000 to 4000 BP), Middle Period (4000 to 2000 BP), Middle-Late Transition Period (2000 to 1000 BP), and Late Period (1000 BP to Historic Contact). These periods are discussed in further detail below.

Paleo-Indian Period (13,000 to 9000 BP)

The Paleo-Indian Period defines the earliest known human occupation of the Northern Bight and describes the cultural trends and subsistence strategies of prehistoric populations from approximately 13,000 to 9000 BP (Glassow et al. 2007). The Paleo-Indian Period in North America is largely recognized by projectile points associated with extinct large mammal remains, such as mammoth, bison, and dire wolves in the Southwest and Plains regions (Erlandson et al. 2007; Huckell 1996). These projectile points have been classified as the Clovis style, which exhibit a lanceolate shape with a flute initiated from the base that extends as far as the midline (Justice 2002).

The earliest accepted dates for human occupation in California were recovered from archaeological sites on two of the Northern Channel Islands, located off the southern coast of Santa Barbara County. Over 90 Paleocoastal sites dating between 13,000 and 8,200 years BP have been documented on the Northern Channel Islands (McLaren et al. 2019). Archaeological deposits from the Daisy Cave site on San Miguel Island establish the presence of people in this area approximately 10,000 BP (Erlandson 1991; Erlandson et al. 2007), and the Arlington Springs site (CA-SRI-173) on Santa Rosa Island has a calibrated date of approximately 11,000 BP derived from the human remains and rodent bones recovered from within the same deposits (Erlandson et al. 2007, Glassow et al. 2007; Johnson et al. 2002).

Recent data from Paleo-Indian middens, lithic scatters, and quarry workshops on the Channel Islands indicate that the area supported substantial human populations during later Paleocoastal times (McLaren et al. 2019). Data from the last 20 years also suggests that the economy was a diverse mixture of hunting, fishing, and gathering, with a major emphasis on aquatic resources in many coastal areas (e.g., Jones and Ferneau 2002; Erlandson et al. 2007). Shellfish in particular were heavily relied on, with varying intensities of reliance on fish, marine mammals, seabirds, and waterfowl (McLaren et al. 2019). Archaeological deposits at the Daisy Cave site yielded an assemblage of "the oldest known fishhooks in the Americas" (Erlandson et al. 2007). Shell middens identified on the mainland of California have yielded dates from 10,000 to 9000 BP (Erlandson et al. 2007).

Assemblages on the Channel Islands include chipped-stone bifaces, cores and flake tools, ground-stone artifacts, bone gorges, *Olivella* shell beads, woven sea grass cordage, and red ochre. While no fluted points have been found on the Channel Islands, a few have been found along California's mainland coast (McLaren et al. 2019). One fluted projectile point fragment was recovered from site CA-SBA-1951 on the Santa Barbara Channel coastal plain (Erlandson 1994; Erlandson et al. 1987).

Millingstone Period (9000 to 7000 BP)

Originally identified by D.B. Rogers in 1929, the Millingstone Period, as later described by Wallace (1955, 1978), is characterized by an ecological adaptation to collecting plant resources, such as seeds and nuts, suggested by the appearance and abundance of well-made milling (ground stone) implements, particularly in archaeological sites along the coast of California. It is generally accepted that human occupation of California during the Paleo-Indian Period originated from small, dispersed occupations. Archaeological sites dating to the Millingstone Period, however, indicate a population increase (Glassow et al. 2007).

Wallace (1955, 1978) and Warren (1968) identify ground stone implements including millingstones (e.g., metates, milling slabs) and hand stones (e.g., manos, mullers). Millingstones occur in high frequencies for the first time in the archaeological record of the Central Coast region and become

even more prevalent near the end of the Millingstone Period. The Millingstone Period is named for the dominance of milling implements which is generally associated with the horizontal motion of grinding small seeds and nuts (Glassow et al. 2007). Excavations at the Tank Site (CA-LAN-1) in Topanga Canyon from 1947 to 1948 (Treganza and Bierman 1958) confirmed the presence of a significant number of milling implements that correspond with the Millingstone Period.

Flaked stone assemblages, which include crude core and cobble-core tools, flake tools, large side-notched projectile points, and pitted stones, and shell middens in coastal sites suggest that people during this period practiced a mixed food procurement strategy (Glassow et al. 2007; Jones and Klar 2007). Faunal remains identified at Millingstone sites point to broad-spectrum hunting and gathering of shellfish, fish, birds, and mammals, though large faunal assemblages are uncommon. This mixed food procurement strategy demonstrates adaptation to regional and local environments.

Along the Central Coast, Millingstone Period sites are most common on terraces and knolls, typically set back from the current coastline (Erlandson 1994). However, sites dating to this period have also been identified in various settings, including rocky coasts, estuaries, and nearshore interior valleys (Glassow et al. 2007). The larger sites usually contain extensive midden deposits, possible subterranean house pits, and cemeteries. Most of these sites probably reflect intermittent use over many years of local cultural habitation and resource exploitation.

Early Period (7000 to 4000 BP)

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

Artifact assemblages recovered from Early Period sites also include bipointed bone gorge hooks used for fishing, *Olivella* beads, bone tools, and pendants made from talc schist. Square abalone shell (*Haliotis* spp.) beads have been found in Monterey Bay (Jones and Waugh 1997). The frequency of projectile points in Early Period assemblages also increased, while the style began to change from lanceolate forms to side-notched forms (Glassow et al. 2007). The projectile point trend became apparent at numerous sites along the California coast as well as a few inland sites (e.g., CA-SBA-210 and CA-SBA-530). In many cases, manifestations of this trend are associated with the establishment of new and larger settlements, such as at the Aerophysics site (Glassow et al. 2007; Jones and Klar 2007).

Middle Period (4000 to 2000 BP)

The remains of fish, land mammals, and sea mammals are increasingly abundant and diverse in archaeological deposits along the coast during the Middle Period, suggesting a pronounced trend toward greater adaptation to regional or local resources as well as the development of socioeconomic and political complexity in prehistoric populations (Glassow et al. 2007). Shell fishhooks were introduced, and projectile points changed from side-notched dart points to contracting stem styles.

Flaked stone tools used for hunting and processing—such as large side-notched, stemmed, lanceolate or leaf-shaped projectile points, large knives, edge modified flakes, and drill-like implements—occurred in archaeological deposits in higher frequencies and are more morphologically diverse during the Middle Period. Bone tools, including awls, are more numerous than in the preceding period, and the use of asphaltum adhesive became common. Circular fish hooks that date from between 3000 and 1500 BP, compound bone fish hooks that date between 1700 and 1100 BP, notched stone sinkers, and the tule reed or balsa raft, indicative of major developments in maritime technology, became common during this period (Arnold 1995; Glassow et al. 2007; Jones and Klar 2007; King 1990).

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

Middle-Late Transition Period (2000 to 1000 BP)

The Middle-Late Transition Period is marked by major changes in settlement patterns, diet, and interregional exchange. Prehistoric populations continued to occupy more permanent settlements, with the continued use of formal cemeteries and the burial of goods with the deceased. The manufacture of the plank canoe, or *tomol*, allowed prehistoric populations to catch larger fish that occupied deeper sea waters (Glassow et al. 2007). Following the introduction of the plank canoe, groups began to use harpoons. The plank canoe appears to have influenced "commerce between the mainland coast and the Channel Islands" (Glassow et al. 2007). Middle-Late Transition Period sites indicate that populations replaced atlatl (dart) technologies with the bow and arrow, which required smaller projectile points. Projectile points diagnostic of both the Middle and Late periods are found within the Central Coast region (Jones and Ferneau 2002). These projectile points include large, contracting-stemmed types typical of the Middle Period, as well as small, leaf-shaped Late Period projectile points, which likely reflect the introduction of the bow and arrow.

Late Period (1000 BP to Historic Contact)

Late Period sites are distinguished by small, finely worked projectile points and temporally diagnostic shell beads. Although shell beads were typical of coastal sites, trade brought many of these maritime artifacts to inland locations, especially during the latter part of the Late Period. Small, finely worked projectile points are typically associated with bow and arrow technology, which is believed to have been introduced to the area by the Takic migration from the deserts into southern California. Common artifacts identified at Late Period sites include bifacial bead drills, bedrock mortars, hopper mortars, lipped and cupped *Olivella* shell beads, and steatite disk beads. The presence of beads and bead drills suggest that low-level bead production occurred throughout the Central Coast region (Glassow et al. 2007). Unlike the large Middle Period shell middens, Late Period sites are more frequently single-component deposits with evidence for only one period of occupation or use. There are also more inland sites, with fewer and less visible sites along the Pacific shore during the Late Period.

3.2.2 Ethnographic Context

Ventureño Chumash

The APE is located in the traditional territory of the Ventureño Chumash, a linguistically and culturally distinct Chumash group. The Chumash spoke six closely related Chumashan languages that have been divided into three branches—Northern Chumash (consisting only of Obispeño), Central Chumash (consisting of Purisimeño, Ineseño, Barbareño, and Ventureño), and Island Chumash (Golla 2007). The name "Ventureño Chumash" denotes the people who were administered by the Spanish from the Mission San Buenaventura during the historic period. Their territory includes the areas of present-day Ventura County. Ventureño Chumash extensively occupied interior areas, which had creek corridors that provided intermittent or perennial fresh water sources. A series of trailways into these areas facilitated trade between coastal and other neighboring groups such as the Salinan to the north, the Southern Valley Yokuts and Tataviam to the east, and the Gabrieleno/Tongva to the south (Roman 2017).

Early Spanish accounts from European-Native contact describe the Santa Barbara Channel as heavily populated. Estimates of the Chumash total population range from 8,000 to 10,000 (Kroeber 1925) to 18,000 to 22,000 (Cook and Heizer 1965; Grant 1978a). Santa Cruz Island had at least six villages observed by Juan Rodriguez Cabrillo in 1542 (Johnson 1982). *Wene'mu* or *Quelqueme* (Hueneme), has been described as a place where people from the Channel Islands spent the night when they traveled to the mainland to trade (San Buenaventura Research Associates 2014). Typical house structures were large (up to 55 feet in diameter) and could accommodate 70 people (Kroeber 1925; Grant 1978b). The village of *šukuw*, (or *shuku*), at Rincon Point, was encountered by Gaspar de Portolá in 1769. This village had 60 houses and seven canoes, with an estimated population of 300 (Grant 1978b). Eastern coastal Chumash lived in hemispherical dwellings covered by interwoven grasses, such as tule, carrizo grass, wild alfalfa, and fern (Grant 1978b). Other structures in a village included small sweathouses and a large ceremonial chamber (Kroeber 1925).

Ventureño Chumash groups were socially and religiously multifaceted (Gamble et al. 2001, Arnold and Green 2002). Historical Spanish period accounts suggest the overarching social structure to be patrilineal chiefdoms. These have been separated into three sub-chief categories: "Big Chief," who lead groups of settlements, "Chief," who was head of a single village, and "Lesser Chief," who was subordinate to the others (Gamble et al. 2001). Social or economic status may also have been indicated through mortuary practices, although this is debated by archaeologists. Mourning rituals consisted of burials in cemeteries with grave goods, such as *Olivella* shell beads, and beads made from other local shells. Other recorded mortuary rituals included burying individuals in the floor of a residence and burning the deceased's house and possessions (Gamble et al. 2001; Arnold and Green 2002).

Chumash exploited multiple subsistence strategies. The acorn was an extremely important resource. It could be gathered, stored, ground into meal, or cooked into paste. Other seeds or fruits like pine nuts and wild cherries would be gathered and processed with a mortar. Hunting and fishing were also an important aspect of Chumash subsistence. Hunters would use a bow and arrow for land mammals like deer, coyote, and fox (Grant 1978b). The *tomol*, or wooden plank canoe, was an especially important tool for the procurement of marine resources and for maintaining trade networks between Coastal and Island Chumash. Sea mammals were hunted with harpoons, while deep-sea fish were caught using nets, hooks, and lines. Shellfish were gathered from beaches using digging sticks, and mussels and abalone were pried from rocks using wood or bone wedges (Johnson 1982). Other subsistence technology included skillet-like flat stones called comals, sandstone

storage bowls, and wooden plates and bowls. Archaeological evidence suggests the Ventureño Chumash practiced lithic production of tools from quartzite, chalcedony, and chert in separate lithic workspaces near their occupation sites (Roman 2017). Woven baskets were also used for food storage and food preparation. Tightly woven baskets for holding water were made with coiling or twining techniques (Grant 1978b).

The Chumash were heavily affected by the arrival of Europeans. The Spanish missions and later Mexican and American settlers dramatically altered traditional Chumash lifeways. The Chumash population was considerably reduced by the introduction of European diseases. However, many Chumash descendants still inhabit the region (Grant 1978a).

3.2.3 Post-Contact Setting

Post-Contact history for the state of California is generally divided into three periods: the Spanish Period (1769–1822), Mexican Period (1822–1848), and American Period (1848–present). Although Spanish, Russian, and British explorers visited the area for brief periods between 1529 and 1769, the Spanish Period in California begins with the establishment in 1769 of a settlement at San Diego and the founding of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain in 1821 marks the beginning of the Mexican Period, and the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican-American War, signals the beginning of the American Period when California became a territory of the United States.

Spanish Period (1769 to 1821)

Spanish explorers made sailing expeditions along the coast of California between the mid-1500s and mid-1700s. Juan Rodríguez Cabrillo in 1542 led the first European expedition to observe what was known by the Spanish as Alta (upper) California. For more than 200 years, Cabrillo and other Spanish, Portuguese, British, and Russian explorers sailed the Alta California coast and made limited inland expeditions, but they did not establish permanent settlements (Bean 1968; Rolle 2003). The Spanish crown laid claim to Alta California based on the surveys conducted by Cabríllo and Vizcaíno (Bancroft 1885; Gumprecht 1999).

By the 18th century, Spain developed a three-pronged approach to secure its hold on the territory and counter against other foreign explorers. The Spanish established military forts known as presidios, as well as missions and pueblos (towns) throughout Alta California. The 1769 overland expedition by Captain Gaspar de Portolá marks the beginning of California's Historic period, occurring just after the King of Spain installed the Franciscan Order to direct religious and colonization matters in assigned territories of the Americas. Portolá established the Presidio of San Diego as the first Spanish settlement in Alta California in 1769. Franciscan Father Junípero Serra also founded Mission San Diego de Alcalá that same year, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823.

Construction of missions and associated presidios was a major emphasis during the Spanish Period in California to integrate the Native American population into Christianity and communal enterprise. Incentives were also provided to bring settlers to pueblos or towns; just three pueblos were established during the Spanish Period, only two of which were successful and remain as California cities (San José and Los Angeles).

Spain began making land grants in 1784, typically to retiring soldiers, although the grantees were only permitted to inhabit and work the land. The land titles technically remained property of the Spanish king (Livingston 1914).

Mexican Period (1821 to 1848)

Several factors kept growth within Alta California to a minimum, including the threat of foreign invasion, political dissatisfaction, and unrest among the indigenous population. After more than a decade of intermittent rebellion and warfare, New Spain won independence from Spain in 1821. In 1822, the Mexican legislative body in California ended isolationist policies designed to protect the Spanish monopoly on trade, and decreed California ports open to foreign merchants (Dallas 1955).

Extensive land grants were established in the interior during the Mexican Period, in part to increase the population inland from the more settled coastal areas where the Spanish had first concentrated their colonization efforts. The secularization of the missions following Mexico's independence from Spain resulted in the subdivision of former mission lands and establishment of many additional ranchos. Commonly, former soldiers and well-connected Mexican families were the recipients of these land grants, which now included the title to the land.

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

American Period (1848 to Present)

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

California officially became a state with the Compromise of 1850, which also designated Utah and New Mexico (with present-day Arizona) as U.S. territories (Waugh 2003). Horticulture and livestock, based primarily on cattle as the currency and staple of the rancho system, continued to dominate the southern California economy through 1850s. The discovery of gold in the northern part of the state led to the Gold Rush beginning in 1848, and with the influx of people seeking gold, cattle were no longer desired mainly for their hides but also as a source of meat and other goods. During the 1850s cattle boom, rancho vaqueros drove large herds from southern to northern California to feed that region's burgeoning mining and commercial boom.

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

Oxnard

Oxnard obtained its name from its founder, Henry T. Oxnard, the owner of a sugar beet factory in Chino, California. Mr. Oxnard was invited to Ventura County to teach local farmers how to successfully grow sugar beets prior to the turn of the twentieth century. He and his three brothers

constructed a beet processing factory, the American Sugar Beet Company factory, which became operational in 1899, near Oxnard. In 1903, the city of Oxnard was officially incorporated.

The factory attracted many workers to Oxnard, bringing cultural and agricultural diversity to the city, along with wealth and the Southern Pacific rail line. Over time, the factory diversified its crops to include lima beans and grain, ensuring diversity and productivity until it was closed and demolished in 1959 (*Los Angeles Times* 1991). The historic plaque/marker for the Ventura County Historical Landmark No. 16 - Sugar Beet Factory Site, is located at 250 E. 5th Street, approximately 150 feet southwest of the APE. In addition, this marker is located immediately adjacent to the Ventura County Historical Landmark No. 141 - Ventura County Railway, located approximately 100 feet south-southwest of the APE. This railway, built in 1905, is 13-miles long and carries freight between the Southern Pacific Railroad Depot in Oxnard, the United States Naval Base and the commercial harbor in Port Hueneme (The Historical Marker Database [HMdb] 2021). In 1911, the American Beet Sugar Company purchased the railway to haul beets to the factory. Then during World War II all of the war material for the Port of Hueneme was carried over this line. When the sugar beet factory finally closed in 1959, the railway was purchased by Martin Smith and Associates and continues to be in use today (HMdb 2021). Both of these landmarks are located outside the APE to the southwest (City of Oxnard 2023).

Growth continued in Oxnard in the first few decades of the twentieth century, with the development of general stores, restaurants, and banks (Oxnard Visitors Bureau 2017). The establishment of the Port of Hueneme adjacent to Oxnard prior to World War II sparked a population increase in the area and led to expansive suburban development in the war and post-war years. Substantial growth continued into the mid twentieth century, with the development of major high-rise commercial buildings, commercial retail and industrial space and the construction of Channel Islands Harbor. Further expansion of downtown commercial and institutional districts and residential suburbs has continued. The city's population has more than doubled since the early 1970s. Oxnard is currently the largest city in Ventura County (Oxnard Public Library 2010).

4 Background Research and Outreach

Background research for the cultural resource assessment included records searches, Native American outreach, local historical group outreach, and a review of historical maps and aerial photographs. A summary of each of these efforts follows.

4.1 Archival Research

Rincon completed background and archival research in support of this study in June and July 2023. A variety of primary and secondary source materials were consulted. Sources included, but were not limited to, historical maps, aerial photographs, and written histories of the area. The following sources were utilized to develop an understanding of the APE and its context:

- California Historical Resources Information System (CHRIS) Records Search
- Historical aerial photographs accessed via NETR Online
- Historical United States Geological Survey (USGS) topographic maps
- City of Oxnard map of historic areas and historic landmarks

4.2 Cultural Resources Record Search

On June 7, 2023, Rincon conducted a records search through the CHRIS at the South Central Coastal Information Center (SCCIC) located at California State University, Fullerton. The SCCIC is the official state repository for cultural resources records and reports for Ventura County. The purpose of the records search was to identify previously conducted cultural resources studies, as well as previously recorded cultural resources within the APE and a 0.5-mile radius surrounding it. Rincon also reviewed the NRHP, the CRHR, the California Historical Landmarks list, and the Built Environment Resources Directory. Additionally, Rincon reviewed the Archaeological Determination of Eligibility list. Results of the records search can be found in Appendix B of this technical report.

4.2.1 Previously Conducted Studies

The CHRIS records search and background research identified 20 previously conducted cultural resources studies within 0.5 mile of the APE (Appendix B). Of these 20 previously conducted cultural resources studies, seven studies (VN-572, -952, -1153, -1265, -2458, -2504, and -3094) overlap the portions of the APE along E. 5th Street/SR 34 and the UPRR. None of these previously conducted cultural resources studies identified cultural resources within or immediately adjacent to the APE.

4.2.2 Previously Recorded Resources

The CHRIS records search and background research identified two cultural resources within 0.5 mile of the APE. Neither of which are located within or adjacent to the APE. The resources identified in the search radius are listed in Table 1 below.

Table 1 Previously Recorded Cultural Resources within 0.5 Mile of the APE

Primary Number	Trinomial	Resource Type	Description	Recorder(s) and Year(s)	Eligibility Status	Relationship to APE
P-56-151213	-	Historic-Period Building	Oxnard Chamber of Commerce	1971 (Faulconer, James, R., City of Oxnard)	Unknown	Outside
P-56-153137	-	Historic-Period Building	Sky View Drive-In Theater	2016 (Zamudio-Gurrola, Susan, Rincon Consultants)	Unknown	Outside

Source: South Central Coastal Information Center 2023

4.3 Native American Outreach

Rincon contacted the NAHC on May 26, 2023, to request a Sacred Lands File (SLF) search of the APE. As part of this request, Rincon asked the NAHC to provide a list of Native American groups and/or individuals culturally affiliated with the area who may have knowledge of cultural resources in the APE. The NAHC responded on June 21, 2023, stating the results of the SLF search were negative (see Appendix C). The absence of specific cultural resources data in the SLF search does not indicate the absence of cultural resources within the APE. As a result, the NAHC stated in its letter that other sources of cultural resources data should be consulted to gather any information on known cultural resources that may be present within the APE. The NAHC provided a list of nine Native American contacts who may have knowledge of cultural resources of Native American origin within the APE. Rincon prepared and sent electronic mail (email) outreach letters to each of the groups with a listed email address on June 30, 2023. Follow-up phone calls were conducted July 14, 2023.

On July 3, 2023, Rincon spoke with Violet Walker, Chairperson for the Northern Chumash Tribal Council, and she stated the APE is outside her Tribal area, therefore, she did not have any concerns regarding the proposed undertaking. However, Ms. Walker indicated that she would like to be notified if cultural resources are identified during construction.

On July 5, 2023, Rincon received an email response, with an attached letter, from Crystal Mendoza, Administrative Assistant for Cultural Resources for the Santa Ynez Band of Chumash Indians. In the letter attached to the email, Ms. Mendoza stated the Elder's Council request no further consultation on the proposed undertaking at this time.

On July 14, 2023, Rincon spoke with Matthew Vestuto from the Cultural Resource Committee for the Barbareño/Ventureño Band of Mission Indians, and he stated that he would like the Tribe to be able to consult with the City on the proposed undertaking, so that the Tribe could monitor ground disturbing activities, if the project funding would allow.

On July 14, 2023, Rincon also spoke with Anthony Morales, Chairperson for the Gabrieleno/Tongva San Gabriel Band of Mission Indians, and he stated that he would like to be kept updated on the proposed undertaking. In addition, if Gabrieleno cultural resources or human remains are identified during construction, he would like to be the person to consult regarding the items/remains, and have a Gabrieleno monitor be present during ground disturbances moving forward from that point. Mr. Morales also stated he would like to be kept updated if Chumash artifacts and/or human remains are identified as well.

On July 14, 2023, Rincon also spoke with Sam Dunlap, Cultural Resource Director for the Gabrielino-Tongva Tribe, and he stated that the proposed undertaking is outside his Tribal territory, and he defers to the Barbareño/Ventureño Chumash.

No other responses to the Section 106 outreach from Native American groups and/or individuals have been received to date. The outreach above did not result in the identification of any cultural resources within the APE or its immediate vicinity. Appendix C provides documentation of Rincon's outreach efforts.

The City distributed AB 52 letters for the proposed undertaking on June 29, 2023. The results of AB 52 consultation will be discussed in the environmental document that will be prepared for the proposed undertaking.

4.4 Local Historical Group Outreach

As part of the process of identifying cultural resources within the APE and its vicinity, Rincon contacted parties that have a demonstrated interest in cultural/historical resources in the Oxnard area and requested information regarding known or potential resources near the APE. Letters that included a description and map of the undertaking were sent via email on June 30, 2023, to the Ventura Cultural Heritage Board (CHB), the City of Oxnard Planning Department, and Heritage Square. Follow-up phone calls were conducted July 14, 2023. Appendix D provides documentation of Rincon's outreach efforts.

On July 3, 2023, Rincon received an email response, with an attached letter, from Dillan Murray, Associate Planner for the Ventura County Resource Management Agency. In the letter attached to the email, Mr. Murray stated that the CHB staff identified two designated and potential Cultural Heritage Sites near the APE, including the Ventura County Railway (listed in the letter as Ventura County Landmark No. 15 even though it is actually No. 141) and the American Sugar Beet Company factory site (Ventura County Landmark No. 16). In addition, Mr. Murray requested that a digital copy of any cultural resource studies resulting from the proposed undertaking be provided to him.

On July 14, 2023, Rincon received an email response from Gary Blum, Site Manager for Heritage Square, and he stated that he does not have any issues with the proposed undertaking.

No other responses to the Section 106 outreach from local historical groups have been received to date. Appendix D provides documentation of Rincon's outreach efforts.

4.5 Historical Topographic Map and Aerial Imagery Review

Rincon completed a review of historical topographic maps and aerial imagery to ascertain the development history of the APE (NETR Online 2023; USGS 2023). The topographic maps from 1904 to 1940 depict the APE as mostly developed with E. 5th Street/SR 34 and the UPRR tracks and rail facilities already present at this time. In addition, there are several large commercial and industrial warehouses present within and in the area surrounding the APE at this time. The American Sugar Beet Company factory for which the Ventura County Historical Landmark No. 16 - Sugar Beet Factory Site plaque was created, is also present approximately 0.5 mile south of the APE during this time. The Ventura County Historical Landmark No. 141 - Ventura County Railway is also present near the APE during this time. The topographic maps from 1940 to 1951 depicted additional development in the surrounding vicinity of the APE. Aerial photographs from 1947 confirm the APE

is developed with E. 5th Street/SR 34 and the UPRR tracks and rail facilities. In addition, the two potential laydown yard/lift station areas of the APE appear to be fully developed with large structures, paved parking, and landscaping. The majority of the surrounding vicinity is also developed with commercial and industrial uses, with a few areas that are vacant or under construction during this time. Topographic maps and aerial photographs reveal that commercial and industrial development continued in the areas within and immediately around the APE in the 1950s, 1960s, and 1970s, until there was no more vacant land surrounding the APE. During this time, several buildings within the surrounding vicinity, including those within the two potential laydown yard/lift station areas of the APE have been redeveloped with new buildings. The redevelopment and replacement of buildings continued during the 1980s, 1990s, and into the early 2000s, with the APE and its surrounding vicinity finally appearing mostly as it does today by 2009 (NETR Online 2023; USGS 2023).

5 Field Survey

5.1 Methods

Rincon Senior Archaeologist/Project Manager Matthew Gonzalez conducted a field survey of the APE on June 21, 2023. Due to the mostly developed nature of the APE, Rincon conducted an opportunistic survey of the APE, where all unpaved and/or undeveloped areas within or immediately adjacent to the APE were closely inspected for the presence of cultural resources. Exposed ground surfaces were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools), ecofacts (marine shell and bone), or historical debris (e.g., metal, glass, ceramics). Survey accuracy was maintained using a handheld Global Positioning Satellite unit and a georeferenced map of the APE. Site characteristics and survey conditions were documented using field records and a digital camera. Copies of the survey notes and digital photographs are maintained at the Rincon Ventura office.

5.2 Results

Due to the mostly developed nature of the APE including hardscape, landscape, and standing buildings, there was little to no ground surface visibility in most areas (Photograph 1 – Photograph 2). In unpaved and/or undeveloped areas, consisting primarily of landscaped areas within the APE, and the unpaved road shoulders adjacent to the paved roads, just outside of the UPRR ROW, and surrounding the paved parking areas, ground surface visibility ranged from good to excellent (80 to 100 percent). Manicured grass, mature plants, bushes, and trees, gravel, woodchip mulch, duff, and modern refuse limited ground surface visibility throughout landscaped and undeveloped areas of the APE (Photograph 3 - Photograph 4). The opportunistic survey consisted of examining all landscaped areas within the APE for exposed ground surfaces, surveying the unpaved shoulders of the paved roads, and surveying just outside the unpaved areas of the UPRR ROW. The visible soil within the APE consisted of a light grey/greyish brown/light brown, fine-grain silty sand/sand with both natural and imported gravel intermixed. Less than 10 percent of the APE was unpaved and/or undeveloped, and surveyed. In addition to the construction of the existing buildings, hardscaping and landscaping, paved roads, and the UPRR, the APE and its immediate surroundings exhibited signs of subsurface disturbances as indicated by the presence of manholes, fire hydrants, large and small utility boxes and vaults, existing underground utilities, irrigation systems, drainages, and large flag and light poles.

No historic built environment or archaeological resources were identified within the APE during the field survey.

Photograph 1 Potential Laydown Yard 1, View Southwest



Photograph 2 Potential Laydown Yard 2/Lift Station Area, View West



Photograph 3 Unpaved area between E. 5th Street and the UPRR ROW, View West



Photograph 4 Landscaping within Potential Laydown Yard 2/Lift Station Area, View East



6 CEQA Management Recommendations and Section 106 Findings

No cultural resources were identified within or immediately adjacent to the APE during the records search, Native American outreach, local historical group outreach, or field survey.

To date, five responses from Native American Tribes have been received, three of which included recommendations and/or requests. In addition, two responses from local historical groups or interested parties have been received, one of which had information about Ventura County Historical Landmarks.

Ms. Walker, Chairperson for the Northern Chumash Tribal Council stated the APE is outside her Tribal area so she didn't have any concerns regarding the proposed undertaking; however, she would like to be notified if cultural resources are identified during construction. Mr. Vestuto from the Cultural Resource Committee for the Barbareño/Ventureño Band of Mission Indians stated that he would like the Tribe to be able to consult with the City on the proposed undertaking, so that the Tribe could monitor ground disturbing activities, if the project funding would allow. In addition, Mr. Morales, Chairperson for the Gabrieleno/Tongva San Gabriel Band of Mission Indians, stated that he would like to be kept updated on the proposed undertaking, he would like to be consulted if Gabrieleno cultural resources or human remains are identified during construction, and he would like a Gabrieleno monitor to be present during ground disturbances if resources or remains are identified. Mr. Morales also stated he would like to be kept updated if Chumash artifacts and/or human remains are identified as well.

Mr. Murray, Associate Planner for the Ventura County Resource Management Agency stated that there are two Ventura County Historical Landmarks (No. 16 - Sugar Beet Factory Site and No. 141 - Ventura County Railway) located near the APE and requested that a digital copy of any cultural resource studies resulting from the proposed undertaking be provided to him.

No other recommendations or requests were received by Rincon as part of this outreach.

The APE has been heavily disturbed by years of historical and modern development. As a result, it is likely that at least the top one to two feet of soil in most areas within the APE are unlikely to yield intact cultural resources deposits based on the existing conditions and the extent of previous construction-related ground disturbances. Some areas, such as where existing manholes, fire hydrants, large utility boxes and vaults, existing underground utilities, drainages, and large flag and light poles are located, would have much deeper disturbances within the APE. The relatively close proximity of the Pacific Ocean and the Santa Clara River may have made the APE an attractive location for the prehistoric population in the area, but the lack of previously recorded cultural resources within the vicinity of the APE, the amount and extent of previous disturbances within the APE, and the nature of the proposed undertaking indicate that the proposed undertaking has a low potential to impact intact cultural resources. However, the lack of surficial cultural resources does not preclude the existence of subsurface resources. As a result, the following mitigation measure is recommended by Rincon to address the unanticipated discovery of cultural resources. Compliance with existing regulations would also be required in the unlikely event of an unanticipated discovery of human remains.

Based on these findings, Rincon recommends a finding of ***no historic properties affected*** under Section 106 of the NHPA, and ***no impact to historical resources*** under CEQA. Rincon further recommends a finding of ***less than significant impact with mitigation to archaeological resources*** under CEQA with incorporation of the recommendations identified below.

6.1 Mitigation Measure

6.1.1 Unanticipated Discovery of Cultural Resources

In the event archaeological resources are unexpectedly discovered during ground-disturbing activities, work within 50 feet of the find shall halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (NPS 1983) shall be contacted immediately to evaluate the resource. If the resource is determined by the qualified archaeologist to be prehistoric, then a Native American representative shall also be contacted to participate in the evaluation of the resource. If the discovery cannot be avoided by project redesign and if the qualified archaeologist and/or Native American representative determines it to be appropriate, archaeological testing for NRHP eligibility shall be completed. If the resource proves to be eligible for the NRHP and significant impacts to the resource cannot be avoided via project redesign, a qualified archaeologist shall prepare a data recovery plan tailored to the physical nature and characteristics of the resource, per the requirements of California Code of Regulations (CCR) Guidelines Section 15126.4(b)(3)(C). The data recovery plan shall identify data recovery excavation methods, measurable objectives, and data thresholds to reduce any significant impacts to cultural resources related to the resource. Pursuant to the data recovery plan, the qualified archaeologist and Native American representative, as appropriate, shall recover and document the scientifically consequential information that justifies the resource's significance. The City shall review and approve the treatment plan and archaeological testing as appropriate, and the resulting documentation shall be submitted to the regional repository of the CHRIS SCCIC, per CCR Guidelines Section 15126.4(b)(3)(C).

6.2 Regulatory Compliance Measure

6.2.1 Unanticipated Discovery of Human Remains

The discovery of human remains is always a possibility during ground disturbing activities. If human remains are unexpectedly found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a MLD. The MLD shall complete the inspection of the site and provide recommendations for treatment to the landowner within 48 hours of being granted access.

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Appendix A

Staff Resumes



Ken Victorino, RPA

Senior Principal Investigator

Ken has over 24 years of professional experience in cultural resources management and extensive experience in all aspects of fieldwork, laboratory analysis, and report preparation. Based in the Ventura/Santa Barbara region for the past 20 years, he has been an author, project manager, field supervisor, and laboratory supervisor for Phase 1 archaeological surveys, extended Phase 1 testing programs, Phase 2 significance evaluations, Phase 3 data recovery mitigation programs, and archaeological monitoring at prehistoric and historic archaeological sites in coastal, foothill, and desert regions. He has supervised cultural resources projects in accordance with State and federal regulations, such as CEQA, NEPA, and Section 106 of the NHPA. He was certified by the Register of Professional Archaeologists in 1997. Ken prepares cultural resources management technical reports covering initial assessment, significance determination, and mitigation phases. He contributes to CEQA and NEPA documents as well as studies relating to the protection of historic properties (Section 106 of NHPA).

EDUCATION

MA, Anthropology, California State University, Fullerton

BA, Anthropology, California State University, Fullerton

REGISTRATIONS

Registered Professional Archaeologist (no. 135466)

SELECT PROJECT EXPERIENCE

Senior Archaeologist, Department of the Navy (United States Marine Corps) – NHPA Section 106 and NEPA Documentation for Various Projects, California
Ken prepared the cultural resources section for an Environmental Impact Statement to evaluate various basing alternatives related to the introduction of MV-22 aircraft; assisted with the management of National Register eligibility evaluations of prehistoric sites in the Papa Three Training Area of Marine Corps Base Camp Pendleton, in compliance with Section 106 of the National Historic Preservation Act; managed National Register of Historic Places eligibility evaluations of sites in the Noble Pass, Sand Hill, and Gypsum Ridge Training Areas of Marine Corps Air Ground Combat Center Twentynine Palms; directed archaeological survey of approximately 1,500 acres for Marine Corps Air Ground Combat Center Twentynine Palms for the Assault Breacher Vehicle; assisted in preparation of condition assessment, site monitoring, and treatment plan for Marine Corps Base Camp Pendleton; and conducted Phase 1 survey and impact assessment for the Base Realignment and Closure Palos Verdes and San Pedro Housing.

Senior Archaeologist, United States Air Force Civil Engineering Command – Defense Fuel Support Point Ozol Demolition Project Archaeological Survey Report and NHPA Section 106 Documentation, Contra Costa County
Ken prepared Section 106 compliance documentation for dismantling, removing, and abandoning facilities associated with Defense Fuel Support Point Ozol.

Senior Archaeologist, Department of Homeland Security (United States Coast Guard) – Maintenance Dredging Project Archaeological Survey Reports and NHPA Section 106 Documentation, San Diego and Mendocino Counties
Ken prepared Section 106 compliance documentation for maintenance dredging at United States Coast Guard Mooring Ballast Point in San Diego, and at United States Coast Guard Station Noyo River in Fort Bragg.

Senior Archaeologist, Atlantic Richfield Company – NHPA Section 106 Documentation for Various Projects, California and Nevada
Ken supported preparation of Section 106 compliance documentation including Cultural Resources Management Plan and Historic Context and Mine Operations Overview for remediation activities at a copper mine site in Yerington, Lyon County, Nevada. He also supported preparation of Section 106 compliance

documentation for remedial investigation and feasibility study activities associated with a mine site in Alpine County, California and Douglas County, Nevada.

Senior Archaeologist, Bureau of Land Management – Jarbidge Class III Cultural Resources Inventory and NHPA Section 110 Documentation, Elko County, Nevada
Ken prepared Section 110 compliance documentation for a Class III Inventory of 710 acres in the Jarbidge Foothills, Elko County, Nevada.

Senior Archaeologist, California State Office of the Bureau of Land Management – Hazard Removal and Vegetation Management Project Class I Existing Information Inventory, Central and Northern California
Ken supported the preparation of a Class I archaeological inventory for the Cultural and Paleontological Resources Overview and Existing Information Summary. Inventory included review of existing archaeological reports and recorded archaeological and paleontological sites throughout 551,133 acres in Field Offices in central and northern California to identify high and low areas of potential site sensitivity. Ken prepared a cultural resource typology for over 3,000 prehistoric and historic-period archaeological sites within the study area.

Senior Archaeologist, Federal Highway Administration/Central Federal Lands Highway Division – Donner Pass Road Improvements Project NHPA Section 106 Documentation, Nevada and Placer Counties
Ken supported preparation of Section 106 compliance documentation for the Donner Pass Road Improvements Project in Nevada and Placer Counties.

Senior Archaeologist, Federal Highway Administration – Road Improvements Project Phase 1 Archaeological Investigations, Various Counties
Ken conducted a Phase 1 archaeological investigation along California Forest Highway 119/Quincy-Oroville Road and California Forest Highway 177/Beckwourth-Clover Valley Road, in Plumas County, and along California Forest Highway 95/Mount Pinos Road, in Ventura and Kern Counties.

Senior Archaeologist, United States Forest Service, Santa Barbara Ranger District – First River Crossing Project Subsurface Archaeological Investigation and NHPA Section 106 Documentation, Los Padres National Forest, Santa Barbara County
Ken supervised subsurface archaeological investigations to assist the Forest Archaeologist in determining the significance and National Register of Historic Places eligibility of FS 54-643 for the First River Crossing Project. He also directed Emergency Relief-Federally Owned road surveys.

Senior Principal Investigator, County of Ventura – Fillmore Library Expansion Project NHPA Section 106 and NEPA Documentation, Ventura County
Ken is the Senior Principal Investigator for the Fillmore Library Expansion project. Rincon is currently preparing a Historic Properties Assessment and Finding of No Historic Properties Affected, in compliance with Section 106 of the National Historic Preservation Act.

Senior Principal Investigator, Many Mansions – Central Terrace Apartments Project NHPA Section 106 and NEPA Documentation, Ventura County
Ken is currently overseeing and managing preparation of a Cultural Resources Technical Study, in compliance with Section 106 of the National Historic Preservation Act. The project is currently conducting Extended Phase I Archaeological Investigation to determine the potential presence of resources on site.

Senior Archaeologist, Lotus Water – Orange Memorial Park Water Capture Project Extended Phase 1 Archaeological Excavation, South San Francisco
Ken managed a Phase 1 Survey involving an intensive, pedestrian ground surface survey and Extended Phase 1 Archaeological Excavation involving excavation of 14 solid core geoprobes to depths between 3 and 4 meters below surface.

Senior Archaeologist, Carpinteria Sanitary District – Rincon Point Septic to Sewer Conversion Project Phase 3 Data Recovery Program, Santa Barbara County
Ken conducted Phase 2 Significance Assessment, Phase 3 Data Recovery, and Construction Monitoring at the coastal Chumash ethnohistoric village of *Shuku*.

Appendix B

South Central Coastal Information Center Record Search Results

Report List

Oxnard 3

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
VN-00572		1988	Dames and Moore	Phase 1 Cultural Resources Survey Fiber Optic Cable Project, Burbank to Santa Barbara, California for Us Sprint Communications Company	Dames & Moore	56-000027, 56-000196, 56-000202, 56-000240, 56-000241, 56-000341, 56-000342, 56-000550, 56-000643, 56-000644, 56-000655, 56-000729, 56-000789, 56-000895, 56-000896, 56-000916, 56-000917, 56-000918
VN-00952		1990	Simon, Joseph M.	Phase 1 Archaeological Survey and Cultural Resources Assessment for the Fifth Avenue Widening Project, City of Oxnard, Ventura County, California	W & S Consultants	
VN-01110		1992	Howard, William J.	Report of Archaeological Reconnaissance Survey Of: the Proposed Water Reservoir Expansion Project Oxnard Oxnard 7.5' Quadrangle Ventura County, Ca	NCPA	
VN-01153		1991	Peak and Associates, Inc.	Class 3 Cultural Resource Assessment of the Proposed Carpinteria and Southern Reroutes, Santa Barbara, Ventura, and Los Angeles Counties, California	Peak & Associates	56-001089
VN-01265		1992	Reed, L.W.	Consolidated Report: Cultural Resources Studies for the Proposed Pacific Pipeline Project	Peak and Associates	19-000007, 19-000021, 19-000034, 19-000089, 19-000251, 19-000357, 19-000385, 19-000389, 19-000390, 19-000407, 19-000409, 19-000668, 19-000781, 19-000830, 19-000887, 19-000901, 19-000963, 19-001097, 19-001112, 19-001124, 19-001575, 19-001620
VN-02223		2003	Wlodarski, Robert J.	A Phase I Archaeological Study for a 12.9 Acre Site Located on the Southwest Corner of Third Street and Rose Avenue City of Oxnard, County of Ventura, California	Historical, Environmental, Archaeological, Research, Team	
VN-02396		2006	Girod, Catherine	Negative Archaeological Survey Report: Phase I Archaeological Investigation for a 5.5 Acres Parcel at the Southeast Corner of Pacific Avenue and Mountain Avenue, City of Oxnard, California	Compass Rose Archaeological, Inc.	
VN-02428		2003	Wlodarski, Robert J.	A Phase I Archaeological Study for Proposed Improvements to the Civic Center Site Bounded by Third Street on the South, Second Street on the North, "a" Street on the East, and "c" Street on the West, City of Oxnard, County of Ventura, California	Historical, Environmental, Archaeological, Research, Team	56-000506, 56-000789

Report List

Oxnard 3

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
VN-02458		2003	Maki, Mary K.	Phase I Archaeological Survey of Approximately 1.5 Linear Miles for the Oxnard Boulevard Bicycle and Pedestrian Facilities Project Oxnard, Ventura County, California	Conejo Archaeological Consultants	
VN-02466		2004	Wlodarski, Robert J.	A Phase 1 Archaeological Study for the Proposed City of Oxnard Downtown Parking Structure Project (fourth Street, Third Street, and an Alleyway Between a and B Streets), City of Oxnard, County of Ventura, California	Historical, Environmental, Archaeological, Research, Team	
VN-02504		2006	Arrington, Cindy and Nancy Sikes	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project State of California: Volumes I and Ii	SWCA Environmental Consultants, Inc.	
VN-02573		2007	Toren, George A. and John F. Romani	Phase I Archaeological Assessment of 618 South a Street, Oxnard, Ca. APN 2002-0-145-120	Compass Rose Archaeological, Inc.	
VN-02781		2008	Maki, Mary	Archaeological Survey Report of Approximately 0.5 Acres for the Hayes Affordable Housing Project, Oxnard, Ventura County, California	Conejo Archaeological Consultants	
VN-02864		1993	King, Chester	Report on the Backhoe Trenching of Potential Cultural Resource Sites for the Pacific Pipeline Project, Santa Barbara and Ventura Counties, California	Peak & Associates, Inc.	56-000031, 56-000241, 56-000506, 56-000644, 56-000666, 56-000789, 56-000918
VN-02957		2011	Romani, Gwen	Phase I Archaeological Investigation for the City of Oxnard Recycled Water Project New Alignment, Wooley Road and Rose Avenue.	Compass Rose Archaeological, Inc.	56-000789, 56-150003, 56-150005, 56-150006
VN-02983		1974	Bucknam, Bonnie	The Los Angeles Basin and Vicinity: A Gazetteer and Compilation of Archaeological Site Information	Archaeological Research, Inc.	56-000001, 56-000002, 56-000006, 56-000007, 56-000009, 56-000010, 56-000049, 56-000057, 56-000092, 56-000093, 56-000094, 56-000122, 56-000123, 56-000124, 56-000127, 56-000143, 56-000175, 56-000178, 56-000204, 56-000205, 56-000206, 56-000207, 56-000208, 56-000209, 56-000210, 56-000211, 56-000212, 56-000263, 56-000264, 56-000265, 56-000289, 56-000301

Report List

Oxnard 3

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
VN-03094		2002	Foster, John A.	Historic Resource Evaluation Report- Mason Avenue At-Grade Crossing and Safety Improvements Project, Los Angeles City, California	Greenwood and Associates	
VN-03102		2009	Stewart, Noah	relinquish State-owned right of way to the City of Oxnard - State Route 1 (VEN1) from Pleasant Valley Road (PM 15.1) to the intersection of VEN 1 and US 101	CalTrans	
VN-03144		2013	Victorino, Ken and Stone, David	Phase I Archaeological Resources Report Gill's Onions North Yard Project 1051 South Pacific Avenue, Oxnard Ventura County, Calfornia	Dudek	56-000789, 56-150003, 56-150004, 56-150005
VN-03257		2016	Carmack, Shannon and Susan Zamudio-Gurrola	City of Oxnard Historical Resources Assessment of 1250 S. Oxnard Boulevard	Rincon Consultants, Inc.	56-153137

Appendix C

Section 106 Native American Outreach

NATIVE AMERICAN HERITAGE COMMISSION

ACTING CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Sara Dutschke
Miwok

COMMISSIONER
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COMMISSIONER
Vacant

COMMISSIONER
Vacant

EXECUTIVE SECRETARY
Raymond C. Hitchcock
Miwok, Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

June 21, 2023

Matthew Gonzalez
Rincon Consultants, Inc.

Via Email to: mgonzalez@rinconconsultants.com

Re: 22-13891 – Oxnard Central Trunk Sewer Project, Ventura County

To Whom It May Concern:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Cody.Campagne@nahc.ca.gov.

Sincerely,

Cody Campagne

Cody Campagne
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Ventura County
6/21/2023
*Federally Recognized Tribe

Barbareño/Ventureño Band of Mission Indians
Cultural Resource Committee,
P.O. Box 364 Chumash
Ojai, CA, 93024
Phone: (805) 746 - 6685
CR@bvbmi.com

Chumash Council of Bakersfield
Julio Quair, Chairperson
729 Texas Street Chumash
Bakersfield, CA, 93307
Phone: (661) 322 - 0121
chumashtribe@sbcglobal.net

Coastal Band of the Chumash Nation
Gabe Frausto, Chairperson
P.O. Box 40653 Chumash
Santa Barbara, CA, 93140
Phone: (805) 568 - 8063
cbcntribalchair@gmail.com

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693 Gabrieleno
San Gabriel, CA, 91778
Phone: (626) 483 - 3564
Fax: (626) 286-1262
GTTribalcouncil@aol.com

Gabrielino /Tongva Nation
Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St., Gabrielino
#231
Los Angeles, CA, 90012
Phone: (951) 807 - 0479
sgoad@gabrielino-tongva.com

Gabrielino-Tongva Tribe
Sam Dunlap, Cultural Resource Director
P.O. Box 3919 Gabrielino
Seal Beach, CA, 90740
Phone: (909) 262 - 9351
tongvatcr@gmail.com

Gabrielino-Tongva Tribe
Charles Alvarez, Chairperson
23454 Vanowen Street Gabrielino
West Hills, CA, 91307
Phone: (310) 403 - 6048
Chavez1956metro@gmail.com

Northern Chumash Tribal Council
Violet Walker, Chairperson
P.O. Box 6533 Chumash
Los Osos, CA, 93412
Phone: (760) 549 - 3532
violetsagewalker@gmail.com

San Luis Obispo County Chumash Council
Chumash

****Santa Ynez Band of Chumash Indians***
Kenneth Kahn, Chairperson
P.O. Box 517 Chumash
Santa Ynez, CA, 93460
Phone: (805) 688 - 7997
Fax: (805) 686-9578
Chairman@chumash.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed 22-13891 – Oxnard Central Trunk Sewer Project, Ventura County.

Oxnard Central Trunk Sewer Project Section 106 Outreach

Contact List	Date Letter Sent	Date of Follow-up	Responses/Comments/Concerns
Barbareño/Ventureño Band of Mission Indians Cultural Resource Committee P.O. Box 364 Ojai, CA 93024 Via email: CR@bvbmi.com Phone: (805) 746 - 6685	06-30-2023 via email	Call made on 07-14-2023	Mr. Matthew Vestuto stated he would like the Tribe to be able to consult with the City on the project, so that they could monitor ground disturbing activities, if the project funding will allow.
Chumash Council of Bakersfield Julio Quair, Chairperson 729 Texas Street Bakersfield, CA, 93307 Via email: chumashtribe@sbcglobal.net Phone: (661) 322 - 0121	06-30-2023 via email	Call made on 07-14-2023 Follow-up email sent on 07-14-2023	Emails returned as "undeliverable." Phone number is "no longer in service."
Coastal Band of the Chumash Nation Gabe Frausto, Chairperson P.O. Box 40653 Santa Barbara, CA, 93140 Via email: cbcntribalchair@gmail.com Phone: (805) 568 - 8063	06-30-2023 via email	Call made on 07-14-2023	Left a voicemail. No responses to email or voicemail received.
Gabrieleno/Tongva San Gabriel Band of Mission Indians Anthony Morales, Chairperson P.O. Box 693 San Gabriel, CA, 91778 Via email: GTTribalcouncil@aol.com Phone: (626) 483 - 3564 Fax: (626) 286-1262	06-30-2023 via email	Call made on 07-14-2023	Mr. Morales stated that he would like to be kept updated on this project, and if Gabrieleno Cultural Resources or Human Remains are identified during construction, he would like to be the person to handle the items/remains, and to allow a Gabrieleno monitor to be present moving forward. Mr. Morales also stated he would like to be kept updated if Chumash artifacts and/or Human Remains are identified as well.

Contact List	Date Letter Sent	Date of Follow-up	Responses/Comments/Concerns
Gabrielino /Tongva Nation Sandonne Goad, Chairperson 106 1/2 Judge John Aiso St., #231 Los Angeles, CA, 90012 Via email: sgoad@gabrielino-tongva.com Phone: (951) 807 - 0479	06-30-2023 via email	Call made on 07-14-2023 Follow-up email sent on 07-14-2023	Voicemail mailbox is full. Unable to leave voicemail. No responses to email or voicemail received.
Gabrielino-Tongva Tribe Sam Dunlap, Cultural Resource Director P.O. Box 3919 Seal Beach, CA 90740 Via email: tongvatcr@gmail.com Phone: (909) 262 - 9351	06-30-2023 via email	Call made on 07-14-2023	Mr. Dunlap stated that he feels this project is outside his territory and defers to the Barbareño/Ventureño Chumash.
Gabrielino-Tongva Tribe Charles Alvarez, Chairperson 23454 Vanowen Street West Hills, CA, 91307 Via email: Chavez1956metro@gmail.com Phone: (310) 403 - 6048	06-30-2023 via email	Call made on 07-14-2023 Follow-up email sent on 07-14-2023	Phone number is “no longer in service.” No responses to emails.
Northern Chumash Tribal Council Violet Walker, Chairperson P.O. Box 6533 Los Osos, CA, 93412 Via email: violetsagewalker@gmail.com Phone: (760) 549 - 3532	06-30-2023 via email	-	In a phone call on July 3, 2023, Ms. Walker stated the APE is a little outside her area so she didn’t have any concerns regarding the project. However, if cultural resources are identified during construction, she would like to be notified of the finds.

Contact List	Date Letter Sent	Date of Follow-up	Responses/Comments/Concerns
Santa Ynez Band of Chumash Indians Kenneth Kahn, Chairperson P.O. Box 517 Santa Ynez, CA, 93460 Via email: Chairman@chumash.gov Phone: (805) 688 - 7997 Fax: (805) 686 - 9578	06-30-2023 via email	-	On July 5, 2023, Rincon received an email response with an attached letter from Ms. Crystal Mendoza, the Administrative Assistant for Cultural Resources for the Santa Ynez Band of Chumash Indians. In the letter attached to the email, Ms. Mendoza stated the Elder's Council request no further consultation on this project at this time.

Rincon Consultants, Inc.
180 North Ashwood Avenue
Ventura, California 93001

805 644 4455 OFFICE AND FAX

info@rinconconsultants.com
www.rinconconsultants.com

June 30, 2023
Project No. 22-13891

Anthony Morales, Chairperson
Gabrieleno/Tongva San Gabriel Band of Mission Indians
P.O. Box 693
San Gabriel, CA, 91778
Via email: GTTribalcouncil@aol.com

Subject: **Notification of the proposed City of Oxnard Central Trunk Sewer Project, Oxnard, Ventura County, California**

Dear Chairperson Morales:

Rincon Consultants, Inc. (Rincon) was retained to prepare a Historic Property Identification Report for the City of Oxnard Central Trunk Sewer Project (proposed undertaking) located in Ventura County, California. The area of potential effects (APE) is located within the Oxnard 7.5' United States Geographical Survey (USGS) topographic quadrangles within Section 03 of Township 01N, Range 22W (Figure 1).

The City of Oxnard owns and maintains the Central Trunk Sewer (CTS), a sewer main which conveys wastewater to the Oxnard Wastewater Treatment Plant. A portion of the CTS travels underneath the 11 UPRR tracks near the intersection of E. 5th Street/SR 34 and Richmond Avenue. In January 2017, the casing of the CTS underneath the northernmost UPRR tracks collapsed due to corrosion and lost structural integrity. The City completed a temporary emergency repair, which diverted wastewater from the CTS into an adjacent sewer line and slip-lined the collapsed line so it could serve as an overflow. The collapsed portion of the CTS is no longer in compliance with UPRR design standards, and the City intends to replace this portion to comply with these standards and fully restore the functionality of the CTS. The proposed undertaking would involve installation and operation of a new sewer pipeline, a new brine line, and a new sewer lift station (Figure 2).

The proposed undertaking involves State Revolving Funds (SRF) from the State Water Resources Control Board (State Water Board) to assist in financing. The State Water Board, Division of Financial Assistance, administers the SRF Program pursuant to 40 CFR Part 35. The SRF Program is partially funded by the United States Environmental Protection Agency (USEPA). Issuance of SRF funds by the State Water Board is considered equivalent to a federal action, thereby necessitating compliance with Section 106 of the National Historic Preservation Act (Section 106). The USEPA has delegated lead agency responsibility to the State Water Board for carrying out the requirements of Section 106.

In anticipation of potentially receiving SRF funds, and as part of the environmental compliance for the project, your tribe has been identified as one that might attach religious and cultural significance to historic properties in the APE. Your assistance is requested with the identification of cultural resources of significance. Your participation in the early identification of cultural resources will ensure their consideration during the project planning phase. We are happy to document your recommendations regarding appropriate management or treatment of cultural resources that occur within the APE.

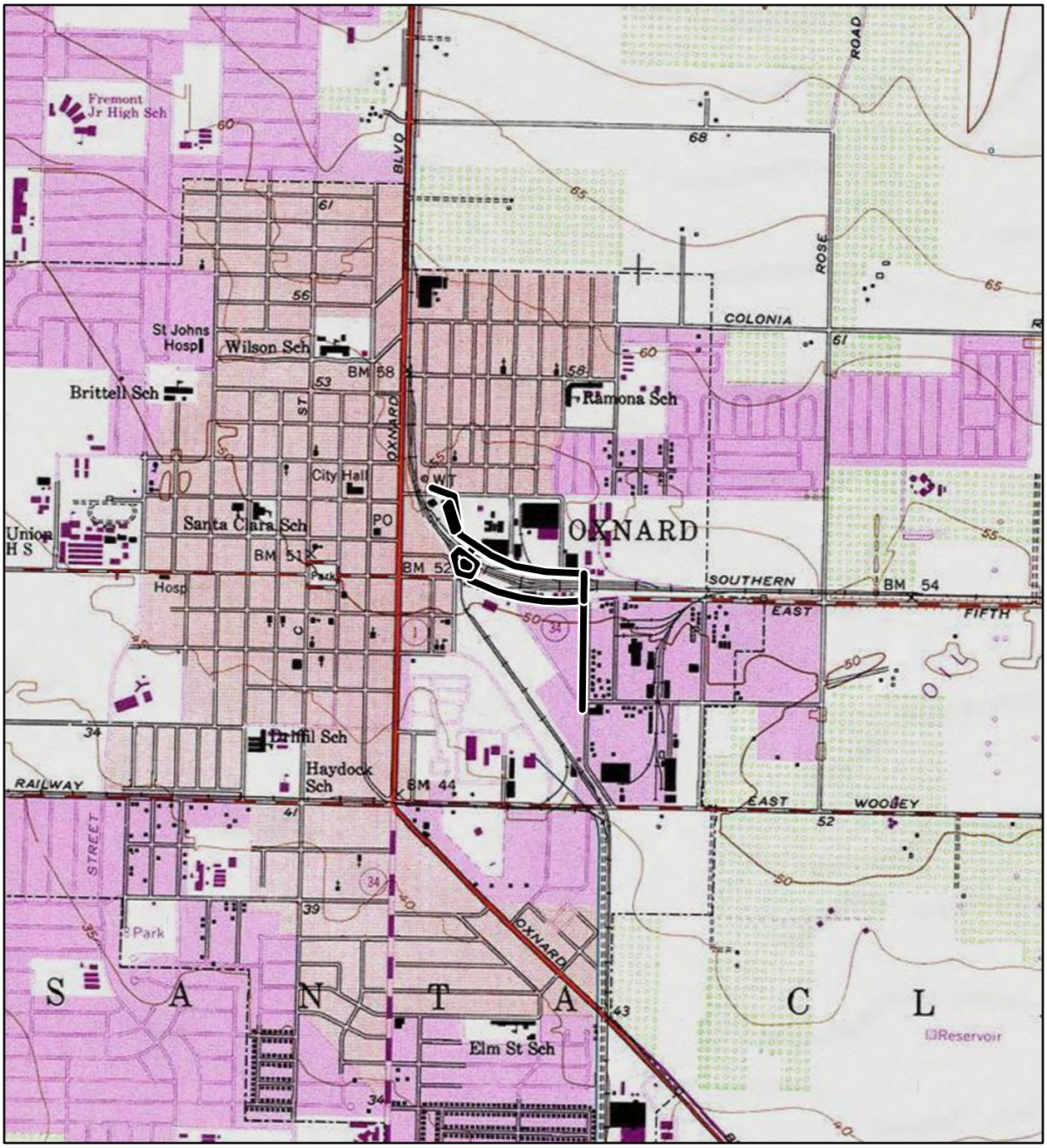
This letter is not intended to constitute formal consultation under Section 106; formal Section 106 consultation will be completed by the State Water Board. If you have questions, need additional information, or wish to comment, please contact me by email at mgonzalez@rinconconsultants.com or by telephone at (805) 705-5513. Please respond within 30 days of receipt of this letter.

Sincerely,
Rincon Consultants, Inc.



Matthew Gonzalez
Senior Archaeologist/Project Manager

Enclosed:
Figure 1 Location Map
Figure 2 Project Construction



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Area of Potential Effects

N

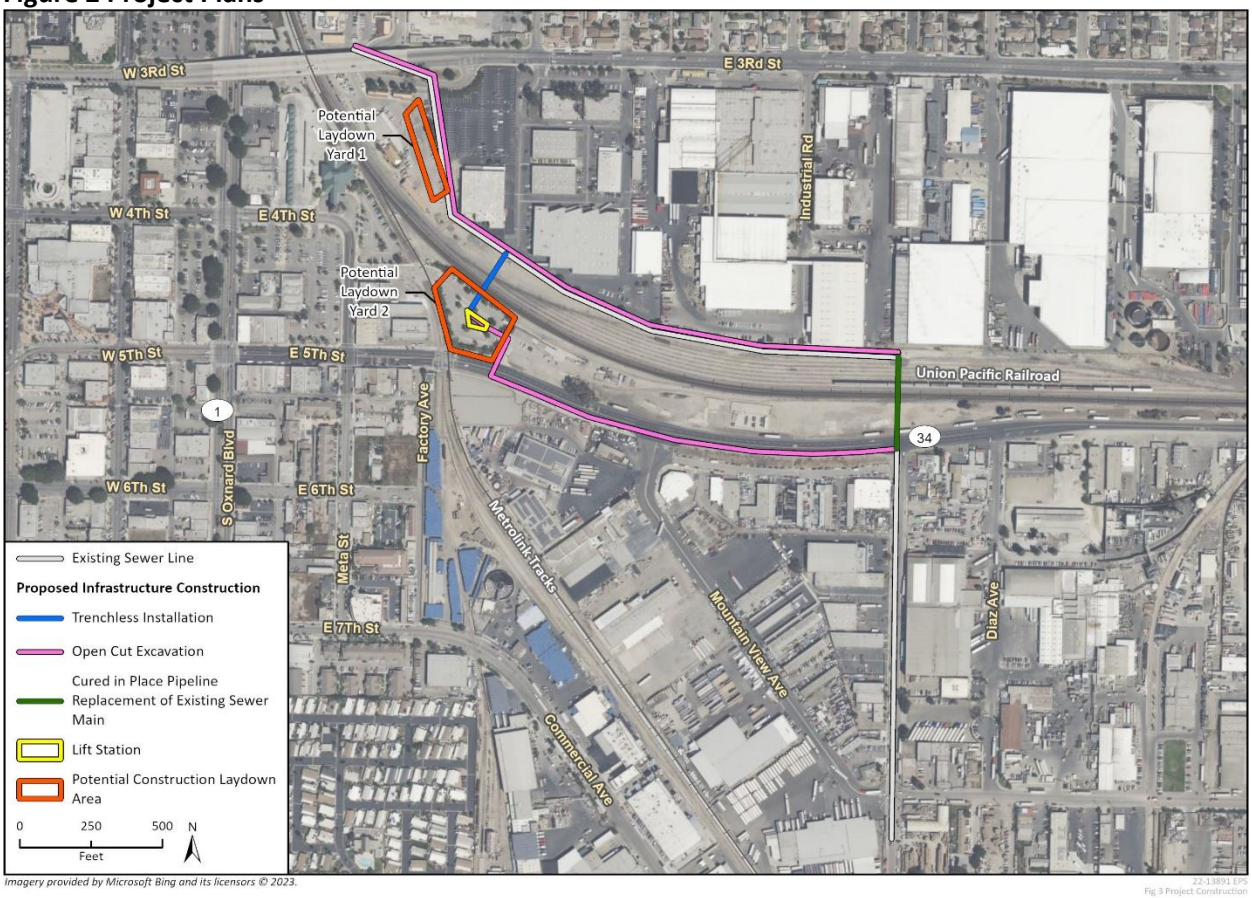
0 1,000 2,000 Feet

0 250 500 Meters

1:24,000

Location Map

Figure 2 Project Plans



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June 30, 2023
Project No. 22-13891

Charles Alvarez, Chairperson
Gabrielino-Tongva Tribe
23454 Vanowen Street
West Hills, CA, 91307
Via email: Chavez1956metro@gmail.com

Subject: **Notification of the proposed City of Oxnard Central Trunk Sewer Project, Oxnard, Ventura County, California**

Dear Chairperson Alvarez:

Rincon Consultants, Inc. (Rincon) was retained to prepare a Historic Property Identification Report for the City of Oxnard Central Trunk Sewer Project (proposed undertaking) located in Ventura County, California. The area of potential effects (APE) is located within the Oxnard 7.5' United States Geographical Survey (USGS) topographic quadrangles within Section 03 of Township 01N, Range 22W (Figure 1).

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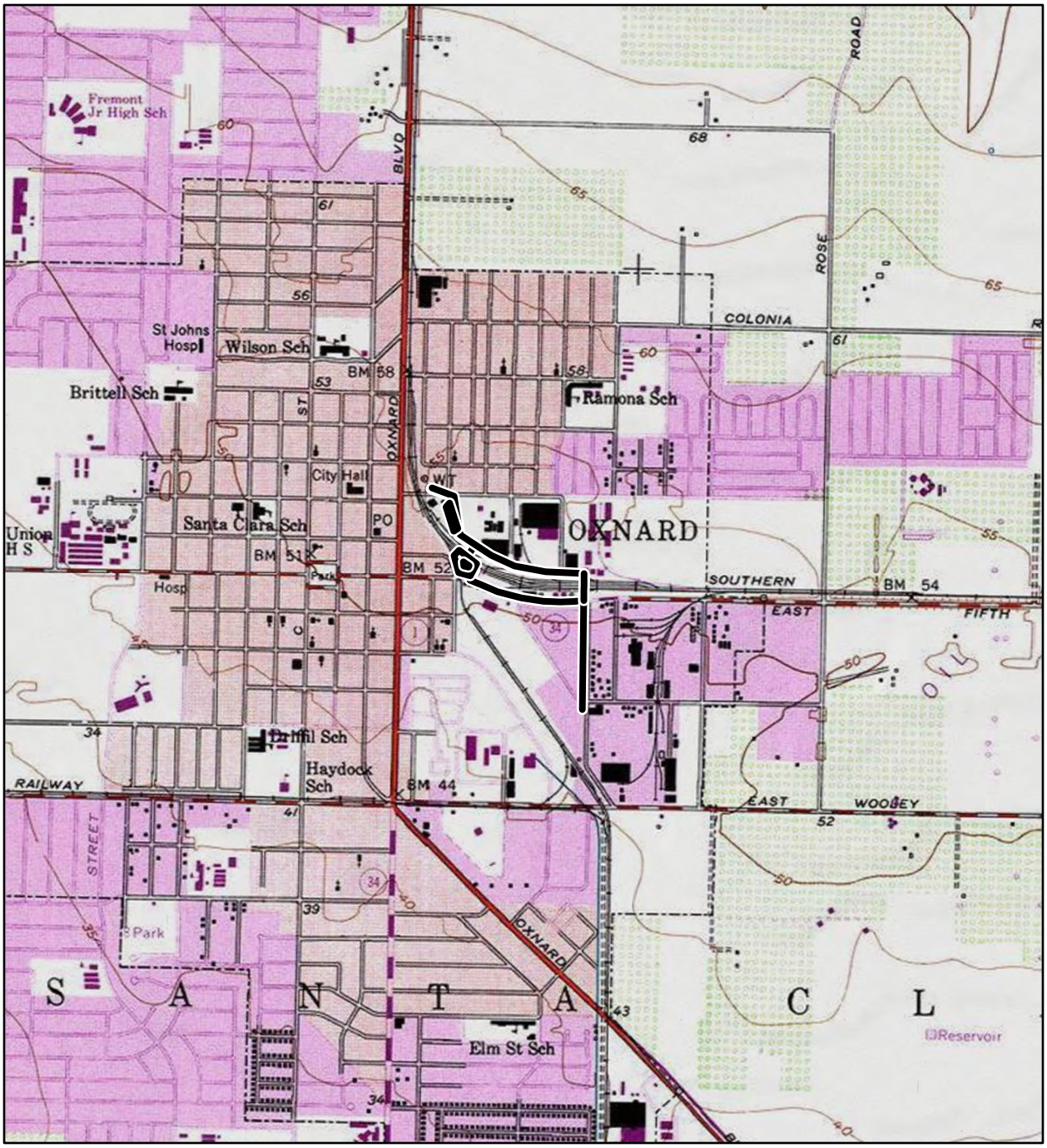

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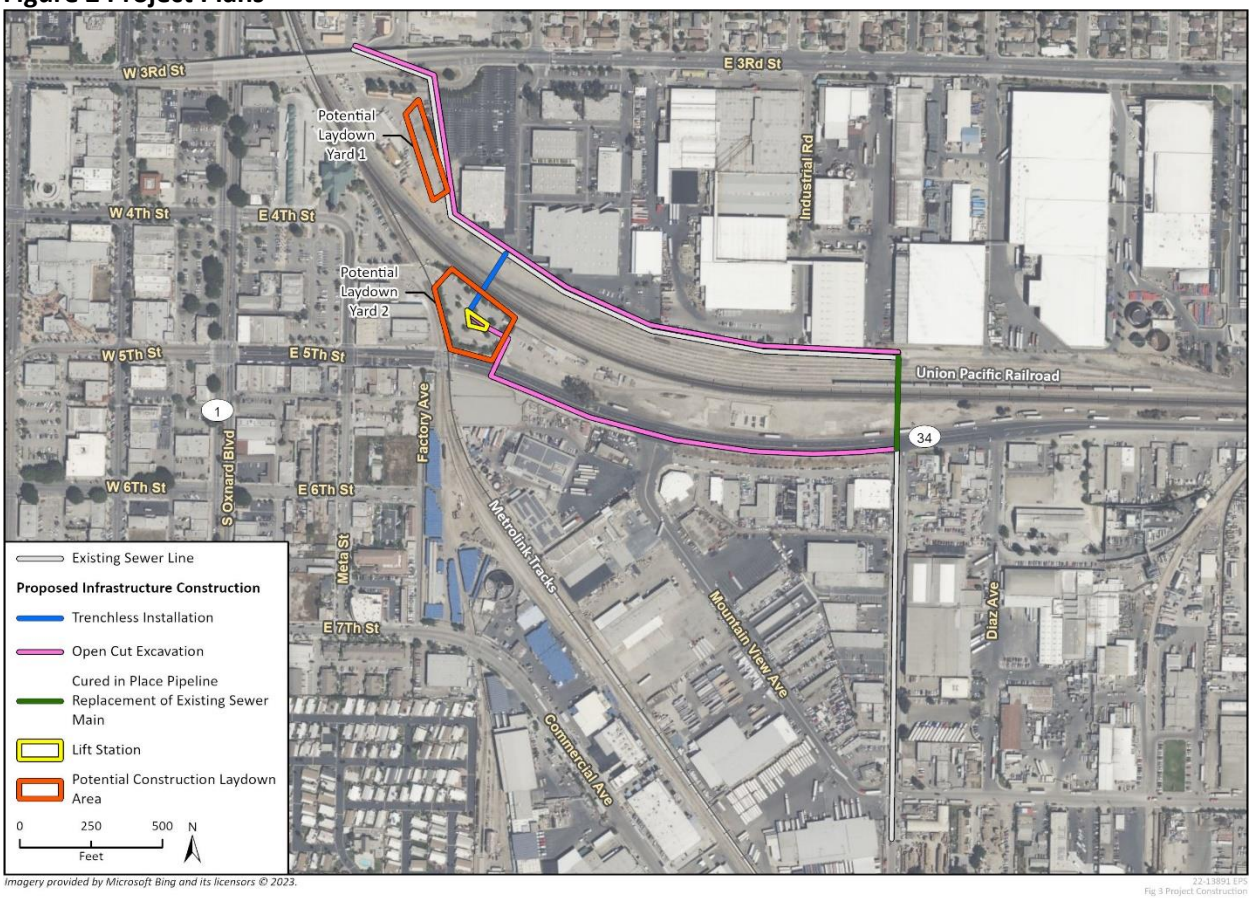

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June 30, 2023
Project No. 22-13891

Cultural Resource Committee
Barbareño/Ventureño Band of Mission Indians
P.O. Box 364
Ojai, CA 93024
Via email: CR@bvbmi.com

Subject: **Notification of the proposed City of Oxnard Central Trunk Sewer Project, Oxnard, Ventura County, California**

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Rincon Consultants, Inc.



Matthew Gonzalez
Senior Archaeologist/Project Manager

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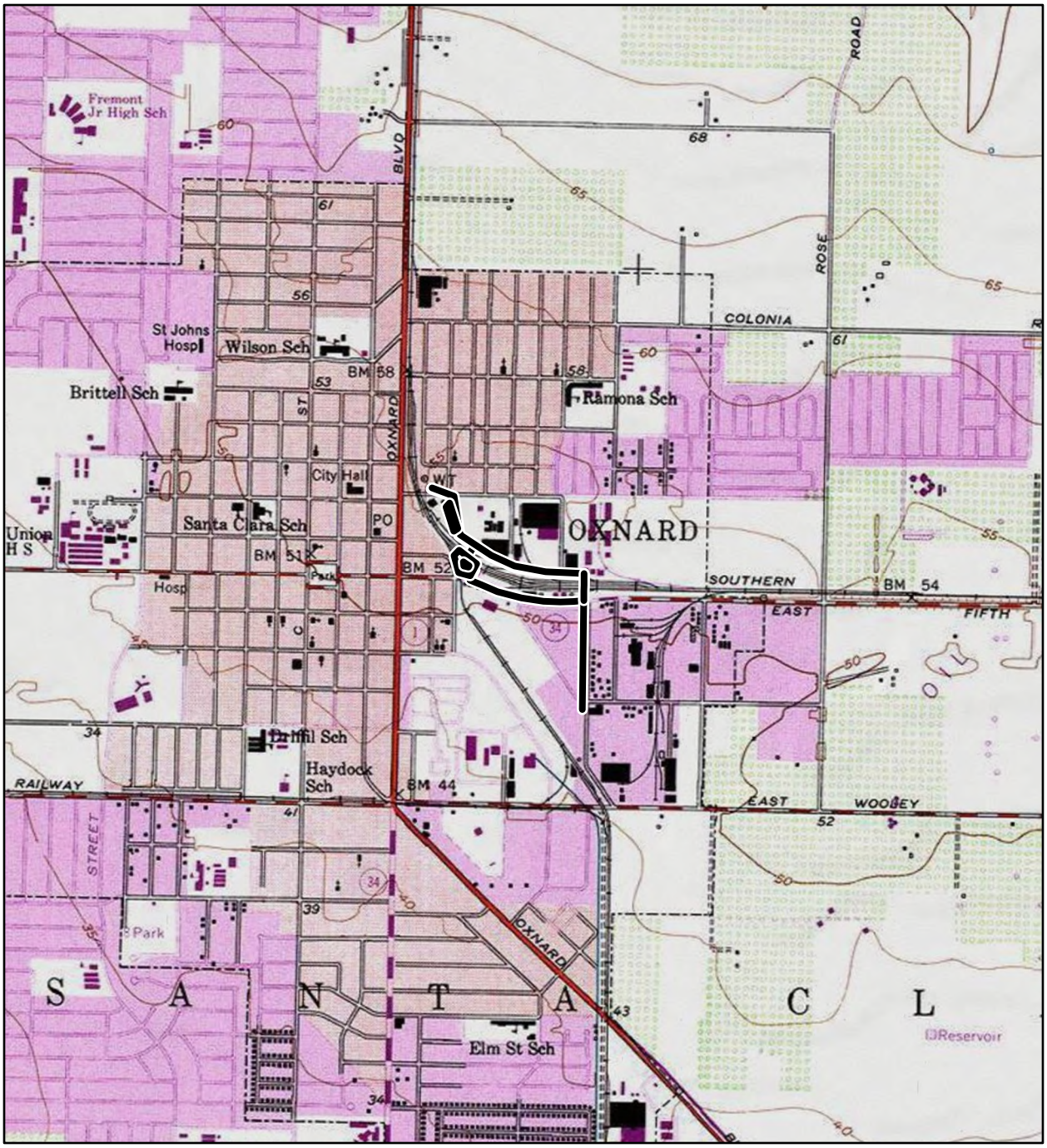

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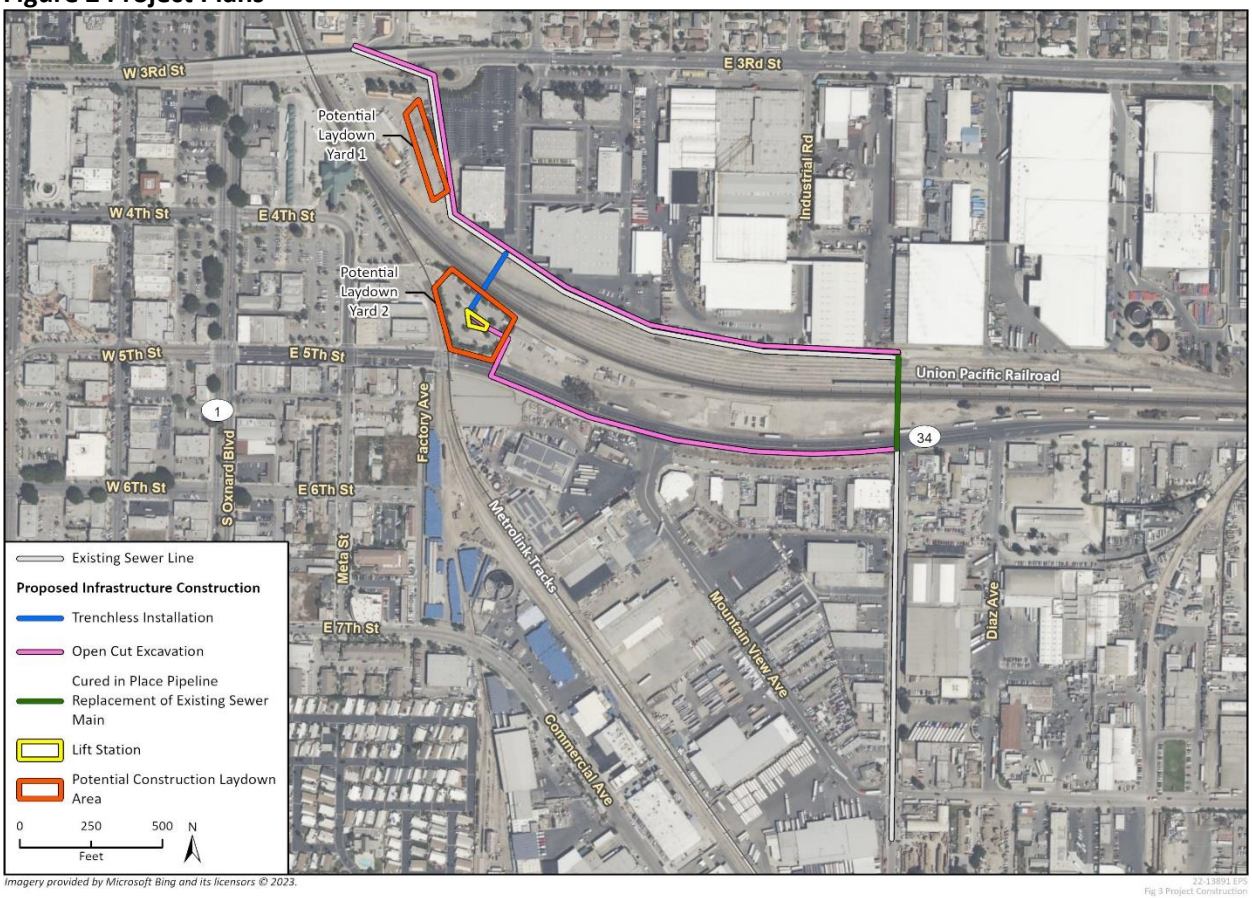

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June 30, 2023
Project No. 22-13891

Gabe Frausto, Chairperson
Coastal Band of the Chumash Nation
P.O. Box 40653
Santa Barbara, CA, 93140
Via email: cbcntribalchair@gmail.com

Subject: **Notification of the proposed City of Oxnard Central Trunk Sewer Project, Oxnard, Ventura County, California**

Dear Chairperson Frausto:

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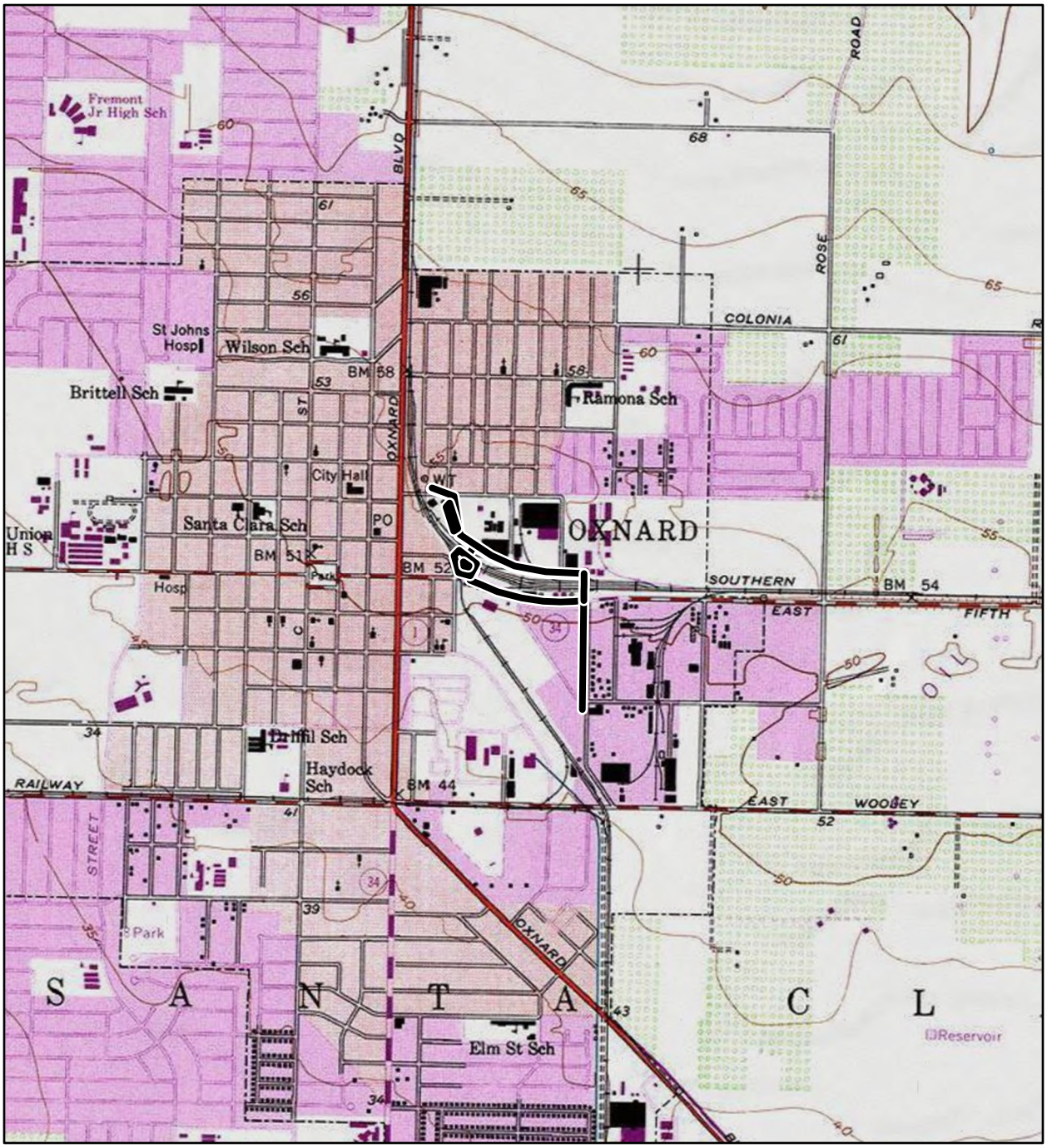

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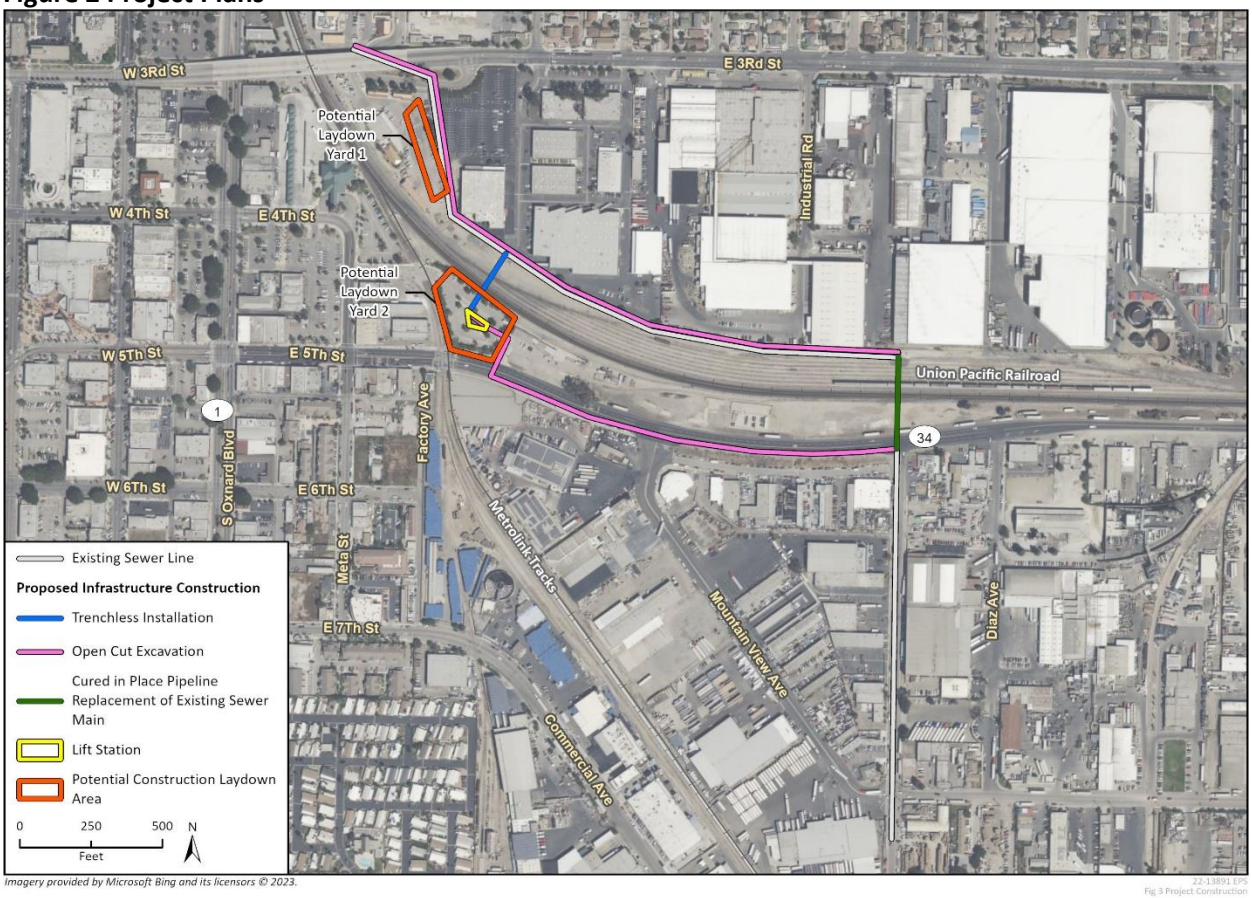

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June 30, 2023
Project No. 22-13891

Julio Quair, Chairperson
Chumash Council of Bakersfield
729 Texas Street
Bakersfield, CA, 93307
Via email: chumashtribe@sbcglobal.net

Subject: **Notification of the proposed City of Oxnard Central Trunk Sewer Project, Oxnard, Ventura County, California**

Dear Chairperson Quair:

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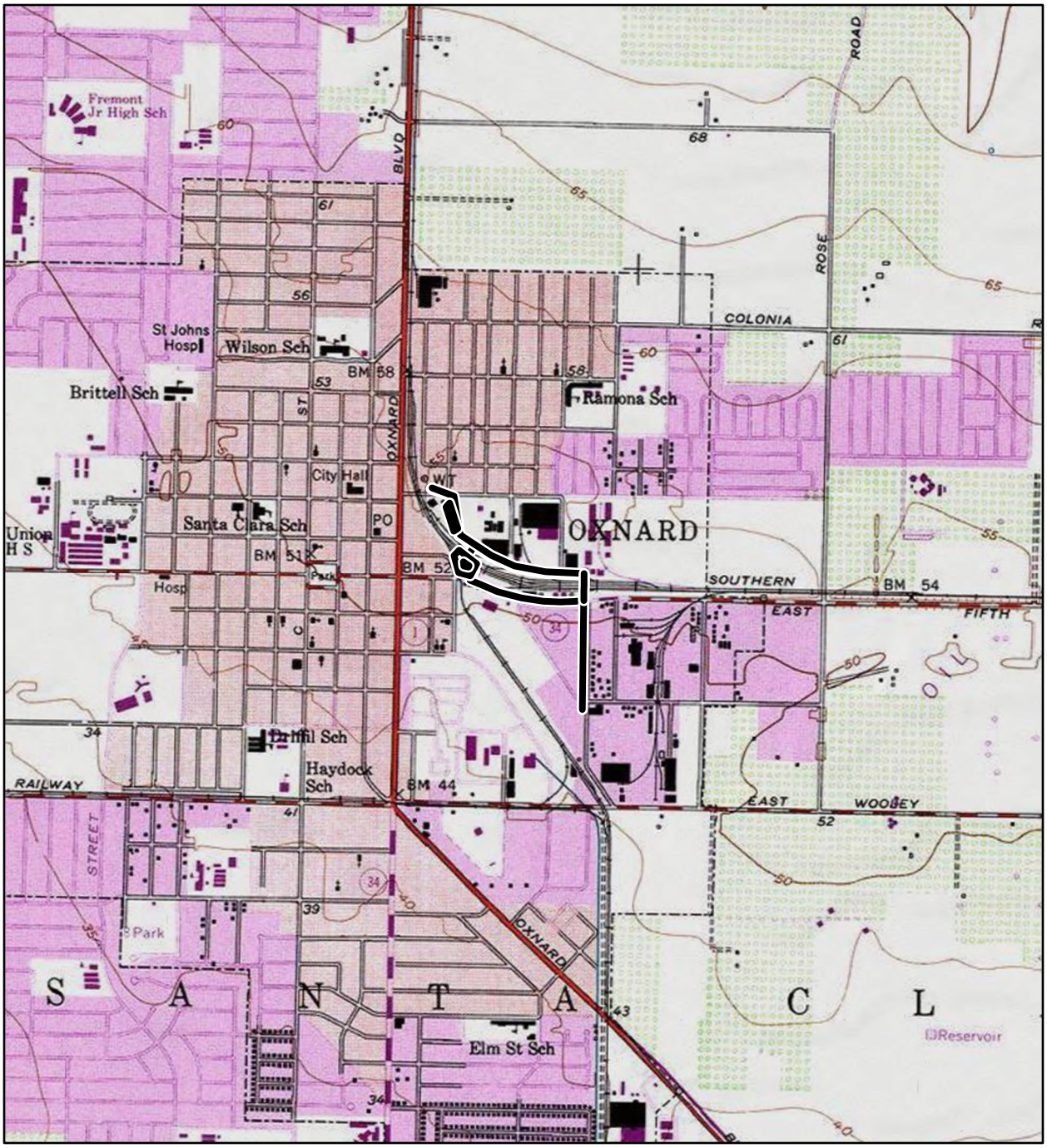
Sincerely,
Rincon Consultants, Inc.



Matthew Gonzalez
Senior Archaeologist/Project Manager

Enclosed:
Figure 1 Location Map
Figure 2 Project Construction



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0 250 500 Meters

1:24,000

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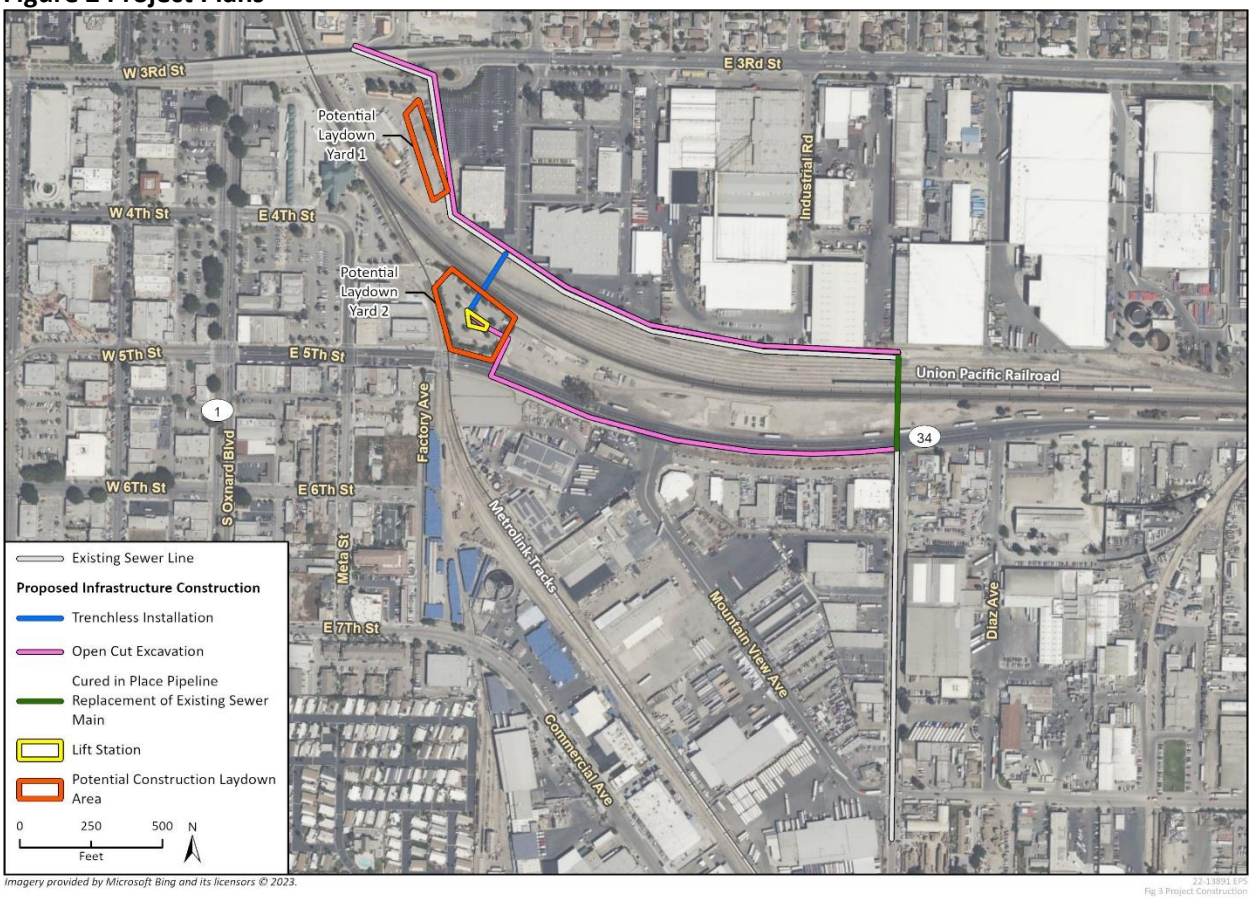

Rincon Consultants, Inc.

180 North Ashwood Avenue
Ventura, California 93001

805 644 4455 OFFICE AND FAX

info@rinconconsultants.com
www.rinconconsultants.com

June 30, 2023
Project No. 22-13891

Kenneth Kahn, Chairperson
Santa Ynez Band of Chumash Indians
P.O. Box 517
Santa Ynez, CA, 93460
Via email: Chairman@chumash.gov

Subject: **Notification of the proposed City of Oxnard Central Trunk Sewer Project, Oxnard, Ventura County, California**

Dear Chairperson Kahn:

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Matthew Gonzalez
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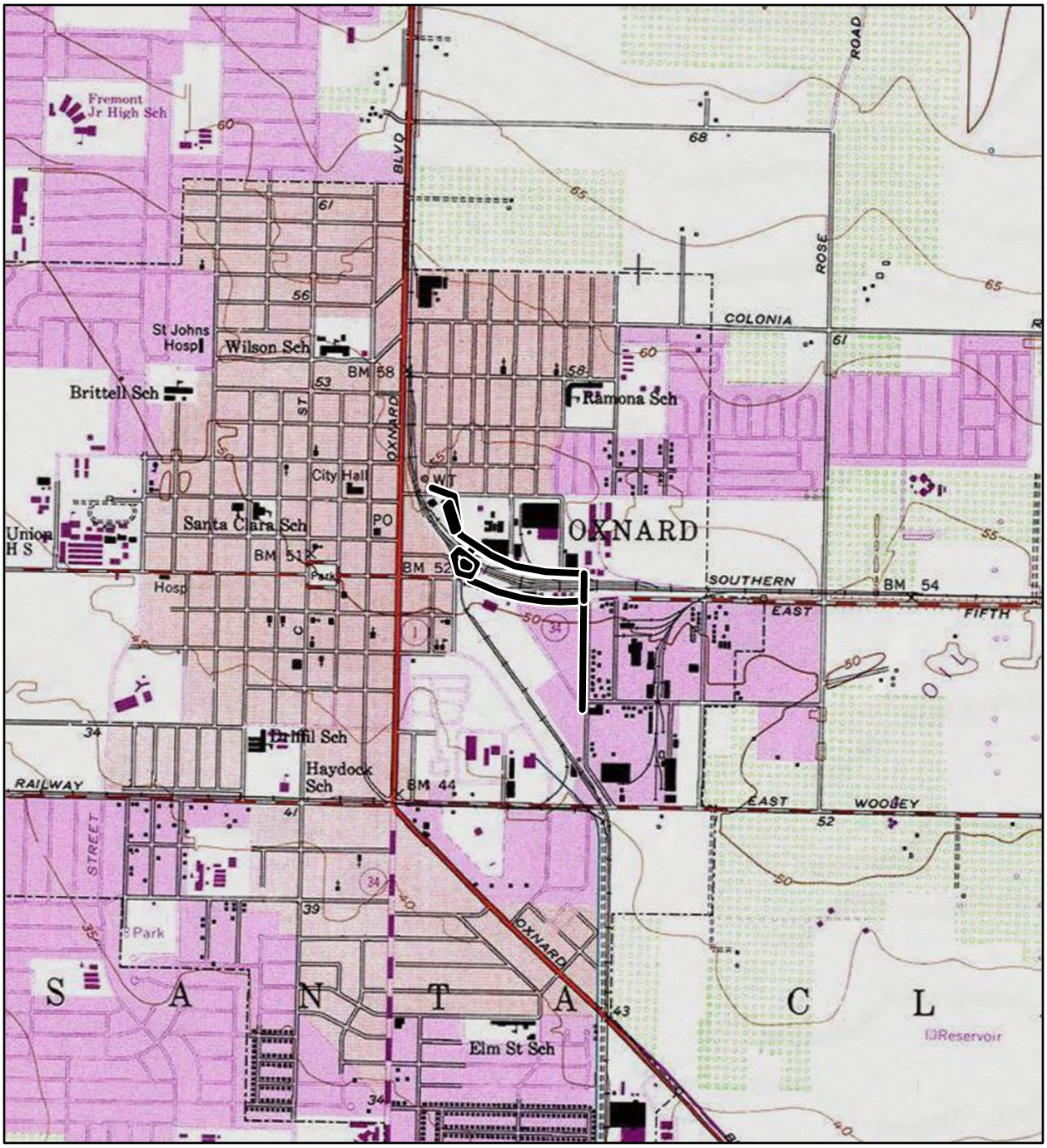

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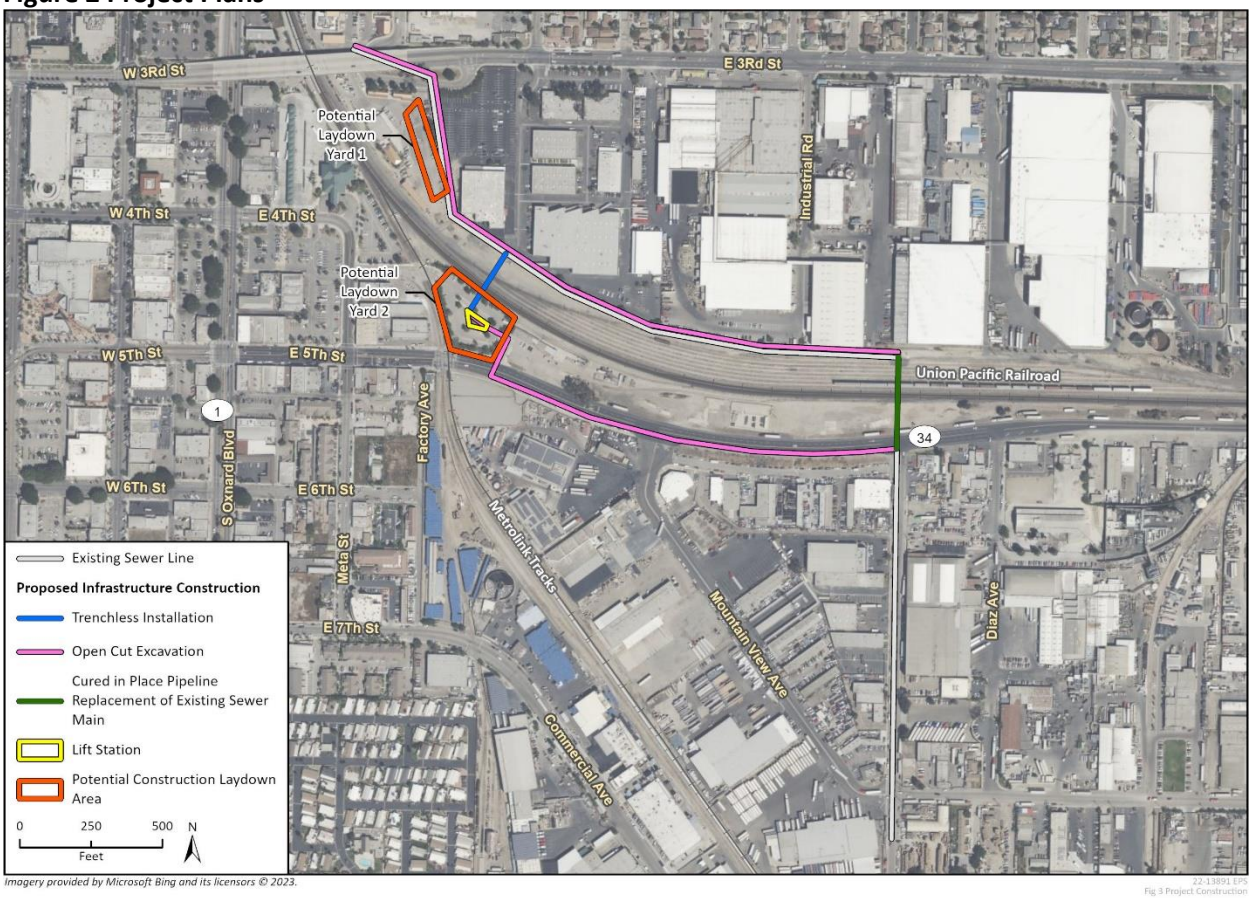

Santa Ynez Band of Chumash Indians
Tribal Elders' Council
P.O. Box 517 ◆ Santa Ynez ◆ CA ◆ 93460
Phone: (805)688-7997 ◆ Fax: (805)688-9578 ◆

July 5, 2023

Rincon Consultants, Inc.
180 North Ashwood Avenue
Ventura, CA 93001

Att.: Mathew Gonzales, Senior Archaeologist/Project Manager

Re: Central Trunk Sewer Project

Dear Mr. Gonzalez:

Thank you for contacting the Tribal Elders' Council for the Santa Ynez Band of Chumash Indians.

At this time, the Elders' Council requests no further consultation on this project; however, we understand that as part of NHPA Section 106, we must be notified of the project.

Thank you for remembering that at one time our ancestors walked this sacred land.

Sincerely Yours,

Crystal Mendoza

Crystal Mendoza
Administrative Assistant | Cultural Resources
Santa Ynez Band of Chumash Indians | Tribal Hall
(805) 325-5537
cmendoza@chumash.gov

Rincon Consultants, Inc.

180 North Ashwood Avenue
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June 30, 2023
Project No. 22-13891

Sandonne Goad, Chairperson
Gabrielino /Tongva Nation
106 1/2 Judge John Aiso St., #231
Los Angeles, CA, 90012
Via email: sgoad@gabrielino-tongva.com

Subject: **Notification of the proposed City of Oxnard Central Trunk Sewer Project, Oxnard, Ventura County, California**

Dear Chairperson Goad:

Rincon Consultants, Inc. (Rincon) was retained to prepare a Historic Property Identification Report for the City of Oxnard Central Trunk Sewer Project (proposed undertaking) located in Ventura County, California. The area of potential effects (APE) is located within the Oxnard 7.5' United States Geographical Survey (USGS) topographic quadrangles within Section 03 of Township 01N, Range 22W (Figure 1).

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Matthew Gonzalez
Senior Archaeologist/Project Manager

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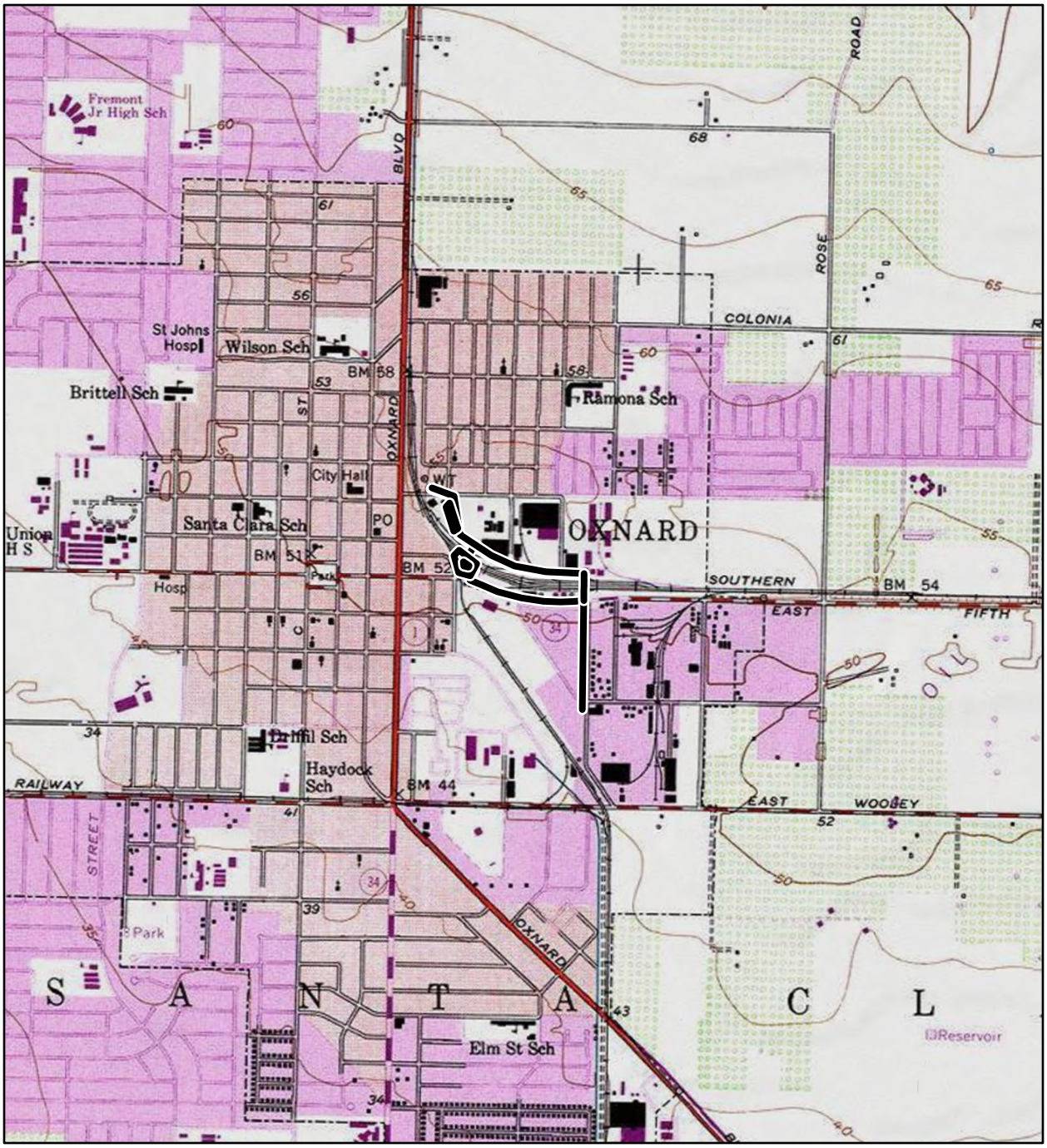

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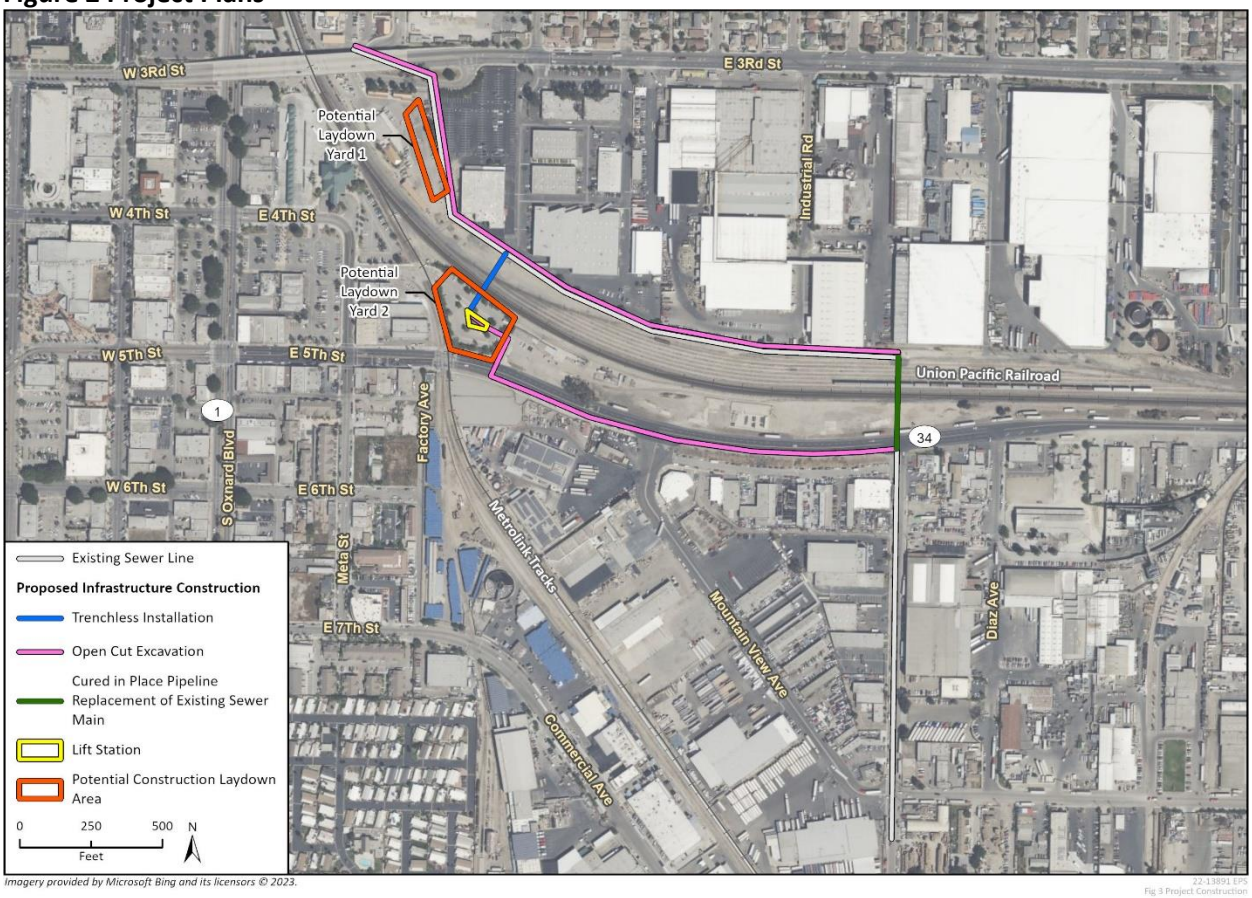

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June 30, 2023
Project No. 22-13891

Sam Dunlap, Cultural Resource Director
Gabrielino-Tongva Tribe
P.O. Box 3919
Seal Beach, CA 90740
Via email: tongvatcr@gmail.com

Subject: **Notification of the proposed City of Oxnard Central Trunk Sewer Project, Oxnard, Ventura County, California**

Dear Director Dunlap:

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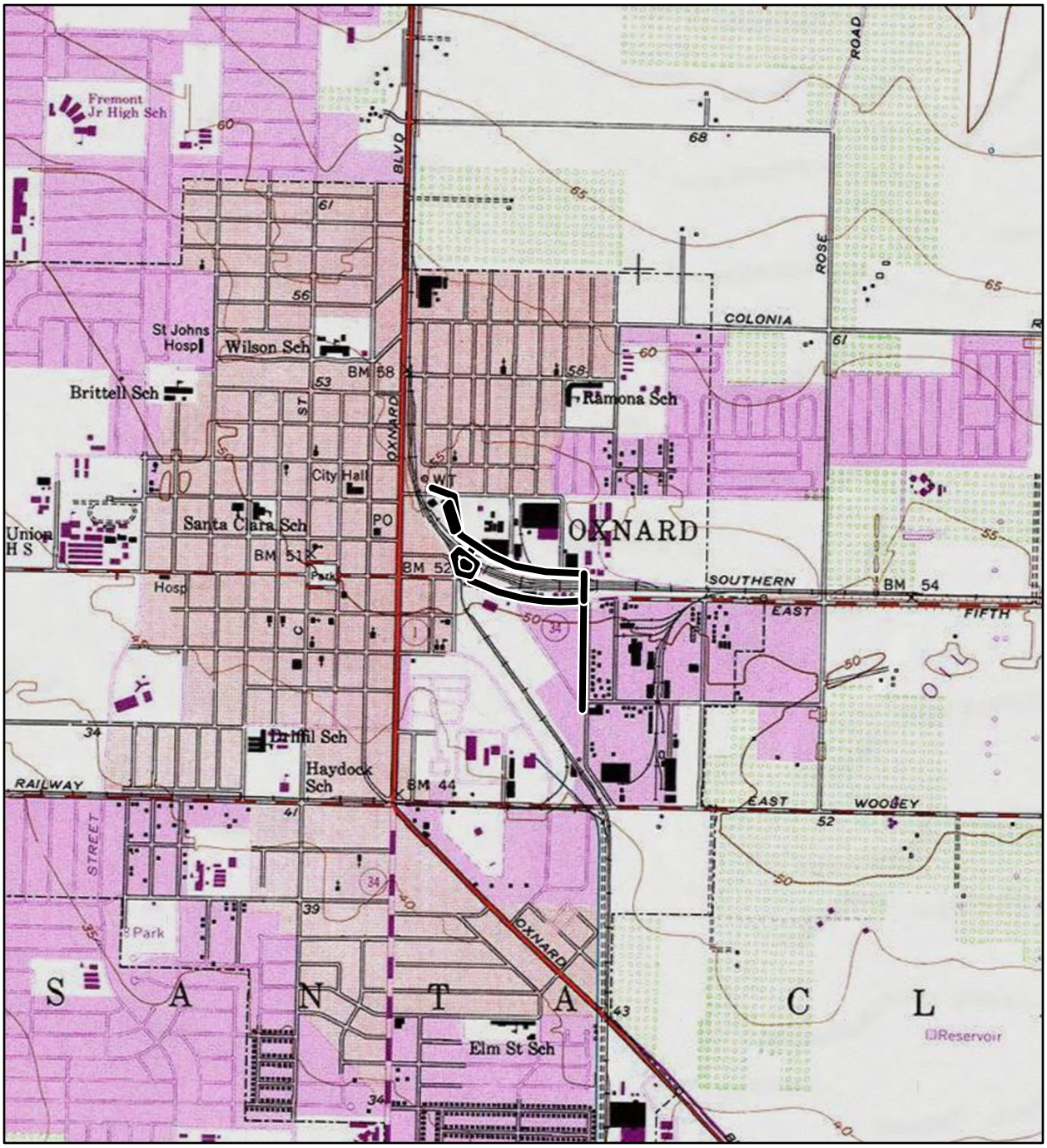

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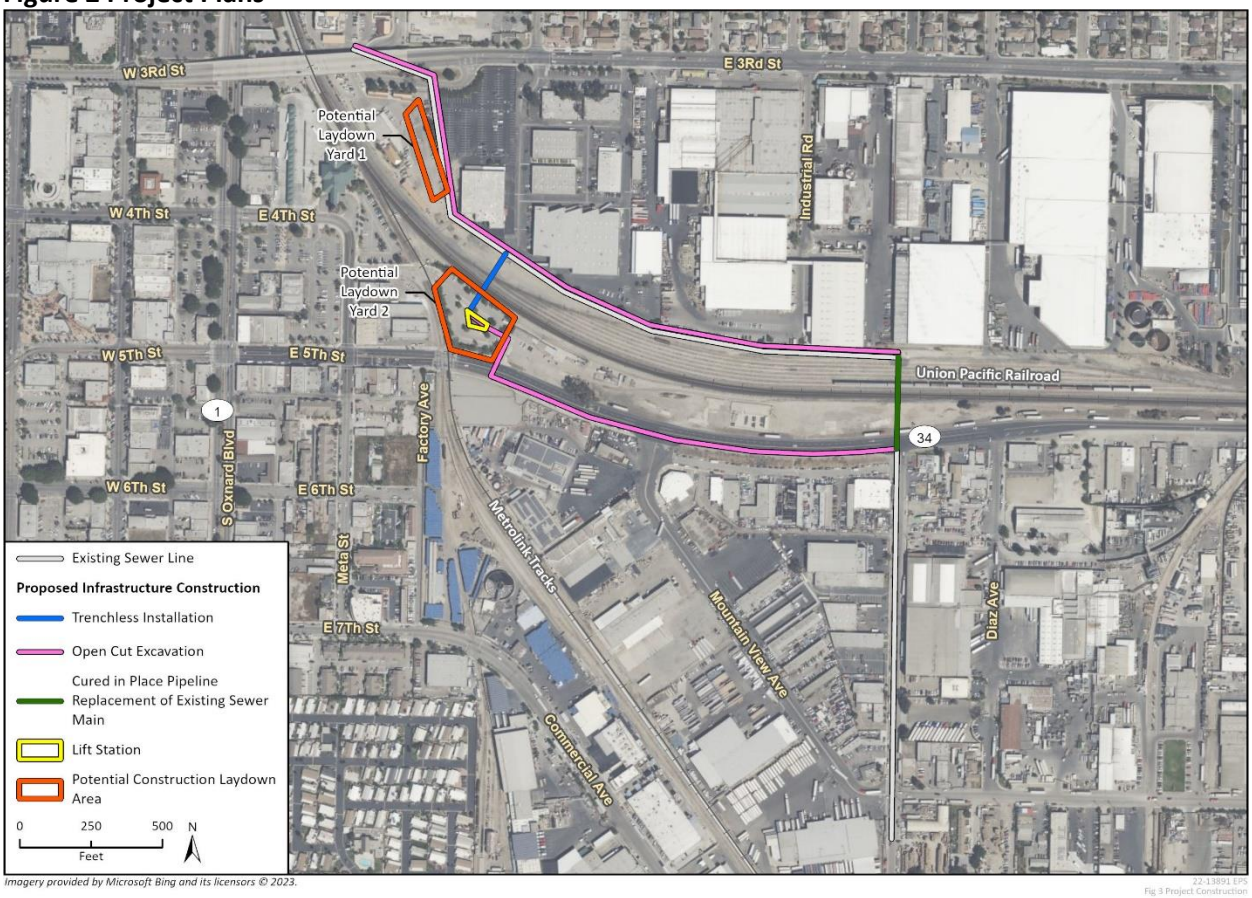

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June 30, 2023
Project No. 22-13891

Violet Walker, Chairperson
Northern Chumash Tribal Council
P.O. Box 6533
Los Osos, CA, 93412
Via email: violetsagewalker@gmail.com

Subject: **Notification of the proposed City of Oxnard Central Trunk Sewer Project, Oxnard, Ventura County, California**

Dear Chairperson Walker:

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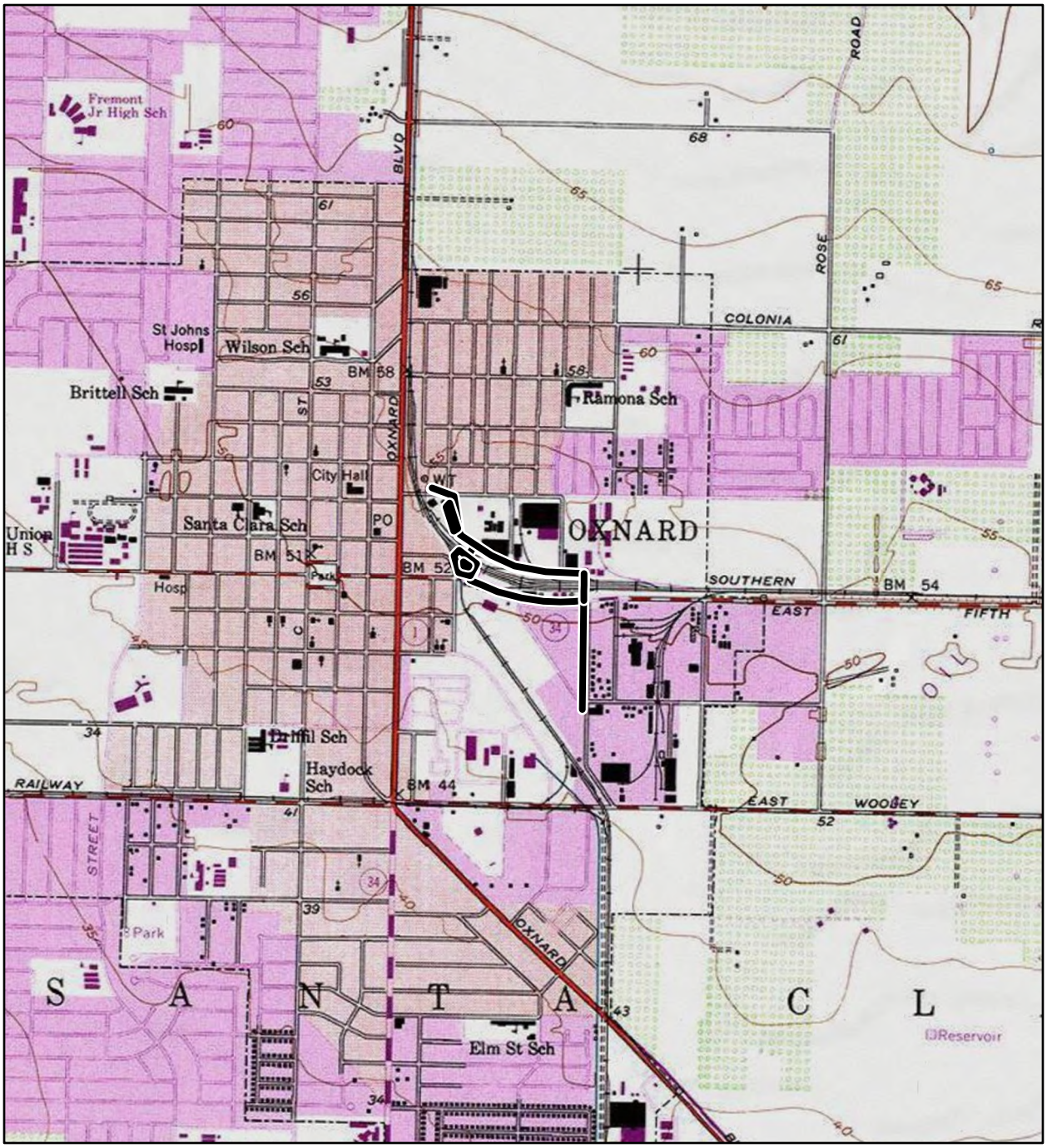

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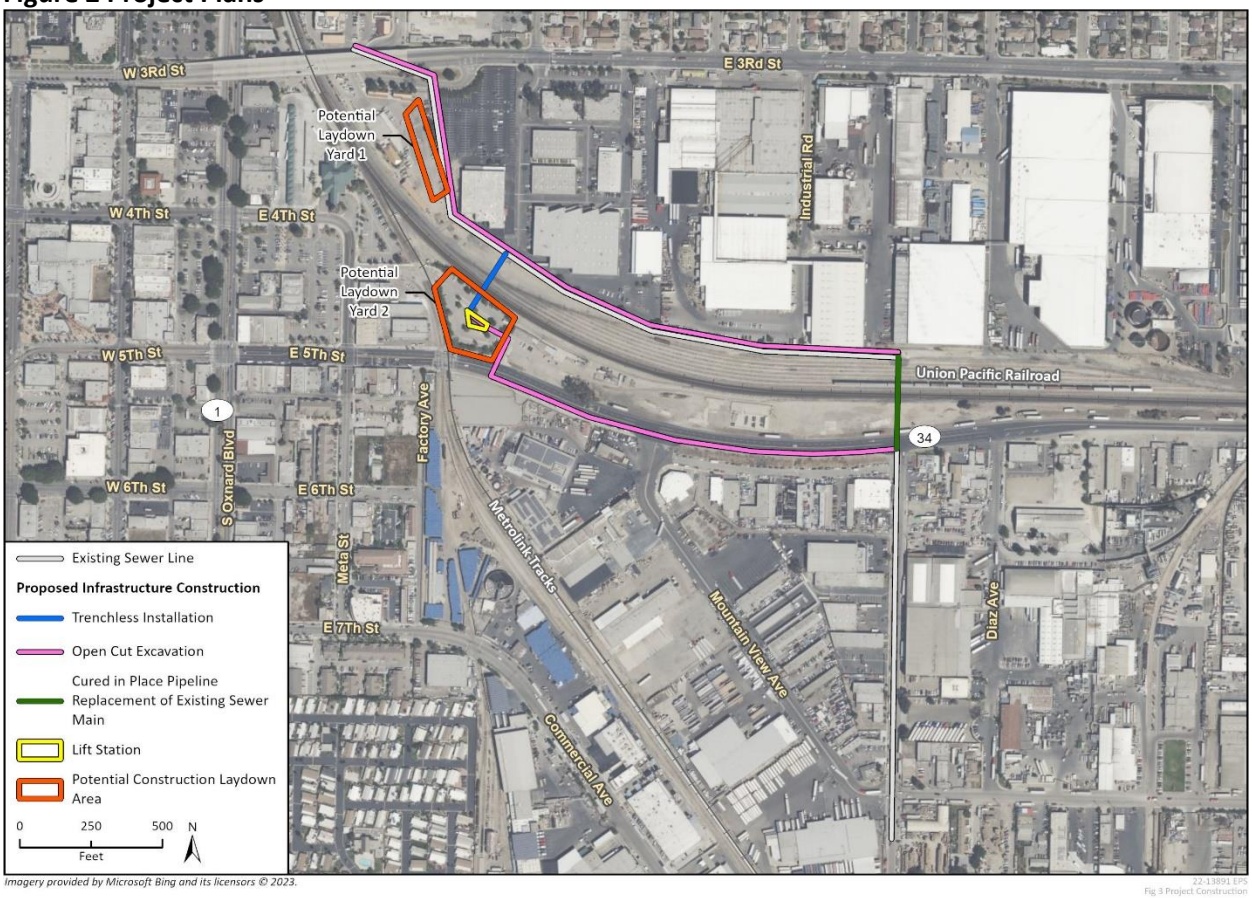

Appendix D

Section 106 Local Historical Group Outreach

City of Oxnard Central Trunk Sewer Project Section 106 Outreach

Contact List	Date Letter Sent	Date of Follow-up	Responses/Comments/Concerns
Heritage Square 715 South 'A' Street Oxnard, California 93030 Attn: Gary Blum, Site Manager Phone: (805) 402-0016 Email: HeritageSquareOxnard@gmail.com; GaryatHS@aol.com	06/30/2023 via email	Call made on 07-14-2023 Follow-up email sent on 07-14-2023	Unable to leave a voicemail. On July 14, 2023, Rincon received an email response from Mr. Blum stating that he doesn't have any issues with the project.
City of Oxnard Planning Department 214 S. C Street Oxnard, California 93030 Attn: Joe Pearson, Senior Planner Phone: 805-385-7556 Email: joe.pearson@oxnard.org	06/30/2023 via email	Call made on 07-14-2023	Left a message with Mr. Daniel Houck (City Planner) for Mr. Joe Pearson. No responses received.
Ventura County Cultural Heritage Board 800 South Victoria Avenue Ventura, California 93009 Attn: Dillan Murray, Program Planner Phone: (805) 654-2464 Email: Dillan.Murray@ventura.org	06/30/2023 via email	-	On July 3, 2023, Rincon received an email response with an attached letter from Mr. Murray. In the letter attached to the email, Mr. Murray stated that the CHB staff identified two designated and potential Cultural Heritage Sites near the APE, which includes the Ventura County Railway (Ventura County Landmark No. 15) and the Sugar Beet Factory Site (Ventura County Landmark No. 16). In addition, Mr. Murray requested that a digital copy of any Cultural Resource Studies resulting from the proposed project be provided to him.

Rincon Consultants, Inc.
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Ventura, California 93001

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June 30, 2023
Project No. 22-13891

Joe Pearson, Senior Planner
City of Oxnard Planning Department
214 S. C Street
Oxnard, California 93030
Via email: joe.pearson@oxnard.org

Subject: **Notification of the proposed City of Oxnard Central Trunk Sewer Project, Oxnard, Ventura County, California**

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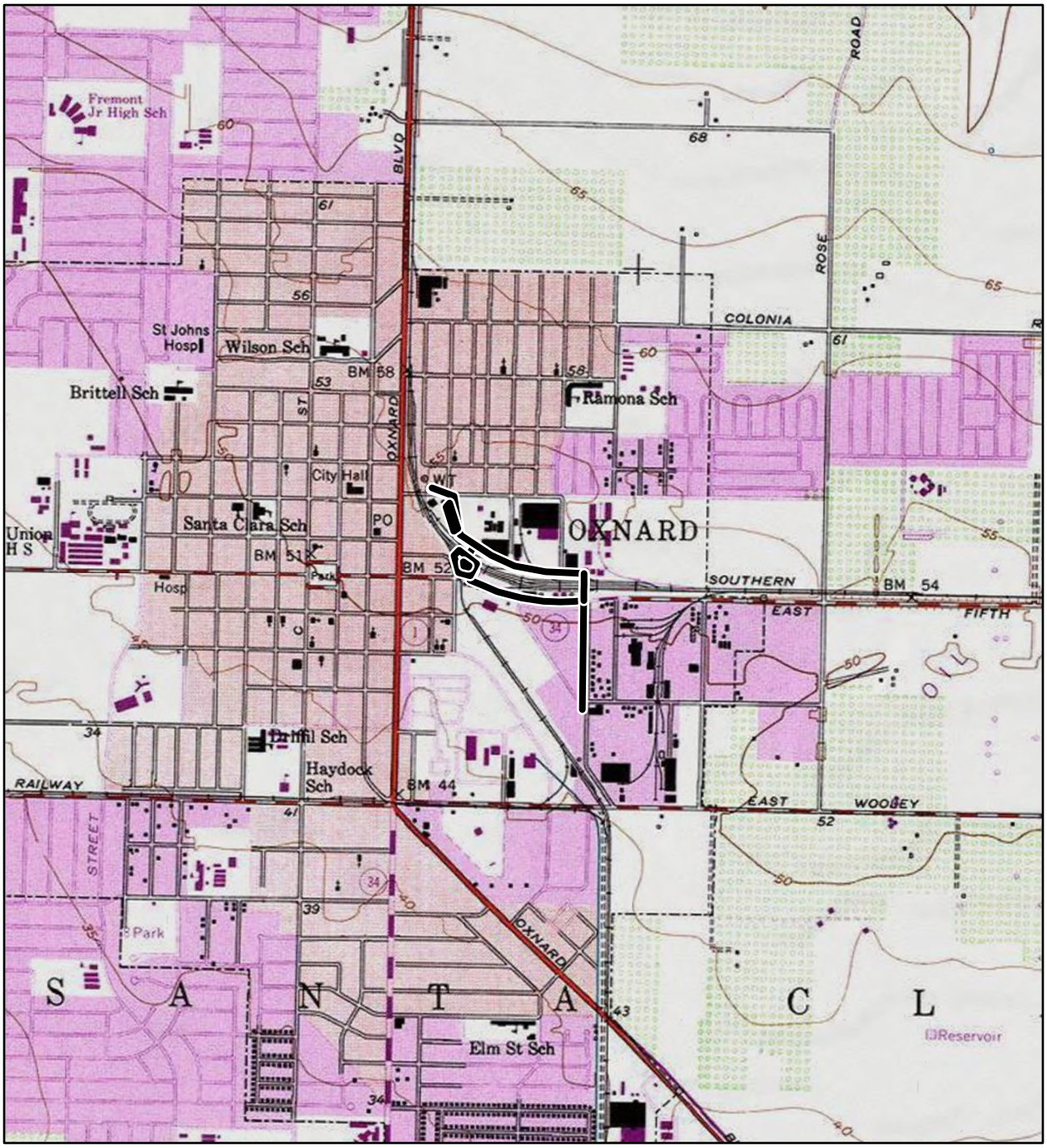

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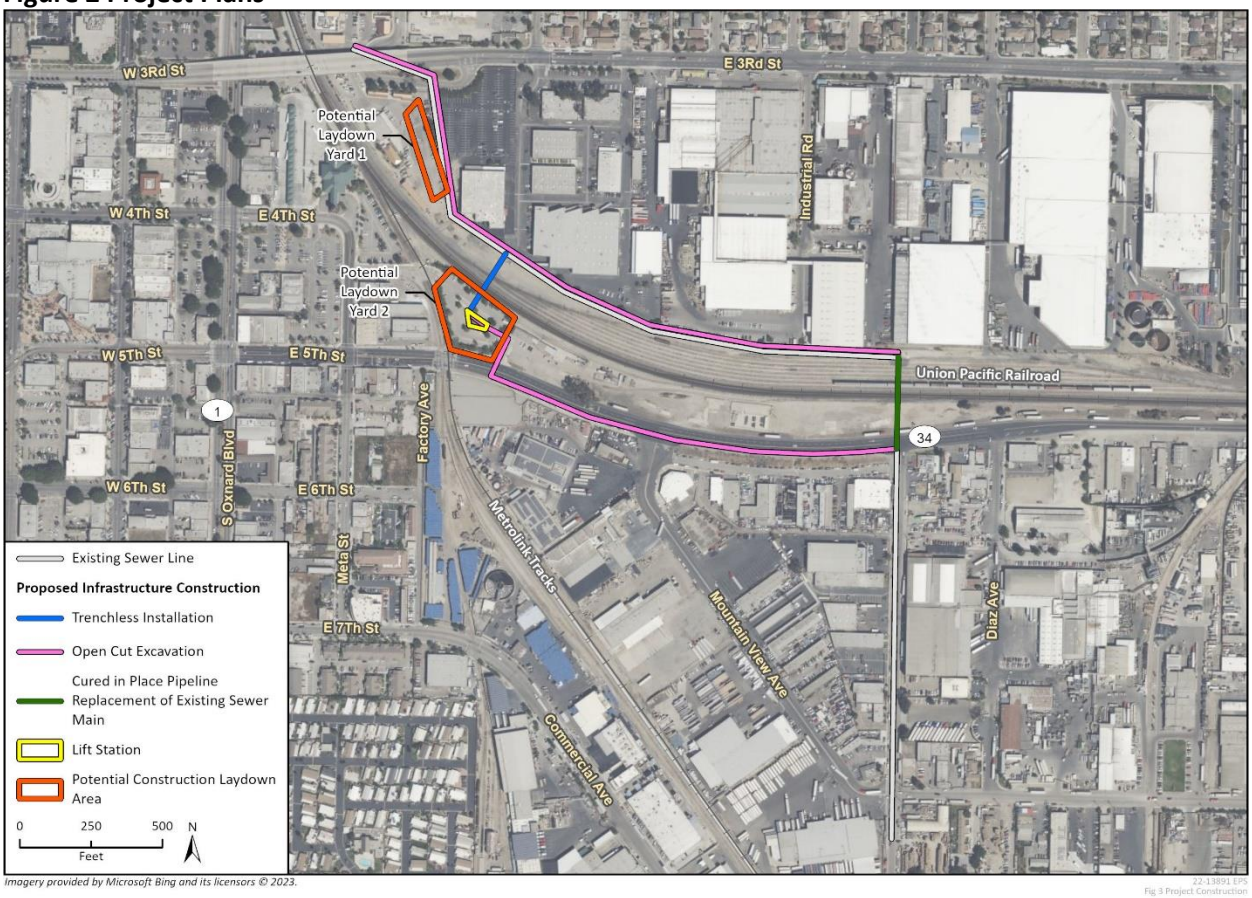

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June 30, 2023
Project No. 22-13891

Gary Blum, Site Manager
Heritage Square
715 South 'A' Street
Oxnard, California 93030
Via email: HeritageSquareOxnard@gmail.com; GaryatHS@aol.com

Subject: **Notification of the proposed City of Oxnard Central Trunk Sewer Project, Oxnard, Ventura County, California**

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The City of Oxnard owns and maintains the Central Trunk Sewer (CTS), a sewer main which conveys wastewater to the Oxnard Wastewater Treatment Plant. A portion of the CTS travels underneath the 11 UPRR tracks near the intersection of E. 5th Street/SR 34 and Richmond Avenue. In January 2017, the casing of the CTS underneath the northernmost UPRR tracks collapsed due to corrosion and lost structural integrity. The City completed a temporary emergency repair, which diverted wastewater from the CTS into an adjacent sewer line and slip-lined the collapsed line so it could serve as an overflow. The collapsed portion of the CTS is no longer in compliance with UPRR design standards, and the City intends to replace this portion to comply with these standards and fully restore the functionality of the CTS. The proposed undertaking would involve installation and operation of a new sewer pipeline, a new brine line, and a new sewer lift station (Figure 2).

The project involves State Revolving Funds (SRF) from the State Water Resources Control Board (State Water Board) to assist in financing. The State Water Board, Division of Financial Assistance, administers the SRF Program pursuant to 40 CFR Part 35. The SRF Program is partially funded by the United States Environmental Protection Agency (USEPA). Issuance of SRF funds by the State Water Board is considered equivalent to a federal action, thereby necessitating compliance with Section 106 of the National Historic Preservation Act (Section 106). The USEPA has delegated lead agency responsibility to the State Water Board for carrying out the requirements of Section 106.

In anticipation of potentially receiving SRF funds, and as part of the environmental compliance for the project, Rincon is seeking your assistance with the identification of cultural resources of significance that may be within the APE. Your participation in the early identification of cultural resources will ensure their consideration during the project planning phase. We are happy to document your recommendations regarding appropriate management or treatment of cultural resources that occur within the APE.

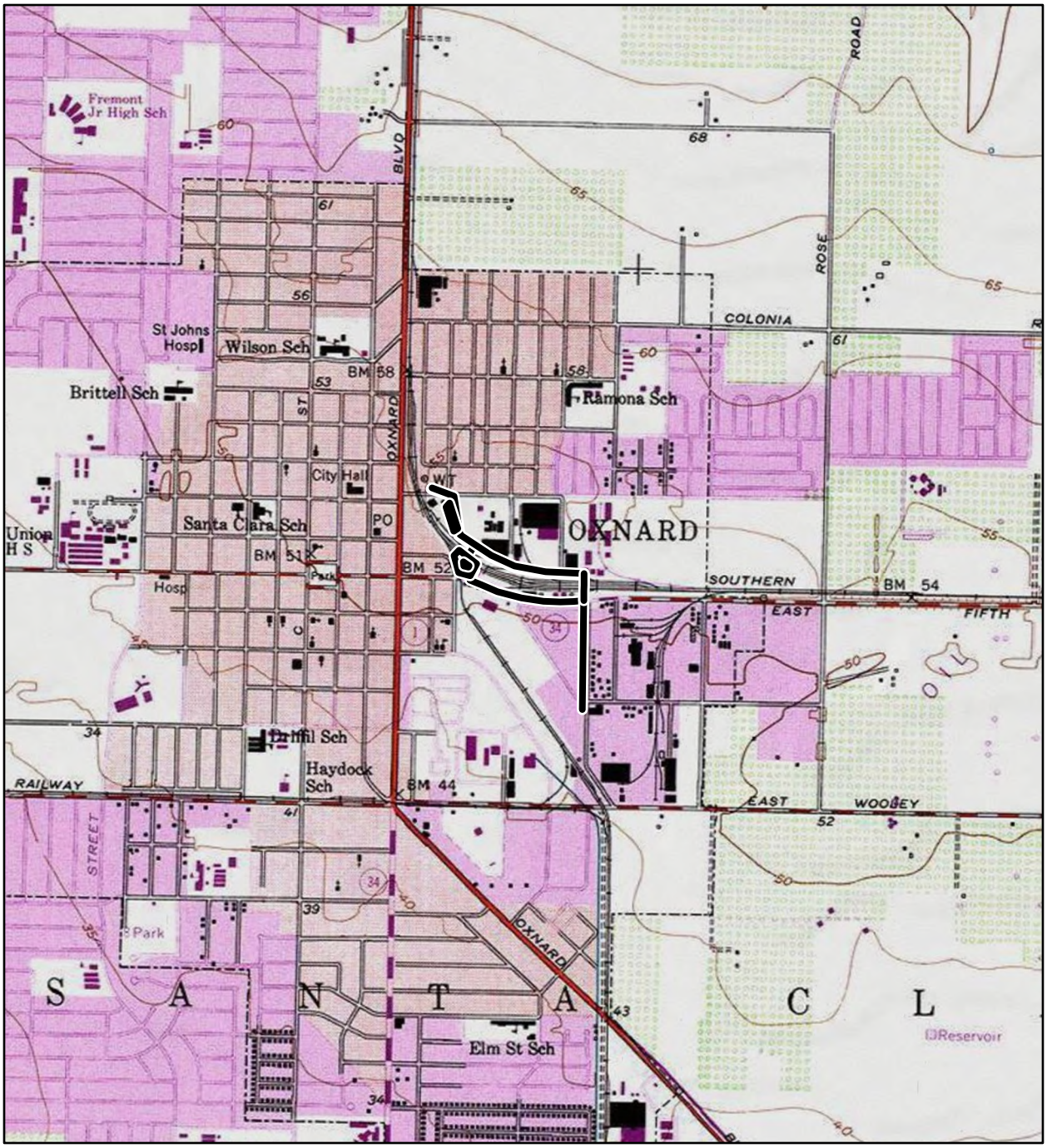
This letter is not intended to constitute formal consultation under Section 106; formal Section 106 consultation will be completed by the State Water Board. If you have questions, need additional information, or wish to comment, please contact me by email at mgonzalez@rinconconsultants.com or by telephone at (805) 705-5513. Please respond within 30 days of receipt of this letter.

Sincerely,
Rincon Consultants, Inc.



Matthew Gonzalez
Senior Archaeologist/Project Manager

Enclosed:
Figure 1 Location Map
Figure 2 Project Construction



Imagery provided by National Geographic Society, Esri and its licensors © 2023. Oxnard Quadrangle. T01N R22W S03. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.

Area of Potential Effects

N

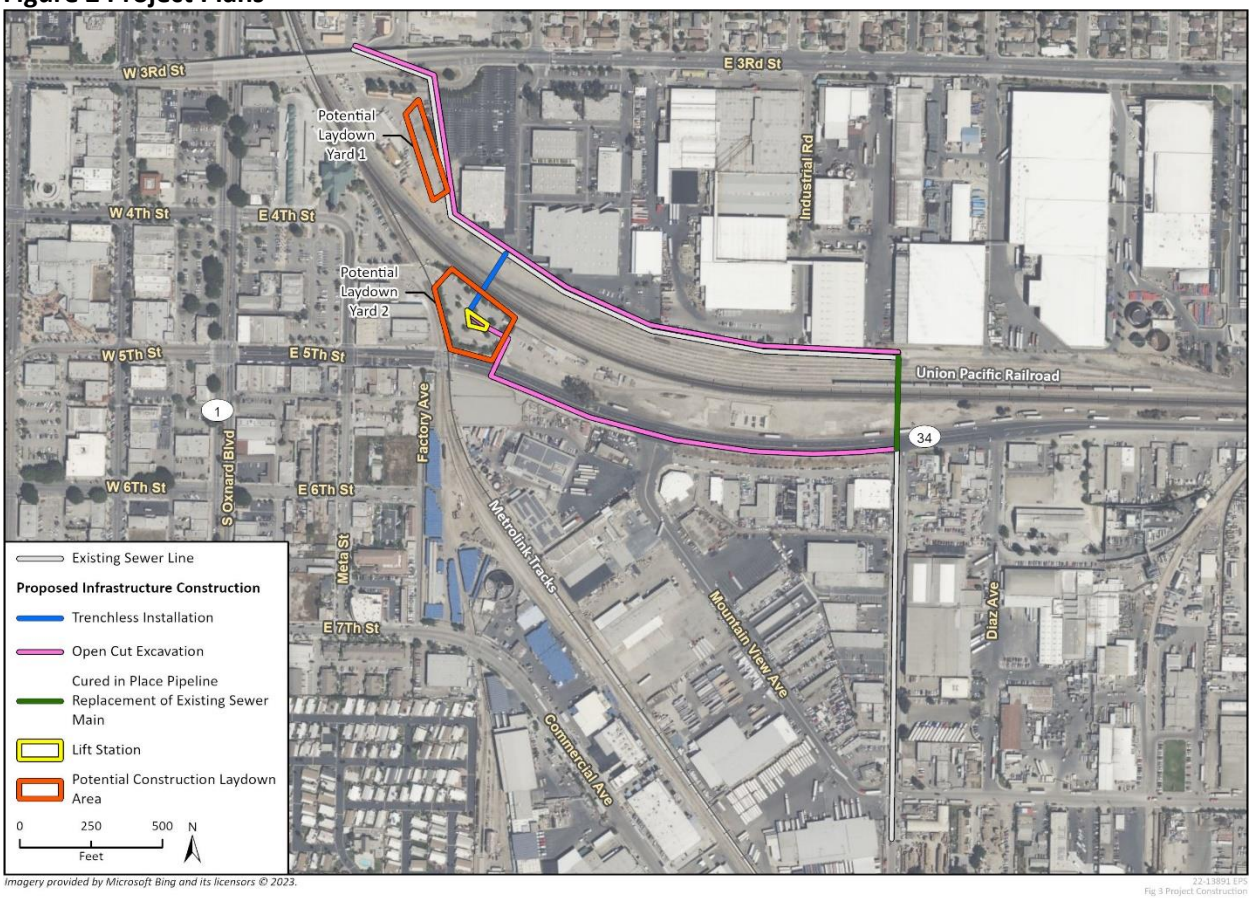
0 1,000 2,000 Feet

0 250 500 Meters

1:24,000

Location Map

Figure 2 Project Plans



Matt Gonzalez

From: garyaths@aol.com
Sent: Friday, July 14, 2023 1:10 PM
To: Matt Gonzalez
Subject: Re: [EXT] Re: City of Oxnard Aquifer Storage Recovery Project Section 106 Outreach

CAUTION: This email originated from outside of Rincon Consultants. Be cautious before clicking on any links, or opening any attachments, until you are confident that the content is safe .

That one looks good as well. No concerns from me.

Gary Blum
Site Superintendent
Heritage Square Property Owners Association
Committee Chair, **Oxnard Farmers Market**
Board Member,Parade Chair, **Oxnard Downtowners Foundation**
Chair, **Oxnard Performing Arts Center Corp.**
Member, https://www.friendsofcampuspark.org/
230 West Seventh Street | Suite F | Oxnard, CA 93030
Heritage Square Oxnard
OFFICE 805.247.0197
email: Garyaths@aol.com

On Friday, July 14, 2023 at 01:03:06 PM PDT, Matt Gonzalez <mgonzalez@rinconconsultants.com> wrote:

Great, Thanks Mr. Blum. Just FYI, I also sent you an identical email for an additional project also located in Oxnard. Please let me know if you have any questions or concerns with that project as well when you get a chance. Thanks!

Matthew Gonzalez,

Senior Archaeologist/Project Manager

(He/Him/His)

805-705-5513 Mobile

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"When all Americans are treated as equal, no matter

who they are or whom they love, we are all more free."

— Barack Obama.

From: garyaths@aol.com <garyaths@aol.com>
Sent: Friday, July 14, 2023 12:59 PM
To: Matt Gonzalez <mgonzalez@rinconconsultants.com>
Subject: [EXT] Re: City of Oxnard Aquifer Storage Recovery Project Section 106 Outreach

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Matt, I don't see any issues with this projects. Thank you for checking in.

Gary Blum
Site Superintendent

Heritage Square Property Owners Association

Committee Chair, **Oxnard Farmers Market**

Board Member,Parade Chair, **Oxnard Downtowners Foundation**

Chair, **Oxnard Performing Arts Center Corp.**

Member, https://www.friendsofcampuspark.org/

230 West Seventh Street | Suite F | Oxnard, CA 93030
Heritage Square Oxnard
OFFICE 805.247.0197
email: Garyaths@aol.com

On Friday, July 14, 2023 at 12:56:01 PM PDT, Matt Gonzalez <mgonzalez@rinconconsultants.com> wrote:

Dear Mr. Blum, I hope you are doing well. I wanted to follow-up with you on this project to see if you had a questions, comments, or concerns. Please let me know when you get a chance. Have a great weekend. Thanks!

Matthew Gonzalez,

Senior Archaeologist/Project Manager

(He/Him/His)

805-705-5513 Mobile

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Ranked 2021 "Best Environmental Services Firm to Work For" by Zweig Group

"When all Americans are treated as equal, no matter

who they are or whom they love, we are all more free."

— Barack Obama.

From: Matt Gonzalez
Sent: Friday, June 30, 2023 1:06 PM
To: HeritageSquareOxnard@gmail.com; GaryatHS@aol.com
Subject: City of Oxnard Aquifer Storage Recovery Project Section 106 Outreach

Dear Mr. Blum, please find the attached letter and maps for the above mentioned project. Please let me know if you have any questions, comments, or concerns. Thanks!

Matthew Gonzalez,

Senior Archaeologist/Project Manager

(He/Him/His)

Rincon Consultants, Inc.

Scientists | Planners | Engineers

805-644-4455 Office

805-705-5513 Cell

mgonzalez@rinconconsultants.com

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— Barack Obama.

Rincon Consultants, Inc.

180 North Ashwood Avenue
Ventura, California 93001

805 644 4455 OFFICE AND FAX

info@rinconconsultants.com
www.rinconconsultants.com

June 30, 2023
Project No. 22-13891

Dillan Murray, Program Planner
Ventura County Cultural Heritage Board
800 South Victoria Avenue
Ventura, California 93009
Via email: Dillan.Murray@ventura.org

Subject: **Notification of the proposed City of Oxnard Central Trunk Sewer Project, Oxnard, Ventura County, California**

Dear Mr. Murray:

Rincon Consultants, Inc. (Rincon) was retained to prepare a Historic Property Identification Report for the City of Oxnard Central Trunk Sewer Project (proposed undertaking) located in Ventura County, California. The area of potential effects (APE) is located within the Oxnard 7.5' United States Geographical Survey (USGS) topographic quadrangles within Section 03 of Township 01N, Range 22W (Figure 1).

The City of Oxnard owns and maintains the Central Trunk Sewer (CTS), a sewer main which conveys wastewater to the Oxnard Wastewater Treatment Plant. A portion of the CTS travels underneath the 11 UPRR tracks near the intersection of E. 5th Street/SR 34 and Richmond Avenue. In January 2017, the casing of the CTS underneath the northernmost UPRR tracks collapsed due to corrosion and lost structural integrity. The City completed a temporary emergency repair, which diverted wastewater from the CTS into an adjacent sewer line and slip-lined the collapsed line so it could serve as an overflow. The collapsed portion of the CTS is no longer in compliance with UPRR design standards, and the City intends to replace this portion to comply with these standards and fully restore the functionality of the CTS. The proposed undertaking would involve installation and operation of a new sewer pipeline, a new brine line, and a new sewer lift station (Figure 2).

The project involves State Revolving Funds (SRF) from the State Water Resources Control Board (State Water Board) to assist in financing. The State Water Board, Division of Financial Assistance, administers the SRF Program pursuant to 40 CFR Part 35. The SRF Program is partially funded by the United States Environmental Protection Agency (USEPA). Issuance of SRF funds by the State Water Board is considered equivalent to a federal action, thereby necessitating compliance with Section 106 of the National Historic Preservation Act (Section 106). The USEPA has delegated lead agency responsibility to the State Water Board for carrying out the requirements of Section 106.

In anticipation of potentially receiving SRF funds, and as part of the environmental compliance for the project, Rincon is seeking your assistance with the identification of cultural resources of significance that may be within the APE. Your participation in the early identification of cultural resources will ensure their consideration during the project planning phase. We are happy to document your recommendations regarding appropriate management or treatment of cultural resources that occur within the APE.

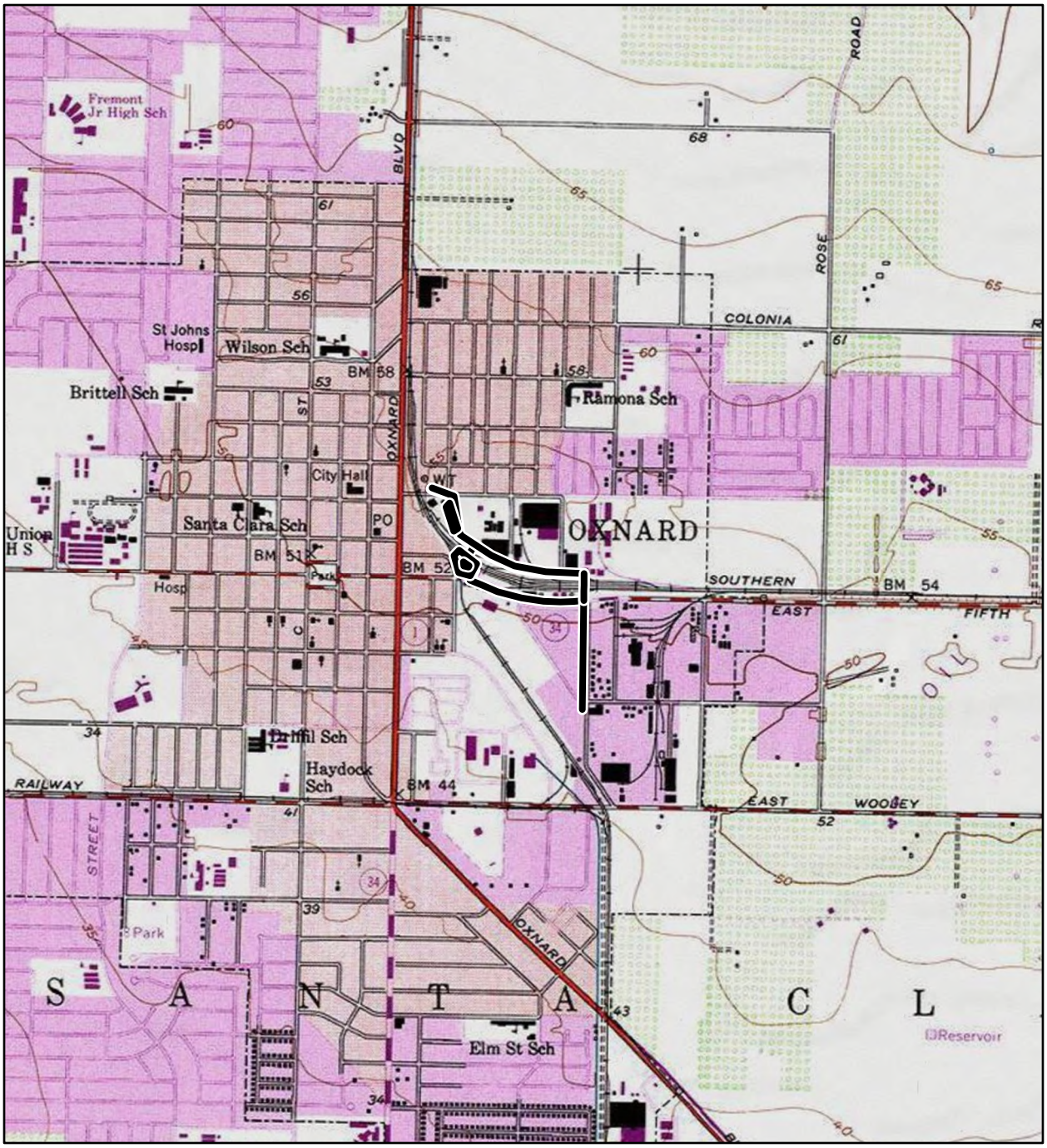
This letter is not intended to constitute formal consultation under Section 106; formal Section 106 consultation will be completed by the State Water Board. If you have questions, need additional information, or wish to comment, please contact me by email at mgonzalez@rinconconsultants.com or by telephone at (805) 705-5513. Please respond within 30 days of receipt of this letter.

Sincerely,
Rincon Consultants, Inc.



Matthew Gonzalez
Senior Archaeologist/Project Manager

Enclosed:
Figure 1 Location Map
Figure 2 Project Construction



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Area of Potential Effects

N

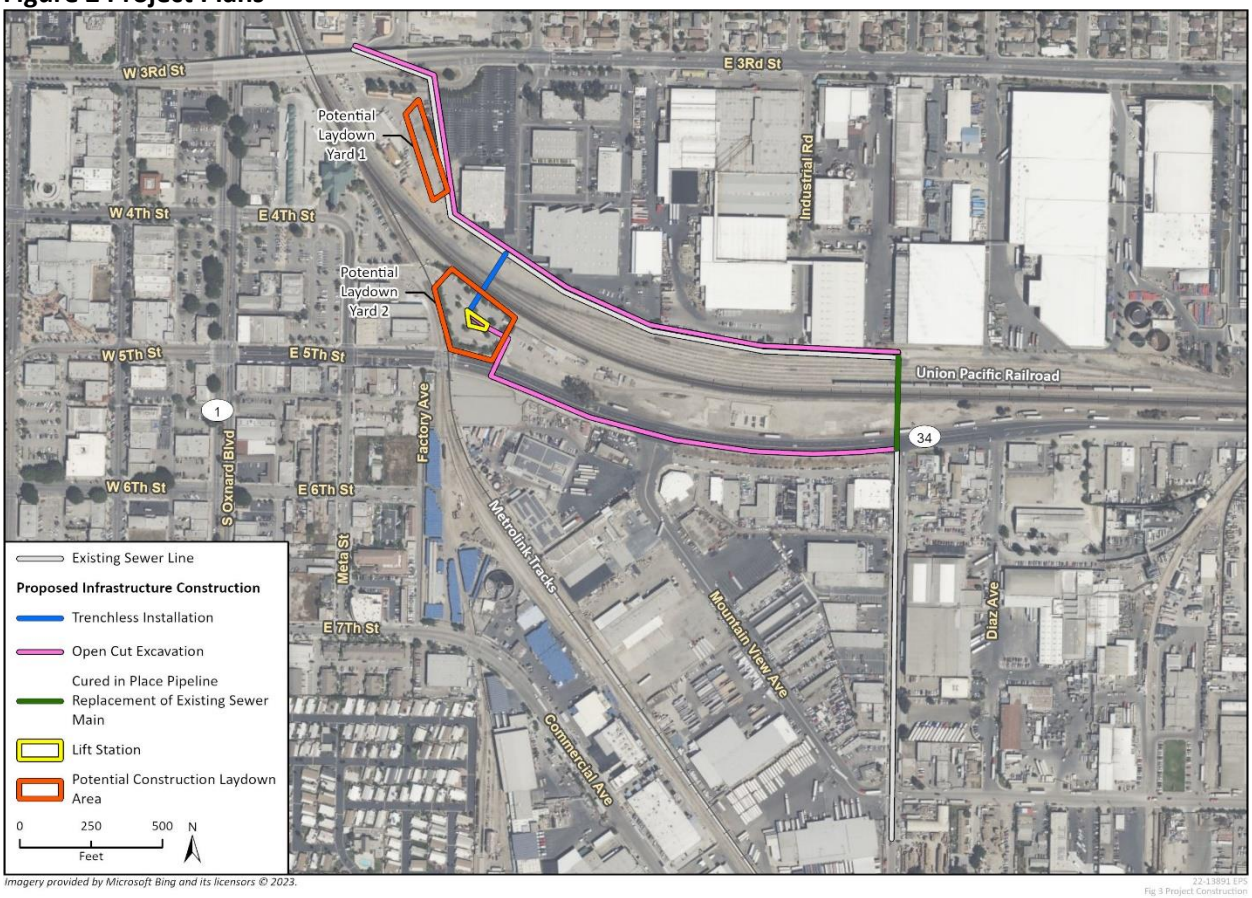
0 1,000 2,000 Feet

0 250 500 Meters

1:24,000

Location Map

Figure 2 Project Plans



COUNTY of VENTURA
RESOURCE MANAGEMENT AGENCY
DAVE WARD
Planning Director

SUSAN CURTIS
Assistant Planning Director

July 3, 2023

Matthew Gonzalez, Senior Archaeologist/Project Manager
Rincon Consultants, Inc.
106 North Ashwood Avenue
Ventura, CA 93001

Sent via email: mgonzalez@rinconconsultants.com

Subject: **City of Oxnard Central Trunk Sewer Project**
Project No. 22-13891
Section 106 Interested Parties Outreach

Dear Mr. Gonzalez,

Ventura County Cultural Heritage Board (CHB) staff is in receipt of the invitation to comment on the above-referenced project. Thank you for the opportunity to review and comment. CHB staff has researched the project site, as well as property within the vicinity, and found the following:

- Several designated and potential[1] Cultural Heritage Sites are within proximity to the project site. Ventura County Landmarks & Points of Interest may be viewed at the following link: https://rma.maps.arcgis.com/apps/webappviewer/index.html?id=eae9dd75e92e40b487e2cd9e48cb8597.
- These include the following:
    - Ventura County Railway, Ventura County Landmark #15, located off East 5th Street, east of Meta Street
        - This 13-mile railroad carries freight between the Southern Pacific Railroad Depot in Oxnard and the U.S. Naval Base and commercial Harbor of Port Hueneme. The railway was incorporated in 1903 as the Bakersfield-Ventura Railway Company to run from Hueneme to Bakersfield. The line from Hueneme to Oxnard was completed in

[1] Pursuant to the Ventura County Cultural Heritage Ordinance No. 4604, a potential Cultural Heritage Site is an improvement, natural feature, or site of historical, architectural, community, or aesthetic merit which may meet the criteria specified in the ordinance and has not yet been officially designated by the Cultural Heritage Board or the Board of Supervisors as a District, Landmark, Site of Merit, or Point of Interest.

1905 and carried sugar beets to the sugar factory (Landmark No. 16) and passengers to and from the towns. A short branch ran down A Street in Oxnard in the years 1909-1926. In 1911, the line was purchased by the Ventura Railway Co., a wholly owned subsidiary of the American Beet Sugar Company, to haul beets to the factory. During World War II, all of the war materiel for the Port of Hueneme was carried over this line. In 1959, when the sugar factory closed, the railway was purchased by Martin Smith and Associates. Presently, the Ventura County Railroad (VCRR) is a subsidiary short-line railroad that is part of Genesee & Wyoming Inc., which began operating on the Ventura County Railway in 2011. For much of its first century, Genesee & Wyoming was a 14-mile railroad serving a single customer in upstate New York. The company has since grown to be a leading owner and operator of short line and regional freight railroads serving more than 2,000 customers over 15,000 miles of track in five countries.

Lastly, please provide to my attention a digital copy of any cultural resource studies resulting from the proposed project. Thank you again for the opportunity to comment on the proposed project.

If you require anything further or have questions regarding our findings, please do not hesitate to contact me at (805) 654-5042 or at Dillan.Murray@ventura.org.

Sincerely,



Dillan Murray
Cultural Heritage Program Planner

Appendix D

Paleontological Resources Assessment



Central Trunk Rail Yard Crossing and Lift Station Project

Paleontological Resources Assessment

prepared for

City of Oxnard
6001 Perkins Road
Oxnard, California 93033
Contact: Jorge Espinoza, Project Manager

prepared by

Rincon Consultants, Inc.
180 North Ashwood Avenue
Ventura, California 93003

October 2023

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

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Appendices

Appendix A Staff Resumes

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Executive Summary

Purpose and Scope

Rincon Consultants, Inc. conducted a Paleontological Resources Assessment (PRA) for the City of Oxnard Central Trunk Rail Yard Crossing and Lift Station Project (project) in Oxnard, Ventura County, California. This PRA includes a literature review, paleontological sensitivity assessment, and reporting consistent with the professional standards of the Society of Vertebrate Paleontology (SVP; 2010) to determine whether the proposed action would result in significant impacts to paleontological resources under the California Environmental Quality Act (CEQA) or adverse effects to paleontological resources under federal environmental protection laws.

The project would involve installation and operation of a new force main sewer pipeline, a new gravity sewer, and a new sewer lift station, as well as the cured in place pipeline relining repair of an existing 18-inch sewer and abandonment of a collapsed portion of the existing Central Trunk Sewer (CTS). The new sewer pipeline would be installed via open trenching and trenchless (i.e., jack and bore) techniques. The gravity sewer would be installed via open trenching techniques and would be placed within the existing CTS alignment.

Results of Investigation

The project site is underlain by two geologic units: Holocene terrace deposits and Holocene alluvial deposits (Clahan 2003). Both geologic units are too young (i.e., less than 5,000 years old) to preserve paleontological resources (SVP 2010), therefore they are considered to have low paleontological sensitivity. At a certain depth in the subsurface, Holocene-aged sediments become old enough to preserve paleontological resources and thus have high paleontological sensitivity; however, the depth at which this transition occurs beneath the project site is unknown. The previous development of the site and geologic conditions suggest that any high-sensitivity sediments are likely overlain by layers of non-sensitive disturbed/artificial fill sediments or low-sensitivity Holocene-aged sediments that are at least several feet thick.

A records search of the Natural History Museum of Los Angeles County determined there are no known fossil localities within the project site (Bell 2023).

Impacts and Recommendations

The project site is underlain by two geologic units (Holocene terrace deposits and Holocene alluvial deposits) with low paleontological sensitivity (Clahan 2003). Significant impacts/adverse effects to paleontological resources could result from ground-disturbing activities within undisturbed sediments with high paleontological sensitivity, which may occur at an unknown depth within the project site.

Ground-disturbing construction activities for the gravity sewer would only impact previously disturbed (i.e., not paleontologically sensitive) sediments and, thus, would not significantly impact/adversely affect paleontological resources. Trenching for the sewer pipeline, excavation for the entry and exit pits for the trenchless installation of the sewer pipeline, and excavation for the lift station, may result in significant impacts/adverse effects to paleontological resources.

Mitigation Measures PAL-1 and PAL-2 are recommended to reduce potential impacts/effects to paleontological resources to a level of less-than-significant under CEQA and no adverse effect under federal environmental protection laws. These mitigation measures involve a Worker Environmental Awareness Program to educate construction personnel on what fossils may occur in the project site and procedures to follow in case of an unanticipated discovery of paleontological resource.

1 Introduction

Rincon Consultants, Inc. (Rincon) conducted a desktop Paleontological Resources Assessment (PRA) for the City of Oxnard Central Trunk Rail Yard Crossing and Lift Station Project (project). This assessment includes a literature review, paleontological records search, paleontological sensitivity assessment, and reporting consistent with the professional standards of the Society of Vertebrate Paleontology (SVP; 2010). This assessment will determine whether the proposed action would result in significant impacts to paleontological resources under the California Environmental Quality Act (CEQA) or adverse effects to paleontological resources under federal environmental protection laws.

Paleontological resources (i.e., fossils) are the remains or traces of prehistoric life. Fossils are typically preserved in layered sedimentary rocks, and the distribution of fossils across the landscape is controlled by the distribution and exposure of the fossiliferous sedimentary rock units at and near the surface. Construction-related impacts that typically affect or have the potential to affect paleontological resources include mass excavation operations, drilling/borehole excavations, trenching/tunneling, and grading. Ground-disturbing construction activities associated with the proposed project would mainly consist of grading, trenching, and excavation. This PRA provides a list of the formations mapped at the surface within the project site and formations that underlie those mapped at the surface that may be impacted by project construction activities.

1.1 Project Location

The project site is located in the central portion of the city of Oxnard in Ventura County, California. The project site is north of and within E. 5th Street/State Route (SR) 34 adjacent to and beneath existing Union Pacific Railroad (UPRR) tracks. The project site is located approximately 0.2-mile east of S. Oxnard Boulevard and 2.2 miles south of U.S. Highway 101. Figure 1 shows the regional location of the project site, and Figure 2 shows the project alignment and proposed infrastructure at a local scale.

1.2 Project Description

The City of Oxnard (City) owns and maintains the Central Trunk Sewer (CTS), a sewer main which conveys wastewater to the Oxnard Wastewater Treatment Plant. A portion of the CTS travels underneath 11 UPRR tracks near the intersection of E. 5th Street/SR 34 and Richmond Avenue. In January 2017, the casing of the CTS underneath the northernmost UPRR tracks collapsed due to corrosion and lost structural integrity. The City completed a temporary emergency repair, which diverted wastewater from the CTS into an adjacent sewer line and slip-lined the collapsed line so it could serve as an overflow (Kennedy Jenks 2021). The collapsed portion of the CTS is no longer in compliance with UPRR design standards, and the City intends to replace this portion to comply with these standards and fully restore the functionality of the CTS.

The project would involve installation and operation of a new force main sewer pipeline, a new gravity sewer, and a new sewer lift station, as well as the cured in place pipeline (CIPP) relining repair of an existing 18-inch sewer and abandonment of the collapsed portion of the CTS. Construction and operation of the project are discussed in the following sections.

Figure 1 Regional Project Location



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22-13891 EPS
Fig 1 Regional Location

Project Location

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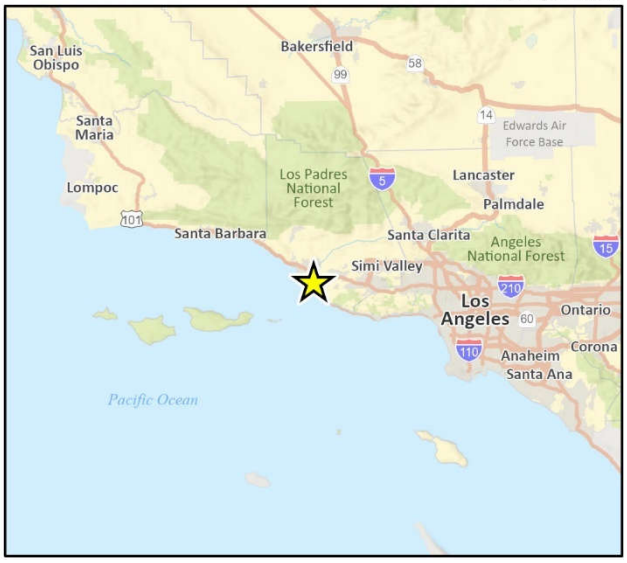
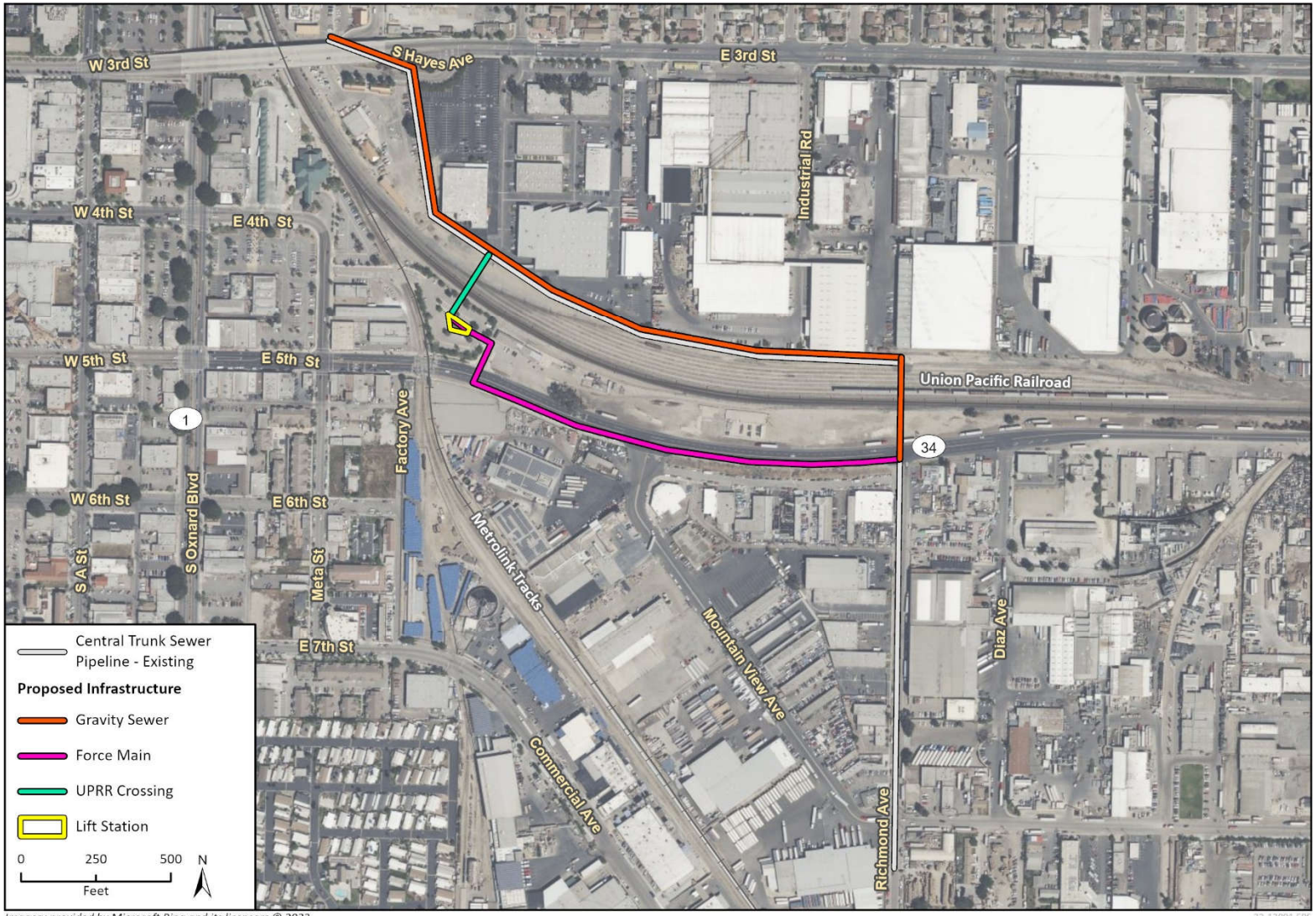


Figure 2 Project Location



Project Construction

Sewer Pipeline Construction

The project would involve installation of approximately 2,160 feet of new 24-inch sewer pipeline via two construction methods. The new sewer pipeline would tie into the existing CTS approximately 1,700 feet west of the collapsed portion of the CTS, and travel south toward and then underneath the UPRR tracks. The new sewer pipeline alignment would connect to the proposed sewer lift station within an existing parking lot south of the UPRR tracks, and travel east within the right-of-way (ROW) of E. 5th Street/SR 34 toward Richmond Avenue. The new sewer pipeline would tie into the existing CTS at the intersection of E. 5th Street/SR 34 and Richmond Avenue. Unused segments of the existing CTS would be abandoned in place and filled with grout or cellular concrete.

Two construction methods would be used to install the new alignment, which are summarized below. Locations of each construction method are shown in Figure 3.

JACK AND BORE

Jack and bore (i.e., trenchless) construction methods would be used to install the new pipeline underneath the UPRR tracks to avoid inhibiting use of the tracks. Approximately 140 feet of new pipeline would be installed underneath the UPRR tracks via jack and bore (shown in blue in Figure 3). This section of the proposed pipeline alignment would tie into the CTS approximately 1,700 feet upstream of the collapsed portion. Jack and bore pipeline installation would involve excavation of entry and exit pits at both ends of the pipeline segment and use of a jack and bore machine to tunnel underground between the pits, pulling a pipeline casing through as it tunnels. The pipeline casing would be larger in diameter than the sewer line being installed, and the new sewer line would be pulled through the casing. The new pipeline would be installed at least 5.5 feet underground below the railroad tracks pursuant to UPRR requirements. The jack and bore entry pit would be located within the Oxnard Transportation Center parking lot, immediately south of the UPRR tracks (southern terminus of the blue line in Figure 3), and the receiving pit would be located within the rail corridor north of the UPRR tracks (north of the tracks along the blue line in Figure 3). The jack and bore entry and exit pits would be backfilled following construction.

OPEN-CUT EXCAVATION

Installation of the new pipeline via open-cut excavation would involve removal of existing pavement and excavation of a trench approximately 3 to 5 feet wide and 5 to 7 feet in depth. Approximately 2,020 feet of new pipeline would be installed via open-cut excavation south of the UPRR tracks within the E. 5th Street/SR 34 ROW. The trench would extend from the proposed sewer lift station east toward Richmond Avenue, where the new pipeline would tie into the existing CTS, which continues south along Richmond Avenue (Figure 3).

Temporary road closures would be required for pipeline installation. At a minimum, partial road closures would be required along E. 5th Street/SR 34 during installation of the new sewer pipeline. Lane closures on E. 5th Street/SR 34 would be phased along the alignment, and construction areas would be separated with K-rail during pipeline installation.

Gravity Sewer Replacement

Approximately 2,270 feet of 12-inch polyvinyl chloride (PVC) gravity sewer would be installed via traditional open-cut excavation methods north of the UPRR tracks and approximately 250 feet would be installed within a portion of existing 18-inch sewer parallel to the existing CTS to be repaired via CIPP relining repair methods (shown in green in Figure 3). CIPP construction methods are discussed in the subsection below.

The new 12-inch gravity sewer would begin at 3rd Street north of the UPRR tracks, would travel along the existing CTS alignment, continue south across the UPRR tracks, and would terminate at the intersection of E. 5th Street/SR 34 and Richmond Avenue where it would connect to the new sewer pipeline. The purpose of the gravity sewer is to divert brine from the proposed lift station, which is described below. As shown in Figure 3, brine would flow north of the UPRR tracks while wastewater flows cross under the UPRR tracks in the 140-foot pipeline segment installed via jack and bore. The gravity sewer would travel north of the UPRR tracks and then turn south at Richmond Avenue, through the 250-foot portion of the existing 18-inch sewer parallel to the existing CTS repaired via CIPP relining repair methods. Wastewater would flow east of the pump station, and the gravity sewer and wastewater line would connect at the intersection of Richmond Avenue and E. 5th Street/SR 34 and would flow south. Construction of the northern portion of the 12-inch gravity sewer would require at least partial closure of S. Hayes Avenue.

CURED IN PLACE PIPELINE REPAIR

CIPP relining is a trenchless pipeline rehabilitation method to improve the structural integrity of the existing pipeline by installing a seamless structural liner within the existing pipe. CIPP relining would involve inspection and cleaning of the existing pipeline, installation of the seamless structural liner via existing manholes, then heat-curing (using steam or hot water) to cure the liner in place. This repaired portion of the existing 18-inch sewer parallel to the existing CTS would be used for brine conveyance as part of the proposed gravity sewer.

Lift Station Construction

The project would also involve construction of a new lift station. The lift station would be constructed within an existing landscaped area of the Oxnard Transportation Center parking lot, south of the UPRR tracks (Figure 3). The lift station would house two 10-horsepower submersible pumps, one of which would serve as the primary pump and the other as a stand-by pump. A standby generator would be located at the lift station site. The lift station would be primarily subterranean, with visible aboveground features including access hatches, electrical control panels (with metal canopy), an odor control unit, and an electrical transformer. Construction of the lift station would require removal of three trees. A permit would be obtained for tree removal and trees would be replaced if necessary, depending on the size of the removed trees.

Approximately 4,177 cubic yards (CY) of soil would be excavated during construction of the new sewer pipeline, gravity sewer, and lift station. Following pipeline installation, approximately 1,932 CY of excavated soil and 1,492 CY of imported soil would be used as fill. Approximately 2,085 CY of soil would be exported off site and disposed of at the Del Norte Recycling Center, or another landfill selected by the construction contractor. The project would disturb a surface area of approximately 45,775 square feet, or 1.1 acres.

If groundwater is encountered during construction, dewatering would be required. Dewatered groundwater would be tested and potentially treated prior to discharge into existing storm drains.

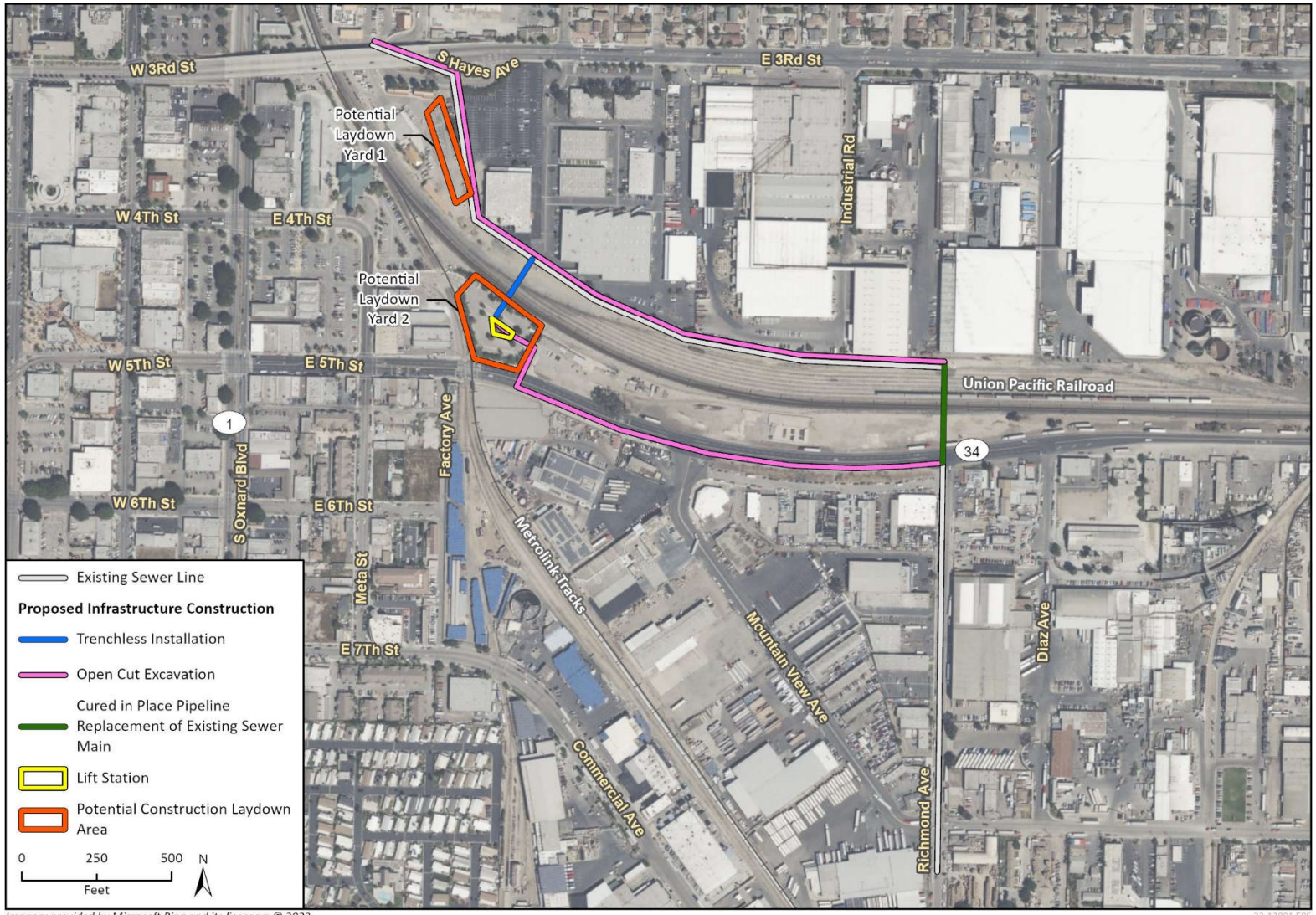
Construction Laydown Areas

As shown in Figure 3, construction equipment and materials would be staged in two potential construction staging areas. Potential Construction Laydown Area 1 would be located in the parking lot of an existing City maintenance yard, and Potential Construction Laydown Area 2 would be located in the Oxnard Transportation Center parking lot surrounding the proposed pump station location. One or both of these construction laydown areas would be used for construction worker parking and construction material laydown during project construction; this analysis conservatively assumes both potential laydown areas would be used.

Paving and Ground Restoration

This final phase of construction would involve repaving portions of 3rd Street and E. 5th Street/SR 34 that were excavated for trench pipeline installation. As described under *Project Construction*, excavated areas would be filled with previously excavated soil and an additional 1,492 CY of imported soil.

Figure 3 Project Components



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22-13891 EPS
Fig 3 Project Construction

2 Regulations

2.1 Federal Regulations

Because the project may seek federal funding, this project must comply with several federal regulations in addition to the requirements of CEQA.

National Environmental Policy Act (42 United States Code, Section 4321 et seq.; 40 Code of Federal Regulations Section 1502.25)

The National Environmental Policy Act, as amended, directs federal agencies to "preserve important historic, cultural, and natural aspects of our national heritage (Section 101[b][4])." The current interpretation of this language includes scientifically important paleontological resources among those resources potentially requiring preservation.

National Historic Preservation Act of 1966 (6 United States Code 470)

The National Historic Preservation Act (NHPA) applies to paleontological resources found in culturally-related contexts; for example, fossil shells included as a mortuary offering within a cultural resource would be a paleontological resource found in a culturally-related context (California Department of Transportation 2023). These related materials qualify as cultural resources. Consequently, recovery and treatment protocols for such resources should be addressed in a project-specific cultural resources management plan.

2.2 State Regulations

California Environmental Quality Act

Paleontological resources are protected under CEQA, which states a project would "normally" have a significant effect on the environment if project effects exceed an identified threshold of significance (CEQA Guidelines Section 15064.7[a]). Appendix G of the CEQA Guidelines (the Environmental Checklist Form) provides suggested thresholds of significance for evaluating a project's environmental impacts, including impacts to paleontological resources. In Section VII(f), the question is posed thus: "Will the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" To determine the uniqueness of a given paleontological resource, it must first be identified or recovered (i.e., salvaged). Therefore, CEQA mandates mitigation of adverse impacts, to the extent practicable, to paleontological resources.

CEQA does not define "a unique paleontological resource or site." However, the SVP (2010) defines a "significant paleontological resource" in the context of environmental review as follows:

> Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information.

Paleontological resources are typically older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years) (SVP 2010).

The loss of paleontological resources meeting the criteria outlined above (i.e., a significant paleontological resource) would be a significant impact under CEQA, and the CEQA lead agency is responsible for mitigating impacts to paleontological resources, where practicable, in compliance with CEQA and other applicable statutes.

California Public Resources Code

California Public Resources Code Section 5097.5 states:

> No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

Here "public lands" means those owned by, or under the jurisdiction of, the State or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, public agencies are required to comply with Public Resources Code Section 5097.5 for their own activities, including construction and maintenance, and for permit actions (e.g., encroachment permits) undertaken by others.

2.3 Regional and Local Regulations

City of Oxnard

The City created a series of guidelines to "identify the specific procedures and provisions adopted by the City of Oxnard to implement and comply with the requirements of CEQA and consistent with the State CEQA Guidelines" (City of Oxnard 2017). The guidelines addressing paleontological resources are as follows:

> Evaluate the degree of disturbance to the project site. Consider whether the site has been vacant or covered by surfaces that required little or no excavation or grading, such that there has been little surface or subsurface disturbance. Sites, from which the native topsoil has been removed, such as landfills, are unlikely to retain paleontological resource potential.
>
> Review the description of the project and the construction/operation activities. Assess the amount of grading, excavation, erosion, and increased human activity (e.g., opening of previously closed lands, new access routes through sensitive areas, or removal of vegetation that could disturb surface and subsurface fossils).

3 Paleontological Resources Assessment Guidelines

Paleontological resources are limited, nonrenewable resources of scientific, cultural, and educational value and are afforded protection under state and local laws and regulations. This PRA satisfies Public Resources Code Section 5097.5 requirements and follows guidelines and significance criteria specified by the SVP (2010).

3.1 Paleontological Sensitivity

Paleontological sensitivity refers to the potential for a geologic unit to produce scientifically significant fossils. Direct impacts to paleontological resources occur when earthwork activities, such as grading or trenching, cut into the geologic deposits within which fossils are buried and physically destroy the fossils. Because fossils are the remains of prehistoric animal and plant life, they are considered to be nonrenewable. These activities may constitute significant impacts under CEQA or adverse effects under federal environmental protection laws and may require mitigation. Sensitivity is determined by rock type, history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey.

The discovery of a vertebrate fossil locality is of greater significance than that of an invertebrate fossil locality, especially if it contains a microvertebrate assemblage. The recognition of new vertebrate fossil locations could provide important information on the geographical range of the taxa, their radiometric age, evolutionary characteristics, depositional environment, and other important scientific research questions. Vertebrate fossils are almost always significant because they occur more rarely than invertebrates or plants. Thus, geologic units having the potential to contain vertebrate fossils are considered the most sensitive.

3.2 Resource Assessment Criteria

In its Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources, the SVP outlines guidelines for categorizing paleontological sensitivity of geologic units within a project site. The SVP describes sedimentary rock units as having a high, low, undetermined, or no potential for containing significant nonrenewable paleontological resources. This criterion is based on rock units within which vertebrates or significant invertebrate fossils have been determined by previous studies to be present or likely to be present. Significant paleontological resources are fossils or assemblages of fossils that are unique, unusual, rare, or uncommon diagnostically, stratigraphically, taxonomically, or regionally (SVP 2010). The paleontological sensitivity of the project site has been evaluated according to the following SVP (2010) categories:

- **High Potential (Sensitivity).** Rock units from which significant vertebrate or significant invertebrate fossils or significant suites of plant fossils have been recovered are considered to have a high potential for containing significant nonrenewable fossiliferous resources. These units include, but are not limited to, sedimentary formations and some volcanic formations that contain significant nonrenewable paleontological resources anywhere within their geographical extent and sedimentary rock units temporally or lithologically suitable for the preservation of

fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas that contain potentially datable organic remains older than recent, including deposits associated with nests or middens, and areas that may contain new vertebrate deposits, traces, or trackways are also classified as significant. Full-time monitoring is typically recommended during any project-related ground disturbance in geologic units with high sensitivity.

- **Low Potential (Sensitivity).** Sedimentary rock units that are potentially fossiliferous but have not yielded fossils in the past or contain common and/or widespread invertebrate fossils of well-documented and understood taphonomic processes (those affecting an organism following death, burial, and removal from the ground), phylogenetic species (evolutionary relationships among organisms), and habitat ecology. Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potential for yielding significant fossils prior to the start of construction. Generally, these units will be poorly represented by specimens in institutional collections and will not require protection or salvage operations.
- **Undetermined Potential (Sensitivity).** Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials. Field surveys by a qualified vertebrate paleontologist to specifically determine the potential of the rock units are required before programs of impact mitigation for such areas may be developed.
- **No Potential.** Rock units of metamorphic or igneous origin are commonly classified as having no potential for containing significant paleontological resources.

4 Methods

Rincon reviewed published geologic maps to identify the geologic units present at and below the surface within the project site (Clahan 2003). Rincon reviewed primary scientific literature to identify known fossil localities in Ventura County and surrounding regions from similar geologic units to those identified within the project site. Rincon requested a records search of the Natural History Museum of Los Angeles County (NHMLA) on June 11, 2023, to identify any fossil localities known from within the project site or nearby fossil localities known from the same geologic units as those underlying the project site. The study area contains no bedrock exposures; therefore, a field survey was not warranted.

Paleontological sensitivity ratings of the geological formations were assigned based on the findings of the records search and literature review and based on the potential effects to nonrenewable paleontological resources from project construction following SVP (2010) guidelines.

5 Description of Resources

5.1 Geologic Setting

The project site is located in the Transverse Ranges geomorphic province, one of the 11 geomorphic provinces of California (California Geological Survey 2002). The Transverse Ranges extend approximately 275 miles west-east from Point Arguello in Santa Barbara County, east to the San Bernardino Mountains, and south to the Anacapa-Santa Monica-Hollywood-Raymond-Cucamonga fault zone (Yerkes and Campbell 2005). The Transverse Ranges are composed of Proterozoic to Mesozoic intrusive crystalline igneous and metamorphic rocks overlain by Cenozoic marine and terrestrial sedimentary deposits and volcanic rock (Norris and Webb 1976).

More locally, the project site is located on the Oxnard Plain, approximately 2.75 miles southeast of the Santa Clara River and 4 miles east of the Pacific Ocean (Figure 1). The project site is within the *Oxnard* United States Geological Survey 7.5-minute quadrangle.

5.2 Paleontology of the Project Site

A formal fossil locality search of the NHMLA identified no fossil localities within the project site (Bell 2023). The nearest known fossil localities to the project site occur approximately 5.2 miles northwest of the project site in Ventura, California.

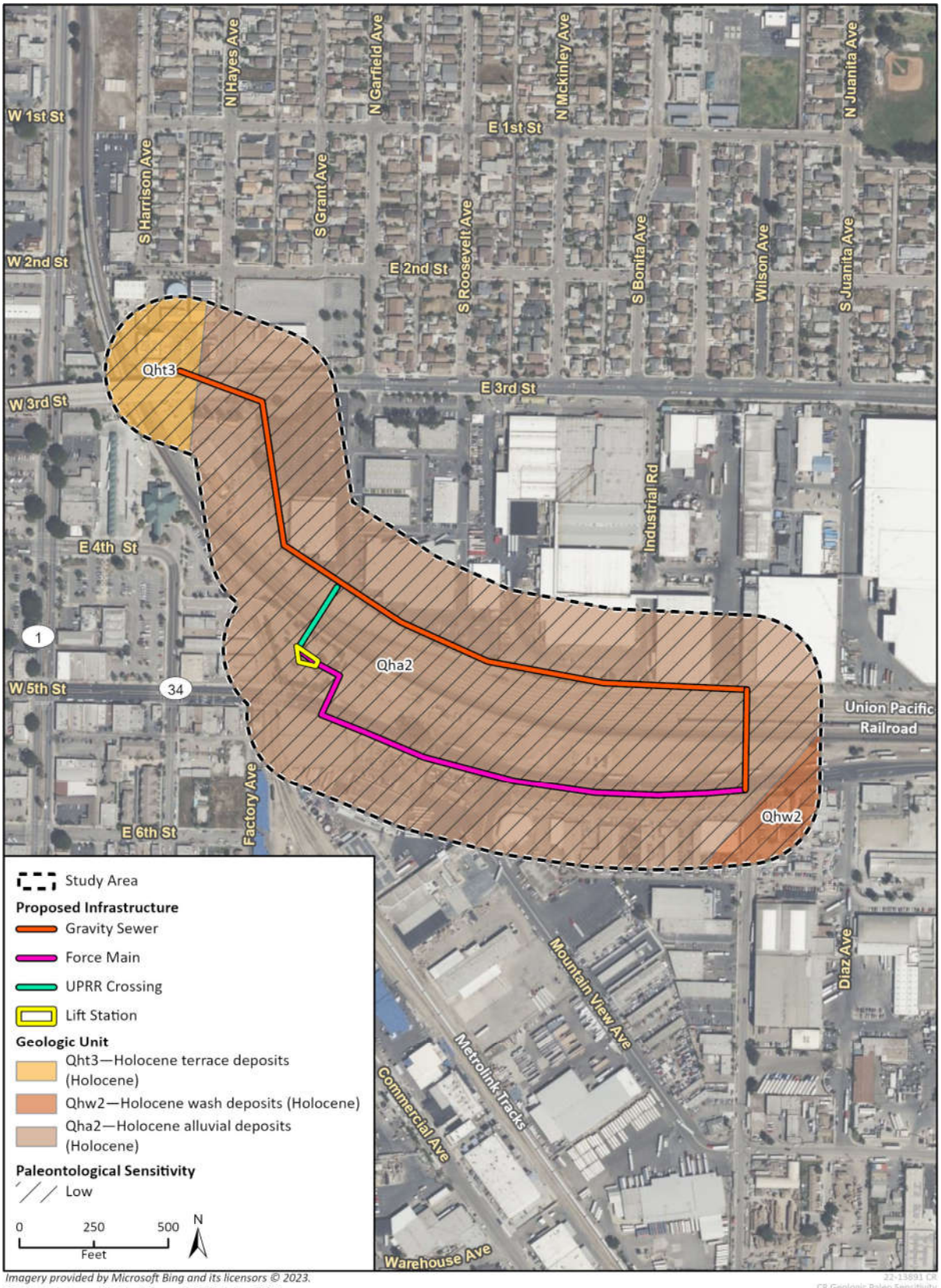
5.3 Geology of the Project Site

The geology of the region around the project site was mapped by Clahan (2003) who identified two geologic units underlying the project site, Holocene terrace deposits and Holocene alluvial deposits (Figure 4). A third geologic unit, Holocene wash deposits, does not directly underlie the project site, but is found within the 250-foot buffer zone that constituted the study area for this report. It is possible Holocene wash deposits could be impacted by project construction due to inaccuracies in the geologic map or geological variation beneath the surface. Therefore, the paleontological sensitivity of Holocene wash deposits is assessed below.

Holocene terrace deposits underlie the western end of the study area (Figure 4). Holocene terrace deposits consist of unconsolidated clayey sand and sandy clay with occasional gravel beds that were deposited as overbank or point bar deposits of a now-abandoned stream channel (Clahan 2003). Holocene-aged sediments are generally considered too young (i.e., less than 5,000 years old) to preserve paleontological resources (SVP 2010). Therefore, Holocene terrace deposits have low paleontological sensitivity.

Holocene wash deposits are found east of the project site, but due to their proximity, may directly underlie the project site below the surface (Figure 4). Holocene wash deposits consist of unconsolidated silt, sand, and gravel, that were deposited within the main channel of a now-abandoned stream (Clahan 2003). Holocene-aged sediments are generally considered too young (i.e., less than 5,000 years old) to preserve paleontological resources (SVP 2010). Therefore, Holocene wash deposits have low paleontological sensitivity.

Figure 4 Geologic Map and Paleontological Sensitivity of the Project Site



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Geologic data provided by "Oxnard 7.5," Calahan 2003.

22-13891 CR
CR Geologic Paleo Sensitivity

Holocene alluvial deposits underlie the majority of the project site (Figure 4). Holocene alluvial deposits consist of unconsolidated, poorly sorted clayey sand with some gravel that features scour and incised channel features. These deposits represent Holocene-aged overbanks deposits of an abandoned channel (Clahan 2003). Holocene-aged sediments are generally considered too young (i.e., less than 5,000 years old) to preserve paleontological resources (SVP 2010). Therefore, Holocene alluvial deposits have low paleontological sensitivity.

At some depth in the subsurface, Holocene-aged sediments typically become old enough (i.e., 5,000 years old) to preserve paleontological resources. Early Holocene and Pleistocene alluvial sediments have produced scientifically significant paleontological resources throughout Ventura County (Bell 2023; Jefferson 2010; Paleobiology Database 2023) and are considered to have high paleontological sensitivity. It is difficult to know at what depth this transition occurs. The nearest known paleontological localities to the project site are much nearer to areas of high topographic relief (i.e., Topa Topa Mountains; Bell 2023). Therefore, the sediment age-depth relationship of these localities likely differs significantly from the area of the project site, meaning that they cannot be used as a proxy for the project site. Additional studies that could be used to infer sedimentation rate on the Oxnard Plain focus on the Santa Clara River estuary (Zurbuchen et al. 2020) or occur near the Santa Monica Mountains (Delaney-Rivera and Wlodarski 2010), both of which differ from the broad, alluvial plain within and around the project site (Clahan 2003). Due to these different geographic conditions, these studies are not adequate for understanding the sedimentation rate in the project site. Therefore, the depth at which sediments transition to high sensitivity is unknown.

6 Evaluation, Impacts, and Recommendations

6.1 Paleontological Sensitivity Evaluation

The project site is underlain by two geologic units with low paleontological sensitivity: Holocene terrace deposits and Holocene alluvial deposits (Figure 4). A third geologic unit, Holocene wash deposits, may also be impacted by project construction due to potential mapping inaccuracies and uncertainty in sediment distribution in the subsurface. Holocene wash deposits also have low paleontological sensitivity. At an unknown depth in the subsurface, older alluvial sediments with high paleontological sensitivity underlie the project site.

6.2 Impacts

Ground-disturbing activities (i.e., grading, excavating, trenching) would result in significant impacts to paleontological resources under CEQA or adverse effects to paleontological resources under federal environmental protection laws if they impact previously undisturbed sediments assigned high paleontological sensitivity. Such sediments do not exist at the surface within the project site; however, they may exist beneath the surface. If construction activities result in the destruction, damage, or loss of scientifically important paleontological resources and associated stratigraphic and paleontological data, they would be considered as having a significant impact or adverse effect on paleontological resources.

Ground-disturbing construction activities for the project are anticipated to consist of excavations for the gravity sewer, sewer pipeline, and lift station, totaling 4,177 CY of sediment. The gravity sewer would be installed via open trenching and would be placed along the same alignment as the existing CTS alignment (Figure 3). Therefore, excavations for the gravity sewer would only impact pre-disturbed sediments, which have no paleontological sensitivity. The sewer pipeline would be installed using open trenching and trenchless (i.e., jack and bore) methods. Excavations for open trenching are anticipated to reach up to 10 feet below current grade. Excavations for the jacking and receiving pits for trenchless installation are anticipated to reach approximately 12 feet below the existing grade. The 36-inch-diameter casing for the trenchless installation would be bored horizontally at a maximum depth of 10 feet. Excavations for the lift station are anticipated to reach up to 30 feet below the current grade.

Excavations for the gravity sewer would only impact previously disturbed sediments, and thus, are not anticipated to significantly impact/adversely affect paleontological resources. Excavations for the sewer pipeline (open-trench and trenchless techniques) and the lift station are expected to impact undisturbed sediments, and thus, may pose a risk to paleontological resources. The project site is developed for urban uses (e.g., roads, railroads, industrial), so disturbed and/or artificial fill sediments, which have no paleontological sensitivity, likely underlie the project site to a certain depth. The oldest available topographic maps, from 1904, show the Southern Pacific Railroad (now UPRR), which runs through the project site, already constructed, offering no information regarding whether the overall grade of the area has been changed significantly from its natural level (United States Geological Survey 2023).

The depth at which sediments underlying the project site become highly paleontologically sensitive is unknown, but such sediments likely exist beneath a layer of non-sensitive disturbed/artificial fill sediments and a layer of low-sensitivity young (i.e., 5,000 years old or less) sediments due to the urban development of the site and geologic mapping (Figure 2; Clahan 2003). Therefore, the majority of ground-disturbing activities associated with the project would impact previously disturbed/artificial fill and/or low-sensitivity sediments. High-sensitivity sediments would only be impacted if excavations extend beneath the previously disturbed/artificial fill and low-sensitivity layers. Given the possibility of impacting high-sensitivity sediments, there is potential for excavations for the sewer pipeline and lift station to significantly impact/adversely affect paleontological resources, but these impacts/effects would be reduced to less than significant/non-adverse with mitigation.

6.3 Recommendations

The following mitigation measure would address the potentially significant impacts/adverse effects to paleontological resources during project implementation and ground-disturbing activities. These measures would apply to all phases of project construction and would ensure that any significant fossils on site are preserved. Implementation of Mitigation Measures PAL-1 and PAL-2 would reduce potential impacts to paleontological resources to a less-than-significant level and would effectively mitigate the project's impacts to these resources through the recovery, identification, and curation of previously unrecovered fossils.

PAL-1 Worker Environmental Awareness Program

Prior to the start of construction, a Qualified Professional Paleontologist, as defined by SVP (2010), or their designee shall conduct a paleontological Worker Environmental Awareness Program training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction personnel. Construction personnel new to the project site shall also complete the Worker Environmental Awareness Program training prior to beginning work at the site.

PAL-2 Unanticipated Fossil Discovery

If a potential fossil is discovered during project construction, construction activity within 50 feet of the find shall cease until the discovery is examined by a Qualified Professional Paleontologist. If the find is determined to be significant, the Qualified Professional Paleontologist shall direct all mitigation measures related to paleontological resources consistent with the SVP (2010) standards. A standard inadvertent discovery clause shall be included in every construction contract to inform contractors of this requirement.

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8 List of Preparers

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Appendix E

Noise Measurement and Modeling Results

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 07/19/2023
Case Description: Jack and Bore

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Jack and Bore	Residential	65.0	55.0	50.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85.0		50.0	0.0
Dozer	No	40		81.7	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Grader	85.0	81.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	85.0	83.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Lift Station Prep	Commercial	65.0	55.0	50.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85.0		50.0	0.0
Dozer	No	40		81.7	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Night	Day	Calculated (dBA)		Evening		Night		Day		Evening		Night	
Equipment		Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader		85.0	81.0			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		81.7	77.7			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		77.6	73.6			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	85.0	83.2			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 07/19/2023
Case Description: Lift Station Construction/Electrical

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Lift Station Construction/Electrical	Residential	65.0	55.0	50.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Man Lift	No	20		74.7	50.0	0.0
Generator	No	50		80.6	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0
Welder / Torch	No	40		74.0	50.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Calculated (dBA) Day Evening Night

Equipment	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	80.6	77.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	74.0	70.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	80.6	79.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 07/19/2023
Case Description: Open Cut Excavation

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Open Cut Excavation	Residential	65.0	55.0	50.0

Description	Impact Device	Usage (%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84.0		50.0	0.0
Excavator	No	40		80.7	50.0	0.0
Excavator	No	40		80.7	50.0	0.0
Excavator	No	40		80.7	50.0	0.0
Grader	No	40	85.0		50.0	0.0
Roller	No	20		80.0	50.0	0.0
Roller	No	20		80.0	50.0	0.0
Dozer	No	40		81.7	50.0	0.0
Scraper	No	40		83.6	50.0	0.0
Scraper	No	40		83.6	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Tractor	84.0	80.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

N/A	N/A	N/A	N/A	N/A	N/A	N/A				
Excavator			80.7	76.7	N/A	N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	N/A	N/A	N/A				
Excavator			80.7	76.7	N/A	N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	N/A	N/A	N/A				
Grader			85.0	81.0	N/A	N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	N/A	N/A	N/A				
Roller			80.0	73.0	N/A	N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	N/A	N/A	N/A				
Roller			80.0	73.0	N/A	N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	N/A	N/A	N/A				
Dozer			81.7	77.7	N/A	N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	N/A	N/A	N/A				
Scraper			83.6	79.6	N/A	N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	N/A	N/A	N/A				
Scraper			83.6	79.6	N/A	N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	N/A	N/A	N/A				
Backhoe			77.6	73.6	N/A	N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	N/A	N/A	N/A				
Backhoe			77.6	73.6	N/A	N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	N/A	N/A	N/A				
		Total	85.0	88.4	N/A	N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	N/A	N/A	N/A				

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 07/19/2023
Case Description: Open Cut Trenching

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Open Cut Trenching	Residential	65.0	55.0	50.0

Description	Impact Device	Usage (%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84.0		50.0	0.0
Excavator	No	40		80.7	50.0	0.0
Excavator	No	40		80.7	50.0	0.0
Excavator	No	40		80.7	50.0	0.0
Grader	No	40	85.0		50.0	0.0
Roller	No	20		80.0	50.0	0.0
Roller	No	20		80.0	50.0	0.0
Dozer	No	40		81.7	50.0	0.0
Scraper	No	40		83.6	50.0	0.0
Scraper	No	40		83.6	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Tractor	84.0	80.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Excavator			80.7	76.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator			80.7	76.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader			85.0	81.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller			80.0	73.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller			80.0	73.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer			81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper			83.6	79.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper			83.6	79.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe			77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		Total	85.0	88.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Construction Noise

Phase 1	Noise Level @ 50 ft	Multi-Family Residential Area to W	Single-Family Residential Area to N	Vista Real Charter High School	Iglesia Para Las Naciones Church
Distance		440	960	1,250	1,030
Jack & Bore	83	64.110	57.334	55.041	56.723
Lift Station Prep	83	64.110	57.334	55.041	56.723
Phase 2	**Noise Level @ 50 ft**	**Residential Area to W**	**Single-Family Residential Area to W**	**Vista Real Charter High School**	**Iglesia Para Las Naciones Church**
Distance		1,150	430	1,220	600
Open Cut Excavations	88	60.765	69.310	60.252	66.416
Open Cut Trenching	88	60.765	69.310	60.252	66.416

Construction Vibration

1	Vibration @ 25 ft	Multi-Family Residential Area to W	Single-Family Residential Area to W	Vista Real Charter High School	Iglesia Para Las Naciones Church	Oxnard City Water Services building
		140	960	1,250	1875	35
Vibratory Roller	0.21	0.016	0.001	0.001	0.000	0.127
Large Bulldozer	0.089	0.007	0.000	0.000	0.000	0.054
Loaded Trucks	0.076	0.006	0.000	0.000	0.000	0.046
Small Bulldozer	0.003	0.000	0.000	0.000	0.000	0.002
2	**Vibration @ 25 ft**					
		25	50	100	150	75
Vibratory Roller	0.21	0.210	0.074	0.026	0.014	0.040
Large Bulldozer	0.089	0.089	0.031	0.011	0.006	0.017
Loaded Trucks	0.076	0.076	0.027	0.010	0.005	0.015
Small Bulldozer	0.003	0.003	0.001	0.000	0.000	0.001

Rincon Consultants, Inc.
Environmental Scientists Planners Engineers
www.rinconconsultants.com

Ambient Noise Survey Data Sheet

Instructions: Document noise measurement locations with a photo of the site, including the noise meter. Additionally, take notes on general and secondary noise sources, including the instantaneous noise level if possible. As a reminder, A/C weighting should be set to "A" and generally response time should be set to "fast." For additional information, please review the *Noise Measurement Protocol* in the pelican case.

Project Name: Oxnard Central Trunk Sewer Project **Job Number:** 22-13891

Date: 6/8/23 **Operator Name:** Jesse McCandless

Measurement #1

Location: Hayes Ave & Third Street **Begin time:** 11:20AM **Finish time:** 11:35AM

Measurement No.: ST-1 **Wind (mph):** 2 **Direction:** W

Cloud Cover Class: Overcast (>80%) ○ Light (20-80%) ◉ Sunny (<20%) ○

Calibration (dB): Start: 94.6 End: 94.5

Primary Noise Sources: Traffic on Third Street **Distance:** ~85 feet

Secondary Noise Sources:

Notes: No activity on Hayes Ave

Traffic Count: Passenger Cars: 98

Medium to Heavy Duty Trucks (3 axles): 1 Heavy Duty Trucks (4+ axles): 0

Instantaneous Noise Sources/Levels (e.g., airplane, bus airbrake, etc.):

Leq: 61.5 **SEL:** 91.0 **Lmax:** 74.3 **Lmin:** 46.3 **PK:** 88.2

L(05): 65.7 **L(10):** 64.5 **L(50):** 59.6 **L(90):** 51.2 **L(95):** 49.1

Response: Slow ◉ Fast ○ Peak ○ Impulse ○

Measurement #2

Location: Fifth St & Richmond Ave **Begin time:** 10:53AM **Finish time:** 11:08AM

Measurement No.: ST-2 **Wind (mph):** 4 **Direction:** W

Cloud Cover Class: Overcast (>80%) ◉ Light (20-80%) ○ Sunny (<20%) ○

Calibration (dB): Start: 94.6 End: 94.6

Primary Noise Sources: Traffic on Fifth Street **Distance:** ~100 feet

Secondary Noise Sources: Line of cars northbound waiting to turn on E. Fifth Service Street

Notes: Idling cars in line near meter approximately 15-20 feet away.

Traffic Count: Passenger Cars: 118

Medium to Heavy Duty Trucks (3 axles): 5 Heavy Duty Trucks (4+ axles): 2

Instantaneous Noise Sources/Levels (e.g., airplane, bus airbrake, etc.):

Leq: 65.4 **SEL:** 94.9 **Lmax:** 85.7 **Lmin:** 54.8 **PK:** 98.7

L(05): 68.1 **L(10):** 66.9 **L(50):** 61.6 **L(90):** 58.2 **L(95):** 56.9

Response: Slow ◉ Fast ○ Peak ○ Impulse ○

- Freq Weight : A
- Time Weight : SLOW
- Level Range : 40-100
- Max dB : 74.3 - 2023/06/08 11:26:15
- Level Range : 40-100
- SEL : 91.0
- Leq : 61.5
-

No.s	Date Time	(dB)				
1	2023/06/08 11:20:01	55.8	50.4	52.2	48.1	50.3
6	2023/06/08 11:20:16	53.7	61.7	64.2	66.3	67.4
11	2023/06/08 11:20:31	63.1	62.4	64.0	63.9	59.4
16	2023/06/08 11:20:46	60.7	61.5	59.7	61.3	62.8
21	2023/06/08 11:21:01	61.0	57.5	55.5	60.0	63.9
26	2023/06/08 11:21:16	61.9	58.2	53.5	54.6	59.5
31	2023/06/08 11:21:31	63.4	66.9	59.2	62.5	63.0
36	2023/06/08 11:21:46	61.4	57.5	58.4	55.4	55.8
41	2023/06/08 11:22:01	54.9	56.2	62.3	66.3	67.0
46	2023/06/08 11:22:16	63.9	61.6	58.7	61.3	63.6
51	2023/06/08 11:22:31	61.2	60.5	59.0	58.2	62.2
56	2023/06/08 11:22:46	62.8	55.0	58.5	62.8	62.0
61	2023/06/08 11:23:01	54.3	62.5	64.8	62.8	64.3
66	2023/06/08 11:23:16	63.2	64.8	64.4	64.5	63.8
71	2023/06/08 11:23:31	61.0	66.9	64.7	61.7	60.2
76	2023/06/08 11:23:46	58.3	58.2	61.9	60.4	52.3
81	2023/06/08 11:24:01	56.3	60.4	61.3	60.2	62.9
86	2023/06/08 11:24:16	65.2	66.2	60.4	58.2	57.7
91	2023/06/08 11:24:31	57.4	56.7	53.6	53.7	51.5
96	2023/06/08 11:24:46	58.2	58.6	60.7	64.3	65.7
101	2023/06/08 11:25:01	60.3	56.6	53.7	53.8	55.3
106	2023/06/08 11:25:16	56.5	60.4	60.2	62.1	60.5
111	2023/06/08 11:25:31	55.8	62.4	64.1	64.4	64.5
116	2023/06/08 11:25:46	64.4	62.9	60.1	62.7	59.0
121	2023/06/08 11:26:01	56.1	56.2	60.6	64.7	74.0
126	2023/06/08 11:26:16	71.1	66.1	60.0	55.7	58.1
131	2023/06/08 11:26:31	61.2	62.8	60.1	58.8	61.6
136	2023/06/08 11:26:46	65.6	65.9	66.4	66.9	63.3
141	2023/06/08 11:27:01	60.2	58.9	58.5	58.7	65.8
146	2023/06/08 11:27:16	72.2	70.1	68.6	65.1	63.4
151	2023/06/08 11:27:31	62.3	60.9	60.1	53.0	48.7
156	2023/06/08 11:27:46	50.9	56.5	60.2	60.2	59.2
161	2023/06/08 11:28:01	58.5	57.6	61.3	62.5	60.2
166	2023/06/08 11:28:16	57.0	53.4	53.6	52.3	49.6
171	2023/06/08 11:28:31	49.3	49.9	53.0	55.1	56.0
176	2023/06/08 11:28:46	62.3	64.5	62.3	55.9	52.0
181	2023/06/08 11:29:01	55.6	55.1	53.5	50.7	49.7
186	2023/06/08 11:29:16	47.7	46.4	48.4	50.6	53.8
191	2023/06/08 11:29:31	57.8	61.0	52.9	53.9	59.4
196	2023/06/08 11:29:46	62.2	59.3	61.0	61.3	59.3
201	2023/06/08 11:30:01	57.8	56.7	55.2	55.5	57.2
206	2023/06/08 11:30:16	57.4	52.4	53.8	56.0	55.3
211	2023/06/08 11:30:31	51.0	57.6	58.0	58.9	60.5
216	2023/06/08 11:30:46	58.5	59.2	61.6	58.9	55.3
221	2023/06/08 11:31:01	51.1	53.2	55.0	53.6	50.9
226	2023/06/08 11:31:16	48.8	47.6	46.9	48.8	58.7
231	2023/06/08 11:31:31	56.7	53.5	50.6	47.9	50.0
236	2023/06/08 11:31:46	52.3	59.6	62.1	64.4	63.4
241	2023/06/08 11:32:01	63.6	63.0	61.2	60.8	60.4
246	2023/06/08 11:32:16	60.0	58.7	55.5	57.5	63.6
251	2023/06/08 11:32:31	66.6	66.4	62.9	59.2	54.4
256	2023/06/08 11:32:46	52.4	54.8	60.4	59.9	61.1
261	2023/06/08 11:33:01	60.4	57.6	60.2	61.7	58.9
266	2023/06/08 11:33:16	61.5	53.8	47.4	46.9	52.0
271	2023/06/08 11:33:31	60.6	60.9	62.6	61.4	61.9
276	2023/06/08 11:33:46	60.8	64.7	65.5	62.9	62.2
281	2023/06/08 11:34:01	61.6	62.9	62.9	58.2	53.8
286	2023/06/08 11:34:16	54.2	60.0	63.7	62.7	60.8
291	2023/06/08 11:34:31	63.8	61.3	59.0	57.7	58.5
296	2023/06/08 11:34:46	59.3	58.4	53.0	50.8	50.6

- Freq Weight : A
- Time Weight : SLOW
- Level Range : 40-100
- Max dB : 85.7 - 2023/06/08 10:58:00
- Level Range : 40-100
- SEL : 94.9
- Leq : 65.4
-

No.s	Date Time	(dB)				
1	2023/06/08 10:53:27	62.9	61.9	68.1	64.5	61.2
6	2023/06/08 10:53:42	61.6	62.6	59.5	60.4	66.9
11	2023/06/08 10:53:57	62.7	60.2	63.2	60.7	59.2
16	2023/06/08 10:54:12	61.0	68.7	67.0	65.6	61.7
21	2023/06/08 10:54:27	62.6	67.6	63.7	60.5	66.0
26	2023/06/08 10:54:42	64.5	65.5	64.0	64.0	67.0
31	2023/06/08 10:54:57	64.9	61.8	62.8	60.5	68.5
36	2023/06/08 10:55:12	64.5	66.4	65.6	64.1	64.8
41	2023/06/08 10:55:27	69.0	64.0	60.0	58.8	59.4
46	2023/06/08 10:55:42	60.8	59.1	58.1	63.2	61.6
51	2023/06/08 10:55:57	63.9	69.1	64.1	62.7	61.2
56	2023/06/08 10:56:12	60.6	57.7	59.0	63.2	61.5
61	2023/06/08 10:56:27	60.1	65.5	72.4	70.0	67.2
66	2023/06/08 10:56:42	62.1	58.8	58.6	59.7	62.3
71	2023/06/08 10:56:57	65.5	61.3	63.2	62.6	64.5
76	2023/06/08 10:57:12	66.1	61.2	61.5	63.9	60.0
81	2023/06/08 10:57:27	57.1	56.0	64.2	59.8	57.6
86	2023/06/08 10:57:42	58.9	62.6	63.6	68.1	72.3
91	2023/06/08 10:57:57	80.9	81.6	71.7	64.8	59.5
96	2023/06/08 10:58:12	61.0	62.8	57.9	57.0	58.1
101	2023/06/08 10:58:27	60.8	61.9	67.0	66.0	69.2
106	2023/06/08 10:58:42	67.8	63.6	61.2	59.4	58.1
111	2023/06/08 10:58:57	60.8	61.4	61.8	62.6	63.6
116	2023/06/08 10:59:12	65.4	66.7	67.5	68.1	67.9
121	2023/06/08 10:59:27	63.4	60.7	60.5	62.9	58.8
126	2023/06/08 10:59:42	60.7	58.0	62.7	58.8	59.1
131	2023/06/08 10:59:57	60.1	61.2	64.1	60.2	59.7
136	2023/06/08 11:00:12	55.8	60.7	61.3	60.7	62.9
141	2023/06/08 11:00:27	64.8	60.5	67.2	63.4	63.7
146	2023/06/08 11:00:42	57.9	56.1	55.8	56.9	59.6
151	2023/06/08 11:00:57	59.8	62.0	57.9	57.2	56.5
156	2023/06/08 11:01:12	60.9	56.2	61.6	62.4	62.3
161	2023/06/08 11:01:27	57.2	58.3	57.3	56.9	56.8
166	2023/06/08 11:01:42	55.7	59.5	58.0	65.4	66.3
171	2023/06/08 11:01:57	62.2	63.2	66.3	65.2	66.8
176	2023/06/08 11:02:12	66.5	65.4	65.6	68.1	66.8
181	2023/06/08 11:02:27	67.9	73.5	74.7	68.9	67.6
186	2023/06/08 11:02:42	67.6	64.3	61.0	60.3	59.5
191	2023/06/08 11:02:57	60.2	62.7	60.7	64.4	69.4
196	2023/06/08 11:03:12	62.7	59.8	59.4	62.8	59.3
201	2023/06/08 11:03:27	60.4	59.4	59.1	62.4	59.6
206	2023/06/08 11:03:42	61.4	63.0	59.6	59.6	64.5
211	2023/06/08 11:03:57	65.1	68.6	65.9	62.9	60.1
216	2023/06/08 11:04:12	62.4	62.4	65.2	61.0	60.6
221	2023/06/08 11:04:27	61.3	61.0	61.5	59.7	62.9
226	2023/06/08 11:04:42	60.8	60.9	62.8	61.9	60.5
231	2023/06/08 11:04:57	61.6	60.7	58.9	58.7	58.7
236	2023/06/08 11:05:12	58.5	59.7	59.6	59.0	58.8
241	2023/06/08 11:05:27	58.6	58.9	59.1	59.3	61.8
246	2023/06/08 11:05:42	60.0	60.4	60.6	59.6	61.3
251	2023/06/08 11:05:57	62.9	63.8	59.3	58.6	59.4
256	2023/06/08 11:06:12	63.0	63.7	59.5	61.9	68.4
261	2023/06/08 11:06:27	64.5	64.7	60.3	62.1	65.4
266	2023/06/08 11:06:42	60.6	59.3	62.0	66.8	64.4
271	2023/06/08 11:06:57	64.6	63.6	61.8	61.2	62.2
276	2023/06/08 11:07:12	61.7	61.2	61.6	59.1	61.9
281	2023/06/08 11:07:27	59.4	59.6	60.8	61.9	62.4
286	2023/06/08 11:07:42	58.3	58.1	61.2	63.2	64.1
291	2023/06/08 11:07:57	59.7	56.2	55.7	57.1	60.5
296	2023/06/08 11:08:12	58.2	60.5	59.7	59.8	64.7

Appendix F

Federal Clean Air Act Conformity Analysis

Rincon Consultants, Inc.
180 North Ashwood Avenue
Ventura, California 93003
805-644-4455

October 23, 2023
Project No: 22-13891

Jorge Espinoza, Project Manager
Public Works Department, Capital Projects Management
6001 Perkins Road
Oxnard, California 93033
Via email: jorge.espinoza@oxnard.org

Subject: City of Oxnard Central Trunk Rail Yard Crossing and Lift Station Project Federal Clean Air Act General Conformity Applicability Analysis, Ventura County, California

Dear Mr. Espinoza:

On behalf of the City of Oxnard (City), Rincon Consultants, Inc. has prepared this Federal Clean Air Act (FCAA) General Conformity Applicability Analysis for the Central Trunk Rail Yard Crossing and Lift Station Project (proposed action or project). The City may pursue federal funding opportunities for the proposed action. The FCAA requires any federal agency taking an action, including funding an action, must make a determination that its action would not conflict with a State Implementation Plan (SIP). As part of the implementation of the FCAA, the United States Environmental Protection Agency (USEPA) has developed rules for transportation projects and non-transportation projects. The rule applicable to the proposed action is referred to as the "General Conformity Rule." Therefore, the purpose of this letter is to evaluate the proposed action's conformity to the applicable SIP and consistency with the FCAA General Conformity Rule.

Description of Proposed Action

The City owns and maintains the Central Trunk Sewer (CTS), a sewer main which conveys wastewater to the Oxnard Wastewater Treatment Plant. In January 2017, a casing of the CTS underneath the Union Pacific Railroad (UPRR) tracks collapsed due to corrosion and lost structural integrity. The collapsed portion of the CTS is no longer in compliance with UPRR design standards, and the City intends to replace this portion to comply with these standards and fully restore the functionality of the CTS. The project would involve installation and operation of a new force main sewer pipeline, a new gravity sewer, and a new sewer lift station, as well as the cured in place pipeline relining repair of an existing 18-inch sewer and abandonment of the collapsed portion of the CTS. The total wastewater treatment capacity under the proposed action would not be increased as compared to the existing capacity of the City's wastewater treatment system (i.e., no net increase in wastewater treatment capacity).

Construction

Project construction would occur over approximately one year and is anticipated to occur from October 2024 to October 2025. Table 1 shows project construction phases, their estimated duration, and the surface area disturbed under each construction phase.

Table 1 Project Construction Schedule

Construction Phase	Estimated Duration (working days)	Disturbed Surface Area (square feet)
Open Cut Excavation of Gravity Sewer North of UPRR	70	22,700
Jack and Bore Under UPRR tracks	20	350
Open Cut Excavation from E. 5th Street to Richmond Avenue	70	20,200
Lift Station Site Preparation and Grading	20	2,525
Lift Station Construction	180	0
Electrical, Instrumentation, and Controls	20	0
Paving and Ground Restoration	20	0
Total	**400**	**45,775**

Approximately 4,177 cubic yards (CY) of soil would be excavated during construction of the new sewer pipeline, gravity sewer, and lift station. Following pipeline installation, approximately 1,932 CY of excavated soil and approximately 1,492 CY of imported soil would be used as fill. Approximately 2,085 CY of soil would be exported off site and disposed of. The project would disturb a surface area of approximately 45,775 square feet, or 1.1 acres.

Operation

Upon completion of construction, the project would not require new operations and maintenance activities beyond existing City sewer operations. Approximately one maintenance trip per month would be required.

Existing Conditions

The project site is located in the South Central Coast Air Basin (SCCAB), which includes Ventura County, Santa Barbara County, and San Luis Obispo County. The Ventura County Air Pollution Control District (VCAPCD) is responsible for local control and monitoring of criteria pollutants within the Ventura County portion of the SCCAB. Ventura County is designated serious nonattainment for the eight-hour National Ambient Air Quality Standard (NAAQS) for ozone.

Regulatory Framework

Section 176(c) of the FCAA, as amended (42 United States Code [U.S.C.] 7401 et seq.) prohibits federal agencies from engaging in, supporting, providing financial assistance to, or issuing permits for activities, which do not conform to an applicable SIP. As codified in Title 40 Code of Federal Regulations (CFR) Part 51 Subpart W and 40 CFR Part 93 Subpart B: General Conformity, the FCAA requires federal agencies to ensure that actions taken by those agencies conform to the applicable SIP. The FCAA applies only to direct and/or indirect emissions caused by the actions that occur in areas designated as nonattainment or maintenance areas with respect to NAAQS. These regulations require an applicability analysis to determine whether the federal action must be supported by a conformity determination. Under the General Conformity Rule, the FCAA applicability analysis is established for federal actions performed in locations with a history of non-compliance, as described below:

a. An area that is in nonattainment (i.e., has recorded violations of the NAAQS) for each criteria pollutant (such as ozone, carbon monoxide, and particulate matter) for which the area is designated nonattainment
b. An area designated as nonattainment that was later re-designated by the Administrator of the USEPA as an attainment area and that is therefore required to develop a maintenance plan under 42 U.S.C. Section 7505a with respect to the specific pollutant(s) for which the area was previously designated nonattainment

The applicability analysis involves calculation of the total emissions of criteria or precursor pollutants during the years of construction and operation of the proposed action. A conformity determination must be made if the annual emissions exceed the rates specified in 40 CFR Part 93.153(b), referred to as *de minimis* rates. If the applicable emissions exceed the *de minimis* rates outlined in the General Conformity Rule, then the federal agency would prepare a formal General Conformity Determination for public comment.

Based on the federal attainment status for the SCCAB, Table 2 lists the *de minimis* rates that apply to the Ventura County portion of the SCCAB. These levels apply to annual emissions generated during construction and operation of the proposed action under federal agency control.

VCAPCD Rule 220 – General Conformity

The VCAPCD has adopted the provisions of Part 51, Subpart W, Title 40 of the CFR as part of Rule 220 – General Conformity. The provisions of this regulation apply to any general federal action other than those funded or approved under Title 23 U.S.C. or the Federal Transit Act. For the purpose of this regulation, the "State agency primarily responsible for the applicable implementation plan" as used in Part 51, Subpart W, Title 40 of the CFR shall mean VCAPCD.

Table 2 General Conformity De Minimis Emission Rates for the Ventura County Portion of the South Central Coast Air Basin

Pollutant	Ventura County Federal Attainment Status Designation	De Minimis Emission Rate (tons/year)[1]
Ozone (VOC and NO_X)	Nonattainment - Serious[2]	50
NO_2	Unclassified/Attainment[2]	N/A
CO	Unclassified/Attainment[2]	N/A
PM_{10}	Unclassified/Attainment[2]	N/A
$PM_{2.5}$	Unclassified/Attainment[2]	N/A
SO_2	Unclassified/Attainment[2]	N/A
Lead	Unclassified/Attainment[2]	N/A

N/A: not applicable (Ventura County is not a designated nonattainment or maintenance area for these pollutants); VOC: volatile organic compounds; NO_x: nitrogen oxides; NO_2: nitrogen dioxide; CO: carbon monoxide; PM_{10}: particulate matter 10 microns or less in diameter; $PM_{2.5}$: particulate matter 2.5 microns or less in diameter; SO_2: sulfur dioxide

[1] USEPA. 2017. "De Minimis Tables." Last modified: August 4, 2017. https://www.epa.gov/general-conformity/de-minimis-tables (accessed August 2023).
[2] USEPA. 2023. "Nonattainment Areas for Criteria Pollutants (Green Book)." Last modified: March 31, 2020. https://www3.epa.gov/airquality/greenbook/anayo_ca.html (accessed August 2023).

Methodology

Air pollutant emissions generated by construction and operation of the proposed action were estimated using the California Emissions Estimator Model (CalEEMod), version 2022.1.17. CalEEMod uses project-specific information, including the project's land uses, construction parameters, and operational characteristics, to model a project's construction and operational emissions. The analysis reflects construction and operation of the proposed action as described under *Description of Proposed Action*. Detailed modeling assumptions and results are provided in Attachment 1.

Construction emissions modeled include emissions generated by construction equipment used on site and emissions generated by vehicle trips associated with construction, such as worker, vendor, and haul trips. CalEEMod estimates construction emissions by multiplying the amount of time equipment is in operation by emission factors. Construction of the proposed action was analyzed based on the construction schedule and construction equipment list provided by the project's engineering and design team. It is assumed all construction equipment would be diesel-powered. Additionally, Mitigation Measure AQ-1, Construction Equipment Emissions (as discussed in Environmental Checklist Section 3, *Air Quality,* of the Initial Study-Mitigated Negative Declaration), is incorporated into the emissions modeled. Mitigation Measure AQ-1 would require heavy-duty, diesel-powered construction equipment greater than four horsepower to be equipped with Tier 4 engines pursuant to the VCAPCD Guidelines.

As discussed under *Description of Proposed Action,* the operation and maintenance needs of the proposed project would be similar to existing conditions prior to collapse of the CTS. The City anticipates one maintenance trip per month would be required. Operational emissions modeled include emissions generated by electricity demands and occasional generator use associated with the proposed lift station. The project would not introduce new wastewater conveyance capacity or staffing needs.

General Conformity Applicability Analysis

The proposed action may receive funding from federal sources; therefore, emissions associated with the proposed action are subject to FCAA requirements under the General Conformity Rule.

Table 3 presents the total annual emissions associated with the proposed action that may be generated during each year of construction and operation. As detailed previously, the Ventura County portion of the SCCAB is designated nonattainment for the ozone NAAQS and attainment for all other NAAQS. Therefore, the *de minimis* rates for VOC and NO_X are applicable to the proposed action. No other *de minimis* rates are applicable to the proposed action.

Table 3 Proposed Action Annual Emissions

Source	Estimated Annual Emissions (tons/year)					
	VOC	NO_X	NO_2[1]	CO	PM_{10}	$PM_{2.5}$
Maximum Annual Construction Emissions	<1	<1	3	<1	<1	<1
Maximum Annual Operational Emissions	<1	<1	<1	<1	<1	<1
De Minimis Emission Rate	50	50	N/A	N/A	N/A	N/A
Exceeds Rates?	No	No	N/A	N/A	N/A	N/A

VOC: volatile organic compounds; NO_X: nitrogen oxides; CO: carbon monoxide; SO_2: sulfur dioxide; PM_{10}: particulate matter 10 microns or less in size; $PM_{2.5}$: particulate matter 2.5 microns or less in size; N/A: not applicable

[1] VOC is equivalent to reactive organic gases (ROG) as calculated by CalEEMod.

Notes: Some totals may not add up due to rounding. Emissions data is sourced from "mitigated" results, which incorporate emissions reductions from measures to be implemented during project construction, such as watering of soils during construction required under VCAPCD Rule 55.

Source: Attachment 1

As indicated in Table 3, the project would not exceed the ozone *de minimis* rates. As such, general conformity requirements do not apply. The project would conform to the SIP and is exempt from a General Conformity Determination under FCAA Section 176. Therefore, the lead agency would be in compliance with the FCAA.

Please feel free to contact us with any questions.

Sincerely,
Rincon Consultants, Inc.



Lucas Carneiro
Environmental Planner



Jennifer Haddow, PhD
Principal Environmental Scientist

Attachments

Attachment 1 Air Quality Modeling

Attachment 1

Air Quality Modeling

Oxnard Central Trunk Sewer V2 Detailed Report

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1.1. Basic Project Information

Data Field	Value
Project Name	Oxnard Central Trunk Sewer V2
Construction Start Date	3/1/2024
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.20
Precipitation (days)	21.2
Location	34.19889440743019, -119.17536250451269
County	Ventura
City	Oxnard
Air District	Ventura County APCD
Air Basin	South Central Coast
TAZ	3435
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.14

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

Road Construction	0.82	Mile	1.00	0.00	0.00	—	—	—
Other Asphalt Surfaces	2.88	1000sqft	0.07	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

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.	4.27	3.59	31.9	32.7	0.06	1.43	2.54	3.19	1.31	1.19	1.79	—	7,305	7,305	0.29	0.13	2.75	7,353
Mit.	1.04	0.98	7.18	39.9	0.06	0.18	2.54	2.58	0.17	1.19	1.23	—	7,305	7,305	0.29	0.13	2.75	7,353
% Reduced	76%	73%	77%	-22%	—	87%	—	19%	87%	—	31%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.26	3.57	31.9	32.5	0.06	1.43	1.76	3.19	1.31	0.26	1.57	—	7,285	7,285	0.29	0.13	0.07	7,331
Mit.	1.04	0.96	7.23	39.7	0.06	0.18	1.76	1.94	0.17	0.26	0.43	—	7,285	7,285	0.29	0.13	0.07	7,331
% Reduced	76%	73%	77%	-22%	—	87%	—	39%	87%	—	72%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	1.65	1.38	12.3	12.6	0.02	0.54	0.76	1.30	0.50	0.20	0.70	—	2,617	2,617	0.11	0.04	0.34	2,631
Mit.	0.35	0.33	2.97	14.6	0.02	0.06	0.76	0.82	0.06	0.20	0.26	—	2,617	2,617	0.11	0.04	0.34	2,631
% Reduced	79%	76%	76%	-16%	—	89%	—	37%	88%	—	63%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.30	0.25	2.24	2.29	< 0.005	0.10	0.14	0.24	0.09	0.04	0.13	—	433	433	0.02	0.01	0.06	436
Mit.	0.06	0.06	0.54	2.66	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	—	433	433	0.02	0.01	0.06	436
% Reduced	79%	76%	76%	-16%	—	89%	—	37%	88%	—	63%	—	—	—	—	—	—	—

2.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.27	3.59	31.9	32.7	0.06	1.43	2.54	3.19	1.31	1.19	1.79	—	7,305	7,305	0.29	0.13	2.75	7,353
2025	1.28	1.07	8.95	10.0	0.02	0.33	0.00	0.33	0.30	0.00	0.30	—	1,801	1,801	0.07	0.01	0.00	1,807
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.26	3.57	31.9	32.5	0.06	1.43	1.76	3.19	1.31	0.26	1.57	—	7,285	7,285	0.29	0.13	0.07	7,331
2025	1.28	1.07	8.95	10.0	0.02	0.33	0.00	0.33	0.30	0.00	0.30	—	1,801	1,801	0.07	0.01	0.00	1,807
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.65	1.38	12.3	12.6	0.02	0.54	0.76	1.30	0.50	0.20	0.70	—	2,617	2,617	0.11	0.04	0.34	2,631
2025	0.25	0.21	1.75	1.96	< 0.005	0.06	0.00	0.06	0.06	0.00	0.06	—	352	352	0.01	< 0.005	0.00	354
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.30	0.25	2.24	2.29	< 0.005	0.10	0.14	0.24	0.09	0.04	0.13	—	433	433	0.02	0.01	0.06	436

2025	0.05	0.04	0.32	0.36	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	—	58.4	58.4	< 0.005	< 0.005	0.00	58.6

2.3. Construction Emissions by Year, Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.04	0.98	7.18	39.9	0.06	0.18	2.54	2.58	0.17	1.19	1.23	—	7,305	7,305	0.29	0.13	2.75	7,353
2025	0.32	0.30	4.34	11.0	0.02	0.06	0.00	0.06	0.06	0.00	0.06	—	1,801	1,801	0.07	0.01	0.00	1,807
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.04	0.96	7.23	39.7	0.06	0.18	1.76	1.94	0.17	0.26	0.43	—	7,285	7,285	0.29	0.13	0.07	7,331
2025	0.32	0.30	4.34	11.0	0.02	0.06	0.00	0.06	0.06	0.00	0.06	—	1,801	1,801	0.07	0.01	0.00	1,807
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.35	0.33	2.97	14.6	0.02	0.06	0.76	0.82	0.06	0.20	0.26	—	2,617	2,617	0.11	0.04	0.34	2,631
2025	0.06	0.06	0.85	2.15	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	—	352	352	0.01	< 0.005	0.00	354
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.06	0.06	0.54	2.66	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	—	433	433	0.02	0.01	0.06	436
2025	0.01	0.01	0.15	0.39	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	—	58.4	58.4	< 0.005	< 0.005	0.00	58.6

2.4. Operations 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.	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.06	0.05	0.15	0.13	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	27.0	27.0	< 0.005	< 0.005	0.00	27.1
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.01	0.03	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	4.47	4.47	< 0.005	< 0.005	0.00	4.49

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Total	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Area	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Total	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.06	0.05	0.15	0.13	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	27.0	27.0	< 0.005	< 0.005	0.00	27.1
Total	0.06	0.05	0.15	0.13	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	27.0	27.0	< 0.005	< 0.005	0.00	27.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.01	0.01	0.03	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	4.47	4.47	< 0.005	< 0.005	0.00	4.49
Total	0.01	0.01	0.03	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	4.47	4.47	< 0.005	< 0.005	0.00	4.49

2.6. Operations Emissions by Sector, Mitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Total	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Total	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Stationar	0.06	0.05	0.15	0.13	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	27.0	27.0	< 0.005	< 0.005	0.00	27.1
Total	0.06	0.05	0.15	0.13	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	27.0	27.0	< 0.005	< 0.005	0.00	27.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.01	0.01	0.03	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	4.47	4.47	< 0.005	< 0.005	0.00	4.49
Total	0.01	0.01	0.03	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	4.47	4.47	< 0.005	< 0.005	0.00	4.49

3. Construction Emissions Details

3.1. Site Preparation (2024) - 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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.70	1.43	13.7	12.9	0.02	0.65	—	0.65	0.59	—	0.59	—	2,064	2,064	0.08	0.02	—	2,071
Dust From Material Movement	—	—	—	—	—	—	2.44	2.44	—	1.17	1.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.71	< 0.005	0.04	—	0.04	0.03	—	0.03	—	113	113	< 0.005	< 0.005	—	113
Dust From Material Movement	—	—	—	—	—	—	0.13	0.13	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	18.7	18.7	< 0.005	< 0.005	—	18.8
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.51	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.44	104
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.40	5.40	< 0.005	< 0.005	0.01	5.47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.89	0.89	< 0.005	< 0.005	< 0.005	0.91
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Preparation (2024) - Mitigated

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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.19	1.01	11.9	0.02	0.04	—	0.04	0.04	—	0.04	—	2,064	2,064	0.08	0.02	—	2,071
Dust From Material Movement	—	—	—	—	—	—	2.44	2.44	—	1.17	1.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.65	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	113	113	< 0.005	< 0.005	—	113

Dust From Material Movement	—	—	—	—	—	—	0.13	0.13	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.7	18.7	< 0.005	< 0.005	—	18.8
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.51	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.44	104
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.40	5.40	< 0.005	< 0.005	0.01	5.47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.89	0.89	< 0.005	< 0.005	< 0.005	0.91
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2024) - 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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.70	1.43	13.7	12.9	0.02	0.65	—	0.65	0.59	—	0.59	—	2,064	2,064	0.08	0.02	—	2,071
Dust From Material Movement	—	—	—	—	—	—	2.44	2.44	—	1.17	1.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.71	< 0.005	0.04	—	0.04	0.03	—	0.03	—	113	113	< 0.005	< 0.005	—	113
Dust From Material Movement	—	—	—	—	—	—	0.13	0.13	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	18.7	18.7	< 0.005	< 0.005	—	18.8

Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.51	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.44	104
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.40	5.40	< 0.005	< 0.005	0.01	5.47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.89	0.89	< 0.005	< 0.005	< 0.005	0.91
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2024) - Mitigated

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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.19	1.01	11.9	0.02	0.04	—	0.04	0.04	—	0.04	—	2,064	2,064	0.08	0.02	—	2,071
Dust From Material Movement	—	—	—	—	—	—	2.44	2.44	—	1.17	1.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.65	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	113	113	< 0.005	< 0.005	—	113
Dust From Material Movement	—	—	—	—	—	—	0.13	0.13	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.7	18.7	< 0.005	< 0.005	—	18.8
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.51	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.44	104
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.40	5.40	< 0.005	< 0.005	0.01	5.47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.89	0.89	< 0.005	< 0.005	< 0.005	0.91
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2024) - 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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.36	1.13	9.44	10.1	0.02	0.37	—	0.37	0.34	—	0.34	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.36	1.13	9.44	10.1	0.02	0.37	—	0.37	0.34	—	0.34	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.24	2.03	2.18	< 0.005	0.08	—	0.08	0.07	—	0.07	—	388	388	0.02	< 0.005	—	389
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.37	0.40	< 0.005	0.01	—	0.01	0.01	—	0.01	—	64.2	64.2	< 0.005	< 0.005	—	64.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2024) - Mitigated

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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.30	4.34	11.0	0.02	0.06	—	0.06	0.06	—	0.06	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.30	4.34	11.0	0.02	0.06	—	0.06	0.06	—	0.06	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.93	2.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	388	388	0.02	< 0.005	—	389

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.17	0.43	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	64.2	64.2	< 0.005	< 0.005	—	64.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2025) - 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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.75	1.96	< 0.005	0.06	—	0.06	0.06	—	0.06	—	352	352	0.01	< 0.005	—	354
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.32	0.36	< 0.005	0.01	—	0.01	0.01	—	0.01	—	58.4	58.4	< 0.005	< 0.005	—	58.6
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2025) - Mitigated

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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.32	0.30	4.34	11.0	0.02	0.06	—	0.06	0.06	—	0.06	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.30	4.34	11.0	0.02	0.06	—	0.06	0.06	—	0.06	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	0.85	2.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	352	352	0.01	< 0.005	—	354
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.15	0.39	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	58.4	58.4	< 0.005	< 0.005	—	58.6
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Linear, Grading & Excavation (2024) - 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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.07	3.42	31.2	30.4	0.06	1.42	—	1.42	1.31	—	1.31	—	6,495	6,495	0.26	0.05	—	6,518
Dust From Material Movement	—	—	—	—	—	—	1.24	1.24	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	4.07	3.42	31.2	30.4	0.06	1.42	—	1.42	1.31	—	1.31	—	6,495	6,495	0.26	0.05	—	6,518
Dust From Material Movement	—	—	—	—	—	—	1.24	1.24	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	4.28	4.17	0.01	0.19	—	0.19	0.18	—	0.18	—	890	890	0.04	0.01	—	893
Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	0.78	0.76	< 0.005	0.04	—	0.04	0.03	—	0.03	—	147	147	0.01	< 0.005	—	148
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.16	0.16	2.19	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	443	443	0.02	0.02	1.91	451
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.3	31.3	< 0.005	< 0.005	0.09	32.8
Hauling	0.02	0.01	0.45	0.11	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	335	335	0.01	0.05	0.75	352

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.14	0.19	1.98	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	424	424	0.02	0.02	0.05	429
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.3	31.3	< 0.005	< 0.005	< 0.005	32.7
Hauling	0.01	0.01	0.47	0.11	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	335	335	0.01	0.05	0.02	351
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.27	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	58.5	58.5	< 0.005	< 0.005	0.11	59.3
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.29	4.29	< 0.005	< 0.005	0.01	4.49
Hauling	< 0.005	< 0.005	0.06	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	45.9	45.9	< 0.005	0.01	0.04	48.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.68	9.68	< 0.005	< 0.005	0.02	9.82
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.71	0.71	< 0.005	< 0.005	< 0.005	0.74
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.60	7.60	< 0.005	< 0.005	0.01	7.97

3.10. Linear, Grading & Excavation (2024) - Mitigated

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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.85	0.81	6.52	37.6	0.06	0.17	—	0.17	0.17	—	0.17	—	6,495	6,495	0.26	0.05	—	6,518
Dust From Material Movement	—	—	—	—	—	—	1.24	1.24	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.85	0.81	6.52	37.6	0.06	0.17	—	0.17	0.17	—	0.17	—	6,495	6,495	0.26	0.05	—	6,518
Dust From Material Movement	—	—	—	—	—	—	1.24	1.24	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.11	0.89	5.15	0.01	0.02	—	0.02	0.02	—	0.02	—	890	890	0.04	0.01	—	893
Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.94	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	147	147	0.01	< 0.005	—	148
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.16	0.16	2.19	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	443	443	0.02	0.02	1.91	451

Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.3	31.3	< 0.005	< 0.005	0.09	32.8
Hauling	0.02	0.01	0.45	0.11	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	335	335	0.01	0.05	0.75	352
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.14	0.19	1.98	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	424	424	0.02	0.02	0.05	429
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.3	31.3	< 0.005	< 0.005	< 0.005	32.7
Hauling	0.01	0.01	0.47	0.11	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	335	335	0.01	0.05	0.02	351
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.27	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	58.5	58.5	< 0.005	< 0.005	0.11	59.3
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.29	4.29	< 0.005	< 0.005	0.01	4.49
Hauling	< 0.005	< 0.005	0.06	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	45.9	45.9	< 0.005	0.01	0.04	48.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.68	9.68	< 0.005	< 0.005	0.02	9.82
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.71	0.71	< 0.005	< 0.005	< 0.005	0.74
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.60	7.60	< 0.005	< 0.005	0.01	7.97

3.11. Linear, Grading & Excavation (2024) - 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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.07	3.42	31.2	30.4	0.06	1.42	—	1.42	1.31	—	1.31	—	6,495	6,495	0.26	0.05	—	6,518

Dust From Material Movement	—	—	—	—	—	—	1.24	1.24	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	4.28	4.17	0.01	0.19	—	0.19	0.18	—	0.18	—	890	890	0.04	0.01	—	893
Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	0.78	0.76	< 0.005	0.04	—	0.04	0.03	—	0.03	—	147	147	0.01	< 0.005	—	148
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.16	0.16	2.19	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	443	443	0.02	0.02	1.91	451
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.3	31.3	< 0.005	< 0.005	0.09	32.8
Hauling	0.01	0.01	0.40	0.09	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	—	298	298	0.01	0.05	0.67	313

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.27	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	58.5	58.5	< 0.005	< 0.005	0.11	59.3
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.29	4.29	< 0.005	< 0.005	0.01	4.49
Hauling	< 0.005	< 0.005	0.06	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	40.9	40.9	< 0.005	0.01	0.04	42.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.68	9.68	< 0.005	< 0.005	0.02	9.82
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.71	0.71	< 0.005	< 0.005	< 0.005	0.74
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.76	6.76	< 0.005	< 0.005	0.01	7.10

3.12. Linear, Grading & Excavation (2024) - Mitigated

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
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.66	0.66	6.16	37.5	0.06	0.12	—	0.12	0.12	—	0.12	—	6,495	6,495	0.26	0.05	—	6,518
Dust From Material Movement	—	—	—	—	—	—	1.24	1.24	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.09	0.84	5.14	0.01	0.02	—	0.02	0.02	—	0.02	—	890	890	0.04	0.01	—	893
Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.94	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	147	147	0.01	< 0.005	—	148
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.16	0.16	2.19	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	443	443	0.02	0.02	1.91	451
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.3	31.3	< 0.005	< 0.005	0.09	32.8
Hauling	0.01	0.01	0.40	0.09	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	—	298	298	0.01	0.05	0.67	313
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.27	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	58.5	58.5	< 0.005	< 0.005	0.11	59.3
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.29	4.29	< 0.005	< 0.005	0.01	4.49

Hauling	< 0.005	< 0.005	0.06	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	40.9	40.9	< 0.005	0.01	0.04	42.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.68	9.68	< 0.005	< 0.005	0.02	9.82
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.71	0.71	< 0.005	< 0.005	< 0.005	0.74
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.76	6.76	< 0.005	< 0.005	0.01	7.10

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4.1.2. Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4.2. Energy

4.2.1. Electricity Emissions By Land Use - 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.2. Electricity Emissions By Land Use - Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.3. Natural Gas Emissions By Land Use - 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

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

Consum Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3.1. Mitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipme	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.4. Water Emissions by Land Use

4.4.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.4.1. Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5. Waste Emissions by Land Use

4.5.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5.1. Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.6. Refrigerant Emissions by Land Use

4.6.1. 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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.6.2. Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

Equipment Type	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

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

Equipment Type	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Total	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396

Total	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.01	0.01	0.03	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	4.47	4.47	< 0.005	< 0.005	0.00	4.49
Total	0.01	0.01	0.03	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	4.47	4.47	< 0.005	< 0.005	0.00	4.49

4.8.2. Mitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Total	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Total	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.01	0.01	0.03	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	4.47	4.47	< 0.005	< 0.005	0.00	4.49

Total	0.01	0.01	0.03	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	4.47	4.47	< 0.005	< 0.005	0.00	4.49

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

Equipment Type	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

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

Equipment Type	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. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Jack and Bore	Site Preparation	5/10/2024	6/6/2024	5.00	20.0	—
Lift Station Site Prep	Site Preparation	8/16/2024	9/12/2024	5.00	20.0	—

Lift Station Construction/Electrical	Building Construction	9/13/2024	4/10/2025	5.00	150	—
Open Cut Excavation	Linear, Grading & Excavation	3/1/2024	5/9/2024	5.00	50.0	—
Open Cut Trenching	Linear, Grading & Excavation	6/7/2024	8/15/2024	5.00	50.0	—

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
Jack and Bore	Graders	Diesel	Average	1.00	8.00	148	0.41
Jack and Bore	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40
Jack and Bore	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Lift Station Site Prep	Graders	Diesel	Average	1.00	8.00	148	0.41
Lift Station Site Prep	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40
Lift Station Site Prep	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Lift Station Construction/Electrical	Cranes	Diesel	Average	1.00	6.00	367	0.29
Lift Station Construction/Electrical	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Lift Station Construction/Electrical	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Lift Station Construction/Electrical	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Lift Station Construction/Electrical	Welders	Diesel	Average	3.00	8.00	46.0	0.45
Open Cut Excavation	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Open Cut Excavation	Excavators	Diesel	Average	3.00	8.00	36.0	0.38

Open Cut Excavation	Graders	Diesel	Average	1.00	8.00	148	0.41
Open Cut Excavation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Open Cut Excavation	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Open Cut Excavation	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Open Cut Excavation	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Open Cut Excavation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Open Cut Trenching	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Open Cut Trenching	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Open Cut Trenching	Graders	Diesel	Average	1.00	8.00	148	0.41
Open Cut Trenching	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Open Cut Trenching	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Open Cut Trenching	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Open Cut Trenching	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Open Cut Trenching	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Jack and Bore	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Jack and Bore	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	7.00	367	0.40
Jack and Bore	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Lift Station Site Prep	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Lift Station Site Prep	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	7.00	367	0.40
Lift Station Site Prep	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Lift Station Construction/Electrical	Cranes	Diesel	Tier 4 Final	1.00	6.00	367	0.29

Lift Station Construction/Electrical	Forklifts	Diesel	Tier 4 Final	1.00	6.00	82.0	0.20
Lift Station Construction/Electrical	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Lift Station Construction/Electrical	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	6.00	84.0	0.37
Lift Station Construction/Electrical	Welders	Diesel	Tier 4 Final	3.00	8.00	46.0	0.45
Open Cut Excavation	Crawler Tractors	Diesel	Tier 4 Final	1.00	8.00	87.0	0.43
Open Cut Excavation	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Open Cut Excavation	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Open Cut Excavation	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Open Cut Excavation	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Open Cut Excavation	Rubber Tired Loaders	Diesel	Tier 4 Final	1.00	8.00	150	0.36
Open Cut Excavation	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Open Cut Excavation	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Open Cut Excavation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Open Cut Trenching	Crawler Tractors	Diesel	Tier 4 Final	1.00	8.00	87.0	0.43
Open Cut Trenching	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Open Cut Trenching	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Open Cut Trenching	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Open Cut Trenching	Rubber Tired Loaders	Diesel	Tier 4 Final	1.00	8.00	150	0.36
Open Cut Trenching	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Open Cut Trenching	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Open Cut Trenching	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Open Cut Excavation	—	—	—	—
Open Cut Excavation	Worker	32.5	18.5	LDA,LDT1,LDT2
Open Cut Excavation	Vendor	1.00	10.2	HHDT,MHDT
Open Cut Excavation	Hauling	4.74	20.0	HHDT
Open Cut Excavation	Onsite truck	—	—	HHDT
Open Cut Trenching	—	—	—	—
Open Cut Trenching	Worker	32.5	18.5	LDA,LDT1,LDT2
Open Cut Trenching	Vendor	1.00	10.2	HHDT,MHDT
Open Cut Trenching	Hauling	4.22	20.0	HHDT
Open Cut Trenching	Onsite truck	—	—	HHDT
Jack and Bore	—	—	—	—
Jack and Bore	Worker	7.50	18.5	LDA,LDT1,LDT2
Jack and Bore	Vendor	0.00	10.2	HHDT,MHDT
Jack and Bore	Hauling	0.00	20.0	HHDT
Jack and Bore	Onsite truck	—	—	HHDT
Lift Station Site Prep	—	—	—	—
Lift Station Site Prep	Worker	7.50	18.5	LDA,LDT1,LDT2
Lift Station Site Prep	Vendor	0.00	10.2	HHDT,MHDT
Lift Station Site Prep	Hauling	0.00	20.0	HHDT
Lift Station Site Prep	Onsite truck	—	—	HHDT
Lift Station Construction/Electrical	—	—	—	—
Lift Station Construction/Electrical	Worker	0.00	18.5	LDA,LDT1,LDT2
Lift Station Construction/Electrical	Vendor	0.00	10.2	HHDT,MHDT
Lift Station Construction/Electrical	Hauling	0.00	20.0	HHDT
Lift Station Construction/Electrical	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Open Cut Excavation	—	—	—	—
Open Cut Excavation	Worker	32.5	18.5	LDA,LDT1,LDT2
Open Cut Excavation	Vendor	1.00	10.2	HHDT,MHDT
Open Cut Excavation	Hauling	4.74	20.0	HHDT
Open Cut Excavation	Onsite truck	—	—	HHDT
Open Cut Trenching	—	—	—	—
Open Cut Trenching	Worker	32.5	18.5	LDA,LDT1,LDT2
Open Cut Trenching	Vendor	1.00	10.2	HHDT,MHDT
Open Cut Trenching	Hauling	4.22	20.0	HHDT
Open Cut Trenching	Onsite truck	—	—	HHDT
Jack and Bore	—	—	—	—
Jack and Bore	Worker	7.50	18.5	LDA,LDT1,LDT2
Jack and Bore	Vendor	0.00	10.2	HHDT,MHDT
Jack and Bore	Hauling	0.00	20.0	HHDT
Jack and Bore	Onsite truck	—	—	HHDT
Lift Station Site Prep	—	—	—	—
Lift Station Site Prep	Worker	7.50	18.5	LDA,LDT1,LDT2
Lift Station Site Prep	Vendor	0.00	10.2	HHDT,MHDT
Lift Station Site Prep	Hauling	0.00	20.0	HHDT
Lift Station Site Prep	Onsite truck	—	—	HHDT
Lift Station Construction/Electrical	—	—	—	—
Lift Station Construction/Electrical	Worker	0.00	18.5	LDA,LDT1,LDT2
Lift Station Construction/Electrical	Vendor	0.00	10.2	HHDT,MHDT
Lift Station Construction/Electrical	Hauling	0.00	20.0	HHDT
Lift Station Construction/Electrical	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)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Jack and Bore	—	—	18.8	0.00	—
Lift Station Site Prep	—	—	18.8	0.00	—
Open Cut Excavation	791	1,105	1.00	0.00	—
Open Cut Trenching	701	980	1.00	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Road Construction	1.00	100%
Other Asphalt Surfaces	0.07	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	58.7	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

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)
0	0.00	0.00	0.00	172

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Other Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Other Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Other Asphalt Surfaces	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Other Asphalt Surfaces	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Other Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	2.00	50.0	235	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

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

5.18.1.2. Mitigated

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

5.18.1.2. Mitigated

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)

5.18.2.2. Mitigated

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	10.4	annual days of extreme heat
Extreme Precipitation	4.85	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	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 (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth 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 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
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	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
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	1	1	1	2
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	24.9
AQ-PM	35.8
AQ-DPM	82.4

Drinking Water	72.9
Lead Risk Housing	75.1
Pesticides	64.9
Toxic Releases	48.7
Traffic	51.4
Effect Indicators	—
CleanUp Sites	63.7
Groundwater	87.3
Haz Waste Facilities/Generators	89.4
Impaired Water Bodies	43.8
Solid Waste	0.00
Sensitive Population	—
Asthma	69.4
Cardio-vascular	64.7
Low Birth Weights	54.6
Socioeconomic Factor Indicators	—
Education	98.7
Housing	29.7
Linguistic	96.4
Poverty	97.6
Unemployment	74.7

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	9.316052868

Employed	12.60105223
Median HI	15.35993841
Education	—
Bachelor's or higher	5.671756705
High school enrollment	100
Preschool enrollment	14.57718465
Transportation	—
Auto Access	20.85204671
Active commuting	69.43410753
Social	—
2-parent households	20.69806236
Voting	23.54677274
Neighborhood	—
Alcohol availability	21.98126524
Park access	48.55639677
Retail density	58.89901193
Supermarket access	37.49518799
Tree canopy	6.813807263
Housing	—
Homeownership	26.45964327
Housing habitability	31.91325549
Low-inc homeowner severe housing cost burden	53.86885667
Low-inc renter severe housing cost burden	57.20518414
Uncrowded housing	14.69267291
Health Outcomes	—
Insured adults	5.479276274
Arthritis	39.1

Asthma ER Admissions	4.5
High Blood Pressure	13.3
Cancer (excluding skin)	82.6
Asthma	12.1
Coronary Heart Disease	9.8
Chronic Obstructive Pulmonary Disease	15.6
Diagnosed Diabetes	5.6
Life Expectancy at Birth	25.4
Cognitively Disabled	3.3
Physically Disabled	6.8
Heart Attack ER Admissions	2.9
Mental Health Not Good	8.1
Chronic Kidney Disease	2.7
Obesity	8.3
Pedestrian Injuries	91.2
Physical Health Not Good	5.0
Stroke	13.0
Health Risk Behaviors	—
Binge Drinking	75.2
Current Smoker	15.5
No Leisure Time for Physical Activity	3.8
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	33.8
Elderly	69.3
English Speaking	8.9

Foreign-born	92.2
Outdoor Workers	2.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	23.8
Traffic Density	34.7
Traffic Access	23.0
Other Indices	—
Hardship	92.9
Other Decision Support	—
2016 Voting	19.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	89.0
Healthy Places Index Score for Project Location (b)	10.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
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

Screen	Justification
Construction: Construction Phases	Phase lengths adjusted to account for weekends and to match proposed 12 month construction schedule.
Operations: Emergency Generators and Fire Pumps	Annual usage per VCAPCD limit of 50 hrs/year. Assumes 2 hour daily (25 days of operation in a year) maintenance operation usage time.