Appendix C2

Jurupa Avenue Trailhead Air Quality, Greenhouse Gas, and Energy Data

Jurupa Ave Trailhead 032723 Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Jurupa Ave Trailhead 032723
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.20
Precipitation (days)	18.0
Location	33.9590588344432, -117.46494566956498
County	Riverside-South Coast
City	Riverside
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5453
EDFZ	11
Electric Utility	City of Riverside
Gas Utility	Southern California Gas

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
City Park	8.00	Acre	8.00	0.00	27,400	8,975	—	—
Parking Lot	19.0	1000sqft	0.44	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Transportation	T-33*	Locate Project near Bike Path/Bike Lane
Transportation	T-34*	Provide Bike Parking

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

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.	2.21	1.85	17.6	18.1	0.03	0.79	2.12	2.91	0.73	0.96	1.69	—	3,282	3,282	0.12	0.10	1.63	3,316
Mit.	2.21	1.85	17.6	18.1	0.03	0.79	2.12	2.91	0.73	0.96	1.69	—	3,282	3,282	0.12	0.10	1.63	3,316
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.34	1.25	9.80	13.6	0.02	0.46	0.32	0.78	0.43	0.08	0.50	—	2,340	2,340	0.09	0.06	0.05	2,360
Mit.	1.34	1.25	9.80	13.6	0.02	0.46	0.32	0.78	0.43	0.08	0.50	—	2,340	2,340	0.09	0.06	0.05	2,360
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.52	0.46	3.98	4.64	0.01	0.18	0.21	0.39	0.16	0.09	0.25	—	857	857	0.03	0.01	0.14	862

Mit.	0.52	0.46	3.98	4.64	0.01	0.18	0.21	0.39	0.16	0.09	0.25	—	857	857	0.03	0.01	0.14	862
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.09	0.08	0.73	0.85	< 0.005	0.03	0.04	0.07	0.03	0.02	0.05	—	142	142	0.01	< 0.005	0.02	143
Mit.	0.09	0.08	0.73	0.85	< 0.005	0.03	0.04	0.07	0.03	0.02	0.05	—	142	142	0.01	< 0.005	0.02	143
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	2.21	1.85	17.6	18.1	0.03	0.79	2.12	2.91	0.73	0.96	1.69	—	3,282	3,282	0.12	0.10	1.63	3,316
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.34	1.25	9.80	13.6	0.02	0.46	0.32	0.78	0.43	0.08	0.50	—	2,340	2,340	0.09	0.06	0.05	2,360
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.52	0.46	3.98	4.64	0.01	0.18	0.21	0.39	0.16	0.09	0.25	—	857	857	0.03	0.01	0.14	862
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.09	0.08	0.73	0.85	< 0.005	0.03	0.04	0.07	0.03	0.02	0.05	—	142	142	0.01	< 0.005	0.02	143

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	2.21	1.85	17.6	18.1	0.03	0.79	2.12	2.91	0.73	0.96	1.69	—	3,282	3,282	0.12	0.10	1.63	3,316
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.34	1.25	9.80	13.6	0.02	0.46	0.32	0.78	0.43	0.08	0.50	—	2,340	2,340	0.09	0.06	0.05	2,360
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.52	0.46	3.98	4.64	0.01	0.18	0.21	0.39	0.16	0.09	0.25	—	857	857	0.03	0.01	0.14	862
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.09	0.08	0.73	0.85	< 0.005	0.03	0.04	0.07	0.03	0.02	0.05	—	142	142	0.01	< 0.005	0.02	143

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.	0.50	0.53	0.49	4.56	0.01	0.01	0.38	0.39	0.01	0.07	0.08	0.37	1,195	1,195	0.08	0.05	4.41	1,217
Mit.	0.50	0.53	0.49	4.56	0.01	0.01	0.38	0.39	0.01	0.07	0.08	0.37	1,195	1,195	0.08	0.05	4.41	1,217
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.47	0.50	0.53	3.77	0.01	0.01	0.38	0.39	0.01	0.07	0.08	0.37	1,124	1,124	0.08	0.05	0.11	1,142
Mit.	0.47	0.50	0.53	3.77	0.01	0.01	0.38	0.39	0.01	0.07	0.08	0.37	1,124	1,124	0.08	0.05	0.11	1,142
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.45	0.49	0.53	3.83	0.01	0.01	0.37	0.38	0.01	0.07	0.07	0.37	1,108	1,108	0.08	0.05	1.86	1,127
Mit.	0.45	0.49	0.53	3.83	0.01	0.01	0.37	0.38	0.01	0.07	0.07	0.37	1,108	1,108	0.08	0.05	1.86	1,127
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.08	0.09	0.10	0.70	< 0.005	< 0.005	0.07	0.07	< 0.005	0.01	0.01	0.06	183	184	0.01	0.01	0.31	187
Mit.	0.08	0.09	0.10	0.70	< 0.005	< 0.005	0.07	0.07	< 0.005	0.01	0.01	0.06	183	184	0.01	0.01	0.31	187
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	0.50	0.45	0.49	4.56	0.01	0.01	0.38	0.39	0.01	0.07	0.08	—	1,162	1,162	0.04	0.05	4.41	1,183
Area	0.00	0.08	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	—	27.4	27.4	< 0.005	< 0.005	—	27.4
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	5.31	5.31	< 0.005	< 0.005	—	5.32
Waste	—	—	—	—	—	—	—	—	—	—	—	0.37	0.00	0.37	0.04	0.00	—	1.30
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	0.50	0.53	0.49	4.56	0.01	0.01	0.38	0.39	0.01	0.07	0.08	0.37	1,195	1,195	0.08	0.05	4.41	1,217
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	0.47	0.42	0.53	3.77	0.01	0.01	0.38	0.39	0.01	0.07	0.08	—	1,091	1,091	0.04	0.05	0.11	1,108
Area	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	27.4	27.4	< 0.005	< 0.005	—	27.4
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	5.31	5.31	< 0.005	< 0.005	—	5.32
Waste	—	—	—	—	—	—	—	—	—	—	—	0.37	0.00	0.37	0.04	0.00	—	1.30
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	0.47	0.50	0.53	3.77	0.01	0.01	0.38	0.39	0.01	0.07	0.08	0.37	1,124	1,124	0.08	0.05	0.11	1,142
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.45	0.41	0.53	3.83	0.01	0.01	0.37	0.38	0.01	0.07	0.07	—	1,075	1,075	0.04	0.05	1.86	1,093
Area	0.00	0.08	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	—	27.4	27.4	< 0.005	< 0.005	—	27.4
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	5.31	5.31	< 0.005	< 0.005	—	5.32
Waste	—	—	—	—	—	—	—	—	—	—	—	0.37	0.00	0.37	0.04	0.00	—	1.30
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	0.45	0.49	0.53	3.83	0.01	0.01	0.37	0.38	0.01	0.07	0.07	0.37	1,108	1,108	0.08	0.05	1.86	1,127
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.08	0.07	0.10	0.70	< 0.005	< 0.005	0.07	0.07	< 0.005	0.01	0.01	—	178	178	0.01	0.01	0.31	181
Area	0.00	0.01	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	—	4.53	4.53	< 0.005	< 0.005	—	4.54
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.88	0.88	< 0.005	< 0.005	—	0.88
Waste	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.21
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	0.08	0.09	0.10	0.70	< 0.005	< 0.005	0.07	0.07	< 0.005	0.01	0.01	0.06	183	184	0.01	0.01	0.31	187

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	0.50	0.45	0.49	4.56	0.01	0.01	0.38	0.39	0.01	0.07	0.08	—	1,162	1,162	0.04	0.05	4.41	1,183
Area	0.00	0.08	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	—	27.4	27.4	< 0.005	< 0.005	—	27.4
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	5.31	5.31	< 0.005	< 0.005	—	5.32
Waste	—	—	—	—	—	—	—	—	—	—	—	0.37	0.00	0.37	0.04	0.00	—	1.30
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	0.50	0.53	0.49	4.56	0.01	0.01	0.38	0.39	0.01	0.07	0.08	0.37	1,195	1,195	0.08	0.05	4.41	1,217
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.47	0.42	0.53	3.77	0.01	0.01	0.38	0.39	0.01	0.07	0.08	—	1,091	1,091	0.04	0.05	0.11	1,108
Area	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	27.4	27.4	< 0.005	< 0.005	—	27.4
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	5.31	5.31	< 0.005	< 0.005	—	5.32
Waste	—	—	—	—	—	—	—	—	—	—	—	0.37	0.00	0.37	0.04	0.00	—	1.30
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	0.47	0.50	0.53	3.77	0.01	0.01	0.38	0.39	0.01	0.07	0.08	0.37	1,124	1,124	0.08	0.05	0.11	1,142
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.45	0.41	0.53	3.83	0.01	0.01	0.37	0.38	0.01	0.07	0.07	—	1,075	1,075	0.04	0.05	1.86	1,093
Area	0.00	0.08	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	—	27.4	27.4	< 0.005	< 0.005	—	27.4
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	5.31	5.31	< 0.005	< 0.005	—	5.32
Waste	—	—	—	—	—	—	—	—	—	—	—	0.37	0.00	0.37	0.04	0.00	—	1.30
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00

Total	0.45	0.49	0.53	3.83	0.01	0.01	0.37	0.38	0.01	0.07	0.07	0.37	1,108	1,108	0.08	0.05	1.86	1,127
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.08	0.07	0.10	0.70	< 0.005	< 0.005	0.07	0.07	< 0.005	0.01	0.01	—	178	178	0.01	0.01	0.31	181
Area	0.00	0.01	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	—	4.53	4.53	< 0.005	< 0.005	—	4.54
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.88	0.88	< 0.005	< 0.005	—	0.88
Waste	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.21
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	0.08	0.09	0.10	0.70	< 0.005	< 0.005	0.07	0.07	< 0.005	0.01	0.01	0.06	183	184	0.01	0.01	0.31	187

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	1.40	1.18	11.6	10.3	0.02	0.52	—	0.52	0.47	—	0.47	—	1,668	1,668	0.07	0.01	—	1,674
Dust From Material Movement	—	—	—	—	—	—	1.70	1.70	—	0.88	0.88	—	—	—	—	—	—	—
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	0.04	0.03	0.32	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	—	45.7	45.7	< 0.005	< 0.005	—	45.9
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	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	0.01	0.01	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.57	7.57	< 0.005	< 0.005	—	7.59
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 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	0.03	0.03	0.02	0.42	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	72.0	72.0	< 0.005	< 0.005	0.29	73.1
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	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.84	1.84	< 0.005	< 0.005	< 0.005	1.86
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	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
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	1.40	1.18	11.6	10.3	0.02	0.52	—	0.52	0.47	—	0.47	—	1,668	1,668	0.07	0.01	—	1,674
Dust From Material Movement	—	—	—	—	—	—	1.70	1.70	—	0.88	0.88	—	—	—	—	—	—	—
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	0.04	0.03	0.32	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	—	45.7	45.7	< 0.005	< 0.005	—	45.9
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	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	0.01	0.01	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.57	7.57	< 0.005	< 0.005	—	7.59
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 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	0.03	0.03	0.02	0.42	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	72.0	72.0	< 0.005	< 0.005	0.29	73.1
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	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.84	1.84	< 0.005	< 0.005	< 0.005	1.86
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	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
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. Grading (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	2.12	1.78	17.0	16.9	0.02	0.79	—	0.79	0.72	—	0.72	—	2,668	2,668	0.11	0.02	—	2,677
Dust From Material Movemen	—	—	—	—	—	—	1.84	1.84	—	0.89	0.89	—	—	—	—	—	—	—
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	0.12	0.10	0.93	0.93	< 0.005	0.04	—	0.04	0.04	—	0.04	—	146	146	0.01	< 0.005	—	147
Dust From Material Movemen	—	—	—	—	—	—	0.10	0.10	—	0.05	0.05	—	—	—	—	—	—	—
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	0.17	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.2	24.2	< 0.005	< 0.005	—	24.3

Dust From Material Movemen	—	—	—	—	—	—	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	0.07	0.06	0.06	1.04	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	180	180	0.01	0.01	0.71	183
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	0.02	0.01	0.49	0.12	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	434	434	0.01	0.07	0.92	456
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.18	9.18	< 0.005	< 0.005	0.02	9.30
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	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.8	23.8	< 0.005	< 0.005	0.02	25.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.52	1.52	< 0.005	< 0.005	< 0.005	1.54
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	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.94	3.94	< 0.005	< 0.005	< 0.005	4.13

3.4. Grading (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	2.12	1.78	17.0	16.9	0.02	0.79	—	0.79	0.72	—	0.72	—	2,668	2,668	0.11	0.02	—	2,677
Dust From Material Movemen	—	—	—	—	—	—	1.84	1.84	—	0.89	0.89	—	—	—	—	—	—	—
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	0.12	0.10	0.93	0.93	< 0.005	0.04	—	0.04	0.04	—	0.04	—	146	146	0.01	< 0.005	—	147
Dust From Material Movemen	—	—	—	—	—	—	0.10	0.10	—	0.05	0.05	—	—	—	—	—	—	—
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	0.17	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.2	24.2	< 0.005	< 0.005	—	24.3
Dust From Material Movemen	—	—	—	—	—	—	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	0.07	0.06	0.06	1.04	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	180	180	0.01	0.01	0.71	183
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	0.02	0.01	0.49	0.12	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	434	434	0.01	0.07	0.92	456
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.18	9.18	< 0.005	< 0.005	0.02	9.30
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	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.8	23.8	< 0.005	< 0.005	0.02	25.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.52	1.52	< 0.005	< 0.005	< 0.005	1.54
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	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.94	3.94	< 0.005	< 0.005	< 0.005	4.13

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	1.11	0.93	8.71	10.0	0.02	0.38	—	0.38	0.35	—	0.35	—	1,913	1,913	0.08	0.02	—	1,920
Architectural Coatings	—	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.11	0.93	8.71	10.0	0.02	0.38	—	0.38	0.35	—	0.35	—	1,913	1,913	0.08	0.02	—	1,920
Architectural Coatings	—	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.23	2.15	2.48	< 0.005	0.09	—	0.09	0.09	—	0.09	—	472	472	0.02	< 0.005	—	473
Architectural Coatings	—	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.39	0.45	< 0.005	0.02	—	0.02	0.02	—	0.02	—	78.1	78.1	< 0.005	< 0.005	—	78.4
Architectural Coatings	—	< 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	0.05	0.05	0.04	0.75	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	130	130	0.01	< 0.005	0.51	132

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	0.05	0.04	0.05	0.57	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	119	119	0.01	< 0.005	0.01	121
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	0.01	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	29.7	29.7	< 0.005	< 0.005	0.05	30.1
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	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.92	4.92	< 0.005	< 0.005	0.01	4.99
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	1.11	0.93	8.71	10.0	0.02	0.38	—	0.38	0.35	—	0.35	—	1,913	1,913	0.08	0.02	—	1,920
Architectural Coatings	—	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.11	0.93	8.71	10.0	0.02	0.38	—	0.38	0.35	—	0.35	—	1,913	1,913	0.08	0.02	—	1,920
Architectural Coatings	—	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.23	2.15	2.48	< 0.005	0.09	—	0.09	0.09	—	0.09	—	472	472	0.02	< 0.005	—	473
Architectural Coatings	—	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.39	0.45	< 0.005	0.02	—	0.02	0.02	—	0.02	—	78.1	78.1	< 0.005	< 0.005	—	78.4
Architectural Coatings	—	< 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	0.05	0.05	0.04	0.75	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	130	130	0.01	< 0.005	0.51	132

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	0.05	0.04	0.05	0.57	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	119	119	0.01	< 0.005	0.01	121
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	0.01	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	29.7	29.7	< 0.005	< 0.005	0.05	30.1
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	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.92	4.92	< 0.005	< 0.005	0.01	4.99
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. Paving (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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22	1.02	9.43	12.3	0.02	0.46	—	0.46	0.42	—	0.42	—	1,858	1,858	0.08	0.02	—	1,865

Paving	—	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.52	0.67	< 0.005	0.03	—	0.03	0.02	—	0.02	—	102	102	< 0.005	< 0.005	—	102
Paving	—	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.9	16.9	< 0.005	< 0.005	—	16.9
Paving	—	< 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.11	1.26	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	265	265	0.01	0.01	0.03	268
Vendor	0.01	0.01	0.26	0.08	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	217	217	< 0.005	0.03	0.02	227
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	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.03	14.9
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.9	11.9	< 0.005	< 0.005	0.01	12.5
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	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.43	2.43	< 0.005	< 0.005	< 0.005	2.46
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.97	1.97	< 0.005	< 0.005	< 0.005	2.06
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. Paving (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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22	1.02	9.43	12.3	0.02	0.46	—	0.46	0.42	—	0.42	—	1,858	1,858	0.08	0.02	—	1,865
Paving	—	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.52	0.67	< 0.005	0.03	—	0.03	0.02	—	0.02	—	102	102	< 0.005	< 0.005	—	102
Paving	—	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.9	16.9	< 0.005	< 0.005	—	16.9
Paving	—	< 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.11	1.26	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	265	265	0.01	0.01	0.03	268
Vendor	0.01	0.01	0.26	0.08	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	217	217	< 0.005	0.03	0.02	227
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	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.03	14.9
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.9	11.9	< 0.005	< 0.005	0.01	12.5
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	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.43	2.43	< 0.005	< 0.005	< 0.005	2.46
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.97	1.97	< 0.005	< 0.005	< 0.005	2.06
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

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.50	0.45	0.49	4.56	0.01	0.01	0.38	0.39	0.01	0.07	0.08	—	1,162	1,162	0.04	0.05	4.41	1,183
Parking Lot	0.00	0.00	0.00	0.00	0.00	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	0.50	0.45	0.49	4.56	0.01	0.01	0.38	0.39	0.01	0.07	0.08	—	1,162	1,162	0.04	0.05	4.41	1,183
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.47	0.42	0.53	3.77	0.01	0.01	0.38	0.39	0.01	0.07	0.08	—	1,091	1,091	0.04	0.05	0.11	1,108
Parking Lot	0.00	0.00	0.00	0.00	0.00	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	0.47	0.42	0.53	3.77	0.01	0.01	0.38	0.39	0.01	0.07	0.08	—	1,091	1,091	0.04	0.05	0.11	1,108
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.08	0.07	0.10	0.70	< 0.005	< 0.005	0.07	0.07	< 0.005	0.01	0.01	—	178	178	0.01	0.01	0.31	181
Parking Lot	0.00	0.00	0.00	0.00	0.00	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	0.08	0.07	0.10	0.70	< 0.005	< 0.005	0.07	0.07	< 0.005	0.01	0.01	—	178	178	0.01	0.01	0.31	181

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.50	0.45	0.49	4.56	0.01	0.01	0.38	0.39	0.01	0.07	0.08	—	1,162	1,162	0.04	0.05	4.41	1,183
Parking Lot	0.00	0.00	0.00	0.00	0.00	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	0.50	0.45	0.49	4.56	0.01	0.01	0.38	0.39	0.01	0.07	0.08	—	1,162	1,162	0.04	0.05	4.41	1,183

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.47	0.42	0.53	3.77	0.01	0.01	0.38	0.39	0.01	0.07	0.08	—	1,091	1,091	0.04	0.05	0.11	1,108
Parking Lot	0.00	0.00	0.00	0.00	0.00	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	0.47	0.42	0.53	3.77	0.01	0.01	0.38	0.39	0.01	0.07	0.08	—	1,091	1,091	0.04	0.05	0.11	1,108
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.08	0.07	0.10	0.70	< 0.005	< 0.005	0.07	0.07	< 0.005	0.01	0.01	—	178	178	0.01	0.01	0.31	181
Parking Lot	0.00	0.00	0.00	0.00	0.00	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	0.08	0.07	0.10	0.70	< 0.005	< 0.005	0.07	0.07	< 0.005	0.01	0.01	—	178	178	0.01	0.01	0.31	181

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	27.4	27.4	< 0.005	< 0.005	—	27.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	27.4	27.4	< 0.005	< 0.005	—	27.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	27.4	27.4	< 0.005	< 0.005	—	27.4

Total	—	—	—	—	—	—	—	—	—	—	—	—	27.4	27.4	< 0.005	< 0.005	—	27.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	4.53	4.53	< 0.005	< 0.005	—	4.54
Total	—	—	—	—	—	—	—	—	—	—	—	—	4.53	4.53	< 0.005	< 0.005	—	4.54

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	27.4	27.4	< 0.005	< 0.005	—	27.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	27.4	27.4	< 0.005	< 0.005	—	27.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	27.4	27.4	< 0.005	< 0.005	—	27.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	27.4	27.4	< 0.005	< 0.005	—	27.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	4.53	4.53	< 0.005	< 0.005	—	4.54
Total	—	—	—	—	—	—	—	—	—	—	—	—	4.53	4.53	< 0.005	< 0.005	—	4.54

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape	0.00	0.00	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	0.08	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	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.01	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	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.08	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	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.01	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	5.31	5.31	< 0.005	< 0.005	—	5.32
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	5.31	5.31	< 0.005	< 0.005	—	5.32
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	5.31	5.31	< 0.005	< 0.005	—	5.32
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	5.31	5.31	< 0.005	< 0.005	—	5.32
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.88	0.88	< 0.005	< 0.005	—	0.88
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.88	0.88	< 0.005	< 0.005	—	0.88

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	5.31	5.31	< 0.005	< 0.005	—	5.32
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	5.31	5.31	< 0.005	< 0.005	—	5.32
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	5.31	5.31	< 0.005	< 0.005	—	5.32
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	5.31	5.31	< 0.005	< 0.005	—	5.32
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.88	0.88	< 0.005	< 0.005	—	0.88
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.88	0.88	< 0.005	< 0.005	—	0.88

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.37	0.00	0.37	0.04	0.00	—	1.30
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	0.37	0.00	0.37	0.04	0.00	—	1.30
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.37	0.00	0.37	0.04	0.00	—	1.30
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.37	0.00	0.37	0.04	0.00	—	1.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.21
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.21

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.37	0.00	0.37	0.04	0.00	—	1.30
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.37	0.00	0.37	0.04	0.00	—	1.30
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.37	0.00	0.37	0.04	0.00	—	1.30
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	0.37	0.00	0.37	0.04	0.00	—	1.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.21
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.21

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

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
Site Preparation	Site Preparation	6/3/2024	6/14/2024	5.00	10.0	—
Grading	Grading	6/15/2024	7/12/2024	5.00	20.0	—
Building Construction	Building Construction	7/13/2024	11/15/2024	5.00	90.0	—
Paving/Concrete Pouring	Paving	11/16/2024	12/14/2024	5.00	20.0	—

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
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40

Grading	Tractors/Loaders/Backh	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Tractors/Loaders/Backh oes	Diesel	Average	2.00	7.00	84.0	0.37
Site Preparation	Tractors/Loaders/Backh oes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	8.00	89.0	0.20
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving/Concrete Pouring	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving/Concrete Pouring	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving/Concrete Pouring	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Paving/Concrete Pouring	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56
Paving/Concrete Pouring	Tractors/Loaders/Backh oes	Diesel	Average	1.00	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
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backh oes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Tractors/Loaders/Backh oes	Diesel	Average	2.00	7.00	84.0	0.37
Site Preparation	Tractors/Loaders/Backh oes	Diesel	Average	1.00	8.00	84.0	0.37

Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	8.00	89.0	0.20
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving/Concrete Pouring	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving/Concrete Pouring	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving/Concrete Pouring	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Paving/Concrete Pouring	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56
Paving/Concrete Pouring	Tractors/Loaders/Backhoes	Diesel	Average	1.00	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
Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	12.5	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	6.20	20.0	HHDT

Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	9.00	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	0.00	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving/Concrete Pouring	—	—	—	—
Paving/Concrete Pouring	Worker	20.0	18.5	LDA,LDT1,LDT2
Paving/Concrete Pouring	Vendor	7.00	10.2	HHDT,MHDT
Paving/Concrete Pouring	Hauling	0.00	20.0	HHDT
Paving/Concrete Pouring	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	12.5	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	6.20	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	9.00	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	0.00	10.2	HHDT,MHDT

Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving/Concrete Pouring	—	—	—	—
Paving/Concrete Pouring	Worker	20.0	18.5	LDA,LDT1,LDT2
Paving/Concrete Pouring	Vendor	7.00	10.2	HHDT,MHDT
Paving/Concrete Pouring	Hauling	0.00	20.0	HHDT
Paving/Concrete Pouring	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Sweep paved roads once per month	9%	9%

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)
Building Construction	0.00	0.00	0.00	0.00	1,140

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)
Site Preparation	0.00	0.00	15.0	0.00	—
Grading	0.00	985	20.0	0.00	—
Paving/Concrete Pouring	0.00	0.00	0.00	0.00	0.93

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
City Park	0.49	100%
Parking Lot	0.44	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	0.00	787	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
City Park	98.2	90.0	90.0	34,975	1,372	1,258	1,258	488,955
Parking Lot	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
City Park	98.2	90.0	90.0	34,975	1,372	1,258	1,258	488,955
Parking Lot	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	660	220	1,140

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

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)

City Park	0.00	600	0.0330	0.0040	0.00
Parking Lot	16,644	600	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)
City Park	0.00	600	0.0330	0.0040	0.00
Parking Lot	16,644	600	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)
City Park	0.00	608,375
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
City Park	0.00	608,375
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
City Park	0.69	0.00
Parking Lot	0.00	0.00

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
City Park	0.69	0.00
Parking Lot	0.00	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
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

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

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	25.5	annual days of extreme heat
Extreme Precipitation	2.35	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	2.10	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	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	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	N/A	N/A	N/A	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	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A

Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	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	N/A	N/A	N/A	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 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	91.1
AQ-PM	93.9
AQ-DPM	20.0
Drinking Water	99.2
Lead Risk Housing	55.8
Pesticides	71.9
Toxic Releases	67.8
Traffic	77.9
Effect Indicators	—

CleanUp Sites	74.0
Groundwater	53.1
Haz Waste Facilities/Generators	93.8
Impaired Water Bodies	33.2
Solid Waste	13.0
Sensitive Population	—
Asthma	41.9
Cardio-vascular	54.7
Low Birth Weights	63.3
Socioeconomic Factor Indicators	—
Education	72.1
Housing	59.3
Linguistic	66.6
Poverty	69.6
Unemployment	28.2

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	24.13704607
Employed	35.14692673
Median HI	29.41100988
Education	—
Bachelor's or higher	22.99499551
High school enrollment	100
Preschool enrollment	4.414217888

Transportation	—
Auto Access	69.12613884
Active commuting	55.6268446
Social	—
2-parent households	42.47401514
Voting	15.89888361
Neighborhood	—
Alcohol availability	97.0101373
Park access	42.16604645
Retail density	12.498396
Supermarket access	22.90517131
Tree canopy	7.262928269
Housing	—
Homeownership	32.58052098
Housing habitability	13.46079815
Low-inc homeowner severe housing cost burden	14.16655973
Low-inc renter severe housing cost burden	2.75888618
Uncrowded housing	21.62196843
Health Outcomes	—
Insured adults	11.85679456
Arthritis	53.0
Asthma ER Admissions	74.9
High Blood Pressure	50.4
Cancer (excluding skin)	82.6
Asthma	9.8
Coronary Heart Disease	57.7
Chronic Obstructive Pulmonary Disease	17.9

Diagnosed Diabetes	41.8
Life Expectancy at Birth	90.2
Cognitively Disabled	60.3
Physically Disabled	88.8
Heart Attack ER Admissions	79.9
Mental Health Not Good	10.1
Chronic Kidney Disease	45.1
Obesity	11.3
Pedestrian Injuries	19.6
Physical Health Not Good	17.6
Stroke	39.4
Health Risk Behaviors	—
Binge Drinking	47.1
Current Smoker	6.7
No Leisure Time for Physical Activity	15.9
Climate Change Exposures	—
Wildfire Risk	0.3
SLR Inundation Area	0.0
Children	17.1
Elderly	93.7
English Speaking	41.1
Foreign-born	63.2
Outdoor Workers	31.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	83.2
Traffic Density	51.7
Traffic Access	23.0

Other Indices	—
Hardship	74.3
Other Decision Support	—
2016 Voting	25.5

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	84.0
Healthy Places Index Score for Project Location (b)	19.0
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	Per project applicant
Construction: Off-Road Equipment	Per project applicant
Construction: Paving	Calculated using Jurupa Ave Master Plan

Construction: Dust From Material Movement	Per project applicant
Construction: Architectural Coatings	Per SCAQMD Rule 1113
Land Use	Landscape areas calculated using Jurupa Ave Trailhead Masterplan
Construction: Trips and VMT	Per project assumptions
Operations: Vehicle Data	Per 2023 Rick Engineering Traffic Report, in addition to 161 weekday trips per year for maintenance purposes, per project applicant.

Project Construction Fuel Consumption Summary

Source Category	Fuel Consumption (gal)	
	Diesel	Gasoline
Offroad Equipment	12,996	--
Haul Trucks	416	--
Vendor Trucks	223	--
Workers	--	1,040
Total Fuel Consumption	**13,635**	**1,040**

Construction Duration (years):	0.5
Average Annual Diesel (gal):	13,635
Average Annual Gasoline (gal):	1,040

County Fuel Consumption (2021) [1]

County: Riverside

Source	Fuel Type	Gallons (Retail + Non-Retail	Percent of Project Compared to County
Workers	Gas	981,000,000	0.0001%
Off-Road/Haul & Vendor Trucks	Diesel	290,258,449	0.0047%

Notes:

1. California Energy Commission, California Annual Retail Fuel Outlet Report Results (CEC-A15), 2010-2021
https://www.energy.ca.gov/sites/default/files/2022-10/2010-2021_CEC-A15_Results_and_Analysis_ADA.xlsx
Accessed December 2022. Diesel is adjusted to account for retail (50.3%) and non-retail (49.7%) diesel sales.

Offroad Equipment

Fuel Consumption: Equipment ≤ 100HP	Value
Brake Specific Fuel Consumption Factor (lb/hp-hr)[1]	0.408
Fuel Density (lb/gal)[1]	7.11
Consumption Factor (gal/hp-hr)	0.0574
Total HP-HR <100	125,703
Total Diesel Fuel (gal)	**7,214**

Fuel Consumption: Equipment > 100HP	Value
Brake Specific Fuel Consumption Factor (lb/hp-hr)[1]	0.367
Fuel Density (lb/gal)[1]	7.11
Consumption Factor (gal/hp-hr)	0.0516
Total HP-HR >100	111,992
Total Diesel Fuel (gal)	**5,782**

Total diesel gallons (off-road equipment): 12,996

Phase Name	Equipment	# of Equipment	Hours/Day	HP	Load Factor	Days	Total HP-HR
Site Preparation	Rubber Tired Dozers	1	8	367	0.400	10	11744
Site Preparation	Tractors/Loaders/Backhoes	1	8	84	0.370	10	2486.400
Grading	Rubber Tired Dozers	1	8	367	0.400	20	23488
Grading	Tractors/Loaders/Backhoes	2	8	84	0.370	20	9945.6
Grading	Excavators	1	8	36	0.380	20	2188.8
Grading	Graders	1	8	148	0.410	20	9708.8
Building Construction	Tractors/Loaders/Backhoes	2	7	84	0.370	90	39160.8
Building Construction	Cranes	1	7	367	0.290	90	67050.9
Building Construction	Forklifts	2	8	89	0.200	90	25632
Building Construction	Welders	1	8	46	0.450	90	14904
Paving/Concrete Pouring	Pavers	2	8	81	0.420	20	10886.4
Paving/Concrete Pouring	Paving Equipment	2	8	89	0.360	20	10252.8
Paving/Concrete Pouring	Rollers	2	8	36	0.380	20	4377.6
Paving/Concrete Pouring	Cement and Mortar Mixers	1	8	10	0.560	20	896
Paving/Concrete Pouring	Tractors/Loaders/Backhoes	1	8	84	0.370	20	4972.8
						Total >100HP	111,991.70
						Total <100HP	125,703.20

Notes:
1. CARB, 2017 Off-road Diesel Emission Factors
https://ww3.arb.ca.gov/msei/ordiesel/ordas_ef_fcf_2017_v7.xlsx

Haul Trucks

Onroad Travel Consumption	Value
EMFAC2021 Diesel Fuel Consumption Factor (gal/mi):[1]	0.165
Total VMT (mi):	2,480
Total diesel gallons	**410**
Idling Consumption	**Value**
Idling Fuel Consumption Factor (gal/hr):[2]	0.6400
Total Idle-Hours per Year:	10
Total diesel gallons	**7**

Total diesel gallons: 416

Phase	Total Truck Trips (In/Out)	Trip Length (miles)	Vehicle Category	VMT	Idle Hours	Onroad Travel Consumption (gal)	Idling Consumption (gal)	Total Fuel Consumption (gal)
Site Preparation	0	20.00	HHDT	-	-	-	-	-
Grading	124	20.00	HHDT	2480	10.33	409.65	6.61	416.26
Building Construction	0	20.00	HHDT	-	-	-	-	-
Paving/Concrete Pouring	0	20.00	HHDT	-	-	-	-	-
			Total VMT:	**2,480**		**409.65**	**6.61**	**416.26**
			Total Idle-Hours:		**10**			

1. CARB, EMFAC2021 (BAAQMD; HHDT; Annual; CY 2022; Aggregate MY; Aggregate Speed,DSL)
2. Department of Energy, Fact #861, 2015 Idle Fuel Consumption for Selected Gasoline and Diesel Vehicles, February 23, 2015.
   https://www.energy.gov/eere/vehicles/fact-861-february-23-2015-idle-fuel-consumption-selected-gasoline-and-diesel-vehicles

Vendor Trucks

Onroad Travel Consumption	Value
EMFAC2021 Diesel Fuel Consumption Factor (gal/mi):[1]	0.151
Total VMT (mi):	1,428
Total diesel gallons	**215**
Idling Consumption	**Value**
Idling Fuel Consumption Factor (gal/hr):[2]	0.6400
Total Idle-Hours per Year:	12
Total diesel gallons	**7**

Total diesel gallons: 223

Phase	Days/year	Truck Trips per Day (In/Out)	Trip Length (miles)	Vehicle Category	VMT	Idle Hours	Onroad Travel Consumption (gal)	Idling Consumption (gal)	Total Fuel Consumption (gal)
Site Preparation	10	0	10.20	HHDT/MHDT	0	0	-	-	-
Grading	20	0	10.20	HHDT/MHDT	0	0	-	-	-
Building Construction	90	0	10.20	HHDT/MHDT	0	0	-	-	-
Paving/Concrete Pouring	20	7	10.20	HHDT/MHDT	1,428	12	215.21	7.47	222.68
				Total VMT:	**1,428**		**215.21**	**7.47**	**222.68**
				Total Idle-Hours:		**12**			

1. CARB, EMFAC2021 (BAAQMD; HHDT/MHDT; Annual; CY 2022; Aggregate MY; Aggregate Speed,DSL)
2. Department of Energy, Fact #861, 2015 Idle Fuel Consumption for Selected Gasoline and Diesel Vehicles, February 23, 2015.
   https://www.energy.gov/eere/vehicles/fact-861-february-23-2015-idle-fuel-consumption-selected-gasoline-and-diesel-vehicles

Worker Vehicles

Onroad Travel Consumption	Value
EMFAC2021 Gasoline Fuel Consumption Factor (gal/mi):[1]	0.037
Total VMT (mi):	27,935
Total gasoline gallons	**1,040**

Phase	Days/year	Vehicle Trips per day (In/Out)	Trip Length (miles)	Vehicle Category	VMT	Onroad Travel Consumption (gal)
Site Preparation	10	5.0	18.50	LD Fleet Mix	925	34
Grading	20	12.5	18.50	LD Fleet Mix	4,625	172
Building Construction	90	9.0	18.50	LD Fleet Mix	14,985	558
Paving/Concrete Pouring	20	20.0	18.50	LD Fleet Mix	7,400	275
				Total VMT:	**27,935**	**1,040**

CARB, EMFAC2021 (BAAQMD; LDA/LDT1/LDT2; Annual; CY 2022; Aggregate MY; Aggregate Speed,GAS)

Department of Energy, Fact #861, 2015 Idle Fuel Consumption for Selected Gasoline and Diesel Vehicles, February 23, 2015.

https://www.energy.gov/eere/vehicles/fact-861-february-23-2015-idle-fuel-consumption-selected-gasoline-and-diesel-vehicles

1.

2.

Idling Fuel Consumption Factors

VEHICLE TYPE	FUEL TYPE	ENGINE SIZE (LITER)	GROSS VEHICLE WEIGHT (GVW) (LBS)	IDLING FUEL USE (GAL/HR WITH NO LOAD)
Compact Sedan	Gas	2	-	0.16
Large Sedan	Gas	4.6	-	0.39
Compact Sedan	Diesel	2	-	0.17
Medium Heavy Truck	Gas	7-May	19,700-26,000	0.84
Delivery Truck	Diesel	-	19,500	0.84
Tow Truck	Diesel	-	26,000	0.59
Medium Heavy Truck	Diesel	10-Jun	23,000-33,000	0.44
Transit Bus	Diesel	-	30,000	0.97
Combination Truck	Diesel	-	32,000	0.49
Bucket Truck	Diesel	-	37,000	0.9
Tractor-Semitrailer	Diesel	-	80,000	0.64

Department of Energy, Fact #861, 2015 Idle Fuel Consumption for Selected Gasoline and Diesel Vehicles, February 23, 2015.
https://www.energy.gov/eere/vehicles/fact-861-february-23-2015-idle-fuel-consumption-selected-gasoline-and-diesel-vehicles

This tool provides a quick estimation of the fuel use and emissions for your equipment in a specific year. The results may slightly differ from those from the official inventory model.

Instructions:

Enter the horsepwer, model year, and other details about your equipment in the Input box

Make sure to update the ***load factor*** for your equipment using the lookup table.

The ***Output*** box gives a quick estimation of the fuel use, NOx, PM, and THC emission for your equipment.

Input	Input Engine Here
Horsepower (hp)	70
Model year	2011
Calendar year	2015
Activity (annual hours)	250
Accumulated hours on equipment (estimate using annual-hours*age if you only know the age of the equipment)	1000
Load factor (check the lookup table)	0.2

Intermediate steps	
HPbin	75
NOx_EF0	2.90
NOx_DR	3.8E-05
NOx_FCF	0.950
PM_EF0	0.16
PM_DR	1.2E-05
PM_FCF	0.90
THC_EF0	0.10
THC_DR	2.5E-05
THC_FCF	0.90
NOx_EF (g/hp-hr)	2.79
PM_EF (g/hp-hr)	0.15
THC_EF (g/hp-hr)	0.11
CO2_EF (kg/gallon-diesel)*	10.21
BSFC (lb/hp-hr)	0.408
Unit conversion (lb/gallon)	7.109

*Reference: www.epa.gov/sites/production/files/2015-07/documents/emission-factors_2014.pdf

Results	
Fuel Used (gallon)	201
NOx Emissions (kg)	9.8
PM Emissions (kg)	0.5
THC Emissions (kg)	0.4
CO2 Emissions (kg)	2050.9
NOx Emission Factor (including deterioration and fuel correction factor): gram/bhp-hr	2.79
PM Emission Factor (including deterioration and fuel correction factor): gram/bhp-hr	0.15
THC Emission Factor (including deterioration and fuel correction factor): gram/ bhp-hr	0.11

Loac Factor Lookup Table

Equipment Category	Equipment Type	Details	Load Factor
Agriculture equipment	Agricultural tractors		0.48
	Combine harvesters		0.44
	Forage & silage harvesters		0.44
	Cotton pickers		0.44
	Nut harvester		0.44
	Other harvesters		0.44
	Balers (self propelled)		0.50
	Bale wagons (self propelled)		0.50
	Swathers/windrowers/hay conditioners		0.48
	Hay Squeeze/Stack retriever		0.42
	Sprayers/Spray rigs		0.42
	Construction equipment		0.40
	Other non-mobile		0.48
	Forklifts		0.40
	Atvs		0.40
	Others		0.40
Portable equipment	All portable equipment		0.31
Cargo Handling Equipment	Construction equipment		0.55
	Container handling equipment		0.59
	Forklift		0.30
	Other general industrial equipment		0.51
	Rtg crane		0.20
	Yard tractor		0.39
Transport Refrigeration Units (TRU)	TRU on trailers	25 HP and over, MY2012 and Older	0.46
	TRU on trailers	25 HP and over, MY2013 and Newer	0.38
	TRU on trailers	23 HP and Over, below 25 HP, All years	0.46
	TRU on trucks	Below 23 HP, All Model years	0.56
	TRU on railcars	25 HP and over, MY2012 and Older	0.33
	TRU on railcars	25 HP and over, MY2013 and Newer	0.27
	TRU on railcars	Below 25 HP, All Model years	0.33
	TRU with generators	25 HP and over, MY2012 and Older	0.46
	TRU with generators	25 HP and Over, MY2013 and Newer	0.38
	TRU with generators	23 HP and Over, below 25 HP, All Model Years	0.46
Ground Support Equipment	Passenger Stand		0.40
	A/C Tug Narrow Body		0.54
	A/C Tug Wide Body		0.54
	Baggage Tug		0.37
	Belt Loader		0.34
	Bobtail		0.37
	Cargo Loader		0.34
	Cargo Tractor		0.36
	Forklift (GSE)		0.20
	Lift (GSE)		0.34
	Other GSE		0.34
	Cranes		0.29
	Crawler Tractors		0.43
	Excavators		0.38
	Graders		0.41
	Off-Highway Tractors		0.44

[redacted]

Construction and Industrial Equipment	Off-Highway Trucks		0.38
	Other Construction Equipment		0.42
	Pavers		0.42
	Paving Equipment		0.36
	Rollers		0.38
	Rough Terrain Forklifts		0.40
	Rubber Tired Dozers		0.40
	Rubber Tired Loaders		0.36
	Scrapers		0.48
	Skid Steer Loaders		0.37
	Surfacing Equipment		0.30
	Tractors/Loaders/Backhoes		0.37
	Trenchers		0.50
	Aerial Lifts		0.31
	Forklifts		0.20
	Other General Industrial Equipment		0.34
	Other Material Handling Equipment		0.40
	Sweepers/Scrubbers		0.46
Oil and Drill Rigs	Drill Rig (Mobile)		0.50
	Workover Rig (Mobile)		0.50
	Bore/Drill Rigs		0.50

[redacted]

Worker Fuel Consumption Factor **Year: 2024**

Vehicle Category	VMT (mi/day)	Fuel Consumption (1000gal/day)	Fuel Consumption Factor (gal/mi)	Fuel Economy (mi/gal)	Fleet Mix	Fuel Consumption Factor (gal/mi)
LDA	218661478.4	7518.83	0.034	29.08	64%	0.037
LDT1	18293108.56	753.63	0.041	24.27	5%	
LDT2	105566684.3	4474.43	0.042	23.59	31%	

Source: EMFAC2021, **Output:** Onroad Emissions, **Model Version:** EMFAC2021 v1.0.0, **Air District:** SCAQMD, **Vehicle Categories:** EMFAC2007, **Model Year:** Aggregate, **Speed:** Aggregate, **Fuel:** All, **Output Unit:** tons/operation day

2024

Vehicle Category	VMT (miles/day)	Fuel Consumption (1000 gal/day)	Fuel Consumption Factor (gal/mi)	Fuel Economy (mi/gal)	Fleet Mix	Fuel Consumption Factor (gal/mi)
HHDT	13368763.56	2208.3	0.165	6.05	73%	0.151
MHDT	5002001.319	560.4	0.112	8.93	27%	

Source: EMFAC2021, **Output:** Onroad Emissions, **Model Version:** EMFAC2021 v1.0.0, **Air District:** SCAQMD, **Vehicle Categories:** EMFAC2007, **Model Year:** Aggregate, **Speed:** Aggregate, **Fuel:** All, **Output Unit:** tons/operation day

PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
Site Preparation	Site Preparation	6/3/2024	6/14/2024	5	10
Grading	Grading	6/15/2024	7/12/2024	5	20
Building Construction	Building Construction	7/13/2024	11/15/2024	5	90
Paving/Concrete Pouring	Paving	11/16/2024	12/14/2024	5	20

	Start	End		
Construction Duration (years)	2024/06/03	2024/12/14	194	0.53

(Millions of Gallons)

County	2010 Survey Responses (Millions of Gallons)	2010 Estimated Totals (Millions of Gallons)	2011 Survey Responses (Millions of Gallons)	2011 Estimated Totals (Millions of Gallons)	2012[A] Survey Responses (Millions of Gallons)	2012[A] Estimated Totals (Millions of Gallons)	2013[A] Survey Responses (Millions of Gallons)	2013[A] Estimated Totals (Millions of Gallons)	2014[A] Survey Responses (Millions of Gallons)	2014[A] Estimated Totals (Millions of Gallons)	2015[A] Survey Responses (Millions of Gallons)	2015[A] Estimated Totals (Millions of Gallons)	2016[A] Survey Responses (Millions of Gallons)	2016[A] Estimated Totals (Millions of Gallons)	2017[A] Survey Responses (Millions of Gallons)	2017[A] Estimated Totals (Millions of Gallons)	2018[A] Survey Responses (Millions of Gallons)	2018[A] Estimated Totals (Millions of Gallons)	2019[A] Survey Responses (Millions of Gallons)	2019[A] Estimated Totals (Millions of Gallons)	2020[A] Survey Responses (Millions of Gallons)	2020[A] Estimated Totals (Millions of Gallons)	2021[A] Survey Responses (Millions of Gallons)	2021[A] Estimated Totals (Millions of Gallons)
Alameda	456	551	476	548	480	568	473	603	341	491	432	542	518	582	521	583	495	569	505	591	400	442	393	492
Amador	12	15	12	14	12	14	10	12	11	15	10	13	12	14	13	15	14	17	16	18	12	13	11	14
Butte	66	81	70	81	66	78	64	81	59	85	62	78	74	83	78	87	75	86	62	78	58	68	58	74
Calaveras	11	14	12	14	10	12	10	13	10	14	11	14	13	15	14	15	13	15	14	15	14	15	11	13
Colusa	13	17	9	11	8	10	10	13	7	10	7	9	10	11	11	12	11	13	11	13	12	15	11	16
Contra Costa	332	403	344	395	354	419	331	422	272	392	303	380	384	431	385	430	346	397	374	427	304	336	304	374
Del Norte	6	8	6	7	6	7	4	5	5	7	5	6	6	7	6	7	6	7	4	6	5	5	4	5
El Dorado	55	68	57	67	64	75	56	72	36	52	65	81	72	81	73	82	66	76	64	74	58	62	52	65
Fresno	285	342	290	335	288	341	269	344	209	300	264	331	318	358	328	367	320	368	306	376	296	347	294	387
Glenn	12	14	12	14	11	12	11	14	11	16	13	16	15	17	17	18	15	17	14	18	13	15	14	17
Humboldt	44	54	46	54	45	53	51	64	31	44	47	59	54	61	49	55	51	58	42	53	51	56	47	52
Imperial	56	69	51	60	46	54	46	58	58	83	63	79	77	86	74	83	78	89	73	86	59	64	56	74
Inyo	16	19	16	18	13	16	12	16	12	17	14	18	16	18	16	18	16	18	14	17	14	16	14	15
Kern	293	362	309	359	301	356	287	367	267	384	299	375	362	407	349	390	345	396	340	392	318	364	331	406
Kings	42	51	41	48	40	47	38	49	31	45	41	51	50	57	54	60	52	60	67	76	49	52	42	58
Lake	20	25	18	22	17	20	19	24	17	25	19	23	19	21	19	21	20	23	18	24	17	20	17	20
Lassen	6	7	6	7	5	6	5	6	6	8	7	9	7	8	5	6	4	5	5	7	6	6	7	7
Los Angeles	3,005	3,658	3,069	3,554	2,916	3,451	2,700	3,445	2,606	3,749	2,762	3,465	3,184	3,577	3,272	3,659	3,169	3,638	3,189	3,559	2,513	2,770	2,700	3,061
Madera	47	57	54	61	44	53	43	54	31	45	35	44	52	59	56	62	49	57	44	62	45	63	53	71
Marin	78	94	91	103	91	107	83	106	52	75	83	105	91	102	90	101	71	82	86	96	72	77	66	88
Mariposa	6	7	6	7	5	6	4	5	6	9	5	6	7	8	5	6	6	7	7	8	4	5	6	7
Mendocino	33	41	34	40	36	43	33	42	28	40	32	40	37	42	34	38	35	40	27	44	35	37	33	39
Merced	86	106	81	95	78	92	74	94	58	83	84	105	101	114	105	117	115	132	100	119	91	106	90	122
Mono	6	7	5	6	2	2	6	8	6	8	6	7	7	8	5	5	6	7	7	8	6	7	5	6
Monterey	124	152	134	155	124	147	139	177	87	126	147	184	157	177	155	174	157	181	148	174	123	141	116	162
Napa	42	52	42	47	49	58	41	52	27	39	50	63	50	57	47	53	53	61	54	57	40	44	42	47
Nevada	34	42	30	35	29	34	19	25	19	27	31	40	36	40	35	39	33	38	29	39	31	36	28	35
Orange	1,162	1,406	1,162	1,338	1,145	1,355	1,044	1,332	1,018	1,465	1,092	1,370	1,224	1,375	1,236	1,382	1,222	1,402	1,198	1,325	943	1,029	1,037	1,159
Placer	154	190	162	189	162	192	131	167	118	170	167	209	181	204	182	203	179	206	177	198	150	163	160	178
Plumas	6	7	7	8	6	7	3	4	5	8	5	7	5	5	5	6	5	6	5	6	5	6	4	7
Riverside	781	952	792	916	756	895	725	925	702	1,010	828	1,039	921	1,035	941	1,052	916	1,052	921	1,046	799	876	847	981
Sacramento	467	566	482	553	473	560	446	568	308	442	465	584	534	600	535	599	511	586	536	600	475	689	448	557
San Benito	15	18	14	16	17	20	5	7	10	14	12	15	15	17	18	20	15	17	12	21	10	18	11	17
San Bernardino	747	902	761	871	742	878	697	889	659	948	725	909	899	1,010	888	993	862	990	851	977	757	823	786	926
San Diego	1,094	1,320	1,122	1,291	1,079	1,277	972	1,241	940	1,352	1,123	1,408	1,221	1,372	1,231	1,377	1,208	1,387	1,197	1,325	973	1,055	964	1,165
San Francisco	112	138	129	151	126	149	126	161	71	102	107	134	119	134	120	134	105	120	107	118	76	91	82	99
San Joaquin	248	303	260	301	253	299	254	325	217	312	287	360	303	340	310	347	293	336	289	352	255	292	265	321
San Luis Obispo	121	147	123	144	105	124	109	140	101	145	117	147	127	142	127	142	131	150	125	138	103	115	101	125
San Mateo	232	275	272	310	258	306	244	311	159	229	243	304	289	325	291	326	264	304	293	322	215	238	217	269
Santa Barbara	141	174	140	164	140	166	135	172	124	178	148	186	161	181	152	170	167	191	166	177	136	146	148	168
Santa Clara	514	621	600	691	589	697	546	696	460	661	580	727	638	717	613	685	560	643	614	713	446	511	488	599
Santa Cruz	84	103	91	106	89	105	79	101	53	77	77	96	85	95	84	94	78	90	72	90	69	74	64	88
Shasta	72	88	73	85	77	91	65	83	55	79	76	95	73	82	83	92	76	87	72	82	68	76	67	79
Siskiyou	20	25	17	19	19	23	9	12	10	14	21	27	24	27	26	29	25	28	26	27	22	25	19	28
Solano	158	190	191	218	180	213	158	202	116	167	160	201	187	210	194	217	188	216	182	216	155	180	161	196
Sonoma	157	189	155	178	160	189	163	208	146	210	160	201	186	209	186	208	167	192	169	204	146	167	159	181
Stanislaus	191	230	184	212	173	205	144	183	159	229	201	252	217	244	227	253	212	244	196	245	178	197	205	243
Sutter	30	37	31	37	34	40	33	42	17	24	30	38	35	39	35	39	35	40	27	38	28	30	30	34
Tehama	27	33	24	28	23	27	19	24	18	26	24	30	25	29	26	29	27	31	28	30	25	26	25	30
Trinity	3	4	3	4	1	2	3	4	3	4	3	4	4	5	4	5	4	4	2	4	3	4	3	4
Tulare	109	132	121	139	120	142	91	116	107	155	114	143	136	152	149	167	147	168	144	174	126	149	138	181
Tuolumne	14	17	13	16	15	18	12	15	14	21	18	23	21	23	22	25	22	25	21	23	19	20	17	19
Ventura	285	345	290	335	262	310	246	314	249	358	256	321	294	330	302	338	298	342	297	329	242	262	255	294
Yolo	82	100	76	87	74	87	75	96	63	90	82	103	98	110	101	113	96	110	97	114	76	91	83	101
Yuba	24	29	26	30	22	26	23	30	14	20	24	30	32	36	30	34	40	46	27	32	26	35	28	40
Other Counties*	2	3	2	2	1	2	1	1	1	2	2	2	2	2	2	2	1	1	2	2	2	2	1	2
Total	**12,238**	**14,860**	**12,644**	**14,596**	**12,241**	**14,486**	**11,396**	**14,540**	**10,220**	**14,701**	**12,044**	**15,108**	**13,785**	**15,491**	**13,936**	**15,584**	**13,475**	**15,471**	**13,473**	**15,365**	**11,174**	**12,572**	**11,618**	**13,818**

[A] 2012 to 2021 data are not directly comparable to other years since an improved methodology is used, but is within 5 percent compared to the previous methodology.

* Other Counties include Alpine, Modoc and Sierra.

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County	2010 Survey Responses (Millions of Gallons)	2010 Estimated Totals (Millions of Gallons)	2011 Survey Responses (Millions of Gallons)	2011 Estimated Totals (Millions of Gallons)	2012[A] Survey Responses (Millions of Gallons)	2012[A] Estimated Totals (Millions of Gallons)	2013[A] Survey Responses (Millions of Gallons)	2013[A] Estimated Totals (Millions of Gallons)	2014[A] Survey Responses (Millions of Gallons)	2014[A] Estimated Totals (Millions of Gallons)	2015[A] Survey Responses (Millions of Gallons)	2015[A] Estimated Totals (Millions of Gallons)	2016[A] Survey Responses (Millions of Gallons)	2016[A] Estimated Totals (Millions of Gallons)	2017[A] Survey Responses (Millions of Gallons)	2017[A] Estimated Totals (Millions of Gallons)	2018[A] Survey Responses (Millions of Gallons)	2018[A] Estimated Totals (Millions of Gallons)	2019[A] Survey Responses (Millions of Gallons)	2019[A] Estimated Totals (Millions of Gallons)	2020[A] Survey Responses (Millions of Gallons)	2020[A] Estimated Totals (Millions of Gallons)
Alameda	29	32	26	28	30	36	27	34	19	27	38	49	47	54	51	58	56	62	48	55	47	51
Amador	2	2	2	2	2	2	1	2	1	2	1	2	2	2	2	2	2	3	3	3	2	2
Butte	9	10	9	10	7	9	8	10	8	10	9	11	11	13	11	13	12	13	12	15	10	11
Calaveras	2	2	2	2	2	2	1	2	1	2	2	2	3	3	3	3	2	3	3	3	3	3
Colusa	3	3	2	3	4	5	4	5	2	2	3	4	4	4	2	3	4	4	7	7	10	11
Contra Costa	15	18	19	21	17	20	17	21	12	17	19	24	23	26	24	28	31	34	24	27	22	23
Del Norte	1	2	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	1	2	1	2
El Dorado	6	8	6	7	6	7	5	6	4	6	7	9	8	9	8	10	8	9	8	10	8	8
Fresno	30	33	35	38	33	40	23	29	18	25	39	50	40	46	40	45	46	51	39	49	62	66
Glenn	5	5	4	4	4	5	4	5	4	5	5	6	12	14	16	19	16	17	18	19	17	18
Humboldt	10	12	10	12	10	12	11	14	4	5	10	13	13	14	8	9	7	8	6	7	6	6
Imperial	9	10	8	9	7	8	8	10	8	11	9	11	14	16	11	12	20	22	21	25	22	24
Inyo	3	4	3	4	2	2	3	4	3	3	3	4	3	4	3	4	3	3	3	4	3	4
Kern	111	117	125	129	133	158	118	148	124	171	125	160	131	149	107	121	97	108	96	105	108	116
Kings	7	7	7	8	7	9	5	6	4	6	7	9	5	6	7	7	8	9	8	9	7	7
Lake	3	3	3	3	2	2	2	3	2	3	3	3	1	1	3	3	3	4	3	4	3	4
Lassen	1	1	1	2	1	1	1	1	1	2	3	3	4	4	1	1	1	1	1	2	1	1
Los Angeles	212	235	221	239	205	245	190	239	194	267	257	328	273	309	267	301	228	253	246	276	279	299
Madera	23	24	23	24	24	28	18	23	22	31	26	33	28	31	29	33	28	31	23	24	30	32
Marin	3	4	2	3	3	3	2	3	2	2	2	3	4	4	4	4	3	3	4	4	4	4
Mariposa	1	1	1	1	1	1	-	1	2	2	1	1	1	2	1	1	1	1	1	1	1	1
Mendocino	6	7	7	8	7	9	6	6	4	5	6	7	9	10	6	6	5	6	5	8	9	9
Merced	44	45	37	38	46	55	49	62	49	68	54	69	59	66	38	42	35	39	28	36	28	30
Mono	1	1	1	1	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Monterey	21	23	24	26	25	30	22	27	13	18	23	29	24	28	24	27	24	26	23	26	21	22
Napa	2	2	2	2	6	7	2	3	2	3	6	8	6	7	6	7	6	7	6	7	6	6
Nevada	5	5	5	5	4	4	1	2	4	6	7	8	8	9	8	9	7	8	5	8	7	8
Orange	38	47	36	42	38	46	33	42	37	51	46	59	52	59	54	61	49	55	51	56	49	53
Placer	13	16	13	15	12	15	9	12	10	13	13	16	15	17	15	17	16	17	16	17	32	35
Plumas	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1
Riverside	84	93	87	94	89	107	86	109	100	138	119	152	128	145	131	148	119	132	108	122	134	144
Sacramento	33	37	32	35	27	32	18	21	21	29	28	36	38	42	42	48	41	45	37	41	41	44
San Bernardino	141	149	136	142	158	189	164	206	152	210	198	253	223	252	235	265	176	195	165	178	148	159
San Diego	69	80	64	72	62	74	58	73	67	93	87	111	93	105	92	103	92	103	94	110	88	94
San Francisco	3	3	3	3	3	4	4	5	1	2	5	6	6	6	5	6	5	5	5	5	4	4
San Joaquin	73	75	85	87	84	99	90	113	86	119	102	131	116	131	111	126	105	117	101	113	86	93
San Luis Obispo	12	14	16	18	11	13	9	12	12	17	19	24	20	23	19	21	20	22	20	22	19	20
San Mateo	10	12	8	10	8	10	8	10	4	6	15	19	13	14	15	17	16	17	18	19	12	13
Santa Barbara	13	14	16	17	10	13	12	15	13	18	20	26	22	25	17	19	21	24	18	19	16	17

County	2010 Survey Responses (Millions of Gallons)	2010 Estimated Totals (Millions of Gallons)	2011 Survey Responses (Millions of Gallons)	2011 Estimated Totals (Millions of Gallons)	2012[A] Survey Responses (Millions of Gallons)	2012[A] Estimated Totals (Millions of Gallons)	2013[A] Survey Responses (Millions of Gallons)	2013[A] Estimated Totals (Millions of Gallons)	2014[A] Survey Responses (Millions of Gallons)	2014[A] Estimated Totals (Millions of Gallons)	2015[A] Survey Responses (Millions of Gallons)	2015[A] Estimated Totals (Millions of Gallons)	2016[A] Survey Responses (Millions of Gallons)	2016[A] Estimated Totals (Millions of Gallons)	2017[A] Survey Responses (Millions of Gallons)	2017[A] Estimated Totals (Millions of Gallons)	2018[A] Survey Responses (Millions of Gallons)	2018[A] Estimated Totals (Millions of Gallons)	2019[A] Survey Responses (Millions of Gallons)	2019[A] Estimated Totals (Millions of Gallons)	2020[A] Survey Responses (Millions of Gallons)	2020[A] Estimated Totals (Millions of Gallons)
Alameda	29	32	26	28	30	36	27	34	19	27	38	49	47	54	51	58	56	62	48	55	47	51
Amador	2	2	2	2	2	2	1	2	1	2	1	2	2	2	2	2	2	3	3	3	2	2
Butte	9	10	9	10	7	9	8	10	8	10	9	11	11	13	11	13	12	13	12	15	10	11
Santa Clara	23	26	26	28	27	32	28	35	25	35	36	47	30	34	32	36	43	48	33	42	32	35
Santa Cruz	4	5	5	6	4	5	4	6	2	3	5	6	5	6	6	6	6	7	4	6	7	8
Shasta	20	23	19	21	16	19	18	22	13	18	21	27	21	24	22	25	21	24	14	16	13	14
Siskiyou	5	6	11	11	16	20	15	19	16	20	20	26	19	22	18	21	16	17	16	17	17	18
Solano	14	17	18	20	14	16	14	17	8	11	14	18	17	19	22	24	23	25	24	27	25	27
Sonoma	14	16	18	19	13	16	14	18	12	17	15	20	20	23	20	23	20	22	28	32	28	30
Stanislaus	33	36	27	29	25	30	15	19	20	27	26	33	20	22	30	34	32	36	33	35	36	39
Sutter	4	5	2	3	3	4	4	5	2	3	4	5	5	6	3	4	4	5	5	6	5	5
Tehama	31	32	38	39	35	42	37	47	25	35	37	48	35	39	34	38	18	20	17	18	7	8
Tulare	23	25	33	35	27	32	31	39	31	43	34	43	37	42	37	41	31	34	42	45	47	51
Tuolumne	2	2	2	2	1	2	2	2	2	2	2	3	2	3	3	3	3	3	3	3	3	3
Ventura	20	23	32	34	23	27	23	29	25	34	27	34	29	32	32	36	30	33	33	35	29	32
Yolo	33	34	26	27	27	33	30	37	29	40	27	35	32	37	27	30	25	28	24	26	21	22
Yuba	4	4	4	5	3	4	3	4	2	3	2	3	4	5	8	9	11	12	4	5	4	4
Other Counties*	1	2	2	2	1	2	1	1	1	2	2	2	3	3	3	3	2	2	2	3	2	2
Total	**1,285**	**1,414**	**1,346**	**1,447**	**1,327**	**1,589**	**1,261**	**1,587**	**1,226**	**1,691**	**1,592**	**2,033**	**1,742**	**1,971**	**1,717**	**1,937**	**1,602**	**1,777**	**1,559**	**1,756**	**1,624**	**1,744**

[A] - 2012-2021 data are not directly comparable to other years since an improved methodology is used, but is within 5 percent compared to the previous methodology.

* Other Counties include Alpine, Modoc, San Benito, Sierra and Trinity.

Note: Non-Retail diesel sales, which comprise approximately 49.7% of all diesel sales, are not reported in this chart.

Operations Energy Consumption Summary - 2024 Ops year.

Transportation Fuel

Fuel Type	Gallons/Year
GAS	18,828
DSL	3,533

County: Riverside

Fuel Type	Gallons (Retail + Non-Retail)[1]	Percent of Project Compared to County
Gas	981,000,000	0.0019193%
Diesel	290,258,449	0.0012171%

Electricity

Comparison	GWh/year
Riverside County (2020)[2]	8,256.71
Project Electricity	0.02
Project % of Sales	0.0002%

1. California Energy Commission, California Annual Retail Fuel Outlet Report Results (CEC-A15), 2010-2021
https://www.energy.ca.gov/media/3874
Accessed March 2022.Non-Retail diesel sales, which comprise approximately 49.7% of all diesel sales, are not reported in this total.
2.California Energy Commission, *Electricity Consumption By County - Riverside 2021 Non-Residential*
http://www.ecdms.energy.ca.gov/elecbycounty.aspx?msclkid=c6576070a71211ec90029fbdf184242d

Utility Consumption

Electricity[3]

Land Use	kWh/year	GWh/year
City Park	16,644	0.017
Total	**16,644**	**0.017**

Comparison	GWh/year
Riverside County Non-Residential Electricity Consumption	8,256.71
Project Electricity	0.02
Project % of Sales	0.0002%

Notes:

1 California Energy Commission, *Electricity Consumption By County - Riverside 2021 Non-Residential*
http://www.ecdms.energy.ca.gov/elecbycounty.aspx?msclkid=c6576070a71211ec90029fbdf184242d

Annual Miles
488,955.00

Fuel Consumption - 2024

Vehicle Category	Gal/mi		Fuel Distribution		Fleet Mix	Miles/Vehicle Category	Gallons of Fuel	
	DSL	GAS	DSL	GAS			DSL	GAS
HHDT	0.17	0.25	100.0%	0.0%	3.00%	14,684.79	2,424.84	1.21
LDA	0.02	0.03	0.2%	99.8%	49.21%	240,611.28	12.25	8,256.26
LDT1	0.04	0.04	0.0%	99.98%	4.11%	20,091.10	0.16	827.55
LDT2	0.03	0.04	0.3%	99.7%	23.79%	116,320.97	12.78	4,913.27
LHDT1	0.05	0.07	35.8%	64.2%	2.83%	13,860.42	241.80	652.23
LHDT2	0.06	0.08	62.4%	37.6%	0.71%	3,491.53	126.29	109.87
MCY	0.00	0.02	0.0%	100.0%	0.36%	1,749.17	0.00	42.11
MDV	0.04	0.05	1.3%	98.7%	14.29%	69,865.70	37.94	3,589.44
MH	0.10	0.21	29.6%	70.4%	0.09%	449.70	13.15	65.18
MHDT	0.11	0.19	78.4%	21.6%	1.43%	7,001.81	615.36	292.33
OBUS	0.14	0.20	52.0%	48.0%	0.10%	501.93	37.25	47.47
SBUS	0.14	0.11	35.2%	64.8%	0.04%	218.25	10.47	15.84
UBUS	0.15	0.14	1.7%	98.3%	0.02%	108.35	0.29	15.26
					Project	**488,955.00**	**3,532.60**	**18,828.01**
							22,360.61	0.84

* 4,651 trips/year for a total of 65,023 VMT

	1	2.0	3.0	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
											(Millions of Gallons)												
County		2010 Survey Responses (Millions of Gallons)	2010 Estimated Totals (Millions of Gallons)	2011 Survey Responses (Millions of Gallons)	2011 Estimated Totals (Millions of Gallons)	2012[A] Survey Responses (Millions of Gallons)	2012[A] Estimated Totals (Millions of Gallons)	2013[A] Survey Responses (Millions of Gallons)	2013[A] Estimated Totals (Millions of Gallons)	2014[A] Survey Responses (Millions of Gallons)	2014[A] Estimated Totals (Millions of Gallons)	2015[A] Survey Responses (Millions of Gallons)	2015[A] Estimated Totals (Millions of Gallons)	2016[A] Survey Responses (Millions of Gallons)	2016[A] Estimated Totals (Millions of Gallons)	2017[A] Survey Responses (Millions of Gallons)	2017[A] Estimated Totals (Millions of Gallons)	2018[A] Survey Responses (Millions of Gallons)	2018[A] Estimated Totals (Millions of Gallons)	2019[A] Survey Responses (Millions of Gallons)	2019[A] Estimated Totals (Millions of Gallons)	2020[A] Survey Responses (Millions of Gallons)	2020[A] Estimated Totals (Millions of Gallons)
Alameda		456	551	476	548	480	568	473	603	341	491	432	542	518	582	521	583	495	569	505	591	400	442
Amador		12	15	12	14	12	14	10	12	11	15	10	13	12	14	13	15	14	17	16	18	12	13
Butte		66	81	70	81	66	78	64	81	59	85	62	78	74	83	78	87	75	86	62	78	58	68
Calaveras		11	14	12	14	10	12	10	13	10	14	11	14	13	15	14	15	13	15	14	15	14	15
Colusa		13	17	9	11	8	10	10	13	7	10	7	9	10	11	11	12	11	13	11	13	12	15
Contra Costa		332	403	344	395	354	419	331	422	272	392	303	380	384	431	385	430	346	397	374	427	304	336
Del Norte		6	8	6	7	6	7	4	5	5	7	5	6	6	7	6	7	6	7	4	6	5	5
El Dorado		55	68	57	67	64	75	56	72	36	52	65	81	72	81	73	82	66	76	64	74	58	62
Fresno		285	342	290	335	288	341	269	344	209	300	264	331	318	358	328	367	320	368	306	376	296	347
Glenn		12	14	12	14	11	12	11	14	11	16	13	16	15	17	17	18	15	17	14	18	13	15
Humboldt		44	54	46	54	45	53	51	64	31	44	47	59	54	61	49	55	51	58	42	53	51	56
Imperial		56	69	51	60	46	54	46	58	58	83	63	79	77	86	74	83	78	89	73	86	59	64
Inyo		16	19	16	18	13	16	12	16	12	17	14	18	16	18	16	18	16	18	14	17	14	16
Kern		293	362	309	359	301	356	287	367	267	384	299	375	362	407	349	390	345	396	340	392	318	364
Kings		42	51	41	48	40	47	38	49	31	45	41	51	50	57	54	60	52	60	67	76	49	52
Lake		20	25	18	22	17	20	19	24	17	25	19	23	19	21	19	21	20	23	18	24	17	20
Lassen		6	7	6	7	5	6	5	6	6	8	7	9	7	8	5	6	4	5	5	7	6	6
Los Angeles		3,005	3,658	3,069	3,554	2,916	3,451	2,700	3,445	2,606	3,749	2,762	3,465	3,184	3,577	3,272	3,659	3,169	3,638	3,189	3,559	2,513	2,770
Madera		47	57	54	61	44	53	43	54	31	45	35	44	52	59	56	62	49	57	44	62	45	63
Marin		78	94	91	103	91	107	83	106	52	75	83	105	91	102	90	101	71	82	86	96	72	77
Mariposa		6	7	6	7	5	6	4	5	6	9	5	6	7	8	5	6	6	7	7	8	4	5
Mendocino		33	41	34	40	36	43	33	42	28	40	32	40	37	42	34	38	35	40	27	44	35	37
Merced		86	106	81	95	78	92	74	94	58	83	84	105	101	114	105	117	115	132	100	119	91	106
Mono		6	7	5	6	2	2	6	8	6	8	6	7	7	8	5	5	6	7	7	8	6	7
Monterey		124	152	134	155	124	147	139	177	87	126	147	184	157	177	155	174	157	181	148	174	123	141
Napa		42	52	42	47	49	58	41	52	27	39	50	63	50	57	47	53	53	61	54	57	40	44
Nevada		34	42	30	35	29	34	19	25	19	27	31	40	36	40	35	39	33	38	29	39	31	36
Orange		1,162	1,406	1,162	1,338	1,145	1,355	1,044	1,332	1,018	1,465	1,092	1,370	1,224	1,375	1,236	1,382	1,222	1,402	1,198	1,325	943	1,029
Placer		154	190	162	189	162	192	131	167	118	170	167	209	181	204	182	203	179	206	177	198	150	163
Plumas		6	7	7	8	6	7	3	4	5	8	5	7	5	5	5	6	5	6	5	6	5	6
Riverside		781	952	792	916	756	895	725	925	702	1,010	828	1,039	921	1,035	941	1,052	916	1,052	921	1,046	799	876
Sacramento		467	566	482	553	473	560	446	568	308	442	465	584	534	600	535	599	511	586	536	600	475	689
San Benito		15	18	14	16	17	20	5	7	10	14	12	15	15	17	18	20	15	17	12	21	10	18
San Bernardino		747	902	761	871	742	878	697	889	659	948	725	909	899	1,010	888	993	862	990	851	977	757	823
San Diego		1,094	1,320	1,122	1,291	1,079	1,277	972	1,241	940	1,352	1,123	1,408	1,221	1,372	1,231	1,377	1,208	1,387	1,197	1,325	973	1,055
San Francisco		112	138	129	151	126	149	126	161	71	102	107	134	119	134	120	134	105	120	107	118	76	91
San Joaquin		248	303	260	301	253	299	254	325	217	312	287	360	303	340	310	347	293	336	289	352	255	292
San Luis Obispo		121	147	123	144	105	124	109	140	101	145	117	147	127	142	127	142	131	150	125	138	103	115
San Mateo		232	275	272	310	258	306	244	311	159	229	243	304	289	325	291	326	264	304	293	322	215	238
Santa Barbara		141	174	140	164	140	166	135	172	124	178	148	186	161	181	152	170	167	191	166	177	136	146
Santa Clara		514	621	600	691	589	697	546	696	460	661	580	727	638	717	613	685	560	643	614	713	446	511
Santa Cruz		84	103	91	106	89	105	79	101	53	77	77	96	85	95	84	94	78	90	72	90	69	74
Shasta		72	88	73	85	77	91	65	83	55	79	76	95	73	82	83	92	76	87	72	82	68	76
Siskiyou		20	25	17	19	19	23	9	12	10	14	21	27	24	27	26	29	25	28	26	27	22	25
Solano		158	190	191	218	180	213	158	202	116	167	160	201	187	210	194	217	188	216	182	216	155	180
Sonoma		157	189	155	178	160	189	163	208	146	210	160	201	186	209	186	208	167	192	169	204	146	167
Stanislaus		191	230	184	212	173	205	144	183	159	229	201	252	217	244	227	253	212	244	196	245	178	197
Sutter		30	37	31	37	34	40	33	42	17	24	30	38	35	39	35	39	35	40	27	38	28	30
Tehama		27	33	24	28	23	27	19	24	18	26	24	30	25	29	26	29	27	31	28	30	25	26
Trinity		3	4	3	4	1	2	3	4	3	4	3	4	4	5	4	5	4	4	2	4	3	4
Tulare		109	132	121	139	120	142	91	116	107	155	114	143	136	152	149	167	147	168	144	174	126	149
Tuolumne		14	17	13	16	15	18	12	15	14	21	18	23	21	23	22	25	22	25	21	23	19	20
Ventura		285	345	290	335	262	310	246	314	249	358	256	321	294	330	302	338	298	342	297	329	242	262
Yolo		82	100	76	87	74	87	75	96	63	90	82	103	98	110	101	113	96	110	97	114	76	91
Yuba		24	29	26	30	22	26	23	30	14	20	24	30	32	36	30	34	40	46	27	32	26	35
Other Counties[*]		2	3	2	2	1	2	1	1	1	2	2	2	2	2	2	2	1	1	2	2	2	2
Total		**12,238**	**14,860**	**12,644**	**14,596**	**12,241**	**14,486**	**11,396**	**14,540**	**10,220**	**14,701**	**12,044**	**15,108**	**13,785**	**15,491**	**13,936**	**15,584**	**13,475**	**15,471**	**13,473**	**15,365**	**11,174**	**12,572**

[A] 2012 to 2021 data are not directly comparable to other years since an improved methodology is used, but is within 5 percent compared to the previous methodology.

[*] Other Counties include Alpine, Modoc and Sierra.

iesel Sales by County

(Millions of Gallons)

County	2010 Survey Responses (Millions of Gallons)	2010 Estimated Totals (Millions of Gallons)	2011 Survey Responses (Millions of Gallons)	2011 Estimated Totals (Millions of Gallons)	2012[A] Survey Responses (Millions of Gallons)	2012[A] Estimated Totals (Millions of Gallons)	2013[A] Survey Responses (Millions of Gallons)	2013[A] Estimated Totals (Millions of Gallons)	2014[A] Survey Responses (Millions of Gallons)	2014[A] Estimated Totals (Millions of Gallons)	2015[A] Survey Responses (Millions of Gallons)	2015[A] Estimated Totals (Millions of Gallons)	2016[A] Survey Responses (Millions of Gallons)	2016[A] Estimated Totals (Millions of Gallons)	2017[A] Survey Responses (Millions of Gallons)	2017[A] Estimated Totals (Millions of Gallons)	2018[A] Survey Responses (Millions of Gallons)	2018[A] Estimated Totals (Millions of Gallons)	2019[A] Survey Responses (Millions of Gallons)	2019[A] Estimated Totals (Millions of Gallons)	2020[A] Survey Responses (Millions of Gallons)	2020[A] Estimated Totals (Millions of Gallons)
Alameda	29	32	26	28	30	36	27	34	19	27	38	49	47	54	51	58	56	62	48	55	47	51
Amador	2	2	2	2	2	2	1	2	1	2	1	2	2	2	2	2	2	3	3	3	2	2
Butte	9	10	9	10	7	9	8	10	8	10	9	11	11	13	11	13	12	13	12	15	10	11
Calaveras	2	2	2	2	2	2	1	2	1	2	2	2	3	3	3	3	2	3	3	3	3	3
Colusa	3	3	2	3	4	5	4	5	2	2	3	4	4	4	2	3	4	4	7	7	10	11
Contra Costa	15	18	19	21	17	20	17	21	12	17	19	24	23	26	24	28	31	34	24	27	22	23
Del Norte	1	2	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	1	2	1	2
El Dorado	6	8	6	7	6	7	5	6	4	6	7	9	8	9	8	10	8	9	8	10	8	8
Fresno	30	33	35	38	33	40	23	29	18	25	39	50	40	46	40	45	46	51	39	49	62	66
Glenn	5	5	4	4	4	5	4	5	4	5	5	6	12	14	16	19	16	17	18	19	17	18
Humboldt	10	12	10	12	10	12	11	14	4	5	10	13	13	14	8	9	7	8	6	7	6	6
Imperial	9	10	8	9	7	8	8	10	8	11	9	11	14	16	11	12	20	22	21	25	22	24
Inyo	3	4	3	4	2	2	3	4	3	3	3	4	3	4	3	4	3	3	3	4	3	4
Kern	111	117	125	129	133	158	118	148	124	171	125	160	131	149	107	121	97	108	96	105	108	116
Kings	7	7	7	8	7	9	5	6	4	6	7	9	5	6	7	7	8	9	8	9	7	7
Lake	3	3	3	3	2	2	2	3	2	3	3	3	1	1	3	3	3	4	3	4	3	4
Lassen	1	1	1	2	1	1	1	1	1	2	3	3	4	4	1	1	1	1	1	2	1	1
Los Angeles	212	235	221	239	205	245	190	239	194	267	257	328	273	309	267	301	228	253	246	276	279	299
Madera	23	24	23	24	24	28	18	23	22	31	26	33	28	31	29	33	28	31	23	24	30	32
Marin	3	4	2	3	3	3	2	3	2	2	2	3	4	4	4	4	3	3	4	4	4	4
Mariposa	1	1	1	1	1	1	-	1	2	2	1	1	1	2	1	1	1	1	1	1	1	1
Mendocino	6	7	7	8	7	9	6	6	4	5	6	7	9	10	6	6	5	6	5	8	9	9
Merced	44	45	37	38	46	55	49	62	49	68	54	69	59	66	38	42	35	39	28	36	28	30
Mono	1	1	1	1	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Monterey	21	23	24	26	25	30	22	27	13	18	23	29	24	28	24	27	24	26	23	26	21	22
Napa	2	2	2	2	6	7	2	3	2	3	6	8	6	7	6	7	6	7	6	7	6	6
Nevada	5	5	5	5	4	4	1	2	4	6	7	8	8	9	8	9	7	8	5	8	7	8
Orange	38	47	36	42	38	46	33	42	37	51	46	59	52	59	54	61	49	55	51	56	49	53
Placer	13	16	13	15	12	15	9	12	10	13	13	16	15	17	15	17	16	17	16	17	32	35
Plumas	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1
Riverside	84	93	87	94	89	107	86	109	100	138	119	152	128	145	131	148	119	132	108	122	134	144
Sacramento	33	37	32	35	27	32	18	21	21	29	28	36	38	42	42	48	41	45	37	41	41	44
San Bernardino	141	149	136	142	158	189	164	206	152	210	198	253	223	252	235	265	176	195	165	178	148	159
San Diego	69	80	64	72	62	74	58	73	67	93	87	111	93	105	92	103	92	103	94	110	88	94
San Francisco	3	3	3	3	3	4	4	5	1	2	5	6	6	6	5	6	5	5	5	5	4	4
San Joaquin	73	75	85	87	84	99	90	113	86	119	102	131	116	131	111	126	105	117	101	113	86	93
San Luis Obispo	12	14	16	18	11	13	9	12	12	17	19	24	20	23	19	21	20	22	20	22	19	20
San Mateo	10	12	8	10	8	10	8	10	4	6	15	19	13	14	15	17	16	17	18	19	12	13
Santa Barbara	13	14	16	17	10	13	12	15	13	18	20	26	22	25	17	19	21	24	18	19	16	17

Santa Clara	23	26	26	28	27	32	28	35	25	35	36	47	30	34	32	36	43	48	33	42	32	35
Santa Cruz	4	5	5	6	4	5	4	6	2	3	5	6	5	6	6	6	6	7	4	6	7	8
Shasta	20	23	19	21	16	19	18	22	13	18	21	27	21	24	22	25	21	24	14	16	13	14
Siskiyou	5	6	11	11	16	20	15	19	16	20	20	26	19	22	18	21	16	17	16	17	17	18
Solano	14	17	18	20	14	16	14	17	8	11	14	18	17	19	22	24	23	25	24	27	25	27
Sonoma	14	16	18	19	13	16	14	18	12	17	15	20	20	23	20	23	20	22	28	32	28	30
Stanislaus	33	36	27	29	25	30	15	19	20	27	26	33	20	22	30	34	32	36	33	35	36	39
Sutter	4	5	2	3	3	4	4	5	2	3	4	5	5	6	3	4	4	5	5	6	5	5
Tehama	31	32	38	39	35	42	37	47	25	35	37	48	35	39	34	38	18	20	17	18	7	8
Tulare	23	25	33	35	27	32	31	39	31	43	34	43	37	42	37	41	31	34	42	45	47	51
Tuolumne	2	2	2	2	1	2	2	2	2	2	2	3	2	3	3	3	3	3	3	3	3	3
Ventura	20	23	32	34	23	27	23	29	25	34	27	34	29	32	32	36	30	33	33	35	29	32
Yolo	33	34	26	27	27	33	30	37	29	40	27	35	32	37	27	30	25	28	24	26	21	22
Yuba	4	4	4	5	3	4	3	4	2	3	2	3	4	5	8	9	11	12	4	5	4	4
Other Counties*	1	2	2	2	1	2	1	1	1	2	2	2	3	3	3	3	2	2	2	3	2	2
Total	**1,285**	**1,414**	**1,346**	**1,447**	**1,327**	**1,589**	**1,261**	**1,587**	**1,226**	**1,691**	**1,592**	**2,033**	**1,742**	**1,971**	**1,717**	**1,937**	**1,602**	**1,777**	**1,559**	**1,756**	**1,624**	**1,744**

[A] - 2012-2021 data are not directly comparable to other years since an improved methodology is used, but is within 5 percent compared to the previous methodology.

* Other Counties include Alpine, Modoc, San Benito, Sierra and Trinity.

Note: Non-Retail diesel sales, which comprise approximately 49.7% of all diesel sales, are not reported in this chart.

Appendix D

Aquatic Resources Delineation Report

AQUATIC RESOURCES DELINEATION REPORT (STATE AND FEDERAL AGENCIES) RIVERSIDE GATEWAY PROJECT

PREPARED FOR:

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May 2022

ICF. 2022. *Aquatic Resource Delineation Report, Riverside Gateway Project, Riverside, Riverside County, California*. May. (ICF 104147) Irvine, CA. Prepared for City of Riverside Parks, Recreation, and Community Services Department, Riverside, California.

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Acronyms and Abbreviations

amsl	above mean sea level
CDFW	California Department of Fish and Wildlife
CFG Code	California Fish and Game Code
CFR	Code of Federal Regulations
City	City of Riverside
CWA	Clean Water Act
EPA	U.S. Environmental Protection Agency
FAC	facultative
FACU	facultative upland
FACW	facultative wetland
FEMA	Federal Emergency Management Agency
GIS	geographic information system
GPS	global positioning system
HUC	hydrologic unit code
NHD	National Hydrography Dataset
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OHWM	ordinary high water mark
OHWM Datasheet	Arid West Ephemeral and Intermittent Streams OHWM Datasheets
Porter-Cologne Act	Porter-Cologne Water Quality Act
Procedures	State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State
proposed project	Riverside Gateway Project
RWQCB	Regional Water Quality Control Board
SSURGO	Soil Survey Geographic
SWRCB	State Water Resources Control Board
UPL	upland
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WoS	waters of the State
WoUS	waters of the U.S.

Executive Summary

On December 2 and 3, 2021, ICF conducted a routine-level delineation of jurisdictional waters and wetlands of the Riverside Gateway Project (proposed project).

The purpose of this delineation was to identify the extent of potentially jurisdictional wetland and non-wetland waters of the U.S. (WoUS) and waters of the State (WoS) ("aquatic resources") within and adjacent to the project site to support federal and state regulatory permitting processes. The project limits of disturbance of five different sites within the project are collectively referred to as the "study area." Relevant jurisdictions include:

- Federal jurisdiction regulated by the U.S. Environmental Protection Agency (EPA) and U.S. Army Corps of Engineers (USACE) as WoUS under Section 404 of the Clean Water Act (CWA)
- State jurisdiction regulated by the State Water Resources Control Board (SWRCB)/Regional Water Quality Control Board (RWQCB) as WoUS under Section 401 of the CWA
- SWRCB/RWQCB surface WoS regulated under Section 13260 of the Porter-Cologne Water Quality Act (Porter-Cologne Act)
- California Department of Fish and Wildlife (CDFW) aquatic resources regulated under Section 1600 of the California Fish and Game Code (CFG Code)

Based on the investigation and analysis documented in this report, potential CWA Section 404/401 aquatic resources within the study area are determined to be 0.40 acre (615 linear feet) of non-wetland WoUS and 0.09 acre (369 linear) of non-wetland WoUS with wetland conditions subject to regulation by USACE and RWQCB. Lastly, approximately 13.07 acre (3,240 linear feet) of streambed and 19.35 acre (3,731 linear feet) of associated riparian vegetation subject to CDFW jurisdiction were mapped within the study area.

Jurisdictional delineation maps are included as Appendix A. Ordinary high water mark (OHWM) data sheets and wetland determination forms are included as Appendices B and C, respectively. Lastly, Site photographs are included as Appendix D. The Santa Ana River Restoration Projects, Early Implementation Services for the Upper Santa Ana River Habitat Conservation Plan Jurisdictional Delineation Report is included as Appendix E.

Chapter 1
Introduction

On December 2 and 3, 2021, ICF conducted a routine-level aquatic resource delineation of potential WoUS, WoS, and CDFW jurisdiction for the Riverside Gateway Project (proposed project) as part of the federal and state regulatory permitting process for the City of Riverside Parks, Recreation, and Community Services Department in the City of Riverside (City) in Riverside County, California (Appendix A, Figure 1). The study area is composed of the proposed project limits.

The purpose of this delineation is to identify the extent of potentially jurisdictional federal and state aquatic resources within and adjacent to the project site to support federal and state regulatory permitting processes pursuant to Sections 401 and 404 of the CWA (33 U.S. Code §1251 et seq. [1972]), as well as Section 13260 of the Porter-Cologne Act, Section 1600 et seq. of the CFG Code. Section 404 of the CWA is administered by USACE with oversight from EPA and regulates the discharge of dredge or fill material within WoUS, including wetland and non-wetland WoUS. Section 401 of the CWA is administered by the SWRCB/RWQCB and regulates at the state level all Section 404 activities that are regulated by USACE. The SWRCB/RWQCB may also regulate activities affecting non-federal wetland and non-wetland WoS (e.g., surface waters and isolated features) under the Porter-Cologne Act. Section 1600 et seq. of the CFG Code is administered by CDFW and regulates activities that may affect lakes, streams with a defined bed and bank, and/or associated riparian vegetation. If a proposed project has the potential to affect waters, wetlands, lakes, streams, and associated riparian vegetation, then the project site must be evaluated to determine the presence, type, and extent of aquatic resources. Details regarding each of these agencies and their regulatory authority, jurisdiction, permitting, and delineation methodologies are provided in Chapter 2, *Regulatory Background and Methodology*.

The information and results presented herein document the investigation, best professional judgment, and conclusions of ICF. It is correct and complete to the best of our knowledge. However, all jurisdictional delineations should be considered preliminary until reviewed and approved by the regulatory agencies.

1.1 Project Description

The project proposed by the City of Riverside Parks, Recreation, and Community Services Department involves a multidisciplinary effort for the planning, design, engineering, and associated community outreach and environmental compliance for California Environmental Quality Act (CEQA) review for nine identified park sites in the City of Riverside, Riverside County, California. This aquatic resources delineation report includes five locations, Tequesquite North Extension, Tequesquite South Extension, 5200 Tequesquite Avenue, Santa Ana River Greenway, and Jurupa Avenue Trailhead. All these sites with the exception of Jurupa Avenue Trailhead are by Tequesquite Avenue in the City. The sites combined comprise approximately 140 acres of City- and privately owned land and are situated along the Santa Ana River. The City received funding from the Coastal Conservancy to provide master planning for improvements within these sites. Proposed improvements for the three Tequesquite sites include Santa Ana River Trail trailhead, native plant interpretive garden, habitat conservation areas, community garden, nature playground, horse

stables, interpretive trails/signage, vehicular access control, lighting, bike repair café, dog and/or skate park. The Santa Ana River Greenway components propose to add a decomposed granite path parallel to the existing paved trail to separate slower recreational users from higher-speed users as well as landscaping, irrigation, lighting, signage, emergency phones, and other trail user support amenities to create a shady and aesthetically inviting space. The Jurupa Avenue Trailhead improvement features would include drinking fountains, shade resting areas, parking, bike lockers and racks, a bicycle repair station, and equestrian facilities to support users of the Santa Ana River Trail.

1.2 Project Location

The five project sites within the study area are along the Santa Ana River Trail within the City (Appendix A, Figures 1 and 2). The study area is mapped in land grants on the U.S. Geological Survey (USGS) 7.5-minute Riverside West, CA quadrangle map (USGS 2001).

Chapter 2
Regulatory Background and Methodology by Agency

2.1 Desktop Research

Prior to the field delineation, the following resources were reviewed to identify potential aquatic resources in the study area:

- Aerial imagery for various dates between 1994 and 2021 (Google Earth 2021)
- USGS 7.5-minute Riverside West, CA topographic quadrangle map (USGS 2001) (Appendix A, Figure 2)
- Watershed maps available from National Hydrography Dataset (NHD) (USGS 2017) (Appendix A, Figure 3)
- Federal Emergency Management Agency (FEMA) 100-year floodplain maps (FEMA 2014) (Appendix A, Figure 4)
- NHD and the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) (USFWS 2017) data for the study area (Appendix A, Figure 4)
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Soil Survey Geographic (SSURGO) database (USDA/NRCS 2006) for the study area (Appendix A, Figure 5)

The above resources were used to identify approximate locations of potential aquatic resources subject to regulation by USACE, SWRCB/RWQCB, and CDFW within the study area.

In addition to the regionally available data (e.g., NWI, NHD, and FEMA) the approximate location and extent of potential aquatic resources were identified on field maps based on changes in vegetation type and cover, topographic changes, and visible drainage patterns.

2.2 Field Investigation and Mapping

ICF conducted the jurisdictional waters and wetland delineation for the study area in 2021 and conducted site visits on December 2 and 3, 2021 to confirm existing conditions. Additionally, a site visit was conducted on November 24 to set up dig alert points to submit for digging approval. Table 2-1 shows the date, delineator(s), and purpose of each site visit.

Table 2-1. Jurisdictional Delineation Field Dates

Date	Delineators	Purpose
November 24, 2021	Paul Schwartz, Cole Sutter	Dig alert setup
December 2, 2021	Kristen Klinefelter, Cole Sutter	Jurisdictional delineation field survey
December 3, 2021	Kristen Klinefelter, Cole Sutter	Jurisdictional delineation field survey

The 2021 field investigation was conducted in December within the study area, which is defined as the limits of disturbance for the proposed project sites.

During the field efforts, the study area was surveyed on foot where access was possible, and jurisdictional limits were recorded using ArcMap Collector on an iPad unit with an external global positioning system (GPS) receiver providing sub-meter accuracy. If no access was possible, then jurisdictional features were delineated based on visual estimates and aerial photographs and then digitized in a geographic information system (GIS). Common plant species observed were identified by visual characteristics and morphology in the field. Taxonomic nomenclature for plants follows the *Jepson Manual: Vascular Plants of California*, 2nd edition (Baldwin et al. 2012) and the Arid West 2020 Regional Wetland Plant List (USACE 2020).

The site visit was conducted 56 days following a storm event that resulted in 0.15 inch of rain on October 8, 2021, as recorded at the Riverside Municipal Airport (National Weather Service 2021). Representative photos for features in the study area were taken to depict existing conditions (Appendix D).

The below subsections provide the regulatory background and aquatic resource delineation methods used per agency.

2.2.1 U.S. Army Corps of Engineers

USACE regulates activities proposed within navigable waters under Section 10 of the Rivers and Harbors Act and WoUS under Section 404 of the CWA. Section 10 of the Rivers and Harbors Act regulates work, structures, obstructions, or alterations occurring within navigable WoUS, which is defined as those waters subject to the ebb and flow of the tide shoreward to the mean high-water mark and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. The project site does not support tidal waters; therefore, Section 10 of the act is not discussed further.

The pre-2015 definition of WoUS became effective on September 3, 2021, in all states and territories (USACE/EPA 2021). This definition establishes the scope of USACE and EPA authority under the CWA and includes seven categories of jurisdictional WoUS (33 Code of Federal Regulations [CFR] 328.3(a)(1)–(7)) and two categories of non-jurisdictional aquatic features (33 CFR 328.3(a)(8)). The seven categories of jurisdictional WoUS are as follows:

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide (33 CFR 328.3(a)(1));
- All interstate waters including interstate wetlands (33 CFR 328.3(a)(2));
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters (33 CFR 328.3(a)(3)):
    - Which are or could be used by interstate or foreign travelers for recreational or other purposes (33 CFR 328.3(a)(3)(i)); or
    - From which fish or shellfish are or could be taken and sold in interstate or foreign commerce (33 CFR 328.3(a)(3)(ii)); or
    - Which are used or could be used for industrial purpose by industries in interstate commerce (33 CFR 328.3(a)(3)(iii)).

- All impoundments of waters otherwise defined as waters of the United States under the definition (33 CFR 328.3(a)(4));
- Tributaries of waters identified in paragraphs (a) (1) through (4) of this section (33 CFR 328.3(a)(5));
- The territorial seas (33 CFR 328.3(a)(6));
- Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1) through (6) of this section (33 CFR 328.3(a)(7)).

The two categories of non-jurisdictional aquatic features (33 CFR 328.3(a)(8)) are as follows:

- Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA; and
- Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States.

2.2.1.1 Delineation Methods for CWA Section 404 (Non-tidal) Non-wetland WoUS

Aquatic resources with a defined OHWM would be considered potential non-wetland WoUS. USACE regulations at 33 CFR 328.3(c)(7) define OHWM as "the line on the shore established by the fluctuation of water and indicated by physical characteristics such as a clean natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (85 *Federal Register* 22339, April 21, 2020). The lateral limits of non-wetland WoUS were mapped using guidance provided in *Ordinary High Water Flows and the Stage-Discharge Relationship in the Arid West Region* (USACE 2011), *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States: A Determination Manual* (USACE 2008b), and Regulatory Guidance Letter 05-05 (USACE 2005).

ICF completed the 2010 Arid West Ephemeral and Intermittent Streams OHWM Datasheets (OHWM Datasheets) for representative non-wetland water features within the study area. Completed OHWM Datasheets are provided in Appendix B, and the location of each OHWM sample point is depicted on Figure 6 in Appendix A. The OHWM Datasheets were completed following guidance provided in the *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2010). Common indicators of OHWM include changes in average sediment texture, break in slope, changes in vegetation species, and/or changes in vegetation cover.

2.2.1.2 Delineation Methods for CWA Section 404 (Non-tidal) Wetland WoUS

Wetlands consist of areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Normally, three criteria (parameters) must be satisfied to classify an area as a wetland: (1) a predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation); (2) soils that saturate, flood, or pond

long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and (3) permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology).

In areas that exhibited evidence of wetland hydrology and/or hydrophytic vegetation, wetland soil pits were established to examine soil color and texture and determine the wetland boundary. A paired-pit technique (i.e., one sample point with wetland results paired with one sample point with non-wetland results) was used to identify the wetland boundary. The wetland delineation was conducted pursuant to the 1987 *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) and the 2008 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a). The *Field Indicators of Hydric Soils in the United States,* Version 8.2 (USDA/NRCS 2018) was used to identify hydric soil; vascular plants were identified using *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012); and nomenclature and associated wetland ratings follow the *National Wetland Plant List* (USACE 2020). Wetland determination forms are provided in Appendix C.

Most of the Jurupa Avenue Trailhead site was inaccessible due homeless encampments and unsafe working conditions. Therefore, ICF biologists used results data collected in 2016 from the Santa Ana River Tributary Restoration Projects, Early Implementation Services for the Upper Santa Ana River Habitat Conservation Plan Jurisdictional Delineation Report where its study area overlapped with the Jurupa Avenue Trailhead site and confirmed that conditions had not changed wherever accessible within the study area. The report can be found in Appendix E for reference.

2.2.2 State Water Resources Control Board/Regional Water Quality Control Board

In California, the SWRCB and nine RWQCBs regulate activities within WoUS under Section 401 of the CWA and within WoS under the Porter-Cologne Act. The SWRCB defines WoS broadly to include "any surface water or groundwater, including saline waters, within the boundaries of the state."

2.2.2.1 Delineation Methods for CWA Section 401 Non-wetland WoUS and Porter-Cologne Non-wetland WoS

The SWRCB and RWQCBs do not have regulations or guidance defining the extent of non-wetland WoUS or WoS. Therefore, lateral limits of potential non-wetland WoUS and WoS were identified and delineated using the same methods for determining OHWM per USACE as described above in Section 2.2.1, as they have generally been considered coincident.

2.2.2.2 Delineation Methods for CWA Section 401 Wetland WoUS and Porter-Cologne Wetland WoS

On April 2, 2019, the SWRCB adopted the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (Procedures; SWRCB 2019). The Procedures became effective on May 28, 2020, and define wetland WoS as follows:

An area is a wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The Procedures provide that RWQCBs shall rely on a wetland delineation from a final aquatic resources delineation report verified by USACE to determine the extent of wetland WoUS and WoS. If any potential wetland areas have not been delineated in a final aquatic resources delineation report verified by USACE, the limits of such potential wetland waters WoS shall be identified using the same wetland delineation methods per USACE as described in Section 2.2.1, except that a lack of vegetation (i.e., less than 5 percent areal coverage of plants during the peak of the growing season) does not preclude an area from meeting the definition of a wetland when hydric soils and wetland hydrology are present (SWRCB 2019).

2.2.3 California Department of Fish and Wildlife Jurisdiction

Pursuant to Sections 1600 et al. of the CFG Code, CDFW regulates any activity that would substantially divert or obstruct the natural flow—or substantially change or use any material from the bed, channel, or bank—of any river, stream, or lake. CDFW jurisdiction relies on the presence of a lake and/or streambed and associated riparian or wetland habitat. CDFW regulation under CFG Code Section 1602 requires that all lakes and streams on a project site are identified in order to assess the proposed activity's potential impacts on these aquatic resources.

2.2.3.1 Delineation Methods for CFG Code Section 1600 Lakes, Streambeds, and Associated Riparian and/or Wetland Habitat

CDFW defines lakes as "natural lakes or man-made reservoirs" (14 California Code of Regulations § 1.56). With respect to streams, it has been the practice of CDFW to define a stream as "a body of water that flows perennially or episodically and that is defined by the area in which water currently flows, or has flowed, over a given course during the historic hydrologic course regime, and where the width of its course can reasonably be identified by physical or biological indicators" (Brady and Vyverberg 2014). The historic hydrologic regime is defined as circa 1800 to the present. In addition, streams include "watercourses having a surface or subsurface flow that supports riparian vegetation" (14 California Code of Regulations § 1.72). Riparian habitat refers to vegetation and habitat associated with a stream. CDFW-jurisdictional habitat includes all riparian shrub or tree canopy that may extend beyond the banks of a stream. Isolated riparian habitat (i.e., where riparian vegetation does not appear associated with a stream channel) is not considered CDFW jurisdictional.

Historical court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear but re-emerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an OHWM to be claimed as jurisdictional. Water features such as vernal pools and other seasonal swales—where the defined bed and bank are absent and the feature is not contiguous or closely adjacent to other jurisdictional features—are generally not asserted to fall within CDFW jurisdiction under Section 1600. CDFW generally does not assert jurisdiction over human-made water bodies unless they are located where such natural features were previously located or where they are contiguous with existing or prior natural jurisdictional areas.

Based on the above, potential CDFW-jurisdictional aquatic resources delineated included lakes and/or streambeds and their associated riparian and wetland habitats. Staff delineated the lateral extent of potential CDFW jurisdiction to be "bank to bank" for a streambed or to the "dripline" of riparian habitat and/or wetland boundary, if present.

Chapter 3
Environmental Setting

The study area consists of the proposed project limits of disturbance, including proposed temporary construction access, staging, and storage areas. The following section describes the topography, land use, hydrology, soils, and vegetation characteristics associated with the study area.

3.1 Topography

The study area is within the Riverside West, CA USGS 7.5-Minute topographic quadrangle at an elevation between approximately 213 to 244 feet above mean sea level (amsl). The topography within the three Tequesquite sites and the Riverside Greenway site gradually slopes from northeast to southwest in the direction of the Santa Ana River. The Jurupa Avenue Trailhead site slopes from south to north along Hole Creek toward the Santa Ana River to the north. USGS topographic mapping for the study area is provided as Appendix A, Figure 2.

3.2 Land Use

The study area is along or adjacent to the Santa Ana River. The three Tequesquite sites and the Riverside Greenway site are generally surrounded by residential development to the southeast and open space and the Santa Ana River to the northwest. Paved and dirt paths are within and around this area for recreational use. The Jurupa Avenue Trailhead site is surrounded by residential development to the west, open space to the north and south, and commercial development to the east. The Santa Ana River is directly north of the site.

3.3 Hydrology

3.3.1 Precipitation

The regional climate is characterized by hot, dry summer months with relatively mild, wet winters. Precipitation data was obtained from the Riverside Municipal Airport approximately 1.5 miles southeast of the Jurupa Avenue Trailhead site and 3 miles southwest of the three Tequesquite sites and the Riverside Greenway site. The jurisdictional delineation was conducted in a typical year with precipitation totals on track to be close to the 20-year average. Table 3-1 summarizes the monthly and annual precipitation for 2017 to 2021 and provides the average monthly and annual precipitation for 2001 to 2021.

Table 3-1. Regional Rainfall Data Summary for Riverside Municipal Airport (inches)

	January	February	March	April	May	June	July	August	September	October	November	December	Total Average Precipitation (inches)
2017	5.48	2.19	0.16	0.10	0.02	0.00	0.01	0.28	0.22	T	0.03	T	8.49
2018	1.55	0.85	1.65	T	0.15	0.00	0.02	0.00	0.00	1.10	0.78	1.10	7.20
2019	2.84	5.39	1.43	0.02	0.44	0.00	0.02	0.00	0.01	0.00	1.81	2.52	14.48
2020	0.08	0.06	3.64	2.65	T	T	0.00	0.00	0.00	T	0.16	1.16	7.75
2021	1.59	T	1.45	T	T	0.02	0.16	T	T	0.29	0.00	-	3.51
2001–2021	1.59	1.94	1.00	0.61	0.14	0.01	0.14	0.03	0.12	0.40	0.60	1.77	7.93

Source: National Weather Service (2021) for Riverside Municipal Airport
T=Trace

3.4 Hydrologic Units and Aquatic Resources Mapping

The study area is within the Santa Ana hydrologic unit code (HUC) 8 watershed and the Middle Santa Ana River HUC 10 subwatershed (Appendix A, Figure 3). The study area is also within the Calwatershed Santa Ana River Hydrologic Unit. The FEMA 100-year floodplain, NHD database results, and the USFWS NWI database query results for the study area are depicted on the water resources map (Appendix A, Figure 4).

3.5 Soils

3.5.1 Soil Series

The NRCS has mapped the following soil series as occurring within the study area based on the SSURGO database (USDA/NRCS 2006): Buchenau, Dello, Grangeville, Tujunga, Riverwash, and Terrace Escarpments (Appendix A, Figure 5). The figure depicts the following soil types:

- Buchenau loam, slightly saline-alkali, 2 to 8 percent slopes
- Dello loamy sand, 0 to 5 percent slopes
- Dello loamy fine sand, 0 to 2 percent slopes
- Grangeville loamy fine sand, drained, 0 to 5 percent slopes
- Grangeville fine sandy loam, poorly drained, saline-alkali, 0 to 5 percent slopes
- Tujunga loamy sand, channeled, 0 to 8 percent slopes
- Riverwash
- Terrace escarpments

A description of the series included within the SSURGO mapping units is provided below based on the official soil descriptions provided by USDA (USDA/NRCS 2006). Hydric soil determinations are

based off the *NRCS Field Office List of Hydric Soil Map Units for Orange County and part of Riverside County, California* (USDA/NRCS 2017).

3.5.1.1 Buchenau Series

Soils in the Buchenau Series occur on small alluvial fans at elevations between 300 and 1,500 feet amsl. Buchenau series form from metasedimentary rocks and consist of well to moderately well drained soils with medium to very slow runoff and moderately slow permeability to the hardpan, then very slow (USDA/NRCS 2006). Within the study area, these soils are mapped as Buchenau loam, slightly saline-alkali, 2 to 8 percent slopes. The Buchenau series is not listed as hydric within the study area (USDA/NRCS 2017).

3.5.1.2 Dello Series

Soils in the Tujunga Series occur in small depressions at elevations between about 10 feet below sea level to 500 feet amsl. Dello series form in alluvium derived from granitic rock sources and consist of very poorly drained soils with low runoff and rapid permeability (USDA/NRCS 2006). Within the study area, these soils are mapped as Dello loamy sand, 0 to 5 percent slopes and Dello loamy fine sand, 0 to 2 percent slopes. The Dello series is not listed as hydric within the study area (USDA/NRCS 2017).

3.5.1.3 Grangeville Series

Soils in the Grangeville Series occur on alluvial fans and floodplains at elevations between 0 and 1,800 feet amsl. Grangeville series form in alluvium derived from granitic rock sources and consist of somewhat poorly drained soils with negligible to very low runoff and moderately rapid permeability (USDA/NRCS 2006). Within the study area, these soils are mapped as Grangeville loamy fine sand, drained, 0 to 5 percent slopes and Grangeville fine sandy loam, poorly drained, saline-alkali, 0 to 5 percent slopes. The Grangeville series is not listed as hydric within the study area (USDA/NRCS 2017).

3.5.1.4 Tujunga Series

Soils in the Tujunga Series occur in washes, inset fans, and stream terraces at elevations between 400 and 2,350 feet amsl. Tujunga series form in alluvium derived from granitic rock and consist of somewhat excessively drained soils with low runoff and low permeability (USDA/NRCS 2006). Within the study area, these soils are mapped as Tujunga loamy sand, channeled, 0 to 8 percent. The Tujunga series is not listed as hydric within the study area (USDA/NRCS 2017).

3.5.1.5 Riverwash

Soils within riverwashes form from sandy and gravelly alluvium derived from mixed sources and are found at approximately 700 to 2,900 feet amsl. Riverwash soils are excessively drained with very low runoff and high to very high permeability (USDA/NRCS 2006). These soils are considered hydric within the study area (USDA/NRCS 2017).

3.5.1.6 Terrace Escarpments

Soils within terrace escarpments form in alluvium derived from mixed sources (USDA/NRCS 2006). These soils are not considered hydric within the study area (USDA/NRCS 2017).

Chapter 4
Jurisdictional Delineation Results

This chapter describes the potential jurisdictional features and expected jurisdictional status mapped within the study area. An impact analysis is not included as a part of this report.

The information and results included herein document the investigation, best professional judgment, and conclusions of ICF. It is correct and complete to the best of our knowledge. However, all jurisdictional delineations should be considered preliminary until reviewed and approved by the regulatory agencies.

Supporting information includes maps of jurisdictional features within the study area (Appendix A), OHWM data sheets (Appendix B), wetland determination forms (Appendix C), photographs for all delineated features (Appendix D).

4.1 Delineated Feature Descriptions

Within the study area, five aquatic features that are potentially subject to the jurisdiction of USACE, RWQCB, and CDFW were delineated (Table 4-1). All features evaluated in this delineation met the definition of a CWA Section 404 and 401 WoUS and were determined to be CDFW jurisdictional under Section 1600 of the CFG Code. The features are described by agency jurisdiction in detail below Table 4-1. Detailed maps depicting USACE/RWQCB WoUS and CDFW jurisdictions are included in Appendix A, Figures 6 and 7, respectively.

Table 4-1. Summary of Potential USACE, RWQCB, and CDFW Jurisdiction Aquatic Resources

				USACE Section 404 and RWQCB Section 401 Aquatic Resources		CDFW Aquatic Resources	
Feature	Project Site	Lat/Long (centroid)	Cowardin Classification[1]	Non-Wetland WoUS (acres/ linear feet)	Non-Wetland WoUS with Wetland Conditions (acres/linear feet)	Streambed (acres/ linear feet)	Riparian (acres/ linear feet)
Feature 1 – Upper Santa Ana River	Tequesquite North Extension	33.97645, -117.40330	PUB2	--	--	12.90/ 2,849	17.87/ 3,183
Feature 2 – Old Ranch Creek	Santa Ana River Greenway	33.96918, -117.41154	R4SB4	--	0.05/247	0.02/38	0.62/204
Feature 3 – Hole Creek	Jurupa Avenue Trailhead	33.95865, -117.46441	R2UB1	0.34/323	0.04/122	0.09/83	0.78/242
Feature 4	Jurupa Avenue Trailhead	33.95941, -117.46368	R4SB4	0.02/47	--	--	0.09/102
Feature 5	Santa Ana River Greenway	33.97569, -117.39927	R4SBr	0.04/240	--	0.06/240	--
			Total	**0.40/615**	**0.09/369**	**13.07/ 3,240**	**19.35/ 3,731**

Data based on ICF GIS Calculations, January 2022
-- equals null value (zero)
[1] Cowardin et al. 1979

4.1.1 Feature 1 – Upper Santa Ana River

Feature 1 is the Upper Santa Ana River, a large earthen perennial stream that conveys flows from the northeast to the southwest. Only the feature's upper eastern banks above the OHWM are included within the study area. The feature runs along the western edge of the Santa Ana River Trail and is within the eastern half of the Tequesquite Extension North site. The banks of the feature contain well-established walking trails throughout that do not show signs of flows.

Feature 1 exhibits an even mix of both well-established riparian and upland vegetation throughout the feature. In general, upland areas are dominated by shortpod mustard (*Hirschfeldia incana*, upland [UPL]), California croton (*Croton californicus*, UPL), and yerba santa (*Eriodictyon californicum*, UPL) while riparian areas are dominated by arrowweed (*Pluchea sericea*, facultative wetland [FACW]), Fremont's cottonwood (*Populus fremontii*, facultative [FAC]), and black willow (*Salix gooddingii*, FACW).

The OHWM associated with Feature 1 exists outside of the study area to the northwest. Top of bank and/or associated riparian vegetation widths associated with Feature 1 range from 3 to 596 feet within the study area (Figures 7d, 7e, and 7f).

4.1.2 Feature 2 – Old Ranch Creek

Feature 2 is Old Ranch Creek, a small earthen intermittent stream that conveys flows from south to north and eventually empties into the Santa Ana River approximately 1.3 miles downstream of the study area. The feature is within the Santa Ana River Greenway site and runs along Rubidoux Avenue before passing under the Santa Ana River Trail via a 16-inch culvert. The feature generally carries runoff collected from the residential development directly upstream.

Feature 2 is dominated by shortpod mustard (UPL) and poison hemlock (*Conium maculatum*, FACW) in the southernmost portion, arrowweed (FACW) along the western edge, and Fremont's cottonwood (FAC) in the northern portion.

OHWM indicators within Feature 2 included change in vegetation cover, change in vegetation species, change in average sediment size, debris wracking, and a break in slope. The OHWM associated with Feature 2 is approximately 8 feet in width and supported wetland conditions entirely within the OHWM (Appendix A, Figure 6b). Top of bank and/or associated riparian vegetation widths associated with Feature 2 range from 12 to 211 feet within the study area (Appendix A, Figure 7b).

4.1.3 Feature 3 – Hole Creek

Feature 3 is Hole Creek, an earthen perennial stream that conveys flows from south to north and eventually empties into the Santa Ana River approximately 0.3 mile downstream of the study area. The feature is within the Jurupa Avenue Trailhead site and contains many man-made paths and homeless encampments throughout. The feature enters the study area via a 40-foot concrete box culvert that runs under Jurupa Avenue and the Santa Ana River Trail with concrete reinforcement and riprap near the outflow. During the site review on December 3, 2021, Feature 1 had flowing water within the low-flow channel.

In general, Feature 3 is dominated by black willow (FACW) and contains a mix of Fremont's cottonwood (FAC), tree of heaven (*Ailanthus altissima*, facultative upland [FACU]), velvet ash (*Fraxinus velutina*, FACU), mulefat (*Baccharis salicifolia*, FAC), saltcedar (*Tamarix ramosissima*, FAC), and giant reed (*Arundo donax*, FAC) throughout as well as castor bean (*Ricinus communis*, FACU) and rip-gut brome (*Bromus diandrus*, UPL) on the upper banks.

Feature 3 exhibited OHWM and flow indicators consistent with the Jurisdictional Delineation report attached in Appendix E including sediment deposition, a break in slope, and debris wracking. The OHWM associated with Feature 3 ranges from approximately 40 to 62 feet in width and supported wetland conditions in parts of the feature below the OHWM (Appendix A, Figure 6a). Top of bank and/or associated riparian vegetation widths associated with Feature 3 range from 40 to 130 feet within the study area (Appendix A, Figure 7a).

4.1.4 Feature 4

Feature 4 is an earthen ephemeral-to-intermittent stream that conveys flows from east to west and is a tributary to Feature 4 approximately 107 feet downstream of where it exits the study area. The feature is within the Jurupa Avenue Trailhead site and collects urban runoff from the surrounding area and flows out of a small culvert under Van Buren Boulevard before entering the study area. The feature is characterized by steep, eroded banks and compacted man-made trails within the upper banks.

The channel bed of Feature 4 is predominantly unvegetated with dense castor bean (FACU) on the upper southern banks and velvet ash (FACU), black willow (FACW), and California sycamore (*Platanus racemose*, FAC) on either side of the feature.

Feature 4 exhibited OHWM and flow indicators consistent with the Jurisdictional Delineation report attached in Appendix E including a break in slope and change in vegetation cover. The OHWM associated with Feature 4 is approximately 16 feet in width (Appendix A, Figure 6a). Top of bank and/or associated riparian vegetation widths associated with Feature 4 range from 5 to 52 feet within the study area (Appendix A, Figure 7a).

4.1.5 Feature 5

Feature 5 is a large, unvegetated concrete box channel that conveys flows from east to west and eventually empties into the Santa Ana River approximately 0.46 miles downstream from the study area. The feature is within the Santa Ana River Greenway site and runs along the south side of Tequesquite Avenue before passing under a 20-foot box culvert and outflowing on the north side of the road. The feature generally carries runoff collected from the residential development directly upstream.

OHWM indicators within Feature 5 included staining on the channel walls. The OHWM associated with Feature 5 ranges from approximately 20 to 28 feet in width (Appendix A, Figure 6d). Top of bank widths associated with Feature 5 range from 20 to 37 feet within the study area (Appendix A, Figure 7d).

4.2 Summary of Jurisdictional Delineation Results

Based on the investigation and analysis documented in this report, potential CWA Section 404 and 401 USACE/RWQCB aquatic resources documented within the study area consist of 0.40 acre (615 linear feet) of non-wetland WoUS and 0.09 acre (369 linear feet) of non-wetland WoUS with wetland conditions.

No potential RWQCB Porter Cologne Act WoS-only aquatic resources are mapped within the study area.

Lastly, potential CDFW jurisdiction documented in the study area consist of 13.07 acre (3,240 linear feet) of streambed and 19.35 acre (3,731 linear feet) of associated riparian vegetation. All jurisdictional determinations in this report should be considered preliminary until reviewed and approved by applicable regulatory agencies.

4.3 List of Delineators and Report Preparers/Reviewers

Kristen Klinefelter—Delineator/Report Preparer

Lanika Cervantes—Report Reviewer

Brad Stein—GIS/Graphics Support

Chapter 5
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Appendix A

Jurisdictional Delineation Figures

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Figure 1
Regional Vicinity Map

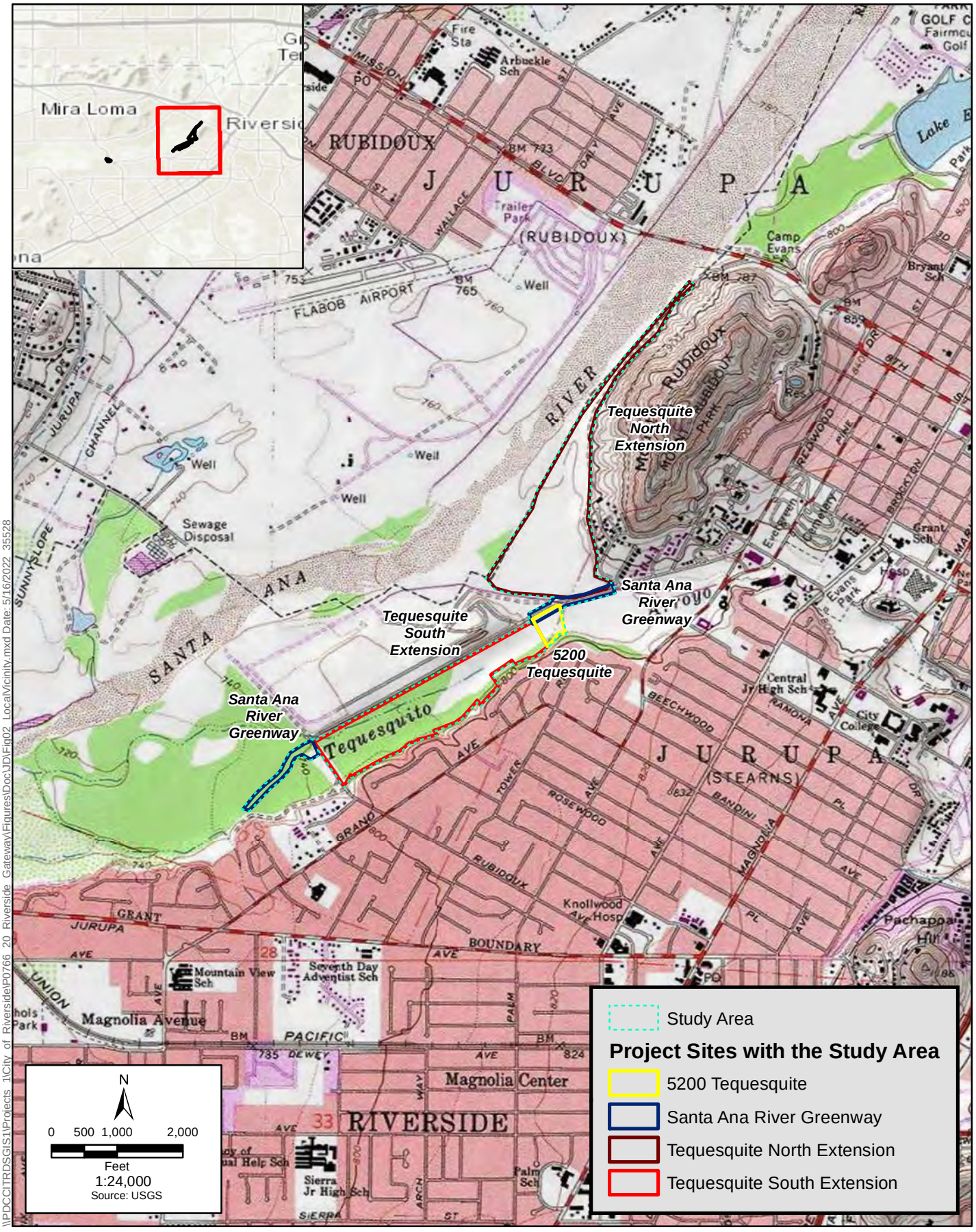

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Figure 2a
Local Vicinity Map

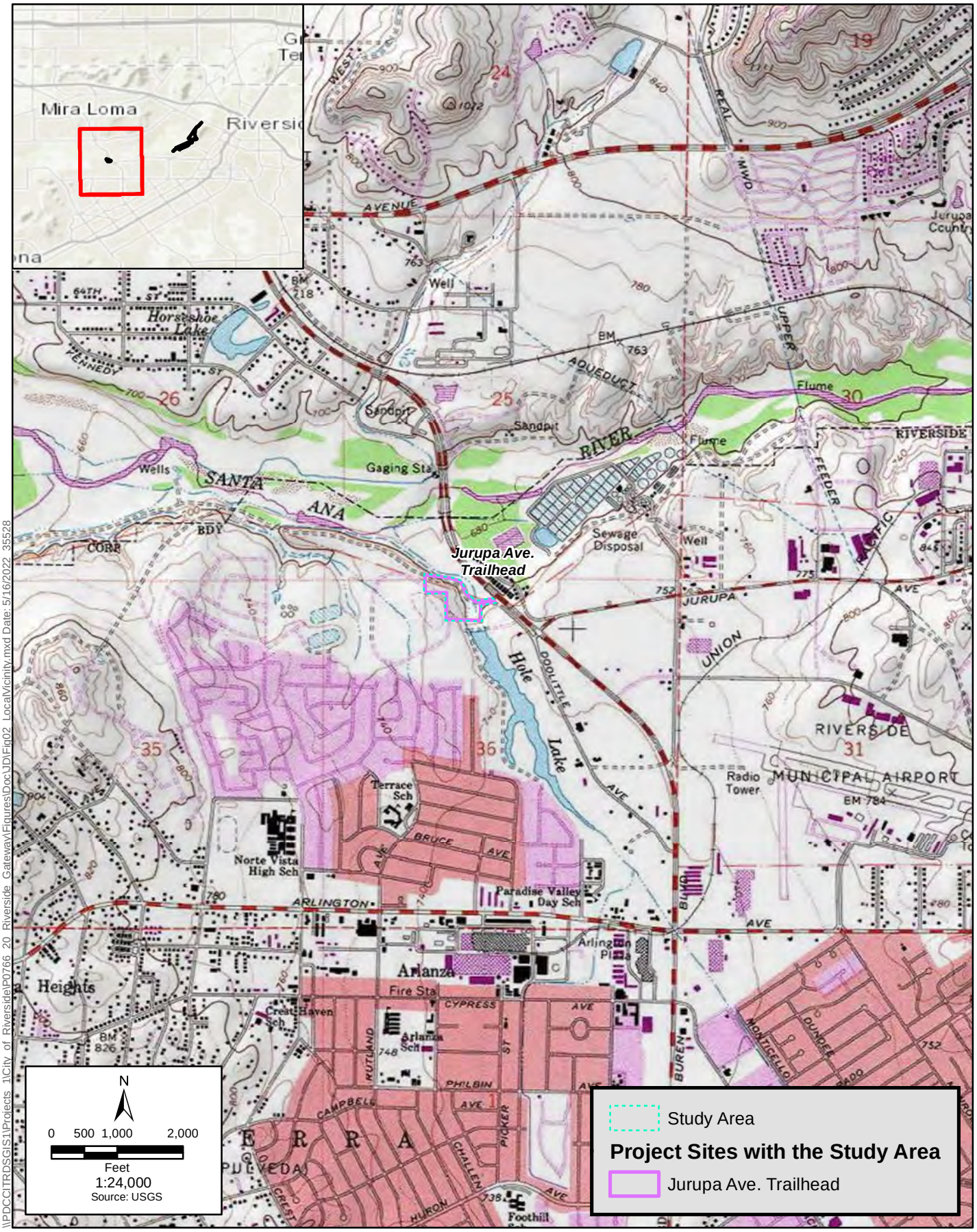

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Figure 2b
Local Vicinity Map

0 1.5 3 Miles

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Source: ICF, ESRI Basemaps (2018)

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Figure 3
Watersheds

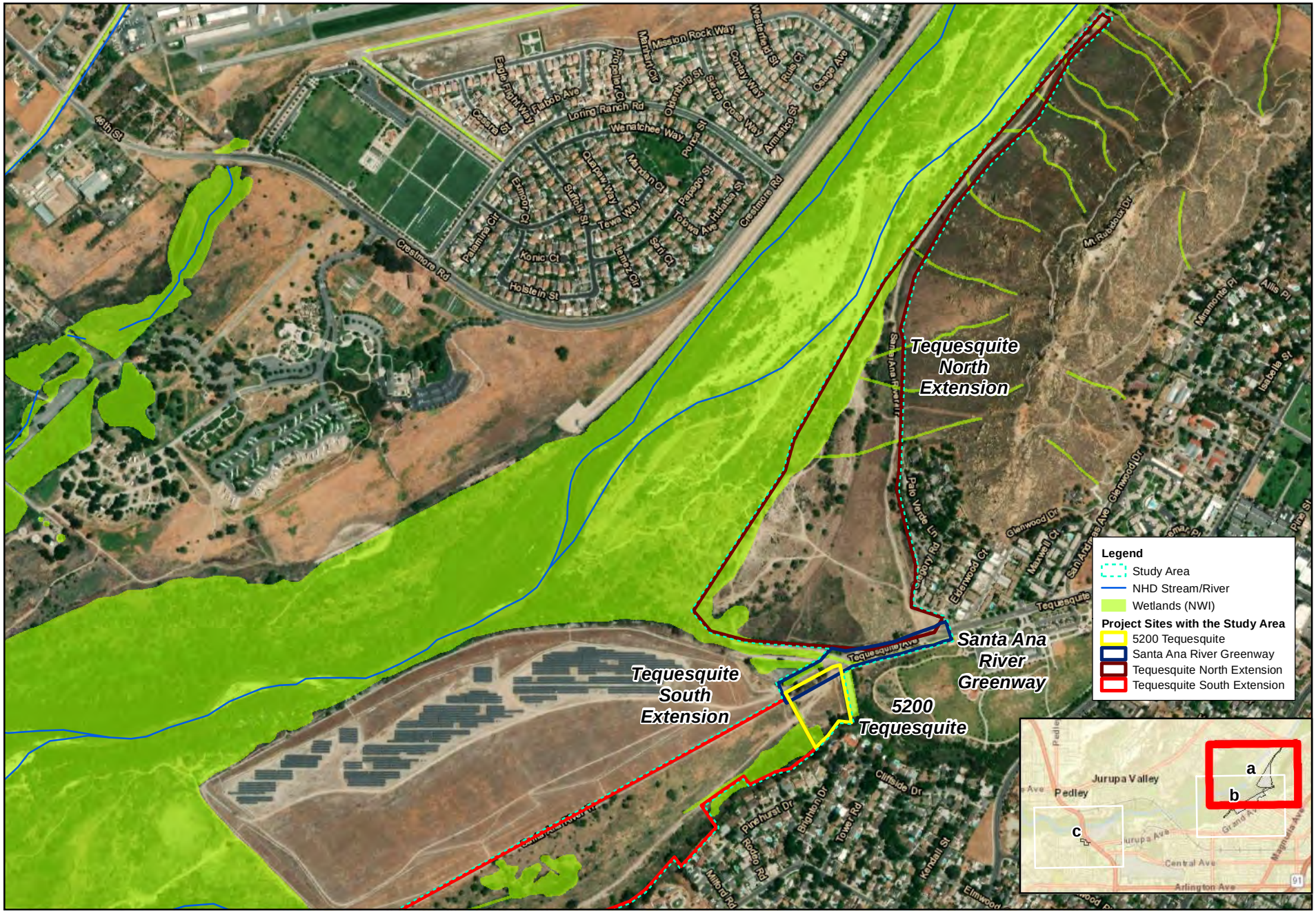

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Figure 4a
Water Resources

\\PDCCITRDSGIS1\Projects_1\City_of_Riverside\P0766_20_Riverside_Gateway\Figures\Doc\JDFig04_WaterResources.mxd: User: 35528: Date: 5/16/2022

0 500 1,000 Feet

1:12,000

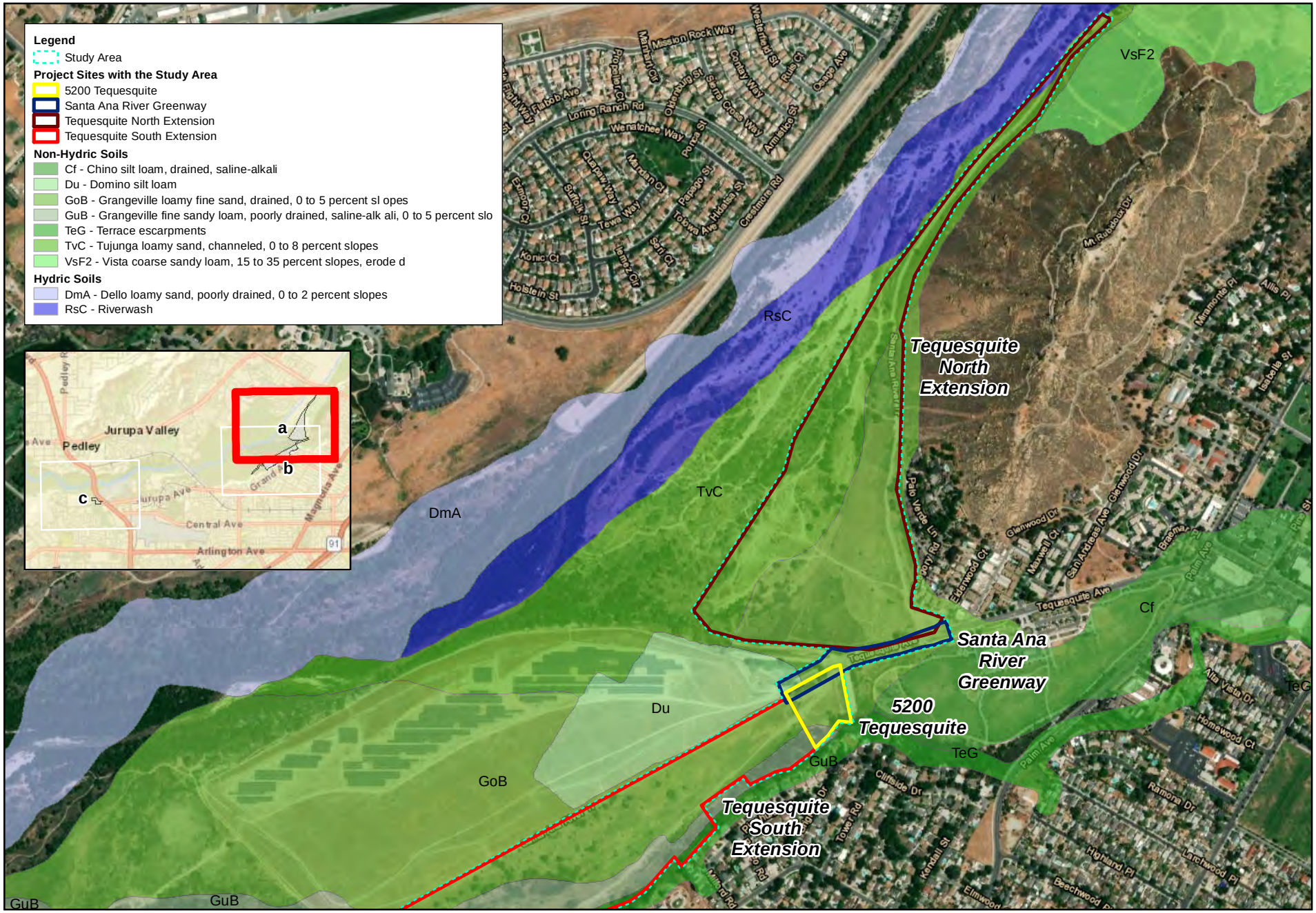
Source: ICF; ESRI Basemaps; USGS; FEMA

Figure 4b
Water Resources

0 500 1,000
Feet
1:12,000

Source: ICF; ESRI Basemaps; USGS; FEMA

Figure 4c
Water Resources



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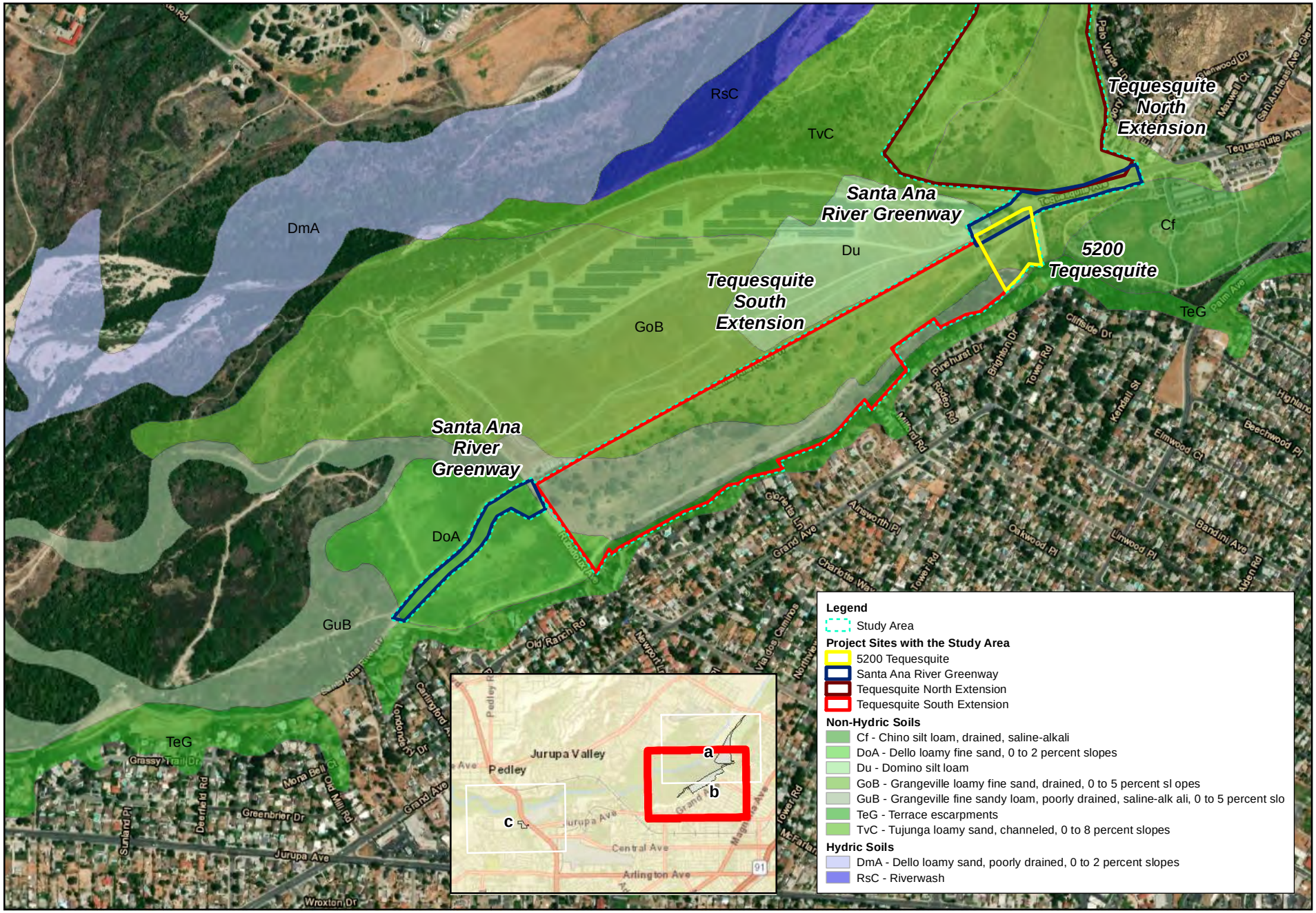
Feet
1:12,000
Source: ICF; ESRI Basemaps; NRCS

Figure 5a
Soils



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Source: ICF; ESRI Basemaps; NRCS

Figure 5b
Soils

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1:12,000
Source: ICF; ESRI Basemaps; NRCS

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Figure 5c
Soils

Legend

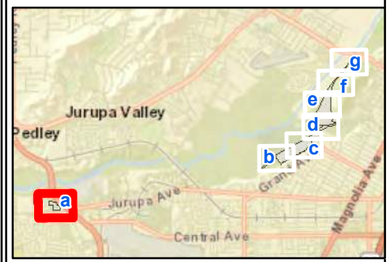
- Study Area
- OHWM Sample Point
- Photo Point
- Feature Width

Project Sites with the Study Area

- Jurupa Ave. Trailhead

Waters of the U.S. and State (USACE/RWQCB)

- Non-Wetland Waters of the U.S.
- Non-Wetland Water of the U.S. with Wetland Conditions



Source: ICF, ESRI 2022

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Figure 6a
Jurisdictional Aquatic Resources Map (USACE/RWQCB)

Legend

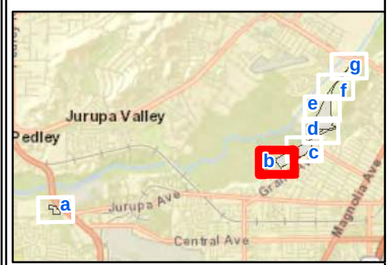
- Study Area
- OHWM Sample Point
- Wetland Sample Point
- Photo Point
- Feature Width
- Culvert

Project Sites with the Study Area

- Santa Ana River Greenway
- Tequesquite South Extension

Waters of the U.S. and State (USACE/RWQCB)

- Non-Wetland Water of the U.S. with Wetland Conditions



Source: ICF, ESRI 2022

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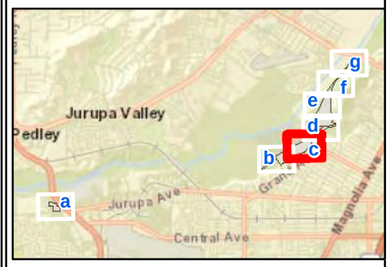
Figure 6b
Jurisdictional Aquatic Resources Map (USACE/RWQCB)



Legend

Study Area

Project Sites with the Study Area

5200 Tequesquite

Tequesquite South Extension

Source: ICF, ESRI 2022

0 100 200 Feet

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Figure 6c
Jurisdictional Aquatic Resources Map (USACE/RWQCB)

Legend

- Study Area
- OHWM Sample Point
- Photo Point
- Feature Width
- Culvert

Project Sites with the Study Area

- 5200 Tequesquite
- Santa Ana River Greenway
- Tequesquite North Extension
- Tequesquite South Extension

Waters of the U.S. and State (USACE/RWQCB)

- Non-Wetland Waters of the U.S.

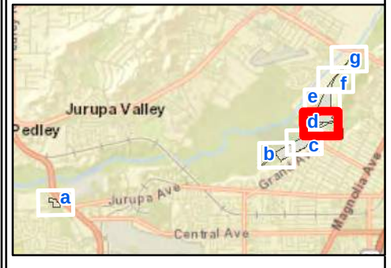

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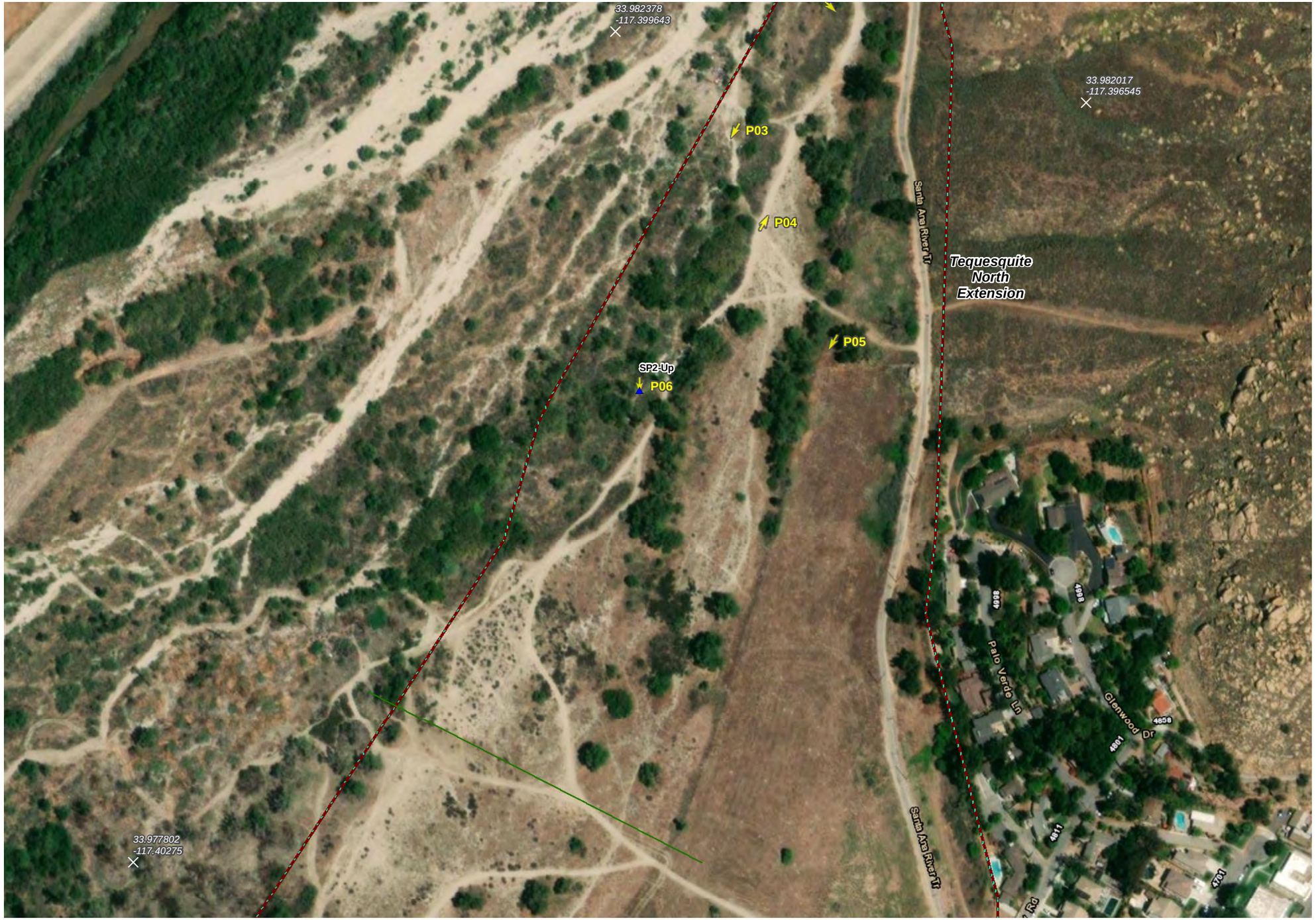
Figure 6d
Jurisdictional Aquatic Resources Map (USACE/RWQCB)

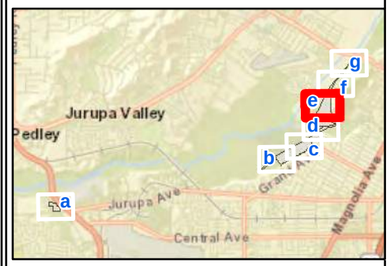


Legend

- Study Area
- Wetland Sample Point
- Photo Point
- Feature Width

Project Sites with the Study Area

- Tequesquite North Extension



Source: ICF, ESRI 2022

0 100 200 Feet

1:2,400

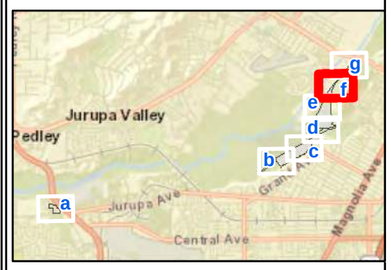
Figure 6e
Jurisdictional Aquatic Resources Map (USACE/RWQCB)

Legend

- Study Area
- Wetland Sample Point
- Photo Point

Project Sites with the Study Area

- Tequesquite North Extension



Source: ICF, ESRI 2022

0 100 200 Feet

1:2,400

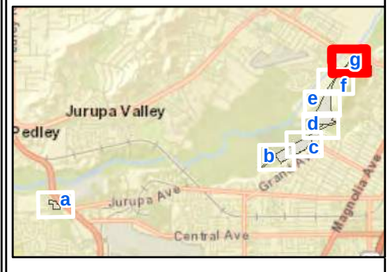
Figure 6f
Jurisdictional Aquatic Resources Map (USACE/RWQCB)

Legend

Study Area

Project Sites with the Study Area

Tequesquite North Extension



Source: ICF, ESRI 2022

0 100 200 Feet

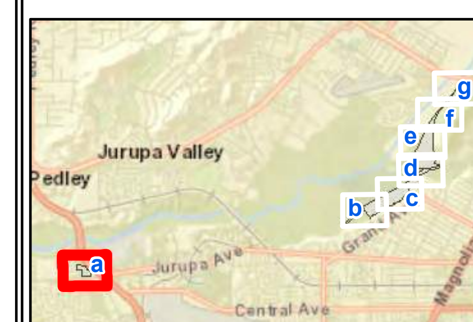
1:2,400

Figure 6g
Jurisdictional Aquatic Resources Map (USACE/RWQCB)

Legend
- Study Area
- Photo Point
- Feature Width

Delineation Study Areas
- Jurupa Ave. Trailhead

Waters of the State (CDFW)
- Streambed
- Riparian



Source: ICF, ESRI 2022

0 50 100 Feet
1:1,200

Figure 7a
Jurisdictional Aquatic Resources Map (CDFW)

Legend

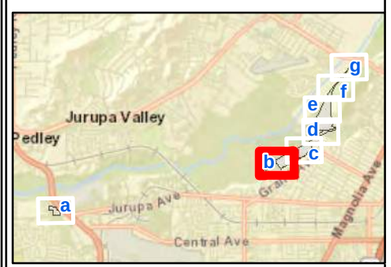
- Study Area
- Photo Point
- Culvert
- Feature Width

Delineation Study Areas

- Santa Ana River Greenway
- Tequesquite South Extension

Waters of the State (CDFW)

- Streambed
- Riparian



Source: ICF, ESRI 2022

0 100 200 Feet

1:2,400

Figure 7b
Jurisdictional Aquatic Resources Map (CDFW)

Legend

- Study Area

Delineation Study Areas

- 5200 Tequesquite
- Tequesquite South Extension

Source: ICF, ESRI 2022

ICF

N

0 100 200 Feet

1:2,400

Figure 7c
Jurisdictional Aquatic Resources Map (CDFW)

Legend

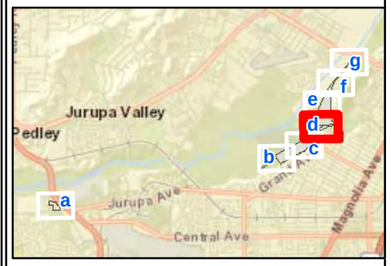
- Study Area
- Photo Point
- Culvert
- Feature Width

Delineation Study Areas

- 5200 Tequesquite
- Santa Ana River Greenway
- Tequesquite North Extension
- Tequesquite South Extension

Waters of the State (CDFW)

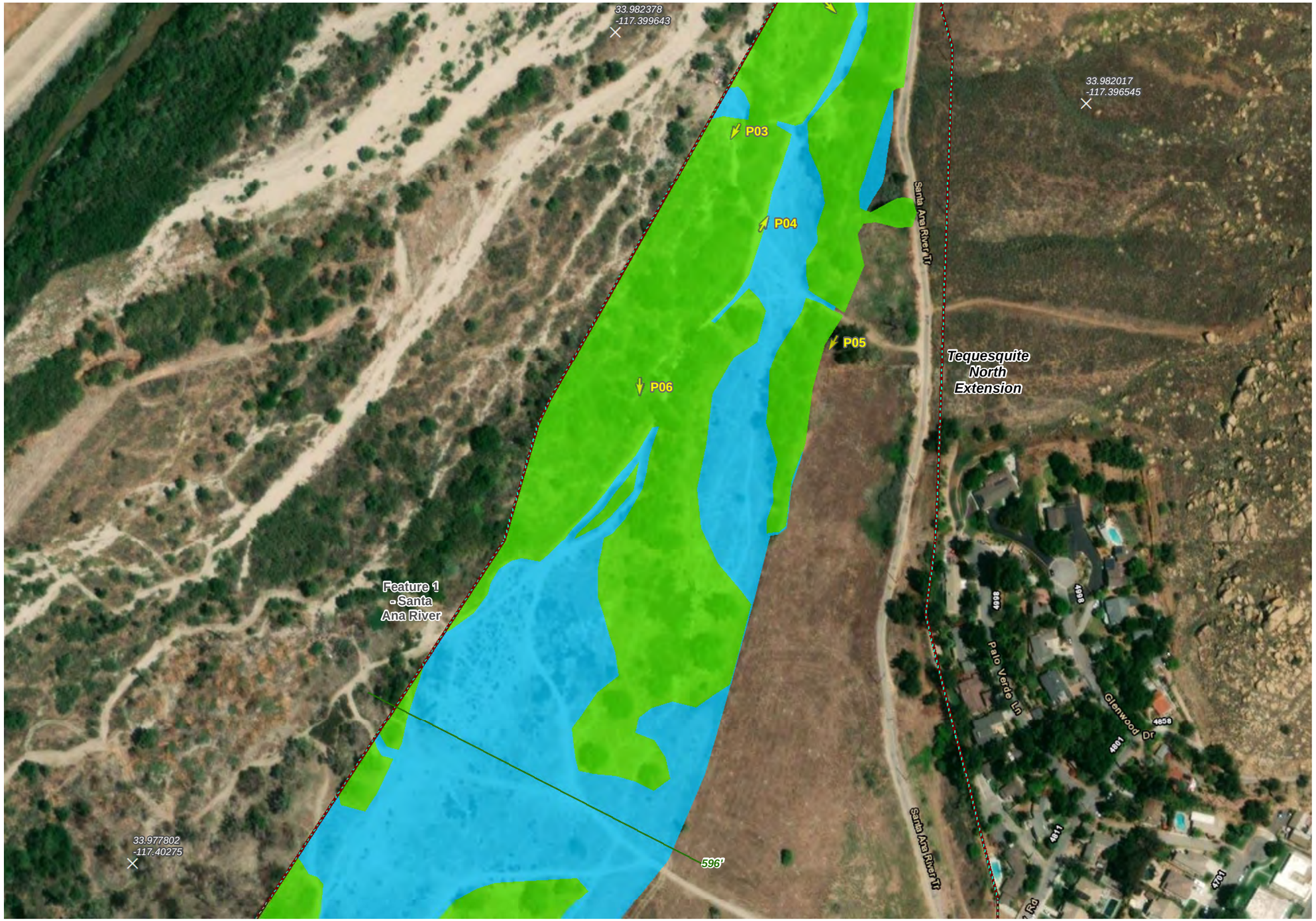
- Streambed
- Riparian



Source: ICF, ESRI 2022

0 100 200 Feet
1:2,400

Figure 7d
Jurisdictional Aquatic Resources Map (CDFW)



Legend

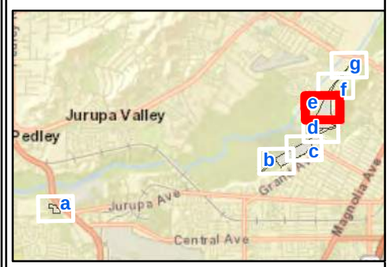
- Study Area
- Photo Point
- Feature Width

Delineation Study Areas

- Tequesquite North Extension

Waters of the State (CDFW)

- Streambed
- Riparian



Source: ICF, ESRI 2022

0 100 200 Feet

1:2,400

N

Figure 7e
Jurisdictional Aquatic Resources Map (CDFW)

Legend

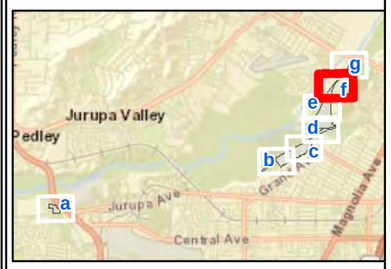
- Study Area
- Photo Point

Delineation Study Areas

- Tequesquite North Extension

Waters of the State (CDFW)

- Streambed
- Riparian



Source: ICF, ESRI 2022

0 100 200 Feet

1:2,400

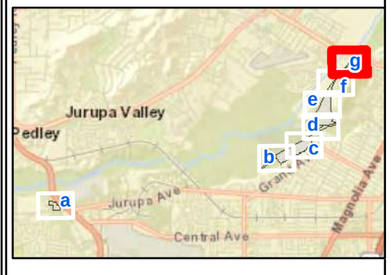
Figure 7f
Jurisdictional Aquatic Resources Map (CDFW)

Legend

Study Area

Delineation Study Areas

Tequesquite North Extension



Source: ICF, ESRI 2022

0 100 200 Feet

1:2,400

Figure 7g
Jurisdictional Aquatic Resources Map (CDFW)

Appendix B

Ordinary High Water Mark Data Sheets

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

OHWM-1

Project: Riverside Gateway
Project Number: 104147.0.001.01
Stream: Feature 2 - Old Ranch Creek
Investigator(s): C. Sutter, K. Klinefelter

Date: 12/3/2021 **Time:** 12:11 pm
Town: Riverside **State:** CA
Photo begin file#: P10 **Photo end file#:** P13

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☑ Is the site significantly disturbed?

Location Details: Santa Ana River Greenway site

Projection: Lat/Long **Datum:** WGS-84
Coordinates: 33.969683, -117.411458

Potential anthropogenic influences on the channel system:
Paved bike path, creek runs under it via a 16-in culvert. Some trash from human visitation/use.

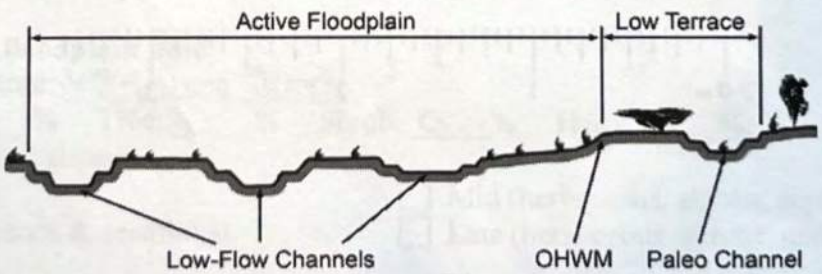
Brief site description:
Small channel that runs along paved footpath (Rubidoux Road). Flowing from South to north.

Checklist of resources (if available):

- ☑ Aerial photography
  Dates:
- ☐ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☐ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
  - ☐ History of recent effective discharges
  - ☐ Results of flood frequency analysis
  - ☐ Most recent shift-adjusted rating
  - ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

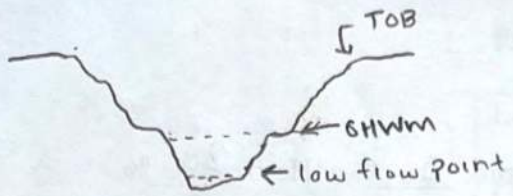
1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	
2.56	64	Cobble	Gravel
0.157	4	Pebble	
0.079	2.00	Granule	
0.039	1.00	Very coarse sand	
0.020	0.50	Coarse sand	
1/2 0.0098	0.25	Medium sand	Sand
1/4 0.005	0.125	Fine sand	
1/8 0.0025	0.0625	Very fine sand	
1/16 0.0012	0.031	Coarse silt	
1/32 0.00061	0.0156	Medium silt	Silt
1/64 0.00031	0.0078	Fine silt	
1/128 0.00015	0.0039	Very fine silt	
		Clay	Mud

oject ID: **Cross section ID:** OHWM-1 **Date:** 12/3/21 **Time:** 12:11 pm

Cross section drawing:



OHWM

GPS point: _____

Indicators:

- [x] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [x] Other: Debris Racking
- [ ] Other: _____

Comments:

Dead veg racking up around culvert entrance.

Floodplain unit: [x] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: very fine Sand

Total veg cover: 5 % Tree: 0 % Shrub: 0 % Herb: 5 %

Community successional stage:

- [ ] NA
- [x] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [x] Other: Change in veg cover
- [ ] Other: _____
- [ ] Other: _____

Comments:

Hemlock and mustard sprouts.

Project ID: **Cross section ID:** OHWM-1 **Date:** 12/3/21 **Time:** 12:11pm

Floodplain unit: ☐ Low-Flow Channel ☒ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: pebble

Total veg cover: 20 % Tree: 0 % Shrub: 0 % Herb: 20 %

Community successional stage:

- ☐ NA
- ☑ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☑ Benches
- ☐ Soil development
- ☑ Surface relief
- ☑ Other: change in veg cover/species
- ☐ Other: _____
- ☐ Other: _____

Comments:

Higher density of hemlock intermixed with baccharis salicina and verbesena encilioides. Hemlock in later life stages than individuals present in low flow channel.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Santa Ana River Greenway

Arid West Ephemeral and Intermittent Streams OHWM Datasheet OHWM-2

Project: Riverside Gateway
Project Number: 104147.0.001.01
Stream: Feature 5
Investigator(s): K. Klinefelter, C. Sutter

Date: 12/2/2021 **Time:** 11:15 AM
Town: Riverside **State:** CA
Photo begin file#: P21 **Photo end file#:**

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☑ Is the site significantly disturbed?

Location Details: Santa Ana River Greenway Tequesquite Ave. Site

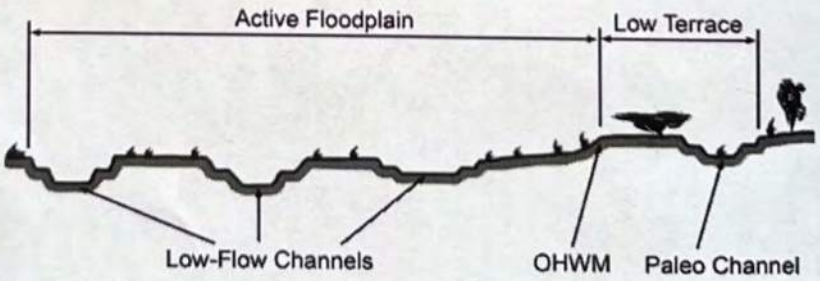
Projection: Lat/Long **Datum:** WGS-84
Coordinates: 33.975729, -117.3992662

Potential anthropogenic influences on the channel system:
- Runoff from residential areas to the northeast and south of the feature
- Concrete box culvert where feature runs under Tequesquite Ave.

Brief site description:
Large concrete box channel that flows through a 20-ft box culvert within the study area

Checklist of resources (if available):
- ☑ Aerial photography
  Dates:
- ☐ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☐ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
  - ☐ History of recent effective discharges
  - ☐ Results of flood frequency analysis
  - ☐ Most recent shift-adjusted rating
  - ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

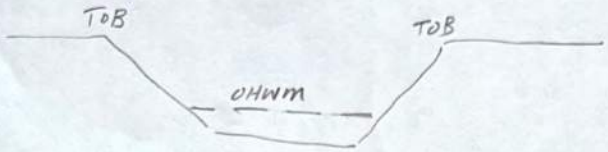
1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☑ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	
		Cobble	Gravel
2.56	64		
0.157	4	Pebble	
		Granule	
0.079	2.00		
0.039	1.00	Very coarse sand	
0.020	0.50	Coarse sand	
1/2 0.0098	0.25	Medium sand	Sand
1/4 0.005	0.125	Fine sand	
1/8 0.0025	0.0625	Very fine sand	
1/16 0.0012	0.031	Coarse silt	
1/32 0.00061	0.0156	Medium silt	Silt
1/64 0.00031	0.0078	Fine silt	
1/128 0.00015	0.0039	Very fine silt	
		Clay	Mud

Project ID: **Cross section ID:** OHWM-2 **Date:** 12/2/21 **Time:** 11:15AM

Cross section drawing:



OHWM

GPS point: _____

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☑ Other: Staining on banks
- ☐ Other: _____

Comments:

OHWM based on staing on the trapezoidal banks

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Project ID: **Cross section ID:** **Date:** **Time:**

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Jurupa Ave Trailhead

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

OHWM-3

Project: Riverside Gateway
Project Number: 104147.0.001.01
Stream: Feature 3 - Hole Creek
Investigator(s): K. Klinefelter, C. Sutter

Date: 12/3/21 **Time:** 11:05 AM
Town: Riverside **State:** CA
Photo begin file#: P17 **Photo end file#:** P20

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☑ / N ☐ Is the site significantly disturbed?

Location Details: Jurupa Avenue Trailhead Site

Projection: Lat/Long **Datum:** WGS-84
Coordinates: 33.959069, -117.464111

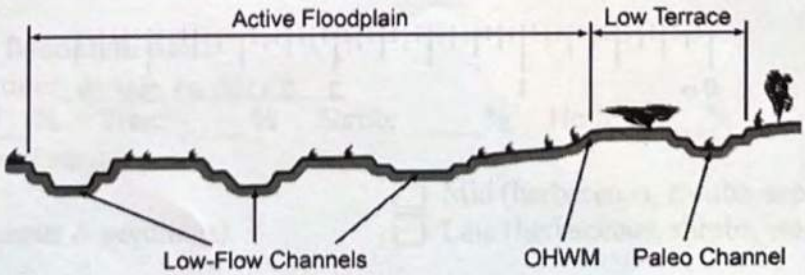
Potential anthropogenic influences on the channel system:
Heavy presence of homeless in area, especially on west side of channel (inaccessible). Area surrounded by wide paved major roads and housing developments.

Brief site description:
channel contained flows in low flow portion during delineation. Banks contain broken up concrete slabs in addition to willows, ash trees, and arrundo.

Checklist of resources (if available):

- ☐ Aerial photography
  Dates:
- ☐ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☐ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☐ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
  - ☐ History of recent effective discharges
  - ☐ Results of flood frequency analysis
  - ☐ Most recent shift-adjusted rating
  - ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

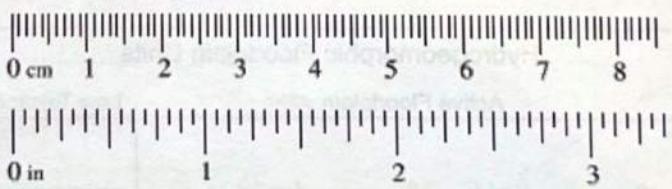


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☐ GPS
   - ☐ Other:

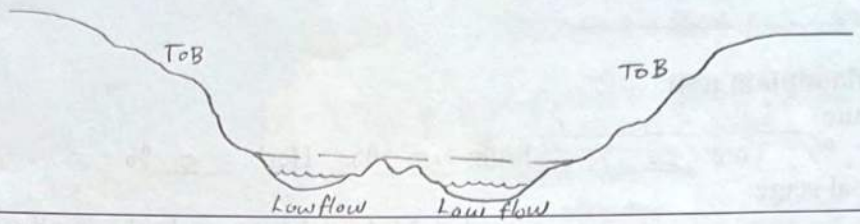
Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	
		Cobble	Gravel
2.56	64		
0.157	4	Pebble	
		Granule	
0.079	2.00	Very coarse sand	
0.039	1.00	Coarse sand	
0.020	0.50	Medium sand	Sand
1/2 0.0098	0.25	Fine sand	
1/4 0.005	0.125	Very fine sand	
1/8 0.0025	0.0625	Coarse silt	
1/16 0.0012	0.031	Medium silt	
1/32 0.00061	0.0156	Fine silt	Silt
1/64 0.00031	0.0078	Very fine silt	
1/128 0.00015	0.0039	Clay	Mud



Project ID: **Cross section ID:** OHWM-3 **Date:** 12/8/22 **Time:** 11:05AM

Cross section drawing:



OHWM

GPS point: _____

Indicators:

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [x] Other: Debris wracking
- [ ] Other: _____

Comments:

- Small boulders and broken up cement slabs around OHWM
- Arrundo growing around OHWM, larger trees growing above

Floodplain unit:

- [x] Low-Flow Channel
- [ ] Active Floodplain
- [ ] Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: unable to access

Total veg cover: 0 % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- [x] NA
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [x] Ripples
- [x] Drift and/or debris
- [x] Presence of bed and bank
- [x] Benches
- [ ] Soil development
- [ ] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

- Contained flows at time of delineation
- Leaf wracking around low flow line

Project ID: **Cross section ID:** OHWM-3 **Date:** 12/3/22 **Time:** 11:05 AM

Floodplain unit: ☐ Low-Flow Channel ☑ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: Cobble - Boulder

Total veg cover: 40 % Tree: 20 % Shrub: 15 % Herb: 5 %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☑ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☑ Presence of bed and bank
- ☑ Benches
- ☐ Soil development
- ☐ Surface relief
- ☑ Other: change in veg
- ☐ Other: _____
- ☐ Other: _____

Comments:

Palms and arrundo on island within channel (lines up with OHWM)

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Jurupa Ave Trailhead

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

OHWM-4

Project: Riverside Gateway
Project Number: 104470.001.01
Stream: Feature 4 (Hole Creek Trib)
Investigator(s): K. Klinefelter, C. Sutter

Date: 12/3/21 **Time:** 10:50 AM
Town: Riverside **State:** CA
Photo begin file#: P16 **Photo end file#:**

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☑ / N ☐ Is the site significantly disturbed?

Location Details: Jurupa Avenue Trailhead Site

Projection: Lat/Long **Datum:** WGS-84
Coordinates: 33.959463, -117.463348

Potential anthropogenic influences on the channel system:
Road runoff from Van Buren (major road), heavy homeless presence within area, soils very compacted

Brief site description:
Small drainage tributary leading to Hole Creek. Castor bean lining southern banks as well as tush, sycamores, and willows on both banks. Lots of trash deposited in channel. Flows east to west.
* No wetland sample pit dug for safety and sanitary reasons (feces, potential needles, etc.)

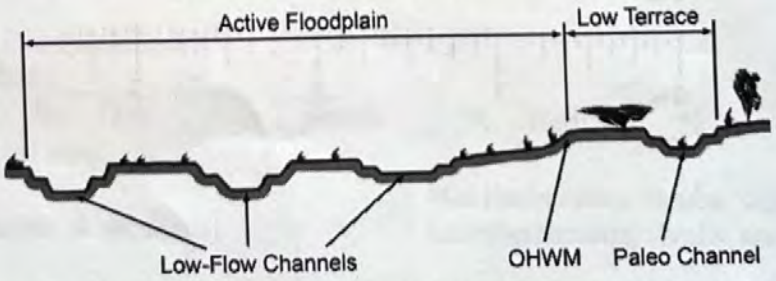
Checklist of resources (if available):

- ☑ Aerial photography
  Dates:
- ☐ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☐ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
  - ☐ History of recent effective discharges
  - ☐ Results of flood frequency analysis
  - ☐ Most recent shift-adjusted rating
  - ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

—using previous JD data from tributaries JD as reference and confirming in field

Hydrogeomorphic Floodplain Units



Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

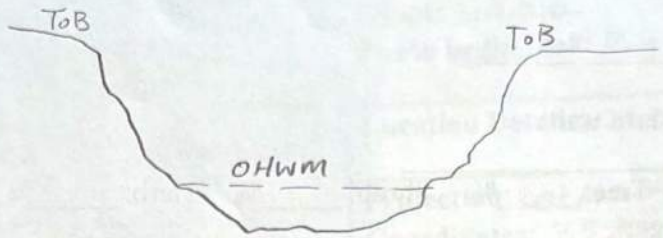
1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☑ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other: Tributaries JD data from 2018

Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	
2.56	64	Cobble	Gravel
0.157	4	Pebble	
0.079	2.00	Granule	
0.039	1.00	Very coarse sand	
0.020	0.50	Coarse sand	
1/2 0.0098	0.25	Medium sand	Sand
1/4 0.005	0.125	Fine sand	
1/8 0.0025	0.0625	Very fine sand	
1/16 0.0012	0.031	Coarse silt	
1/32 0.00061	0.0156	Medium silt	Silt
1/64 0.00031	0.0078	Fine silt	
1/128 0.00015	0.0039	Very fine silt	
		Clay	Mud

Project ID: **Cross section ID:** OHWM-4 **Date:** 12/3/21 **Time:** 10:50AM

Cross section drawing:



OHWM

GPS point: _____

Indicators:

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

- Sandy sediment deposited on channel bed
- Some rocks/small boulders lining OHWM
- Below OHWM predominantly unvegetated, larger trees and castor bean above

Floodplain unit:

- [ ] Low-Flow Channel
- [ ] Active Floodplain
- [ ] Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____% Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- [ ] NA
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [ ] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Project ID: **Cross section ID:** **Date:** **Time:**

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Appendix C

Wetland Determination Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Riverside Gateway City/County: Riverside/Riverside Sampling Date: 12/2/21

Applicant/Owner: City of Riverside PRCSD State: CA Sampling Point: SP1-Up

Investigator(s): K. Klinefelter, C. Sutter Section, Township, Range: Land Grant

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C-Med Lat: 33.982572 Long: -117.398231 Datum: WGS-84

Soil Map Unit Name: Tujungo loamy sand, channeled, 0 to 8 percent slopes, 0 to 5 percent slo NWI classification: Wetlands

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____ No ✔	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

SP is located in the Tequesquite Extension North site on terrace of SAR, above the OHWM and below ToB. The SP is representative of riparian mapped portions of the SAR terrace due to similar vegetation and hydrology throughout these areas.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix gooddingii	25	Y	FACW
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 10')			
1. Salix exigua	20	Y	FACW
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Brassica nigra	15	Y	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
Woody Vine Stratum (Plot size: NA)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 80 % Cover of Biotic Crust 5

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.6% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SP located in between Salix gooddingii tree and Salix exigua shrub with scatterd Brassica nigra within the area.

SOIL

Sampling Point: SP1-Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
1-16	10YR 3/2	100					fine sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

Sand very loose and dry; uniform throughout entire pit. No redox present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Very small amounts of biotic crust scattered within sample pit area but not strong enough to be an indicator.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Riverside Gateway City/County: Riverside/Riverside Sampling Date: 12/2/21

Applicant/Owner: City of Riverside PRCSD State: CA Sampling Point: SP2-Up

Investigator(s): K. Klinefelter, C. Sutter Section, Township, Range: Land Grant

Landform (hillslope, terrace, etc.): bottom of low point Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): C-Med Lat: 33.980415 Long: -117.399458 Datum: WGS-84

Soil Map Unit Name: Tujungo loamy sand, channeled, 0 to 8 percent slopes NWI classification: Wetlands

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation ✔, Soil _____, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

SP located in the Tequesquite Extension North site within a low point within the riparian area surrounding the SAR (within the SAR terrace). Does not appear to show signs of flow, however the ground is difficult to see due to recent Arundo donax mulching within the floodplain.
SP is representative of riparian forests within the SAR terrace.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus fremontii	15	Y	FAC
2. Salix gooddingii	5	N	FACW
3. Tamarix sp.	10	Y	FAC
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 10')			
1. Ricinus communis	25	Y	FACU
2. Nicotiana glauca	10	Y	FAC
3. Baccharis salicifolia	2	N	FAC
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Artemisia douglasiana	2	Y	FAC
2. Croton californicus	2	Y	UPL
3. Brassica nigra	5	Y	UPL
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
Woody Vine Stratum (Plot size: NA)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 91 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 57% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Area also contains recently mulched Arundo donax but can't tell where exactly it's been growing.

SOIL

Sampling Point: SP2-Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
1-4	10YR 5/2	100					Sand	dry
4-14	10YR 5/2	100					Sand	moist

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

Sand very loose and difficult to get consistent profile. No hydric soil indicators present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Hydrology indicators have possibly been masked by recently mulched Arundo donax, though area does not appear to receive regular flows.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Riverside Gateway City/County: Riverside/Riverside Sampling Date: 12/2/21

Applicant/Owner: City of Riverside PRCSD State: CA Sampling Point: SP3-Up

Investigator(s): K. Klinefelter, C. Sutter Section, Township, Range: Land Grant

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C-Med Lat: 33.969168 Long: -117.409711 Datum: WGS-84

Soil Map Unit Name: Grangeville fine sandy loam, poorly drained, saline-alkali NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____ No ✔	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

SP located with Tequesquite South Extension site within salt grass flat with scattered cottonwood and willow trees, however it does not appear to be associated with a hydrologic feature.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus fremontii	25	Y	FAC
2. Schinus molle	20	Y	FACU
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Distichlis spicata	98	Y	FAC
2. Bassia hyssopifolia	2	N	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
Woody Vine Stratum (Plot size: NA)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: SP3-Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
1-14	10YR 3/2	100					Sandy loar	Thick layer of salt grass on surface

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

Soil is loose and dry with some thick roots within the pit.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Riverside Gateway City/County: Riverside/Riverside Sampling Date: 12/2/21

Applicant/Owner: City of Riverside PRCSD State: CA Sampling Point: SP4-Wet

Investigator(s): K. Klinefelter, C. Sutter Section, Township, Range: Land Grant

Landform (hillslope, terrace, etc.): channel bed Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): C-Med Lat: 33.959463 Long: -117.411453 Datum: 33.969675

Soil Map Unit Name: Dellow loamy fine sand, 0 to 2 percent slopes NWI classification: Wetlands

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

SP located within Santa Ana River Greenway site and is associated with Feature 2. SP taken below OHWM upstream from culvert.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 10')			
1. Pluchea sericea	15	Y	FACW
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Brassica nigra	15	Y	UPL
2. Conium maculatum	20	Y	FACW
3. Baccharis salicifolia	15	Y	FACW
4. Verbasina encelioides	15	Y	FACU
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 35 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Vegetation is representative of species growing near and below the OHWM.

SOIL

Sampling Point: SP4-Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
1-8	10YR 2/1	100					Sandy loar	
8-15	10YR 3/2	95	10YR 5/4	5	C	M	SaClLo	Prominent redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✔ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** _____

Remarks:

Meets for F6 because second layer starts less than or equal to 8in from the surface and has a matrix value of 3 or less and chroma of 2 or less and greater than or equal to 5% distinct or prominent redox.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ✔ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ✔ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Dead vegetation choking the entrance to the culvert downstream as well as drift deposits within the channel.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Riverside Gateway City/County: Riverside/Riverside Sampling Date: 12/2/21

Applicant/Owner: City of Riverside PRCSD State: CA Sampling Point: SP5-Up

Investigator(s): K. Klinefelter, C. Sutter Section, Township, Range: Land Grant

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR): C-Med Lat: 33.969349 Long: -117.411277 Datum: WGS-84

Soil Map Unit Name: Dellow loamy fine sand, 0 to 2 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____ No ✔	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

SP located within Santa Ana River Greenway site and is associated with Feature 2. SP paired with SP4-Wet. Representative of cottonwood forest and arrowweed thicket banks of feature.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus fremontii	35	Y	FAC
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 10')			
1. Pluchea sericea	70	Y	FACW
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Conium maculatum	5	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
Woody Vine Stratum (Plot size: NA)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 95 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: SP5-Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
1-11	10YR 3/2	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Hardpan soils

Depth (inches): 11in

Hydric Soil Present? Yes ____ No ✔

Remarks:

Could not dig past 11 inches - reached hard dense soils. Soils above that were dry and loose. No hydric soil indicators present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✔ Depth (inches): ____

Water Table Present? Yes ____ No ✔ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No ✔ Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No discernible hydrology within feature's terrace.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Riverside Gateway City/County: Riverside/Riverside Sampling Date: 12/3/21

Applicant/Owner: City of Riverside PRCSD State: CA Sampling Point: SP6-Up

Investigator(s): K. Klinefelter, C. Sutter Section, Township, Range: Land Grant

Landform (hillslope, terrace, etc.): flats Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C-Med Lat: 33.968426 Long: -117.412828 Datum: WGS-84

Soil Map Unit Name: Dellow loamy fine sand, 0 to 2 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____ No ✔	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

SP located within Santa Ana River Greenway site located within saltgrass flats and arrowweed thickets along the Santa Ana River Trail. SP is representative of salt grass flats/arrowweed thicket mix along the entirety of the trail.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 10')			
1. Pluchea sericea	30	Y	FACW
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5')			
1. Distichlis spicata	80	Y	FAC
2. Brassica nigra	10	N	UPL
3.			
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: NA)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: SP6-Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
1-15	10YR 3/2	100					Sandy loar	Soils dry throughout pit

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

Roots present throughout soil pit. Does not meet for any hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Area is flat and does not appear to be associated with any hydrologic feature.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Riverside Gateway City/County: Riverside/Riverside Sampling Date: 12/3/21

Applicant/Owner: City of Riverside PRCSD State: CA Sampling Point: SP7-Up

Investigator(s): K. Klinefelter, C. Sutter Section, Township, Range: Land Grant

Landform (hillslope, terrace, etc.): flats Local relief (concave, convex, none): none Slope (%): <1

Subregion (LRR): C-Med Lat: 33.966967 Long: -117.414422 Datum: WGS-84

Soil Map Unit Name: Dellow loamy fine sand, 0 to 2 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____ No ✔	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

SP located within Santa Ana River Greenway site adjacent to an E-Corps restoration area and on the boundary of a willow woodland with saltgrass understory.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	20	Y	FACW
2. Baccharis salicifolia	10	Y	FAC
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 10')			
1. Baccharis salicifolia	5	Y	FACW
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Ambrosia psilosthachya	5	N	FACU
2. Distichlis spicata	25	Y	FAC
3. Rumex crispus	5	N	FAC
4. Xanthum strumarium	2	N	FAC
5.			
6.			
7.			
8.			
	= Total Cover		
Woody Vine Stratum (Plot size: NA)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 63 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Many of the surrounding annual herbs have died back/in dormancy.

SOIL

Sampling Point: SP7-Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
1-4	10YR 4/2	100					Sandy loar	
4-15	2.5YR 3/2	100					Sandy loar	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

Roots in higher concentration in 1-4in layer. Does not meet for depleted matrix (or depleted below dark surface)because top layer has value of greater than or equal to 4 and chroma of less than or equal to 2 but does not contain redox and bottom layer does not have value greater than or equal to 4 or chroma less than or equal to 2.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No observable hydrologic feature associated with the area.

Appendix D

Site Photographs

Site Photographs – December 2021

	**Photograph**: 1 **Photo Date**: 12/2/21 **Location**: Feature 1 – Upper Santa Ana River, Tequesquite North Extension **Direction**: Northeast **Comment**: Looking upstream at the top of bank of Feature 1.
	**Photograph**: 2 **Photo Date**: 12/2/21 **Location**: Feature 1 – Upper Santa Ana River, Tequesquite North Extension **Direction**: Southeast **Comment**: Looking at wetland sample point SP1-Up.

	**Photograph**: 3 **Photo Date**: 12/2/21 **Location**: Feature 1 – Upper Santa Ana River, Tequesquite North Extension **Direction**: Southeast **Comment**: Trails within riparian and upland habitat on the terraces of Feature 1.
	**Photograph**: 4 **Photo Date**: 12/2/21 **Location**: Feature 1 – Upper Santa Ana River, Tequesquite North Extension **Direction**: Northeast **Comment**: Road within the terrace of Feature 1.

	**Photograph**: 5 **Photo Date**: 12/2/21 **Location**: Feature 1 – Upper Santa Ana River, Tequesquite North Extension **Direction**: Southwest **Comment**: Looking at the top of bank of Feature 1.
	**Photograph**: 6 **Photo Date**: 12/2/21 **Location**: Feature 1 – Upper Santa Ana River, Tequesquite North Extension **Direction**: South **Comment**: Looking at wetland sample point SP2-Up.

	**Photograph**: 7 **Photo Date**: 12/2/21 **Location**: Feature 1 – Upper Santa Ana River, Tequesquite North Extension **Direction**: Southwest **Comment**: Man-made trails within riparian forests associated with Feature 1.
	**Photograph**: 8 **Photo Date**: 12/2/21 **Location**: Tequesquite North Extension **Direction**: Northeast **Comment**: Looking at upland area with scattered riparian forest in the southwest end of Tequesquite South Extension.

	**Photograph**: 9 **Photo Date**: 12/2/21 **Location**: Tequesquite North Extension **Direction**: Northwest **Comment**: Looking at wetland sample point SP3-Up within salt grass flats and cottonwood forests.
	**Photograph**: 10 **Photo Date**: 12/2/21 **Location**: Feature 2 – Old Ranch Creek, Santa Ana River Greenway **Direction**: Northeast **Comment**: Looking downstream at culvert clogged with debris.

	**Photograph**: 11 **Photo Date**: 12/2/21 **Location**: Feature 2 – Old Ranch Creek, Santa Ana River Greenway **Direction**: Southwest **Comment**: Looking upstream at wetland sample point location SP4-Wet.
	**Photograph**: 12 **Photo Date**: 12/2/21 **Location**: Feature 2 – Old Ranch Creek, Santa Ana River Greenway **Direction**: Northwest **Comment**: Looking across the channel at the change in vegetation from riparian to upland.

	**Photograph**: 13 **Photo Date**: 12/2/21 **Location**: Feature 2 – Old Ranch Creek, Santa Ana River Greenway **Direction**: Southwest **Comment**: Looking at SP5-Up within the upper banks of the channel.
	**Photograph**: 14 **Photo Date**: 12/3/21 **Location**: Santa Ana River Greenway **Direction**: Northwest **Comment**: Looking at wetland sample point SP6-Up within arrowweed thickets and salt grass flats.

	**Photograph**: 15 **Photo Date**: 12/3/21 **Location**: Santa Ana River Greenway **Direction**: Southeast **Comment**: Looking at SP7-Up within salt grass flats on the border of a small willow woodland.
	**Photograph**: 16 **Photo Date**: 12/3/21 **Location**: Feature 4, Jurupa Ave. Trailhead **Direction**: Northwest **Comment**: Looking downstream at sediment deposits and debris wracking within the channel.

	**Photograph**: 17 **Photo Date**: 12/3/21 **Location**: Feature 3 – Hole Creek, Jurupa Ave. Trailhead **Direction**: North **Comment**: Looking upstream the OHWM of Feature 3.
	**Photograph**: 18 **Photo Date**: 12/3/21 **Location**: Feature 3 – Hole Creek, Jurupa Ave. Trailhead **Direction**: South **Comment**: Looking upstream at the OHWM of Feature 3.

	**Photograph**: 19 **Photo Date**: 12/3/21 **Location**: Feature 3 – Hole Creek, Jurupa Ave. Trailhead **Direction**: Northwest **Comment**: Looking downstream at the east side of Feature 3.
	**Photograph**: 20 **Photo Date**: 12/3/21 **Location**: Feature 3 – Hole Creek, Jurupa Ave. Trailhead **Direction**: Northeast **Comment**: Looking downstream at the west side of Feature 3.

Photograph: 21

Photo Date: 3/15/22

Location: Feature 5, Santa Ana River Greenway

Direction: West

Comment: Looking downstream at Feature 5 from above the culvert.