

Appendix A

Air Quality, Energy, and
Greenhouse Gas Modeling

Transmission Pole Installation

0.57

Proposed number of
new transmission poles 6 source: PD

Temporary work area
per transmission pole 0.25 acres source: PD
Total work acres 1.5 acres Source: calculation

69kV Circuits

New 69kV circuits 1.5 miles or 7920 feet conservatively assumed to be undergrounded per PD

Width of work area for
new 69 kV circuits 25 feet source: PD
Sf of work area 198000 sf source: calculation
Total work area 4.5 acres source: calculation

230kV Line

Reconductoring 1,100
ft of 230kV conductor 0.2 miles source: PD

Conversions
feet per 1 mile 5280
sf per 1 acre 43,560

1. Basic Project Information

1.1. Basic Project Information

Data Field Value

Project Name SMUD Pocket Substation

Construction #####

Lead Agency

Land Use S Project/site

Analysis Location County

Windspeed 3

Precipitation 36.6

Location 38.489718225313624, -121.47017952003765

County Sacramento

City Sacramento

Air District Sacramento Metropolitan AQMD

Air Basin Sacramento Valley

TAZ 773

EDFZ 13

Electric Utility Sacramento Municipal Utility District

Gas Utility Pacific Gas & Electric

App Version 2022.1.1.44

1.2. Land Use Types

Land Use S	Size	Unit	Lot Acreage	Building Area	Landscape	Special Land	Population	Description
Unrefrigerated	4	1000sqft	6	4000	0			New Substation
Road Const	0.209	Mile	6	0				Access Roads
Road Const	1.5	Mile	4.5	0	0			69kV Line Undergrounding
Road Const	0.2	Mile	0.3	0	0			230 kV Reconductoring
Other Non-	1.5	Acre	1.5	0	0			Pole Installation

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction C-1-A		Use Electric or Hybrid Powered Equipment
Construction C-2*		Limit Heavy-Duty Diesel Vehicle Idling
Construction C-4*		Use Local and Sustainable Building Materials
Construction C-5		Use Advanced Engine Tiers
Construction C-10-A		Water Exposed Surfaces
Construction C-10-B		Water Active Demolition Sites
Construction C-10-C		Water Unpaved Construction Roads
Construction C-11		Limit Vehicle Speeds on Unpaved Roads
Construction C-12		Sweep Paved Roads

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

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Un/Mit.	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Unmit.	1.902542	1.59779	11.86657	18.23575	0.037337	0.411379	1.612831	1.956939	0.378489	0.257444	0.576471		4403.83	4403.83	0.244111	0.273437	3.184237	4494.601

Mit.	1.556511	1.366879	8.26798	35.62432	0.057653	0.289601	1.37198	1.557374	0.272449	0.23111	0.410435	6297.019	6297.019	0.320905	0.288796	3.184237	6394.287
% Reduced	18.1878	14.45187	30.32545	-95.3544	-54.4139	29.60236	14.93343	20.41787	28.01669	10.22898	28.80212	-42.9896	-42.9896	-31.4589	-5.61678		-42.2659
Daily, Winter (Max)																	
Unmit.	3.099346	2.492339	23.22254	29.3453	0.058671	0.880321	2.875401	3.755722	0.812383	0.419318	1.231702	7068.035	7068.035	0.358907	0.314836	0.109347	7170.938
Mit.	1.867951	1.568372	13.35458	54.9306	0.090588	0.42709	2.194442	2.621533	0.40634	0.345463	0.751803	10577.68	10577.68	0.501268	0.343306	0.109347	10692.63
% Reduced	39.7308	37.0723	42.49303	-87.187	-54.4006	51.48472	23.68221	30.19897	49.98171	17.61317	38.96222	-49.6552	-49.6552	-39.6652	-9.04283		-49.1106
Average Daily (Max)																	
Unmit.	0.968119	0.770287	7.235542	9.05156	0.020409	0.254237	0.999742	1.253979	0.234943	0.147259	0.382201	2461.105	2461.105	0.126652	0.122875	0.637434	2501.525
Mit.	0.577603	0.488894	5.144522	19.8086	0.034091	0.115462	0.777256	0.892718	0.111635	0.123101	0.234736	3945.871	3945.871	0.186879	0.13492	0.637434	3991.386
% Reduced	40.33762	36.53092	28.89928	-118.842	-67.0444	54.58473	22.25431	28.80912	52.48417	16.40505	38.58321	-60.3292	-60.3292	-47.5536	-9.80266		-59.5581
Annual (Max)																	
Unmit.	0.176682	0.140577	1.320486	1.65191	0.003725	0.046398	0.182453	0.228851	0.042877	0.026875	0.069752	407.464	407.464	0.020969	0.020343	0.105534	414.156
Mit.	0.105413	0.089223	0.938875	3.61507	0.006222	0.021072	0.141849	0.162921	0.020373	0.022466	0.042839	653.2839	653.2839	0.03094	0.022338	0.105534	660.8195
% Reduced	40.33762	36.53092	28.89928	-118.842	-67.0444	54.58473	22.25431	28.80912	52.48417	16.40505	38.58321	-60.3292	-60.3292	-47.5536	-9.80266		-59.5581

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

Year	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily - Summer (Max)																		
2028	1.405383	1.077675	11.22914	13.98459	0.03569	0.344108	1.612831	1.956939	0.319027	0.257444	0.576471		4403.83	4403.83	0.244111	0.273437	3.184237	4494.601
2029	1.902542	1.59779	11.86657	18.23575	0.037337	0.411379	0.122975	0.534354	0.378489	0.028998	0.407487		4085.732	4085.732	0.162696	0.035316	0.373367	4100.697
2030													0	0	0	0		0
Daily - Winter (Max)																		
2027	3.099346	2.492339	23.22254	29.3453	0.058667	0.880321	2.875401	3.755722	0.812383	0.419318	1.231702		7068.035	7068.035	0.358907	0.314836	0.109347	7170.938
2028	2.973579	2.395795	21.85926	29.20613	0.058671	0.7953	2.875401	3.670701	0.734164	0.419318	1.153482		7017.803	7017.803	0.347547	0.304641	0.099789	7117.374
2029	2.441614	2.048321	15.91391	23.52136	0.049852	0.554947	0.144916	0.699863	0.510592	0.034314	0.544906		5410.829	5410.829	0.217869	0.053061	0.01173	5432.1
2030	2.933269	2.467873	20.88116	22.26808	0.041785	0.832187	0.201703	1.03389	0.765624	0.045733	0.811357		4592.654	4592.654	0.183387	0.044962	0.012456	4610.65
2031	2.867753	2.413001	20.13848	21.83006	0.041783	0.810076	0.201703	1.011779	0.745287	0.045733	0.79102		4589.257	4589.257	0.18327	0.044855	0.011049	4607.216
Average Daily																		
2027	0.257102	0.200601	1.957723	2.085661	0.005751	0.066549	0.250969	0.317517	0.061566	0.038872	0.100438		704.7827	704.7827	0.038777	0.040203	0.21353	717.9462
2028	0.968119	0.770287	7.235542	9.05156	0.020409	0.254237	0.999742	1.253979	0.234943	0.147259	0.382201		2461.105	2461.105	0.126652	0.122875	0.637434	2501.525
2029	0.699156	0.585556	4.881523	7.022936	0.013349	0.176374	0.01992	0.196294	0.162279	0.004788	0.167067		1409.847	1409.847	0.057089	0.013682	0.030716	1415.383
2030	0.529098	0.444384	3.758139	4.011297	0.007523	0.149825	0.035552	0.185377	0.137842	0.008043	0.145885		827.6116	827.6116	0.032948	0.007102	0.037372	830.5889
2031	0.17961	0.151132	1.261015	1.367901	0.002617	0.050729	0.012366	0.063095	0.046672	0.002798	0.049469		287.6479	287.6479	0.011453	0.002463	0.011548	288.6798
Annual																		
2027	0.046921	0.03661	0.357285	0.380633	0.001049	0.012145	0.045802	0.057947	0.011236	0.007094	0.01833		116.6848	116.6848	0.00642	0.006656	0.035352	118.8642
2028	0.176682	0.140577	1.320486	1.65191	0.003725	0.046398	0.182453	0.228851	0.042877	0.026875	0.069752		407.464	407.464	0.020969	0.020343	0.105534	414.156
2029	0.127596	0.106864	0.890878	1.281686	0.002436	0.032188	0.003635	0.035824	0.029616	0.000874	0.03049		233.4163	233.4163	0.009452	0.002265	0.005085	234.3327
2030	0.09656	0.0811	0.68586	0.732062	0.001373	0.027343	0.006488	0.033831	0.025156	0.001468	0.026624		137.0205	137.0205	0.005455	0.001176	0.006187	137.5135
2031	0.032779	0.027582	0.230135	0.249642	0.000478	0.009258	0.002257	0.011515	0.008518	0.000511	0.009028		47.62338	47.62338	0.001896	0.000408	0.001912	47.79424

2.2.2. Onsite Construction Emissions by Year, Unmitigated

Year	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily - Summer (Max)																		
2028	1.188385	0.998574	8.587752	13.18534	0.024984	0.338916	1.072863	1.399416	0.311803	0.116381	0.426312		2704.964	2704.964	0.109725	0.021945	0	2714.247
2029	1.858235	1.559059	11.81512	17.67641	0.03721	0.411124	0	0.411124	0.378235	0	0.378235		3945.79	3945.79	0.160059	0.032012	0	3959.331

Daily - Winter (Max)																		
2027	2.803681	2.354228	20.1418	27.03748	0.04796	0.849222	2.133363	2.982585	0.781284	0.23089	1.012175		5140.571	5140.571	0.208524	0.041705	0	5158.212
2028	2.691927	2.260329	18.94939	26.99317	0.047965	0.764201	2.133363	2.897564	0.703065	0.23089	0.933955		5140.762	5140.762	0.208532	0.041706	0	5158.404
2029	2.393985	2.008324	15.82284	23.03802	0.049597	0.554438	0	0.554438	0.510083	0	0.510083		5251.733	5251.733	0.213033	0.042607	0	5269.756
2030	2.881016	2.418422	20.81095	21.68557	0.041676	0.831973	0.020413	0.852387	0.765416	0.003091	0.768507		4416.704	4416.704	0.179161	0.035832	0	4431.861
2031	2.817924	2.365478	20.07579	21.27888	0.041673	0.809868	0.020413	0.830282	0.745079	0.003091	0.74817		4416.393	4416.393	0.179148	0.03583	0	4431.549
Average Daily																		
2027	0.224712	0.188779	1.551595	1.85765	0.004284	0.062289	0.173947	0.236235	0.057305	0.018856	0.076161		462.5116	462.5116	0.018761	0.003752	0	464.0989
2028	0.865313	0.726841	6.046441	8.285567	0.015871	0.241182	0.738507	0.979688	0.221887	0.079962	0.301849		1709.944	1709.944	0.069363	0.013873	0	1715.812
2029	0.692418	0.580293	4.857733	6.956135	0.013257	0.176189	0	0.176189	0.162094	0	0.162094		1381.465	1381.465	0.056038	0.011208	0	1386.206
2030	0.518696	0.435411	3.746786	3.904251	0.007503	0.149788	0.003675	0.153463	0.137805	0.000557	0.138361		795.1795	795.1795	0.032256	0.006451	0	797.9084
2031	0.176465	0.148132	1.257192	1.332533	0.00261	0.050716	0.001278	0.051994	0.046659	0.000194	0.046852		276.5647	276.5647	0.011219	0.002244	0	277.5138
Annual																		
2027	0.04101	0.034452	0.283166	0.339021	0.000782	0.011368	0.031745	0.043113	0.010458	0.003441	0.013899		76.57408	76.57408	0.003106	0.000621	0	76.83686
2028	0.15792	0.132648	1.103475	1.512116	0.002896	0.044016	0.134777	0.178793	0.040494	0.014593	0.055087		283.1008	283.1008	0.011484	0.002297	0	284.0723
2029	0.126366	0.105903	0.886536	1.269495	0.002419	0.032155	0	0.032155	0.029582	0	0.029582		228.7173	228.7173	0.009278	0.001856	0	229.5022
2030	0.094662	0.079462	0.683788	0.712526	0.001369	0.027336	0.000671	0.028007	0.025149	0.000102	0.025251		131.651	131.651	0.00534	0.001068	0	132.1028
2031	0.032205	0.027034	0.229438	0.243187	0.000476	0.009256	0.000233	0.009489	0.008515	3.53E-05	0.008551		45.78845	45.78845	0.001857	0.000371	0	45.94558
2.2.3. Offsite Construction Emissions by Year, Unmitigated																		
Year	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily - Summer (Max)																		
2028	0.216998	0.079102	2.641386	1.601005	0.010706	0.030589	0.539969	0.570558	0.030589	0.141063	0.171652		1698.866	1698.866	0.134386	0.251492	3.184237	1780.355
2029	0.044307	0.038731	0.051455	0.559333	0.000127	0.000254	0.122975	0.12323	0.000254	0.028998	0.029252		139.9414	139.9414	0.002638	0.003305	0.373367	141.3655
2030													0	0	0	0		0
Daily - Winter (Max)																		
2027	0.295665	0.138111	3.080742	2.307821	0.010706	0.031099	0.742038	0.773137	0.031099	0.188428	0.219527		1927.464	1927.464	0.150383	0.273131	0.109347	2012.726
2028	0.281652	0.135466	2.909879	2.212953	0.010706	0.031099	0.742038	0.773137	0.031099	0.188428	0.219527		1877.041	1877.041	0.139015	0.262934	0.099789	1958.971
2029	0.04763	0.039996	0.091077	0.483341	0.000254	0.000509	0.144916	0.145424	0.000509	0.034314	0.034823		159.096	159.096	0.004836	0.010455	0.01173	162.3441
2030	0.052254	0.049452	0.070213	0.582516	0.000109	0.000213	0.18129	0.181503	0.000208	0.042642	0.04285		175.9506	175.9506	0.004226	0.00913	0.012456	178.7894
2031	0.04983	0.047523	0.062687	0.551179	0.000109	0.000208	0.18129	0.181498	0.000208	0.042642	0.04285		172.8638	172.8638	0.004122	0.009026	0.011049	175.6676
Average Daily																		
2027	0.03239	0.011822	0.406129	0.228011	0.001467	0.00426	0.077022	0.081282	0.00426	0.020016	0.024276		242.271	242.271	0.020015	0.036451	0.21353	253.8473
2028	0.102806	0.043447	1.189101	0.765993	0.004537	0.013056	0.261235	0.274291	0.013056	0.067297	0.080352		751.1607	751.1607	0.057289	0.109003	0.637434	785.7131
2029	0.006738	0.005263	0.02379	0.066801	9.25E-05	0.000185	0.01992	0.020105	0.000185	0.004788	0.004973		28.38227	28.38227	0.001051	0.002475	0.030716	29.17668
2030	0.010403	0.008974	0.011353	0.107047	1.97E-05	3.75E-05	0.031877	0.031914	3.75E-05	0.007487	0.007524		32.43204	32.43204	0.000692	0.00065	0.037372	32.68055
2031	0.003145	0.003001	0.003823	0.035368	6.84E-06	1.3E-05	0.011088	0.011101	1.3E-05	0.002604	0.002617		11.08312	11.08312	0.000234	0.00022	0.011548	11.166
Annual																		
2027	0.005911	0.002158	0.074118	0.041612	0.000268	0.000777	0.014056	0.014834	0.000777	0.003653	0.00443		40.11074	40.11074	0.003314	0.006035	0.035352	42.02732
2028	0.018762	0.007929	0.217011	0.139794	0.000828	0.002383	0.047675	0.050058	0.002383	0.012282	0.014664		124.3632	124.3632	0.009485	0.018047	0.105534	130.0838
2029	0.00123	0.000961	0.004342	0.012191	1.69E-05	3.38E-05	0.003635	0.003669	3.38E-05	0.000874	0.000908		4.699008	4.699008	0.000174	0.00041	0.005085	4.830533
2030	0.001899	0.001638	0.002072	0.019536	3.59E-06	6.84E-06	0.005818	0.005824	6.84E-06	0.001366	0.001373		5.369494	5.369494	0.000115	0.000108	0.006187	5.410637
2031	0.000574	0.000548	0.000698	0.006455	1.25E-06	2.38E-06	0.002023	0.002026	2.38E-06	0.000475	0.000478		1.834938	1.834938	3.87E-05	3.64E-05	0.001912	1.848658
2.2.4. Total Construction Emissions by Year, Mitigated																		
Includes both onsite and offsite emissions.																		
Year	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e

Daily - Summer (Max)																		
2028	0.896374	0.713008	7.823387	33.75071	0.053175	0.185394	1.37198	1.557374	0.179325	0.23111	0.410435		6297.019	6297.019	0.320905	0.288796	3.184237	6394.287
2029	1.556511	1.366879	8.26798	35.62432	0.057653	0.289601	0.122975	0.412576	0.272449	0.028998	0.301447		6285.081	6285.081	0.251911	0.053159	0.373367	6307.593
2030													0	0	0	0		0
Daily - Winter (Max)																		
2027	1.867951	1.568372	13.35458	54.9306	0.090588	0.42709	2.194442	2.621533	0.40634	0.345463	0.751803		10577.68	10577.68	0.501268	0.343306	0.109347	10692.63
2028	1.807615	1.526802	12.89728	54.8351	0.090586	0.389464	2.194442	2.583907	0.371724	0.345463	0.717187		10526.13	10526.13	0.489859	0.333102	0.099789	10637.75
2029	1.744594	1.541444	9.339328	42.84838	0.070168	0.329673	0.144916	0.474588	0.311235	0.034314	0.345548		7610.178	7610.178	0.307085	0.070904	0.01173	7638.996
2030	0.863131	0.784726	5.673616	23.76088	0.041785	0.136531	0.194354	0.330885	0.131264	0.04462	0.175885		4592.654	4592.654	0.183387	0.044962	0.012456	4610.65
2031	0.838286	0.764029	5.642089	23.70642	0.041783	0.128032	0.194354	0.322387	0.123451	0.04462	0.168071		4589.257	4589.257	0.18327	0.044855	0.011049	4607.216
Average Daily																		
2027	0.174862	0.141461	1.253092	4.477513	0.008866	0.037352	0.206779	0.244131	0.035698	0.034056	0.069754		1043.604	1043.604	0.05252	0.042951	0.21353	1057.93
2028	0.577603	0.488894	5.144522	19.8086	0.034091	0.115462	0.777256	0.892718	0.111635	0.123101	0.234736		3945.871	3945.871	0.186879	0.13492	0.637434	3991.386
2029	0.431558	0.376877	2.723143	9.571323	0.015013	0.092609	0.01992	0.112529	0.086835	0.004788	0.091623		1589.973	1589.973	0.064396	0.015144	0.030716	1596.126
2030	0.156392	0.141352	1.020185	4.280059	0.007523	0.02458	0.034229	0.058809	0.023633	0.007843	0.031476		827.6116	827.6116	0.032948	0.007102	0.037372	830.5889
2031	0.05252	0.04787	0.353218	1.485403	0.002617	0.008018	0.011906	0.019923	0.007731	0.002728	0.010459		287.6479	287.6479	0.011453	0.002463	0.011548	288.6798
Annual																		
2027	0.031912	0.025817	0.228689	0.817146	0.001618	0.006817	0.037737	0.044554	0.006515	0.006215	0.01273		172.7806	172.7806	0.008695	0.007111	0.035352	175.1524
2028	0.105413	0.089223	0.938875	3.61507	0.006222	0.021072	0.141849	0.162921	0.020373	0.022466	0.042839		653.2839	653.2839	0.03094	0.022338	0.105534	660.8195
2029	0.078759	0.06878	0.496974	1.746766	0.00274	0.016901	0.003635	0.020536	0.015847	0.000874	0.016721		263.2382	263.2382	0.010661	0.002507	0.005085	264.257
2030	0.028542	0.025797	0.186184	0.781111	0.001373	0.004486	0.006247	0.010733	0.004313	0.001431	0.005744		137.0205	137.0205	0.005455	0.001176	0.006187	137.5135
2031	0.009585	0.008736	0.064462	0.271086	0.000478	0.001463	0.002173	0.003636	0.001411	0.000498	0.001909		47.62338	47.62338	0.001896	0.000408	0.001912	47.79424

2.2.5. Onsite Construction Emissions by Year, Mitigated

Year	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily - Summer (Max)																		
2028	0.679376	0.633906	7.66142	32.95145	0.043518	0.154805	0.832012	0.986817	0.148736	0.090047	0.238783		4712.653	4712.653	0.191166	0.038233	0	4728.826
2029	1.512204	1.328149	8.216525	35.06499	0.057526	0.289347	0	0.289347	0.272194	0	0.272194		6145.139	6145.139	0.249274	0.049855	0	6166.228
Daily - Winter (Max)																		
2027	1.572286	1.43026	10.27384	52.62278	0.079882	0.395991	1.452404	1.848396	0.375241	0.157035	0.532276		8649.295	8649.295	0.350853	0.070171	0	8678.977
2028	1.525963	1.391336	9.987406	52.62215	0.079879	0.358365	1.452404	1.810769	0.340625	0.157035	0.49766		8648.859	8648.859	0.350836	0.070167	0	8678.54
2029	1.696965	1.501448	9.248251	42.36504	0.069914	0.329164	0	0.329164	0.310726	0	0.310726		7451.082	7451.082	0.302248	0.06045	0	7476.652
2030	0.810877	0.735275	5.603403	23.17837	0.041676	0.136317	0.013065	0.149382	0.131056	0.001978	0.133035		4416.704	4416.704	0.179161	0.035832	0	4431.861
2031	0.788456	0.716506	5.579402	23.15524	0.041673	0.127824	0.013065	0.140889	0.123243	0.001978	0.125221		4416.393	4416.393	0.179148	0.03583	0	4431.549
Average Daily																		
2027	0.142471	0.129639	0.846963	4.249502	0.007399	0.033092	0.129757	0.162849	0.031438	0.014039	0.045478		801.1428	801.1428	0.032498	0.0065	0	803.8921
2028	0.474797	0.445448	3.955421	19.04261	0.029554	0.102407	0.516021	0.618428	0.098579	0.055804	0.154384		3194.52	3194.52	0.129584	0.025917	0	3205.482
2029	0.42482	0.371614	2.699353	9.504522	0.01492	0.092424	0	0.092424	0.08665	0	0.08665		1561.591	1561.591	0.063345	0.012669	0	1566.95
2030	0.14599	0.132378	1.008832	4.173013	0.007503	0.024542	0.002352	0.026895	0.023595	0.000356	0.023951		795.1795	795.1795	0.032256	0.006451	0	797.9084
2031	0.049375	0.044869	0.349395	1.450035	0.00261	0.008005	0.000818	0.008823	0.007718	0.000124	0.007842		276.5647	276.5647	0.011219	0.002244	0	277.5138
Annual																		
2027	0.026001	0.023659	0.154571	0.775534	0.00135	0.006039	0.023681	0.02972	0.005737	0.002562	0.0083		132.6383	132.6383	0.00538	0.001076	0	133.0935
2028	0.08665	0.081294	0.721864	3.475277	0.005394	0.018689	0.094174	0.112863	0.017991	0.010184	0.028175		528.8892	528.8892	0.021454	0.004291	0	530.7042
2029	0.07753	0.06782	0.492632	1.734575	0.002723	0.016867	0	0.016867	0.015814	0	0.015814		258.5392	258.5392	0.010487	0.002097	0	259.4264
2030	0.026643	0.024159	0.184112	0.761575	0.001369	0.004479	0.000429	0.004908	0.004306	6.5E-05	0.004371		131.651	131.651	0.00534	0.001068	0	132.1028
2031	0.009011	0.008189	0.063765	0.264631	0.000476	0.001461	0.000149	0.00161	0.001408	2.26E-05	0.001431		45.78845	45.78845	0.001857	0.000371	0	45.94558

Year	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily - Summer (Max)																		
2028	0.216998	0.079102	2.641386	1.601005	0.010706	0.030589	0.539969	0.570558	0.030589	0.141063	0.171652		1699.101	1699.101	0.134394	0.251493	3.184237	1780.59
2029	0.044307	0.038731	0.051455	0.559333	0.000127	0.000254	0.122975	0.12323	0.000254	0.028998	0.029252		139.9414	139.9414	0.002638	0.003305	0.373367	141.3655
2030													0	0	0	0		0
Daily - Winter (Max)																		
2027	0.295665	0.138111	3.080742	2.307821	0.010706	0.031099	0.742038	0.773137	0.031099	0.188428	0.219527		1928.387	1928.387	0.150415	0.273135	0.109347	2013.651
2028	0.281652	0.135466	2.909879	2.212953	0.010706	0.031099	0.742038	0.773137	0.031099	0.188428	0.219527		1877.275	1877.275	0.139023	0.262935	0.099789	1959.205
2029	0.04763	0.039996	0.091077	0.483341	0.000254	0.000509	0.144916	0.145424	0.000509	0.034314	0.034823		159.096	159.096	0.004836	0.010455	0.01173	162.3441
2030	0.052254	0.049452	0.070213	0.582516	0.000109	0.000213	0.18129	0.181503	0.000208	0.042642	0.04285		175.9506	175.9506	0.004226	0.00913	0.012456	178.7894
2031	0.04983	0.047523	0.062687	0.551179	0.000109	0.000208	0.18129	0.181498	0.000208	0.042642	0.04285		172.8638	172.8638	0.004122	0.009026	0.011049	175.6676
Average Daily																		
2027	0.03239	0.011822	0.406129	0.228011	0.001467	0.00426	0.077022	0.081282	0.00426	0.020016	0.024276		242.4614	242.4614	0.020022	0.036452	0.21353	254.0382
2028	0.102806	0.043447	1.189101	0.765993	0.004537	0.013056	0.261235	0.274291	0.013056	0.067297	0.080352		751.3511	751.3511	0.057295	0.109003	0.637434	785.9039
2029	0.006738	0.005263	0.02379	0.066801	9.25E-05	0.000185	0.01992	0.020105	0.000185	0.004788	0.004973		28.38227	28.38227	0.001051	0.002475	0.030716	29.17668
2030	0.010403	0.008974	0.011353	0.107047	1.97E-05	3.75E-05	0.031877	0.031914	3.75E-05	0.007487	0.007524		32.43204	32.43204	0.000692	0.00065	0.037372	32.68055
2031	0.003145	0.003001	0.003823	0.035368	6.84E-06	1.3E-05	0.011088	0.011101	1.3E-05	0.002604	0.002617		11.08312	11.08312	0.000234	0.00022	0.011548	11.166
Annual																		
2027	0.005911	0.002158	0.074118	0.041612	0.000268	0.000777	0.014056	0.014834	0.000777	0.003653	0.00443		40.14226	40.14226	0.003315	0.006035	0.035352	42.05892
2028	0.018762	0.007929	0.217011	0.139794	0.000828	0.002383	0.047675	0.050058	0.002383	0.012282	0.014664		124.3947	124.3947	0.009486	0.018047	0.105534	130.1154
2029	0.00123	0.000961	0.004342	0.012191	1.69E-05	3.38E-05	0.003635	0.003669	3.38E-05	0.000874	0.000908		4.699008	4.699008	0.000174	0.00041	0.005085	4.830533
2030	0.001899	0.001638	0.002072	0.019536	3.59E-06	6.84E-06	0.005818	0.005824	6.84E-06	0.001366	0.001373		5.369494	5.369494	0.000115	0.000		

3.1. Demolition (2030)

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Off-Road E	2.881016	2.418422	20.81095	21.68557	0.041676	0.831973		0.831973	0.765416		0.765416		4416.704	4416.704	0.179161	0.035832		4431.861
Demolition							0.020413	0.020413		0.003091	0.003091							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road E	0.518696	0.435411	3.746786	3.904251	0.007503	0.149788		0.149788	0.137805		0.137805		795.1795	795.1795	0.032256	0.006451		797.9084
Demolition							0.003675	0.003675		0.000557	0.000557							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road E	0.094662	0.079462	0.683788	0.712526	0.001369	0.027336		0.027336	0.025149		0.025149		131.651	131.651	0.00534	0.001068		132.1028
Demolition							0.000671	0.000671		0.000102	0.000102							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		

Worker	0.050657	0.049113	0.044677	0.571962	0	0	0.176811	0.176811	0	0.041444	0.041444	160.6739	160.6739	0.003086	0.006674	0.011834	162.7519
Vendor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hauling	0.001597	0.000338	0.025536	0.010555	0.000109	0.000213	0.004479	0.004692	0.000208	0.001198	0.001406	15.27671	15.27671	0.001139	0.002455	0.000622	16.03749
Average Daily																	
Worker	0.010113	0.008912	0.006842	0.105157	0	0	0.031085	0.031085	0	0.007275	0.007275	29.68173	29.68173	0.000486	0.000208	0.03551	29.79149
Vendor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hauling	0.000289	6.18E-05	0.004511	0.00189	1.97E-05	3.75E-05	0.000792	0.00083	3.75E-05	0.000212	0.00025	2.750309	2.750309	0.000206	0.000442	0.001862	2.889053
Annual																	
Worker	0.001846	0.001626	0.001249	0.019191	0	0	0.005673	0.005673	0	0.001328	0.001328	4.914149	4.914149	8.05E-05	3.45E-05	0.005879	4.932322
Vendor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hauling	5.28E-05	1.13E-05	0.000823	0.000345	3.59E-06	6.84E-06	0.000145	0.000151	6.84E-06	3.87E-05	4.55E-05	0.455345	0.455345	3.41E-05	7.32E-05	0.000308	0.478316

3.1.3. Onsite - Mitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Off-Road E	0.810877	0.735275	5.603403	23.17837	0.041676	0.136317		0.136317	0.131056		0.131056		4416.704	4416.704	0.179161	0.035832		4431.861
Demolition							0.013065	0.013065		0.001978	0.001978							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road E	0.14599	0.132378	1.008832	4.173013	0.007503	0.024542		0.024542	0.023595		0.023595		795.1795	795.1795	0.032256	0.006451		797.9084
Demolition							0.002352	0.002352		0.000356	0.000356							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road E	0.026643	0.024159	0.184112	0.761575	0.001369	0.004479		0.004479	0.004306		0.004306		131.651	131.651	0.00534	0.001068		132.1028
Demolition							0.000429	0.000429		6.5E-05	6.5E-05							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.1.4. Offsite - Mitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0.050657	0.049113	0.044677	0.571962	0	0	0.176811	0.176811	0	0.041444	0.041444		160.6739	160.6739	0.003086	0.006674	0.011834	162.7519
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.001597	0.000338	0.025536	0.010555	0.000109	0.000213	0.004479	0.004692	0.000208	0.001198	0.001406		15.27671	15.27671	0.001139	0.002455	0.000622	16.03749
Average Daily																		
Worker	0.010113	0.008912	0.006842	0.105157	0	0	0.031085	0.031085	0	0.007275	0.007275		29.68173	29.68173	0.000486	0.000208	0.03551	29.79149
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.000289	6.18E-05	0.004511	0.00189	1.97E-05	3.75E-05	0.000792	0.00083	3.75E-05	0.000212	0.00025		2.750309	2.750309	0.000206	0.000442	0.001862	2.889053
Annual																		
Worker	0.001846	0.001626	0.001249	0.019191	0	0	0.005673	0.005673	0	0.001328	0.001328		4.914149	4.914149	8.05E-05	3.45E-05	0.005879	4.932322
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	5.28E-05	1.13E-05	0.000823	0.000345	3.59E-06	6.84E-06	0.000145	0.000151	6.84E-06	3.87E-05	4.55E-05		0.455345	0.455345	3.41E-05	7.32E-05	0.000308	0.478316

3.2. Demolition (2031)

3.2.1. Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
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Daily, Summer (Max)																		
Daily, Winter (Max)																		
Off-Road E	2.817924	2.365478	20.07579	21.27888	0.041673	0.809868		0.809868	0.745079		0.745079		4416.393	4416.393	0.179148	0.03583		4431.549
Demolition							0.020413	0.020413		0.003091	0.003091							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road E	0.176465	0.148132	1.257192	1.332533	0.00261	0.050716		0.050716	0.046659		0.046659		276.5647	276.5647	0.011219	0.002244		277.5138
Demolition							0.001278	0.001278		0.000194	0.000194							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road E	0.032205	0.027034	0.229438	0.243187	0.000476	0.009256		0.009256	0.008515		0.008515		45.78845	45.78845	0.001857	0.000371		45.94558
Demolition							0.000233	0.000233		3.53E-05	3.53E-05							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.2.2. Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0.048342	0.047184	0.038774	0.54102	0	0	0.176811	0.176811	0	0.041444	0.041444		158.0786	158.0786	0.003086	0.006674	0.010493	160.1552
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.001488	0.000338	0.023913	0.010159	0.000109	0.000208	0.004479	0.004687	0.000208	0.001198	0.001406		14.78521	14.78521	0.001035	0.002351	0.000556	15.51233
Average Daily																		
Worker	0.003051	0.002979	0.002356	0.034735	0	0	0.010812	0.010812	0	0.00253	0.00253		10.1573	10.1573	0.000169	7.25E-05	0.010968	10.1941
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	9.38E-05	2.18E-05	0.001467	0.000633	6.84E-06	1.3E-05	0.000276	0.000289	1.3E-05	7.38E-05	8.68E-05		0.92582	0.92582	6.48E-05	0.000147	0.00058	0.971899
Annual																		
Worker	0.000557	0.000544	0.00043	0.006339	0	0	0.001973	0.001973	0	0.000462	0.000462		1.681658	1.681658	2.8E-05	1.2E-05	0.001816	1.687749
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	1.71E-05	3.98E-06	0.000268	0.000115	1.25E-06	2.38E-06	5.03E-05	5.27E-05	2.38E-06	1.35E-05	1.58E-05		0.15328	0.15328	1.07E-05	2.44E-05	9.61E-05	0.160909

3.2.3. Onsite - Mitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Off-Road E	0.788456	0.716506	5.579402	23.15524	0.041673	0.127824		0.127824	0.123243		0.123243		4416.393	4416.393	0.179148	0.03583		4431.549
Demolition							0.013065	0.013065		0.001978	0.001978							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road E	0.049375	0.044869	0.349395	1.450035	0.00261	0.008005		0.008005	0.007718		0.007718		276.5647	276.5647	0.011219	0.002244		277.5138
Demolition							0.000818	0.000818		0.000124	0.000124							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road E	0.009011	0.008189	0.063765	0.264631	0.000476	0.001461		0.001461	0.001408		0.001408		45.78845	45.78845	0.001857	0.000371		45.94558
Demolition							0.000149	0.000149		2.26E-05	2.26E-05							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.2.4. Offsite - Mitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0.048342	0.047184	0.038774	0.54102	0	0	0.176811	0.176811	0	0.041444	0.041444		158.0786	158.0786	0.003086	0.006674	0.010493	160.1552
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.001488	0.000338	0.023913	0.010159	0.000109	0.000208	0.004479	0.004687	0.000208	0.001198	0.001406		14.78521	14.78521	0.001035	0.002351	0.000556	15.51233
Average Daily																		
Worker	0.003051	0.002979	0.002356	0.034735	0	0	0.010812	0.010812	0	0.00253	0.00253		10.1573	10.1573	0.000169	7.25E-05	0.010968	10.1941
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	9.38E-05	2.18E-05	0.001467	0.000633	6.84E-06	1.3E-05	0.000276	0.000289	1.3E-05	7.38E-05	8.68E-05		0.92582	0.92582	6.48E-05	0.000147	0.00058	0.971899
Annual																		
Worker	0.000557	0.000544	0.00043	0.006339	0	0	0.001973	0.001973	0	0.000462	0.000462		1.681658	1.681658	2.8E-05	1.2E-05	0.001816	1.687749
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	1.71E-05	3.98E-06	0.000268	0.000115	1.25E-06	2.38E-06	5.03E-05	5.27E-05	2.38E-06	1.35E-05	1.58E-05		0.15328	0.15328	1.07E-05	2.44E-05	9.61E-05	0.160909

3.3. Site Preparation (2027)

3.3.1. Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Off-Road E	0.659409	0.554087	3.48924	4.963132	0.015334	0.118237		0.118237	0.108778		0.108778		1659.978	1659.978	0.067336	0.013467		1665.674
Dust From Material Movement							0	0		0	0							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road E	0.028906	0.024289	0.152953	0.217562	0.000672	0.005183		0.005183	0.004768		0.004768		72.76614	72.76614	0.002952	0.00059		73.01586
Dust From Material Movement							0	0		0	0							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road E	0.005275	0.004433	0.027914	0.039705	0.000123	0.000946		0.000946	0.00087		0.00087		12.04727	12.04727	0.000489	9.77E-05		12.08861
Dust From Material Movement							0	0		0	0							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.3.2. Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0.017924	0.015796	0.016469	0.194304	0	0	0.050517	0.050517	0	0.011841	0.011841		48.54474	48.54474	0.001102	0.002017	0.004689	49.17812
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Worker	0.000781	0.000692	0.000633	0.008725	0	0	0.002162	0.002162	0	0.000506	0.000506		2.183617	2.183617	3.87E-05	8.36E-05	0.003419	2.212914
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Worker	0.000143	0.000126	0.000116	0.001592	0	0	0.000395	0.000395	0	9.24E-05	9.24E-05		0.361523	0.361523	6.4E-06	1.38E-05	0.000566	0.366373
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.3.3. Onsite - Mitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Off-Road E	0.653466	0.566604	3.068584	11.16437	0.023379	0.110341		0.110341	0.103267		0.103267		2530.92	2530.92	0.102665	0.020533		2539.605
Dust From Material Movement							0	0			0	0						
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road E	0.028645	0.024837	0.134513	0.489397	0.001025	0.004837		0.004837	0.004527		0.004527		110.9444	110.9444	0.0045	0.0009		111.3252
Dust From Material Movement							0	0			0	0						
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road E	0.005228	0.004533	0.024549	0.089315	0.000187	0.000883		0.000883	0.000826		0.000826		18.36812	18.36812	0.000745	0.000149		18.43115
Dust From Material Movement							0	0			0	0						
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.3.4. Offsite - Mitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0.017924	0.015796	0.016469	0.194304	0	0	0.050517	0.050517	0	0.011841	0.011841		48.54474	48.54474	0.001102	0.002017	0.004689	49.17812
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Worker	0.000781	0.000692	0.000633	0.008725	0	0	0.002162	0.002162	0	0.000506	0.000506		2.183617	2.183617	3.87E-05	8.36E-05	0.003419	2.212914
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Worker	0.000143	0.000126	0.000116	0.001592	0	0	0.000395	0.000395	0	9.24E-05	9.24E-05		0.361523	0.361523	6.4E-06	1.38E-05	0.000566	0.366373
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.4. Grading (2027)

3.4.1. Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Off-Road E	1.115951	0.937709	7.944955	8.536799	0.021441	0.318264		0.318264	0.292803		0.292803		2321.623	2321.623	0.094175	0.018835		2329.59
Dust From Material Movement							1.072863	1.072863			0.116381	0.116381						
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road E	0.15287	0.128453	1.08835	1.169425	0.002937	0.043598		0.043598	0.04011		0.04011		318.0306	318.0306	0.012901	0.00258		319.122
Dust From Material Movement							0.146967	0.146967			0.015943	0.015943						
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road E	0.027899	0.023443	0.198624	0.21342	0.000536	0.007957		0.007957	0.00732		0.00732		52.65359	52.65359	0.002136	0.000427		52.83428

[illegible]

3.4.2. Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0.026885	0.023694	0.024703	0.291457	0	0	0.075776	0.075776	0	0.017762	0.017762		72.81712	72.81712	0.001653	0.003026	0.007033	73.76719
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.188123	0.043335	2.981931	1.141995	0.010706	0.031099	0.438934	0.470033	0.031099	0.117381	0.14848		1636.196	1636.196	0.143769	0.261027	0.081215	1717.657
Average Daily																		
Worker	0.00366	0.003246	0.002969	0.0409	0	0	0.010136	0.010136	0	0.002372	0.002372		10.23571	10.23571	0.000181	0.000392	0.016026	10.37303
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.02591	0.006076	0.400871	0.1556	0.001467	0.00426	0.059076	0.063336	0.00426	0.015817	0.020077		224.149	224.149	0.019694	0.035757	0.185156	235.4821
Annual																		
Worker	0.000668	0.000592	0.000542	0.007464	0	0	0.00185	0.00185	0	0.000433	0.000433		1.694638	1.694638	3E-05	6.49E-05	0.002653	1.717374
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.004729	0.001109	0.073159	0.028397	0.000268	0.000777	0.010781	0.011559	0.000777	0.002887	0.003664		37.11042	37.11042	0.003261	0.00592	0.030655	38.98675

3.4.3. Onsite - Mitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Off-Road E	0.661849	0.613333	4.043896	21.70732	0.038929	0.162987		0.162987	0.155677		0.155677		4214.922	4214.922	0.170976	0.034195		4229.386
Dust From Material Movement							0.832012	0.832012		0.090047	0.090047							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road E	0.090664	0.084018	0.553958	2.973606	0.005333	0.022327		0.022327	0.021326		0.021326		577.3865	577.3865	0.023421	0.004684		579.368
Dust From Material Movement							0.113974	0.113974		0.012335	0.012335							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road E	0.016546	0.015333	0.101097	0.542683	0.000973	0.004075		0.004075	0.003892		0.003892		95.59293	95.59293	0.003878	0.000776		95.92098
Dust From Material Movement							0.0208	0.0208		0.002251	0.002251							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.4.4. Offsite - Mitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Worker	0.026885	0.023694	0.024703	0.291457	0	0	0.075776	0.075776	0	0.017762	0.017762		72.81712	72.81712	0.001653	0.003026	0.007033	73.76719
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.188123	0.043335	2.981931	1.141995	0.010706	0.031099	0.438934	0.470033	0.031099	0.117381	0.14848		1636.196	1636.196	0.143769	0.261027	0.081215	1717.657
Average Daily																		
Worker	0.00366	0.003246	0.002969	0.0409	0	0	0.010136	0.010136	0	0.002372	0.002372		10.23571	10.23571	0.000181	0.000392	0.016026	10.37303
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.02591	0.006076	0.400871	0.1556	0.001467	0.00426	0.059076	0.063336	0.00426	0.015817	0.020077		224.149	224.149	0.019694	0.035757	0.185156	235.4821
Annual																		

Worker	0.000668	0.000592	0.000542	0.007464	0	0	0.00185	0.00185	0	0.000433	0.000433		1.694638	1.694638	3E-05	6.49E-05	0.002653	1.717374
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.004729	0.001109	0.073159	0.028397	0.000268	0.000777	0.010781	0.011559	0.000777	0.002887	0.003664		37.11042	37.11042	0.003261	0.00592	0.030655	38.98675

3.5. Grading (2028)

3.5.1. Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Off-Road E	1.07319	0.901777	7.418894	8.458322	0.021443	0.287633		0.287633	0.264622		0.264622		2321.695	2321.695	0.094178	0.018836		2329.662
Dust From Material Movement							1.072863	1.072863			0.116381	0.116381						
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Daily, Winter (Max)																		
Off-Road E	1.07319	0.901777	7.418894	8.458322	0.021443	0.287633		0.287633	0.264622		0.264622		2321.695	2321.695	0.094178	0.018836		2329.662
Dust From Material Movement							1.072863	1.072863			0.116381	0.116381						
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road E	0.441037	0.370593	3.04886	3.476023	0.008812	0.118205		0.118205	0.108749		0.108749		954.1211	954.1211	0.038703	0.007741		957.3954
Dust From Material Movement							0.440902	0.440902			0.047828	0.047828						
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road E	0.080489	0.067633	0.556417	0.634374	0.001608	0.021572		0.021572	0.019847		0.019847		157.9656	157.9656	0.006408	0.001282		158.5077
Dust From Material Movement							0.080465	0.080465			0.008729	0.008729						
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.5.2. Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Worker	0.028539	0.025678	0.016452	0.3737	0	0	0.075776	0.075776	0	0.017762	0.017762		80.29082	80.29082	0.000992	0.000496	0.244797	80.70824
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.178946	0.044864	2.61945	1.102738	0.010706	0.030589	0.438934	0.469523	0.030589	0.117381	0.14797		1591.812	1591.812	0.133063	0.250831	2.857841	1672.744
Daily, Winter (Max)																		
Worker	0.026059	0.023033	0.022008	0.275005	0	0	0.075776	0.075776	0	0.017762	0.017762		71.32524	71.32524	0.001488	0.003026	0.006357	72.2705
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.177417	0.043335	2.821848	1.112935	0.010706	0.031099	0.438934	0.470033	0.031099	0.117381	0.14848		1591.74	1591.74	0.133063	0.250831	0.074362	1669.889
Average Daily																		
Worker	0.010641	0.009466	0.007869	0.115373	0	0	0.030409	0.030409	0	0.007116	0.007116		30.07818	30.07818	0.000544	0.001176	0.043492	30.48558
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.07333	0.018228	1.136617	0.454856	0.0044	0.01278	0.177227	0.190008	0.01278	0.04745	0.06023		654.1567	654.1567	0.054683	0.103081	0.508132	686.7501
Annual																		
Worker	0.001942	0.001727	0.001436	0.021056	0	0	0.00555	0.00555	0	0.001299	0.001299		4.979786	4.979786	9E-05	0.000195	0.007201	5.047235
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.013383	0.003327	0.207433	0.083011	0.000803	0.002332	0.032344	0.034676	0.002332	0.00866	0.010992		108.3031	108.3031	0.009053	0.017066	0.084127	113.6993

3.5.3. Onsite - Mitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Off-Road E	0.642779	0.59731	3.933847	21.70689	0.038928	0.147486		0.147486	0.141416		0.141416		4214.649	4214.649	0.170965	0.034193		4229.113

Dust From Material Movement							0.832012	0.832012		0.090047	0.090047						
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Daily, Winter (Max)																	
Off-Road Equipment	0.642779	0.59731	3.933847	21.70689	0.038928	0.147486		0.147486	0.141416		0.141416		4214.649	4214.649	0.170965	0.034193	4229.113
Dust From Material Movement							0.832012	0.832012		0.090047	0.090047						
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Average Daily																	
Off-Road Equipment	0.264156	0.24547	1.616649	8.92064	0.015998	0.060611		0.060611	0.058116		0.058116		1732.048	1732.048	0.070259	0.014052	1737.992
Dust From Material Movement							0.341923	0.341923		0.037006	0.037006						
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Annual																	
Off-Road Equipment	0.048208	0.044798	0.295039	1.628017	0.00292	0.011061		0.011061	0.010606		0.010606		286.7602	286.7602	0.011632	0.002326	287.7443
Dust From Material Movement							0.062401	0.062401		0.006754	0.006754						
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0

3.5.4. Offsite - Mitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Worker	0.028539	0.025678	0.016452	0.3737	0	0	0.075776	0.075776	0	0.017762	0.017762		80.29082	80.29082	0.000992	0.000496	0.244797	80.70824
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.178946	0.044864	2.61945	1.102738	0.010706	0.030589	0.438934	0.469523	0.030589	0.117381	0.14797		1591.812	1591.812	0.133063	0.250831	2.857841	1672.744
Daily, Winter (Max)																		
Worker	0.026059	0.023033	0.022008	0.275005	0	0	0.075776	0.075776	0	0.017762	0.017762		71.32524	71.32524	0.001488	0.003026	0.006357	72.2705
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.177417	0.043335	2.821848	1.112935	0.010706	0.031099	0.438934	0.470033	0.031099	0.117381	0.14848		1591.74	1591.74	0.133063	0.250831	0.074362	1669.889
Average Daily																		
Worker	0.010641	0.009466	0.007869	0.115373	0	0	0.030409	0.030409	0	0.007116	0.007116		30.07818	30.07818	0.000544	0.001176	0.043492	30.48558
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.07333	0.018228	1.136617	0.454856	0.0044	0.01278	0.177227	0.190008	0.01278	0.04745	0.06023		654.1567	654.1567	0.054683	0.103081	0.508132	686.7501
Annual																		
Worker	0.001942	0.001727	0.001436	0.021056	0	0	0.00555	0.00555	0	0.001299	0.001299		4.979786	4.979786	9E-05	0.000195	0.007201	5.047235
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.013383	0.003327	0.207433	0.083011	0.000803	0.002332	0.032344	0.034676	0.002332	0.00866	0.010992		108.3031	108.3031	0.009053	0.017066	0.084127	113.6993

3.6. Building Construction (2028)

3.6.1. Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Off-Road E	1.010164	0.846317	7.252151	9.971271	0.018141	0.276056		0.276056	0.253971		0.253971		1881.397	1881.397	0.076318	0.015264		1887.854
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road E	0.067212	0.056311	0.482531	0.66345	0.001207	0.018368		0.018368	0.016898		0.016898		125.181	125.181	0.005078	0.001016		125.6106
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road E	0.012266	0.010277	0.088062	0.12108	0.00022	0.003352		0.003352	0.003084		0.003084		20.72515	20.72515	0.000841	0.000168		20.79627
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.6.2. Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0.005837	0.005159	0.00493	0.061601	0	0	0.016974	0.016974	0	0.003979	0.003979		15.97685	15.97685	0.000333	0.000678	0.001424	16.18859
Vendor	0.001763	0.000642	0.030159	0.011664	0.000127	0.000254	0.004967	0.005221	0.000254	0.001337	0.001591		17.67244	17.67244	0.001107	0.002659	0.000928	18.49356
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Worker	0.000386	0.000343	0.000285	0.004184	0	0	0.001103	0.001103	0	0.000258	0.000258		1.090835	1.090835	1.97E-05	4.26E-05	0.001577	1.10561
Vendor	0.000118	4.37E-05	0.001975	0.000763	8.46E-06	1.69E-05	0.000324	0.000341	1.69E-05	8.74E-05	0.000104		1.175922	1.175922	7.37E-05	0.000177	0.001026	1.23152
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Worker	7.04E-05	6.26E-05	5.21E-05	0.000764	0	0	0.000201	0.000201	0	4.71E-05	4.71E-05		0.1806	0.1806	3.26E-06	7.06E-06	0.000261	0.183046
Vendor	2.16E-05	7.97E-06	0.00036	0.000139	1.54E-06	3.09E-06	5.91E-05	6.22E-05	3.09E-06	1.59E-05	1.9E-05		0.194687	0.194687	1.22E-05	2.93E-05	0.00017	0.203892
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.6.3. Onsite - Mitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Off-Road E	0.620665	0.539076	4.099173	12.71607	0.019549	0.146871		0.146871	0.13713		0.13713		2033.837	2033.837	0.082501	0.0165		2040.817
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road E	0.041297	0.035868	0.272743	0.846079	0.001301	0.009772		0.009772	0.009124		0.009124		135.3238	135.3238	0.005489	0.001098		135.7882
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road E	0.007537	0.006546	0.049776	0.154409	0.000237	0.001783		0.001783	0.001665		0.001665		22.4044	22.4044	0.000909	0.000182		22.48129
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.6.4. Offsite - Mitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0.005837	0.005159	0.00493	0.061601	0	0	0.016974	0.016974	0	0.003979	0.003979		15.97685	15.97685	0.000333	0.000678	0.001424	16.18859
Vendor	0.001763	0.000642	0.030159	0.011664	0.000127	0.000254	0.004967	0.005221	0.000254	0.001337	0.001591		17.67244	17.67244	0.001107	0.002659	0.000928	18.49356
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Worker	0.000386	0.000343	0.000285	0.004184	0	0	0.001103	0.001103	0	0.000258	0.000258		1.090835	1.090835	1.97E-05	4.26E-05	0.001577	1.10561
Vendor	0.000118	4.37E-05	0.001975	0.000763	8.46E-06	1.69E-05	0.000324	0.000341	1.69E-05	8.74E-05	0.000104		1.175922	1.175922	7.37E-05	0.000177	0.001026	1.23152
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Worker	7.04E-05	6.26E-05	5.21E-05	0.000764	0	0	0.000201	0.000201	0	4.71E-05	4.71E-05		0.1806	0.1806	3.26E-06	7.06E-06	0.000261	0.183046
Vendor	2.16E-05	7.97E-06	0.00036	0.000139	1.54E-06	3.09E-06	5.91E-05	6.22E-05	3.09E-06	1.59E-05	1.9E-05		0.194687	0.194687	1.22E-05	2.93E-05	0.00017	0.203892
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.7. Building Construction (2029)

3.7.1. Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Off-Road E	0.981642	0.822478	6.923425	9.945928	0.018143	0.253001		0.253001	0.232761		0.232761		1881.523	1881.523	0.076323	0.015265		1887.98
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Daily, Winter (Max)																		
Off-Road E	0.981642	0.822478	6.923425	9.945928	0.018143	0.253001		0.253001	0.232761		0.232761		1881.523	1881.523	0.076323	0.015265		1887.98
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road E	0.582069	0.487692	4.10528	5.897488	0.010758	0.150018		0.150018	0.138017		0.138017		1115.658	1115.658	0.045256	0.009051		1119.487
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road E	0.106228	0.089004	0.749214	1.076291	0.001963	0.027378		0.027378	0.025188		0.025188		184.71	184.71	0.007493	0.001499		185.3438
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.7.2. Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Worker	0.006133	0.005493	0.003611	0.078879	0	0	0.016974	0.016974	0	0.003979	0.003979		17.66195	17.66195	0.000222	0.000111	0.04923	17.74985
Vendor	0.001665	0.000543	0.026349	0.010936	0.000127	0.000254	0.004967	0.005221	0.000254	0.001337	0.001591		17.14874	17.14874	0.001093	0.002532	0.031102	17.96177
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Daily, Winter (Max)																		
Worker	0.005578	0.0049	0.004363	0.057953	0	0	0.016974	0.016974	0	0.003979	0.003979		15.69321	15.69321	0.000333	0.000678	0.001272	15.9048
Vendor	0.001636	0.000515	0.02819	0.011239	0.000127	0.000254	0.004967	0.005221	0.000254	0.001337	0.001591		17.1488	17.1488	0.001093	0.002532	0.000806	17.93153
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Worker	0.003329	0.002927	0.002185	0.035257	0	0	0.009828	0.009828	0	0.0023	0.0023		9.548297	9.548297	0.000154	0.00038	0.012575	9.677936
Vendor	0.00097	0.000314	0.016429	0.006561	7.54E-05	0.000151	0.002888	0.003039	0.000151	0.000779	0.000929		10.16839	10.16839	0.000648	0.001502	0.007959	10.64
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Worker	0.000608	0.000534	0.000399	0.006434	0	0	0.001794	0.001794	0	0.00042	0.00042		1.58083	1.58083	2.55E-05	6.29E-05	0.002082	1.602293
Vendor	0.000177	5.72E-05	0.002998	0.001197	1.38E-05	2.75E-05	0.000527	0.000555	2.75E-05	0.000142	0.00017		1.683493	1.683493	0.000107	0.000249	0.001318	1.761573
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.7.3. Onsite - Mitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Off-Road E	0.607752	0.528353	4.007637	12.72477	0.019551	0.13548		0.13548	0.12665		0.12665		2033.978	2033.978	0.082507	0.016501		2040.958
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Daily, Winter (Max)																		
Off-Road E	0.607752	0.528353	4.007637	12.72477	0.019551	0.13548		0.13548	0.12665		0.12665		2033.978	2033.978	0.082507	0.016501		2040.958
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road E	0.360369	0.313289	2.376348	7.545218	0.011593	0.080333		0.080333	0.075098		0.075098		1206.057	1206.057	0.048923	0.009785		1210.196
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road E	0.065767	0.057175	0.433684	1.377002	0.002116	0.014661		0.014661	0.013705		0.013705		199.6765	199.6765	0.0081	0.00162		200.3618

Onsite truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3.7.4. Offsite - Mitigated																			
Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e	
Daily, Summer (Max)																			
Worker	0.006133	0.005493	0.003611	0.078879		0	0	0.016974	0.016974		0	0.003979	0.003979	17.66195	17.66195	0.000222	0.000111	0.04923	17.74985
Vendor	0.001665	0.000543	0.026349	0.010936	0.000127	0.000254	0.004967	0.005221	0.000254	0.001337	0.001591		17.14874	17.14874	0.001093	0.002532	0.031102	17.96177	
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	
Daily, Winter (Max)																			
Worker	0.005578	0.0049	0.004363	0.057953		0	0	0.016974	0.016974		0	0.003979	0.003979	15.69321	15.69321	0.000333	0.000678	0.001272	15.9048
Vendor	0.001636	0.000515	0.02819	0.011239	0.000127	0.000254	0.004967	0.005221	0.000254	0.001337	0.001591		17.1488	17.1488	0.001093	0.002532	0.000806	17.93153	
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	
Average Daily																			
Worker	0.003329	0.002927	0.002185	0.035257		0	0	0.009828	0.009828		0	0.0023	0.0023	9.548297	9.548297	0.000154	0.00038	0.012575	9.677936
Vendor	0.00097	0.000314	0.016429	0.006561	7.54E-05	0.000151	0.002888	0.003039	0.000151	0.000779	0.000929		10.16839	10.16839	0.000648	0.001502	0.007959	10.64	
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	
Annual																			
Worker	0.000608	0.000534	0.000399	0.006434		0	0	0.001794	0.001794		0	0.00042	0.00042	1.58083	1.58083	2.55E-05	6.29E-05	0.002082	1.602293
Vendor	0.000177	5.72E-05	0.002998	0.001197	1.38E-05	2.75E-05	0.000527	0.000555	2.75E-05	0.000142	0.00017		1.683493	1.683493	0.000107	0.000249	0.001318	1.761573	
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	
3.8. Building Construction - Pole Install (2029)																			
3.8.1. Onsite - Unmitigated																			
Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e	
Daily, Summer (Max)																			
Daily, Winter (Max)																			
Off-Road E	0.53575	0.449265	4.00772	5.361604	0.012388	0.143314		0.143314	0.131849		0.131849		1305.943	1305.943	0.052975	0.010595		1310.424	
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	
Average Daily																			
Off-Road E	0.071923	0.060312	0.538023	0.719777	0.001663	0.019239		0.019239	0.0177		0.0177		175.3183	175.3183	0.007112	0.001422		175.92	
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	
Annual																			
Off-Road E	0.013126	0.011007	0.098189	0.131359	0.000303	0.003511		0.003511	0.00323		0.00323		29.02595	29.02595	0.001177	0.000235		29.12556	
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	
3.8.2. Offsite - Unmitigated																			
Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e	
Daily, Summer (Max)																			
Daily, Winter (Max)																			
Worker	0.005578	0.0049	0.004363	0.057953		0	0	0.016974	0.016974		0	0.003979	0.003979	15.69321	15.69321	0.000333	0.000678	0.001272	15.9048
Vendor	0.001636	0.000515	0.02819	0.011239	0.000127	0.000254	0.004967	0.005221	0.000254	0.001337	0.001591		17.1488	17.1488	0.001093	0.002532	0.000806	17.93153	
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	
Average Daily																			
Worker	0.000754	0.000663	0.000495	0.007982		0	0	0.002225	0.002225		0	0.000521	0.000521	2.16176	2.16176	3.48E-05	8.6E-05	0.002847	2.19111
Vendor	0.00022	7.1E-05	0.00372	0.001486	1.71E-05	3.41E-05	0.000654	0.000688	3.41E-05	0.000176	0.00021		2.30215	2.30215	0.000147	0.00034	0.001802	2.408923	
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	
Annual																			

Worker	0.000138	0.000121	9.03E-05	0.001457	0	0	0.000406	0.000406	0	9.5E-05	9.5E-05		0.357904	0.357904	5.76E-06	1.42E-05	0.000471	0.362763
Vendor	4.01E-05	1.3E-05	0.000679	0.000271	3.12E-06	6.23E-06	0.000119	0.000126	6.23E-06	3.22E-05	3.84E-05		0.381147	0.381147	2.43E-05	5.63E-05	0.000298	0.398825
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.8.3. Onsite - Mitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Off-Road E	0.18476	0.173299	1.031726	7.300048	0.012388	0.039817		0.039817	0.038531		0.038531		1305.943	1305.943	0.052975	0.010595		1310.424
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road E	0.024803	0.023265	0.138506	0.980006	0.001663	0.005345		0.005345	0.005173		0.005173		175.3183	175.3183	0.007112	0.001422		175.92
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road E	0.004527	0.004246	0.025277	0.178851	0.000303	0.000976		0.000976	0.000944		0.000944		29.02595	29.02595	0.001177	0.000235		29.12556
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.8.4. Offsite - Mitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0.005578	0.0049	0.004363	0.057953	0	0	0.016974	0.016974	0	0.003979	0.003979		15.69321	15.69321	0.000333	0.000678	0.001272	15.9048
Vendor	0.001636	0.000515	0.02819	0.011239	0.000127	0.000254	0.004967	0.005221	0.000254	0.001337	0.001591		17.1488	17.1488	0.001093	0.002532	0.000806	17.93153
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Worker	0.000754	0.000663	0.000495	0.007982	0	0	0.002225	0.002225	0	0.000521	0.000521		2.16176	2.16176	3.48E-05	8.6E-05	0.002847	2.19111
Vendor	0.00022	7.1E-05	0.00372	0.001486	1.71E-05	3.41E-05	0.000654	0.000688	3.41E-05	0.000176	0.00021		2.30215	2.30215	0.000147	0.00034	0.001802	2.408923
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Worker	0.000138	0.000121	9.03E-05	0.001457	0	0	0.000406	0.000406	0	9.5E-05	9.5E-05		0.357904	0.357904	5.76E-06	1.42E-05	0.000471	0.362763
Vendor	4.01E-05	1.3E-05	0.000679	0.000271	3.12E-06	6.23E-06	0.000119	0.000126	6.23E-06	3.22E-05	3.84E-05		0.381147	0.381147	2.43E-05	5.63E-05	0.000298	0.398825
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.9. Linear, Grubbing & Land Clearing (2028)

3.9.1. Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Off-Road E	0.115195	0.096796	1.168858	2.406838	0.003541	0.025886		0.025886	0.023815		0.023815		383.2691	383.2691	0.015547	0.003109		384.5843
Dust From Material Movement																		
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Daily, Winter (Max)																		
Average Daily																		
Off-Road E	0.006312	0.005304	0.064047	0.131882	0.000194	0.001418		0.001418	0.001305		0.001305		21.00104	21.00104	0.000852	0.00017		21.07311
Dust From Material Movement																		
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road E	0.001152	0.000968	0.011689	0.024068	3.54E-05	0.000259		0.000259	0.000238		0.000238		3.476963	3.476963	0.000141	2.82E-05		3.488895

[illegible]

3.9.2. Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Worker	0.009513	0.008559	0.005484	0.124567	0	0	0.025259	0.025259	0	0.005921	0.005921		26.76361	26.76361	0.000331	0.000165	0.081599	26.90275
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Daily, Winter (Max)																		
Average Daily																		
Worker	0.000473	0.000421	0.00035	0.005128	0	0	0.001352	0.001352	0	0.000316	0.000316		1.336808	1.336808	2.42E-05	5.22E-05	0.001933	1.354914
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Worker	8.63E-05	7.68E-05	6.38E-05	0.000936	0	0	0.000247	0.000247	0	5.77E-05	5.77E-05		0.221324	0.221324	4E-06	8.65E-06	0.00032	0.224322
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.9.3. Onsite - Mitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Off-Road E	0.036597	0.036597	0.190303	2.708158	0.003541	0.007319		0.007319	0.007319		0.007319		383.2691	383.2691	0.015547	0.003109		384.5843
Dust From Material Movement								0	0		0	0						
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Daily, Winter (Max)																		
Average Daily																		
Off-Road E	0.002005	0.002005	0.010428	0.148392	0.000194	0.000401		0.000401	0.000401		0.000401		21.00104	21.00104	0.000852	0.00017		21.07311
Dust From Material Movement								0	0		0	0						
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road E	0.000366	0.000366	0.001903	0.027082	3.54E-05	7.32E-05		7.32E-05	7.32E-05		7.32E-05		3.476963	3.476963	0.000141	2.82E-05		3.488895
Dust From Material Movement								0	0		0	0						
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.9.4. Offsite - Mitigated

[illegible]

Worker	8.63E-05	7.68E-05	6.38E-05	0.000936	0	0	0.000247	0.000247	0	5.77E-05	5.77E-05		0.221324	0.221324	4E-06	8.65E-06	0.00032	0.224322
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.10. Linear, Grading & Excavation (2028)

3.10.1. Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Off-Road E	1.152309	0.96826	7.994247	13.18534	0.01848	0.338916		0.338916	0.311803		0.311803		2001.362	2001.362	0.081184	0.016237		2008.23
Dust From Material Movement							1.0605	1.0605		0.114509	0.114509							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Daily, Winter (Max)																		
Off-Road E	1.152309	0.96826	7.994247	13.18534	0.01848	0.338916		0.338916	0.311803		0.311803		2001.362	2001.362	0.081184	0.016237		2008.23
Dust From Material Movement							1.0605	1.0605		0.114509	0.114509							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road E	0.255718	0.214874	1.774066	2.926061	0.004101	0.075211		0.075211	0.069195		0.069195		444.1379	444.1379	0.018016	0.003603		445.6621
Dust From Material Movement							0.235344	0.235344		0.025412	0.025412							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road E	0.046669	0.039215	0.323767	0.534006	0.000748	0.013726		0.013726	0.012628		0.012628		73.5321	73.5321	0.002983	0.000597		73.78444
Dust From Material Movement							0.04295	0.04295		0.004638	0.004638							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.10.2. Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Worker	0.057078	0.051357	0.032904	0.7474	0	0	0.151552	0.151552	0	0.035524	0.035524		160.5816	160.5816	0.001984	0.000992	0.489594	161.4165
Vendor	0.008201	0.003069	0.129063	0.051853	0.000582	0.001164	0.022727	0.023891	0.001164	0.006118	0.007282		80.87679	80.87679	0.005066	0.01217	0.163129	84.79309
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Daily, Winter (Max)																		
Worker	0.052117	0.046066	0.044015	0.550009	0	0	0.151552	0.151552	0	0.035524	0.035524		142.6505	142.6505	0.002976	0.006052	0.012713	144.541
Vendor	0.008069	0.002937	0.138005	0.053374	0.000582	0.001164	0.022727	0.023891	0.001164	0.006118	0.007282		80.8684	80.8684	0.005066	0.01217	0.004245	84.62582
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Worker	0.011492	0.010223	0.008498	0.124603	0	0	0.032842	0.032842	0	0.007686	0.007686		32.48443	32.48443	0.000587	0.00127	0.046971	32.92442
Vendor	0.001805	0.000666	0.030136	0.011639	0.000129	0.000258	0.004946	0.005204	0.000258	0.001333	0.001592		17.94712	17.94712	0.001124	0.002701	0.015663	18.79568
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Worker	0.002097	0.001866	0.001551	0.02274	0	0	0.005994	0.005994	0	0.001403	0.001403		5.378169	5.378169	9.72E-05	0.00021	0.007777	5.451014
Vendor	0.000329	0.000122	0.0055	0.002124	2.36E-05	4.71E-05	0.000903	0.00095	4.71E-05	0.000243	0.00029		2.971351	2.971351	0.000186	0.000447	0.002593	3.111839
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.10.3. Onsite - Mitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Off-Road E	0.520411	0.520411	7.66142	32.95145	0.043518	0.08671		0.08671	0.08671		0.08671		4712.653	4712.653	0.191166	0.038233		4728.826

Dust From Material Movement							0.620393	0.620393		0.066988	0.066988						
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Daily, Winter (Max)																	
Off-Road Exhaust	0.520411	0.520411	7.66142	32.95145	0.043518	0.08671		0.08671	0.08671		0.08671		4712.653	4712.653	0.191166	0.038233	4728.826
Dust From Material Movement							0.620393	0.620393		0.066988	0.066988						
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Average Daily																	
Off-Road Exhaust	0.115488	0.115488	1.700205	7.312514	0.009657	0.019243		0.019243	0.019243		0.019243		1045.822	1045.822	0.042423	0.008485	1049.411
Dust From Material Movement							0.137676	0.137676		0.014866	0.014866						
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Annual																	
Off-Road Exhaust	0.021077	0.021077	0.310288	1.334534	0.001762	0.003512		0.003512	0.003512		0.003512		173.1477	173.1477	0.007024	0.001405	173.7419
Dust From Material Movement							0.025126	0.025126		0.002713	0.002713						
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0

3.10.4. Offsite - Mitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Worker	0.057078	0.051357	0.032904	0.7474	0	0	0.151552	0.151552	0	0.035524	0.035524		160.5816	160.5816	0.001984	0.000992	0.489594	161.4165
Vendor	0.008201	0.003069	0.129063	0.051853	0.000582	0.001164	0.022727	0.023891	0.001164	0.006118	0.007282		80.87679	80.87679	0.005066	0.01217	0.163129	84.79309
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Daily, Winter (Max)																		
Worker	0.052117	0.046066	0.044015	0.550009	0	0	0.151552	0.151552	0	0.035524	0.035524		142.6505	142.6505	0.002976	0.006052	0.012713	144.541
Vendor	0.008069	0.002937	0.138005	0.053374	0.000582	0.001164	0.022727	0.023891	0.001164	0.006118	0.007282		80.8684	80.8684	0.005066	0.01217	0.004245	84.62582
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Worker	0.011492	0.010223	0.008498	0.124603	0	0	0.032842	0.032842	0	0.007686	0.007686		32.48443	32.48443	0.000587	0.00127	0.046971	32.92442
Vendor	0.001805	0.000666	0.030136	0.011639	0.000129	0.000258	0.004946	0.005204	0.000258	0.001333	0.001592		17.94712	17.94712	0.001124	0.002701	0.015663	18.79568
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Worker	0.002097	0.001866	0.001551	0.02274	0	0	0.005994	0.005994	0	0.001403	0.001403		5.378169	5.378169	9.72E-05	0.00021	0.007777	5.451014
Vendor	0.000329	0.000122	0.0055	0.002124	2.36E-05	4.71E-05	0.000903	0.00095	4.71E-05	0.000243	0.00029		2.971351	2.971351	0.000186	0.000447	0.002593	3.111839
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.11. Linear, Drainage, Utilities, & Sub-Grade (2027)

3.11.1. Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Off-Road E	1.68773	1.416519	12.19685	18.50068	0.026519	0.530958		0.530958	0.488481		0.488481		2818.948	2818.948	0.114349	0.02287		2828.622
Dust From Material Movement							1.0605	1.0605		0.114509	0.114509							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road E	0.042936	0.036037	0.310292	0.470663	0.000675	0.013508		0.013508	0.012427		0.012427		71.71491	71.71491	0.002909	0.000582		71.96102
Dust From Material Movement							0.026979	0.026979		0.002913	0.002913							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		

Off-Road E	0.007836	0.006577	0.056628	0.085896	0.000123	0.002465		0.002465	0.002268		0.002268		11.87322	11.87322	0.000482	9.63E-05		11.91397
Dust From Material Movement							0.004924	0.004924		0.000532	0.000532							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.11.2. Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0.080656	0.071083	0.074108	0.87437	0	0	0.227328	0.227328	0	0.053285	0.053285		218.4513	218.4513	0.00496	0.009078	0.021099	221.3016
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Worker	0.002039	0.001808	0.001654	0.022787	0	0	0.005647	0.005647	0	0.001322	0.001322		5.70275	5.70275	0.000101	0.000218	0.008929	5.779261
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Worker	0.000372	0.00033	0.000302	0.004159	0	0	0.001031	0.001031	0	0.000241	0.000241		0.944155	0.944155	1.67E-05	3.61E-05	0.001478	0.956823
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.11.3. Onsite - Mitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Off-Road E	0.910438	0.816927	6.229944	30.91546	0.040953	0.233005		0.233005	0.219564		0.219564		4434.373	4434.373	0.179878	0.035976		4449.591
Dust From Material Movement							0.620393	0.620393		0.066988	0.066988							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road E	0.023162	0.020783	0.158492	0.786499	0.001042	0.005928		0.005928	0.005586		0.005586		112.8118	112.8118	0.004576	0.000915		113.199
Dust From Material Movement							0.015783	0.015783		0.001704	0.001704							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road E	0.004227	0.003793	0.028925	0.143536	0.00019	0.001082		0.001082	0.001019		0.001019		18.67729	18.67729	0.000758	0.000152		18.74138
Dust From Material Movement							0.00288	0.00288		0.000311	0.000311							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.11.4. Offsite - Mitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Worker	0.080656	0.071083	0.074108	0.87437	0	0	0.227328	0.227328	0	0.053285	0.053285		218.4513	218.4513	0.00496	0.009078	0.021099	221.3016
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Worker	0.002039	0.001808	0.001654	0.022787	0	0	0.005647	0.005647	0	0.001322	0.001322		5.70275	5.70275	0.000101	0.000218	0.008929	5.779261
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

Annual																		
Worker	0.000372	0.00033	0.000302	0.004159	0	0	0.001031	0.001031	0	0.000241	0.000241		0.944155	0.944155	1.67E-05	3.61E-05	0.001478	0.956823
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.12. Linear, Drainage, Utilities, & Sub-Grade (2028)

3.12.1. Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO ₂	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO ₂	NBCO ₂	CO ₂ T	CH ₄	N ₂ O	R	CO ₂ e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Off-Road E	1.618738	1.358552	11.53049	18.53485	0.026522	0.476568		0.476568	0.438442		0.438442		2819.067	2819.067	0.114354	0.022871		2828.742
Dust From Material Movement							1.0605	1.0605		0.114509	0.114509							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

Unmit. Daily and Annual Construction-related Air Pollutant Emissions

Construction Year	ROG (lb/day) Emissions	NO _x (lb/day) Emissions	PM ₁₀ (lb/day) Emissions	PM ₁₀ (tpy) Emissions	PM _{2.5} (lb/day) Emissions	PM _{2.5} (tpy) Emissions
2027	3	2	4	0	1	0
2028	3	2	4	0	1	0
2029	2	2	1	0	1	0
2030	3	2	1	0	1	0
2031	3	2	1	0	1	0
Maximum	3	2	4	0	1	0
SMAQMD Thresholds of Significance without BMPs ²	None	85	0	0	0	0
Threshold Exceeded?	N/A	Yes	Yes	Yes	Yes	Yes
SMAQMD Thresholds of Significance with BMPs ³	None	85	80	14.6	82	15
Threshold Exceeded?	N/A	Yes	No	No	No	No

Unmit. Annual Construction-related GHG Emissions

Construction Year	MTCO ₂ e/year
2027	119
2028	414
2029	234
2030	138
2031	48
SMAQMD Threshold	1,100
Threshold Exceeded?	No

Energy Tables

= from caleemod

= calculated

Construction Energy

Methods for section

Element	Fuel Assumed	CO ₂ e	CO ₂ (kg)	fuel (Gallons)
Off-Road Equipment	Diesel	768	768,460	75,265
Onsite truck	Diesel	0	0	0
Hauling	Diesel	153	153,325	15,017
Vendor	Diesel	5	5,476	536
Worker	Gasoline	25	25,399	2,893
Total	Diesel	927	927,261	90,819
	Gasoline	25	25,399	2,893

Energy use during construction was estimated using a combination of methods and energy factors from published best available documentation. Fuel consumption was estimated using the CO₂ emission outputs from the GHG construction estimates. Energy usage associated with fuel consumption was calculated by converting CO₂ emissions estimated from the construction analysis using the rate of CO₂ emissions per gallon of combusted gasoline (8.78 kilograms/gallon) and diesel (10.21 kilograms/gallon) (EPA 2024). It was assumed that all equipment and trucks would be diesel powered, while worker commute vehicles would be gasoline powered. A full list of assumptions and emission and energy calculations for construction can be found in Appendix X.

Conversions

MT to kg	1000	
kgCO ₂ to Gal gasoline	8.78 EPA 2024	gasoline
kgCO ₂ to Gal diesel	10.21 EPA 2024	diesel

EPA 2024. GHG Emission Factor Hub (2024). Available: <https://www.epa.gov/climateleadership/ghg-emission-factors-hub>. Accessed August 5, 2024

diesel gas/btu	137,381 EIA 2023	
gasoline gal/btu	120,214 EIA 2023	
	motor gas	distallate
btu per barrel	5,049,000	5,770,000
gallons per barrel	42	42
btu per gallon	120,214	137,381

EPA 2024 GHG Emission Factors Hub
<https://www.epa.gov/climateleadership/ghg-emission-factors-hub>

EIA 2023 Table A3, Approximate Heat Content of Petroleum Consumption and Fuel Ethanol. Available: https://www.eia.gov/totalenergy/data/monthly/pdf/sec12_4.pdf

3. Construction Emissions Details

3.1. Demolition (2030)

3.1.1. Onsite - Unmitigated

Annual	MTCO ₂ e
Off-Road Equipment	132.1028399
Demolition	
Onsite truck	0

3.1.2. Offsite - Unmitigated

Annual	
Worker	4.932321711
Vendor	0
Hauling	0.478315661

3.2. Demolition (2031)

3.2.1. Onsite - Unmitigated

Annual	
Off-Road Equipment	45.94558106
Demolition	
Onsite truck	0

3.2.2. Offsite - Unmitigated

Annual	
Worker	1.687749436
Vendor	0
Hauling	0.160909009

3.3. Site Preparation (2027)

3.3.1. Onsite - Unmitigated

Annual	
Off-Road Equipment	12.08860826
Dust From Material Movement	
Onsite truck	0

3.3.2. Offsite - Unmitigated

Annual	
Worker	0.366373102
Vendor	0
Hauling	0

3.4. Grading (2027)

3.4.1. Onsite - Unmitigated

Annual	
Off-Road Equipment	52.83428494
Dust From Material Movement	
Onsite truck	0

3.4.2. Offsite - Unmitigated

Annual	
Worker	1.717373916
Vendor	0
Hauling	38.98675186

3.5. Grading (2028)

3.5.1. Onsite - Unmitigated

Annual	
Off-Road Equipment	158.5077368

Dust From Material Movement	
Onsite truck	0
3.5.2. Offsite - Unmitigated	
Annual	
Worker	5.047234939
Vendor	0
Hauling	113.6993201
3.6. Building Construction (2028)	
3.6.1. Onsite - Unmitigated	
Annual	
Off-Road Equipment	20.79627248
Onsite truck	0
3.6.2. Offsite - Unmitigated	
Annual	
Worker	0.183046387
Vendor	0.203892245
Hauling	0
3.7. Building Construction (2029)	
3.7.1. Onsite - Unmitigated	
Annual	
Off-Road Equipment	185.3438404
Onsite truck	0
3.7.2. Offsite - Unmitigated	
Annual	
Worker	1.602292774
Vendor	1.761572878
Hauling	0
3.8. Building Construction - Pole Install (2029)	
3.8.1. Onsite - Unmitigated	
Annual	
Off-Road Equipment	29.12556021
Onsite truck	0
3.8.2. Offsite - Unmitigated	
Annual	
Worker	0.362763315
Vendor	0.398824751
Hauling	0
3.9. Linear, Grubbing & Land Clearing (2028)	
3.9.1. Onsite - Unmitigated	
Annual	
Off-Road Equipment	3.488894625
Dust From Material Movement	
Onsite truck	0
3.9.2. Offsite - Unmitigated	
Annual	
Worker	0.224321553
Vendor	0
Hauling	0
3.10. Linear, Grading & Excavation (2028)	

3.10.1. Onsite - Unmitigated	
Annual	
Off-Road Equipment	73.78443906
Dust From Material Movement	
Onsite truck	0
3.10.2. Offsite - Unmitigated	
Annual	
Worker	5.451013734
Vendor	3.111839253
Hauling	0
3.11. Linear, Drainage, Utilities, & Sub-Grade (2027)	
3.11.1. Onsite - Unmitigated	
Annual	
Off-Road Equipment	11.91396781
Dust From Material Movement	
Onsite truck	0
3.11.2. Offsite - Unmitigated	
Annual	
Worker	0.95682261
Vendor	0
Hauling	0
3.12. Linear, Drainage, Utilities, & Sub-Grade (2028)	
3.12.1. Onsite - Unmitigated	
Annual	
Off-Road Equipment	27.49493773
Dust From Material Movement	
Onsite truck	0
3.12.2. Offsite - Unmitigated	
Annual	
Worker	2.163100688
Vendor	0
Hauling	0
3.13. Linear, Paving (2029)	
3.13.1. Onsite - Unmitigated	
Annual	
Off-Road Equipment	15.03280769
Onsite truck	0
3.13.2. Offsite - Unmitigated	
Annual	

Appendix B

Biological Resources

Table B-1 Special-Status Plants and Their Potential for Occurrence on the Project Site

Species	Federal Status ¹	State Status ¹	CRPR ¹	Habitat	Potential for Occurrence
Ferris' milk-vetch <i>Astragalus tener</i> var. <i>ferrisiae</i>	—	—	1B.1	Wetland. Meadows and seeps, valley and foothill grassland. Subalkaline flats on overflow land in the Central Valley; usually seen in dry, adobe soil. 15–245 ft in elevation. Blooms April–May. Annual.	Not expected to occur. The project site lacks meadow or seep habitat suitable for Ferris' milk-vetch.
Watershield <i>Brasenia schreberi</i>	—	—	2B.3	Wetland. Freshwater marshes and swamps. Aquatic from water bodies both natural and artificial in California. 100–7,220 ft in elevation. Blooms June–September. Geophyte.	Not expected to occur. The project site does not contain wetland habitat suitable for watershield.
Bristly sedge <i>Carex comosa</i>	—	—	2B.1	Wetland. Marshes and swamps, coastal prairie, valley and foothill grassland. Lake margins, wet places; site below sea level is on a Delta island. 15–5,315 ft in elevation. Blooms May–September. Geophyte.	Not expected to occur. The project site does not contain wetland habitat suitable for bristly sedge.
Pappose tarplant <i>Centromadia parryi</i> ssp. <i>parryi</i>	—	—	1B.2	Chaparral, coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland. Vernally mesic, often alkaline sites. 5–1,380 ft in elevation. Blooms May–November. Annual.	Not expected to occur. Grassland vegetation on the project site is limited, within areas of heavy development and use, and regularly disturbed by anthropogenic activities including mowing and disking, and does not provide suitable habitat for pappose tarplant.
Bolander's water-hemlock <i>Cicuta maculata</i> var. <i>bolanderi</i>	—	—	2B.1	Salt marsh, Wetland. Marshes and swamps, fresh or brackish water. 0–655 ft in elevation. Blooms July–September. Perennial.	Not expected to occur. The project site does not contain wetland or marsh habitat suitable for Bolander's water-hemlock.
Peruvian dodder <i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	—	—	2B.2	Wetland. Freshwater marsh. 50–920 ft in elevation. Blooms July–October. Annual.	Not expected to occur. The project site does not contain wetland habitat suitable for Peruvian dodder.
Dwarf downingia <i>Downingia pusilla</i>	—	—	2B.2	Wetland. Valley and foothill grassland (mesic sites), vernal pools. Vernal lake and pool margins with a variety of associates. In several types of vernal pools. 5–1,610 ft in elevation. Blooms March–May. Annual.	Not expected to occur. The project site does not contain wetland or vernal pool habitat suitable for dwarf downingia.
Boggs Lake hedge-hyssop <i>Gratiola heterosepala</i>	—	SE	1B.2	Wetland. Marshes and swamps (freshwater), vernal pools. Clay soils; usually in vernal pools, sometimes on lake margins. 35–7,790 ft in elevation. Blooms April–August. Annual.	Not expected to occur. The project site does not contain wetland habitat suitable for Boggs Lake hedge-hyssop.

Species	Federal Status ¹	State Status ¹	CRPR ¹	Habitat	Potential for Occurrence
Woolly rose-mallow <i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	—	—	1B.2	Wetland. Marshes and swamps (freshwater). Moist, freshwater-soaked river banks and low peat islands in sloughs; can also occur on riprap and levees. In California, known from the delta watershed. 0–510 ft in elevation. Blooms June–September. Geophyte.	Not expected to occur. The project site does not contain wetland habitat suitable for woolly rose-mallow.
Ahart's dwarf rush <i>Juncus leiopermus</i> var. <i>ahartii</i>	—	—	1B.2	Valley and foothill grassland. Restricted to the edges of vernal pools in grassland. 100–330 ft in elevation. Blooms March–May. Annual.	Not expected to occur. The project site does not contain vernal pools suitable for Ahart's dwarf rush.
Alkali-sink goldfields <i>Lasthenia chrysantha</i>	—	—	1B.1	Vernal pools. Alkaline. 0–655 ft in elevation. Blooms February–June. Annual.	Not expected to occur. The project site does not contain vernal pools suitable for alkali-sink goldfields.
Delta tule pea <i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	—	—	1B.2	Wetland. Freshwater and brackish marshes. Often found with <i>Typha</i> , <i>Aster lentus</i> , <i>Rosa californica</i> , <i>Juncus</i> spp., and <i>Scirpus</i> . Usually on marsh and slough edges. 0–15 ft in elevation. Blooms May–July. Perennial.	Not expected to occur. The project site does not contain wetland habitat suitable for Delta tule pea.
Legenere <i>Legenere limosa</i>	—	—	1B.1	Vernal pools, wetland. In beds of vernal pools. 5–2,885 ft in elevation. Blooms April–June. Annual.	Not expected to occur. The project site does not contain vernal pool habitat suitable for legenere.
Heckard's pepper-grass <i>Lepidium latipes</i> var. <i>heckardii</i>	—	—	1B.2	Valley and foothill grassland, vernal pools. Grassland, and sometimes vernal pool edges. Alkaline soils. 5–100 ft in elevation. Blooms March–May. Annual.	Not expected to occur. Grassland vegetation on the project site is limited, within areas of heavy development and use, and regularly disturbed by anthropogenic activities including mowing and disking, and does not provide suitable habitat for Heckard's pepper-grass.
Mason's lilaeopsis <i>Lilaeopsis masonii</i>	—	SR	1B.1	Wetland. Freshwater and brackish marshes, riparian scrub. Tidal zones, in muddy or silty soil formed through river deposition or river bank erosion. 0–35 ft in elevation. Blooms April–November. Geophyte.	Not expected to occur. The project site does not contain wetland or riparian habitat suitable for Mason's lilaeopsis.
Delta mudwort <i>Limosella australis</i>	—	—	2B.1	Wetland. Riparian scrub, marshes and swamps. Usually on mud banks of the Delta in marshy or scrubby riparian associations; often with <i>Lilaeopsis masonii</i> . 0–15 ft in elevation. Blooms May–August. Perennial.	Not expected to occur. The project site does not contain wetland habitat suitable for Delta mudwort.

Species	Federal Status ¹	State Status ¹	CRPR ¹	Habitat	Potential for Occurrence
Slender Orcutt grass <i>Orcuttia tenuis</i>	FT	SE	1B.1	Vernal pools, wetland. Often in gravelly substrate. 80–5,760 ft in elevation. Blooms May–September. Annual.	Not expected to occur. The project site does not contain vernal pool or wetland habitat suitable for slender Orcutt grass.
Sacramento Orcutt grass <i>Orcuttia viscida</i>	FE	SE	1B.1	Vernal pools, wetland. 50–280 ft in elevation. Blooms April–July. Annual.	Not expected to occur. The project site does not contain vernal pool or wetland habitat suitable for Sacramento Orcutt grass.
Sanford's arrowhead <i>Sagittaria sanfordii</i>	—	—	1B.2	Wetland. Marshes and swamps. In standing or slow-moving freshwater ponds, marshes, and ditches. 0–2,135 ft in elevation. Blooms May–October. Geophyte.	Not expected to occur. The project site does not contain wetland habitat suitable for Sanford's arrowhead.
Marsh skullcap <i>Scutellaria galericulata</i>	—	—	2B.2	Wetland. Marshes and swamps, lower montane coniferous forest, meadows and seeps. Swamps and wet places. 0–6,400 ft in elevation. Blooms June–September. Geophyte.	Not expected to occur. The project site does not contain wetland habitat suitable for marsh skullcap.
Side-flowering skullcap <i>Scutellaria lateriflora</i>	—	—	2B.2	Wetland. Meadows and seeps, marshes and swamps. Wet meadows and marshes. In the Delta, often found on logs. 0–1,640 ft in elevation. Blooms July–September. Geophyte.	Not expected to occur. The project site does not contain wetland habitat suitable for side-flowering skullcap.
Suisun Marsh aster <i>Symphotrichum lentum</i>	—	—	1B.2	Wetland. Marshes and swamps (brackish and freshwater). Most often seen along sloughs with Phragmites, <i>Scirpus</i> , blackberry, <i>Typha</i> , etc. 0–100 ft in elevation. Blooms, May–November. Geophyte.	Not expected to occur. The project site does not contain wetland habitat suitable for Suisun Marsh aster.
Saline clover <i>Trifolium hydrophilum</i>	—	—	1B.2	Wetland. Marshes and swamps, valley and foothill grassland, vernal pools. Mesic, alkaline sites. 0–985 ft in elevation. Blooms April–June. Annual.	Not expected to occur. The project site does not contain wetland habitat suitable for saline clover.

Notes: CESA = California Endangered Species Act; CEQA = California Environmental Quality Act; CRPR = California Rare Plant Rank; CNDDDB = California Natural Diversity Database; ESA = Endangered Species Act; NPPA = Native Plant Protection Act; subsp. = subspecies; var. = variety.

¹ Legal Status Definitions

Federal:

FE Endangered (legally protected)

FT Threatened (legally protected)

State:

SE Endangered (legally protected)

SR State-listed as rare (legally protected by NPPA)

California Rare Plant Ranks:

1B Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA)

2B Plant species considered rare or endangered in California but more common elsewhere (protected under CEQA, but not legally protected under ESA or CESA)

Threat Ranks:

- 0.1 Seriously threatened in California (more than 80% of occurrences threatened; high degree and immediacy of threat)
- 0.2 Moderately threatened in California (20–80% occurrences threatened; moderate degree and immediacy of threat)
- 0.3 Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

Sources: CNDDB 2026; CNPS 2026.

Table B-2 Special-Status Wildlife and Their Potential for Occurrence on the Project Site

Species	Federal Status ¹	State Status ¹	Habitat	Potential for Occurrence
Invertebrates				
Crotch's bumble bee <i>Bombus crotchii</i>	—	SC	Found primarily in California: mediterranean, Pacific coast, western desert, Great Valley, and adjacent foothills through most of southwestern California. Habitat includes open grassland and scrub. Nests underground.	May occur. Flowering vegetation present on the project site may provide foraging resources and habitat suitable for Crotch's bumble bee, and small burrows and debris in the project site may provide suitable nesting habitat.
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT	—	Valley and foothill grassland, vernal pool, wetland. Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	Not expected to occur. The project site does not contain vernal pool habitat suitable for vernal pool fairy shrimp.
Monarch <i>Danaus plexippus</i>	FP	—	Habitat requirements include host plants for larvae (primarily milkweeds [<i>Asclepias</i> spp.]); adult nectar sources (i.e., flowering plants); and sites for roosting, thermoregulation, mating, hibernation, and predator escape. Additionally, monarch butterfly requires conditions and resources for initiating and completing migration both to and from winter roosting areas. Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	May occur. Flowering vegetation may provide foraging resources and habitat suitable for monarch butterflies. The project site is outside of the overwintering range of this species, and no milkweed species were observed during reconnaissance surveys..
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT	—	Riparian scrub. Occurs only in the Central Valley of California, in association with blue elderberry (<i>Sambucus mexicana</i>). Prefers to lay eggs in elderberries 2–8 inches in diameter; some preference shown for "stressed" elderberries.	Not expected to occur. The project site does not include riparian scrub or blue elderberry shrubs suitable for valley elderberry longhorn beetle.
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	FE	—	Valley and foothill grassland, vernal pool, wetland. Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	May occur. The project site does not currently contain vernal pool habitat suitable for vernal pool tadpole shrimp and is not contiguous with known, extant populations; however, the species has been previously reported on the project site (CNDDb 2026), and vernal pool tadpole shrimp cysts can withstand extreme environmental conditions and may remain viable for multiple years (USFWS 2026b).

Species	Federal Status ¹	State Status ¹	Habitat	Potential for Occurrence
Fish				
Green sturgeon - southern DPS <i>Acipenser medirostris</i> pop. 1	FT	SSC	Aquatic, estuary, marine bay, Sacramento/San Joaquin flowing waters. Spawns in the Sacramento, Feather and Yuba Rivers. Presence in upper Stanislaus and San Joaquin Rivers may indicate spawning. Non-spawning adults occupy marine/estuarine waters. Delta Estuary is important for rearing juveniles. Spawning occurs primarily in cool (11–15 C) sections of mainstem rivers in deep pools (25–30 feet) with substrate containing small to medium sized sand, gravel, cobble, or boulder.	Not expected to occur. The project site does not contain aquatic waterways suitable for green sturgeon.
Sacramento perch <i>Archoplites interruptus</i>	—	SSC	Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters. Historically found in the sloughs, slow-moving rivers, and lakes of the Central Valley. Prefers warm water. Aquatic vegetation is essential for young. Tolerates wide range of physio-chemical water conditions.	Not expected to occur. The project site does not contain aquatic waterways suitable for Sacramento perch.
Delta smelt <i>Hypomesus transpacificus</i>	FT	SE	Estuary. Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities greater than 10 ppt. Most often at salinities less than 2 ppt.	Not expected to occur. The project site does not contain aquatic waterways suitable for Delta smelt.
Steelhead - Central Valley DPS <i>Oncorhynchus mykiss irideus</i> pop. 11	FT	SSC	Sacramento/San Joaquin flowing waters. Populations in the Sacramento and San Joaquin rivers and their tributaries.	Not expected to occur. The project site does not contain aquatic waterways suitable for steelhead.
Chinook salmon - Central Valley spring-run ESU <i>Oncorhynchus tshawytscha</i> pop. 11	FT	ST	Adult numbers depend on pool depth and volume, amount of cover, and proximity to gravel. Water temps greater than 27 C are lethal to adults. Federal listing refers to populations spawning in Sacramento River and tributaries.	Not expected to occur. The project site does not contain aquatic waterways suitable for Chinook salmon.
Chinook salmon - Sacramento River winter-run ESU <i>Oncorhynchus tshawytscha</i> pop. 7	FE	SE	Sacramento/San Joaquin flowing waters. Sacramento River below Keswick Dam. Spawns in the Sacramento River, but not in tributary streams. Requires clean, cold water over gravel beds with water temperatures between 6 and 14 C for spawning.	Not expected to occur. The project site does not contain aquatic waterways suitable for Chinook salmon.
Sacramento splittail <i>Pogonichthys macrolepidotus</i>	—	SSC	Estuary, freshwater marsh, Sacramento/San Joaquin flowing waters. Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay and associated marshes. Slow moving river sections, dead end sloughs. Requires flooded vegetation for spawning and foraging for young.	Not expected to occur. The project site does not contain aquatic waterways suitable for Sacramento splittail.

Species	Federal Status ¹	State Status ¹	Habitat	Potential for Occurrence
Longfin smelt - San Francisco Bay Delta DPS <i>Spirinchus thaleichthys</i> pop. 2	FE	ST SSC	Estuary. Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 ppt, but can be found in completely freshwater to almost pure seawater.	Not expected to occur. The project site does not contain aquatic waterways suitable for longfin smelt.
Amphibians				
California tiger salamander - central California DPS <i>Ambystoma californiense</i> pop. 1	FT	ST	Lives in vacant or mammal-occupied burrows throughout most of the year; in grassland, savanna, or open woodland habitats. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	Not expected to occur. The project site does not contain aquatic or upland habitat suitable for California tiger salamander.
Western spadefoot <i>Spea hammondi</i>	FP	SSC	Cismontane woodland, coastal scrub, valley and foothill grassland, vernal pool, and wetlands. Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Not expected to occur. The project site does not contain vernal pool habitat suitable for western spadefoot.
Reptiles				
Northwestern pond turtle <i>Actinemys marmorata</i>	FP	SSC	Ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6,000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to approximately 0.3 miles (0.5 km) from water for egg-laying.	Not expected to occur. The project site does not contain aquatic habitat, or upland habitat within 0.3 miles (0.5 kilometers) of such habitat, suitable for northwestern pond turtle.
Giant gartersnake <i>Thamnophis gigas</i>	FT	ST	Marsh and swamp, riparian scrub, wetland. Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches. This is the most aquatic of the garter snakes in California.	Not expected to occur. The project site does not contain stream, wetland, or riparian habitat suitable for giant gartersnake.
Birds				
Tricolored blackbird <i>Agelaius tricolor</i>	—	ST SSC	Freshwater marsh, marsh and swamp, swamp, wetland. Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	Not expected to occur. The project site does not contain wetland habitat or nesting substrates suitable for tricolored blackbirds.
Grasshopper sparrow <i>Ammodramus savannarum</i>	—	SSC	Valley and foothill grassland. Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting.	Not expected to occur. The project site does not contain dense or native grasslands suitable for grasshopper sparrow.
Golden eagle <i>Aquila chrysaetos</i>	—	FP	Broadleaved upland forest, cismontane woodland, coastal prairie, Great Basin grassland, Great Basin scrub, lower montane	Not expected to occur. The project site does not contain

Species	Federal Status ¹	State Status ¹	Habitat	Potential for Occurrence
			coniferous forest, pinyon and juniper woodlands, upper montane coniferous forest, and valley and foothill grassland. Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	large trees or cliffsides suitable for nesting golden eagles.
Short-eared owl <i>Asio flammeus</i>	—	SSC	Great Basin grassland, marsh and swamp, meadow and seep, valley and foothill grassland, and wetlands. Found in swamp lands, both fresh and salt; lowland meadows; irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depression concealed in vegetation.	Not expected to occur. The project site does not contain wetland or tall grassland habitat suitable for short-eared owls.
Long-eared owl <i>Asio otus</i>	—	SSC	Cismontane woodland, Great Basin scrub, riparian forest, riparian woodland, and upper montane coniferous forest. Riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak paralleling stream courses. Require adjacent open land productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	Not expected to occur. The project site does not contain woodland or forest habitat suitable for long-eared owls.
Burrowing owl <i>Athene cunicularia</i>	—	SC SSC	Coastal prairie, coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, and valley and foothill grassland. Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Not expected to occur. The project site does not contain sufficient open, undisturbed grassland habitat with small mammal abundance suitable for burrowing owls.
Swainson's hawk <i>Buteo swainsoni</i>	—	ST	Great Basin grassland, riparian forest, riparian woodland, valley and foothill grassland. Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	May occur. The project site does not contain foraging habitat suitable for Swainson's hawks; however, trees in and surrounding the project site may provide nesting habitat suitable for the species.
Northern harrier <i>Circus hudsonius</i>	—	SSC	Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrub vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	Not expected to occur. The project site does not contain shrub vegetation or undisturbed grassland suitable for northern harriers.
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	FT	SE	Riparian forest. Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of	Not expected to occur. The project site does not contain

Species	Federal Status ¹	State Status ¹	Habitat	Potential for Occurrence
			willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	riparian forest habitat suitable for western yellow-billed cuckoos.
White-tailed kite <i>Elanus leucurus</i>	—	FP	Cismontane woodland, marsh and swamp, riparian woodland, valley and foothill grassland, and wetlands. Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Not expected to occur. The project site does not contain foraging habitat suitable for White-tailed kite, or nesting habitat proximate to suitable foraging habitat.
Bald eagle <i>Haliaeetus leucocephalus</i>	FD	SE FP	Lower montane coniferous forest, old growth. Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	Not expected to occur. The project site does not contain large trees suitable for nesting bald eagles, and is not near open water suitable for foraging.
Yellow-breasted chat <i>Icteria virens</i>	—	SSC	Riparian forest, riparian scrub, riparian woodland. Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 feet of ground.	Not expected to occur. The project site does not include riparian habitat suitable for yellow-breasted chats.
Loggerhead shrike <i>Lanius ludovicianus</i>	—	SSC	Broadleaved upland forest, desert wash, Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodlands, riparian woodland, Sonoran desert scrub. Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	Not expected to occur. The project site does not contain forest or scrub habitat suitable for loggerhead shrikes.
California black rail <i>Laterallus jamaicensis coturniculus</i>	—	ST FP	Brackish marsh, freshwater marsh, marsh and swamp, salt marsh, wetland. Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	Not expected to occur. The project site does not contain marsh or wetland habitat suitable for California black rails.
Song sparrow ("Modesto" population) <i>Melospiza melodia</i> pop. 1	—	SSC	Artificial flowing waters, freshwater marsh, riparian forest, riparian scrub, riparian woodland, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters Central lower basin of Great Valley, from Colusa County south to Stanislaus County and east of Suisun Marshes. Breeds	Not expected to occur. The project site does not contain wetland or riparian habitat suitable for the "Modesto" population of song sparrows.

Species	Federal Status ¹	State Status ¹	Habitat	Potential for Occurrence
			chiefly below 200 feet elevation. Freshwater marshes, riparian thickets, sparsely vegetated irrigation canals, and valley oak restoration sites. Cover consists of willow and nettle thickets, growths of tules and cattails, and riparian oak forests with sufficient understory of blackberry.	
Purple martin <i>Progne subis</i>		SSC	Broadleaved upland forest, lower montane coniferous forest. Inhabits woodlands, low elevation coniferous forest of Douglas fir, ponderosa pine, and Monterey pine. Nests in old woodpecker cavities mostly, also in human-made structures. Nest often located in tall, isolated tree/snag.	Not expected to occur. The project site does not contain isolated trees or human-made structures (e.g., bridges) suitable for purple martin.
Bank swallow <i>Riparia riparia</i>	—	ST	Riparian scrub, riparian woodland. Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, and ocean to dig nesting hole.	Not expected to occur. The project site does not contain vertical bank or cliff habitat suitable for bank swallows.
Least Bell's vireo <i>Vireo bellii pusillus</i>	FE	SE	Riparian forest, riparian scrub, riparian woodland. Summer resident of southern California in low riparian in vicinity of water or in dry river bottoms; below 2,000 feet. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, coyote brush, mesquite.	Not expected to occur. The project site does not contain riparian habitat suitable for least Bell's vireo.
Yellow-headed blackbird <i>Xanthocephalus xanthocephalus</i>	—	SSC	Marsh and swamp, wetland. Nests in freshwater emergent wetlands with dense vegetation and deep water. Often along borders of lakes or ponds. Nests only where large insects such as Odonata are abundant, nesting timed with maximum emergence of aquatic insects.	Not expected to occur. The project site does not contain wetland habitat suitable for yellow-headed blackbird.
Mammals				
Pallid bat <i>Antrozous pallidus</i>	—	SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Tree roosting has also been documented in large conifer snags, inside basal hollows of redwoods and giant sequoias, and bole cavities in oaks. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Not expected to occur. The project site is highly disturbed by anthropogenic activity, and does not contain rocky habitat or large trees suitable for roosting pallid bats.
Ringtail <i>Bassariscus astutus</i>	—	FP	Riparian habitats, forest habitats, and shrub habitats in lower to middle elevations.	Not expected to occur. The project site does not contain riparian, forest, or shrub habitat suitable for ringtails.
Western red bat <i>Lasiurus frantzii</i>	—	SSC	Cismontane woodland, lower montane coniferous forest, riparian forest, riparian	Not expected to occur. The project site does not contain

Species	Federal Status ¹	State Status ¹	Habitat	Potential for Occurrence
			woodland. Roosts primarily in trees, 2–40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	forest or riparian habitat suitable for roosting western red bats.
American badger <i>Taxidea taxus</i>	—	SSC	American badgers are most commonly found in treeless areas including tallgrass and shortgrass prairies, grass-dominated meadows and fields within forested habitats, and shrub-steppe communities. Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Not expected to occur. Grassland vegetation in the project site is within a development and highly anthropogenically disturbed area, and does not support sufficient prey or provide suitable habitat for American badger.

Notes: CEQA = California Environmental Quality Act; CNDDDB = California Natural Diversity Database; DPS = distinct population segment; ESU = evolutionarily significant unit; pop. = population.

¹ Legal Status Definitions

Federal:

FE Endangered (legally protected)
 FT Threatened (legally protected)
 FP Federally proposed for listing (no formal protection other than CEQA consideration)
 FD Federally delisted

State:

SE Endangered (legally protected)
 ST Threatened (legally protected)
 SC State candidate for listing (legally protected)
 FP Fully protected (legally protected)
 SSC Species of special concern (no formal protection other than CEQA consideration)

Sources: CNDDDB 2026; USFWS 2026a, USFWS 2026b.

Appendix C

Noise Calculations

Long-Term Noise Measurement Raw Data

KEY: Orange cells are for input.

Measurement Site: LT-1
Measurement Date: 3/4/2026 - 3/5/2026
Project Name: SMUD Pocket Rebuild

Number	Start Date	Start Time	End Time	Meas M	Input	Ra	Input Ty	SPL Time	Weight	Lik	Freq Wdg	Overload	Under Range	Sensitivity	L2eq	L3eq	L4eq	L2S-max	LC3S-max	L4S-max	L2S-min	LC3S-min	L4S-min	L2E	L3E	L4E	L2L1	LC3L1	L4L1	L4S1%	L4S2%	L4S3%	L4S5%	L4S10%	L4S25%	L4S50%	
3	3/4/2026	10:00:00 AM	11:00:00 AM	Auto	low	Mic	3ow			dBA	No	No		\$1.66mV/Pa	72	70.5	55.8	32.9	32.5	70.4	60.6	39.5	42.4	107.6	106.1	91.4	103.5	102.4	87.2	70.1	67.8	56.8	33	51.3	49.5	47.1	
4	3/4/2026	11:00:00 AM	12:00:00 PM	Auto	low	Mic	3ow			dBA	No	No		\$1.66mV/Pa	65.4	68.7	48.9	30.5	73.7	65.9	39.3	36.1	40.4	101	99.3	84.5	96.5	83.9	58.6	56.7	51.4	49.8	49.1	47.8	46.8		
5	3/4/2026	12:00:00 PM	1:00:00 PM	Auto	low	Mic	3ow			dBA	No	No		\$1.66mV/Pa	70.9	69.1	52.7	38	67.1	70.4	60.9	39.6	43.1	106.5	104.8	89.3	90.9	97.6	87.1	64.5	61.1	56.9	35.1	54.4	50.3	46	
6	3/4/2026	1:00:00 PM	2:00:00 PM	Auto	low	Mic	3ow			dBA	No	No		\$1.66mV/Pa	67.6	64.8	50.4	30.5	84	60.1	58.6	37.1	40.8	103.2	100.4	86	106.1	96.8	79.5	68.8	59.2	56.1	54.5	56.7	49.4	46.4	
7	3/4/2026	2:00:00 PM	3:00:00 PM	Auto	low	Mic	3ow			dBA	No	No		\$1.66mV/Pa	72.5	71.1	53.5	36.6	96.2	77.8	59.6	36.6	41.2	108.1	106.7	89.1	106.6	105.7	89.3	60.7	59	50.6	52.4	51.1	47.9	46.6	
8	3/4/2026	3:00:00 PM	4:00:00 PM	Auto	low	Mic	3ow			dBA	No	No		\$1.66mV/Pa	69	65.1	48.3	37.6	81.2	62.9	36.3	36.3	39.6	104.6	100.7	88.9	103.3	101	78.3	56.3	56.4	58	50.8	50	47.5	45.9	
9	3/4/2026	4:00:00 PM	5:00:00 PM	Auto	low	Mic	3ow			dBA	No	No		\$1.66mV/Pa	72.7	70.4	50.5	34.1	89.3	67	58.5	36.9	40.4	108.3	106	86.1	102.7	96.8	85.6	60.6	59.3	56.4	54.3	56.1	49.7	46.6	
10	3/4/2026	5:00:00 PM	6:00:00 PM	Auto	low	Mic	3ow			dBA	No	No		\$1.66mV/Pa	65.7	68.8	51.3	30.1	76.1	70.4	59.8	36.5	41.2	113.3	109.4	86.9	91.9	90.8	82.2	64.1	59.9	54.7	52.1	51.1	48.3	46.8	
11	3/4/2026	6:00:00 PM	7:00:00 PM	Auto	low	Mic	3ow			dBA	No	No		\$1.66mV/Pa	70.2	69.5	50.2	34.9	90.1	66.9	60.7	39.5	43.4	105.8	104.1	89.9	99.9	96	81.8	62.9	59.6	58.8	51.3	50.3	47.7	46.5	
12	3/4/2026	7:00:00 PM	8:00:00 PM	Auto	low	Mic	3ow			dBA	No	No		\$1.66mV/Pa	72.6	71.6	56.6	36.7	96.2	78	60.8	39	44.2	108.2	107.2	92.2	106.2	105.7	91.8	69.1	67.9	59.6	54.6	51.1	50	48.6	
13	3/4/2026	8:00:00 PM	9:00:00 PM	Auto	low	Mic	3ow			dBA	No	No		\$1.66mV/Pa	70.5	69.1	50	30	88.6	68	60.6	39.5	44.6	106.1	104.7	89.6	97.7	95.8	81.7	59.2	57	51.7	50.6	50	49	48.3	
14	3/4/2026	9:00:00 PM	10:00:00 PM	Auto	low	Mic	3ow			dBA	Yes	No	No		\$1.66mV/Pa	76.7	70.8	52.7	37.2	91.3	72.3	60.4	58.8	45.6	112.3	106.4	89.3	110.5	105.4	85.9	64.2	59.2	50.6	53.6	52.1	49.8	48.9
15	3/4/2026	10:00:00 PM	11:00:00 PM	Auto	low	Mic	3ow			dBA	Yes	No	No		\$1.66mV/Pa	79.7	73.9	53.3	104.3	98.5	72.5	59	57.6	44.8	115.3	109.5	87.9	115.5	110.5	88.3	64.2	60.8	56	53.8	52.9	49.6	48.1
16	3/4/2026	11:00:00 PM	12:00:00 AM	Auto	low	Mic	3ow			dBA	Yes	No	No		\$1.66mV/Pa	77.5	71.8	51	37.5	91.6	70.2	59.3	57.9	43.8	113.1	107.4	86.6	111.5	106.7	85.2	68	59.5	54.6	51.2	51.4	48.7	47.2
17	3/5/2026	12:00:00 AM	1:00:00 AM	Auto	low	Mic	3ow			dBA	No	No		\$1.66mV/Pa	67.8	68.3	47.7	36.2	80.4	65.8	36.8	57.4	43.2	105.4	96.9	83.3	100.2	92.5	78.6	59.9	53.7	49.6	49.4	48.1	46.9	46.2	
18	3/5/2026	1:00:00 AM	2:00:00 AM	Auto	low	Mic	3ow			dBA	No	No		\$1.66mV/Pa	66.9	64	47.4	37.4	86.9	67.4	59.9	57.5	43.2	102.5	99.6	83	97.1	96.5	77.9	49.6	48.9	48.4	48.1	48	47.3	46.4	
19	3/5/2026	2:00:00 AM	3:00:00 AM	Auto	low	Mic	3ow			dBA	Yes	No	No		\$1.66mV/Pa	73.9	73.2	58.1	39.4	99.9	80.7	60.4	59	44.5	109.5	108.8	93.7	111	110.2	93.5	71.7	69.5	49.9	49.3	49.1	48.3	47.5
20	3/5/2026	3:00:00 AM	4:00:00 AM	Auto	low	Mic	3ow			dBA	No	No		\$1.66mV/Pa	68.6	64.1	47.7	30	82.4	59.7	59.7	57.7	44	104.2	99.7	88.3	104.4	99.4	79.4	51	50.2	49.6	49.2	49	48.2	47.4	
21	3/5/2026	4:00:00 AM	5:00:00 AM	Auto	low	Mic	3ow			dBA	No	No		\$1.66mV/Pa	68.4	64.3	49.8	39.1	83.5	62.1	60.7	59.1	45.2	104	99.9	85.4	100.8	96.2	80	56.4	52.9	50.8	50.4	50.3	49.6	48.9	
22	3/5/2026	5:00:00 AM	6:00:00 AM	Auto	low	Mic	3ow			dBA	No	No		\$1.66mV/Pa	71.7	69.8	51.8	39.2	85.7	69.9	60.9	59.3	47.1	107.3	102.4	89.4	106.3	101.7	82.7	67.7	60.5	55.4	53.5	52.9	51.5	50.7	
23	3/5/2026	6:00:00 AM	7:00:00 AM	Auto	low	Mic	3ow			dBA	Yes	No	No		\$1.66mV/Pa	81.8	75.8	54.6	101	96.4	71.2	63.5	61.7	48.8	117.4	111.4	90.2	115.1	109.6	87	60.1	63	59.5	56.6	55.9	53.4	52
24	3/5/2026	7:00:00 AM	8:00:00 AM	Auto	low	Mic	3ow			dBA	Yes	No	No		\$1.66mV/Pa	79.6	74.9	57.1	37.6	93.2	77.6	64.1	62.3	48.4	115.2	110.5	94.7	112.9	105.4	94	78.1	70.4	64.3	58.6	57.6	53.1	51.5
25	3/5/2026	8:00:00 AM	9:00:00 AM	Auto	low	Mic	3ow			dBA	Yes	No	No		\$1.66mV/Pa	82.4	76.9	57.1	100.7	96.7	75.8	64.8	62.9	49.3	118	112.5	92.7	115	110.1	96.9	70.3	67.8	64.5	58.5	57.3	53.4	51.5
26	3/5/2026	9:00:00 AM	10:00:00 AM	Auto	low	Mic	3ow			dBA	No	No		\$1.66mV/Pa	78.9	74.2	55.4	36.1	95.6	75.8	62.4	60.1	45.4	114.5	109.8	91	108.3	106.1	87.4	66.9	64.9	59.4	57	56	52.1	50.3	

Long-Term Noise Measurement Calculations

KEY: Orange cells are for input.

Grey cells are intermediate calculations performed by the model.

Green cells are data to present in a written analysis (output).

Measurement Site: LT-1
Measurement Date: 3/4/2026 - 3/5/2026
Project Name: SMUD Pocket Rebuild

Hour of Day 24-hr Format	L _{dn}		C _{rn}	
	Start	End	Start	End
Daytime	7	22	7	19
Evening	N/A	N/A	19	22
Nighttime	22	7	22	7

$$\text{Sound Power}^1 = 10 \cdot \log(L_{w,1h}/10)$$

Sound Levels Descriptors				
Hour of Day (24-hr Format)	L _{eq}	L _{max}	L ₉₀	L _{min}
10:00	56	75	47	42
11:00	49	66	47	40
12:00	53	70	48	43
13:00	50	65	46	41
14:00	54	78	47	41
15:00	48	63	46	40
16:00	51	67	47	40
17:00	51	70	47	41
18:00	50	67	47	43
19:00	57	78	49	44
20:00	50	68	48	45
21:00	53	72	49	46
22:00	52	73	48	45
23:00	51	70	47	44
0:00	48	66	46	43
1:00	47	67	46	43
2:00	58	81	48	45
3:00	48	60	47	44
4:00	50	65	49	45
5:00	53	69	51	47
6:00	55	71	52	49
7:00	59	78	52	48
8:00	57	76	52	48
9:00	55	76	50	45

Equivalent Noise Level (L _{eq})				
Day	Night	Day	Evening	Night
380189.3963		380189.3963		
77624.71166		77624.71166		
186208.7137		186208.7137		
109647.8196		109647.8196		
223872.1139		223872.1139		
67608.29754		67608.29754		
112201.8454		112201.8454		
134896.2883		134896.2883		
104712.8548		104712.8548		
457088.1896			457088.1896	
100000			100000	
186208.7137			186208.7137	
	169824.3652			169824.3652
	125892.5412			125892.5412
	58884.36554			58884.36554
	54954.08739			54954.08739
	645654.229			645654.229
	58884.36554			58884.36554
	95499.2586			95499.2586
	190546.0718			190546.0718
	288403.1503			288403.1503
812830.5162				
512861.384				
346736.8505				
		512861.384		
		346736.8505		

Day Night Average (L _{dn}) ²		Community Noise Equivalent Level (CNEL) ³		
Day	Night	Day	Evening	Night
Sum of Sound Power during Period w/o Penalty				
3,812,688	1,688,542	2,256,560	743,297	1,688,542
Log Factor for CNEL Penalty (i.e., 10*log(x)) ⁴				
1	10	1	3	10
Sound Power during Period with penalty				
3,812,688	16,885,424	2,256,560	2,229,891	16,885,424
Number of Hours				
24				
L _{dn}	59.4	CNEL	59.5	

Notes:
¹ Computation of Sound Power are based on equation 7-1 on pg. 7-9 of Caltrans 2013.
² Computation of the L_{dn} based on 1-hour L_{eq} measurements for each hour of a day are based on equation 2-23 on pg. 2-52 of Caltrans 2013.
³ Computation of the CNEL based on 1-hour L_{eq} measurements for each hour of a day are based on equation 2-24 on pg. 2-53 of Caltrans 2013.
⁴ Log factors for the L_{dn} and CNEL penalties are provided in Table 2-11 on pg. 2-48 of Caltrans 2013.
⁵ Average noise level descriptors were logarithmically averaged over the total number of hours.
Source:
California Department of Transportation (Caltrans), Division of Environmental Analysis, 2013 (September).
Technical Noise Supplement to the Traffic Noise Analysis Protocol. Sacramento, CA. Available:
<https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/ten-sep-2013-e11y.pdf>. Accessed February 26, 2025.

Hour of Day	Maximum Noise Levels (L _{max})			Sound Pressure Level Exceeded 50% of a Specific Time Period (L ₅₀)						Minimum Noise Levels (L _{min})		
	Day	Night		Day	Evening	Night	Day	Evening	Night	Day	Night	
10:00	34673.685		34673.685.05				51286.1384			17378.00829		17378.00829
11:00	389045.1		389045.1.45				47863.00923			10964.78196		10964.78196
12:00	10964782		10964781.96				63095.73445			20417.37945		20417.37945
13:00	3235937		3235936.569				43651.58322			12022.64435		12022.64435
14:00	60255959		60255958.61				45708.81896			13182.56739		13182.56739
15:00	1949845		1949844.6				38904.5145			9120.108394		9120.108394
16:00	5011872		5011872.336				45708.81896			10964.78196		10964.78196
17:00	10964782		10964781.96				47863.00923			13182.56739		13182.56739
18:00	4897788		4897788.194				44668.35922			21877.61624		21877.61624
19:00	63095734			63095734.45			72443.59601			26302.67992		26302.67992
20:00	6309573			6309573.445			67608.29754			28840.31503		28840.31503
21:00	16982437			16982436.52			77624.71166			36307.80548		36307.80548
22:00		17782794.1						64565.4229		30199.5172		30199.5172
23:00		10715193.05						52480.74602		23988.32919		23988.32919
0:00		3801893.963						41686.93835		20892.96131		20892.96131
1:00		5495408.739						43651.58322		20892.96131		20892.96131
2:00		117489755.5						56234.13252		28183.82931		28183.82931
3:00		933254.3008						54954.08739		25118.86432		25118.86432
4:00		3311311.215						77624.71166		33113.11215		33113.11215
5:00		7762471.166						117489.7555		51286.1384		51286.1384
6:00		13182567.39						158489.3192		75857.7575		75857.7575
7:00	57543994		57543993.73				141253.7545			69183.09709		69183.09709
8:00	38018940		38018939.63				141253.7545			67608.29754		67608.29754
9:00	38018940		38018939.63				107151.9305			34673.68505		34673.68505

Average Sound Level Descriptors ⁵							
L _{eq}				L ₉₀			
Day	Night	Day	Evening	Night	Day	Night	Day
54	53	53	54	53	48	49	48
L _{max}				L _{min}			
Day	Night	Day	Evening	Night	Day	Night	Day
74	73	74	75	73	44	45	44

Long-Term Noise Measurement Summary

KEY: Orange cells are for input.

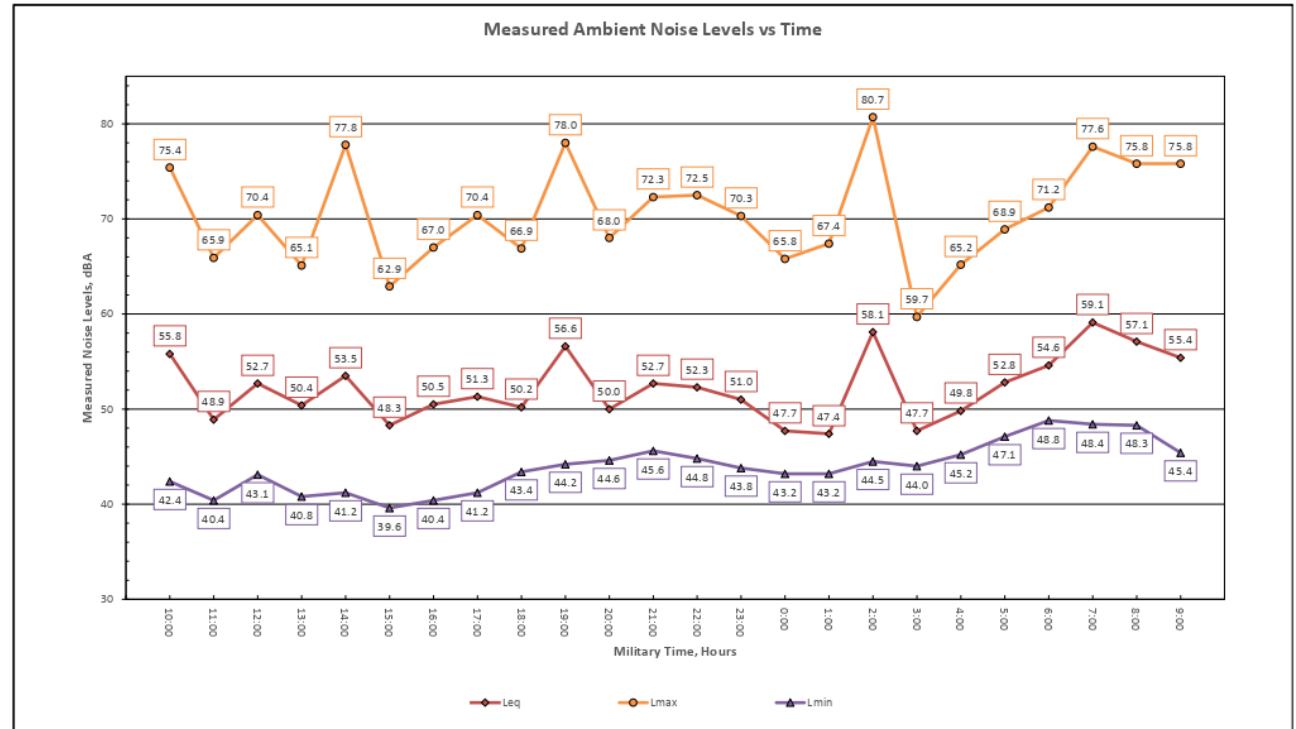
Green cells are data to present in a written analysis (output).

Measurement Site: LT-1
 Measurement Date: 3/4/2026 - 3/5/2026
 Project Name: SMUD Pocket Rebuild
 Coordinates: 38.492239 -121.471111

Hour of Day (military time)	Measured Level, dBA			
	L_{eq}	L_{max}	L_{50}	L_{min}
10:00	55.8	75.4	47.1	42.4
11:00	48.9	65.9	46.8	40.4
12:00	52.7	70.4	48.0	43.1
13:00	50.4	65.1	46.4	40.8
14:00	53.5	77.8	46.6	41.2
15:00	48.3	62.9	45.9	39.6
16:00	50.5	67.0	46.6	40.4
17:00	51.3	70.4	46.8	41.2
18:00	50.2	66.9	46.5	43.4
19:00	56.6	78.0	48.6	44.2
20:00	50.0	68.0	48.3	44.6
21:00	52.7	72.3	48.9	45.6
22:00	52.3	72.5	48.1	44.8
23:00	51.0	70.3	47.2	43.8
0:00	47.7	65.8	46.2	43.2
1:00	47.4	67.4	46.4	43.2
2:00	58.1	80.7	47.5	44.5
3:00	47.7	59.7	47.4	44.0
4:00	49.8	65.2	48.9	45.2
5:00	52.8	68.9	50.7	47.1
6:00	54.6	71.2	52.0	48.8
7:00	59.1	77.6	51.5	48.4
8:00	57.1	75.8	51.5	48.3
9:00	55.4	75.8	50.3	45.4

Metrics	L_{eq}	L_{max}	L_{50}	L_{min}
Day Average	53	74	48	44
Evening Average	54	75	49	45
Night Average	53	73	49	45

CNEL	59.5
Day %	69.3%
Night %	30.7%



Notes: Primary noises include ambient natural noise such as birds chirping or blowing winds. A secondary noise source includes the periodic activity on the light rail line east of the project site.

Long-Term Noise Measurement Raw Data

KEY: Orange cells are for input.

Measurement Site: LT2
Measurement Date: 3/4/2026 - 3/5/2026
Project Name: SMUD Pocket Rebuild

Number	Start Date	Start Time	End Time	Meas M	Inout	Ra	Inout	By	SPL Time	Weight	Lik	Freq	Wdg	Overload	Under Range	Sensitivity	L2eq	L3eq	L4eq	L2Smax	LC5max	L4Smax	L2Smin	LC5min	L4Smin	L2E	L3E	L4E	L2L1	LC3L1	L4L1	L4S1%	L4S2%	L4S3%	L4S4%	L4S10%	L4S25%	L4S50%			
3	3/4/2026	8:00:00 AM	11:00:00 AM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	72.8	74.4	61.6	31.1	30.6	76.6	71.1	70.7	57.3	111.4	110	57.2	102.5	100.7	87.6	70.3	69.5	66.6	64	63.1	60.3	59.4							
4	3/4/2026	11:00:00 AM	12:00:00 PM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	73.1	71.9	58.9	36	85.8	71	69.6	69.2	55.8	106.7	107.5	94.5	96.6	95	93.1	63.8	62.9	61.1	59.7	58.5	59	56.4							
5	3/4/2026	12:00:00 PM	1:00:00 PM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	72.9	72.1	56.6	37.3	86.6	71.5	69.9	69.2	54.7	106.5	107.7	94.2	96.9	97.3	96	66.1	64.7	61.8	59.8	59.3	59.3	57.5							
6	3/4/2026	1:00:00 PM	2:00:00 PM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	72.6	71.3	57.7	37.1	82.5	74.3	68.3	67.9	53.6	106.2	106.9	98.3	98	90.1	91.4	68.9	62.2	59.9	59.2	59.9	57.4	56.5							
7	3/4/2026	2:00:00 PM	3:00:00 PM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	73.9	73.1	58.5	38.6	82.1	74.8	69.6	69.1	54.1	109.5	108.7	94.1	103.1	102.9	87.5	64.9	62.5	60.8	59.8	59.5	57.9	57.3							
8	3/4/2026	3:00:00 PM	4:00:00 PM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	72.8	71.5	57.4	38.8	79.1	64.7	68.3	68	55.1	108.4	107.1	98	95.6	94.4	79.6	64.4	60	58.2	58.2	58	57.6	57.2							
9	3/4/2026	4:00:00 PM	5:00:00 PM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	73.3	72.2	58	38.9	80.3	66	69.9	69.3	56	108.9	107.8	98.6	96	92.5	92.9	62.2	61.3	59.7	59	58.7	58	57.7							
10	3/4/2026	5:00:00 PM	6:00:00 PM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	72.1	71.5	56.3	38	77.5	69.6	69.5	69.1	55.4	107.7	107.1	98.9	95.9	96.6	91.7	64.4	62.3	59.6	59	58.7	58.2	57.9							
11	3/4/2026	6:00:00 PM	7:00:00 PM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	70.6	70	56.1	38.6	79.9	69.5	69.1	67.7	56.5	106.2	105.6	98.7	90.4	89.1	79.8	62.4	60.9	59.9	58.7	58.6	58.1	57.8							
12	3/4/2026	7:00:00 PM	8:00:00 PM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	74.4	73.7	60.9	34.7	94.2	76.4	69.2	68.8	56.8	110	109.3	96.5	104.5	103.3	89	71.4	69.3	62.3	60.7	60.2	59.5	59.1							
13	3/4/2026	8:00:00 PM	9:00:00 PM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	73	72.5	59.5	37.7	79.5	70.1	70.6	70.3	57.4	108.6	108.1	90.1	99.6	99.1	91.3	68.5	61.3	60.2	60	60	59.7	59.3							
14	3/4/2026	9:00:00 PM	10:00:00 PM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	72.2	72.5	58.7	38.9	87.1	70	70.3	69.6	55.4	110.8	108.1	94.3	102.2	100.1	82.8	64.9	61.6	59.8	59.5	59.4	58.8	58.2							
15	3/4/2026	10:00:00 PM	11:00:00 PM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	76.8	72.7	57.8	38.7	85.7	72.9	69.8	69.1	54.4	112.4	109.3	98.4	102.8	100.6	87.2	65.8	62.3	59	58.3	58.1	57.5	57							
16	3/4/2026	11:00:00 PM	12:00:00 AM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	74.9	72.3	57.7	38.4	96.8	69.9	69.9	69.3	55	110.5	107.9	98.3	107.2	101.2	82.4	68.5	60.6	59.9	58.6	58.4	57.8	57.2							
17	3/5/2026	12:00:00 AM	1:00:00 AM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	72.4	71.8	56.8	38.6	75.4	67.2	70.2	69.7	55.9	108	107.4	94.4	91.4	89.9	90	60.9	60.2	59.7	59.5	59.4	58.1	58.7							
18	3/5/2026	1:00:00 AM	2:00:00 AM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	74.1	73.7	60	34.2	83.6	75.4	70.8	70.4	56	109.7	109.3	90.6	104.6	103.3	91.8	64.4	61	60.7	60.6	60.5	60.2	59.8							
19	3/5/2026	2:00:00 AM	3:00:00 AM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	75.7	75.2	61.8	37.1	96.6	78.8	72.2	71.9	58.2	111.3	110.8	97.4	107.1	106.9	90.7	72.1	71.1	60.9	60.7	60.6	60.3	60							
20	3/5/2026	3:00:00 AM	4:00:00 AM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	74.5	73.8	60.2	34.5	80.2	62.9	72.5	72.1	58.2	110.1	109.4	90.8	97.5	96.8	75.7	64.3	61.1	61	60.9	60.8	60.5	60.2							
21	3/5/2026	4:00:00 AM	5:00:00 AM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	74.1	73.5	60.4	38.1	78.2	66.5	71.5	70.8	57.4	109.7	109.1	96	95.8	95.9	79.2	62	61.5	61.2	61.1	61	60.7	60.3							
22	3/5/2026	5:00:00 AM	6:00:00 AM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	73.3	72.4	60.2	35.2	79.9	69.5	70.4	69.5	57.4	109.9	109	95.9	97.3	92.1	91	65.8	63.9	61.2	60.9	60.8	60.3	59.8							
23	3/5/2026	6:00:00 AM	7:00:00 AM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	78	75.2	60.3	35	88.9	69.2	71.2	70.4	57.9	115.6	110.8	95.9	107.6	102.9	82.8	68.8	63.8	64.4	61	60.9	60.4	60							
24	3/5/2026	7:00:00 AM	8:00:00 AM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	77.8	75.7	61.3	36.3	90.6	75.2	72.6	71.8	56.8	113.4	111.3	96.9	103.4	102.1	91.4	72	70.9	68.4	61.1	60.4	59.6	59.2							
25	3/5/2026	8:00:00 AM	9:00:00 AM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	79.9	75.8	60.5	35.2	91.1	75	72.2	71	56.4	114.5	111.4	96.1	108.4	103.2	98.2	70.6	66.7	68.8	61	60.3	59.2	58.7							
26	3/5/2026	9:00:00 AM	10:00:00 AM	Auto	low	Mic	3ow		dBA	No	No	21.18mV/Pa	77.4	74.9	60.4	36.4	90.8	76.2	71.2	70.2	55.2	113	110.5	96	104.8	101.4	96.5	70.6	67.9	68.5	60.9	60.1	59.1	58.4							

Long-Term Noise Measurement Calculations

KEY: Orange cells are for input.

Grey cells are intermediate calculations performed by the model.

Green cells are data to present in a written analysis (output).

Measurement Site: LT-2
Measurement Date: 3/4/2026 - 3/5/2026
Project Name: SMUD Pocket Rebuild

Hour of Day 24-hr Format	Start	L _{dn} End	Start	C _{rn} End
Daytime	7	22	7	19
Evening	N/A	N/A	19	22
Nighttime	22	7	22	7

$$\text{Sound Power}^1 = 10 \cdot \log(L_{w,1h}/10)$$

Hour of Day (24-hr Format)	Sound Levels Descriptors			
	L _{eq}	L _{max}	L ₉₀	L _{min}
10:00	62	75	59	57
11:00	59	71	58	56
12:00	59	72	58	55
13:00	58	74	57	54
14:00	59	75	57	54
15:00	57	65	57	55
16:00	58	66	58	56
17:00	58	70	58	55
18:00	58	67	58	57
19:00	61	76	59	57
20:00	60	70	59	57
21:00	59	70	58	55
22:00	58	73	57	54
23:00	58	67	57	55
0:00	59	67	59	56
1:00	60	75	60	56
2:00	62	79	60	58
3:00	60	63	60	58
4:00	60	67	60	57
5:00	60	70	60	57
6:00	60	69	60	58
7:00	61	75	59	57
8:00	61	75	59	56
9:00	60	76	58	55

Equivalent Noise Level (L _{eq})				
Day	Night	Day	Evening	Night
1445439.771		1445439.771		
776247.1166		776247.1166		
724435.9601		724435.9601		
588843.6554		588843.6554		
707945.7844		707945.7844		
549540.8739		549540.8739		
630957.3445		630957.3445		
676082.9754		676082.9754		
645654.229		645654.229		
1230268.771			1230268.771	
891250.9381			891250.9381	
741310.2413			741310.2413	
	602559.5861			602559.5861
	588843.6554			588843.6554
	758577.575			758577.575
	1000000			1000000
	1513561.248			1513561.248
	1047128.548			1047128.548
	1096478.196			1096478.196
	1047128.548			1047128.548
	1071519.305			1071519.305
1348962.883				
1122018.454				
1096478.196				
		1122018.454		
		1096478.196		

Day Night Average (L _{dn}) ²		Community Noise Equivalent Level (CNEL) ³		
Day	Night	Day	Evening	Night
Sum of Sound Power during Period w/o Penalty				
13,175,437	8,725,797	8,963,644	2,862,830	8,725,797
Log Factor for CNEL Penalty (i.e., 10*log(x)) ⁴				
1	10	1	3	10
Sound Power during Period with penalty				
13,175,437	87,257,967	8,963,644	8,588,490	87,257,967
Number of Hours				
24				
L _{dn}	66.2	CNEL	66.4	

Notes:
¹ Computation of Sound Power are based on equation 7-1 on pg. 7-4 of Caltrans 2013
² Computation of the L_{dn} based on 1-hour L_{eq} measurements for each hour of a day are based on equation 2-23 on pg. 2-52 of Caltrans 2013.
³ Computation of the CNEL based on 1-hour L_{eq} measurements for each hour of a day are based on equation 2-24 on pg. 2-53 of Caltrans 2013.
⁴ Log factors for the L_{dn} and CNEL penalties are provided in Table 2-11 on pg. 2-48 of Caltrans 2013.
⁵ Average noise level descriptors were logarithmically averaged over the total number of hours
Source:
California Department of Transportation (Caltrans), Division of Environmental Analysis, 2013 (September).
Technical Noise Supplement to the Traffic Noise Analysis Protocol. Sacramento, CA. Available:
<https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/ten-sep-2013-111.pdf>. Accessed February 26, 2025.

$$\text{Sound Power}^1 = 10 \cdot \log(L_{w,1h}/10)$$

Hour of Day	Maximum Noise Levels (L _{max})				Sound Pressure Level Exceeded 50% of a Specific Time Period (L ₅₀)				Minimum Noise Levels (L _{min})			
	Day	Night	Day	Evening	Night	Day	Night	Day	Evening	Night	Day	Night
10:00	28840315		28840315.03			870963.59		870963.59			537031.7964	
11:00	12589254		12589254.12			691830.9709		691830.9709			380189.3963	
12:00	14125375		14125375.45			562341.3252		562341.3252			295120.9227	
13:00	26915348		26915348.04			446683.5922		446683.5922			229086.7653	
14:00	30199517		30199517.2			537031.7964		537031.7964			257039.5783	
15:00	2951209		2951209.227			524807.4602		524807.4602			323593.6569	
16:00	3981072		3981071.706			588843.6554		588843.6554			398107.1706	
17:00	9120108		9120108.394			616595.0019		616595.0019			346736.8505	
18:00	4466836		4466835.922			602559.5861		602559.5861			446683.5922	
19:00	43651583			43651583.22		812830.5162		812830.5162			478630.0923	
20:00	10232930			10232929.92		851138.0382		851138.0382			549540.8739	
21:00	10000000			10000000		660693.448		660693.448			346736.8505	
22:00		19498446			19498446	501187.2336		501187.2336			275422.8703	
23:00		4897788.194			4897788.194	537031.7964		537031.7964			316227.766	
0:00		5248074.602			5248074.602	741310.2413		741310.2413			389045.145	
1:00		34673685.05			34673685.05	954992.586		954992.586			398107.1706	
2:00		75857757.5			75857757.5	1000000		1000000			660693.448	
3:00		1949844.6			1949844.6	1047128.548		1047128.548			660693.448	
4:00		4466835.922			4466835.922	1071519.305		1071519.305			549540.8739	
5:00		8912509.381			8912509.381	954992.586		954992.586			549540.8739	
6:00		8317637.711			8317637.711	1000000		1000000			616595.0019	
7:00	33113112		33113112.15			831763.7711		831763.7711			478630.0923	
8:00	31622777		31622776.6			741310.2413		741310.2413			436515.8322	
9:00	41686938		41686938.35			691830.9709		691830.9709			331131.1215	

Average Sound Level Descriptors ⁵							
L _{eq}				L ₉₀			
Day	Night	Day	Evening	Night	Day	Night	Day
59	60	59	60	60	58	59	58
L _{max}				L _{min}			
Day	Night	Day	Evening	Night	Day	Night	Day
73	73	73	73	73	56	57	56

Long-Term Noise Measurement Summary

KEY: Orange cells are for input.

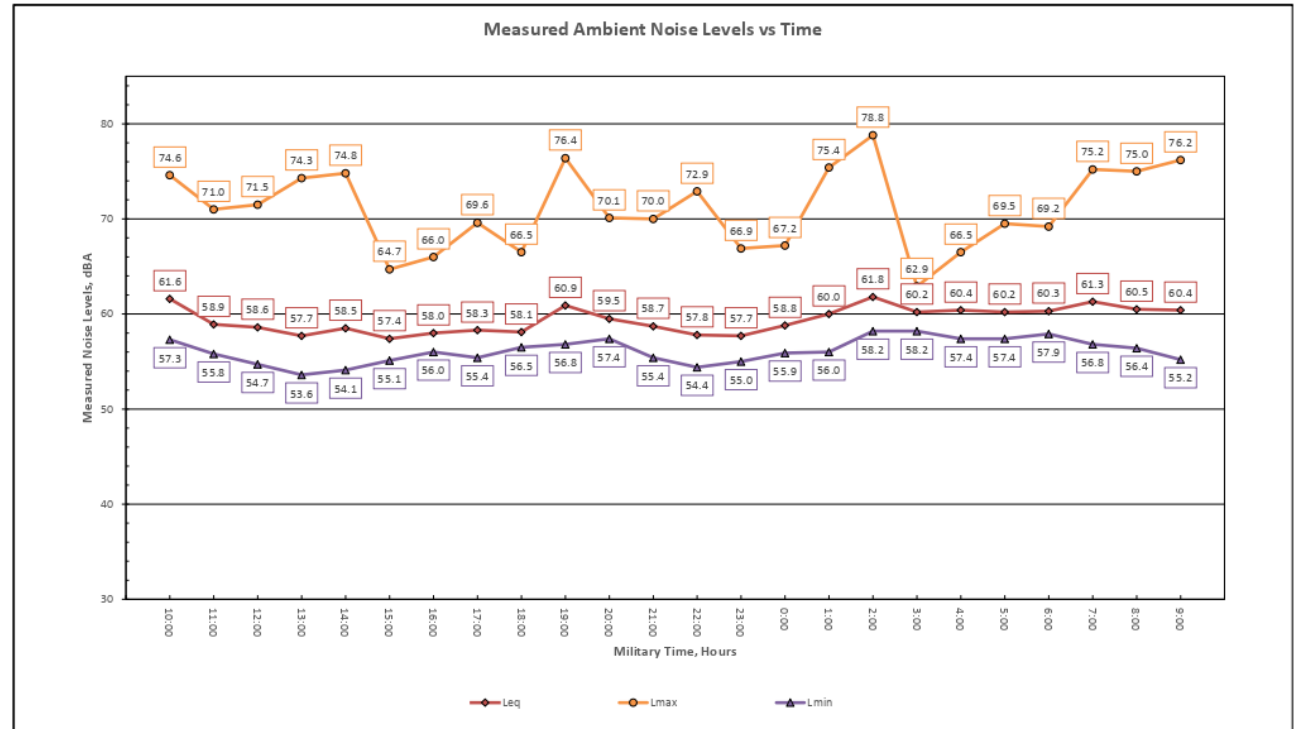
Green cells are data to present in a written analysis (output).

Measurement Site: LT-2
 Measurement Date: 3/4/2026 - 3/5/2026
 Project Name: SMUD Pocket Rebuild
 Coordinates: 38.490403 -121.470686

Hour of Day (military time)	Measured Level, dBA			
	L_{eq}	L_{max}	L_{50}	L_{min}
10:00	61.6	74.6	59.4	57.3
11:00	58.9	71.0	58.4	55.8
12:00	58.6	71.5	57.5	54.7
13:00	57.7	74.3	56.5	53.6
14:00	58.5	74.8	57.3	54.1
15:00	57.4	64.7	57.2	55.1
16:00	58.0	66.0	57.7	56.0
17:00	58.3	69.6	57.9	55.4
18:00	58.1	66.5	57.8	56.5
19:00	60.9	76.4	59.1	56.8
20:00	59.5	70.1	59.3	57.4
21:00	58.7	70.0	58.2	55.4
22:00	57.8	72.9	57.0	54.4
23:00	57.7	66.9	57.3	55.0
0:00	58.8	67.2	58.7	55.9
1:00	60.0	75.4	59.8	56.0
2:00	61.8	78.8	60.0	58.2
3:00	60.2	62.9	60.2	58.2
4:00	60.4	66.5	60.3	57.4
5:00	60.2	69.5	59.8	57.4
6:00	60.3	69.2	60.0	57.9
7:00	61.3	75.2	59.2	56.8
8:00	60.5	75.0	58.7	56.4
9:00	60.4	76.2	58.4	55.2

Metrics	L_{eq}	L_{max}	L_{50}	L_{min}
Day Average	59	73	58	56
Evening Average	60	73	59	57
Night Average	60	73	59	57

CNEL	66.4
Day %	60.2%
Night %	39.8%



Notes: Primary noises include transformer operational noise and ambient natural noise such as bird chirping or blowing winds. A secondary noise source includes the periodic activity on the lightrail east of the project site.

Short-Term Noise Measurement Summary Sheet

KEY: Orange cells are for input.

Measurement Date: 3/4/2026

Project Name: SMUD Pocket Rebuild

Analyst: Sergio Gomez

SLM: Piccolo 3

Measurement Site	Coordinates	Run ID	Start Date	Start Time	End Time	Duration	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₂₅	L ₅₀	L ₉₀
ST-1	38.489503 N 12	4	3/4/2026	9:47:34 AM	10:02:34 AM	0:15:00	54.2	69.2	50.4	55.5	52.7	52.1	51.3
ST-2	38.489399 N	3	3/4/2026	9:20:21 AM	9:35:21 AM	0:15:00	63.7	68.6	62.8	63.9	63.7	63.5	63.2
ST-3	38.490535 N 12	1	3/4/2026	8:30:20 AM	8:45:20 AM	0:15:00	64.3	86.0	48.3	64.7	58.5	53.7	50.3
ST-4	38.486758 N 12	5	3/4/2026	10:10:01 AM	10:25:01 AM	0:15:00	72.1	92.5	51.9	75.5	71.7	66.6	58.4



Short-Term Noise Measurement Summary

KEY: Orange cells are for input.

Green cells are data to present in a written analysis (output).

Measurement Site: ST-1

Measurement Date: 3/4/2026

Project Name: SMUD Pocket Rebuild

Coordinates: 38.489503 N 121.471125 W

Analyst: Sergio Gomez

SLM: Piccolo 3

Start Time	9:47
End Time	10:02
Duration	0:15

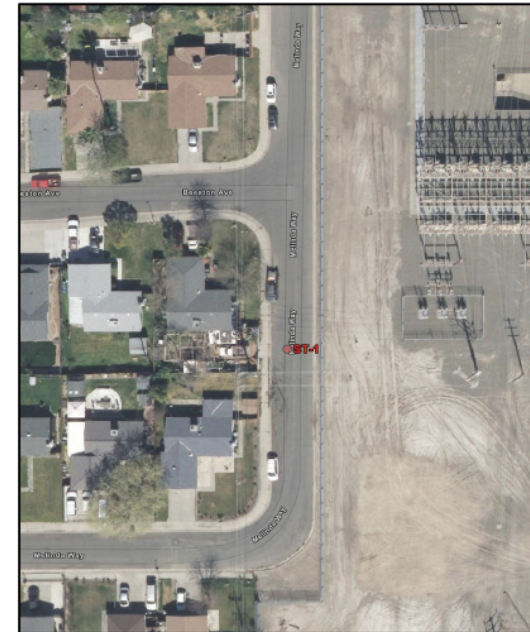
Measured Results, dBA	
Leq	54.2
Lmax	69.2
Lmin	50.4
L10	55.5
L50	52.1
L90	51.3

Noise Environment Characteristics

Primary Noise Sources: The primary noise source is operational noise from the transformer

Secondary Noise Sources: A secondary noise source is occasional traffic noise from Melinda Way

Etc:



Short-Term Noise Measurement Summary

KEY: Orange cells are for input.

Green cells are data to present in a written analysis (output).

Measurement Site: ST-2

Measurement Date: 3/4/2026

Project Name: SMUD Pocket Rebuild

Coordinates: 38.489399 N 121.470247W

Analyst: Sergio Gomez

SLM: Piccolo 3

Start Time	9:20
End Time	9:35
Duration	0:15

Measured Results, dBA	
Leq	63.7
Lmax	68.6
Lmin	62.8
L10	63.9
L50	63.5
L90	63.2

Noise Environment Characteristics

Primary Noise Sources: The primary noise source is operational noise from the transformer

Etc:



Short-Term Noise Measurement Summary

KEY: Orange cells are for input.

Green cells are data to present in a written analysis (output).

Measurement Site: ST-3

Measurement Date: 3/4/2026

Project Name: SMUD Pocket Rebuild

Coordinates: 38.490535 N 121.475742 W

Analyst: Sergio Gomez

SLM: Piccolo 3

Start Time	8:30
End Time	8:45
Duration	0:15

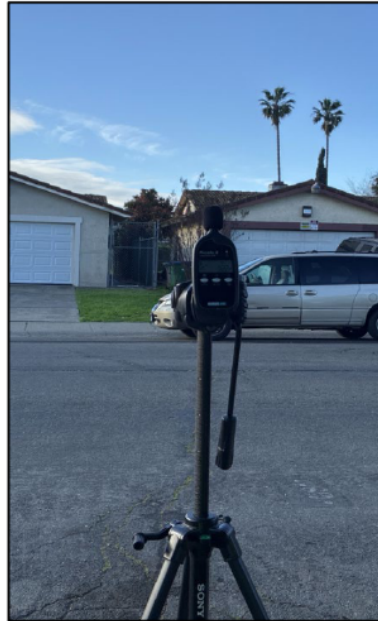
Measured Results, dBA	
Leq	64.3
Lmax	86.0
Lmin	48.3
L10	64.7
L50	53.7
L90	50.3

Noise Environment Characteristics

Primary Noise Sources: A primary noise source is ambient natural noise including bird chirping and winds blowing

Secondary Noise Sources: An emergency vehicle generated that Lmax at 6 minutes

Etc:



Short-Term Noise Measurement Summary

KEY: Orange cells are for input.

Green cells are data to present in a written analysis (output).

Measurement Site: ST-4

Measurement Date: 3/4/2026

Project Name: SMUD Pocket Rebuild

Coordinates: 38.486758 N 121.480474 W

Analyst: Sergio Gomez

SLM: Piccolo 3

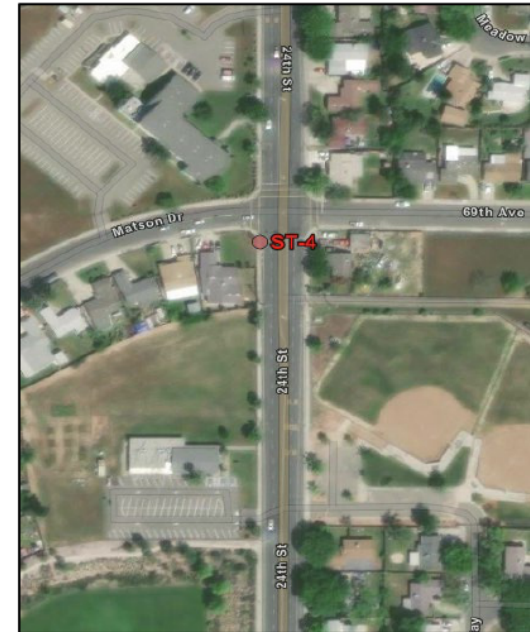
Start Time	10:10
End Time	10:25
Duration	0:15

Measured Results, dBA	
Leq	72.1
Lmax	92.5
Lmin	51.9
L10	75.5
L50	66.6
L90	58.4

Noise Environment Characteristics

Primary Noise Sources: The primary noise source is traffic noise at the intersection of Matson Drive and 24th Street.

Etc:



Project Name: SMUD Pocket Rebuild

KEY: Orange cells are for input.

Grey cells are intermediate calculations performed by the model.

Green cells are data to present in a written analysis (output).

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (dBA L _{eq})	Equipment ¹	Reference Emission Noise Levels (dBA L _{max}) at 50 feet ²	Usage Factor ²
Thresholds			Compactor (ground)	83	0.2
Daytime Standard	16	90.0	Dozer	82	0.4
Nighttime Standard	51	80.0			
Sensitive Receptors			Ground Type	Hard	
			Source Height	5	
			Receiver Height	5	
			Ground Factor ³	0.00	
SR-1	210	67.7	Predicted Noise Level ⁴	dBA L _{eq} at 50 feet ⁴	
SR-2	270	65.5	Compactor (ground)	76.0	
SR-3	330	63.8	Dozer	78.0	
			Combined Predicted Noise Level (dBA L _{eq} at 50 feet)		
				80.1	

Sources:

¹Where measured values are not available, noise levels based on the Construction Noise Control Specification 721.560 were used.

² Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

³ Based on Figure 4-26 from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 86).

⁴ Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 177).

$$L_{eq}(\text{equip}) = E.L. + 10 \cdot \log(U.F.) - 20 \cdot \log(D/50) - 10 \cdot G \cdot \log(D/50)$$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2018: pg 86); and

D = Distance from source to receiver.

Project Name: SMUD Pocket Rebuild

KEY: Orange cells are for input.

Grey cells are intermediate calculations performed by the model.

Green cells are data to present in a written analysis (output).

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (dBA L _{eq})	Equipment ¹	Reference Emission Noise Levels (dBA L _{max}) at 50 feet ²	Usage Factor ²
Thresholds			Excavator	81	0.4
Daytime Standard	11	90.0			
Nighttime Standard	35	80.0			
Sensitive Receptors			Ground Type	Hard	
Nearest Noise Receptor	20	85.0	Source Height	5	
			Receiver Height	5	
			Ground Factor ³	0.00	
			Predicted Noise Level ⁴	dBA L _{eq} at 50 feet ⁴	
			Excavator	77.0	
			Combined Predicted Noise Level (dBA L _{eq} at 50 feet)		
			77.0		

Sources:

¹Where measured values are not available, noise levels based on the Construction Noise Control Specification 721.560 were used.

² Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

³ Based on Figure 4-26 from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 86).

⁴ Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 177).

$$L_{eq}(\text{equip}) = E.L. + 10 \cdot \log(U.F.) - 20 \cdot \log(D/50) - 10 \cdot G \cdot \log(D/50)$$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2018: pg 86); and

D = Distance from source to receiver.

Construction Equipment Average Noise Levels

Project Name: SMUD Pocket Rebuild

KEY: Orange cells are for input.

Grey cells are intermediate calculations performed by the model.

Green cells are data to present in a written analysis (output).

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (dBA L _{eq})	Equipment ¹	Reference Emission Noise Levels (dBA L _{max}) at 50 feet ²	Usage Factor ²
Thresholds			Flat Bed Truck	74	0.4
Daytime Standard	5	90.0			
Nighttime Standard	16	80.0			
Sensitive Receptors			Ground Type	Hard	
			Source Height	5	
			Receiver Height	5	
			Ground Factor ³	0.00	
Nearest Noise Receptor	25	76.0			
			Predicted Noise Level ⁴	dBA L _{eq} at 50 feet ⁴	
			Flat Bed Truck	70.0	
			Combined Predicted Noise Level (dBA L _{eq} at 50 feet)		
			70.0		

Sources:

¹Where measured values are not available, noise levels based on the Construction Noise Control Specification 721.560 were used.

² Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

³ Based on Figure 4-26 from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 86).

⁴ Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 177).

$$L_{eq}(\text{equip}) = E.L. + 10 \cdot \log(U.F.) - 20 \cdot \log(D/50) - 10 \cdot G \cdot \log(D/50)$$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2018: pg 86); and

D = Distance from source to receiver.

Equipment Description	Acoustical Usage Factor (%)	Spec 721.560 Lmax @ 50ft (dBA slow)	Actual Measured Lmax @ 50ft (dBA slow)	No. of Actual Data Samples (count)	Spec 721.560 LmaxCalc	Spec 721.560 Leq	Distance	Actual Measured LmaxCalc	Actual Measured Leq
Auger Drill Rig	20	85	84	36	85.0	78.0	50	84.0	77.0
Backhoe	40	80	78	372	80.0	76.0	50	78.0	74.0
Bar Bender	20	80	80	0	80.0	73.0	50	80.0	73.0
Blasting	100	94	94	0	94.0		50	94.0	94.0
Boring Jack Power Unit	50	80	83	1	80.0	77.0	50	83.0	80.0
Chain Saw	20	85	84	46	85.0	78.0	50	84.0	77.0
Clam Shovel (dropping)	20	93	87	4	93.0	86.0	50	87.0	80.0
Compactor (ground)	20	80	83	57	80.0	73.0	50	83.0	76.0
Compressor (air)	40	80	78	18	80.0	76.0	50	78.0	74.0
Concrete Batch Plant	15	83	83	0	83.0	74.8	50	83.0	74.8
Concrete Mixer Truck	40	85	79	40	85.0	81.0	50	79.0	75.0
Concrete Pump Truck	20	82	81	30	82.0	75.0	50	81.0	74.0
Concrete Saw	20	90	90	55	90.0	83.0	50	90.0	83.0
Crane	16	85	81	405	85.0	77.0	50	81.0	73.0
Dozer	40	85	82	55	85.0	81.0	50	82.0	78.0
Drill Rig Truck	20	84	79	22	84.0	77.0	50	79.0	72.0
Drum Mixer	50	80	80	1	80.0	77.0	50	80.0	77.0
Dump Truck	40	84	76	31	84.0	80.0	50	76.0	72.0
Excavator	40	85	81	170	85.0	81.0	50	81.0	77.0
Flat Bed Truck	40	84	74	4	84.0	80.0	50	74.0	70.0
Front End Loader	40	80	79	96	80.0	76.0	50	79.0	75.0
Generator	50	82	81	19	82.0	79.0	50	81.0	78.0
Generator (<25KVA, VMS signs)	50	70	73	74	70.0	67.0	50	73.0	70.0
Gradall	40	85	83	70	85.0	81.0	50	83.0	79.0
Grader	40	85	85	0	85.0	81.0	50	85.0	81.0
Grapple (on Backhoe)	40	85	87	1	85.0	81.0	50	87.0	83.0
Horizontal Boring Hydr. Jack	25	80	82	6	80.0	74.0	50	82.0	76.0
Hydra Break Ram	10	90	90	0	90.0	80.0	50	90.0	80.0
Impact Pile Driver	20	95	101	11	95.0	88.0	50	101.0	94.0
Jackhammer	20	85	89	133	85.0	78.0	50	89.0	82.0
Man Lift	20	85	75	23	85.0	78.0	50	75.0	68.0
Mounted Impact Hammer (hoe ram)	20	90	90	212	90.0	83.0	50	90.0	83.0
Pavement Scarifier	20	85	90	2	85.0	78.0	50	90.0	83.0
Paver	50	85	77	9	85.0	82.0	50	77.0	74.0
Pickup Truck	40	55	75	1	55.0	51.0	50	75.0	71.0
Pneumatic Tools	50	85	85	90	85.0	82.0	50	85.0	82.0
Pumps	50	77	81	17	77.0	74.0	50	81.0	78.0
Refrigerator Unit	100	82	73	3	82.0	82.0	50	73.0	73.0
Rivit Buster/chipping gun	20	85	79	19	85.0	78.0	50	79.0	72.0
Rock Drill	20	85	81	3	85.0	78.0	50	81.0	74.0
Roller	20	85	80	16	85.0	78.0	50	80.0	73.0
Sand Blasting (Single Nozzle)	20	85	96	9	85.0	78.0	50	96.0	89.0
Scraper	40	85	84	12	85.0	81.0	50	84.0	80.0
Shears (on backhoe)	40	85	96	5	85.0	81.0	50	96.0	92.0
Slurry Plant	100	78	78	1	78.0	78.0	50	78.0	78.0
Slurry Trenching Machine	50	82	80	75	82.0	79.0	50	80.0	77.0
Soil Mix Drill Rig	50	80	80	0	80.0	77.0	50	80.0	77.0
Tractor	40	84	84	0	84.0	80.0	50	84.0	80.0
Vacuum Excavator (vac-truck)	40	85	85	149	85.0	81.0	50	85.0	81.0
Vacuum Street Sweeper	10	80	82	19	80.0	70.0	50	82.0	72.0
Ventilation Fan	100	85	79	13	85.0	85.0	50	79.0	79.0
Vibrating Hopper	50	85	87	1	85.0	82.0	50	87.0	84.0
Vibratory Concrete Mixer	20	80	80	1	80.0	73.0	50	80.0	73.0
Vibratory Pile Driver	20	95	101	44	95.0	88.0	50	101.0	94.0
Warning Horn	5	85	83	12	85.0	72.0	50	83.0	70.0
Welder / Torch	40	73	74	5	73.0	69.0	50	74.0	70.0

Green cells are data to present in a written analysis (output).

STEP 3: Select the distance to the receiver.

[illegible]

Federal Transit Association (FTA). 2018 (September). *Transit Noise and Vibration Impact Assessment*. Washington, D.C. Available: <http://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf>Accessed: March 5, 2020.

KEY: Orange cells are for input.

Grey cells are intermediate calculations performed by the model.

Green cells are data to present in a written analysis (output).

Project Name: SMUD Pocket Rebuild

STEP 1: Determine units in which to perform calculation.

- If vibration decibels (VdB), then use Table A and proceed to Steps 2A and 3A.
- If peak particle velocity (PPV), then use Table B and proceed to Steps 2B and 3B.

STEP 2A: Identify the vibration source and enter the reference vibration level (VdB) and distance.

STEP 3A: Select the distance to the receiver.

Table A. Propagation of vibration decibels (VdB) with distance

Vibration Source/ID	Reference Vibration Level			Attenuated Vibration Level at Receptor		
	vibration level (VdB)	@	distance (ft)	vibration level (VdB)	@	distance (ft)
Vibratory Roller	94	@	25	80	@	73

*The Lv metric (VdB) is used to assess the likelihood for vibration to result in human annoyance.

Land Use Category	Human Annoyance Criteria GBV Impact Levels (VdB re 1 micro-inch/sec)		
	Frequent Events	Occasional Events	Infrequent Events
Category 1: Buildings where vibration would interfere with interior operations	65 VdB	65 VdB	65 VdB
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime use	75 VdB	78 VdB	83 VdB

Source: Federal Transit Administration, pg 126

STEP 3B: Select the distance to the receiver.

Table B. Propagation of peak particle velocity (PPV) with distance

Vibration Source/ID	Reference Vibration Level			Attenuated Vibration Level at Receptor		
	vibration level (PPV)	@	distance (ft)	vibration level (PPV)	@	distance (ft)
Vibratory Roller	0.210	@	25	0.2	@	26

*The PPV metric (in/sec) is used for assessing the likelihood for the potential of structural damage.

Construction Vibration Damage Criteria		
Building/Structural Category	PPV, in/sec	Approximate Lv
I. Reinforced-concrete, steel or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry building	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

Source: Federal Transit Administration, pg 186

Notes:

- Computation of propagated vibration levels is based on the equations presented on pg. 185 of FTA 2018.
- Estimates of attenuated vibration levels do not account for reductions from intervening underground barriers or other underground structures of any type, or changes in soil type.
- Frequent Events are defined as more than 70 events per day; occasional events as 30-70 events per day; and infrequent events as fewer than 30 events per day

Reference:

Federal Transit Association (FTA). 2018 (September). *Transit Noise and Vibration Impact Assessment Manual*. FTA Report No. 0123. Washington, D.C. Accessed: December 20, 2020. Page Available:

https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

Equipment	PPV at 25 ft, in/sec	Approximate LV at 25 ft	Reference
Pile Driver (impact - upper range)	1.518	112	FTA Noise and Vibration Manual Page 184
Pile Driver (Sonic - upper range)	0.734	105	FTA Noise and Vibration Manual Page 184
Pile Driver (impact - typical)	0.644	104	FTA Noise and Vibration Manual Page 184
Vibratory Roller	0.21	94	FTA Noise and Vibration Manual Page 184
Clam Shovel	0.202	94	FTA Noise and Vibration Manual Page 184
Clam Shovel	0.202	94	FTA Noise and Vibration Manual Page 184
Pile Driver (Sonic - typical)	0.17	93	FTA Noise and Vibration Manual Page 184
Hoe Ram	0.089	87	FTA Noise and Vibration Manual Page 184
Large Bulldozer	0.089	87	FTA Noise and Vibration Manual Page 184
Caisson Drilling	0.089	87	FTA Noise and Vibration Manual Page 184
Loaded Trucks	0.076	86	FTA Noise and Vibration Manual Page 184
Jackhammer	0.035	79	FTA Noise and Vibration Manual Page 184
Hydromill (Slurry Wall)	0.008	66	FTA Noise and Vibration Manual Page 184
Small Bulldozer	0.003	58	FTA Noise and Vibration Manual Page 184

Notes:

Computation of propagated vibration levels is based on the equations presented on pg. 185

Federal Transit Association (FTA). 2018 (September). Transit Noise and Vibration Impact Assessment Manual. FTA Report No. 0123. Washington, D.C. Accessed: December 20, 2020. Page Available:

https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

Truck Attenuation

FHWA Truck @ 15 mph	Noise Level		<u>Wall</u> <u>Reduction</u>	<u>Residual</u> <u>Noise dBA</u>
	<u>dBA SEL</u>	<u>FT</u>		
Reference Noise Level ¹	75	50		
Calculated noise level (attenuation to nearest bld.)	76.0	40		76.0

Sources

Attenuation Formula

$$Lp(R2)=Lp(R1)-10*\text{Log}10^{(R2/R1)}$$

Lp(R1)	=	reference noise level at known distance
Lp(R2)	=	noise level at second location
R1	=	reference level distance
R2	=	distance to second location

Federal Highway Administration. 2019. (December). TECHNICAL MANUAL. Traffic Noise Model 3.0, Figure 6.. U.S. Department of Transportation. Office of Natural Environment. Washington, D.C.

Citation # Citations

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| 14 | Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (20), Pg 69 | |
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