Appendix J

Noise Calculation Worksheets

Traffic Noise Change Calculations

PROJECT IMPACTS

Roadway	Nearest Noise Monitoring Location	Estimated Existing CNEL (dBA)	Existing ADT	Project Only PM	PM PH % of Daily	Project Only ADT	Existing + Project ADT	Project-Related Increase in CNEL (dB)	Allowable Increase in CNEL (dB)	Does Change Exceed Allowable Increase?
Beryl St. between Project Site and Catalina Avenue.	1	58	12,867	-109	9%	-1,211	11,656	-0.4	3	
Harbor Dr. south of Portofino Way	1	58	7,263	456	9%	5,067	12,330	2.3	3	
Torrance Ave between Project Site and Catalina Avenue.	7	60	5,869	715	7%	10,214	16,083	4.4	2	
Torrance Ave between Catalina Ave and Francisca.	7	60	22,616	67	7%	957	23,573	0.2	2	
Catalina Ave. north of Beryl St.	8	61	18,340	189	9%	2,100	20,440	0.5	2	
Catalina Ave. south of Beryl St.	9	67	19,638	-221	9%	-2,456	17,182	-0.6	1	
Pacific Coast Highway north of Herondo Street	11	71	52,500	120	8%	1,500	54,000	0.1	1	

Relevant Intersection	PM (Relevant Turning Movements Highlighted in Yellow)											
	SR	ST	SL	WR	WT	WL	NR	NT	NL	ER	ET	EL
15	78	258	-192	-155	150	0	0	198	0	0	88	70
15	78	258	-192	-155	150	0	0	198	0	0	88	70
25	62	-186	-85	-142	239	0	0	8	20	205	148	41
26	0	8	0	0	40	0	0	12	56	37	27	0
16	77	48	0	0	53	11	0	32	-134	-178	42	32
16	77	48	0	0	53	11	0	32	-134	-178	42	32
7	38	57	0	0	40	40	26	37	0	0	26	25

CUMULATIVE BASELINE COMPARED TO EXISTING CONDITIONS

Roadway	Nearest Noise Monitoring Location	Estimated Existing CNEL (dBA)	Existing ADT	Project Only PM	PM PH % of Daily	Cumulative Change	Existing + Cumulative Change	Project-Related Increase in CNEL (dB)	Allowable Increase in CNEL (dB)	Does Project Increase Exceed Allowable Increase?
Beryl St. between Project Site and Catalina Avenue.	1	58	12,867	24	9%	267	13,134	0.1	3	
Harbor Dr. south of Portofino Way	1	58	7,263	13	9%	144	7,407	0.1	3	
Torrance Ave between Project Site and Catalina Avenue.	7	60	5,869	11	7%	157	6,026	0.1	2	
Torrance Ave between Catalina Ave and Francisca.	7	60	22,616	83	7%	1,186	23,802	0.2	2	
Catalina Ave. north of Beryl St.	8	61	18,340	31	9%	344	18,684	0.1	2	
Catalina Ave. south of Beryl St.	9	67	19,638	77	9%	856	20,494	0.2	1	
Pacific Coast Highway north of Herondo Street	11	71	52,500	119	8%	1,488	53,988	0.1	1	

Relevant Intersection	PM (Relevant Turning Movements Highlighted in Yellow)											
	SR	ST	SL	WR	WT	WL	NR	NT	NL	ER	ET	EL
15	1	4	6	6	3	4	3	1	0	1	2	0
15	1	4	6	6	3	4	3	1	0	1	2	0
25	1	16	5	5	5	2	2	10	1	1	2	1
26	1	68	7	7	21	20	15	51	6	5	13	2
16	9	12	0	0	18	1	1	7	37	19	9	3
16	9	12	0	0	18	1	1	7	37	19	9	3
7	21	79	5	6	11	10	7	54	2	2	8	6

CUMULATIVE + PROJECT COMPARED TO EXISTING CONDITIONS

Roadway	Nearest Noise Monitoring Location[1]	Estimated Existing CNEL (dBA)[2]	Existing ADT	Project Only PM	PM PH % of Daily	Project + Cumulative Baseline ADT	Existing + Cumulative Baseline (with Project Traffic)	Cumulative Change in CNEL (dB)	Allowable Increase in CNEL (dB)	Does Change Exceed Allowable Increase?
Beryl St. between Project Site and Catalina Avenue.	1	58	12,867	-117	9%	-1,033	11,834	-0.4	3	
Harbor Dr. south of Portofino Way	1	58	7,263	464	9%	5,300	12,563	2.4	3	
Torrance Ave between Project Site and Catalina Avenue.	7	60	5,869	725	7%	10,514	16,383	4.5	2	
Torrance Ave between Catalina Ave and Francisca.	7	60	22,616	67	7%	2,143	24,759	0.4	2	
Catalina Ave. north of Beryl St.	8	61	18,340	189	9%	2,444	20,784	0.5	2	
Catalina Ave. south of Beryl St.	9	67	19,638	-229	9%	-1,689	17,949	-0.4	1	
Pacific Coast Highway north of Herondo Street	11	71	52,500	120	8%	2,988	55,488	0.2	1	

Relevant Intersection	PM (Relevant Turning Movements Highlighted in Yellow)											
	SR	ST	SL	WR	WT	WL	NR	NT	NL	ER	ET	EL
15	78	262	-196	-159	150	0	0	202	0	0	88	70
15	78	262	-196	-159	150	0	0	202	0	0	88	70
25	62	-190	-87	-146	243	0	0	8	20	209	150	41
26	0	8	0	0	40	0	0	12	56	37	27	0
16	77	48	0	0	53	11	0	32	-138	-182	42	32
16	77	48	0	0	53	11	0	32	-138	-182	42	32
7	38	57	0	0	40	40	26	37	0	0	26	25

PROJECT IMPACTS

Condition	Int #	Intersection		PM Peak Hour (Direction/Turning Movement)											
				SR	ST	SL	WR	WT	WL	NR	NT	NL	ER	ET	EL
Existing	15	Harbor Dr	Portofino V	39	186	274	300	118	182	125	68	11	24	113	21
Existing + Project	15	Harbor Dr	Portofino V	117	444	82	145	268	182	125	266	11	24	201	91
		Project Impact		78	258	-192	-155	150	0	0	198	0	0	88	70
Existing	25	Catalina Av	Torrance B	67	719	214	222	127	99	98	458	31	24	115	29
Existing + Project	25	Catalina Av	Torrance B	129	533	129	80	366	99	98	466	51	229	263	70
		Project Impact		62	-186	-85	-142	239	0	0	8	20	205	148	41
Existing	26	Pacific Coa	Torrance B	39	1410	309	301	424	156	89	942	61	67	366	71
Existing + Project	26	Pacific Coa	Torrance B	39	1418	309	301	464	156	89	954	117	104	393	71
		Project Impact		0	8	0	0	40	0	0	12	56	37	27	0
Existing	16	Catalina Av	Beryl St	150	577	3	19	181	37	61	339	262	300	156	53
Existing + Project	16	Catalina Av	Beryl St	227	625	3	19	234	48	61	371	128	122	198	85
		Project Impact		77	48	0	0	53	11	0	32	-134	-178	42	32
Existing	7	Pacific Coa	Herondo S	502	1836	214	266	278	296	216	1391	78	96	261	75
Existing + Project	7	Pacific Coa	Herondo S	540	1893	214	266	318	336	242	1428	78	96	287	100
		Project Impact		38	57	0	0	40	40	26	37	0	0	26	25

CUMULATIVE V. BASELINE

Condition	Int #	Intersection		PM Peak Hour (Direction/Turning Movement)											
				SR	ST	SL	WR	WT	WL	NR	NT	NL	ER	ET	EL
Existing (Baseline)	15	Harbor Dr	Portofino V	39	186	274	300	118	182	125	68	11	24	113	21
Cumulative + Baseline	15	Harbor Dr	Portofino V	40	190	280	306	121	186	128	69	11	25	115	21
		Impact		1	4	6	6	3	4	3	1	0	1	2	0
Existing (Baseline)	25	Catalina Av	Torrance B	67	719	214	222	127	99	98	458	31	24	115	29
Cumulative + Baseline	25	Catalina Av	Torrance B	68	735	219	227	132	101	100	468	32	25	117	30
		Impact		1	16	5	5	5	2	2	10	1	1	2	1
Existing (Baseline)	26	Pacific Coa	Torrance B	39	1410	309	301	424	156	89	942	61	67	366	71
Cumulative + Baseline	26	Pacific Coa	Torrance B	40	1478	316	308	445	176	104	993	67	72	379	73
		Impact		1	68	7	7	21	20	15	51	6	5	13	2
Existing (Baseline)	16	Catalina Av	Beryl St	150	577	3	19	181	37	61	339	262	300	156	53
Cumulative + Baseline	16	Catalina Av	Beryl St	159	589	3	19	199	38	62	346	299	319	165	56

		Impact		9	12	0	0	18	1	1	7	37	19	9	3
Existing (Baseline)	7	Pacific Coa	Herondo S	502	1836	214	266	278	296	216	1391	78	96	261	75
Cumulative + Baseline	7	Pacific Coa	Herondo S	523	1915	219	272	289	306	223	1445	80	98	269	81
		Impact		21	79	5	6	11	10	7	54	2	2	8	6

CUMULATIVE + PROJECT

				PM Peak Hour (Direction/Turning Movement)											
Condition	**Int #**	**Intersection**		**SR**	**ST**	**SL**	**WR**	**WT**	**WL**	**NR**	**NT**	**NL**	**ER**	**ET**	**EL**
Cumulative Baseline	15	Harbor Dr	Portofino V	40	190	280	306	121	186	128	69	11	25	115	21
Cumulative + Project	15	Harbor Dr	Portofino V	118	452	84	147	271	186	128	271	11	25	203	91
		Project Impact		78	262	-196	-159	150	0	0	202	0	0	88	70
Cumulative Baseline	25	Catalina Av	Torrance B	68	735	219	227	132	101	100	468	32	25	117	30
Cumulative + Project	25	Catalina Av	Torrance B	130	545	132	81	375	101	100	476	52	234	267	71
		Project Impact		62	-190	-87	-146	243	0	0	8	20	209	150	41
Cumulative Baseline	26	Pacific Coa	Torrance B	40	1478	316	308	445	176	104	993	67	72	379	73
Cumulative + Project	26	Pacific Coa	Torrance B	40	1486	316	308	485	176	104	1005	123	109	406	73
		Project Impact		0	8	0	0	40	0	0	12	56	37	27	0
Cumulative Baseline	16	Catalina Av	Beryl St	159	589	3	19	199	38	62	346	299	319	165	56
Cumulative + Project	16	Catalina Av	Beryl St	236	637	3	19	252	49	62	378	161	137	207	88
		Project Impact		77	48	0	0	53	11	0	32	-138	-182	42	32
Cumulative Baseline	7	Pacific Coa	Herondo S	523	1915	219	272	289	306	223	1445	80	98	269	81
Cumulative + Project	7	Pacific Coa	Herondo S	561	1972	219	272	329	346	249	1482	80	98	295	106
		Project Impact		38	57	0	0	40	40	26	37	0	0	26	25

SOURCE: Fehr & Peers_Traffic Volumes Spreadsheet 12 October 2015

Vibration Calculations

Equipment Types	PPV at 25 feet (in/sec)	Distance: 75	100	140	120	25	30	Distance to Each Sensitive Receptor: 75		100		140		120		25		30	
								Thresholds of Significance											
		Estimated Vibration Level						Variance from Threshold of Significance (Negative Values Indicate Exceedance)											
								0.2	0.5	0.2	0.5	0.2	0.5	0.2	0.5	0.2	0.5	0.2	0.5
Pile Driver (impact)	0.644	0.124	0.081	0.049	0.061	0.644	0.490	0.076	0.376	0.120	0.420	0.151	0.451	0.139	0.439	**-0.444**	**-0.144**	**-0.290**	0.010
Vibratory Roller	0.21	0.040	0.026	0.016	0.020	0.210	0.160	0.160	0.460	0.174	0.474	0.184	0.484	0.180	0.480	**-0.010**	0.290	0.040	0.340
Large Bulldozer / Hoe Ram	0.089	0.017	0.011	0.007	0.008	0.089	0.068	0.183	0.483	0.189	0.489	0.193	0.493	0.192	0.492	0.111	0.411	0.132	0.432
Loaded Trucks	0.076	0.015	0.010	0.006	0.007	0.076	0.058	0.185	0.485	0.191	0.491	0.194	0.494	0.193	0.493	0.124	0.424	0.142	0.442
Jackhammer	0.035	0.007	0.004	0.003	0.003	0.035	0.027	0.193	0.493	0.196	0.496	0.197	0.497	0.197	0.497	0.165	0.465	0.173	0.473
Small Bulldozer	0.003	0.001	0.000	0.000	0.000	0.003	0.002	0.199	0.499	0.200	0.500	0.200	0.500	0.200	0.500	0.197	0.497	0.198	0.498

Equipment Types	L_v at 25 feet (VdB)	Distance: 75	100	140	120	25	30	Distance to Each Sensitive Receptor: 75		100		140		120		25		30	
								Thresholds of Significance											
		Estimated Vibration Level						Variance from Threshold of Significance (Negative Values Indicate Exceedance)											
								75	80	75	80	75	80	75	80	75	80	75	80
Pile Driver (impact)	104	90	86	82	84	104	102	**-14.686**	**-9.686**	**-10.938**	**-5.938**	**-6.554**	**-1.554**	**-8.563**	**-3.563**	**-29.000**	**-24.000**	**-26.625**	**-21.625**
Vibratory Roller	94	80	76	72	74	94	92	**-4.686**	0.314	**-0.938**	4.062	3.446	8.446	1.437	6.437	**-19.000**	**-14.000**	**-16.625**	**-11.625**
Large Bulldozer / Hoe Ram	87	73	69	65	67	87	85	2.314	7.314	6.062	11.062	10.446	15.446	8.437	13.437	**-12.000**	**-7.000**	**-9.625**	**-4.625**
Loaded Trucks	86	72	68	64	66	86	84	3.314	8.314	7.062	12.062	11.446	16.446	9.437	14.437	**-11.000**	**-6.000**	**-8.625**	**-3.625**
Jackhammer	79	65	61	57	59	79	77	10.314	15.314	14.062	19.062	18.446	23.446	16.437	21.437	**-4.000**	1.000	**-1.625**	3.375
Small Bulldozer	58	44	40	36	38	58	56	31.314	36.314	35.062	40.062	39.446	44.446	37.437	42.437	17.000	22.000	19.375	24.375