

Appendix J
Noise Technical Appendix

J-1 Noise Monitoring Data

Record #	Record Type	Date	Time	Leq	Lpeak	Lmax	Lmin
R1		2018-08-23	9:07:35	65.0	92.2	71.4	53.9
R1		2018-08-23	9:08:35	68.9	95.5	75.4	55.5
R1		2018-08-23	9:09:35	68.2	89.2	74.5	55.1
R1		2018-08-23	9:10:35	68.4	89.6	74.4	59.2
R1		2018-08-23	9:11:35	63.2	87.2	71.6	53.3
R1		2018-08-23	9:12:35	73.2	102.5	85.6	55.8
R1		2018-08-23	9:13:35	67.8	92.1	77.9	59.5
R1		2018-08-23	9:14:35	69.0	91.4	73.8	59.3
R1		2018-08-23	9:15:35	66.0	84.3	71.1	59.0
R1		2018-08-23	9:16:35	69.4	91.1	74.4	61.2
R1				68.7	102.5	85.6	53.3
R2		2018-08-23	8:55:11	70.6	91.8	79.2	63.0
R2		2018-08-23	8:56:11	73.6	95.0	81.9	62.5
R2		2018-08-23	8:57:11	68.0	88.5	74.4	61.9
R2		2018-08-23	8:58:11	72.2	96.1	82.9	64.1
R2		2018-08-23	8:59:11	64.4	81.0	67.7	62.3
R2		2018-08-23	9:00:11	71.6	90.2	77.5	62.5
R2		2018-08-23	9:01:11	67.3	86.6	73.2	62.5
R2		2018-08-23	9:02:11	69.4	90.1	76.0	62.1
R2		2018-08-23	9:03:11	67.8	90.0	74.1	62.3
R2		2018-08-23	9:04:11	71.9	95.0	82.0	62.4
R2				70.5	96.1	82.9	61.9
R3		2018-08-23	8:43:07	70.4	89.2	75.9	59.0
R3		2018-08-23	8:44:07	68.6	90.3	77.4	57.0
R3		2018-08-23	8:45:07	68.7	90.6	75.7	56.9
R3		2018-08-23	8:46:07	64.4	84.8	71.3	57.1
R3		2018-08-23	8:47:07	70.5	94.1	80.6	58.3
R3		2018-08-23	8:48:07	71.4	92.3	78.1	57.6
R3		2018-08-23	8:49:07	70.7	95.3	81.7	58.8
R3		2018-08-23	8:50:07	66.2	87.0	72.4	56.8
R3		2018-08-23	8:51:07	70.9	89.6	76.3	57.0
R3		2018-08-23	8:52:07	71.7	98.3	77.8	56.8
R3				69.8	98.3	81.7	56.8
R4		2018-08-23	8:26:48	62.4	82.5	67.8	54.6
R4		2018-08-23	8:27:48	65.1	85.6	70.5	59.7

R4	2018-08-23	8:28:48	67.5	89.8	71.8	58.3
R4	2018-08-23	8:29:48	66.0	88.9	70.2	57.9
R4	2018-08-23	8:30:48	69.9	96.9	80.2	54.9
R4	2018-08-23	8:31:48	67.7	92.4	78.6	61.3
R4	2018-08-23	8:32:48	70.2	95.8	79.5	54.2
R4	2018-08-23	8:33:48	67.3	86.2	73.5	59.1
R4	2018-08-23	8:34:48	70.1	96.8	77.6	53.4
R4	2018-08-23	8:35:48	68.5	94.2	74.7	52.4
R4			68.0	96.9	80.2	52.4
R5	2018-08-23	8:12:28	69.1	86.9	72.7	63.7
R5	2018-08-23	8:13:28	76.1	99.9	85.5	63.0
R5	2018-08-23	8:14:28	67.7	85.9	72.8	60.2
R5	2018-08-23	8:15:28	71.1	94.5	76.4	63.5
R5	2018-08-23	8:16:28	75.7	96.5	83.5	71.0
R5	2018-08-23	8:17:28	76.8	97.9	85.4	64.0
R5	2018-08-23	8:18:28	75.3	100.8	87.2	59.8
R5	2018-08-23	8:19:28	72.2	93.2	79.3	64.0
R5	2018-08-23	8:20:28	73.8	98.8	84.3	60.5
R5	2018-08-23	8:21:28	71.5	93.0	77.0	63.5
R5			73.8	100.8	87.2	59.8
R6	2018-08-23	8:00:44	68.3	95.1	81.0	51.8
R6	2018-08-23	8:01:44	63.3	86.5	71.4	52.8
R6	2018-08-23	8:02:44	66.3	86.7	73.1	49.9
R6	2018-08-23	8:03:44	66.1	100.2	86.2	51.8
R6	2018-08-23	8:04:44	74.4	101.9	88.1	51.7
R6	2018-08-23	8:05:44	60.7	81.3	66.3	54.5
R6	2018-08-23	8:06:44	63.1	86.3	71.7	51.1
R6	2018-08-23	8:07:44	58.4	81.5	66.9	50.8
R6	2018-08-23	8:08:44	63.0	89.2	72.6	53.5
R6			67.2	101.9	88.1	49.9
R7	2018-08-23	7:47:53	64.7	86.2	70.7	53.5
R7	2018-08-23	7:48:53	60.6	81.5	68.2	52.3
R7	2018-08-23	7:49:53	76.6	102.4	89.7	55.0
R7	2018-08-23	7:50:53	63.0	88.1	71.1	52.4
R7	2018-08-23	7:51:53	62.0	84.9	70.4	51.7
R7	2018-08-23	7:52:53	62.0	85.0	71.6	51.2
R7	2018-08-23	7:53:53	60.7	84.7	69.4	51.5
R7	2018-08-23	7:54:53	60.2	85.9	72.2	51.6
R7	2018-08-23	7:55:53	75.5	105.7	87.4	58.2
R7			69.7	105.7	89.8	51.2

R8	2018-08-23	7:35:35	63.0	84.7	70.3	55.9
R8	2018-08-23	7:36:35	60.9	89.7	70.2	52.8
R8	2018-08-23	7:37:35	59.6	80.5	65.4	55.0
R8	2018-08-23	7:38:35	65.5	89.6	72.7	55.5
R8	2018-08-23	7:39:35	63.0	88.4	69.3	55.0
R8	2018-08-23	7:40:35	61.3	87.9	69.8	54.0
R8	2018-08-23	7:41:35	61.5	83.9	68.9	53.1
R8	2018-08-23	7:42:35	63.1	85.8	72.4	54.3
R8	2018-08-23	7:43:35	64.3	88.1	71.8	54.8
R8			63.1	90.0	72.7	52.8

J-2 Existing Traffic Noise Levels

TRAFFIC NOISE ANALYSIS TOOL



Project Name: St. Johns Medical Center Master Plan - Phase II
 Analysis Scenario: Existing
 Source of Traffic Volumes: Fehr & Peers

Roadway Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
20th St, between Montana Ave and Wilshire Blvd	Hard	30	35	35	35	542	11	6	64.5	64.8
20th St, between Wilshire Blvd and Arizona Ave	Hard	45	45	45	45	1109	23	11	68.9	69.2
20th St, between Arizona Ave and Santa Monica Blvd	Hard	45	45	45	45	1534	32	16	70.3	70.6
20th St, between Santa Monica Blvd and Broadway	Hard	50	45	45	45	1466	30	15	69.7	70.0
20th St, between Broadway and Colorado Ave	Hard	40	45	45	45	1520	31	16	70.8	71.1
20th St, between Colorado Ave and Olympic Blvd	Hard	55	45	45	45	1513	31	16	69.4	69.7
20th St, between Olympic Blvd and I-10 EB Off-Ramp	Hard	40	45	45	45	1901	39	20	71.8	72.1
20th St, between I-10 EB Off-Ramp and Delaware Ave	Hard	40	40	40	40	1396	29	14	69.0	69.3
20th St, between Delaware Ave and Pico Blvd	Hard	40	40	40	40	1374	28	14	68.9	69.2
21st St, between Santa Monica Boulevard and Broadway	Hard	30	35	35	35	13	0	0	48.4	48.7
23rd St, between Wilshire Blvd and Arizona Ave	Hard	40	40	40	40	349	7	4	63.0	63.3
23rd St, between Arizona Ave and Santa Monica Blvd	Hard	30	35	35	35	470	10	5	63.9	64.2
23rd St, between Santa Monica Blvd and Broadway	Hard	27	35	35	35	105	2	1	57.9	58.2
23rd St, between Pico Blvd and Ocean Park Blvd	Hard	30	35	35	35	566	12	6	64.7	65.0
Cloverfield Blvd, between Santa Monica Blvd and Broadway	Hard	35	40	40	40	1101	23	11	68.5	68.8
Cloverfield Blvd, between Broadway and Colorado Ave	Hard	45	40	40	40	1692	35	17	69.3	69.6
Cloverfield Blvd, between Colorado Ave and Olympic Blvd	Hard	60	40	40	40	2443	50	25	69.7	70.0
Cloverfield Blvd, between Olympic Blvd and Michigan Ave	Hard	50	40	40	40	3101	64	32	71.5	71.8
Cloverfield Blvd, between I-10 EB On-Ramp and Virginia Ave	Hard	50	40	40	40	1673	34	17	68.8	69.1
Cloverfield Blvd, between Virginia Ave and Pico Blvd	Hard	40	40	40	40	1666	34	17	69.7	70.0
Cloverfield Blvd, between Pico Blvd and Ocean Park Blvd	Hard	30	35	35	35	489	10	5	64.1	64.4
26th St, between San Vicente Blvd and Montana Ave	Hard	30	35	35	35	1049	21	11	67.4	67.7
26th St, between Montana Ave and Wilshire Blvd	Hard	30	35	35	35	1078	22	11	67.5	67.8
26th St, between Wilshire Blvd and Arizona Ave	Hard	30	35	35	35	1119	23	11	67.7	68.0
26th St, between Arizona Ave and Santa Monica Blvd	Hard	30	35	35	35	1171	24	12	67.9	68.2
26th St, between Santa Monica Blvd and Broadway	Hard	30	35	35	35	1067	22	11	67.5	67.8
26th St, between Broadway and Colorado Ave	Hard	30	35	35	35	1123	23	11	67.7	68.0
26th St, between Colorado Ave and Olympic Blvd	Hard	30	35	35	35	1156	24	12	67.8	68.1
Centinela Ave, between Wilshire Blvd and Santa Monica Blvd	Hard	35	35	35	35	573	12	6	64.1	64.4
Centinela Ave, between Santa Monica Blvd and Broadway	Hard	35	35	35	35	773	16	8	65.4	65.7
Centinela Ave, between Broadway and Olympic Blvd	Hard	35	35	35	35	1161	24	12	67.2	67.5
Centinela Ave, between Olympic Blvd and I-10 WB Ramp	Hard	35	35	35	35	1358	28	14	67.9	68.2
Bundy Dr, between Wilshire Blvd and Texas Ave	Hard	40	40	40	40	1690	34	17	69.8	70.1
Bundy Dr, between Texas Ave and Santa Monica Blvd	Hard	40	40	40	40	1871	38	19	70.2	70.5
Bundy Dr, between Santa Monica Blvd and Ohio Ave	Hard	40	40	40	40	1991	41	20	70.5	70.8
Bundy Dr, between Ohio Ave and Olympic Blvd	Hard	40	40	40	40	2463	50	25	71.4	71.7
Broadway, between Lincoln Blvd and 14th St	Hard	40	40	40	40	881	18	9	67.0	67.3
Broadway, between 14th St and 17 St	Hard	40	40	40	40	1040	21	11	67.7	68.0
Broadway, between 17th St and 20th St	Hard	40	40	40	40	1063	22	11	67.8	68.1
Broadway, between 20th St and 20th Pl	Hard	40	40	40	40	550	11	6	64.9	65.2
Broadway, between 20th Pl and 21st St	Hard	40	40	40	40	575	12	6	65.1	65.4
Broadway, between 21st St and Southeast Dwy	Hard	40	40	40	40	573	12	6	65.1	65.4
Broadway, between Southeast Dwy and 23rd St	Hard	40	40	40	40	536	11	5	64.8	65.1
Broadway, between 23rd St and Cloverfield Blvd	Hard	40	40	40	40	1130	23	12	68.1	68.4
Broadway, between Cloverfield Blvd and 26th St	Hard	40	40	40	40	827	17	8	66.7	67.0
Broadway, between 26th St and Centinela Ave	Hard	40	40	40	40	659	13	7	65.7	66.0
Santa Monica Blvd, between 14th St and 17th St	Hard	50	40	40	40	1702	35	17	68.9	69.2
Santa Monica Blvd, between 17th St and 20th St	Hard	50	40	40	40	1892	39	19	69.3	69.6
Santa Monica Blvd, between 20th St and West Dwy	Hard	50	40	40	40	980	20	10	66.5	66.8
Santa Monica Blvd, between East Dwy and 23rd St	Hard	50	40	40	40	2260	46	23	70.1	70.4
Santa Monica Blvd, between 23rd St and Cloverfield Blvd	Hard	50	40	40	40	2457	50	25	70.5	70.8
Santa Monica Blvd, between Cloverfield Blvd and 26th St	Hard	50	40	40	40	1993	41	20	69.6	69.9
Santa Monica Blvd, between 26th St and Yale St	Hard	50	40	40	40	2073	42	21	69.7	70.0
Santa Monica Blvd, between Yale St and Centinela Ave	Hard	50	40	40	40	2247	46	23	70.1	70.4
Wilshire Blvd, between 14 St and 17th St	Hard	50	40	40	40	1997	41	20	69.6	69.9
Wilshire Blvd, between 17th St and 20th St	Hard	50	40	40	40	2057	42	21	69.7	70.0
Wilshire Blvd, between 20th St and 23rd St	Hard	50	40	40	40	2183	45	22	69.9	70.2
Wilshire Blvd, between 23rd St and 26th St	Hard	50	40	40	40	2096	43	21	69.8	70.1
Wilshire Blvd, between 26th St and Yale St	Hard	50	40	40	40	2304	47	24	70.2	70.5
Wilshire Blvd, between Yale St and Berkeley St	Hard	50	40	40	40	2348	48	24	70.3	70.6
Arizona Ave, between 14 St and 17th St	Hard	40	40	40	40	424	9	4	63.8	64.1
Arizona Ave, between 17th St and 20th St	Hard	40	40	40	40	443	9	5	64.0	64.3
Arizona Ave, between 20th St and 21st St	Hard	40	40	40	40	504	10	5	64.6	64.9
Arizona Ave, between 21st St and 22nd St	Hard	40	40	40	40	590	12	6	65.2	65.5
Arizona Ave, between 22nd St and 23th St	Hard	40	40	40	40	568	12	6	65.1	65.4
Arizona Ave, between 23rd St and 26th St	Hard	40	40	40	40	452	9	5	64.1	64.4
Colorado Ave, between Lincoln Blvd and 20th St	Hard	50	40	40	40	566	12	6	64.1	64.4
Colorado Ave, between 20th St and Cloverfield Blvd	Hard	50	40	40	40	1302	27	13	67.7	68.0
Colorado Ave, between Cloverfield Blvd and 26th St	Hard	50	40	40	40	1186	24	12	67.3	67.6

Model Notes:

The calculation is based on the methodology described in FHWA Traffic Noise Model Technical Manual (1998).
 The peak hour noise level at 50 feet was validated with the results from FHWA Traffic Noise Model Version 2.5.
 Accuracy of the calculation is within ±0.1 dB when comparing to TNM results.
 Noise propagation greater than 50 feet is based on the following assumptions:
 For hard ground, the propagation rate is 3 dB per doubling the distance.
 For soft ground, the propagation rate is 4.5 dB per doubling the distance.
 Vehicles are assumed to be on a long straight roadway with cruise speed.
 Roadway grade is less than 1.5%.
 CNEL levels were obtained based on Figure 2-19, on page 2-58 Caltrans' TeNS 2013.

J-3 Approval Year with Project

TRAFFIC NOISE ANALYSIS TOOL



Project Name: St. Johns Medical Center Master Plan - Phase II
 Analysis Scenario: Approval Year Plus Full Buildout
 Source of Traffic Volumes: Fehr & Peers

Roadway Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
20th St, between Montana Ave and Wilshire Blvd	Hard	30	35	35	35	625	13	6	65.2	65.5
20th St, between Wilshire Blvd and Arizona Ave	Hard	45	45	45	45	1087	22	11	68.9	69.2
20th St, between Arizona Ave and Santa Monica Blvd	Hard	45	45	45	45	1643	34	17	70.6	70.9
20th St, between Santa Monica Blvd and Broadway	Hard	50	45	45	45	1568	32	16	70.0	70.3
20th St, between Broadway and Colorado Ave	Hard	40	45	45	45	1714	35	18	71.3	71.6
20th St, between Colorado Ave and Olympic Blvd	Hard	55	45	45	45	1541	32	16	69.5	69.8
20th St, between Olympic Blvd and I-10 EB Off-Ramp	Hard	40	45	45	45	2097	43	22	72.2	72.5
20th St, between I-10 EB Off-Ramp and Delaware Ave	Hard	40	40	40	40	1578	33	16	69.5	69.8
20th St, between Delaware Ave and Pico Blvd	Hard	40	40	40	40	1490	31	15	69.3	69.6
21st St, between Santa Monica Boulevard and Broadway	Hard	30	35	35	35	31	1	0	52.1	52.4
23rd St, between Wilshire Blvd and Arizona Ave	Hard	40	40	40	40	443	9	5	64.0	64.3
23rd St, between Arizona Ave and Santa Monica Blvd	Hard	30	35	35	35	592	12	6	64.9	65.2
23rd St, between Santa Monica Blvd and Broadway	Hard	27	35	35	35	129	3	1	58.8	59.1
23rd St, between Pico Blvd and Ocean Park Blvd	Hard	30	35	35	35	613	13	6	65.1	65.4
Cloverfield Blvd, between Santa Monica Blvd and Broadway	Hard	35	40	40	40	1302	27	13	69.3	69.6
Cloverfield Blvd, between Broadway and Colorado Ave	Hard	45	40	40	40	1827	38	19	69.6	69.9
Cloverfield Blvd, between Colorado Ave and Olympic Blvd	Hard	60	40	40	40	2452	51	25	69.7	70.0
Cloverfield Blvd, between Olympic Blvd and Michigan Ave	Hard	50	40	40	40	3103	64	32	71.5	71.8
Cloverfield Blvd, between I-10 EB On-Ramp and Virginia Ave	Hard	50	40	40	40	1796	37	18	69.1	69.4
Cloverfield Blvd, between Virginia Ave and Pico Blvd	Hard	40	40	40	40	1667	34	17	69.7	70.0
Cloverfield Blvd, between Pico Blvd and Ocean Park Blvd	Hard	30	35	35	35	486	10	5	64.1	64.4
26th St, between San Vicente Blvd and Montana Ave	Hard	30	35	35	35	1073	22	11	67.5	67.8
26th St, between Montana Ave and Wilshire Blvd	Hard	30	35	35	35	1114	23	11	67.7	68.0
26th St, between Wilshire Blvd and Arizona Ave	Hard	30	35	35	35	1212	25	12	68.0	68.3
26th St, between Arizona Ave and Santa Monica Blvd	Hard	30	35	35	35	1263	26	13	68.2	68.5
26th St, between Santa Monica Blvd and Broadway	Hard	30	35	35	35	1160	24	12	67.8	68.1
26th St, between Broadway and Colorado Ave	Hard	30	35	35	35	1216	25	12	68.0	68.3
26th St, between Colorado Ave and Olympic Blvd	Hard	30	35	35	35	1563	32	16	69.1	69.4
Centinela Ave, between Wilshire Blvd and Santa Monica Blvd	Hard	35	35	35	35	603	12	6	64.3	64.6
Centinela Ave, between Santa Monica Blvd and Broadway	Hard	35	35	35	35	894	18	9	66.0	66.3
Centinela Ave, between Broadway and Olympic Blvd	Hard	35	35	35	35	1262	26	13	67.5	67.8
Centinela Ave, between Olympic Blvd and I-10 WB Ramp	Hard	35	35	35	35	1381	28	14	67.9	68.2
Bundy Dr, between Wilshire Blvd and Texas Ave	Hard	40	40	40	40	1773	36	18	70.0	70.3
Bundy Dr, between Texas Ave and Santa Monica Blvd	Hard	40	40	40	40	2011	41	21	70.6	70.9
Bundy Dr, between Santa Monica Blvd and Ohio Ave	Hard	40	40	40	40	1997	41	20	70.5	70.8
Bundy Dr, between Ohio Ave and Olympic Blvd	Hard	40	40	40	40	2497	51	25	71.5	71.8
Broadway, between Lincoln Blvd and 14th St	Hard	40	40	40	40	953	19	10	67.3	67.6
Broadway, between 14th St and 17 St	Hard	40	40	40	40	1145	23	12	68.1	68.4
Broadway, between 17th St and 20th St	Hard	40	40	40	40	1233	25	13	68.4	68.7
Broadway, between 20th St and 20th Pl	Hard	40	40	40	40	584	12	6	65.2	65.5
Broadway, between 20th Pl and 21st St	Hard	40	40	40	40	554	11	6	65.0	65.3
Broadway, between 21st St and Southeast Dwy	Hard	40	40	40	40	558	11	6	65.0	65.3
Broadway, between Southeast Dwy and 23rd St	Hard	40	40	40	40	550	11	6	64.9	65.2
Broadway, between 23rd St and Cloverfield Blvd	Hard	40	40	40	40	1128	23	12	68.1	68.4
Broadway, between Cloverfield Blvd and 26th St	Hard	40	40	40	40	860	18	9	66.9	67.2
Broadway, between 26th St and Centinela Ave	Hard	40	40	40	40	744	15	8	66.2	66.5
Santa Monica Blvd, between 14th St and 17th St	Hard	50	40	40	40	1691	35	17	68.8	69.1
Santa Monica Blvd, between 17th St and 20th St	Hard	50	40	40	40	1978	40	20	69.5	69.8
Santa Monica Blvd, between 20th St and West Dwy	Hard	50	40	40	40	1104	23	11	67.0	67.3
Santa Monica Blvd, between East Dwy and 23rd St	Hard	50	40	40	40	1452	30	15	68.2	68.5
Santa Monica Blvd, between 23rd St and Cloverfield Blvd	Hard	50	40	40	40	2957	60	30	71.3	71.6
Santa Monica Blvd, between Cloverfield Blvd and 26th St	Hard	50	40	40	40	2168	44	22	69.9	70.2
Santa Monica Blvd, between 26th St and Yale St	Hard	50	40	40	40	2106	43	21	69.8	70.1
Santa Monica Blvd, between Yale St and Centinela Ave	Hard	50	40	40	40	2273	46	23	70.1	70.4
Wilshire Blvd, between 14 St and 17th St	Hard	50	40	40	40	2262	46	23	70.1	70.4
Wilshire Blvd, between 17th St and 20th St	Hard	50	40	40	40	2238	46	23	70.1	70.4
Wilshire Blvd, between 20th St and 23rd St	Hard	50	40	40	40	2425	49	25	70.4	70.7
Wilshire Blvd, between 23rd St and 26th St	Hard	50	40	40	40	2411	49	25	70.4	70.7
Wilshire Blvd, between 26th St and Yale St	Hard	50	40	40	40	2473	50	25	70.5	70.8
Wilshire Blvd, between Yale St and Berkeley St	Hard	50	40	40	40	2468	50	25	70.5	70.8
Arizona Ave, between 14 St and 17th St	Hard	40	40	40	40	483	10	5	64.4	64.7
Arizona Ave, between 17th St and 20th St	Hard	40	40	40	40	478	10	5	64.3	64.6
Arizona Ave, between 20th St and 21rd St	Hard	40	40	40	40	552	11	6	64.9	65.2
Arizona Ave, between 21rd St and 22th St	Hard	40	40	40	40	656	13	7	65.7	66.0
Arizona Ave, between 22rd St and 23th St	Hard	40	40	40	40	637	13	6	65.6	65.9
Arizona Ave, between 23rd St and 26th St	Hard	40	40	40	40	479	10	5	64.3	64.6
Colorado Ave, between Lincoln Blvd and 20th St	Hard	50	40	40	40	867	18	9	65.9	66.2
Colorado Ave, between 20th St and Cloverfield Blvd	Hard	50	40	40	40	1450	30	15	68.2	68.5
Colorado Ave, between Cloverfield Blvd and 26th St	Hard	50	40	40	40	1160	24	12	67.2	67.5

Model Notes:

The calculation is based on the methodology described in FHWA Traffic Noise Model Technical Manual (1998).
 The peak hour noise level at 50 feet was validated with the results from FHWA Traffic Noise Model Version 2.5.
 Accuracy of the calculation is within ±0.1 dB when comparing to TNM results.
 Noise propagation greater than 50 feet is based on the following assumptions:
 For hard ground, the propagation rate is 3 dB per doubling the distance.
 For soft ground, the propagation rate is 4.5 dB per doubling the distance.
 Vehicles are assumed to be on a long straight roadway with cruise speed.
 Roadway grade is less than 1.5%.
 CNEL levels were obtained based on Figure 2-19, on page 2-58 Caltrans TeNS 2013.

J-4 Future Baseline - 2042

TRAFFIC NOISE ANALYSIS TOOL



Project Name: St. Johns Medical Center Master Plan - Phase II
 Analysis Scenario: Future 2042
 Source of Traffic Volumes: Fehr & Peers

Roadway Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
20th St, between Montana Ave and Wilshire Blvd	Hard	30	35	35	35	592	12	6	64.9	65.2
20th St, between Wilshire Blvd and Arizona Ave	Hard	45	45	45	45	1023	21	11	68.6	68.9
20th St, between Arizona Ave and Santa Monica Blvd	Hard	45	45	45	45	1256	26	13	69.5	69.8
20th St, between Santa Monica Blvd and Broadway	Hard	50	45	45	45	1305	27	13	69.2	69.5
20th St, between Broadway and Colorado Ave	Hard	40	45	45	45	1678	35	17	71.2	71.5
20th St, between Colorado Ave and Olympic Blvd	Hard	55	45	45	45	1474	30	15	69.3	69.6
20th St, between Olympic Blvd and I-10 EB Off-Ramp	Hard	40	45	45	45	2202	45	23	72.4	72.7
20th St, between I-10 EB Off-Ramp and Delaware Ave	Hard	40	40	40	40	1343	28	14	68.8	69.1
20th St, between Delaware Ave and Pico Blvd	Hard	40	40	40	40	1353	28	14	68.8	69.1
21st St, between Santa Monica Boulevard and Broadway	Hard	30	35	35	35	29	1	0	51.8	52.1
23rd St, between Wilshire Blvd and Arizona Ave	Hard	40	40	40	40	369	8	4	63.2	63.5
23rd St, between Arizona Ave and Santa Monica Blvd	Hard	30	35	35	35	427	9	4	63.5	63.8
23rd St, between Santa Monica Blvd and Broadway	Hard	27	35	35	35	107	2	1	57.9	58.2
23rd St, between Pico Blvd and Ocean Park Blvd	Hard	30	35	35	35	616	13	6	65.1	65.4
Cloverfield Blvd, between Santa Monica Blvd and Broadway	Hard	35	40	40	40	1082	22	11	68.5	68.8
Cloverfield Blvd, between Broadway and Colorado Ave	Hard	45	40	40	40	1644	34	17	69.2	69.5
Cloverfield Blvd, between Colorado Ave and Olympic Blvd	Hard	60	40	40	40	2444	50	25	69.7	70.0
Cloverfield Blvd, between Olympic Blvd and Michigan Ave	Hard	50	40	40	40	2910	60	30	71.2	71.5
Cloverfield Blvd, between I-10 EB On-Ramp and Virginia Ave	Hard	50	40	40	40	1661	34	17	68.8	69.1
Cloverfield Blvd, between Virginia Ave and Pico Blvd	Hard	40	40	40	40	1597	33	16	69.6	69.9
Cloverfield Blvd, between Pico Blvd and Ocean Park Blvd	Hard	30	35	35	35	436	9	4	63.6	63.9
26th St, between San Vicente Blvd and Montana Ave	Hard	30	35	35	35	1039	21	11	67.4	67.7
26th St, between Montana Ave and Wilshire Blvd	Hard	30	35	35	35	1083	22	11	67.5	67.8
26th St, between Wilshire Blvd and Arizona Ave	Hard	30	35	35	35	1156	24	12	67.8	68.1
26th St, between Arizona Ave and Santa Monica Blvd	Hard	30	35	35	35	1235	25	13	68.1	68.4
26th St, between Santa Monica Blvd and Broadway	Hard	30	35	35	35	1215	25	12	68.0	68.3
26th St, between Broadway and Colorado Ave	Hard	30	35	35	35	1269	26	13	68.2	68.5
26th St, between Colorado Ave and Olympic Blvd	Hard	30	35	35	35	1504	31	15	69.0	69.3
Centinela Ave, between Wilshire Blvd and Santa Monica Blvd	Hard	35	35	35	35	583	12	6	64.2	64.5
Centinela Ave, between Santa Monica Blvd and Broadway	Hard	35	35	35	35	848	17	9	65.8	66.1
Centinela Ave, between Broadway and Olympic Blvd	Hard	35	35	35	35	1205	25	12	67.3	67.6
Centinela Ave, between Olympic Blvd and I-10 WB Ramp	Hard	35	35	35	35	1372	28	14	67.9	68.2
Bundy Dr, between Wilshire Blvd and Texas Ave	Hard	40	40	40	40	1735	35	18	69.9	70.2
Bundy Dr, between Texas Ave and Santa Monica Blvd	Hard	40	40	40	40	2038	42	21	70.6	70.9
Bundy Dr, between Santa Monica Blvd and Ohio Ave	Hard	40	40	40	40	2141	44	22	70.8	71.1
Bundy Dr, between Ohio Ave and Olympic Blvd	Hard	40	40	40	40	2710	55	28	71.9	72.2
Broadway, between Lincoln Blvd and 14th St	Hard	40	40	40	40	931	19	10	67.2	67.5
Broadway, between 14th St and 17 St	Hard	40	40	40	40	1039	21	11	67.7	68.0
Broadway, between 17th St and 20th St	Hard	40	40	40	40	1142	23	12	68.1	68.4
Broadway, between 20th St and 20th Pl	Hard	40	40	40	40	686	14	7	65.9	66.2
Broadway, between 20th Pl and 21st St	Hard	40	40	40	40	588	12	6	65.2	65.5
Broadway, between 21st St and Southeast Dwy	Hard	40	40	40	40	652	13	7	65.7	66.0
Broadway, between Southeast Dwy and 23rd St	Hard	40	40	40	40	686	14	7	65.9	66.2
Broadway, between 23rd St and Cloverfield Blvd	Hard	40	40	40	40	1455	30	15	69.2	69.5
Broadway, between Cloverfield Blvd and 26th St	Hard	40	40	40	40	853	17	9	66.8	67.1
Broadway, between 26th St and Centinela Ave	Hard	40	40	40	40	706	14	7	66.0	66.3
Santa Monica Blvd, between 14th St and 17th St	Hard	50	40	40	40	1661	34	17	68.8	69.1
Santa Monica Blvd, between 17th St and 20th St	Hard	50	40	40	40	1852	38	19	69.2	69.5
Santa Monica Blvd, between 20th St and West Dwy	Hard	50	40	40	40	911	19	9	66.2	66.5
Santa Monica Blvd, between East Dwy and 23rd St	Hard	50	40	40	40	1313	27	13	67.7	68.0
Santa Monica Blvd, between 23rd St and Cloverfield Blvd	Hard	50	40	40	40	2705	55	28	70.9	71.2
Santa Monica Blvd, between Cloverfield Blvd and 26th St	Hard	50	40	40	40	2019	41	21	69.6	69.9
Santa Monica Blvd, between 26th St and Yale St	Hard	50	40	40	40	2092	43	21	69.8	70.1
Santa Monica Blvd, between Yale St and Centinela Ave	Hard	50	40	40	40	2171	44	22	69.9	70.2
Wilshire Blvd, between 14 St and 17th St	Hard	50	40	40	40	2313	47	24	70.2	70.5
Wilshire Blvd, between 17th St and 20th St	Hard	50	40	40	40	2293	47	23	70.2	70.5
Wilshire Blvd, between 20th St and 23rd St	Hard	50	40	40	40	2489	51	25	70.5	70.8
Wilshire Blvd, between 23rd St and 26th St	Hard	50	40	40	40	2465	50	25	70.5	70.8
Wilshire Blvd, between 26th St and Yale St	Hard	50	40	40	40	2577	53	26	70.7	71.0
Wilshire Blvd, between Yale St and Berkeley St	Hard	50	40	40	40	2548	52	26	70.6	70.9
Arizona Ave, between 14 St and 17th St	Hard	40	40	40	40	412	8	4	63.7	64.0
Arizona Ave, between 17th St and 20th St	Hard	40	40	40	40	524	11	5	64.7	65.0
Arizona Ave, between 20th St and 21st St	Hard	40	40	40	40	696	14	7	66.0	66.3
Arizona Ave, between 21st St and 22nd St	Hard	40	40	40	40	652	13	7	65.7	66.0
Arizona Ave, between 22nd St and 23th St	Hard	40	40	40	40	603	12	6	65.3	65.6
Arizona Ave, between 23rd St and 26th St	Hard	40	40	40	40	573	12	6	65.1	65.4
Colorado Ave, between Lincoln Blvd and 20th St	Hard	50	40	40	40	975	20	10	66.4	66.7
Colorado Ave, between 20th St and Cloverfield Blvd	Hard	50	40	40	40	1725	35	18	68.9	69.2
Colorado Ave, between Cloverfield Blvd and 26th St	Hard	50	40	40	40	1191	24	12	67.3	67.6

Model Notes:

The calculation is based on the methodology described in FHWA Traffic Noise Model Technical Manual (1998).
 The peak hour noise level at 50 feet was validated with the results from FHWA Traffic Noise Model Version 2.5.
 Accuracy of the calculation is within ±0.1 dB when comparing to TNM results.
 Noise propagation greater than 50 feet is based on the following assumptions:
 For hard ground, the propagation rate is 3 dB per doubling the distance.
 For soft ground, the propagation rate is 4.5 dB per doubling the distance.
 Vehicles are assumed to be on a long straight roadway with cruise speed.
 Roadway grade is less than 1.5%.
 CNEL levels were obtained based on Figure 2-19, on page 2-58 Caltrans' TeNS 2013.

J-5 Future Baseline Plus Project (2042)

TRAFFIC NOISE ANALYSIS TOOL



Project Name: St. Johns Medical Center Master Plan - Phase II
 Analysis Scenario: Future 2042 with Project
 Source of Traffic Volumes: Fehr & Peers

Roadway Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
20th St, between Montana Ave and Wilshire Blvd	Hard	30	35	35	35	625	13	6	65.2	65.5
20th St, between Wilshire Blvd and Arizona Ave	Hard	45	45	45	45	1073	22	11	68.8	69.1
20th St, between Arizona Ave and Santa Monica Blvd	Hard	45	45	45	45	1318	27	14	69.7	70.0
20th St, between Santa Monica Blvd and Broadway	Hard	50	45	45	45	1383	29	14	69.4	69.7
20th St, between Broadway and Colorado Ave	Hard	40	45	45	45	1762	36	18	71.5	71.8
20th St, between Colorado Ave and Olympic Blvd	Hard	55	45	45	45	1556	32	16	69.5	69.8
20th St, between Olympic Blvd and I-10 EB Off-Ramp	Hard	40	45	45	45	2281	47	24	72.6	72.9
20th St, between I-10 EB Off-Ramp and Delaware Ave	Hard	40	40	40	40	1374	28	14	68.9	69.2
20th St, between Delaware Ave and Pico Blvd	Hard	40	40	40	40	1384	29	14	68.9	69.2
21st St, between Santa Monica Boulevard and Broadway	Hard	30	35	35	35	31	1	0	52.1	52.4
23rd St, between Wilshire Blvd and Arizona Ave	Hard	40	40	40	40	434	9	4	63.9	64.2
23rd St, between Arizona Ave and Santa Monica Blvd	Hard	30	35	35	35	524	11	5	64.4	64.7
23rd St, between Santa Monica Blvd and Broadway	Hard	27	35	35	35	114	2	1	58.2	58.5
23rd St, between Pico Blvd and Ocean Park Blvd	Hard	30	35	35	35	622	13	6	65.1	65.4
Cloverfield Blvd, between Santa Monica Blvd and Broadway	Hard	35	40	40	40	1307	27	13	69.3	69.6
Cloverfield Blvd, between Broadway and Colorado Ave	Hard	45	40	40	40	1813	37	19	69.6	69.9
Cloverfield Blvd, between Colorado Ave and Olympic Blvd	Hard	60	40	40	40	2549	53	26	69.8	70.1
Cloverfield Blvd, between Olympic Blvd and Michigan Ave	Hard	50	40	40	40	2991	62	31	71.3	71.6
Cloverfield Blvd, between I-10 EB On-Ramp and Virginia Ave	Hard	50	40	40	40	1703	35	17	68.9	69.2
Cloverfield Blvd, between Virginia Ave and Pico Blvd	Hard	40	40	40	40	1638	33	17	69.7	70.0
Cloverfield Blvd, between Pico Blvd and Ocean Park Blvd	Hard	30	35	35	35	452	9	5	63.7	64.0
26th St, between San Vicente Blvd and Montana Ave	Hard	30	35	35	35	1063	22	11	67.5	67.8
26th St, between Montana Ave and Wilshire Blvd	Hard	30	35	35	35	1119	23	11	67.7	68.0
26th St, between Wilshire Blvd and Arizona Ave	Hard	30	35	35	35	1178	24	12	67.9	68.2
26th St, between Arizona Ave and Santa Monica Blvd	Hard	30	35	35	35	1253	26	13	68.2	68.5
26th St, between Santa Monica Blvd and Broadway	Hard	30	35	35	35	1209	25	12	68.0	68.3
26th St, between Broadway and Colorado Ave	Hard	30	35	35	35	1255	26	13	68.2	68.5
26th St, between Colorado Ave and Olympic Blvd	Hard	30	35	35	35	1504	31	15	69.0	69.3
Centinela Ave, between Wilshire Blvd and Santa Monica Blvd	Hard	35	35	35	35	583	12	6	64.2	64.5
Centinela Ave, between Santa Monica Blvd and Broadway	Hard	35	35	35	35	899	18	9	66.1	66.4
Centinela Ave, between Broadway and Olympic Blvd	Hard	35	35	35	35	1257	26	13	67.5	67.8
Centinela Ave, between Olympic Blvd and I-10 WB Ramp	Hard	35	35	35	35	1391	28	14	68.0	68.3
Bundy Dr, between Wilshire Blvd and Texas Ave	Hard	40	40	40	40	1754	36	18	70.0	70.3
Bundy Dr, between Texas Ave and Santa Monica Blvd	Hard	40	40	40	40	2075	42	21	70.7	71.0
Bundy Dr, between Santa Monica Blvd and Ohio Ave	Hard	40	40	40	40	2193	45	22	70.9	71.2
Bundy Dr, between Ohio Ave and Olympic Blvd	Hard	40	40	40	40	2737	56	28	71.9	72.2
Broadway, between Lincoln Blvd and 14th St	Hard	40	40	40	40	938	19	10	67.2	67.5
Broadway, between 14th St and 17 St	Hard	40	40	40	40	1081	22	11	67.9	68.2
Broadway, between 17th St and 20th St	Hard	40	40	40	40	1169	24	12	68.2	68.5
Broadway, between 20th St and 20th Pl	Hard	40	40	40	40	702	14	7	66.0	66.3
Broadway, between 20th Pl and 21st St	Hard	40	40	40	40	573	12	6	65.1	65.4
Broadway, between 21st St and Southeast Dwy	Hard	40	40	40	40	646	13	7	65.6	65.9
Broadway, between Southeast Dwy and 23rd St	Hard	40	40	40	40	702	14	7	66.0	66.3
Broadway, between 23rd St and Cloverfield Blvd	Hard	40	40	40	40	1452	30	15	69.1	69.4
Broadway, between Cloverfield Blvd and 26th St	Hard	40	40	40	40	885	18	9	67.0	67.3
Broadway, between 26th St and Centinela Ave	Hard	40	40	40	40	730	15	7	66.2	66.5
Santa Monica Blvd, between 14th St and 17th St	Hard	50	40	40	40	1731	35	18	68.9	69.2
Santa Monica Blvd, between 17th St and 20th St	Hard	50	40	40	40	1934	39	20	69.4	69.7
Santa Monica Blvd, between 20th St and West Dwy	Hard	50	40	40	40	1016	21	10	66.6	66.9
Santa Monica Blvd, between East Dwy and 23rd St	Hard	50	40	40	40	1643	34	17	68.7	69.0
Santa Monica Blvd, between 23rd St and Cloverfield Blvd	Hard	50	40	40	40	3192	65	33	71.6	71.9
Santa Monica Blvd, between Cloverfield Blvd and 26th St	Hard	50	40	40	40	2232	46	23	70.0	70.3
Santa Monica Blvd, between 26th St and Yale St	Hard	50	40	40	40	2282	47	23	70.1	70.4
Santa Monica Blvd, between Yale St and Centinela Ave	Hard	50	40	40	40	2361	48	24	70.3	70.6
Wilshire Blvd, between 14 St and 17th St	Hard	50	40	40	40	2316	47	24	70.2	70.5
Wilshire Blvd, between 17th St and 20th St	Hard	50	40	40	40	2297	47	23	70.2	70.5
Wilshire Blvd, between 20th St and 23rd St	Hard	50	40	40	40	2503	51	26	70.5	70.8
Wilshire Blvd, between 23rd St and 26th St	Hard	50	40	40	40	2529	52	26	70.6	70.9
Wilshire Blvd, between 26th St and Yale St	Hard	50	40	40	40	2630	54	27	70.8	71.1
Wilshire Blvd, between Yale St and Berkeley St	Hard	50	40	40	40	2600	53	27	70.7	71.0
Arizona Ave, between 14 St and 17th St	Hard	40	40	40	40	439	9	4	63.9	64.2
Arizona Ave, between 17th St and 20th St	Hard	40	40	40	40	552	11	6	64.9	65.2
Arizona Ave, between 20th St and 21st St	Hard	40	40	40	40	748	15	8	66.3	66.6
Arizona Ave, between 21st St and 22nd St	Hard	40	40	40	40	710	14	7	66.0	66.3
Arizona Ave, between 22nd St and 23th St	Hard	40	40	40	40	656	13	7	65.7	66.0
Arizona Ave, between 23rd St and 26th St	Hard	40	40	40	40	587	12	6	65.2	65.5
Colorado Ave, between Lincoln Blvd and 20th St	Hard	50	40	40	40	975	20	10	66.4	66.7
Colorado Ave, between 20th St and Cloverfield Blvd	Hard	50	40	40	40	1725	35	18	68.9	69.2
Colorado Ave, between Cloverfield Blvd and 26th St	Hard	50	40	40	40	1209	25	12	67.4	67.7

Model Notes:

The calculation is based on the methodology described in FHWA Traffic Noise Model Technical Manual (1998).
 The peak hour noise level at 50 feet was validated with the results from FHWA Traffic Noise Model Version 2.5.
 Accuracy of the calculation is within ±0.1 dB when comparing to TNM results.
 Noise propagation greater than 50 feet is based on the following assumptions:
 For hard ground, the propagation rate is 3 dB per doubling the distance.
 For soft ground, the propagation rate is 4.5 dB per doubling the distance.
 Vehicles are assumed to be on a long straight roadway with cruise speed.
 Roadway grade is less than 1.5%.
 CNEL levels were obtained based on Figure 2-19, on page 2-58 Caltran's TeNS 2013.

J-6 Construction Noise Model

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan A

S2 Multi-Family Housing

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R1					R2					R3				
				Estimated Noise Shielding, dBA					Estimated Noise Shielding, dBA					Estimated Noise Shielding, dBA				
				Distance (ft)	Lmax	Leq	L10		Distance (ft)	Lmax	Leq	L10		Distance (ft)	Lmax	Leq	L10	
Demolition				46	45			48	47			59	57					
Air Compressor	1	78	50%	1100	36	33	36	15	860	38	35	38	15	840	48	45	48	5
Backhoe	1	80	40%	1150	38	34	37	15	910	40	36	39	15	890	50	46	49	5
Dumpers/Tenders	2	76	20%	1200	36	29	32	15	960	38	31	34	15	940	49	42	45	5
Excavator	2	81	40%	1200	41	37	40	15	960	43	39	42	15	940	54	50	53	5
Forklift	1	75	10%	1200	32	22	25	15	960	34	24	27	15	940	45	35	38	5
Generator Sets	1	81	50%	1200	38	35	38	15	960	40	37	40	15	940	51	48	51	5
Haul Trucks	8	76	20%	1200	42	35	38	15	960	44	37	40	15	940	55	48	51	5
Jackhammer	1	89	20%	1200	46	39	42	15	960	48	41	44	15	940	59	52	55	5
Loader	1	79	50%	1200	36	33	36	15	960	38	35	38	15	940	49	46	49	5
Grading/Excavation				53	48				55	50			66	61				
Air Compressor	1	78	50%	1100	36	33	36	15	860	38	35	38	15	840	48	45	48	5
Backhoe	1	80	40%	1150	38	34	37	15	910	40	36	39	15	890	50	46	49	5
Bore/Drill Rig	1	79	20%	1200	36	29	32	15	960	38	31	34	15	940	49	42	45	5
Compactor (Ground)	1	83	20%	1200	40	33	36	15	960	42	35	38	15	940	53	46	49	5
Dumpers/Tenders	2	76	20%	1200	36	29	32	15	960	38	31	34	15	940	49	42	45	5
Excavator	2	81	40%	1200	41	37	40	15	960	43	39	42	15	940	54	50	53	5
Forklift	1	75	10%	1200	32	22	25	15	960	34	24	27	15	940	45	35	38	5
Generator Sets	1	81	50%	1200	38	35	38	15	960	40	37	40	15	940	51	48	51	5
Haul Trucks	10	76	20%	1200	43	36	39	15	960	45	38	41	15	940	56	49	52	5
Loader	1	79	50%	1200	36	33	36	15	960	38	35	38	15	940	49	46	49	5
Pile Driver (Vibratory)	1	96	20%	1200	53	46	49	15	960	55	48	51	15	940	66	59	62	5
Vacuum Street Sweeper	1	82	10%	1200	39	29	32	15	960	41	31	34	15	940	52	42	45	5
Water Trucks	1	80	10%	1200	37	27	30	15	960	39	29	32	15	940	50	40	43	5
Foundation/Concrete Pour				42	42				44	44			55	55				
Air Compressor	1	78	50%	1100	36	33	36	15	860	38	35	38	15	840	48	45	48	5
Compactor (Ground)	1	83	20%	1150	41	34	37	15	910	43	36	39	15	890	53	46	49	5
Dumpers/Tenders	2	76	20%	1200	36	29	32	15	960	38	31	34	15	940	49	42	45	5
Forklift	1	75	10%	1200	32	22	25	15	960	34	24	27	15	940	45	35	38	5
Generator Sets	1	81	50%	1200	38	35	38	15	960	40	37	40	15	940	51	48	51	5
Trenchers	1	85	50%	1200	42	39	42	15	960	44	41	44	15	940	55	52	55	5
Building Construction				39	41				41	43			52	53				
Air Compressor	2	78	50%	1100	39	36	39	15	860	41	38	41	15	840	52	48	51	5
Cranes	1	81	40%	1150	39	35	38	15	910	41	37	40	15	890	51	47	50	5
Dumpers/Tenders	3	76	20%	1200	38	31	34	15	960	40	33	36	15	940	50	43	46	5
Forklift	1	75	10%	1200	32	22	25	15	960	34	24	27	15	940	45	35	38	5
Generator Sets	1	81	50%	1200	38	35	38	15	960	40	37	40	15	940	51	48	51	5
Paving				48	41				50	43			60	54				
Paver	1	77	50%	1100	35	32	35	15	860	37	34	37	15	840	47	44	47	5
Pavement Scarifier	1	90	20%	1150	48	41	44	15	910	50	43	46	15	890	60	53	56	5
Architectural Coating				39	41				41	43			52	53				
Air Compressor	2	78	50%	1100	39	36	39	15	860	41	38	41	15	840	52	48	51	5
Cranes	1	81	40%	1150	39	35	38	15	910	41	37	40	15	890	51	47	50	5
Dumpers/Tenders	3	76	20%	1200	38	31	34	15	960	40	33	36	15	940	50	43	46	5
Forklift	1	75	10%	1200	32	22	25	15	960	34	24	27	15	940	45	35	38	5
Generator Sets	1	81	50%	1200	38	35	38	15	960	40	37	40	15	940	51	48	51	5

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan A

S2 Multi-Family Housing

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R4					R5					R6				
				Estimated Noise Shielding, dBA					Estimated Noise Shielding, dBA					Estimated Noise Shielding, dBA				
				Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA
Demolition				60	58				52	51				50	49			
Air Compressor	1	78	50%	360	51	48	51	10	500	43	40	43	15	650	41	38	41	15
Backhoe	1	80	40%	410	52	48	51	10	550	44	40	43	15	700	42	38	41	15
Dumpers/Tenders	2	76	20%	460	50	43	46	10	600	42	35	38	15	750	40	33	36	15
Excavator	2	81	40%	460	55	51	54	10	600	47	43	46	15	750	45	42	45	15
Forklift	1	75	10%	460	46	36	39	10	600	38	28	31	15	750	36	26	29	15
Generator Sets	1	81	50%	460	52	49	52	10	600	44	41	44	15	750	42	39	42	15
Haul Trucks	8	76	20%	460	56	49	52	10	600	48	41	44	15	750	47	40	43	15
Jackhammer	1	89	20%	460	60	53	56	10	600	52	45	48	15	750	50	43	46	15
Loader	1	79	50%	460	50	47	50	10	600	42	39	42	15	750	40	37	40	15
Grading/Excavation				67	62				59	54				57	53			
Air Compressor	1	78	50%	360	51	48	51	10	500	43	40	43	15	650	41	38	41	15
Backhoe	1	80	40%	410	52	48	51	10	550	44	40	43	15	700	42	38	41	15
Bore/Drill Rig	1	79	20%	460	50	43	46	10	600	42	35	38	15	750	40	33	36	15
Compactor (Ground)	1	83	20%	460	54	47	50	10	600	46	39	42	15	750	44	37	40	15
Dumpers/Tenders	2	76	20%	460	50	43	46	10	600	42	35	38	15	750	40	33	36	15
Excavator	2	81	40%	460	55	51	54	10	600	47	43	46	15	750	45	42	45	15
Forklift	1	75	10%	460	46	36	39	10	600	38	28	31	15	750	36	26	29	15
Generator Sets	1	81	50%	460	52	49	52	10	600	44	41	44	15	750	42	39	42	15
Haul Trucks	10	76	20%	460	57	50	53	10	600	49	42	45	15	750	47	40	43	15
Loader	1	79	50%	460	50	47	50	10	600	42	39	42	15	750	40	37	40	15
Pile Driver (Vibratory)	1	96	20%	460	67	60	63	10	600	59	52	55	15	750	57	50	53	15
Vacuum Street Sweeper	1	82	10%	460	53	43	46	10	600	45	35	38	15	750	43	33	36	15
Water Trucks	1	80	10%	460	51	41	44	10	600	43	33	36	15	750	41	31	34	15
Foundation/Concrete Pour				56	56				48	49				46	47			
Air Compressor	1	78	50%	360	51	48	51	10	500	43	40	43	15	650	41	38	41	15
Compactor (Ground)	1	83	20%	410	55	48	51	10	550	47	40	43	15	700	45	38	41	15
Dumpers/Tenders	2	76	20%	460	50	43	46	10	600	42	35	38	15	750	40	33	36	15
Forklift	1	75	10%	460	46	36	39	10	600	38	28	31	15	750	36	26	29	15
Generator Sets	1	81	50%	460	52	49	52	10	600	44	41	44	15	750	42	39	42	15
Trenchers	1	85	50%	460	56	53	56	10	600	48	45	48	15	750	46	43	46	15
Building Construction				54	55				46	47				44	45			
Air Compressor	2	78	50%	360	54	51	54	10	500	46	43	46	15	650	44	41	44	15
Cranes	1	81	40%	410	53	49	52	10	550	45	41	44	15	700	43	39	42	15
Dumpers/Tenders	3	76	20%	460	51	45	48	10	600	44	37	40	15	750	42	35	38	15
Forklift	1	75	10%	460	46	36	39	10	600	38	28	31	15	750	36	26	29	15
Generator Sets	1	81	50%	460	52	49	52	10	600	44	41	44	15	750	42	39	42	15
Paving				62	55				54	48				52	46			
Paver	1	77	50%	360	50	47	50	10	500	42	39	42	15	650	40	37	40	15
Pavement Scarifier	1	90	20%	410	62	55	58	10	550	54	47	50	15	700	52	45	48	15
Architectural Coating				54	55				46	47				44	45			
Air Compressor	2	78	50%	360	54	51	54	10	500	46	43	46	15	650	44	41	44	15
Cranes	1	81	40%	410	53	49	52	10	550	45	41	44	15	700	43	39	42	15
Dumpers/Tenders	3	76	20%	460	51	45	48	10	600	44	37	40	15	750	42	35	38	15
Forklift	1	75	10%	460	46	36	39	10	600	38	28	31	15	750	36	26	29	15
Generator Sets	1	81	50%	460	52	49	52	10	600	44	41	44	15	750	42	39	42	15

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan A

S2 Multi-Family Housing

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R7					R8					R9					
				Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L11	Estimate d Noise Shielding , dBA	
Demolition				46	44					45	43				74	73			
Air Compressor	1	78	50%	1200	35	32	35	15	1300	35	32	35	15	170	67	64	67	0	
Backhoe	1	80	40%	1250	37	33	36	15	1350	36	32	35	15	220	67	63	66	0	
Dumpers/Tenders	2	76	20%	1300	36	29	32	15	1400	35	28	31	15	270	64	57	60	0	
Excavator	2	81	40%	1300	41	37	40	15	1400	40	36	39	15	270	69	65	68	0	
Forklift	1	75	10%	1300	32	22	25	15	1400	31	21	24	15	270	60	50	53	0	
Generator Sets	1	81	50%	1300	38	35	38	15	1400	37	34	37	15	270	66	63	66	0	
Haul Trucks	8	76	20%	1300	42	35	38	15	1400	41	34	37	15	270	70	63	66	0	
Jackhammer	1	89	20%	1300	46	39	42	15	1400	45	38	41	15	270	74	67	70	0	
Loader	1	79	50%	1300	36	33	36	15	1400	35	32	35	15	270	64	61	64	0	
Grading/Excavation				53	48				52	47				81	77				
Air Compressor	1	78	50%	1200	35	32	35	15	1300	35	32	35	15	170	67	64	67	0	
Backhoe	1	80	40%	1250	37	33	36	15	1350	36	32	35	15	220	67	63	66	0	
Bore/Drill Rig	1	79	20%	1300	36	29	32	15	1400	35	28	31	15	270	64	57	60	0	
Compactor (Ground)	1	83	20%	1300	40	33	36	15	1400	39	32	35	15	270	68	61	64	0	
Dumpers/Tenders	2	76	20%	1300	36	29	32	15	1400	35	28	31	15	270	64	57	60	0	
Excavator	2	81	40%	1300	41	37	40	15	1400	40	36	39	15	270	69	65	68	0	
Forklift	1	75	10%	1300	32	22	25	15	1400	31	21	24	15	270	60	50	53	0	
Generator Sets	1	81	50%	1300	38	35	38	15	1400	37	34	37	15	270	66	63	66	0	
Haul Trucks	10	76	20%	1300	43	36	39	15	1400	42	35	38	15	270	71	64	67	0	
Loader	1	79	50%	1300	36	33	36	15	1400	35	32	35	15	270	64	61	64	0	
Pile Driver (Vibratory)	1	96	20%	1300	53	46	49	15	1400	52	45	48	15	270	81	74	77	0	
Vacuum Street Sweeper	1	82	10%	1300	39	29	32	15	1400	38	28	31	15	270	67	57	60	0	
Water Trucks	1	80	10%	1300	37	27	30	15	1400	36	26	29	15	270	65	55	58	0	
Foundation/Concrete Pour				42	42				41	41				70	71				
Air Compressor	1	78	50%	1200	35	32	35	15	1300	35	32	35	15	170	67	64	67	0	
Compactor (Ground)	1	83	20%	1250	40	33	36	15	1350	39	32	35	15	220	70	63	66	0	
Dumpers/Tenders	2	76	20%	1300	36	29	32	15	1400	35	28	31	15	270	64	57	60	0	
Forklift	1	75	10%	1300	32	22	25	15	1400	31	21	24	15	270	60	50	53	0	
Generator Sets	1	81	50%	1300	38	35	38	15	1400	37	34	37	15	270	66	63	66	0	
Trenchers	1	85	50%	1300	42	39	42	15	1400	41	38	41	15	270	70	67	70	0	
Building Construction				38	40				38	39				70	70				
Air Compressor	2	78	50%	1200	38	35	38	15	1300	38	35	38	15	170	70	67	70	0	
Cranes	1	81	40%	1250	38	34	37	15	1350	37	33	36	15	220	68	64	67	0	
Dumpers/Tenders	3	76	20%	1300	37	30	33	15	1400	37	30	33	15	270	66	59	62	0	
Forklift	1	75	10%	1300	32	22	25	15	1400	31	21	24	15	270	60	50	53	0	
Generator Sets	1	81	50%	1300	38	35	38	15	1400	37	34	37	15	270	66	63	66	0	
Paving				47	41				46	40				77	71				
Paver	1	77	50%	1200	34	31	34	15	1300	34	31	34	15	170	66	63	66	0	
Pavement Scarifier	1	90	20%	1250	47	40	43	15	1350	46	39	42	15	220	77	70	73	0	
Architectural Coating				38	40				38	39				70	70				
Air Compressor	2	78	50%	1200	38	35	38	15	1300	38	35	38	15	170	70	67	70	0	
Cranes	1	81	40%	1250	38	34	37	15	1350	37	33	36	15	220	68	64	67	0	
Dumpers/Tenders	3	76	20%	1300	37	30	33	15	1400	37	30	33	15	270	66	59	62	0	
Forklift	1	75	10%	1300	32	22	25	15	1400	31	21	24	15	270	60	50	53	0	
Generator Sets	1	81	50%	1300	38	35	38	15	1400	37	34	37	15	270	66	63	66	0	

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project

Construction Noise Impact on Sensitive Receptors



Phasing Plan A

S1 Child & Family Development Center

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R1					R2					R3					
				Estimated Noise					Estimated Noise					Estimated Noise					
				Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	
Demolition				49	49					54	53				64	64			
Air Compressor	2	78	50%	750	42	39	42	15	400	48	45	48	15	380	58	55	58	5	
Backhoe	2	80	40%	800	44	40	43	15	450	49	45	48	15	430	59	55	58	5	
Dumpers/Tenders	2	76	20%	850	39	32	35	15	500	44	37	40	15	480	54	47	50	5	
Excavator	2	81	40%	850	44	40	43	15	500	49	45	48	15	480	59	55	58	5	
Forklift	1	75	10%	850	35	25	28	15	500	40	30	33	15	480	50	40	43	5	
Generator Sets	1	81	50%	850	41	38	41	15	500	46	43	46	15	480	56	53	56	5	
Haul Trucks	8	76	20%	850	45	38	41	15	500	50	43	46	15	480	60	53	56	5	
Jackhammer	1	89	20%	850	49	42	45	15	500	54	47	50	15	480	64	57	60	5	
Loader	2	79	50%	850	42	39	42	15	500	47	44	47	15	480	57	54	57	5	
Grading/Excavation				56	52				61	57				71	67				
Air Compressor	1	78	50%	750	39	36	39	15	400	45	42	45	15	380	55	52	55	5	
Backhoe	2	80	40%	800	44	40	43	15	450	49	45	48	15	430	59	55	58	5	
Bore/Drill Rig	1	79	20%	850	39	32	35	15	500	44	37	40	15	480	54	47	50	5	
Compactor (Ground)	2	83	20%	850	46	39	42	15	500	51	44	47	15	480	61	54	57	5	
Dumpers/Tenders	2	76	20%	850	39	32	35	15	500	44	37	40	15	480	54	47	50	5	
Excavator	3	81	40%	850	46	42	45	15	500	51	47	50	15	480	61	57	60	5	
Forklift	1	75	10%	850	35	25	28	15	500	40	30	33	15	480	50	40	43	5	
Generator Sets	1	81	50%	850	41	38	41	15	500	46	43	46	15	480	56	53	56	5	
Haul Trucks	10	76	20%	850	46	39	42	15	500	51	44	47	15	480	61	54	57	5	
Loader	2	79	50%	850	42	39	42	15	500	47	44	47	15	480	57	54	57	5	
Pile Driver (Vibratory)	1	96	20%	850	56	49	52	15	500	61	54	57	15	480	71	64	67	5	
Vacuum Street Sweeper	1	82	10%	850	42	32	35	15	500	47	37	40	15	480	57	47	50	5	
Water Trucks	1	80	10%	850	40	30	33	15	500	45	35	38	15	480	55	45	48	5	
Foundation/Concrete Pour				45	47				50	52				60	62				
Air Compressor	1	78	50%	750	39	36	39	15	400	45	42	45	15	380	55	52	55	5	
Compactor (Ground)	1	83	20%	800	44	37	40	15	450	49	42	45	15	430	59	52	55	5	
Dumpers/Tenders	2	76	20%	850	39	32	35	15	500	44	37	40	15	480	54	47	50	5	
Forklift	1	75	10%	850	35	25	28	15	500	40	30	33	15	480	50	40	43	5	
Generator Sets	1	81	50%	850	41	38	41	15	500	46	43	46	15	480	56	53	56	5	
Pumps	2	81	50%	850	44	41	44	15	500	49	46	49	15	480	59	56	59	5	
Trenchers	1	85	50%	850	45	42	45	15	500	50	47	50	15	480	60	57	60	5	
Building Construction				42	44				48	49				58	59				
Air Compressor	2	78	50%	750	42	39	42	15	400	48	45	48	15	380	58	55	58	5	
Cranes	1	81	40%	800	42	38	41	15	450	47	43	46	15	430	57	53	56	5	
Dumpers/Tenders	3	76	20%	850	41	34	37	15	500	46	39	42	15	480	56	49	52	5	
Forklift	1	75	10%	850	35	25	28	15	500	40	30	33	15	480	50	40	43	5	
Generator Sets	1	81	50%	850	41	38	41	15	500	46	43	46	15	480	56	53	56	5	
Paving				51	45				56	50				66	60				
Paver	1	77	50%	750	38	35	38	15	400	44	41	44	15	380	54	51	54	5	
Pavement Scarifier	1	90	20%	800	51	44	47	15	450	56	49	52	15	430	66	59	62	5	
Architectural Coating				42	44				48	49				58	59				
Air Compressor	2	78	50%	750	42	39	42	15	400	48	45	48	15	380	58	55	58	5	
Cranes	1	81	40%	800	42	38	41	15	450	47	43	46	15	430	57	53	56	5	
Dumpers/Tenders	3	76	20%	850	41	34	37	15	500	46	39	42	15	480	56	49	52	5	
Forklift	1	75	10%	850	35	25	28	15	500	40	30	33	15	480	50	40	43	5	
Generator Sets	1	81	50%	850	41	38	41	15	500	46	43	46	15	480	56	53	56	5	

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project

Construction Noise Impact on Sensitive Receptors



Phasing Plan A

S1 Child & Family Development Center

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R4					R5					R6					
				Estimated Noise					Estimated Noise					Estimated Noise					
				Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	
Demolition					57	56					48	47				49	48		
Air Compressor	2	78	50%	530	51	47	50	10	880	41	38	41	15	815	42	39	42	15	
Backhoe	2	80	40%	580	52	48	51	10	930	43	39	42	15	865	43	39	42	15	
Dumpers/Tenders	2	76	20%	630	47	40	43	10	980	38	31	34	15	915	39	32	35	15	
Excavator	2	81	40%	630	52	48	51	10	980	43	39	42	15	915	44	40	43	15	
Forklift	1	75	10%	630	43	33	36	10	980	34	24	27	15	915	35	25	28	15	
Generator Sets	1	81	50%	630	49	46	49	10	980	40	37	40	15	915	41	38	41	15	
Haul Trucks	8	76	20%	630	53	46	49	10	980	44	37	40	15	915	45	38	41	15	
Jackhammer	1	89	20%	630	57	50	53	10	980	48	41	44	15	915	49	42	45	15	
Loader	2	79	50%	630	50	47	50	10	980	41	38	41	15	915	42	39	42	15	
Grading/Excavation					64	60				55	51				56	51			
Air Compressor	1	78	50%	530	47	44	47	10	880	38	35	38	15	815	39	36	39	15	
Backhoe	2	80	40%	580	52	48	51	10	930	43	39	42	15	865	43	39	42	15	
Bore/Drill Rig	1	79	20%	630	47	40	43	10	980	38	31	34	15	915	39	32	35	15	
Compactor (Ground)	2	83	20%	630	54	47	50	10	980	45	38	41	15	915	46	39	42	15	
Dumpers/Tenders	2	76	20%	630	47	40	43	10	980	38	31	34	15	915	39	32	35	15	
Excavator	3	81	40%	630	54	50	53	10	980	45	41	44	15	915	46	42	45	15	
Forklift	1	75	10%	630	43	33	36	10	980	34	24	27	15	915	35	25	28	15	
Generator Sets	1	81	50%	630	49	46	49	10	980	40	37	40	15	915	41	38	41	15	
Haul Trucks	10	76	20%	630	54	47	50	10	980	45	38	41	15	915	46	39	42	15	
Loader	2	79	50%	630	50	47	50	10	980	41	38	41	15	915	42	39	42	15	
Pile Driver (Vibratory)	1	96	20%	630	64	57	60	10	980	55	48	51	15	915	56	49	52	15	
Vacuum Street Sweeper	1	82	10%	630	50	40	43	10	980	41	31	34	15	915	42	32	35	15	
Water Trucks	1	80	10%	630	48	38	41	10	980	39	29	32	15	915	40	30	33	15	
Foundation/Concrete Pour					53	55				44	46				45	46			
Air Compressor	1	78	50%	530	47	44	47	10	880	38	35	38	15	815	39	36	39	15	
Compactor (Ground)	1	83	20%	580	52	45	48	10	930	43	36	39	15	865	43	36	39	15	
Dumpers/Tenders	2	76	20%	630	47	40	43	10	980	38	31	34	15	915	39	32	35	15	
Forklift	1	75	10%	630	43	33	36	10	980	34	24	27	15	915	35	25	28	15	
Generator Sets	1	81	50%	630	49	46	49	10	980	40	37	40	15	915	41	38	41	15	
Pumps	2	81	50%	630	52	49	52	10	980	43	40	43	15	915	44	41	44	15	
Trenchers	1	85	50%	630	53	50	53	10	980	44	41	44	15	915	45	42	45	15	
Building Construction					51	52				41	43				42	43			
Air Compressor	2	78	50%	530	51	47	50	10	880	41	38	41	15	815	42	39	42	15	
Cranes	1	81	40%	580	50	46	49	10	930	41	37	40	15	865	41	37	40	15	
Dumpers/Tenders	3	76	20%	630	49	42	45	10	980	40	33	36	15	915	41	34	37	15	
Forklift	1	75	10%	630	43	33	36	10	980	34	24	27	15	915	35	25	28	15	
Generator Sets	1	81	50%	630	49	46	49	10	980	40	37	40	15	915	41	38	41	15	
Paving					59	52				50	43				50	44			
Paver	1	77	50%	530	46	43	46	10	880	37	34	37	15	815	38	35	38	15	
Pavement Scarifier	1	90	20%	580	59	52	55	10	930	50	43	46	15	865	50	43	46	15	
Architectural Coating					51	52				41	43				42	43			
Air Compressor	2	78	50%	530	51	47	50	10	880	41	38	41	15	815	42	39	42	15	
Cranes	1	81	40%	580	50	46	49	10	930	41	37	40	15	865	41	37	40	15	
Dumpers/Tenders	3	76	20%	630	49	42	45	10	980	40	33	36	15	915	41	34	37	15	
Forklift	1	75	10%	630	43	33	36	10	980	34	24	27	15	915	35	25	28	15	
Generator Sets	1	81	50%	630	49	46	49	10	980	40	37	40	15	915	41	38	41	15	

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project

Construction Noise Impact on Sensitive Receptors



Phasing Plan A

S1 Child & Family Development Center

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leg to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R7					R8					R9						
				Distance (ft)	Lmax	Leg	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leg	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leg	L11	Estimate d Noise Shielding , dBA		
Demolition					45	44					46	46					79	80		
Air Compressor	2	78	50%	1300	38	35	38	15	1100	39	36	39	15	65	79	76	79	0		
Backhoe	2	80	40%	1350	39	35	38	15	1150	41	37	40	15	115	76	72	75	0		
Dumpers/Tenders	2	76	20%	1400	35	28	31	15	1200	36	29	32	15	165	69	62	65	0		
Excavator	2	81	40%	1400	40	36	39	15	1200	41	37	40	15	165	74	70	73	0		
Forklift	1	75	10%	1400	31	21	24	15	1200	32	22	25	15	165	65	55	58	0		
Generator Sets	1	81	50%	1400	37	34	37	15	1200	38	35	38	15	165	71	68	71	0		
Haul Trucks	8	76	20%	1400	41	34	37	15	1200	42	35	38	15	165	75	68	71	0		
Jackhammer	1	89	20%	1400	45	38	41	15	1200	46	39	42	15	165	79	72	75	0		
Loader	2	79	50%	1400	38	35	38	15	1200	39	36	39	15	165	72	69	72	0		
Grading/Excavation					52	48				53	49				86	82				
Air Compressor	1	78	50%	1300	35	32	35	15	1100	36	33	36	15	65	76	73	76	0		
Backhoe	2	80	40%	1350	39	35	38	15	1150	41	37	40	15	115	76	72	75	0		
Bore/Drill Rig	1	79	20%	1400	35	28	31	15	1200	36	29	32	15	165	69	62	65	0		
Compactor (Ground)	2	83	20%	1400	42	35	38	15	1200	43	36	39	15	165	76	69	72	0		
Dumpers/Tenders	2	76	20%	1400	35	28	31	15	1200	36	29	32	15	165	69	62	65	0		
Excavator	3	81	40%	1400	42	38	41	15	1200	43	39	42	15	165	75	71	74	0		
Forklift	1	75	10%	1400	31	21	24	15	1200	32	22	25	15	165	65	55	58	0		
Generator Sets	1	81	50%	1400	37	34	37	15	1200	38	35	38	15	165	71	68	71	0		
Haul Trucks	10	76	20%	1400	42	35	38	15	1200	43	36	39	15	165	76	69	72	0		
Loader	2	79	50%	1400	38	35	38	15	1200	39	36	39	15	165	72	69	72	0		
Pile Driver (Vibratory)	1	96	20%	1400	52	45	48	15	1200	53	46	49	15	165	86	79	82	0		
Vacuum Street Sweeper	1	82	10%	1400	38	28	31	15	1200	39	29	32	15	165	72	62	65	0		
Water Trucks	1	80	10%	1400	36	26	29	15	1200	37	27	30	15	165	70	60	63	0		
Foundation/Concrete Pour					41	43				42	44				76	78				
Air Compressor	1	78	50%	1300	35	32	35	15	1100	36	33	36	15	65	76	73	76	0		
Compactor (Ground)	1	83	20%	1350	39	32	35	15	1150	41	34	37	15	115	76	69	72	0		
Dumpers/Tenders	2	76	20%	1400	35	28	31	15	1200	36	29	32	15	165	69	62	65	0		
Forklift	1	75	10%	1400	31	21	24	15	1200	32	22	25	15	165	65	55	58	0		
Generator Sets	1	81	50%	1400	37	34	37	15	1200	38	35	38	15	165	71	68	71	0		
Pumps	2	81	50%	1400	40	37	40	15	1200	41	38	41	15	165	74	71	74	0		
Trenchers	1	85	50%	1400	41	38	41	15	1200	42	39	42	15	165	75	72	75	0		
Building Construction					38	39				39	41				79	77				
Air Compressor	2	78	50%	1300	38	35	38	15	1100	39	36	39	15	65	79	76	79	0		
Cranes	1	81	40%	1350	37	33	36	15	1150	39	35	38	15	115	74	70	73	0		
Dumpers/Tenders	3	76	20%	1400	37	30	33	15	1200	38	31	34	15	165	70	63	66	0		
Forklift	1	75	10%	1400	31	21	24	15	1200	32	22	25	15	165	65	55	58	0		
Generator Sets	1	81	50%	1400	37	34	37	15	1200	38	35	38	15	165	71	68	71	0		
Paving					46	40				48	41				83	77				
Paver	1	77	50%	1300	44	31	34	15	1100	35	32	35	15	65	75	72	75	0		
Pavement Scarifier	1	90	20%	1350	46	39	42	15	1150	48	41	44	15	115	83	76	79	0		
Architectural Coating					38	39				39	41				79	77				
Air Compressor	2	78	50%	1300	38	35	38	15	1100	39	36	39	15	65	79	76	79	0		
Cranes	1	81	40%	1350	37	33	36	15	1150	39	35	38	15	115	74	70	73	0		
Dumpers/Tenders	3	76	20%	1400	37	30	33	15	1200	38	31	34	15	165	70	63	66	0		
Forklift	1	75	10%	1400	31	21	24	15	1200	32	22	25	15	165	65	55	58	0		
Generator Sets	1	81	50%	1400	37	34	37	15	1200	38	35	38	15	165	71	68	71	0		

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project

Construction Noise Impact on Sensitive Receptors



Phasing Plan A

S3 West Ambulatory Care & Research Building

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R1					R2					R3				
				Estimated Noise					Estimated Noise					Estimated Noise				
				Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA
Demolition				53	52					59	59				52	52		
Air Compressor	2	78	50%	460	47	44	47	15	380	53	50	53	10	500	46	43	46	15
Backhoe	2	80	40%	510	48	44	47	15	430	54	50	53	10	550	47	43	46	15
Dumpers/Tenders	2	76	20%	560	43	36	39	15	480	49	42	45	10	600	42	35	38	15
Excavator	2	81	40%	560	48	44	47	15	480	54	50	53	10	600	47	43	46	15
Forklift	1	75	10%	560	39	29	32	15	480	45	35	38	10	600	38	28	31	15
Generator Sets	1	81	50%	560	45	42	45	15	480	51	48	51	10	600	44	41	44	15
Haul Trucks	8	76	20%	560	49	42	45	15	480	55	48	51	10	600	48	41	44	15
Jackhammer	1	89	20%	560	53	46	49	15	480	59	52	55	10	600	52	45	48	15
Loader	2	79	50%	560	46	43	46	15	480	52	49	52	10	600	45	42	45	15
Grading/Excavation				60	56				66	62				59	55			
Air Compressor	1	78	50%	460	44	41	44	15	380	50	47	50	10	500	43	40	43	15
Backhoe	2	80	40%	510	48	44	47	15	430	54	50	53	10	550	47	43	46	15
Bore/Drill Rig	1	79	20%	560	43	36	39	15	480	49	42	45	10	600	42	35	38	15
Compactor (Ground)	2	83	20%	560	50	43	46	15	480	56	49	52	10	600	49	42	45	15
Dumpers/Tenders	2	76	20%	560	43	36	39	15	480	49	42	45	10	600	42	35	38	15
Excavator	3	81	40%	560	50	46	49	15	480	56	52	55	10	600	49	45	48	15
Forklift	1	75	10%	560	39	29	32	15	480	45	35	38	10	600	38	28	31	15
Generator Sets	1	81	50%	560	45	42	45	15	480	51	48	51	10	600	44	41	44	15
Haul Trucks	10	76	20%	560	50	43	46	15	480	56	49	52	10	600	49	42	45	15
Loader	2	79	50%	560	46	43	46	15	480	52	49	52	10	600	45	42	45	15
Pile Driver (Vibratory)	1	96	20%	560	60	53	56	15	480	66	59	62	10	600	59	52	55	15
Vacuum Street Sweeper	1	82	10%	560	46	36	39	15	480	52	42	45	10	600	45	35	38	15
Water Trucks	1	80	10%	560	44	34	37	15	480	50	40	43	10	600	43	33	36	15
Foundation/Concrete Pour				49	51				55	57				48	50			
Air Compressor	1	78	50%	460	44	41	44	15	380	50	47	50	10	500	43	40	43	15
Compactor (Ground)	1	83	20%	510	48	41	44	15	430	54	47	50	10	550	47	40	43	15
Dumpers/Tenders	2	76	20%	560	43	36	39	15	480	49	42	45	10	600	42	35	38	15
Forklift	1	75	10%	560	39	29	32	15	480	45	35	38	10	600	38	28	31	15
Generator Sets	1	81	50%	560	45	42	45	15	480	51	48	51	10	600	44	41	44	15
Pumps	2	81	50%	560	48	45	48	15	480	54	51	54	10	600	47	44	47	15
Trenchers	1	85	50%	560	49	46	49	15	480	55	52	55	10	600	48	45	48	15
Building Construction				47	48				53	54				46	47			
Air Compressor	2	78	50%	460	47	44	47	15	380	53	50	53	10	500	46	43	46	15
Cranes	1	81	40%	510	46	42	45	15	430	52	48	51	10	550	45	41	44	15
Dumpers/Tenders	3	76	20%	560	45	38	41	15	480	51	44	47	10	600	44	37	40	15
Forklift	1	75	10%	560	39	29	32	15	480	45	35	38	10	600	38	28	31	15
Generator Sets	1	81	50%	560	45	42	45	15	480	51	48	51	10	600	44	41	44	15
Paving				55	48				61	55				54	48			
Paver	1	77	50%	460	43	40	43	15	380	49	46	49	10	500	42	39	42	15
Pavement Scarifier	1	90	20%	510	55	48	51	15	430	61	54	57	10	550	54	47	50	15
Architectural Coating				47	48				53	54				46	47			
Air Compressor	2	78	50%	460	47	44	47	15	380	53	50	53	10	500	46	43	46	15
Cranes	1	81	40%	510	46	42	45	15	430	52	48	51	10	550	45	41	44	15
Dumpers/Tenders	3	76	20%	560	45	38	41	15	480	51	44	47	10	600	44	37	40	15
Forklift	1	75	10%	560	39	29	32	15	480	45	35	38	10	600	38	28	31	15
Generator Sets	1	81	50%	560	45	42	45	15	480	51	48	51	10	600	44	41	44	15

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project

Construction Noise Impact on Sensitive Receptors



Phasing Plan A

S3 West Ambulatory Care & Research Building

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R4					R5					R6					
				Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	
Demolition					49	48					49	48				51	50		
Air Compressor	2	78	50%	830	42	39	42	15	830	42	39	42	15	620	44	41	44	15	
Backhoe	2	80	40%	880	43	39	42	15	880	43	39	42	15	670	45	41	44	15	
Dumpers/Tenders	2	76	20%	930	39	32	35	15	930	39	32	35	15	720	41	34	37	15	
Excavator	2	81	40%	930	44	40	43	15	930	44	40	43	15	720	46	42	45	15	
Forklift	1	75	10%	930	35	25	28	15	930	35	25	28	15	720	37	27	30	15	
Generator Sets	1	81	50%	930	41	38	41	15	930	41	38	41	15	720	43	40	43	15	
Haul Trucks	8	76	20%	930	45	38	41	15	930	45	38	41	15	720	47	40	43	15	
Jackhammer	1	89	20%	930	49	42	45	15	930	49	42	45	15	720	51	44	47	15	
Loader	2	79	50%	930	42	39	42	15	930	42	39	42	15	720	44	41	44	15	
Grading/Excavation					56	51				56	51				58	53			
Air Compressor	1	78	50%	830	39	36	39	15	830	39	36	39	15	620	41	38	41	15	
Backhoe	2	80	40%	880	43	39	42	15	880	43	39	42	15	670	45	41	44	15	
Bore/Drill Rig	1	79	20%	930	39	32	35	15	930	39	32	35	15	720	41	34	37	15	
Compactor (Ground)	2	83	20%	930	46	39	42	15	930	46	39	42	15	720	48	41	44	15	
Dumpers/Tenders	2	76	20%	930	39	32	35	15	930	39	32	35	15	720	41	34	37	15	
Excavator	3	81	40%	930	45	41	44	15	930	45	41	44	15	720	48	44	47	15	
Forklift	1	75	10%	930	35	25	28	15	930	35	25	28	15	720	37	27	30	15	
Generator Sets	1	81	50%	930	41	38	41	15	930	41	38	41	15	720	43	40	43	15	
Haul Trucks	10	76	20%	930	46	39	42	15	930	46	39	42	15	720	48	41	44	15	
Loader	2	79	50%	930	42	39	42	15	930	42	39	42	15	720	44	41	44	15	
Pile Driver (Vibratory)	1	96	20%	930	56	49	52	15	930	56	49	52	15	720	58	51	54	15	
Vacuum Street Sweeper	1	82	10%	930	42	32	35	15	930	42	32	35	15	720	44	34	37	15	
Water Trucks	1	80	10%	930	40	30	33	15	930	40	30	33	15	720	42	32	35	15	
Foundation/Concrete Pour					45	46				45	46				47	48			
Air Compressor	1	78	50%	830	39	36	39	15	830	39	36	39	15	620	41	38	41	15	
Compactor (Ground)	1	83	20%	880	43	36	39	15	880	43	36	39	15	670	45	38	41	15	
Dumpers/Tenders	2	76	20%	930	39	32	35	15	930	39	32	35	15	720	41	34	37	15	
Forklift	1	75	10%	930	35	25	28	15	930	35	25	28	15	720	37	27	30	15	
Generator Sets	1	81	50%	930	41	38	41	15	930	41	38	41	15	720	43	40	43	15	
Pumps	2	81	50%	930	44	41	44	15	930	44	41	44	15	720	46	43	46	15	
Trenchers	1	85	50%	930	45	42	45	15	930	45	42	45	15	720	47	44	47	15	
Building Construction					42	43				42	43				44	46			
Air Compressor	2	78	50%	830	42	39	42	15	830	42	39	42	15	620	44	41	44	15	
Cranes	1	81	40%	880	41	37	40	15	880	41	37	40	15	670	43	39	42	15	
Dumpers/Tenders	3	76	20%	930	40	33	36	15	930	40	33	36	15	720	43	36	39	15	
Forklift	1	75	10%	930	35	25	28	15	930	35	25	28	15	720	37	27	30	15	
Generator Sets	1	81	50%	930	41	38	41	15	930	41	38	41	15	720	43	40	43	15	
Paving					50	44				50	44				52	46			
Paver	1	77	50%	830	38	35	38	15	830	38	35	38	15	620	40	37	40	15	
Pavement Scarifier	1	90	20%	880	50	43	46	15	880	50	43	46	15	670	52	45	48	15	
Architectural Coating					42	43				42	43				44	46			
Air Compressor	2	78	50%	830	42	39	42	15	830	42	39	42	15	620	44	41	44	15	
Cranes	1	81	40%	880	41	37	40	15	880	41	37	40	15	670	43	39	42	15	
Dumpers/Tenders	3	76	20%	930	40	33	36	15	930	40	33	36	15	720	43	36	39	15	
Forklift	1	75	10%	930	35	25	28	15	930	35	25	28	15	720	37	27	30	15	
Generator Sets	1	81	50%	930	41	38	41	15	930	41	38	41	15	720	43	40	43	15	

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan A

S3 West Ambulatory Care & Research Building

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leg to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R7					R8					R9					
				Distance (ft)	Lmax	Leg	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leg	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leg	L11	Estimate d Noise Shielding , dBA	
Demolition					49	48				49	48				79	80			
Air Compressor	2	78	50%	830	42	39	42	15	760	42	39	42	15	65	79	76	79	0	
Backhoe	2	80	40%	880	43	39	42	15	810	44	40	43	15	115	76	72	75	0	
Dumpers/Tenders	2	76	20%	930	39	32	35	15	860	39	32	35	15	165	69	62	65	0	
Excavator	2	81	40%	930	44	40	43	15	860	44	40	43	15	165	74	70	73	0	
Forklift	1	75	10%	930	35	25	28	15	860	35	25	28	15	165	65	55	58	0	
Generator Sets	1	81	50%	930	41	38	41	15	860	41	38	41	15	165	71	68	71	0	
Haul Trucks	8	76	20%	930	45	38	41	15	860	45	38	41	15	165	75	68	71	0	
Jackhammer	1	89	20%	930	49	42	45	15	860	49	42	45	15	165	79	72	75	0	
Loader	2	79	50%	930	42	39	42	15	860	42	39	42	15	165	72	69	72	0	
Grading/Excavation					56	51				56	52				86	82			
Air Compressor	1	78	50%	830	39	36	39	15	760	39	36	39	15	65	76	73	76	0	
Backhoe	2	80	40%	880	43	39	42	15	810	44	40	43	15	115	76	72	75	0	
Bore/Drill Rig	1	79	20%	930	39	32	35	15	860	39	32	35	15	165	69	62	65	0	
Compactor (Ground)	2	83	20%	930	46	39	42	15	860	46	39	42	15	165	76	69	72	0	
Dumpers/Tenders	2	76	20%	930	39	32	35	15	860	39	32	35	15	165	69	62	65	0	
Excavator	3	81	40%	930	45	41	44	15	860	46	42	45	15	165	75	71	74	0	
Forklift	1	75	10%	930	35	25	28	15	860	35	25	28	15	165	65	55	58	0	
Generator Sets	1	81	50%	930	41	38	41	15	860	41	38	41	15	165	71	68	71	0	
Haul Trucks	10	76	20%	930	46	39	42	15	860	46	39	42	15	165	76	69	72	0	
Loader	2	79	50%	930	42	39	42	15	860	42	39	42	15	165	72	69	72	0	
Pile Driver (Vibratory)	1	96	20%	930	56	49	52	15	860	56	49	52	15	165	86	79	82	0	
Vacuum Street Sweeper	1	82	10%	930	42	32	35	15	860	42	32	35	15	165	72	62	65	0	
Water Trucks	1	80	10%	930	40	30	33	15	860	40	30	33	15	165	70	60	63	0	
Foundation/Concrete Pour					45	46				45	47				76	78			
Air Compressor	1	78	50%	830	39	36	39	15	760	39	36	39	15	65	76	73	76	0	
Compactor (Ground)	1	83	20%	880	43	36	39	15	810	44	37	40	15	115	76	69	72	0	
Dumpers/Tenders	2	76	20%	930	39	32	35	15	860	39	32	35	15	165	69	62	65	0	
Forklift	1	75	10%	930	35	25	28	15	860	35	25	28	15	165	65	55	58	0	
Generator Sets	1	81	50%	930	41	38	41	15	860	41	38	41	15	165	71	68	71	0	
Pumps	2	81	50%	930	44	41	44	15	860	44	41	44	15	165	74	71	74	0	
Trenchers	1	85	50%	930	45	42	45	15	860	45	42	45	15	165	75	72	75	0	
Building Construction					42	43				42	44				79	77			
Air Compressor	2	78	50%	830	42	39	42	15	760	42	39	42	15	65	79	76	79	0	
Cranes	1	81	40%	880	41	37	40	15	810	42	38	41	15	115	74	70	73	0	
Dumpers/Tenders	3	76	20%	930	40	33	36	15	860	41	34	37	15	165	70	63	66	0	
Forklift	1	75	10%	930	35	25	28	15	860	35	25	28	15	165	65	55	58	0	
Generator Sets	1	81	50%	930	41	38	41	15	860	41	38	41	15	165	71	68	71	0	
Paving					50	44				51	44				83	77			
Paver	1	77	50%	830	38	35	38	15	760	38	35	38	15	65	75	72	75	0	
Pavement Scarifier	1	90	20%	880	50	43	46	15	810	51	44	47	15	115	83	76	79	0	
Architectural Coating					42	43				42	44				79	77			
Air Compressor	2	78	50%	830	42	39	42	15	760	42	39	42	15	65	79	76	79	0	
Cranes	1	81	40%	880	41	37	40	15	810	42	38	41	15	115	74	70	73	0	
Dumpers/Tenders	3	76	20%	930	40	33	36	15	860	41	34	37	15	165	70	63	66	0	
Forklift	1	75	10%	930	35	25	28	15	860	35	25	28	15	165	65	55	58	0	
Generator Sets	1	81	50%	930	41	38	41	15	860	41	38	41	15	165	71	68	71	0	

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan A

21 20th Street Medical Building

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R1					R2					R3					
				Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	
Demolition					77	78					68	68				48	47		
Air Compressor	2	78	50%	90	76	73	76	0	220	63	60	63	5	870	41	38	41	15	
Backhoe	2	80	40%	140	74	70	73	0	270	63	59	62	5	920	43	39	42	15	
Dumpers/Tenders	2	76	20%	190	67	60	63	0	320	58	51	54	5	970	38	31	34	15	
Excavator	2	81	40%	190	72	68	71	0	320	63	59	62	5	970	43	39	42	15	
Forklift	1	75	10%	190	63	53	56	0	320	54	44	47	5	970	34	24	27	15	
Generator Sets	1	81	50%	190	69	66	69	0	320	60	57	60	5	970	40	37	40	15	
Haul Trucks	8	76	20%	190	73	66	69	0	320	64	57	60	5	970	44	37	40	15	
Jackhammer	1	89	20%	190	77	70	73	0	320	68	61	64	5	970	48	41	44	15	
Loader	2	79	50%	190	70	67	70	0	320	61	58	61	5	970	41	38	41	15	
Grading/Excavation					84	80				75	71				55	51			
Air Compressor	1	78	50%	90	73	70	73	0	220	60	57	60	5	870	38	35	38	15	
Backhoe	2	80	40%	140	74	70	73	0	270	63	59	62	5	920	43	39	42	15	
Bore/Drill Rig	1	79	20%	190	67	60	63	0	320	58	51	54	5	970	38	31	34	15	
Compactor (Ground)	2	83	20%	190	74	67	70	0	320	65	58	61	5	970	45	38	41	15	
Dumpers/Tenders	2	76	20%	190	67	60	63	0	320	58	51	54	5	970	38	31	34	15	
Excavator	3	81	40%	190	74	70	73	0	320	65	61	64	5	970	45	41	44	15	
Forklift	1	75	10%	190	63	53	56	0	320	54	44	47	5	970	34	24	27	15	
Generator Sets	1	81	50%	190	69	66	69	0	320	60	57	60	5	970	40	37	40	15	
Haul Trucks	10	76	20%	190	74	67	70	0	320	65	58	61	5	970	45	38	41	15	
Loader	2	79	50%	190	70	67	70	0	320	61	58	61	5	970	41	38	41	15	
Pile Driver (Vibratory)	1	96	20%	190	84	77	80	0	320	75	68	71	5	970	55	48	51	15	
Vacuum Street Sweeper	1	82	10%	190	70	60	63	0	320	61	51	54	5	970	41	31	34	15	
Water Trucks	1	80	10%	190	68	58	61	0	320	59	49	52	5	970	39	29	32	15	
Foundation/Concrete Pour					74	76				64	66				44	46			
Air Compressor	1	78	50%	90	73	70	73	0	220	60	57	60	5	870	38	35	38	15	
Compactor (Ground)	1	83	20%	140	74	67	70	0	270	63	56	59	5	920	43	36	39	15	
Dumpers/Tenders	2	76	20%	190	67	60	63	0	320	58	51	54	5	970	38	31	34	15	
Forklift	1	75	10%	190	63	53	56	0	320	54	44	47	5	970	34	24	27	15	
Generator Sets	1	81	50%	190	69	66	69	0	320	60	57	60	5	970	40	37	40	15	
Pumps	2	81	50%	190	72	69	72	0	320	63	60	63	5	970	43	40	43	15	
Trenchers	1	85	50%	190	73	70	73	0	320	64	61	64	5	970	44	41	44	15	
Building Construction					76	75				63	64				41	43			
Air Compressor	2	78	50%	90	76	73	76	0	220	63	60	63	5	870	41	38	41	15	
Cranes	1	81	40%	140	72	68	71	0	270	61	57	60	5	920	41	37	40	15	
Dumpers/Tenders	3	76	20%	190	69	62	65	0	320	60	53	56	5	970	40	33	36	15	
Forklift	1	75	10%	190	63	53	56	0	320	54	44	47	5	970	34	24	27	15	
Generator Sets	1	81	50%	190	69	66	69	0	320	60	57	60	5	970	40	37	40	15	
Paving					81	75				70	64				50	43			
Paver	1	77	50%	90	72	69	72	0	220	59	56	59	5	870	37	34	37	15	
Pavement Scarifier	1	90	20%	140	81	74	77	0	270	70	63	66	5	920	50	43	46	15	
Architectural Coating					76	75				63	64				41	43			
Air Compressor	2	78	50%	90	76	73	76	0	220	63	60	63	5	870	41	38	41	15	
Cranes	1	81	40%	140	72	68	71	0	270	61	57	60	5	920	41	37	40	15	
Dumpers/Tenders	3	76	20%	190	69	62	65	0	320	60	53	56	5	970	40	33	36	15	
Forklift	1	75	10%	190	63	53	56	0	320	54	44	47	5	970	34	24	27	15	
Generator Sets	1	81	50%	190	69	66	69	0	320	60	57	60	5	970	40	37	40	15	

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan A

21 20th Street Medical Building

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R4					R5					R6					
				Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	
Demolition					45	44					46	45				48	47		
Air Compressor	2	78	50%	1250	38	35	38	15	1150	39	36	39	15	880	41	38	41	15	
Backhoe	2	80	40%	1300	40	36	39	15	1200	40	36	39	15	930	43	39	42	15	
Dumpers/Tenders	2	76	20%	1350	35	28	31	15	1250	36	29	32	15	980	38	31	34	15	
Excavator	2	81	40%	1350	40	36	39	15	1250	41	37	40	15	980	43	39	42	15	
Forklift	1	75	10%	1350	31	21	24	15	1250	32	22	25	15	980	34	24	27	15	
Generator Sets	1	81	50%	1350	37	34	37	15	1250	38	35	38	15	980	40	37	40	15	
Haul Trucks	8	76	20%	1350	41	34	37	15	1250	42	35	38	15	980	44	37	40	15	
Jackhammer	1	89	20%	1350	45	38	41	15	1250	46	39	42	15	980	48	41	44	15	
Loader	2	79	50%	1350	38	35	38	15	1250	39	36	39	15	980	41	38	41	15	
Grading/Excavation					52	48				53	49				55	51			
Air Compressor	1	78	50%	1250	35	32	35	15	1150	36	33	36	15	880	38	35	38	15	
Backhoe	2	80	40%	1300	40	36	39	15	1200	40	36	39	15	930	43	39	42	15	
Bore/Drill Rig	1	79	20%	1350	35	28	31	15	1250	36	29	32	15	980	38	31	34	15	
Compactor (Ground)	2	83	20%	1350	42	35	38	15	1250	43	36	39	15	980	45	38	41	15	
Dumpers/Tenders	2	76	20%	1350	35	28	31	15	1250	36	29	32	15	980	38	31	34	15	
Excavator	3	81	40%	1350	42	38	41	15	1250	43	39	42	15	980	45	41	44	15	
Forklift	1	75	10%	1350	31	21	24	15	1250	32	22	25	15	980	34	24	27	15	
Generator Sets	1	81	50%	1350	37	34	37	15	1250	38	35	38	15	980	40	37	40	15	
Haul Trucks	10	76	20%	1350	42	35	38	15	1250	43	36	39	15	980	45	38	41	15	
Loader	2	79	50%	1350	38	35	38	15	1250	39	36	39	15	980	41	38	41	15	
Pile Driver (Vibratory)	1	96	20%	1350	52	45	48	15	1250	53	46	49	15	980	55	48	51	15	
Vacuum Street Sweeper	1	82	10%	1350	38	28	31	15	1250	39	29	32	15	980	41	31	34	15	
Water Trucks	1	80	10%	1350	36	26	29	15	1250	37	27	30	15	980	39	29	32	15	
Foundation/Concrete Pour					41	43				42	44				44	46			
Air Compressor	1	78	50%	1250	35	32	35	15	1150	36	33	36	15	880	38	35	38	15	
Compactor (Ground)	1	83	20%	1300	40	33	36	15	1200	40	33	36	15	930	43	36	39	15	
Dumpers/Tenders	2	76	20%	1350	35	28	31	15	1250	36	29	32	15	980	38	31	34	15	
Forklift	1	75	10%	1350	31	21	24	15	1250	32	22	25	15	980	34	24	27	15	
Generator Sets	1	81	50%	1350	37	34	37	15	1250	38	35	38	15	980	40	37	40	15	
Pumps	2	81	50%	1350	40	37	40	15	1250	41	38	41	15	980	43	40	43	15	
Trenchers	1	85	50%	1350	41	38	41	15	1250	42	39	42	15	980	44	41	44	15	
Building Construction					38	40				39	40				41	43			
Air Compressor	2	78	50%	1250	38	35	38	15	1150	39	36	39	15	880	41	38	41	15	
Cranes	1	81	40%	1300	38	34	37	15	1200	38	34	37	15	930	41	37	40	15	
Dumpers/Tenders	3	76	20%	1350	37	30	33	15	1250	38	31	34	15	980	40	33	36	15	
Forklift	1	75	10%	1350	31	21	24	15	1250	32	22	25	15	980	34	24	27	15	
Generator Sets	1	81	50%	1350	37	34	37	15	1250	38	35	38	15	980	40	37	40	15	
Paving					47	40				47	41				50	43			
Paver	1	77	50%	1250	34	31	34	15	1150	35	32	35	15	880	37	34	37	15	
Pavement Scarifier	1	90	20%	1300	47	40	43	15	1200	47	40	43	15	930	50	43	46	15	
Architectural Coating					38	40				39	40				41	43			
Air Compressor	2	78	50%	1250	38	35	38	15	1150	39	36	39	15	880	41	38	41	15	
Cranes	1	81	40%	1300	38	34	37	15	1200	38	34	37	15	930	41	37	40	15	
Dumpers/Tenders	3	76	20%	1350	37	30	33	15	1250	38	31	34	15	980	40	33	36	15	
Forklift	1	75	10%	1350	31	21	24	15	1250	32	22	25	15	980	34	24	27	15	
Generator Sets	1	81	50%	1350	37	34	37	15	1250	38	35	38	15	980	40	37	40	15	

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
 Construction Noise Impact on Sensitive Receptors



Phasing Plan A

21 20th Street Medical Building

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R7					R8					R9				
				Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L11	Estimate d Noise Shielding , dBA
Demolition					48	47				56	56				51	50		
Air Compressor	2	78	50%	930	41	38	41	15	280	51	48	51	15	590	45	42	45	15
Backhoe	2	80	40%	980	42	38	41	15	330	52	48	51	15	640	46	42	45	15
Dumpers/Tenders	2	76	20%	1030	38	31	34	15	380	46	39	42	15	690	41	34	37	15
Excavator	2	81	40%	1030	43	39	42	15	380	51	47	50	15	690	46	42	45	15
Forklift	1	75	10%	1030	34	24	27	15	380	42	32	35	15	690	37	27	30	15
Generator Sets	1	81	50%	1030	40	37	40	15	380	48	45	48	15	690	43	40	43	15
Haul Trucks	8	76	20%	1030	44	37	40	15	380	52	45	48	15	690	47	40	43	15
Jackhammer	1	89	20%	1030	48	41	44	15	380	56	49	52	15	690	51	44	47	15
Loader	2	79	50%	1030	41	38	41	15	380	49	46	49	15	690	44	41	44	15
Grading/Excavation					55	50				63	59				58	54		
Air Compressor	1	78	50%	930	38	35	38	15	280	48	45	48	15	590	42	39	42	15
Backhoe	2	80	40%	980	42	38	41	15	330	52	48	51	15	640	46	42	45	15
Bore/Drill Rig	1	79	20%	1030	38	31	34	15	380	46	39	42	15	690	41	34	37	15
Compactor (Ground)	2	83	20%	1030	45	38	41	15	380	53	46	49	15	690	48	41	44	15
Dumpers/Tenders	2	76	20%	1030	38	31	34	15	380	46	39	42	15	690	41	34	37	15
Excavator	3	81	40%	1030	44	41	44	15	380	53	49	52	15	690	48	44	47	15
Forklift	1	75	10%	1030	34	24	27	15	380	42	32	35	15	690	37	27	30	15
Generator Sets	1	81	50%	1030	40	37	40	15	380	48	45	48	15	690	43	40	43	15
Haul Trucks	10	76	20%	1030	45	38	41	15	380	53	46	49	15	690	48	41	44	15
Loader	2	79	50%	1030	41	38	41	15	380	49	46	49	15	690	44	41	44	15
Pile Driver (Vibratory)	1	96	20%	1030	55	48	51	15	380	63	56	59	15	690	58	51	54	15
Vacuum Street Sweeper	1	82	10%	1030	41	31	34	15	380	49	39	42	15	690	44	34	37	15
Water Trucks	1	80	10%	1030	39	29	32	15	380	47	37	40	15	690	42	32	35	15
Foundation/Concrete Pour					44	45				52	54				47	49		
Air Compressor	1	78	50%	930	38	35	38	15	280	48	45	48	15	590	42	39	42	15
Compactor (Ground)	1	83	20%	980	42	35	38	15	330	52	45	48	15	640	46	39	42	15
Dumpers/Tenders	2	76	20%	1030	38	31	34	15	380	46	39	42	15	690	41	34	37	15
Forklift	1	75	10%	1030	34	24	27	15	380	42	32	35	15	690	37	27	30	15
Generator Sets	1	81	50%	1030	40	37	40	15	380	48	45	48	15	690	43	40	43	15
Pumps	2	81	50%	1030	43	40	43	15	380	51	48	51	15	690	46	43	46	15
Trenchers	1	85	50%	1030	44	41	44	15	380	52	49	52	15	690	47	44	47	15
Building Construction					41	42				51	52				45	46		
Air Compressor	2	78	50%	930	41	38	41	15	280	51	48	51	15	590	45	42	45	15
Cranes	1	81	40%	980	40	36	39	15	330	50	46	49	15	640	44	40	43	15
Dumpers/Tenders	3	76	20%	1030	39	33	36	15	380	48	41	44	15	690	43	36	39	15
Forklift	1	75	10%	1030	34	24	27	15	380	42	32	35	15	690	37	27	30	15
Generator Sets	1	81	50%	1030	40	37	40	15	380	48	45	48	15	690	43	40	43	15
Paving					49	43				59	52				53	46		
Paver	1	77	50%	930	37	34	37	15	280	47	44	47	15	590	41	38	41	15
Pavement Scarifier	1	90	20%	980	49	42	45	15	330	59	52	55	15	640	53	46	49	15
Architectural Coating					41	42				51	52				45	46		
Air Compressor	2	78	50%	930	41	38	41	15	280	51	48	51	15	590	45	42	45	15
Cranes	1	81	40%	980	40	36	39	15	330	50	46	49	15	640	44	40	43	15
Dumpers/Tenders	3	76	20%	1030	39	33	36	15	380	48	41	44	15	690	43	36	39	15
Forklift	1	75	10%	1030	34	24	27	15	380	42	32	35	15	690	37	27	30	15
Generator Sets	1	81	50%	1030	40	37	40	15	380	48	45	48	15	690	43	40	43	15

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project

Construction Noise Impact on Sensitive Receptors



Phasing Plan A

2C West Ambulatory & Acute Care Building

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R1					R2					R3				
				Estimated Noise					Estimated Noise					Estimated Noise				
				Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA
Demolition				54	53					59	58				48	47		
Air Compressor	2	78	50%	400	48	45	48	15	415	53	50	53	10	870	41	38	41	15
Backhoe	2	80	40%	450	49	45	48	15	465	54	50	53	10	920	43	39	42	15
Dumpers/Tenders	2	76	20%	500	44	37	40	15	515	49	42	45	10	970	38	31	34	15
Excavator	2	81	40%	500	49	45	48	15	515	54	50	53	10	970	43	39	42	15
Forklift	1	75	10%	500	40	30	33	15	515	45	35	38	10	970	34	24	27	15
Generator Sets	1	81	50%	500	46	43	46	15	515	51	48	51	10	970	40	37	40	15
Haul Trucks	8	76	20%	500	50	43	46	15	515	55	48	51	10	970	44	37	40	15
Jackhammer	1	89	20%	500	54	47	50	15	515	59	52	55	10	970	48	41	44	15
Loader	2	79	50%	500	47	44	47	15	515	52	49	52	10	970	41	38	41	15
Grading/Excavation				61	57				66	61				55	51			
Air Compressor	1	78	50%	400	45	42	45	15	415	50	47	50	10	870	38	35	38	15
Backhoe	2	80	40%	450	49	45	48	15	465	54	50	53	10	920	43	39	42	15
Bore/Drill Rig	1	79	20%	500	44	37	40	15	515	49	42	45	10	970	38	31	34	15
Compactor (Ground)	2	83	20%	500	51	44	47	15	515	56	49	52	10	970	45	38	41	15
Dumpers/Tenders	2	76	20%	500	44	37	40	15	515	49	42	45	10	970	38	31	34	15
Excavator	3	81	40%	500	51	47	50	15	515	56	52	55	10	970	45	41	44	15
Forklift	1	75	10%	500	40	30	33	15	515	45	35	38	10	970	34	24	27	15
Generator Sets	1	81	50%	500	46	43	46	15	515	51	48	51	10	970	40	37	40	15
Haul Trucks	10	76	20%	500	51	44	47	15	515	56	49	52	10	970	45	38	41	15
Loader	2	79	50%	500	47	44	47	15	515	52	49	52	10	970	41	38	41	15
Pile Driver (Vibratory)	1	96	20%	500	61	54	57	15	515	66	59	62	10	970	55	48	51	15
Vacuum Street Sweeper	1	82	10%	500	47	37	40	15	515	52	42	45	10	970	41	31	34	15
Water Trucks	1	80	10%	500	45	35	38	15	515	50	40	43	10	970	39	29	32	15
Foundation/Concrete Pour				50	52				55	56				44	46			
Air Compressor	1	78	50%	400	45	42	45	15	415	50	47	50	10	870	38	35	38	15
Compactor (Ground)	1	83	20%	450	49	42	45	15	465	54	47	50	10	920	43	36	39	15
Dumpers/Tenders	2	76	20%	500	44	37	40	15	515	49	42	45	10	970	38	31	34	15
Forklift	1	75	10%	500	40	30	33	15	515	45	35	38	10	970	34	24	27	15
Generator Sets	1	81	50%	500	46	43	46	15	515	51	48	51	10	970	40	37	40	15
Pumps	2	81	50%	500	49	46	49	15	515	54	51	54	10	970	43	40	43	15
Trenchers	1	85	50%	500	50	47	50	15	515	55	52	55	10	970	44	41	44	15
Building Construction				48	49				53	54				41	43			
Air Compressor	2	78	50%	400	48	45	48	15	415	53	50	53	10	870	41	38	41	15
Cranes	1	81	40%	450	47	43	46	15	465	52	48	51	10	920	41	37	40	15
Dumpers/Tenders	3	76	20%	500	46	39	42	15	515	51	44	47	10	970	40	33	36	15
Forklift	1	75	10%	500	40	30	33	15	515	45	35	38	10	970	34	24	27	15
Generator Sets	1	81	50%	500	46	43	46	15	515	51	48	51	10	970	40	37	40	15
Paving				56	50				61	54				50	43			
Paver	1	77	50%	400	44	41	44	15	415	49	46	49	10	870	37	34	37	15
Pavement Scarifier	1	90	20%	450	56	49	52	15	465	61	54	57	10	920	50	43	46	15
Architectural Coating				48	49				53	54				41	43			
Air Compressor	2	78	50%	400	48	45	48	15	415	53	50	53	10	870	41	38	41	15
Cranes	1	81	40%	450	47	43	46	15	465	52	48	51	10	920	41	37	40	15
Dumpers/Tenders	3	76	20%	500	46	39	42	15	515	51	44	47	10	970	40	33	36	15
Forklift	1	75	10%	500	40	30	33	15	515	45	35	38	10	970	34	24	27	15
Generator Sets	1	81	50%	500	46	43	46	15	515	51	48	51	10	970	40	37	40	15

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project

Construction Noise Impact on Sensitive Receptors



Phasing Plan A

2C West Ambulatory & Acute Care Building

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R4					R5					R6							
				Estimated Noise					Estimated Noise					Estimated Noise							
				Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA			
Demolition					48	47					53	53				61	60				
Air Compressor	2	78	50%	950	40	37	40	15	850	46	43	46	10	600	54	51	54	5			
Backhoe	2	80	40%	1000	42	38	41	15	900	48	44	47	10	650	56	52	55	5			
Dumpers/Tenders	2	76	20%	1050	38	31	34	15	950	43	36	39	10	700	51	44	47	5			
Excavator	2	81	40%	1050	43	39	42	15	950	48	44	47	10	700	56	52	55	5			
Forklift	1	75	10%	1050	34	24	27	15	950	39	29	32	10	700	47	37	40	5			
Generator Sets	1	81	50%	1050	40	37	40	15	950	45	42	45	10	700	53	50	53	5			
Haul Trucks	8	76	20%	1050	44	37	40	15	950	49	42	45	10	700	57	50	53	5			
Jackhammer	1	89	20%	1050	48	41	44	15	950	53	46	49	10	700	61	54	57	5			
Loader	2	79	50%	1050	41	38	41	15	950	46	43	46	10	700	54	51	54	5			
Grading/Excavation					55	50				60	56				68	64					
Air Compressor	1	78	50%	950	37	34	37	15	850	43	40	43	10	600	51	48	51	5			
Backhoe	2	80	40%	1000	42	38	41	15	900	48	44	47	10	650	56	52	55	5			
Bore/Drill Rig	1	79	20%	1050	38	31	34	15	950	43	36	39	10	700	51	44	47	5			
Compactor (Ground)	2	83	20%	1050	45	38	41	15	950	50	43	46	10	700	58	51	54	5			
Dumpers/Tenders	2	76	20%	1050	38	31	34	15	950	43	36	39	10	700	51	44	47	5			
Excavator	3	81	40%	1050	44	40	43	15	950	50	46	49	10	700	58	54	57	5			
Forklift	1	75	10%	1050	34	24	27	15	950	39	29	32	10	700	47	37	40	5			
Generator Sets	1	81	50%	1050	40	37	40	15	950	45	42	45	10	700	53	50	53	5			
Haul Trucks	10	76	20%	1050	45	38	41	15	950	50	43	46	10	700	58	51	54	5			
Loader	2	79	50%	1050	41	38	41	15	950	46	43	46	10	700	54	51	54	5			
Pile Driver (Vibratory)	1	96	20%	1050	55	48	51	15	950	60	53	56	10	700	68	61	64	5			
Vacuum Street Sweeper	1	82	10%	1050	41	31	34	15	950	46	36	39	10	700	54	44	47	5			
Water Trucks	1	80	10%	1050	39	29	32	15	950	44	34	37	10	700	52	42	45	5			
Foundation/Concrete Pour					44	45				49	51				57	59					
Air Compressor	1	78	50%	950	37	34	37	15	850	43	40	43	10	600	51	48	51	5			
Compactor (Ground)	1	83	20%	1000	42	35	38	15	900	48	41	44	10	650	56	49	52	5			
Dumpers/Tenders	2	76	20%	1050	38	31	34	15	950	43	36	39	10	700	51	44	47	5			
Forklift	1	75	10%	1050	34	24	27	15	950	39	29	32	10	700	47	37	40	5			
Generator Sets	1	81	50%	1050	40	37	40	15	950	45	42	45	10	700	53	50	53	5			
Pumps	2	81	50%	1050	43	40	43	15	950	48	45	48	10	700	56	53	56	5			
Trenchers	1	85	50%	1050	44	41	44	15	950	49	46	49	10	700	57	54	57	5			
Building Construction					40	42				46	48				54	56					
Air Compressor	2	78	50%	950	40	37	40	15	850	46	43	46	10	600	54	51	54	5			
Cranes	1	81	40%	1000	40	36	39	15	900	46	42	45	10	650	54	50	53	5			
Dumpers/Tenders	3	76	20%	1050	39	32	35	15	950	45	38	41	10	700	53	46	49	5			
Forklift	1	75	10%	1050	34	24	27	15	950	39	29	32	10	700	47	37	40	5			
Generator Sets	1	81	50%	1050	40	37	40	15	950	45	42	45	10	700	53	50	53	5			
Paving					49	43				55	48				63	56					
Paver	1	77	50%	950	36	33	36	15	850	42	39	42	10	600	50	47	50	5			
Pavement Scarifier	1	90	20%	1000	49	42	45	15	900	55	48	51	10	650	63	56	59	5			
Architectural Coating					40	42				46	48				54	56					
Air Compressor	2	78	50%	950	40	37	40	15	850	46	43	46	10	600	54	51	54	5			
Cranes	1	81	40%	1000	40	36	39	15	900	46	42	45	10	650	54	50	53	5			
Dumpers/Tenders	3	76	20%	1050	39	32	35	15	950	45	38	41	10	700	53	46	49	5			
Forklift	1	75	10%	1050	34	24	27	15	950	39	29	32	10	700	47	37	40	5			
Generator Sets	1	81	50%	1050	40	37	40	15	950	45	42	45	10	700	53	50	53	5			

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project

Construction Noise Impact on Sensitive Receptors



Phasing Plan A

2C West Ambulatory & Acute Care Building

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leg to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R7					R8					R9				
				Distance (ft)	Lmax	Leg	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leg	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leg	L11	Estimate d Noise Shielding , dBA
Demolition					49	48				53	52				70	69		
Air Compressor	2	78	50%	780	42	39	42	15	480	46	43	46	15	350	64	61	64	0
Backhoe	2	80	40%	830	44	40	43	15	530	48	44	47	15	400	65	61	64	0
Dumpers/Tenders	2	76	20%	880	39	32	35	15	580	43	36	39	15	450	60	53	56	0
Excavator	2	81	40%	880	44	40	43	15	580	48	44	47	15	450	65	61	64	0
Forklift	1	75	10%	880	35	25	28	15	580	39	29	32	15	450	56	46	49	0
Generator Sets	1	81	50%	880	41	38	41	15	580	45	42	45	15	450	62	59	62	0
Haul Trucks	8	76	20%	880	45	38	41	15	580	49	42	45	15	450	66	59	62	0
Jackhammer	1	89	20%	880	49	42	45	15	580	53	46	49	15	450	70	63	66	0
Loader	2	79	50%	880	42	39	42	15	580	46	43	46	15	450	63	60	63	0
Grading/Excavation					56	52				60	55				77	73		
Air Compressor	1	78	50%	780	39	36	39	15	480	43	40	43	15	350	61	58	61	0
Backhoe	2	80	40%	830	44	40	43	15	530	48	44	47	15	400	65	61	64	0
Bore/Drill Rig	1	79	20%	880	39	32	35	15	580	43	36	39	15	450	60	53	56	0
Compactor (Ground)	2	83	20%	880	46	39	42	15	580	50	43	46	15	450	67	60	63	0
Dumpers/Tenders	2	76	20%	880	39	32	35	15	580	43	36	39	15	450	60	53	56	0
Excavator	3	81	40%	880	46	42	45	15	580	49	46	49	15	450	67	63	66	0
Forklift	1	75	10%	880	35	25	28	15	580	39	29	32	15	450	56	46	49	0
Generator Sets	1	81	50%	880	41	38	41	15	580	45	42	45	15	450	62	59	62	0
Haul Trucks	10	76	20%	880	46	39	42	15	580	50	43	46	15	450	67	60	63	0
Loader	2	79	50%	880	42	39	42	15	580	46	43	46	15	450	63	60	63	0
Pile Driver (Vibratory)	1	96	20%	880	56	49	52	15	580	60	53	56	15	450	77	70	73	0
Vacuum Street Sweeper	1	82	10%	880	42	32	35	15	580	46	36	39	15	450	63	53	56	0
Water Trucks	1	80	10%	880	40	30	33	15	580	44	34	37	15	450	61	51	54	0
Foundation/Concrete Pour					45	47				49	50				66	68		
Air Compressor	1	78	50%	780	39	36	39	15	480	43	40	43	15	350	61	58	61	0
Compactor (Ground)	1	83	20%	830	44	37	40	15	530	47	41	44	15	400	65	58	61	0
Dumpers/Tenders	2	76	20%	880	39	32	35	15	580	43	36	39	15	450	60	53	56	0
Forklift	1	75	10%	880	35	25	28	15	580	39	29	32	15	450	56	46	49	0
Generator Sets	1	81	50%	880	41	38	41	15	580	45	42	45	15	450	62	59	62	0
Pumps	2	81	50%	880	44	41	44	15	580	48	45	48	15	450	65	62	65	0
Trenchers	1	85	50%	880	45	42	45	15	580	49	46	49	15	450	66	63	66	0
Building Construction					42	44				46	48				64	65		
Air Compressor	2	78	50%	780	42	39	42	15	480	46	43	46	15	350	64	61	64	0
Cranes	1	81	40%	830	42	38	41	15	530	45	42	45	15	400	63	59	62	0
Dumpers/Tenders	3	76	20%	880	41	34	37	15	580	44	37	40	15	450	62	55	58	0
Forklift	1	75	10%	880	35	25	28	15	580	39	29	32	15	450	56	46	49	0
Generator Sets	1	81	50%	880	41	38	41	15	580	45	42	45	15	450	62	59	62	0
Paving					51	44				54	48				72	66		
Paver	1	77	50%	780	38	35	38	15	480	42	39	42	15	350	60	57	60	0
Pavement Scarifier	1	90	20%	830	51	44	47	15	530	54	48	51	15	400	72	65	68	0
Architectural Coating					42	44				46	48				64	65		
Air Compressor	2	78	50%	780	42	39	42	15	480	46	43	46	15	350	64	61	64	0
Cranes	1	81	40%	830	42	38	41	15	530	45	42	45	15	400	63	59	62	0
Dumpers/Tenders	3	76	20%	880	41	34	37	15	580	44	37	40	15	450	62	55	58	0
Forklift	1	75	10%	880	35	25	28	15	580	39	29	32	15	450	56	46	49	0
Generator Sets	1	81	50%	880	41	38	41	15	580	45	42	45	15	450	62	59	62	0

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan A

S4 Education & Conference Center and East Ambulatory Care & Research

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R1					R2					R3						
				Estimated Noise					Estimated Noise					Estimated Noise						
				Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA		
Demolition				56	53					57	53				56	52				
Air Compressor	3	78	50%	650	45	42	45	15	600	46	43	46	15	715	45	42	45	15		
Backhoe	3	80	40%	700	47	43	46	15	650	47	44	47	15	765	46	42	45	15		
Dumpers/Tenders	4	76	20%	750	43	37	40	15	700	44	37	40	15	815	43	36	39	15		
Excavator	3	81	40%	750	47	43	46	15	700	48	44	47	15	815	47	43	46	15		
Forklift	1	75	10%	750	36	26	29	15	700	37	27	30	15	815	36	26	29	15		
Generator Sets	1	81	50%	750	42	39	42	15	700	43	40	43	15	815	42	39	42	15		
Haul Trucks	8	76	20%	750	47	40	43	15	700	47	40	43	15	815	46	39	42	15		
Jackhammer	4	89	20%	750	56	50	53	15	700	57	50	53	15	815	56	49	52	15		
Loader	2	79	50%	750	43	40	43	15	700	44	41	44	15	815	43	40	43	15		
Grading/Excavation				60	55				61	56				60	55					
Air Compressor	2	78	50%	650	44	41	44	15	600	44	41	44	15	715	43	40	43	15		
Backhoe	3	80	40%	700	47	43	46	15	650	47	44	47	15	765	46	42	45	15		
Bore/Drill Rig	2	79	20%	750	43	36	39	15	700	44	37	40	15	815	43	36	39	15		
Compactor (Ground)	3	83	20%	750	49	42	45	15	700	50	43	46	15	815	49	42	45	15		
Dumpers/Tenders	3	76	20%	750	42	35	38	15	700	43	36	39	15	815	42	35	38	15		
Excavator	2	81	40%	750	45	42	45	15	700	46	42	45	15	815	45	41	44	15		
Forklift	1	75	10%	750	36	26	29	15	700	37	27	30	15	815	36	26	29	15		
Generator Sets	2	81	50%	750	45	42	45	15	700	46	43	46	15	815	45	42	45	15		
Haul Trucks	10	76	20%	750	47	40	43	15	700	48	41	44	15	815	47	40	43	15		
Loader	3	79	50%	750	45	42	45	15	700	46	43	46	15	815	45	42	45	15		
Pile Driver (Vibratory)	2	96	20%	750	60	53	56	15	700	61	54	57	15	815	60	53	56	15		
Vacuum Street Sweeper	1	82	10%	750	43	33	36	15	700	44	34	37	15	815	43	33	36	15		
Water Trucks	1	80	10%	750	41	31	34	15	700	42	32	35	15	815	41	31	34	15		
Foundation/Concrete Pour				49	50				50	51				49	50					
Air Compressor	2	78	50%	650	44	41	44	15	600	44	41	44	15	715	43	40	43	15		
Compactor (Ground)	2	83	20%	700	48	41	44	15	650	49	42	45	15	765	47	40	43	15		
Dumpers/Tenders	3	76	20%	750	42	35	38	15	700	43	36	39	15	815	42	35	38	15		
Forklift	2	75	10%	750	39	29	32	15	700	40	30	33	15	815	39	29	32	15		
Generator Sets	2	81	50%	750	45	42	45	15	700	46	43	46	15	815	45	42	45	15		
Pumps	2	81	50%	750	45	42	45	15	700	46	43	46	15	815	45	42	45	15		
Trenchers	2	85	50%	750	49	46	49	15	700	50	47	50	15	815	49	46	49	15		
Building Construction				46	47				47	48				45	46					
Air Compressor	2	78	50%	650	44	41	44	15	600	44	41	44	15	715	43	40	43	15		
Cranes	2	81	40%	700	46	42	45	15	650	47	43	46	15	765	45	41	44	15		
Dumpers/Tenders	3	76	20%	750	42	35	38	15	700	43	36	39	15	815	42	35	38	15		
Forklift	2	75	10%	750	39	29	32	15	700	40	30	33	15	815	39	29	32	15		
Generator Sets	2	81	50%	750	45	42	45	15	700	46	43	46	15	815	45	42	45	15		
Paving				52	46				53	46				51	45					
Paver	1	77	50%	650	40	37	40	15	600	40	37	40	15	715	39	36	39	15		
Pavement Scarifier	1	90	20%	700	52	45	48	15	650	53	46	49	15	765	51	44	47	15		
Architectural Coating				44	45				44	46				43	44					
Air Compressor	2	78	50%	650	44	41	44	15	600	44	41	44	15	715	43	40	43	15		
Cranes	1	81	40%	700	43	39	42	15	650	44	40	43	15	765	42	38	41	15		
Dumpers/Tenders	3	76	20%	750	42	35	38	15	700	43	36	39	15	815	42	35	38	15		
Forklift	2	75	10%	750	39	29	32	15	700	40	30	33	15	815	39	29	32	15		
Generator Sets	1	81	50%	750	42	39	42	15	700	43	40	43	15	815	42	39	42	15		

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan A

S4 Education & Conference Center and East Ambulatory Care & Rese

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R4					R5					R6					
				Estimated Noise					Estimated Noise					Estimated Noise					
				Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	
Demolition				63	59					58	54				66	63			
Air Compressor	3	78	50%	530	52	49	52	10	530	47	44	47	15	325	57	54	57	10	
Backhoe	3	80	40%	580	53	50	53	10	580	48	45	48	15	375	57	53	56	10	
Dumpers/Tenders	4	76	20%	630	50	43	46	10	630	45	38	41	15	425	53	46	49	10	
Excavator	3	81	40%	630	54	50	53	10	630	49	45	48	15	425	57	53	56	10	
Forklift	1	75	10%	630	43	33	36	10	630	38	28	31	15	425	46	36	39	10	
Generator Sets	1	81	50%	630	49	46	49	10	630	44	41	44	15	425	52	49	52	10	
Haul Trucks	8	76	20%	630	53	46	49	10	630	48	41	44	15	425	56	49	52	10	
Jackhammer	4	89	20%	630	63	56	59	10	630	58	51	54	15	425	66	59	62	10	
Loader	2	79	50%	630	50	47	50	10	630	45	42	45	15	425	53	50	53	10	
Grading/Excavation				67	62				62	57				70	65				
Air Compressor	2	78	50%	530	51	47	50	10	530	46	42	45	15	325	55	52	55	10	
Backhoe	3	80	40%	580	53	50	53	10	580	48	45	48	15	375	57	53	56	10	
Bore/Drill Rig	2	79	20%	630	50	43	46	10	630	45	38	41	15	425	53	46	49	10	
Compactor (Ground)	3	83	20%	630	56	49	52	10	630	51	44	47	15	425	59	52	55	10	
Dumpers/Tenders	3	76	20%	630	49	42	45	10	630	44	37	40	15	425	52	45	48	10	
Excavator	2	81	40%	630	52	48	51	10	630	47	43	46	15	425	55	51	54	10	
Forklift	1	75	10%	630	43	33	36	10	630	38	28	31	15	425	46	36	39	10	
Generator Sets	2	81	50%	630	52	49	52	10	630	47	44	47	15	425	55	52	55	10	
Haul Trucks	10	76	20%	630	54	47	50	10	630	49	42	45	15	425	57	50	53	10	
Loader	3	79	50%	630	52	49	52	10	630	47	44	47	15	425	55	52	55	10	
Pile Driver (Vibratory)	2	96	20%	630	67	60	63	10	630	62	55	58	15	425	70	63	66	10	
Vacuum Street Sweeper	1	82	10%	630	50	40	43	10	630	45	35	38	15	425	53	43	46	10	
Water Trucks	1	80	10%	630	48	38	41	10	630	43	33	36	15	425	51	41	44	10	
Foundation/Concrete Pour				56	57				51	52				59	60				
Air Compressor	2	78	50%	530	51	47	50	10	530	46	42	45	15	325	55	52	55	10	
Compactor (Ground)	2	83	20%	580	55	48	51	10	580	50	43	46	15	375	59	52	55	10	
Dumpers/Tenders	3	76	20%	630	49	42	45	10	630	44	37	40	15	425	52	45	48	10	
Forklift	2	75	10%	630	46	36	39	10	630	41	31	34	15	425	49	39	42	10	
Generator Sets	2	81	50%	630	52	49	52	10	630	47	44	47	15	425	55	52	55	10	
Pumps	2	81	50%	630	52	49	52	10	630	47	44	47	15	425	55	52	55	10	
Trenchers	2	85	50%	630	56	53	56	10	630	51	48	51	15	425	59	56	59	10	
Building Construction				53	54				48	49				57	57				
Air Compressor	2	78	50%	530	51	47	50	10	530	46	42	45	15	325	55	52	55	10	
Cranes	2	81	40%	580	53	49	52	10	580	48	44	47	15	375	57	53	56	10	
Dumpers/Tenders	3	76	20%	630	49	42	45	10	630	44	37	40	15	425	52	45	48	10	
Forklift	2	75	10%	630	46	36	39	10	630	41	31	34	15	425	49	39	42	10	
Generator Sets	2	81	50%	630	52	49	52	10	630	47	44	47	15	425	55	52	55	10	
Paving				59	52				54	47				62	56				
Paver	1	77	50%	530	46	43	46	10	530	41	38	41	15	325	51	48	51	10	
Pavement Scarifier	1	90	20%	580	59	52	55	10	580	54	47	50	15	375	62	56	59	10	
Architectural Coating				51	52				46	47				55	56				
Air Compressor	2	78	50%	530	51	47	50	10	530	46	42	45	15	325	55	52	55	10	
Cranes	1	81	40%	580	50	46	49	10	580	45	41	44	15	375	53	50	53	10	
Dumpers/Tenders	3	76	20%	630	49	42	45	10	630	44	37	40	15	425	52	45	48	10	
Forklift	2	75	10%	630	46	36	39	10	630	41	31	34	15	425	49	39	42	10	
Generator Sets	1	81	50%	630	49	46	49	10	630	44	41	44	15	425	52	49	52	10	

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan A

S4 Education & Conference Center and East Ambulatory Care & Rese

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R7				R8				R9						
				Estimated Noise Shielding, dBA				Estimated Noise Shielding, dBA				Estimated Noise Shielding, dBA						
				Distance (ft)	Lmax	Leq	L10	Distance (ft)	Lmax	Leq	L10	Distance (ft)	Lmax	Leq	L10	Estimate d Noise Shielding , dBA		
Demolition				55	51			55	51			85	84					
Air Compressor	3	78	50%	750	44	41	44	15	750	44	41	44	15	50	83	80	83	0
Backhoe	3	80	40%	800	46	42	45	15	800	46	42	45	15	100	79	75	78	0
Dumpers/Tenders	4	76	20%	850	42	35	38	15	850	42	35	38	15	150	72	65	68	0
Excavator	3	81	40%	850	46	42	45	15	850	46	42	45	15	150	76	72	75	0
Forklift	1	75	10%	850	35	25	28	15	850	35	25	28	15	150	65	55	58	0
Generator Sets	1	81	50%	850	41	38	41	15	850	41	38	41	15	150	71	68	71	0
Haul Trucks	8	76	20%	850	45	38	41	15	850	45	38	41	15	150	75	68	71	0
Jackhammer	4	89	20%	850	55	48	51	15	850	55	48	51	15	150	85	78	81	0
Loader	2	79	50%	850	42	39	42	15	850	42	39	42	15	150	72	69	72	0
Grading/Excavation				59	54				59	54				89	85			
Air Compressor	2	78	50%	750	42	39	42	15	750	42	39	42	15	50	81	78	81	0
Backhoe	3	80	40%	800	46	42	45	15	800	46	42	45	15	100	79	75	78	0
Bore/Drill Rig	2	79	20%	850	42	35	38	15	850	42	35	38	15	150	72	65	68	0
Compactor (Ground)	3	83	20%	850	48	41	44	15	850	48	41	44	15	150	78	71	74	0
Dumpers/Tenders	3	76	20%	850	41	34	37	15	850	41	34	37	15	150	71	64	67	0
Excavator	2	81	40%	850	44	40	43	15	850	44	40	43	15	150	74	70	73	0
Forklift	1	75	10%	850	35	25	28	15	850	35	25	28	15	150	65	55	58	0
Generator Sets	2	81	50%	850	44	41	44	15	850	44	41	44	15	150	74	71	74	0
Haul Trucks	10	76	20%	850	46	39	42	15	850	46	39	42	15	150	76	69	72	0
Loader	3	79	50%	850	44	41	44	15	850	44	41	44	15	150	74	71	74	0
Pile Driver (Vibratory)	2	96	20%	850	59	52	55	15	850	59	52	55	15	150	89	82	85	0
Vacuum Street Sweeper	1	82	10%	850	42	32	35	15	850	42	32	35	15	150	72	62	65	0
Water Trucks	1	80	10%	850	40	30	33	15	850	40	30	33	15	150	70	60	63	0
Foundation/Concrete Pour				48	49				48	49				81	82			
Air Compressor	2	78	50%	750	42	39	42	15	750	42	39	42	15	50	81	78	81	0
Compactor (Ground)	2	83	20%	800	47	40	43	15	800	47	40	43	15	100	80	73	76	0
Dumpers/Tenders	3	76	20%	850	41	34	37	15	850	41	34	37	15	150	71	64	67	0
Forklift	2	75	10%	850	38	28	31	15	850	38	28	31	15	150	68	58	61	0
Generator Sets	2	81	50%	850	44	41	44	15	850	44	41	44	15	150	74	71	74	0
Pumps	2	81	50%	850	44	41	44	15	850	44	41	44	15	150	74	71	74	0
Trenchers	2	85	50%	850	48	45	48	15	850	48	45	48	15	150	78	75	78	0
Building Construction				45	46				45	46				81	80			
Air Compressor	2	78	50%	750	42	39	42	15	750	42	39	42	15	50	81	78	81	0
Cranes	2	81	40%	800	45	41	44	15	800	45	41	44	15	100	78	74	77	0
Dumpers/Tenders	3	76	20%	850	41	34	37	15	850	41	34	37	15	150	71	64	67	0
Forklift	2	75	10%	850	38	28	31	15	850	38	28	31	15	150	68	58	61	0
Generator Sets	2	81	50%	850	44	41	44	15	850	44	41	44	15	150	74	71	74	0
Paving				51	45				51	45				84	79			
Paver	1	77	50%	750	38	35	38	15	750	38	35	38	15	50	77	74	77	0
Pavement Scarifier	1	90	20%	800	51	44	47	15	800	51	44	47	15	100	84	77	80	0
Architectural Coating				42	44				42	44				81	79			
Air Compressor	2	78	50%	750	42	39	42	15	750	42	39	42	15	50	81	78	81	0
Cranes	1	81	40%	800	42	38	41	15	800	42	38	41	15	100	75	71	74	0
Dumpers/Tenders	3	76	20%	850	41	34	37	15	850	41	34	37	15	150	71	64	67	0
Forklift	2	75	10%	850	38	28	31	15	850	38	28	31	15	150	68	58	61	0
Generator Sets	1	81	50%	850	41	38	41	15	850	41	38	41	15	150	71	68	71	0

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project

Construction Noise Impact on Sensitive Receptors



Phasing Plan A

S5 Visitor Housing

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

				R1					R2					R3							
Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Estimated Noise					Estimated Noise					Estimated Noise							
				Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA			
Building Construction					40	42					43	44					47	49			
Air Compressor	2	78	50%	1000	40	37	40	15	730	43	40	43	15	750	47	44	47	10			
Cranes	1	81	40%	1050	40	36	39	15	780	42	38	41	15	800	47	43	46	10			
Dumpers/Tenders	3	76	20%	1100	39	32	35	15	830	41	34	37	15	850	46	39	42	10			
Forklift	1	75	10%	1100	33	23	26	15	830	36	26	29	15	850	40	30	33	10			
Generator Sets	1	81	50%	1100	39	36	39	15	830	42	39	42	15	850	46	43	46	10			
Architectural Coating					40	42					43	44					47	49			
Air Compressor	2	78	50%	1000	40	37	40	15	730	43	40	43	15	750	47	44	47	10			
Cranes	1	81	40%	1050	40	36	39	15	780	42	38	41	15	800	47	43	46	10			
Dumpers/Tenders	3	76	20%	1100	39	32	35	15	830	41	34	37	15	850	46	39	42	10			
Forklift	1	75	10%	1100	33	23	26	15	830	36	26	29	15	850	40	30	33	10			
Generator Sets	1	81	50%	1100	39	36	39	15	830	42	39	42	15	850	46	43	46	10			

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project

Construction Noise Impact on Sensitive Receptors



Phasing Plan A

S5 Visitor Housing

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

				R4					R5					R6							
Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Estimated Noise					Estimated Noise					Estimated Noise							
				Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA			
Building Construction					46	47					44	45					43	45			
Air Compressor	2	78	50%	520	46	43	46	15	650	44	41	44	15	700	43	40	43	15			
Cranes	1	81	40%	570	45	41	44	15	700	43	39	42	15	750	42	38	41	15			
Dumpers/Tenders	3	76	20%	620	44	37	40	15	750	42	35	38	15	800	42	35	38	15			
Forklift	1	75	10%	620	38	28	31	15	750	36	26	29	15	800	36	26	29	15			
Generator Sets	1	81	50%	620	44	41	44	15	750	42	39	42	15	800	42	39	42	15			
Architectural Coating					46	47					44	45					43	45			
Air Compressor	2	78	50%	520	46	43	46	15	650	44	41	44	15	700	43	40	43	15			
Cranes	1	81	40%	570	45	41	44	15	700	43	39	42	15	750	42	38	41	15			
Dumpers/Tenders	3	76	20%	620	44	37	40	15	750	42	35	38	15	800	42	35	38	15			
Forklift	1	75	10%	620	38	28	31	15	750	36	26	29	15	800	36	26	29	15			
Generator Sets	1	81	50%	620	44	41	44	15	750	42	39	42	15	800	42	39	42	15			

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan A

S5 Visitor Housing

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R7					R8					R9					
				Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L11	Estimate d Noise Shielding , dBA	
Building Construction					38	40					38	40				81	79		
Air Compressor	2	78	50%	1200	38	35	38	15	1250	38	35	38	15	50	81	78	81	0	
Cranes	1	81	40%	1250	38	34	37	15	1300	38	34	37	15	100	75	71	74	0	
Dumpers/Tenders	3	76	20%	1300	37	30	33	15	1350	37	30	33	15	150	71	64	67	0	
Forklift	1	75	10%	1300	32	22	25	15	1350	31	21	24	15	150	65	55	58	0	
Generator Sets	1	81	50%	1300	38	35	38	15	1350	37	34	37	15	150	71	68	71	0	
Architectural Coating					38	40				38	40				81	79			
Air Compressor	2	78	50%	1200	38	35	38	15	1250	38	35	38	15	50	81	78	81	0	
Cranes	1	81	40%	1250	38	34	37	15	1300	38	34	37	15	100	75	71	74	0	
Dumpers/Tenders	3	76	20%	1300	37	30	33	15	1350	37	30	33	15	150	71	64	67	0	
Forklift	1	75	10%	1300	32	22	25	15	1350	31	21	24	15	150	65	55	58	0	
Generator Sets	1	81	50%	1300	38	35	38	15	1350	37	34	37	15	150	71	68	71	0	

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan A

2D/E East Ambulatory & Acute Care Building and Mullin Plaza Café

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R1					R2					R3						
				Estimated Noise					Estimated Noise					Estimated Noise						
				Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA		
Demolition				49	48					54	53				46	45				
Air Compressor	2	78	50%	800	42	39	42	15	810	47	44	47	10	1200	38	35	38	15		
Backhoe	2	80	40%	850	43	39	42	15	860	48	44	47	10	1250	40	36	39	15		
Dumpers/Tenders	2	76	20%	900	39	32	35	15	910	44	37	40	10	1300	36	29	32	15		
Excavator	2	81	40%	900	44	40	43	15	910	49	45	48	10	1300	41	37	40	15		
Forklift	1	75	10%	900	35	25	28	15	910	40	30	33	10	1300	32	22	25	15		
Generator Sets	1	81	50%	900	41	38	41	15	910	46	43	46	10	1300	38	35	38	15		
Haul Trucks	8	76	20%	900	45	38	41	15	910	50	43	46	10	1300	42	35	38	15		
Jackhammer	1	89	20%	900	49	42	45	15	910	54	47	50	10	1300	46	39	42	15		
Loader	2	79	50%	900	42	39	42	15	910	47	44	47	10	1300	39	36	39	15		
Grading/Excavation				56	51				61	56				53	48					
Air Compressor	1	78	50%	800	39	36	39	15	810	44	41	44	10	1200	35	32	35	15		
Backhoe	2	80	40%	850	43	39	42	15	860	48	44	47	10	1250	40	36	39	15		
Bore/Drill Rig	1	79	20%	900	39	32	35	15	910	44	37	40	10	1300	36	29	32	15		
Compactor (Ground)	2	83	20%	900	46	39	42	15	910	51	44	47	10	1300	43	36	39	15		
Dumpers/Tenders	2	76	20%	900	39	32	35	15	910	44	37	40	10	1300	36	29	32	15		
Excavator	3	81	40%	900	46	42	45	15	910	51	47	50	10	1300	42	38	41	15		
Forklift	1	75	10%	900	35	25	28	15	910	40	30	33	10	1300	32	22	25	15		
Generator Sets	1	81	50%	900	41	38	41	15	910	46	43	46	10	1300	38	35	38	15		
Haul Trucks	10	76	20%	900	46	39	42	15	910	51	44	47	10	1300	43	36	39	15		
Loader	2	79	50%	900	42	39	42	15	910	47	44	47	10	1300	39	36	39	15		
Pile Driver (Vibratory)	1	96	20%	900	56	49	52	15	910	61	54	57	10	1300	53	46	49	15		
Vacuum Street Sweeper	1	82	10%	900	42	32	35	15	910	47	37	40	10	1300	39	29	32	15		
Water Trucks	1	80	10%	900	40	30	33	15	910	45	35	38	10	1300	37	27	30	15		
Foundation/Concrete Pour				45	46				50	51				42	43					
Air Compressor	1	78	50%	800	39	36	39	15	810	44	41	44	10	1200	35	32	35	15		
Compactor (Ground)	1	83	20%	850	43	36	39	15	860	48	41	44	10	1250	40	33	36	15		
Dumpers/Tenders	2	76	20%	900	39	32	35	15	910	44	37	40	10	1300	36	29	32	15		
Forklift	1	75	10%	900	35	25	28	15	910	40	30	33	10	1300	32	22	25	15		
Generator Sets	1	81	50%	900	41	38	41	15	910	46	43	46	10	1300	38	35	38	15		
Pumps	2	81	50%	900	44	41	44	15	910	49	46	49	10	1300	41	38	41	15		
Trenchers	1	85	50%	900	45	42	45	15	910	50	47	50	10	1300	42	39	42	15		
Building Construction				42	43				47	48				38	40					
Air Compressor	2	78	50%	800	42	39	42	15	810	47	44	47	10	1200	38	35	38	15		
Cranes	1	81	40%	850	41	37	40	15	860	46	42	45	10	1250	38	34	37	15		
Dumpers/Tenders	3	76	20%	900	41	34	37	15	910	46	39	42	10	1300	37	30	33	15		
Forklift	1	75	10%	900	35	25	28	15	910	40	30	33	10	1300	32	22	25	15		
Generator Sets	1	81	50%	900	41	38	41	15	910	46	43	46	10	1300	38	35	38	15		
Paving				50	44				55	49				47	41					
Paver	1	77	50%	800	38	35	38	15	810	43	40	43	10	1200	34	31	34	15		
Pavement Scarifier	1	90	20%	850	50	43	46	15	860	55	48	51	10	1250	47	40	43	15		
Architectural Coating				42	43				47	48				38	40					
Air Compressor	2	78	50%	800	42	39	42	15	810	47	44	47	10	1200	38	35	38	15		
Cranes	1	81	40%	850	41	37	40	15	860	46	42	45	10	1250	38	34	37	15		
Dumpers/Tenders	3	76	20%	900	41	34	37	15	910	46	39	42	10	1300	37	30	33	15		
Forklift	1	75	10%	900	35	25	28	15	910	40	30	33	10	1300	32	22	25	15		
Generator Sets	1	81	50%	900	41	38	41	15	910	46	43	46	10	1300	38	35	38	15		

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan A

2D/E East Ambulatory & Acute Care Building and Mullin Plaza Café

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R4					R5					R6				
				Estimated Noise Shielding, dBA					Estimated Noise Shielding, dBA					Estimated Noise Shielding, dBA				
				Distance (ft)	Lmax	Leq	L10		Distance (ft)	Lmax	Leq	L10		Distance (ft)	Lmax	Leq	L10	
Demolition				52	52			66	65			80	81					
Air Compressor	2	78	50%	500	46	43	46	15	320	60	57	60	5	55	80	77	80	0
Backhoe	2	80	40%	550	47	43	46	15	370	61	57	60	5	105	77	73	76	0
Dumpers/Tenders	2	76	20%	600	42	35	38	15	420	56	49	52	5	155	69	62	65	0
Excavator	2	81	40%	600	47	43	46	15	420	61	57	60	5	155	74	70	73	0
Forklift	1	75	10%	600	38	28	31	15	420	52	42	45	5	155	65	55	58	0
Generator Sets	1	81	50%	600	44	41	44	15	420	58	55	58	5	155	71	68	71	0
Haul Trucks	8	76	20%	600	48	41	44	15	420	62	55	58	5	155	75	68	71	0
Jackhammer	1	89	20%	600	52	45	48	15	420	66	59	62	5	155	79	72	75	0
Loader	2	79	50%	600	45	42	45	15	420	59	56	59	5	155	72	69	72	0
Grading/Excavation				59	55				73	68				86	83			
Air Compressor	1	78	50%	500	43	40	43	15	320	57	54	57	5	55	77	74	77	0
Backhoe	2	80	40%	550	47	43	46	15	370	61	57	60	5	105	77	73	76	0
Bore/Drill Rig	1	79	20%	600	42	35	38	15	420	56	49	52	5	155	69	62	65	0
Compactor (Ground)	2	83	20%	600	49	42	45	15	420	63	56	59	5	155	76	69	72	0
Dumpers/Tenders	2	76	20%	600	42	35	38	15	420	56	49	52	5	155	69	62	65	0
Excavator	3	81	40%	600	49	45	48	15	420	62	58	61	5	155	76	72	75	0
Forklift	1	75	10%	600	38	28	31	15	420	52	42	45	5	155	65	55	58	0
Generator Sets	1	81	50%	600	44	41	44	15	420	58	55	58	5	155	71	68	71	0
Haul Trucks	10	76	20%	600	49	42	45	15	420	63	56	59	5	155	76	69	72	0
Loader	2	79	50%	600	45	42	45	15	420	59	56	59	5	155	72	69	72	0
Pile Driver (Vibratory)	1	96	20%	600	59	52	55	15	420	73	66	69	5	155	86	79	82	0
Vacuum Street Sweeper	1	82	10%	600	45	35	38	15	420	59	49	52	5	155	72	62	65	0
Water Trucks	1	80	10%	600	43	33	36	15	420	57	47	50	5	155	70	60	63	0
Foundation/Concrete Pour				48	50				62	63				77	79			
Air Compressor	1	78	50%	500	43	40	43	15	320	57	54	57	5	55	77	74	77	0
Compactor (Ground)	1	83	20%	550	47	40	43	15	370	61	54	57	5	105	77	70	73	0
Dumpers/Tenders	2	76	20%	600	42	35	38	15	420	56	49	52	5	155	69	62	65	0
Forklift	1	75	10%	600	38	28	31	15	420	52	42	45	5	155	65	55	58	0
Generator Sets	1	81	50%	600	44	41	44	15	420	58	55	58	5	155	71	68	71	0
Pumps	2	81	50%	600	47	44	47	15	420	61	58	61	5	155	74	71	74	0
Trenchers	1	85	50%	600	48	45	48	15	420	62	59	62	5	155	75	72	75	0
Building Construction				46	47				60	61				80	79			
Air Compressor	2	78	50%	500	46	43	46	15	320	60	57	60	5	55	80	77	80	0
Cranes	1	81	40%	550	45	41	44	15	370	59	55	58	5	105	75	71	74	0
Dumpers/Tenders	3	76	20%	600	44	37	40	15	420	57	50	53	5	155	71	64	67	0
Forklift	1	75	10%	600	38	28	31	15	420	52	42	45	5	155	65	55	58	0
Generator Sets	1	81	50%	600	44	41	44	15	420	58	55	58	5	155	71	68	71	0
Paving				54	48				68	61				84	78			
Paver	1	77	50%	500	42	39	42	15	320	56	53	56	5	55	76	73	76	0
Pavement Scarifier	1	90	20%	550	54	47	50	15	370	68	61	64	5	105	84	77	80	0
Architectural Coating				46	47				60	61				80	79			
Air Compressor	2	78	50%	500	46	43	46	15	320	60	57	60	5	55	80	77	80	0
Cranes	1	81	40%	550	45	41	44	15	370	59	55	58	5	105	75	71	74	0
Dumpers/Tenders	3	76	20%	600	44	37	40	15	420	57	50	53	5	155	71	64	67	0
Forklift	1	75	10%	600	38	28	31	15	420	52	42	45	5	155	65	55	58	0
Generator Sets	1	81	50%	600	44	41	44	15	420	58	55	58	5	155	71	68	71	0

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project

Construction Noise Impact on Sensitive Receptors



Phasing Plan A

2D/E East Ambulatory & Acute Care Building and Mullin Plaza Café

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R7					R8					R9				
				Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L11	Estimate d Noise Shielding , dBA
Demolition					57	56				52	51				65	64		
Air Compressor	2	78	50%	550	50	47	50	10	550	45	42	45	15	350	59	56	59	5
Backhoe	2	80	40%	600	51	47	50	10	600	46	42	45	15	400	60	56	59	5
Dumpers/Tenders	2	76	20%	650	47	40	43	10	650	42	35	38	15	450	55	48	51	5
Excavator	2	81	40%	650	52	48	51	10	650	47	43	46	15	450	60	56	59	5
Forklift	1	75	10%	650	43	33	36	10	650	38	28	31	15	450	51	41	44	5
Generator Sets	1	81	50%	650	49	46	49	10	650	44	41	44	15	450	57	54	57	5
Haul Trucks	8	76	20%	650	53	46	49	10	650	48	41	44	15	450	61	54	57	5
Jackhammer	1	89	20%	650	57	50	53	10	650	52	45	48	15	450	65	58	61	5
Loader	2	79	50%	650	50	47	50	10	650	45	42	45	15	450	58	55	58	5
Grading/Excavation					64	59				59	54				72	68		
Air Compressor	1	78	50%	550	47	44	47	10	550	42	39	42	15	350	56	53	56	5
Backhoe	2	80	40%	600	51	47	50	10	600	46	42	45	15	400	60	56	59	5
Bore/Drill Rig	1	79	20%	650	47	40	43	10	650	42	35	38	15	450	55	48	51	5
Compactor (Ground)	2	83	20%	650	54	47	50	10	650	49	42	45	15	450	62	55	58	5
Dumpers/Tenders	2	76	20%	650	47	40	43	10	650	42	35	38	15	450	55	48	51	5
Excavator	3	81	40%	650	53	50	53	10	650	48	45	48	15	450	62	58	61	5
Forklift	1	75	10%	650	43	33	36	10	650	38	28	31	15	450	51	41	44	5
Generator Sets	1	81	50%	650	49	46	49	10	650	44	41	44	15	450	57	54	57	5
Haul Trucks	10	76	20%	650	54	47	50	10	650	49	42	45	15	450	62	55	58	5
Loader	2	79	50%	650	50	47	50	10	650	45	42	45	15	450	58	55	58	5
Pile Driver (Vibratory)	1	96	20%	650	64	57	60	10	650	59	52	55	15	450	72	65	68	5
Vacuum Street Sweeper	1	82	10%	650	50	40	43	10	650	45	35	38	15	450	58	48	51	5
Water Trucks	1	80	10%	650	48	38	41	10	650	43	33	36	15	450	56	46	49	5
Foundation/Concrete Pour					53	54				48	49				61	63		
Air Compressor	1	78	50%	550	47	44	47	10	550	42	39	42	15	350	56	53	56	5
Compactor (Ground)	1	83	20%	600	51	44	47	10	600	46	39	42	15	400	60	53	56	5
Dumpers/Tenders	2	76	20%	650	47	40	43	10	650	42	35	38	15	450	55	48	51	5
Forklift	1	75	10%	650	43	33	36	10	650	38	28	31	15	450	51	41	44	5
Generator Sets	1	81	50%	650	49	46	49	10	650	44	41	44	15	450	57	54	57	5
Pumps	2	81	50%	650	52	49	52	10	650	47	44	47	15	450	60	57	60	5
Trenchers	1	85	50%	650	53	50	53	10	650	48	45	48	15	450	61	58	61	5
Building Construction					50	51				45	46				59	60		
Air Compressor	2	78	50%	550	50	47	50	10	550	45	42	45	15	350	59	56	59	5
Cranes	1	81	40%	600	49	45	48	10	600	44	40	43	15	400	58	54	57	5
Dumpers/Tenders	3	76	20%	650	48	42	45	10	650	43	37	40	15	450	57	50	53	5
Forklift	1	75	10%	650	43	33	36	10	650	38	28	31	15	450	51	41	44	5
Generator Sets	1	81	50%	650	49	46	49	10	650	44	41	44	15	450	57	54	57	5
Paving					58	52				53	47				67	61		
Paver	1	77	50%	550	46	43	46	10	550	41	38	41	15	350	55	52	55	5
Pavement Scarifier	1	90	20%	600	58	51	54	10	600	53	46	49	15	400	67	60	63	5
Architectural Coating					50	51				45	46				59	60		
Air Compressor	2	78	50%	550	50	47	50	10	550	45	42	45	15	350	59	56	59	5
Cranes	1	81	40%	600	49	45	48	10	600	44	40	43	15	400	58	54	57	5
Dumpers/Tenders	3	76	20%	650	48	42	45	10	650	43	37	40	15	450	57	50	53	5
Forklift	1	75	10%	650	43	33	36	10	650	38	28	31	15	450	51	41	44	5
Generator Sets	1	81	50%	650	49	46	49	10	650	44	41	44	15	450	57	54	57	5

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan B

S2 Multi-Family Housing

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R1					R2					R3				
				Estimated Noise Shielding, dBA					Estimated Noise Shielding, dBA					Estimated Noise Shielding, dBA				
				Distance (ft)	Lmax	Leq	L10		Distance (ft)	Lmax	Leq	L10		Distance (ft)	Lmax	Leq	L10	
Demolition				46	45			48	47			59	57					
Air Compressor	1	78	50%	1100	36	33	36	15	860	38	35	38	15	840	48	45	48	5
Backhoe	1	80	40%	1150	38	34	37	15	910	40	36	39	15	890	50	46	49	5
Dumpers/Tenders	2	76	20%	1200	36	29	32	15	960	38	31	34	15	940	49	42	45	5
Excavator	2	81	40%	1200	41	37	40	15	960	43	39	42	15	940	54	50	53	5
Forklift	1	75	10%	1200	32	22	25	15	960	34	24	27	15	940	45	35	38	5
Generator Sets	1	81	50%	1200	38	35	38	15	960	40	37	40	15	940	51	48	51	5
Haul Trucks	8	76	20%	1200	42	35	38	15	960	44	37	40	15	940	55	48	51	5
Jackhammer	1	89	20%	1200	46	39	42	15	960	48	41	44	15	940	59	52	55	5
Loader	1	79	50%	1200	36	33	36	15	960	38	35	38	15	940	49	46	49	5
Grading/Excavation				53	48				55	50				66	61			
Air Compressor	1	78	50%	1100	36	33	36	15	860	38	35	38	15	840	48	45	48	5
Backhoe	1	80	40%	1150	38	34	37	15	910	40	36	39	15	890	50	46	49	5
Bore/Drill Rig	1	79	20%	1200	36	29	32	15	960	38	31	34	15	940	49	42	45	5
Compactor (Ground)	1	83	20%	1200	40	33	36	15	960	42	35	38	15	940	53	46	49	5
Dumpers/Tenders	2	76	20%	1200	36	29	32	15	960	38	31	34	15	940	49	42	45	5
Excavator	2	81	40%	1200	41	37	40	15	960	43	39	42	15	940	54	50	53	5
Forklift	1	75	10%	1200	32	22	25	15	960	34	24	27	15	940	45	35	38	5
Generator Sets	1	81	50%	1200	38	35	38	15	960	40	37	40	15	940	51	48	51	5
Haul Trucks	10	76	20%	1200	43	36	39	15	960	45	38	41	15	940	56	49	52	5
Loader	1	79	50%	1200	36	33	36	15	960	38	35	38	15	940	49	46	49	5
Pile Driver (Vibratory)	1	96	20%	1200	53	46	49	15	960	55	48	51	15	940	66	59	62	5
Vacuum Street Sweeper	1	82	10%	1200	39	29	32	15	960	41	31	34	15	940	52	42	45	5
Water Trucks	1	80	10%	1200	37	27	30	15	960	39	29	32	15	940	50	40	43	5
Foundation/Concrete Pour				42	42				44	44				55	55			
Air Compressor	1	78	50%	1100	36	33	36	15	860	38	35	38	15	840	48	45	48	5
Compactor (Ground)	1	83	20%	1150	41	34	37	15	910	43	36	39	15	890	53	46	49	5
Dumpers/Tenders	2	76	20%	1200	36	29	32	15	960	38	31	34	15	940	49	42	45	5
Forklift	1	75	10%	1200	32	22	25	15	960	34	24	27	15	940	45	35	38	5
Generator Sets	1	81	50%	1200	38	35	38	15	960	40	37	40	15	940	51	48	51	5
Trenchers	1	85	50%	1200	42	39	42	15	960	44	41	44	15	940	55	52	55	5
Building Construction				39	41				41	43				52	53			
Air Compressor	2	78	50%	1100	39	36	39	15	860	41	38	41	15	840	52	48	51	5
Cranes	1	81	40%	1150	39	35	38	15	910	41	37	40	15	890	51	47	50	5
Dumpers/Tenders	3	76	20%	1200	38	31	34	15	960	40	33	36	15	940	50	43	46	5
Forklift	1	75	10%	1200	32	22	25	15	960	34	24	27	15	940	45	35	38	5
Generator Sets	1	81	50%	1200	38	35	38	15	960	40	37	40	15	940	51	48	51	5
Paving				48	41				50	43				60	54			
Paver	1	77	50%	1100	35	32	35	15	860	37	34	37	15	840	47	44	47	5
Pavement Scarifier	1	90	20%	1150	48	41	44	15	910	50	43	46	15	890	60	53	56	5
Architectural Coating				39	41				41	43				52	53			
Air Compressor	2	78	50%	1100	39	36	39	15	860	41	38	41	15	840	52	48	51	5
Cranes	1	81	40%	1150	39	35	38	15	910	41	37	40	15	890	51	47	50	5
Dumpers/Tenders	3	76	20%	1200	38	31	34	15	960	40	33	36	15	940	50	43	46	5
Forklift	1	75	10%	1200	32	22	25	15	960	34	24	27	15	940	45	35	38	5
Generator Sets	1	81	50%	1200	38	35	38	15	960	40	37	40	15	940	51	48	51	5

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan B

S2 Multi-Family Housing

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R4					R5					R6				
				Estimated Noise Shielding, dBA					Estimated Noise Shielding, dBA					Estimated Noise Shielding, dBA				
				Distance (ft)	Lmax	Leq	L10		Distance (ft)	Lmax	Leq	L10		Distance (ft)	Lmax	Leq	L10	
Demolition				60 58					52 51					50 49				
Air Compressor	1	78	50%	360	51	48	51	10	500	43	40	43	15	650	41	38	41	15
Backhoe	1	80	40%	410	52	48	51	10	550	44	40	43	15	700	42	38	41	15
Dumpers/Tenders	2	76	20%	460	50	43	46	10	600	42	35	38	15	750	40	33	36	15
Excavator	2	81	40%	460	55	51	54	10	600	47	43	46	15	750	45	42	45	15
Forklift	1	75	10%	460	46	36	39	10	600	38	28	31	15	750	36	26	29	15
Generator Sets	1	81	50%	460	52	49	52	10	600	44	41	44	15	750	42	39	42	15
Haul Trucks	8	76	20%	460	56	49	52	10	600	48	41	44	15	750	47	40	43	15
Jackhammer	1	89	20%	460	60	53	56	10	600	52	45	48	15	750	50	43	46	15
Loader	1	79	50%	460	50	47	50	10	600	42	39	42	15	750	40	37	40	15
Grading/Excavation				67 62					59 54					57 53				
Air Compressor	1	78	50%	360	51	48	51	10	500	43	40	43	15	650	41	38	41	15
Backhoe	1	80	40%	410	52	48	51	10	550	44	40	43	15	700	42	38	41	15
Bore/Drill Rig	1	79	20%	460	50	43	46	10	600	42	35	38	15	750	40	33	36	15
Compactor (Ground)	1	83	20%	460	54	47	50	10	600	46	39	42	15	750	44	37	40	15
Dumpers/Tenders	2	76	20%	460	50	43	46	10	600	42	35	38	15	750	40	33	36	15
Excavator	2	81	40%	460	55	51	54	10	600	47	43	46	15	750	45	42	45	15
Forklift	1	75	10%	460	46	36	39	10	600	38	28	31	15	750	36	26	29	15
Generator Sets	1	81	50%	460	52	49	52	10	600	44	41	44	15	750	42	39	42	15
Haul Trucks	10	76	20%	460	57	50	53	10	600	49	42	45	15	750	47	40	43	15
Loader	1	79	50%	460	50	47	50	10	600	42	39	42	15	750	40	37	40	15
Pile Driver (Vibratory)	1	96	20%	460	67	60	63	10	600	59	52	55	15	750	57	50	53	15
Vacuum Street Sweeper	1	82	10%	460	53	43	46	10	600	45	35	38	15	750	43	33	36	15
Water Trucks	1	80	10%	460	51	41	44	10	600	43	33	36	15	750	41	31	34	15
Foundation/Concrete Pour				56 56					48 49					46 47				
Air Compressor	1	78	50%	360	51	48	51	10	500	43	40	43	15	650	41	38	41	15
Compactor (Ground)	1	83	20%	410	55	48	51	10	550	47	40	43	15	700	45	38	41	15
Dumpers/Tenders	2	76	20%	460	50	43	46	10	600	42	35	38	15	750	40	33	36	15
Forklift	1	75	10%	460	46	36	39	10	600	38	28	31	15	750	36	26	29	15
Generator Sets	1	81	50%	460	52	49	52	10	600	44	41	44	15	750	42	39	42	15
Trenchers	1	85	50%	460	56	53	56	10	600	48	45	48	15	750	46	43	46	15
Building Construction				54 55					46 47					44 45				
Air Compressor	2	78	50%	360	54	51	54	10	500	46	43	46	15	650	44	41	44	15
Cranes	1	81	40%	410	53	49	52	10	550	45	41	44	15	700	43	39	42	15
Dumpers/Tenders	3	76	20%	460	51	45	48	10	600	44	37	40	15	750	42	35	38	15
Forklift	1	75	10%	460	46	36	39	10	600	38	28	31	15	750	36	26	29	15
Generator Sets	1	81	50%	460	52	49	52	10	600	44	41	44	15	750	42	39	42	15
Paving				62 55					54 48					52 46				
Paver	1	77	50%	360	50	47	50	10	500	42	39	42	15	650	40	37	40	15
Pavement Scarifier	1	90	20%	410	62	55	58	10	550	54	47	50	15	700	52	45	48	15
Architectural Coating				54 55					46 47					44 45				
Air Compressor	2	78	50%	360	54	51	54	10	500	46	43	46	15	650	44	41	44	15
Cranes	1	81	40%	410	53	49	52	10	550	45	41	44	15	700	43	39	42	15
Dumpers/Tenders	3	76	20%	460	51	45	48	10	600	44	37	40	15	750	42	35	38	15
Forklift	1	75	10%	460	46	36	39	10	600	38	28	31	15	750	36	26	29	15
Generator Sets	1	81	50%	460	52	49	52	10	600	44	41	44	15	750	42	39	42	15

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan B

S2 Multi-Family Housing

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R7					R8					R9				
				Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L11	Estimate d Noise Shielding , dBA
Demolition				46	44				45	43				74	73			
Air Compressor	1	78	50%	1200	35	32	35	15	1300	35	32	35	15	170	67	64	67	0
Backhoe	1	80	40%	1250	37	33	36	15	1350	36	32	35	15	220	67	63	66	0
Dumpers/Tenders	2	76	20%	1300	36	29	32	15	1400	35	28	31	15	270	64	57	60	0
Excavator	2	81	40%	1300	41	37	40	15	1400	40	36	39	15	270	69	65	68	0
Forklift	1	75	10%	1300	32	22	25	15	1400	31	21	24	15	270	60	50	53	0
Generator Sets	1	81	50%	1300	38	35	38	15	1400	37	34	37	15	270	66	63	66	0
Haul Trucks	8	76	20%	1300	42	35	38	15	1400	41	34	37	15	270	70	63	66	0
Jackhammer	1	89	20%	1300	46	39	42	15	1400	45	38	41	15	270	74	67	70	0
Loader	1	79	50%	1300	36	33	36	15	1400	35	32	35	15	270	64	61	64	0
Grading/Excavation				53	48				52	47				81	77			
Air Compressor	1	78	50%	1200	35	32	35	15	1300	35	32	35	15	170	67	64	67	0
Backhoe	1	80	40%	1250	37	33	36	15	1350	36	32	35	15	220	67	63	66	0
Bore/Drill Rig	1	79	20%	1300	36	29	32	15	1400	35	28	31	15	270	64	57	60	0
Compactor (Ground)	1	83	20%	1300	40	33	36	15	1400	39	32	35	15	270	68	61	64	0
Dumpers/Tenders	2	76	20%	1300	36	29	32	15	1400	35	28	31	15	270	64	57	60	0
Excavator	2	81	40%	1300	41	37	40	15	1400	40	36	39	15	270	69	65	68	0
Forklift	1	75	10%	1300	32	22	25	15	1400	31	21	24	15	270	60	50	53	0
Generator Sets	1	81	50%	1300	38	35	38	15	1400	37	34	37	15	270	66	63	66	0
Haul Trucks	10	76	20%	1300	43	36	39	15	1400	42	35	38	15	270	71	64	67	0
Loader	1	79	50%	1300	36	33	36	15	1400	35	32	35	15	270	64	61	64	0
Pile Driver (Vibratory)	1	96	20%	1300	53	46	49	15	1400	52	45	48	15	270	81	74	77	0
Vacuum Street Sweeper	1	82	10%	1300	39	29	32	15	1400	38	28	31	15	270	67	57	60	0
Water Trucks	1	80	10%	1300	37	27	30	15	1400	36	26	29	15	270	65	55	58	0
Foundation/Concrete Pour				42	42				41	41				70	71			
Air Compressor	1	78	50%	1200	35	32	35	15	1300	35	32	35	15	170	67	64	67	0
Compactor (Ground)	1	83	20%	1250	40	33	36	15	1350	39	32	35	15	220	70	63	66	0
Dumpers/Tenders	2	76	20%	1300	36	29	32	15	1400	35	28	31	15	270	64	57	60	0
Forklift	1	75	10%	1300	32	22	25	15	1400	31	21	24	15	270	60	50	53	0
Generator Sets	1	81	50%	1300	38	35	38	15	1400	37	34	37	15	270	66	63	66	0
Trenchers	1	85	50%	1300	42	39	42	15	1400	41	38	41	15	270	70	67	70	0
Building Construction				38	40				38	39				70	70			
Air Compressor	2	78	50%	1200	38	35	38	15	1300	38	35	38	15	170	70	67	70	0
Cranes	1	81	40%	1250	38	34	37	15	1350	37	33	36	15	220	68	64	67	0
Dumpers/Tenders	3	76	20%	1300	37	30	33	15	1400	37	30	33	15	270	66	59	62	0
Forklift	1	75	10%	1300	32	22	25	15	1400	31	21	24	15	270	60	50	53	0
Generator Sets	1	81	50%	1300	38	35	38	15	1400	37	34	37	15	270	66	63	66	0
Paving				47	41				46	40				77	71			
Paver	1	77	50%	1200	34	31	34	15	1300	34	31	34	15	170	66	63	66	0
Pavement Scarifier	1	90	20%	1250	47	40	43	15	1350	46	39	42	15	220	77	70	73	0
Architectural Coating				38	40				38	39				70	70			
Air Compressor	2	78	50%	1200	38	35	38	15	1300	38	35	38	15	170	70	67	70	0
Cranes	1	81	40%	1250	38	34	37	15	1350	37	33	36	15	220	68	64	67	0
Dumpers/Tenders	3	76	20%	1300	37	30	33	15	1400	37	30	33	15	270	66	59	62	0
Forklift	1	75	10%	1300	32	22	25	15	1400	31	21	24	15	270	60	50	53	0
Generator Sets	1	81	50%	1300	38	35	38	15	1400	37	34	37	15	270	66	63	66	0

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project

Construction Noise Impact on Sensitive Receptors



Phasing Plan B

2C West Ambulatory & Acute Care Building

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R1					R2					R3				
				Estimated Noise Shielding, dBA					Estimated Noise Shielding, dBA					Estimated Noise Shielding, dBA				
				Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA
Demolition				54	53					59	58				48	47		
Air Compressor	2	78	50%	400	48	45	48	15	415	53	50	53	10	870	41	38	41	15
Backhoe	2	80	40%	450	49	45	48	15	465	54	50	53	10	920	43	39	42	15
Dumpers/Tenders	2	76	20%	500	44	37	40	15	515	49	42	45	10	970	38	31	34	15
Excavator	2	81	40%	500	49	45	48	15	515	54	50	53	10	970	43	39	42	15
Forklift	1	75	10%	500	40	30	33	15	515	45	35	38	10	970	34	24	27	15
Generator Sets	1	81	50%	500	46	43	46	15	515	51	48	51	10	970	40	37	40	15
Haul Trucks	8	76	20%	500	50	43	46	15	515	55	48	51	10	970	44	37	40	15
Jackhammer	1	89	20%	500	54	47	50	15	515	59	52	55	10	970	48	41	44	15
Loader	2	79	50%	500	47	44	47	15	515	52	49	52	10	970	41	38	41	15
Grading/Excavation				61	57				66	61				55	51			
Air Compressor	1	78	50%	400	45	42	45	15	415	50	47	50	10	870	38	35	38	15
Backhoe	2	80	40%	450	49	45	48	15	465	54	50	53	10	920	43	39	42	15
Bore/Drill Rig	1	79	20%	500	44	37	40	15	515	49	42	45	10	970	38	31	34	15
Compactor (Ground)	2	83	20%	500	51	44	47	15	515	56	49	52	10	970	45	38	41	15
Dumpers/Tenders	2	76	20%	500	44	37	40	15	515	49	42	45	10	970	38	31	34	15
Excavator	3	81	40%	500	51	47	50	15	515	56	52	55	10	970	45	41	44	15
Forklift	1	75	10%	500	40	30	33	15	515	45	35	38	10	970	34	24	27	15
Generator Sets	1	81	50%	500	46	43	46	15	515	51	48	51	10	970	40	37	40	15
Haul Trucks	10	76	20%	500	51	44	47	15	515	56	49	52	10	970	45	38	41	15
Loader	2	79	50%	500	47	44	47	15	515	52	49	52	10	970	41	38	41	15
Pile Driver (Vibratory)	1	96	20%	500	61	54	57	15	515	66	59	62	10	970	55	48	51	15
Vacuum Street Sweeper	1	82	10%	500	47	37	40	15	515	52	42	45	10	970	41	31	34	15
Water Trucks	1	80	10%	500	45	35	38	15	515	50	40	43	10	970	39	29	32	15
Foundation/Concrete Pour				50	52				55	56				44	46			
Air Compressor	1	78	50%	400	45	42	45	15	415	50	47	50	10	870	38	35	38	15
Compactor (Ground)	1	83	20%	450	49	42	45	15	465	54	47	50	10	920	43	36	39	15
Dumpers/Tenders	2	76	20%	500	44	37	40	15	515	49	42	45	10	970	38	31	34	15
Forklift	1	75	10%	500	40	30	33	15	515	45	35	38	10	970	34	24	27	15
Generator Sets	1	81	50%	500	46	43	46	15	515	51	48	51	10	970	40	37	40	15
Pumps	2	81	50%	500	49	46	49	15	515	54	51	54	10	970	43	40	43	15
Trenchers	1	85	50%	500	50	47	50	15	515	55	52	55	10	970	44	41	44	15
Building Construction				48	49				53	54				41	43			
Air Compressor	2	78	50%	400	48	45	48	15	415	53	50	53	10	870	41	38	41	15
Cranes	1	81	40%	450	47	43	46	15	465	52	48	51	10	920	41	37	40	15
Dumpers/Tenders	3	76	20%	500	46	39	42	15	515	51	44	47	10	970	40	33	36	15
Forklift	1	75	10%	500	40	30	33	15	515	45	35	38	10	970	34	24	27	15
Generator Sets	1	81	50%	500	46	43	46	15	515	51	48	51	10	970	40	37	40	15
Paving				56	50				61	54				50	43			
Paver	1	77	50%	400	44	41	44	15	415	49	46	49	10	870	37	34	37	15
Pavement Scarifier	1	90	20%	450	56	49	52	15	465	61	54	57	10	920	50	43	46	15
Architectural Coating				48	49				53	54				41	43			
Air Compressor	2	78	50%	400	48	45	48	15	415	53	50	53	10	870	41	38	41	15
Cranes	1	81	40%	450	47	43	46	15	465	52	48	51	10	920	41	37	40	15
Dumpers/Tenders	3	76	20%	500	46	39	42	15	515	51	44	47	10	970	40	33	36	15
Forklift	1	75	10%	500	40	30	33	15	515	45	35	38	10	970	34	24	27	15
Generator Sets	1	81	50%	500	46	43	46	15	515	51	48	51	10	970	40	37	40	15

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project

Construction Noise Impact on Sensitive Receptors



Phasing Plan B

2C West Ambulatory & Acute Care Building

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R4					R5					R6				
				Estimated Noise Shielding, dBA					Estimated Noise Shielding, dBA					Estimated Noise Shielding, dBA				
				Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA
Demolition				48	47					53	53				61	60		
Air Compressor	2	78	50%	950	40	37	40	15	850	46	43	46	10	600	54	51	54	5
Backhoe	2	80	40%	1000	42	38	41	15	900	48	44	47	10	650	56	52	55	5
Dumpers/Tenders	2	76	20%	1050	38	31	34	15	950	43	36	39	10	700	51	44	47	5
Excavator	2	81	40%	1050	43	39	42	15	950	48	44	47	10	700	56	52	55	5
Forklift	1	75	10%	1050	34	24	27	15	950	39	29	32	10	700	47	37	40	5
Generator Sets	1	81	50%	1050	40	37	40	15	950	45	42	45	10	700	53	50	53	5
Haul Trucks	8	76	20%	1050	44	37	40	15	950	49	42	45	10	700	57	50	53	5
Jackhammer	1	89	20%	1050	48	41	44	15	950	53	46	49	10	700	61	54	57	5
Loader	2	79	50%	1050	41	38	41	15	950	46	43	46	10	700	54	51	54	5
Grading/Excavation				55	50				60	56				68	64			
Air Compressor	1	78	50%	950	37	34	37	15	850	43	40	43	10	600	51	48	51	5
Backhoe	2	80	40%	1000	42	38	41	15	900	48	44	47	10	650	56	52	55	5
Bore/Drill Rig	1	79	20%	1050	38	31	34	15	950	43	36	39	10	700	51	44	47	5
Compactor (Ground)	2	83	20%	1050	45	38	41	15	950	50	43	46	10	700	58	51	54	5
Dumpers/Tenders	2	76	20%	1050	38	31	34	15	950	43	36	39	10	700	51	44	47	5
Excavator	3	81	40%	1050	44	40	43	15	950	50	46	49	10	700	58	54	57	5
Forklift	1	75	10%	1050	34	24	27	15	950	39	29	32	10	700	47	37	40	5
Generator Sets	1	81	50%	1050	40	37	40	15	950	45	42	45	10	700	53	50	53	5
Haul Trucks	10	76	20%	1050	45	38	41	15	950	50	43	46	10	700	58	51	54	5
Loader	2	79	50%	1050	41	38	41	15	950	46	43	46	10	700	54	51	54	5
Pile Driver (Vibratory)	1	96	20%	1050	55	48	51	15	950	60	53	56	10	700	68	61	64	5
Vacuum Street Sweeper	1	82	10%	1050	41	31	34	15	950	46	36	39	10	700	54	44	47	5
Water Trucks	1	80	10%	1050	39	29	32	15	950	44	34	37	10	700	52	42	45	5
Foundation/Concrete Pour				44	45				49	51				57	59			
Air Compressor	1	78	50%	950	37	34	37	15	850	43	40	43	10	600	51	48	51	5
Compactor (Ground)	1	83	20%	1000	42	35	38	15	900	48	41	44	10	650	56	49	52	5
Dumpers/Tenders	2	76	20%	1050	38	31	34	15	950	43	36	39	10	700	51	44	47	5
Forklift	1	75	10%	1050	34	24	27	15	950	39	29	32	10	700	47	37	40	5
Generator Sets	1	81	50%	1050	40	37	40	15	950	45	42	45	10	700	53	50	53	5
Pumps	2	81	50%	1050	43	40	43	15	950	48	45	48	10	700	56	53	56	5
Trenchers	1	85	50%	1050	44	41	44	15	950	49	46	49	10	700	57	54	57	5
Building Construction				40	42				46	48				54	56			
Air Compressor	2	78	50%	950	40	37	40	15	850	46	43	46	10	600	54	51	54	5
Cranes	1	81	40%	1000	40	36	39	15	900	46	42	45	10	650	54	50	53	5
Dumpers/Tenders	3	76	20%	1050	39	32	35	15	950	45	38	41	10	700	53	46	49	5
Forklift	1	75	10%	1050	34	24	27	15	950	39	29	32	10	700	47	37	40	5
Generator Sets	1	81	50%	1050	40	37	40	15	950	45	42	45	10	700	53	50	53	5
Paving				49	43				55	48				63	56			
Paver	1	77	50%	950	36	33	36	15	850	42	39	42	10	600	50	47	50	5
Pavement Scarifier	1	90	20%	1000	49	42	45	15	900	55	48	51	10	650	63	56	59	5
Architectural Coating				40	42				46	48				54	56			
Air Compressor	2	78	50%	950	40	37	40	15	850	46	43	46	10	600	54	51	54	5
Cranes	1	81	40%	1000	40	36	39	15	900	46	42	45	10	650	54	50	53	5
Dumpers/Tenders	3	76	20%	1050	39	32	35	15	950	45	38	41	10	700	53	46	49	5
Forklift	1	75	10%	1050	34	24	27	15	950	39	29	32	10	700	47	37	40	5
Generator Sets	1	81	50%	1050	40	37	40	15	950	45	42	45	10	700	53	50	53	5

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project

Construction Noise Impact on Sensitive Receptors



Phasing Plan B

2C West Ambulatory & Acute Care Building

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R7					R8					R9				
				Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L11	Estimate d Noise Shielding , dBA
Demolition					49	48				53	52				70	69		
Air Compressor	2	78	50%	780	42	39	42	15	480	46	43	46	15	350	64	61	64	0
Backhoe	2	80	40%	830	44	40	43	15	530	48	44	47	15	400	65	61	64	0
Dumpers/Tenders	2	76	20%	880	39	32	35	15	580	43	36	39	15	450	60	53	56	0
Excavator	2	81	40%	880	44	40	43	15	580	48	44	47	15	450	65	61	64	0
Forklift	1	75	10%	880	35	25	28	15	580	39	29	32	15	450	56	46	49	0
Generator Sets	1	81	50%	880	41	38	41	15	580	45	42	45	15	450	62	59	62	0
Haul Trucks	8	76	20%	880	45	38	41	15	580	49	42	45	15	450	66	59	62	0
Jackhammer	1	89	20%	880	49	42	45	15	580	53	46	49	15	450	70	63	66	0
Loader	2	79	50%	880	42	39	42	15	580	46	43	46	15	450	63	60	63	0
Grading/Excavation					56	52				60	55				77	73		
Air Compressor	1	78	50%	780	39	36	39	15	480	43	40	43	15	350	61	58	61	0
Backhoe	2	80	40%	830	44	40	43	15	530	48	44	47	15	400	65	61	64	0
Bore/Drill Rig	1	79	20%	880	39	32	35	15	580	43	36	39	15	450	60	53	56	0
Compactor (Ground)	2	83	20%	880	46	39	42	15	580	50	43	46	15	450	67	60	63	0
Dumpers/Tenders	2	76	20%	880	39	32	35	15	580	43	36	39	15	450	60	53	56	0
Excavator	3	81	40%	880	46	42	45	15	580	49	46	49	15	450	67	63	66	0
Forklift	1	75	10%	880	35	25	28	15	580	39	29	32	15	450	56	46	49	0
Generator Sets	1	81	50%	880	41	38	41	15	580	45	42	45	15	450	62	59	62	0
Haul Trucks	10	76	20%	880	46	39	42	15	580	50	43	46	15	450	67	60	63	0
Loader	2	79	50%	880	42	39	42	15	580	46	43	46	15	450	63	60	63	0
Pile Driver (Vibratory)	1	96	20%	880	56	49	52	15	580	60	53	56	15	450	77	70	73	0
Vacuum Street Sweeper	1	82	10%	880	42	32	35	15	580	46	36	39	15	450	63	53	56	0
Water Trucks	1	80	10%	880	40	30	33	15	580	44	34	37	15	450	61	51	54	0
Foundation/Concrete Pour					45	47				49	50				66	68		
Air Compressor	1	78	50%	780	39	36	39	15	480	43	40	43	15	350	61	58	61	0
Compactor (Ground)	1	83	20%	830	44	37	40	15	530	47	41	44	15	400	65	58	61	0
Dumpers/Tenders	2	76	20%	880	39	32	35	15	580	43	36	39	15	450	60	53	56	0
Forklift	1	75	10%	880	35	25	28	15	580	39	29	32	15	450	56	46	49	0
Generator Sets	1	81	50%	880	41	38	41	15	580	45	42	45	15	450	62	59	62	0
Pumps	2	81	50%	880	44	41	44	15	580	48	45	48	15	450	65	62	65	0
Trenchers	1	85	50%	880	45	42	45	15	580	49	46	49	15	450	66	63	66	0
Building Construction					42	44				46	48				64	65		
Air Compressor	2	78	50%	780	42	39	42	15	480	46	43	46	15	350	64	61	64	0
Cranes	1	81	40%	830	42	38	41	15	530	45	42	45	15	400	63	59	62	0
Dumpers/Tenders	3	76	20%	880	41	34	37	15	580	44	37	40	15	450	62	55	58	0
Forklift	1	75	10%	880	35	25	28	15	580	39	29	32	15	450	56	46	49	0
Generator Sets	1	81	50%	880	41	38	41	15	580	45	42	45	15	450	62	59	62	0
Paving					51	44				54	48				72	66		
Paver	1	77	50%	780	38	35	38	15	480	42	39	42	15	350	60	57	60	0
Pavement Scarifier	1	90	20%	830	51	44	47	15	530	54	48	51	15	400	72	65	68	0
Architectural Coating					42	44				46	48				64	65		
Air Compressor	2	78	50%	780	42	39	42	15	480	46	43	46	15	350	64	61	64	0
Cranes	1	81	40%	830	42	38	41	15	530	45	42	45	15	400	63	59	62	0
Dumpers/Tenders	3	76	20%	880	41	34	37	15	580	44	37	40	15	450	62	55	58	0
Forklift	1	75	10%	880	35	25	28	15	580	39	29	32	15	450	56	46	49	0
Generator Sets	1	81	50%	880	41	38	41	15	580	45	42	45	15	450	62	59	62	0

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan B

S1 Child & Family Development Center

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R1					R2					R3				
				Estimated Noise					Estimated Noise					Estimated Noise				
				Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA
Demolition				49	49					54	53					64	64	
Air Compressor	2	78	50%	750	42	39	42	15	400	48	45	48	15	380	58	55	58	5
Backhoe	2	80	40%	800	44	40	43	15	450	49	45	48	15	430	59	55	58	5
Dumpers/Tenders	2	76	20%	850	39	32	35	15	500	44	37	40	15	480	54	47	50	5
Excavator	2	81	40%	850	44	40	43	15	500	49	45	48	15	480	59	55	58	5
Forklift	1	75	10%	850	35	25	28	15	500	40	30	33	15	480	50	40	43	5
Generator Sets	1	81	50%	850	41	38	41	15	500	46	43	46	15	480	56	53	56	5
Haul Trucks	8	76	20%	850	45	38	41	15	500	50	43	46	15	480	60	53	56	5
Jackhammer	1	89	20%	850	49	42	45	15	500	54	47	50	15	480	64	57	60	5
Loader	2	79	50%	850	42	39	42	15	500	47	44	47	15	480	57	54	57	5
Grading/Excavation				56	52				61	57				71	67			
Air Compressor	1	78	50%	750	39	36	39	15	400	45	42	45	15	380	55	52	55	5
Backhoe	2	80	40%	800	44	40	43	15	450	49	45	48	15	430	59	55	58	5
Bore/Drill Rig	1	79	20%	850	39	32	35	15	500	44	37	40	15	480	54	47	50	5
Compactor (Ground)	2	83	20%	850	46	39	42	15	500	51	44	47	15	480	61	54	57	5
Dumpers/Tenders	2	76	20%	850	39	32	35	15	500	44	37	40	15	480	54	47	50	5
Excavator	3	81	40%	850	46	42	45	15	500	51	47	50	15	480	61	57	60	5
Forklift	1	75	10%	850	35	25	28	15	500	40	30	33	15	480	50	40	43	5
Generator Sets	1	81	50%	850	41	38	41	15	500	46	43	46	15	480	56	53	56	5
Haul Trucks	10	76	20%	850	46	39	42	15	500	51	44	47	15	480	61	54	57	5
Loader	2	79	50%	850	42	39	42	15	500	47	44	47	15	480	57	54	57	5
Pile Driver (Vibratory)	1	96	20%	850	56	49	52	15	500	61	54	57	15	480	71	64	67	5
Vacuum Street Sweeper	1	82	10%	850	42	32	35	15	500	47	37	40	15	480	57	47	50	5
Water Trucks	1	80	10%	850	40	30	33	15	500	45	35	38	15	480	55	45	48	5
Foundation/Concrete Pour				45	47				50	52				60	62			
Air Compressor	1	78	50%	750	39	36	39	15	400	45	42	45	15	380	55	52	55	5
Compactor (Ground)	1	83	20%	800	44	37	40	15	450	49	42	45	15	430	59	52	55	5
Dumpers/Tenders	2	76	20%	850	39	32	35	15	500	44	37	40	15	480	54	47	50	5
Forklift	1	75	10%	850	35	25	28	15	500	40	30	33	15	480	50	40	43	5
Generator Sets	1	81	50%	850	41	38	41	15	500	46	43	46	15	480	56	53	56	5
Pumps	2	81	50%	850	44	41	44	15	500	49	46	49	15	480	59	56	59	5
Trenchers	1	85	50%	850	45	42	45	15	500	50	47	50	15	480	60	57	60	5
Building Construction				42	44				48	49				58	59			
Air Compressor	2	78	50%	750	42	39	42	15	400	48	45	48	15	380	58	55	58	5
Cranes	1	81	40%	800	42	38	41	15	450	47	43	46	15	430	57	53	56	5
Dumpers/Tenders	3	76	20%	850	41	34	37	15	500	46	39	42	15	480	56	49	52	5
Forklift	1	75	10%	850	35	25	28	15	500	40	30	33	15	480	50	40	43	5
Generator Sets	1	81	50%	850	41	38	41	15	500	46	43	46	15	480	56	53	56	5
Paving				51	45				56	50				66	60			
Paver	1	77	50%	750	38	35	38	15	400	44	41	44	15	380	54	51	54	5
Pavement Scarifier	1	90	20%	800	51	44	47	15	450	56	49	52	15	430	66	59	62	5
Architectural Coating				42	44				48	49				58	59			
Air Compressor	2	78	50%	750	42	39	42	15	400	48	45	48	15	380	58	55	58	5
Cranes	1	81	40%	800	42	38	41	15	450	47	43	46	15	430	57	53	56	5
Dumpers/Tenders	3	76	20%	850	41	34	37	15	500	46	39	42	15	480	56	49	52	5
Forklift	1	75	10%	850	35	25	28	15	500	40	30	33	15	480	50	40	43	5
Generator Sets	1	81	50%	850	41	38	41	15	500	46	43	46	15	480	56	53	56	5

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project

Construction Noise Impact on Sensitive Receptors



Phasing Plan B

S1 Child & Family Development Center

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R4					R5					R6				
				Estimated Noise					Estimated Noise					Estimated Noise				
				Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA
Demolition				57	56					48	47				49	48		
Air Compressor	2	78	50%	530	51	47	50	10	880	41	38	41	15	815	42	39	42	15
Backhoe	2	80	40%	580	52	48	51	10	930	43	39	42	15	865	43	39	42	15
Dumpers/Tenders	2	76	20%	630	47	40	43	10	980	38	31	34	15	915	39	32	35	15
Excavator	2	81	40%	630	52	48	51	10	980	43	39	42	15	915	44	40	43	15
Forklift	1	75	10%	630	43	33	36	10	980	34	24	27	15	915	35	25	28	15
Generator Sets	1	81	50%	630	49	46	49	10	980	40	37	40	15	915	41	38	41	15
Haul Trucks	8	76	20%	630	53	46	49	10	980	44	37	40	15	915	45	38	41	15
Jackhammer	1	89	20%	630	57	50	53	10	980	48	41	44	15	915	49	42	45	15
Loader	2	79	50%	630	50	47	50	10	980	41	38	41	15	915	42	39	42	15
Grading/Excavation				64	60				55	51				56	51			
Air Compressor	1	78	50%	530	47	44	47	10	880	38	35	38	15	815	39	36	39	15
Backhoe	2	80	40%	580	52	48	51	10	930	43	39	42	15	865	43	39	42	15
Bore/Drill Rig	1	79	20%	630	47	40	43	10	980	38	31	34	15	915	39	32	35	15
Compactor (Ground)	2	83	20%	630	54	47	50	10	980	45	38	41	15	915	46	39	42	15
Dumpers/Tenders	2	76	20%	630	47	40	43	10	980	38	31	34	15	915	39	32	35	15
Excavator	3	81	40%	630	54	50	53	10	980	45	41	44	15	915	46	42	45	15
Forklift	1	75	10%	630	43	33	36	10	980	34	24	27	15	915	35	25	28	15
Generator Sets	1	81	50%	630	49	46	49	10	980	40	37	40	15	915	41	38	41	15
Haul Trucks	10	76	20%	630	54	47	50	10	980	45	38	41	15	915	46	39	42	15
Loader	2	79	50%	630	50	47	50	10	980	41	38	41	15	915	42	39	42	15
Pile Driver (Vibratory)	1	96	20%	630	64	57	60	10	980	55	48	51	15	915	56	49	52	15
Vacuum Street Sweeper	1	82	10%	630	50	40	43	10	980	41	31	34	15	915	42	32	35	15
Water Trucks	1	80	10%	630	48	38	41	10	980	39	29	32	15	915	40	30	33	15
Foundation/Concrete Pour				53	55				44	46				45	46			
Air Compressor	1	78	50%	530	47	44	47	10	880	38	35	38	15	815	39	36	39	15
Compactor (Ground)	1	83	20%	580	52	45	48	10	930	43	36	39	15	865	43	36	39	15
Dumpers/Tenders	2	76	20%	630	47	40	43	10	980	38	31	34	15	915	39	32	35	15
Forklift	1	75	10%	630	43	33	36	10	980	34	24	27	15	915	35	25	28	15
Generator Sets	1	81	50%	630	49	46	49	10	980	40	37	40	15	915	41	38	41	15
Pumps	2	81	50%	630	52	49	52	10	980	43	40	43	15	915	44	41	44	15
Trenchers	1	85	50%	630	53	50	53	10	980	44	41	44	15	915	45	42	45	15
Building Construction				51	52				41	43				42	43			
Air Compressor	2	78	50%	530	51	47	50	10	880	41	38	41	15	815	42	39	42	15
Cranes	1	81	40%	580	50	46	49	10	930	41	37	40	15	865	41	37	40	15
Dumpers/Tenders	3	76	20%	630	49	42	45	10	980	40	33	36	15	915	41	34	37	15
Forklift	1	75	10%	630	43	33	36	10	980	34	24	27	15	915	35	25	28	15
Generator Sets	1	81	50%	630	49	46	49	10	980	40	37	40	15	915	41	38	41	15
Paving				59	52				50	43				50	44			
Paver	1	77	50%	530	46	43	46	10	880	37	34	37	15	815	38	35	38	15
Pavement Scarifier	1	90	20%	580	59	52	55	10	930	50	43	46	15	865	50	43	46	15
Architectural Coating				51	52				41	43				42	43			
Air Compressor	2	78	50%	530	51	47	50	10	880	41	38	41	15	815	42	39	42	15
Cranes	1	81	40%	580	50	46	49	10	930	41	37	40	15	865	41	37	40	15
Dumpers/Tenders	3	76	20%	630	49	42	45	10	980	40	33	36	15	915	41	34	37	15
Forklift	1	75	10%	630	43	33	36	10	980	34	24	27	15	915	35	25	28	15
Generator Sets	1	81	50%	630	49	46	49	10	980	40	37	40	15	915	41	38	41	15

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project

Construction Noise Impact on Sensitive Receptors



Phasing Plan B

S1 Child & Family Development Center

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R7					R8					R9				
				Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L11	Estimate d Noise Shielding , dBA
Demolition					45	44				46	46				79	80		
Air Compressor	2	78	50%	1300	38	35	38	15	1100	39	36	39	15	65	79	76	79	0
Backhoe	2	80	40%	1350	39	35	38	15	1150	41	37	40	15	115	76	72	75	0
Dumpers/Tenders	2	76	20%	1400	35	28	31	15	1200	36	29	32	15	165	69	62	65	0
Excavator	2	81	40%	1400	40	36	39	15	1200	41	37	40	15	165	74	70	73	0
Forklift	1	75	10%	1400	31	21	24	15	1200	32	22	25	15	165	65	55	58	0
Generator Sets	1	81	50%	1400	37	34	37	15	1200	38	35	38	15	165	71	68	71	0
Haul Trucks	8	76	20%	1400	41	34	37	15	1200	42	35	38	15	165	75	68	71	0
Jackhammer	1	89	20%	1400	45	38	41	15	1200	46	39	42	15	165	79	72	75	0
Loader	2	79	50%	1400	38	35	38	15	1200	39	36	39	15	165	72	69	72	0
Grading/Excavation					52	48				53	49				86	82		
Air Compressor	1	78	50%	1300	35	32	35	15	1100	36	33	36	15	65	76	73	76	0
Backhoe	2	80	40%	1350	39	35	38	15	1150	41	37	40	15	115	76	72	75	0
Bore/Drill Rig	1	79	20%	1400	35	28	31	15	1200	36	29	32	15	165	69	62	65	0
Compactor (Ground)	2	83	20%	1400	42	35	38	15	1200	43	36	39	15	165	76	69	72	0
Dumpers/Tenders	2	76	20%	1400	35	28	31	15	1200	36	29	32	15	165	69	62	65	0
Excavator	3	81	40%	1400	42	38	41	15	1200	43	39	42	15	165	75	71	74	0
Forklift	1	75	10%	1400	31	21	24	15	1200	32	22	25	15	165	65	55	58	0
Generator Sets	1	81	50%	1400	37	34	37	15	1200	38	35	38	15	165	71	68	71	0
Haul Trucks	10	76	20%	1400	42	35	38	15	1200	43	36	39	15	165	76	69	72	0
Loader	2	79	50%	1400	38	35	38	15	1200	39	36	39	15	165	72	69	72	0
Pile Driver (Vibratory)	1	96	20%	1400	52	45	48	15	1200	53	46	49	15	165	86	79	82	0
Vacuum Street Sweeper	1	82	10%	1400	38	28	31	15	1200	39	29	32	15	165	72	62	65	0
Water Trucks	1	80	10%	1400	36	26	29	15	1200	37	27	30	15	165	70	60	63	0
Foundation/Concrete Pour					41	43				42	44				76	78		
Air Compressor	1	78	50%	1300	35	32	35	15	1100	36	33	36	15	65	76	73	76	0
Compactor (Ground)	1	83	20%	1350	39	32	35	15	1150	41	34	37	15	115	76	69	72	0
Dumpers/Tenders	2	76	20%	1400	35	28	31	15	1200	36	29	32	15	165	69	62	65	0
Forklift	1	75	10%	1400	31	21	24	15	1200	32	22	25	15	165	65	55	58	0
Generator Sets	1	81	50%	1400	37	34	37	15	1200	38	35	38	15	165	71	68	71	0
Pumps	2	81	50%	1400	40	37	40	15	1200	41	38	41	15	165	74	71	74	0
Trenchers	1	85	50%	1400	41	38	41	15	1200	42	39	42	15	165	75	72	75	0
Building Construction					38	39				39	41				79	77		
Air Compressor	2	78	50%	1300	38	35	38	15	1100	39	36	39	15	65	79	76	79	0
Cranes	1	81	40%	1350	37	33	36	15	1150	39	35	38	15	115	74	70	73	0
Dumpers/Tenders	3	76	20%	1400	37	30	33	15	1200	38	31	34	15	165	70	63	66	0
Forklift	1	75	10%	1400	31	21	24	15	1200	32	22	25	15	165	65	55	58	0
Generator Sets	1	81	50%	1400	37	34	37	15	1200	38	35	38	15	165	71	68	71	0
Paving					46	40				48	41				83	77		
Paver	1	77	50%	1300	34	31	34	15	1100	35	32	35	15	65	75	72	75	0
Pavement Scarifier	1	90	20%	1350	46	39	42	15	1150	48	41	44	15	115	83	76	79	0
Architectural Coating					38	39				39	41				79	77		
Air Compressor	2	78	50%	1300	38	35	38	15	1100	39	36	39	15	65	79	76	79	0
Cranes	1	81	40%	1350	37	33	36	15	1150	39	35	38	15	115	74	70	73	0
Dumpers/Tenders	3	76	20%	1400	37	30	33	15	1200	38	31	34	15	165	70	63	66	0
Forklift	1	75	10%	1400	31	21	24	15	1200	32	22	25	15	165	65	55	58	0
Generator Sets	1	81	50%	1400	37	34	37	15	1200	38	35	38	15	165	71	68	71	0

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan B

S3 West Ambulatory Care & Research Building

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R1					R2					R3					
				Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	
Demolition					53	52					59	59				52	52		
Air Compressor	2	78	50%	460	47	44	47	15	380	53	50	53	10	500	46	43	46	15	
Backhoe	2	80	40%	510	48	44	47	15	430	54	50	53	10	550	47	43	46	15	
Dumpers/Tenders	2	76	20%	560	43	36	39	15	480	49	42	45	10	600	42	35	38	15	
Excavator	2	81	40%	560	48	44	47	15	480	54	50	53	10	600	47	43	46	15	
Forklift	1	75	10%	560	39	29	32	15	480	45	35	38	10	600	38	28	31	15	
Generator Sets	1	81	50%	560	45	42	45	15	480	51	48	51	10	600	44	41	44	15	
Haul Trucks	8	76	20%	560	49	42	45	15	480	55	48	51	10	600	48	41	44	15	
Jackhammer	1	89	20%	560	53	46	49	15	480	59	52	55	10	600	52	45	48	15	
Loader	2	79	50%	560	46	43	46	15	480	52	49	52	10	600	45	42	45	15	
Grading/Excavation					60	56				66	62				59	55			
Air Compressor	1	78	50%	460	44	41	44	15	380	50	47	50	10	500	43	40	43	15	
Backhoe	2	80	40%	510	48	44	47	15	430	54	50	53	10	550	47	43	46	15	
Bore/Drill Rig	1	79	20%	560	43	36	39	15	480	49	42	45	10	600	42	35	38	15	
Compactor (Ground)	2	83	20%	560	50	43	46	15	480	56	49	52	10	600	49	42	45	15	
Dumpers/Tenders	2	76	20%	560	43	36	39	15	480	49	42	45	10	600	42	35	38	15	
Excavator	3	81	40%	560	50	46	49	15	480	56	52	55	10	600	49	45	48	15	
Forklift	1	75	10%	560	39	29	32	15	480	45	35	38	10	600	38	28	31	15	
Generator Sets	1	81	50%	560	45	42	45	15	480	51	48	51	10	600	44	41	44	15	
Haul Trucks	10	76	20%	560	50	43	46	15	480	56	49	52	10	600	49	42	45	15	
Loader	2	79	50%	560	46	43	46	15	480	52	49	52	10	600	45	42	45	15	
Pile Driver (Vibratory)	1	96	20%	560	60	53	56	15	480	66	59	62	10	600	59	52	55	15	
Vacuum Street Sweeper	1	82	10%	560	46	36	39	15	480	52	42	45	10	600	45	35	38	15	
Water Trucks	1	80	10%	560	44	34	37	15	480	50	40	43	10	600	43	33	36	15	
Foundation/Concrete Pour					49	51				55	57				48	50			
Air Compressor	1	78	50%	460	44	41	44	15	380	50	47	50	10	500	43	40	43	15	
Compactor (Ground)	1	83	20%	510	48	41	44	15	430	54	47	50	10	550	47	40	43	15	
Dumpers/Tenders	2	76	20%	560	43	36	39	15	480	49	42	45	10	600	42	35	38	15	
Forklift	1	75	10%	560	39	29	32	15	480	45	35	38	10	600	38	28	31	15	
Generator Sets	1	81	50%	560	45	42	45	15	480	51	48	51	10	600	44	41	44	15	
Pumps	2	81	50%	560	48	45	48	15	480	54	51	54	10	600	47	44	47	15	
Trenchers	1	85	50%	560	49	46	49	15	480	55	52	55	10	600	48	45	48	15	
Building Construction					47	48				53	54				46	47			
Air Compressor	2	78	50%	460	47	44	47	15	380	53	50	53	10	500	46	43	46	15	
Cranes	1	81	40%	510	46	42	45	15	430	52	48	51	10	550	45	41	44	15	
Dumpers/Tenders	3	76	20%	560	45	38	41	15	480	51	44	47	10	600	44	37	40	15	
Forklift	1	75	10%	560	39	29	32	15	480	45	35	38	10	600	38	28	31	15	
Generator Sets	1	81	50%	560	45	42	45	15	480	51	48	51	10	600	44	41	44	15	
Paving					55	48				61	55				54	48			
Paver	1	77	50%	460	43	40	43	15	380	49	46	49	10	500	42	39	42	15	
Pavement Scarifier	1	90	20%	510	55	48	51	15	430	61	54	57	10	550	54	47	50	15	
Architectural Coating					47	48				53	54				46	47			
Air Compressor	2	78	50%	460	47	44	47	15	380	53	50	53	10	500	46	43	46	15	
Cranes	1	81	40%	510	46	42	45	15	430	52	48	51	10	550	45	41	44	15	
Dumpers/Tenders	3	76	20%	560	45	38	41	15	480	51	44	47	10	600	44	37	40	15	
Forklift	1	75	10%	560	39	29	32	15	480	45	35	38	10	600	38	28	31	15	
Generator Sets	1	81	50%	560	45	42	45	15	480	51	48	51	10	600	44	41	44	15	

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan B

S3 West Ambulatory Care & Research Building

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leg to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R7					R8					R9				
				Distance (ft)	Lmax	Leg	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leg	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leg	L11	Estimate d Noise Shielding , dBA
Demolition					49	48				49	48				79	80		
Air Compressor	2	78	50%	830	42	39	42	15	760	42	39	42	15	65	79	76	79	0
Backhoe	2	80	40%	880	43	39	42	15	810	44	40	43	15	115	76	72	75	0
Dumpers/Tenders	2	76	20%	930	39	32	35	15	860	39	32	35	15	165	69	62	65	0
Excavator	2	81	40%	930	44	40	43	15	860	44	40	43	15	165	74	70	73	0
Forklift	1	75	10%	930	35	25	28	15	860	35	25	28	15	165	65	55	58	0
Generator Sets	1	81	50%	930	41	38	41	15	860	41	38	41	15	165	71	68	71	0
Haul Trucks	8	76	20%	930	45	38	41	15	860	45	38	41	15	165	75	68	71	0
Jackhammer	1	89	20%	930	49	42	45	15	860	49	42	45	15	165	79	72	75	0
Loader	2	79	50%	930	42	39	42	15	860	42	39	42	15	165	72	69	72	0
Grading/Excavation					56	51				56	52				86	82		
Air Compressor	1	78	50%	830	39	36	39	15	760	39	36	39	15	65	76	73	76	0
Backhoe	2	80	40%	880	43	39	42	15	810	44	40	43	15	115	76	72	75	0
Bore/Drill Rig	1	79	20%	930	39	32	35	15	860	39	32	35	15	165	69	62	65	0
Compactor (Ground)	2	83	20%	930	46	39	42	15	860	46	39	42	15	165	76	69	72	0
Dumpers/Tenders	2	76	20%	930	39	32	35	15	860	39	32	35	15	165	69	62	65	0
Excavator	3	81	40%	930	45	41	44	15	860	46	42	45	15	165	75	71	74	0
Forklift	1	75	10%	930	35	25	28	15	860	35	25	28	15	165	65	55	58	0
Generator Sets	1	81	50%	930	41	38	41	15	860	41	38	41	15	165	71	68	71	0
Haul Trucks	10	76	20%	930	46	39	42	15	860	46	39	42	15	165	76	69	72	0
Loader	2	79	50%	930	42	39	42	15	860	42	39	42	15	165	72	69	72	0
Pile Driver (Vibratory)	1	96	20%	930	56	49	52	15	860	56	49	52	15	165	86	79	82	0
Vacuum Street Sweeper	1	82	10%	930	42	32	35	15	860	42	32	35	15	165	72	62	65	0
Water Trucks	1	80	10%	930	40	30	33	15	860	40	30	33	15	165	70	60	63	0
Foundation/Concrete Pour					45	46				45	47				76	78		
Air Compressor	1	78	50%	830	39	36	39	15	760	39	36	39	15	65	76	73	76	0
Compactor (Ground)	1	83	20%	880	43	36	39	15	810	44	37	40	15	115	76	69	72	0
Dumpers/Tenders	2	76	20%	930	39	32	35	15	860	39	32	35	15	165	69	62	65	0
Forklift	1	75	10%	930	35	25	28	15	860	35	25	28	15	165	65	55	58	0
Generator Sets	1	81	50%	930	41	38	41	15	860	41	38	41	15	165	71	68	71	0
Pumps	2	81	50%	930	44	41	44	15	860	44	41	44	15	165	74	71	74	0
Trenchers	1	85	50%	930	45	42	45	15	860	45	42	45	15	165	75	72	75	0
Building Construction					42	43				42	44				79	77		
Air Compressor	2	78	50%	830	42	39	42	15	760	42	39	42	15	65	79	76	79	0
Cranes	1	81	40%	880	41	37	40	15	810	42	38	41	15	115	74	70	73	0
Dumpers/Tenders	3	76	20%	930	40	33	36	15	860	41	34	37	15	165	70	63	66	0
Forklift	1	75	10%	930	35	25	28	15	860	35	25	28	15	165	65	55	58	0
Generator Sets	1	81	50%	930	41	38	41	15	860	41	38	41	15	165	71	68	71	0
Paving					50	44				51	44				83	77		
Paver	1	77	50%	830	38	35	38	15	760	38	35	38	15	65	75	72	75	0
Pavement Scarifier	1	90	20%	880	50	43	46	15	810	51	44	47	15	115	83	76	79	0
Architectural Coating					42	43				42	44				79	77		
Air Compressor	2	78	50%	830	42	39	42	15	760	42	39	42	15	65	79	76	79	0
Cranes	1	81	40%	880	41	37	40	15	810	42	38	41	15	115	74	70	73	0
Dumpers/Tenders	3	76	20%	930	40	33	36	15	860	41	34	37	15	165	70	63	66	0
Forklift	1	75	10%	930	35	25	28	15	860	35	25	28	15	165	65	55	58	0
Generator Sets	1	81	50%	930	41	38	41	15	860	41	38	41	15	165	71	68	71	0

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan B

21 20th Street Medical Building

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft. Lmax	Acoustical Usage Factor	R1					R2					R3				
				Estimated Noise					Estimated Noise					Estimated Noise				
				Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA
Demolition				77	78					68	68				48	47		
Air Compressor	2	78	50%	90	76	73	76	0	220	63	60	63	5	870	41	38	41	15
Backhoe	2	80	40%	140	74	70	73	0	270	63	59	62	5	920	43	39	42	15
Dumpers/Tenders	2	76	20%	190	67	60	63	0	320	58	51	54	5	970	38	31	34	15
Excavator	2	81	40%	190	72	68	71	0	320	63	59	62	5	970	43	39	42	15
Forklift	1	75	10%	190	63	53	56	0	320	54	44	47	5	970	34	24	27	15
Generator Sets	1	81	50%	190	69	66	69	0	320	60	57	60	5	970	40	37	40	15
Haul Trucks	8	76	20%	190	73	66	69	0	320	64	57	60	5	970	44	37	40	15
Jackhammer	1	89	20%	190	77	70	73	0	320	68	61	64	5	970	48	41	44	15
Loader	2	79	50%	190	70	67	70	0	320	61	58	61	5	970	41	38	41	15
Grading/Excavation				84	80				75	71				55	51			
Air Compressor	1	78	50%	90	73	70	73	0	220	60	57	60	5	870	38	35	38	15
Backhoe	2	80	40%	140	74	70	73	0	270	63	59	62	5	920	43	39	42	15
Bore/Drill Rig	1	79	20%	190	67	60	63	0	320	58	51	54	5	970	38	31	34	15
Compactor (Ground)	2	83	20%	190	74	67	70	0	320	65	58	61	5	970	45	38	41	15
Dumpers/Tenders	2	76	20%	190	67	60	63	0	320	58	51	54	5	970	38	31	34	15
Excavator	3	81	40%	190	74	70	73	0	320	65	61	64	5	970	45	41	44	15
Forklift	1	75	10%	190	63	53	56	0	320	54	44	47	5	970	34	24	27	15
Generator Sets	1	81	50%	190	69	66	69	0	320	60	57	60	5	970	40	37	40	15
Haul Trucks	10	76	20%	190	74	67	70	0	320	65	58	61	5	970	45	38	41	15
Loader	2	79	50%	190	70	67	70	0	320	61	58	61	5	970	41	38	41	15
Pile Driver (Vibratory)	1	96	20%	190	84	77	80	0	320	75	68	71	5	970	55	48	51	15
Vacuum Street Sweeper	1	82	10%	190	70	60	63	0	320	61	51	54	5	970	41	31	34	15
Water Trucks	1	80	10%	190	68	58	61	0	320	59	49	52	5	970	39	29	32	15
Foundation/Concrete Pour				74	76				64	66				44	46			
Air Compressor	1	78	50%	90	73	70	73	0	220	60	57	60	5	870	38	35	38	15
Compactor (Ground)	1	83	20%	140	74	67	70	0	270	63	56	59	5	920	43	36	39	15
Dumpers/Tenders	2	76	20%	190	67	60	63	0	320	58	51	54	5	970	38	31	34	15
Forklift	1	75	10%	190	63	53	56	0	320	54	44	47	5	970	34	24	27	15
Generator Sets	1	81	50%	190	69	66	69	0	320	60	57	60	5	970	40	37	40	15
Pumps	2	81	50%	190	72	69	72	0	320	63	60	63	5	970	43	40	43	15
Trenchers	1	85	50%	190	73	70	73	0	320	64	61	64	5	970	44	41	44	15
Building Construction				76	75				63	64				41	43			
Air Compressor	2	78	50%	90	76	73	76	0	220	63	60	63	5	870	41	38	41	15
Cranes	1	81	40%	140	72	68	71	0	270	61	57	60	5	920	41	37	40	15
Dumpers/Tenders	3	76	20%	190	69	62	65	0	320	60	53	56	5	970	40	33	36	15
Forklift	1	75	10%	190	63	53	56	0	320	54	44	47	5	970	34	24	27	15
Generator Sets	1	81	50%	190	69	66	69	0	320	60	57	60	5	970	40	37	40	15
Paving				81	75				70	64				50	43			
Paver	1	77	50%	90	72	69	72	0	220	59	56	59	5	870	37	34	37	15
Pavement Scarifier	1	90	20%	140	81	74	77	0	270	70	63	66	5	920	50	43	46	15
Architectural Coating				76	75				63	64				41	43			
Air Compressor	2	78	50%	90	76	73	76	0	220	63	60	63	5	870	41	38	41	15
Cranes	1	81	40%	140	72	68	71	0	270	61	57	60	5	920	41	37	40	15
Dumpers/Tenders	3	76	20%	190	69	62	65	0	320	60	53	56	5	970	40	33	36	15
Forklift	1	75	10%	190	63	53	56	0	320	54	44	47	5	970	34	24	27	15
Generator Sets	1	81	50%	190	69	66	69	0	320	60	57	60	5	970	40	37	40	15

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan B

21 20th Street Medical Building

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R4					R5					R6				
				Estimated Noise					Estimated Noise					Estimated Noise				
				Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA
Demolition				45	44					46	45				48	47		
Air Compressor	2	78	50%	1250	38	35	38	15	1150	39	36	39	15	880	41	38	41	15
Backhoe	2	80	40%	1300	40	36	39	15	1200	40	36	39	15	930	43	39	42	15
Dumpers/Tenders	2	76	20%	1350	35	28	31	15	1250	36	29	32	15	980	38	31	34	15
Excavator	2	81	40%	1350	40	36	39	15	1250	41	37	40	15	980	43	39	42	15
Forklift	1	75	10%	1350	31	21	24	15	1250	32	22	25	15	980	34	24	27	15
Generator Sets	1	81	50%	1350	37	34	37	15	1250	38	35	38	15	980	40	37	40	15
Haul Trucks	8	76	20%	1350	41	34	37	15	1250	42	35	38	15	980	44	37	40	15
Jackhammer	1	89	20%	1350	45	38	41	15	1250	46	39	42	15	980	48	41	44	15
Loader	2	79	50%	1350	38	35	38	15	1250	39	36	39	15	980	41	38	41	15
Grading/Excavation				52	48				53	49				55	51			
Air Compressor	1	78	50%	1250	35	32	35	15	1150	36	33	36	15	880	38	35	38	15
Backhoe	2	80	40%	1300	40	36	39	15	1200	40	36	39	15	930	43	39	42	15
Bore/Drill Rig	1	79	20%	1350	35	28	31	15	1250	36	29	32	15	980	38	31	34	15
Compactor (Ground)	2	83	20%	1350	42	35	38	15	1250	43	36	39	15	980	45	38	41	15
Dumpers/Tenders	2	76	20%	1350	35	28	31	15	1250	36	29	32	15	980	38	31	34	15
Excavator	3	81	40%	1350	42	38	41	15	1250	43	39	42	15	980	45	41	44	15
Forklift	1	75	10%	1350	31	21	24	15	1250	32	22	25	15	980	34	24	27	15
Generator Sets	1	81	50%	1350	37	34	37	15	1250	38	35	38	15	980	40	37	40	15
Haul Trucks	10	76	20%	1350	42	35	38	15	1250	43	36	39	15	980	45	38	41	15
Loader	2	79	50%	1350	38	35	38	15	1250	39	36	39	15	980	41	38	41	15
Pile Driver (Vibratory)	1	96	20%	1350	52	45	48	15	1250	53	46	49	15	980	55	48	51	15
Vacuum Street Sweeper	1	82	10%	1350	38	28	31	15	1250	39	29	32	15	980	41	31	34	15
Water Trucks	1	80	10%	1350	36	26	29	15	1250	37	27	30	15	980	39	29	32	15
Foundation/Concrete Pour				41	43				42	44				44	46			
Air Compressor	1	78	50%	1250	35	32	35	15	1150	36	33	36	15	880	38	35	38	15
Compactor (Ground)	1	83	20%	1300	40	33	36	15	1200	40	33	36	15	930	43	36	39	15
Dumpers/Tenders	2	76	20%	1350	35	28	31	15	1250	36	29	32	15	980	38	31	34	15
Forklift	1	75	10%	1350	31	21	24	15	1250	32	22	25	15	980	34	24	27	15
Generator Sets	1	81	50%	1350	37	34	37	15	1250	38	35	38	15	980	40	37	40	15
Pumps	2	81	50%	1350	40	37	40	15	1250	41	38	41	15	980	43	40	43	15
Trenchers	1	85	50%	1350	41	38	41	15	1250	42	39	42	15	980	44	41	44	15
Building Construction				38	40				39	40				41	43			
Air Compressor	2	78	50%	1250	38	35	38	15	1150	39	36	39	15	880	41	38	41	15
Cranes	1	81	40%	1300	38	34	37	15	1200	38	34	37	15	930	41	37	40	15
Dumpers/Tenders	3	76	20%	1350	37	30	33	15	1250	38	31	34	15	980	40	33	36	15
Forklift	1	75	10%	1350	31	21	24	15	1250	32	22	25	15	980	34	24	27	15
Generator Sets	1	81	50%	1350	37	34	37	15	1250	38	35	38	15	980	40	37	40	15
Paving				47	40				47	41				50	43			
Paver	1	77	50%	1250	34	31	34	15	1150	35	32	35	15	880	37	34	37	15
Pavement Scarifier	1	90	20%	1300	47	40	43	15	1200	47	40	43	15	930	50	43	46	15
Architectural Coating				38	40				39	40				41	43			
Air Compressor	2	78	50%	1250	38	35	38	15	1150	39	36	39	15	880	41	38	41	15
Cranes	1	81	40%	1300	38	34	37	15	1200	38	34	37	15	930	41	37	40	15
Dumpers/Tenders	3	76	20%	1350	37	30	33	15	1250	38	31	34	15	980	40	33	36	15
Forklift	1	75	10%	1350	31	21	24	15	1250	32	22	25	15	980	34	24	27	15
Generator Sets	1	81	50%	1350	37	34	37	15	1250	38	35	38	15	980	40	37	40	15

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan B

21 20th Street Medical Building

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R7					R8					R9				
				Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L11	Estimate d Noise Shielding , dBA
Demolition					48	47					56	56					51	50
Air Compressor	2	78	50%	930	41	38	41	15	280	51	48	51	15	590	45	42	45	15
Backhoe	2	80	40%	980	42	38	41	15	330	52	48	51	15	640	46	42	45	15
Dumpers/Tenders	2	76	20%	1030	38	31	34	15	380	46	39	42	15	690	41	34	37	15
Excavator	2	81	40%	1030	43	39	42	15	380	51	47	50	15	690	46	42	45	15
Forklift	1	75	10%	1030	34	24	27	15	380	42	32	35	15	690	37	27	30	15
Generator Sets	1	81	50%	1030	40	37	40	15	380	48	45	48	15	690	43	40	43	15
Haul Trucks	8	76	20%	1030	44	37	40	15	380	52	45	48	15	690	47	40	43	15
Jackhammer	1	89	20%	1030	48	41	44	15	380	56	49	52	15	690	51	44	47	15
Loader	2	79	50%	1030	41	38	41	15	380	49	46	49	15	690	44	41	44	15
Grading/Excavation					55	50					63	59					58	54
Air Compressor	1	78	50%	930	38	35	38	15	280	48	45	48	15	590	42	39	42	15
Backhoe	2	80	40%	980	42	38	41	15	330	52	48	51	15	640	46	42	45	15
Bore/Drill Rig	1	79	20%	1030	38	31	34	15	380	46	39	42	15	690	41	34	37	15
Compactor (Ground)	2	83	20%	1030	45	38	41	15	380	53	46	49	15	690	48	41	44	15
Dumpers/Tenders	2	76	20%	1030	38	31	34	15	380	46	39	42	15	690	41	34	37	15
Excavator	3	81	40%	1030	44	41	44	15	380	53	49	52	15	690	48	44	47	15
Forklift	1	75	10%	1030	34	24	27	15	380	42	32	35	15	690	37	27	30	15
Generator Sets	1	81	50%	1030	40	37	40	15	380	48	45	48	15	690	43	40	43	15
Haul Trucks	10	76	20%	1030	45	38	41	15	380	53	46	49	15	690	48	41	44	15
Loader	2	79	50%	1030	41	38	41	15	380	49	46	49	15	690	44	41	44	15
Pile Driver (Vibratory)	1	96	20%	1030	55	48	51	15	380	63	56	59	15	690	58	51	54	15
Vacuum Street Sweeper	1	82	10%	1030	41	31	34	15	380	49	39	42	15	690	44	34	37	15
Water Trucks	1	80	10%	1030	39	29	32	15	380	47	37	40	15	690	42	32	35	15
Foundation/Concrete Pour					44	45					52	54					47	49
Air Compressor	1	78	50%	930	38	35	38	15	280	48	45	48	15	590	42	39	42	15
Compactor (Ground)	1	83	20%	980	42	35	38	15	330	52	45	48	15	640	46	39	42	15
Dumpers/Tenders	2	76	20%	1030	38	31	34	15	380	46	39	42	15	690	41	34	37	15
Forklift	1	75	10%	1030	34	24	27	15	380	42	32	35	15	690	37	27	30	15
Generator Sets	1	81	50%	1030	40	37	40	15	380	48	45	48	15	690	43	40	43	15
Pumps	2	81	50%	1030	43	40	43	15	380	51	48	51	15	690	46	43	46	15
Trenchers	1	85	50%	1030	44	41	44	15	380	52	49	52	15	690	47	44	47	15
Building Construction					41	42					51	52					45	46
Air Compressor	2	78	50%	930	41	38	41	15	280	51	48	51	15	590	45	42	45	15
Cranes	1	81	40%	980	40	36	39	15	330	50	46	49	15	640	44	40	43	15
Dumpers/Tenders	3	76	20%	1030	39	33	36	15	380	48	41	44	15	690	43	36	39	15
Forklift	1	75	10%	1030	34	24	27	15	380	42	32	35	15	690	37	27	30	15
Generator Sets	1	81	50%	1030	40	37	40	15	380	48	45	48	15	690	43	40	43	15
Paving					49	43					59	52					53	46
Paver	1	77	50%	930	37	34	37	15	280	47	44	47	15	590	41	38	41	15
Pavement Scarifier	1	90	20%	980	49	42	45	15	330	59	52	55	15	640	53	46	49	15
Architectural Coating					41	42					51	52					45	46
Air Compressor	2	78	50%	930	41	38	41	15	280	51	48	51	15	590	45	42	45	15
Cranes	1	81	40%	980	40	36	39	15	330	50	46	49	15	640	44	40	43	15
Dumpers/Tenders	3	76	20%	1030	39	33	36	15	380	48	41	44	15	690	43	36	39	15
Forklift	1	75	10%	1030	34	24	27	15	380	42	32	35	15	690	37	27	30	15
Generator Sets	1	81	50%	1030	40	37	40	15	380	48	45	48	15	690	43	40	43	15

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan B

S4 Education & Conference Center and East Ambulatory Care & Research

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R1					R2					R3				
				Estimated Noise					Estimated Noise					Estimated Noise				
				Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA
Demolition				56	53					57	53				56	52		
Air Compressor	3	78	50%	650	45	42	45	15	600	46	43	46	15	715	45	42	45	15
Backhoe	3	80	40%	700	47	43	46	15	650	47	44	47	15	765	46	42	45	15
Dumpers/Tenders	4	76	20%	750	43	37	40	15	700	44	37	40	15	815	43	36	39	15
Excavator	3	81	40%	750	47	43	46	15	700	48	44	47	15	815	47	43	46	15
Forklift	1	75	10%	750	36	26	29	15	700	37	27	30	15	815	36	26	29	15
Generator Sets	1	81	50%	750	42	39	42	15	700	43	40	43	15	815	42	39	42	15
Haul Trucks	8	76	20%	750	47	40	43	15	700	47	40	43	15	815	46	39	42	15
Jackhammer	4	89	20%	750	56	50	53	15	700	57	50	53	15	815	56	49	52	15
Loader	2	79	50%	750	43	40	43	15	700	44	41	44	15	815	43	40	43	15
Grading/Excavation				60	55				61	56				60	55			
Air Compressor	2	78	50%	650	44	41	44	15	600	44	41	44	15	715	43	40	43	15
Backhoe	3	80	40%	700	47	43	46	15	650	47	44	47	15	765	46	42	45	15
Bore/Drill Rig	2	79	20%	750	43	36	39	15	700	44	37	40	15	815	43	36	39	15
Compactor (Ground)	3	83	20%	750	49	42	45	15	700	50	43	46	15	815	49	42	45	15
Dumpers/Tenders	3	76	20%	750	42	35	38	15	700	43	36	39	15	815	42	35	38	15
Excavator	2	81	40%	750	45	42	45	15	700	46	42	45	15	815	45	41	44	15
Forklift	1	75	10%	750	36	26	29	15	700	37	27	30	15	815	36	26	29	15
Generator Sets	2	81	50%	750	45	42	45	15	700	46	43	46	15	815	45	42	45	15
Haul Trucks	10	76	20%	750	47	40	43	15	700	48	41	44	15	815	47	40	43	15
Loader	3	79	50%	750	45	42	45	15	700	46	43	46	15	815	45	42	45	15
Pile Driver (Vibratory)	2	96	20%	750	60	53	56	15	700	61	54	57	15	815	60	53	56	15
Vacuum Street Sweeper	1	82	10%	750	43	33	36	15	700	44	34	37	15	815	43	33	36	15
Water Trucks	1	80	10%	750	41	31	34	15	700	42	32	35	15	815	41	31	34	15
Foundation/Concrete Pour				49	50				50	51				49	50			
Air Compressor	2	78	50%	650	44	41	44	15	600	44	41	44	15	715	43	40	43	15
Compactor (Ground)	2	83	20%	700	48	41	44	15	650	49	42	45	15	765	47	40	43	15
Dumpers/Tenders	3	76	20%	750	42	35	38	15	700	43	36	39	15	815	42	35	38	15
Forklift	2	75	10%	750	39	29	32	15	700	40	30	33	15	815	39	29	32	15
Generator Sets	2	81	50%	750	45	42	45	15	700	46	43	46	15	815	45	42	45	15
Pumps	2	81	50%	750	45	42	45	15	700	46	43	46	15	815	45	42	45	15
Trenchers	2	85	50%	750	49	46	49	15	700	50	47	50	15	815	49	46	49	15
Building Construction				46	47				47	48				45	46			
Air Compressor	2	78	50%	650	44	41	44	15	600	44	41	44	15	715	43	40	43	15
Cranes	2	81	40%	700	46	42	45	15	650	47	43	46	15	765	45	41	44	15
Dumpers/Tenders	3	76	20%	750	42	35	38	15	700	43	36	39	15	815	42	35	38	15
Forklift	2	75	10%	750	39	29	32	15	700	40	30	33	15	815	39	29	32	15
Generator Sets	2	81	50%	750	45	42	45	15	700	46	43	46	15	815	45	42	45	15
Paving				52	46				53	46				51	45			
Paver	1	77	50%	650	40	37	40	15	600	40	37	40	15	715	39	36	39	15
Pavement Scarifier	1	90	20%	700	52	45	48	15	650	53	46	49	15	765	51	44	47	15
Architectural Coating				44	45				44	46				43	44			
Air Compressor	2	78	50%	650	44	41	44	15	600	44	41	44	15	715	43	40	43	15
Cranes	1	81	40%	700	43	39	42	15	650	44	40	43	15	765	42	38	41	15
Dumpers/Tenders	3	76	20%	750	42	35	38	15	700	43	36	39	15	815	42	35	38	15
Forklift	2	75	10%	750	39	29	32	15	700	40	30	33	15	815	39	29	32	15
Generator Sets	1	81	50%	750	42	39	42	15	700	43	40	43	15	815	42	39	42	15

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan B

S4 Education & Conference Center and East Ambulatory Care & Rese

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R4					R5					R6					
				Estimated Noise					Estimated Noise					Estimated Noise					
				Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	
Demolition				63	59					58	54				66	63			
Air Compressor	3	78	50%	530	52	49	52	10	530	47	44	47	15	325	57	54	57	10	
Backhoe	3	80	40%	580	53	50	53	10	580	48	45	48	15	375	57	53	56	10	
Dumpers/Tenders	4	76	20%	630	50	43	46	10	630	45	38	41	15	425	53	46	49	10	
Excavator	3	81	40%	630	54	50	53	10	630	49	45	48	15	425	57	53	56	10	
Forklift	1	75	10%	630	43	33	36	10	630	38	28	31	15	425	46	36	39	10	
Generator Sets	1	81	50%	630	49	46	49	10	630	44	41	44	15	425	52	49	52	10	
Haul Trucks	8	76	20%	630	53	46	49	10	630	48	41	44	15	425	56	49	52	10	
Jackhammer	4	89	20%	630	63	56	59	10	630	58	51	54	15	425	66	59	62	10	
Loader	2	79	50%	630	50	47	50	10	630	45	42	45	15	425	53	50	53	10	
Grading/Excavation				67	62				62	57				70	65				
Air Compressor	2	78	50%	530	51	47	50	10	530	46	42	45	15	325	55	52	55	10	
Backhoe	3	80	40%	580	53	50	53	10	580	48	45	48	15	375	57	53	56	10	
Bore/Drill Rig	2	79	20%	630	50	43	46	10	630	45	38	41	15	425	53	46	49	10	
Compactor (Ground)	3	83	20%	630	56	49	52	10	630	51	44	47	15	425	59	52	55	10	
Dumpers/Tenders	3	76	20%	630	49	42	45	10	630	44	37	40	15	425	52	45	48	10	
Excavator	2	81	40%	630	52	48	51	10	630	47	43	46	15	425	55	51	54	10	
Forklift	1	75	10%	630	43	33	36	10	630	38	28	31	15	425	46	36	39	10	
Generator Sets	2	81	50%	630	52	49	52	10	630	47	44	47	15	425	55	52	55	10	
Haul Trucks	10	76	20%	630	54	47	50	10	630	49	42	45	15	425	57	50	53	10	
Loader	3	79	50%	630	52	49	52	10	630	47	44	47	15	425	55	52	55	10	
Pile Driver (Vibratory)	2	96	20%	630	67	60	63	10	630	62	55	58	15	425	70	63	66	10	
Vacuum Street Sweeper	1	82	10%	630	50	40	43	10	630	45	35	38	15	425	53	43	46	10	
Water Trucks	1	80	10%	630	48	38	41	10	630	43	33	36	15	425	51	41	44	10	
Foundation/Concrete Pour				56	57				51	52				59	60				
Air Compressor	2	78	50%	530	51	47	50	10	530	46	42	45	15	325	55	52	55	10	
Compactor (Ground)	2	83	20%	580	55	48	51	10	580	50	43	46	15	375	59	52	55	10	
Dumpers/Tenders	3	76	20%	630	49	42	45	10	630	44	37	40	15	425	52	45	48	10	
Forklift	2	75	10%	630	46	36	39	10	630	41	31	34	15	425	49	39	42	10	
Generator Sets	2	81	50%	630	52	49	52	10	630	47	44	47	15	425	55	52	55	10	
Pumps	2	81	50%	630	52	49	52	10	630	47	44	47	15	425	55	52	55	10	
Trenchers	2	85	50%	630	56	53	56	10	630	51	48	51	15	425	59	56	59	10	
Building Construction				53	54				48	49				57	57				
Air Compressor	2	78	50%	530	51	47	50	10	530	46	42	45	15	325	55	52	55	10	
Cranes	2	81	40%	580	53	49	52	10	580	48	44	47	15	375	57	53	56	10	
Dumpers/Tenders	3	76	20%	630	49	42	45	10	630	44	37	40	15	425	52	45	48	10	
Forklift	2	75	10%	630	46	36	39	10	630	41	31	34	15	425	49	39	42	10	
Generator Sets	2	81	50%	630	52	49	52	10	630	47	44	47	15	425	55	52	55	10	
Paving				59	52				54	47				62	56				
Paver	1	77	50%	530	46	43	46	10	530	41	38	41	15	325	51	48	51	10	
Pavement Scarifier	1	90	20%	580	59	52	55	10	580	54	47	50	15	375	62	56	59	10	
Architectural Coating				51	52				46	47				55	56				
Air Compressor	2	78	50%	530	51	47	50	10	530	46	42	45	15	325	55	52	55	10	
Cranes	1	81	40%	580	50	46	49	10	580	45	41	44	15	375	53	50	53	10	
Dumpers/Tenders	3	76	20%	630	49	42	45	10	630	44	37	40	15	425	52	45	48	10	
Forklift	2	75	10%	630	46	36	39	10	630	41	31	34	15	425	49	39	42	10	
Generator Sets	1	81	50%	630	49	46	49	10	630	44	41	44	15	425	52	49	52	10	

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project

Construction Noise Impact on Sensitive Receptors



Phasing Plan B

S4 Education & Conference Center and East Ambulatory Care & Rese

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R7					R8					R9					
				Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L11	Estimate d Noise Shielding , dBA	
Demolition					55	51				55	51				85	84			
Air Compressor	3	78	50%	750	44	41	44	15	750	44	41	44	15	50	83	80	83	0	
Backhoe	3	80	40%	800	46	42	45	15	800	46	42	45	15	100	79	75	78	0	
Dumpers/Tenders	4	76	20%	850	42	35	38	15	850	42	35	38	15	150	72	65	68	0	
Excavator	3	81	40%	850	46	42	45	15	850	46	42	45	15	150	76	72	75	0	
Forklift	1	75	10%	850	35	25	28	15	850	35	25	28	15	150	65	55	58	0	
Generator Sets	1	81	50%	850	41	38	41	15	850	41	38	41	15	150	71	68	71	0	
Haul Trucks	8	76	20%	850	45	38	41	15	850	45	38	41	15	150	75	68	71	0	
Jackhammer	4	89	20%	850	55	48	51	15	850	55	48	51	15	150	85	78	81	0	
Loader	2	79	50%	850	42	39	42	15	850	42	39	42	15	150	72	69	72	0	
Grading/Excavation					59	54				59	54				89	85			
Air Compressor	2	78	50%	750	42	39	42	15	750	42	39	42	15	50	81	78	81	0	
Backhoe	3	80	40%	800	46	42	45	15	800	46	42	45	15	100	79	75	78	0	
Bore/Drill Rig	2	79	20%	850	42	35	38	15	850	42	35	38	15	150	72	65	68	0	
Compactor (Ground)	3	83	20%	850	48	41	44	15	850	48	41	44	15	150	78	71	74	0	
Dumpers/Tenders	3	76	20%	850	41	34	37	15	850	41	34	37	15	150	71	64	67	0	
Excavator	2	81	40%	850	44	40	43	15	850	44	40	43	15	150	74	70	73	0	
Forklift	1	75	10%	850	35	25	28	15	850	35	25	28	15	150	65	55	58	0	
Generator Sets	2	81	50%	850	44	41	44	15	850	44	41	44	15	150	74	71	74	0	
Haul Trucks	10	76	20%	850	46	39	42	15	850	46	39	42	15	150	76	69	72	0	
Loader	3	79	50%	850	44	41	44	15	850	44	41	44	15	150	74	71	74	0	
Pile Driver (Vibratory)	2	96	20%	850	59	52	55	15	850	59	52	55	15	150	89	82	85	0	
Vacuum Street Sweeper	1	82	10%	850	42	32	35	15	850	42	32	35	15	150	72	62	65	0	
Water Trucks	1	80	10%	850	40	30	33	15	850	40	30	33	15	150	70	60	63	0	
Foundation/Concrete Pour					48	49				48	49				81	82			
Air Compressor	2	78	50%	750	42	39	42	15	750	42	39	42	15	50	81	78	81	0	
Compactor (Ground)	2	83	20%	800	47	40	43	15	800	47	40	43	15	100	80	73	76	0	
Dumpers/Tenders	3	76	20%	850	41	34	37	15	850	41	34	37	15	150	71	64	67	0	
Forklift	2	75	10%	850	38	28	31	15	850	38	28	31	15	150	68	58	61	0	
Generator Sets	2	81	50%	850	44	41	44	15	850	44	41	44	15	150	74	71	74	0	
Pumps	2	81	50%	850	44	41	44	15	850	44	41	44	15	150	74	71	74	0	
Trenchers	2	85	50%	850	48	45	48	15	850	48	45	48	15	150	78	75	78	0	
Building Construction					45	46				45	46				81	80			
Air Compressor	2	78	50%	750	42	39	42	15	750	42	39	42	15	50	81	78	81	0	
Cranes	2	81	40%	800	45	41	44	15	800	45	41	44	15	100	78	74	77	0	
Dumpers/Tenders	3	76	20%	850	41	34	37	15	850	41	34	37	15	150	71	64	67	0	
Forklift	2	75	10%	850	38	28	31	15	850	38	28	31	15	150	68	58	61	0	
Generator Sets	2	81	50%	850	44	41	44	15	850	44	41	44	15	150	74	71	74	0	
Paving					51	45				51	45				84	79			
Paver	1	77	50%	750	38	35	38	15	750	38	35	38	15	50	77	74	77	0	
Pavement Scarifier	1	90	20%	800	51	44	47	15	800	51	44	47	15	100	84	77	80	0	
Architectural Coating					42	44				42	44				81	79			
Air Compressor	2	78	50%	750	42	39	42	15	750	42	39	42	15	50	81	78	81	0	
Cranes	1	81	40%	800	42	38	41	15	800	42	38	41	15	100	75	71	74	0	
Dumpers/Tenders	3	76	20%	850	41	34	37	15	850	41	34	37	15	150	71	64	67	0	
Forklift	2	75	10%	850	38	28	31	15	850	38	28	31	15	150	68	58	61	0	
Generator Sets	1	81	50%	850	41	38	41	15	850	41	38	41	15	150	71	68	71	0	

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project

Construction Noise Impact on Sensitive Receptors



Phasing Plan B

S5 Visitor Housing

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				R1					R2					R3				
Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Estimated Noise					Estimated Noise					Estimated Noise				
				Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA
Building Construction				40	42				43	44				47	49			
Air Compressor	2	78	50%	1000	40	37	40	15	730	43	40	43	15	750	47	44	47	10
Cranes	1	81	40%	1050	40	36	39	15	780	42	38	41	15	800	47	43	46	10
Dumpers/Tenders	3	76	20%	1100	39	32	35	15	830	41	34	37	15	850	46	39	42	10
Forklift	1	75	10%	1100	33	23	26	15	830	36	26	29	15	850	40	30	33	10
Generator Sets	1	81	50%	1100	39	36	39	15	830	42	39	42	15	850	46	43	46	10
Architectural Coating				40	42				43	44				47	49			
Air Compressor	2	78	50%	1000	40	37	40	15	730	43	40	43	15	750	47	44	47	10
Cranes	1	81	40%	1050	40	36	39	15	780	42	38	41	15	800	47	43	46	10
Dumpers/Tenders	3	76	20%	1100	39	32	35	15	830	41	34	37	15	850	46	39	42	10
Forklift	1	75	10%	1100	33	23	26	15	830	36	26	29	15	850	40	30	33	10
Generator Sets	1	81	50%	1100	39	36	39	15	830	42	39	42	15	850	46	43	46	10

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project

Construction Noise Impact on Sensitive Receptors



Phasing Plan B

S5 Visitor Housing

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				R4					R5					R6				
Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Estimated Noise					Estimated Noise					Estimated Noise				
				Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA
Building Construction					46	47					44	45					43	45
Air Compressor	2	78	50%	520	46	43	46	15	650	44	41	44	15	700	43	40	43	15
Cranes	1	81	40%	570	45	41	44	15	700	43	39	42	15	750	42	38	41	15
Dumpers/Tenders	3	76	20%	620	44	37	40	15	750	42	35	38	15	800	42	35	38	15
Forklift	1	75	10%	620	38	28	31	15	750	36	26	29	15	800	36	26	29	15
Generator Sets	1	81	50%	620	44	41	44	15	750	42	39	42	15	800	42	39	42	15
Architectural Coating					46	47				44	45				43	45		
Air Compressor	2	78	50%	520	46	43	46	15	650	44	41	44	15	700	43	40	43	15
Cranes	1	81	40%	570	45	41	44	15	700	43	39	42	15	750	42	38	41	15
Dumpers/Tenders	3	76	20%	620	44	37	40	15	750	42	35	38	15	800	42	35	38	15
Forklift	1	75	10%	620	38	28	31	15	750	36	26	29	15	800	36	26	29	15
Generator Sets	1	81	50%	620	44	41	44	15	750	42	39	42	15	800	42	39	42	15

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project

Construction Noise Impact on Sensitive Receptors



Phasing Plan B

S5 Visitor Housing

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R7					R8					R9				
				Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L11	Estimate d Noise Shielding , dBA
Building Construction				38	40				38	40				81	79			
Air Compressor	2	78	50%	1200	38	35	38	15	1250	38	35	38	15	50	81	78	81	0
Cranes	1	81	40%	1250	38	34	37	15	1300	38	34	37	15	100	75	71	74	0
Dumpers/Tenders	3	76	20%	1300	37	30	33	15	1350	37	30	33	15	150	71	64	67	0
Forklift	1	75	10%	1300	32	22	25	15	1350	31	21	24	15	150	65	55	58	0
Generator Sets	1	81	50%	1300	38	35	38	15	1350	37	34	37	15	150	71	68	71	0
Architectural Coating				38	40				38	40				81	79			
Air Compressor	2	78	50%	1200	38	35	38	15	1250	38	35	38	15	50	81	78	81	0
Cranes	1	81	40%	1250	38	34	37	15	1300	38	34	37	15	100	75	71	74	0
Dumpers/Tenders	3	76	20%	1300	37	30	33	15	1350	37	30	33	15	150	71	64	67	0
Forklift	1	75	10%	1300	32	22	25	15	1350	31	21	24	15	150	65	55	58	0
Generator Sets	1	81	50%	1300	38	35	38	15	1350	37	34	37	15	150	71	68	71	0

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan B

2D/E East Ambulatory & Acute Care Building and Mullin Plaza Café

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R1					R2					R3				
				Estimated Noise Shielding, dBA					Estimated Noise Shielding, dBA					Estimated Noise Shielding, dBA				
				Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA
Demolition				49	48					54	53				46	45		
Air Compressor	2	78	50%	800	42	39	42	15	810	47	44	47	10	1200	38	35	38	15
Backhoe	2	80	40%	850	43	39	42	15	860	48	44	47	10	1250	40	36	39	15
Dumpers/Tenders	2	76	20%	900	39	32	35	15	910	44	37	40	10	1300	36	29	32	15
Excavator	2	81	40%	900	44	40	43	15	910	49	45	48	10	1300	41	37	40	15
Forklift	1	75	10%	900	35	25	28	15	910	40	30	33	10	1300	32	22	25	15
Generator Sets	1	81	50%	900	41	38	41	15	910	46	43	46	10	1300	38	35	38	15
Haul Trucks	8	76	20%	900	45	38	41	15	910	50	43	46	10	1300	42	35	38	15
Jackhammer	1	89	20%	900	49	42	45	15	910	54	47	50	10	1300	46	39	42	15
Loader	2	79	50%	900	42	39	42	15	910	47	44	47	10	1300	39	36	39	15
Grading/Excavation				56	51				61	56				53	48			
Air Compressor	1	78	50%	800	39	36	39	15	810	44	41	44	10	1200	35	32	35	15
Backhoe	2	80	40%	850	43	39	42	15	860	48	44	47	10	1250	40	36	39	15
Bore/Drill Rig	1	79	20%	900	39	32	35	15	910	44	37	40	10	1300	36	29	32	15
Compactor (Ground)	2	83	20%	900	46	39	42	15	910	51	44	47	10	1300	43	36	39	15
Dumpers/Tenders	2	76	20%	900	39	32	35	15	910	44	37	40	10	1300	36	29	32	15
Excavator	3	81	40%	900	46	42	45	15	910	51	47	50	10	1300	42	38	41	15
Forklift	1	75	10%	900	35	25	28	15	910	40	30	33	10	1300	32	22	25	15
Generator Sets	1	81	50%	900	41	38	41	15	910	46	43	46	10	1300	38	35	38	15
Haul Trucks	10	76	20%	900	46	39	42	15	910	51	44	47	10	1300	43	36	39	15
Loader	2	79	50%	900	42	39	42	15	910	47	44	47	10	1300	39	36	39	15
Pile Driver (Vibratory)	1	96	20%	900	56	49	52	15	910	61	54	57	10	1300	53	46	49	15
Vacuum Street Sweeper	1	82	10%	900	42	32	35	15	910	47	37	40	10	1300	39	29	32	15
Water Trucks	1	80	10%	900	40	30	33	15	910	45	35	38	10	1300	37	27	30	15
Foundation/Concrete Pour				45	46				50	51				42	43			
Air Compressor	1	78	50%	800	39	36	39	15	810	44	41	44	10	1200	35	32	35	15
Compactor (Ground)	1	83	20%	850	43	36	39	15	860	48	41	44	10	1250	40	33	36	15
Dumpers/Tenders	2	76	20%	900	39	32	35	15	910	44	37	40	10	1300	36	29	32	15
Forklift	1	75	10%	900	35	25	28	15	910	40	30	33	10	1300	32	22	25	15
Generator Sets	1	81	50%	900	41	38	41	15	910	46	43	46	10	1300	38	35	38	15
Pumps	2	81	50%	900	44	41	44	15	910	49	46	49	10	1300	41	38	41	15
Trenchers	1	85	50%	900	45	42	45	15	910	50	47	50	10	1300	42	39	42	15
Building Construction				42	43				47	48				38	40			
Air Compressor	2	78	50%	800	42	39	42	15	810	47	44	47	10	1200	38	35	38	15
Cranes	1	81	40%	850	41	37	40	15	860	46	42	45	10	1250	38	34	37	15
Dumpers/Tenders	3	76	20%	900	41	34	37	15	910	46	39	42	10	1300	37	30	33	15
Forklift	1	75	10%	900	35	25	28	15	910	40	30	33	10	1300	32	22	25	15
Generator Sets	1	81	50%	900	41	38	41	15	910	46	43	46	10	1300	38	35	38	15
Paving				50	44				55	49				47	41			
Paver	1	77	50%	800	38	35	38	15	810	43	40	43	10	1200	34	31	34	15
Pavement Scarifier	1	90	20%	850	50	43	46	15	860	55	48	51	10	1250	47	40	43	15
Architectural Coating				42	43				47	48				38	40			
Air Compressor	2	78	50%	800	42	39	42	15	810	47	44	47	10	1200	38	35	38	15
Cranes	1	81	40%	850	41	37	40	15	860	46	42	45	10	1250	38	34	37	15
Dumpers/Tenders	3	76	20%	900	41	34	37	15	910	46	39	42	10	1300	37	30	33	15
Forklift	1	75	10%	900	35	25	28	15	910	40	30	33	10	1300	32	22	25	15
Generator Sets	1	81	50%	900	41	38	41	15	910	46	43	46	10	1300	38	35	38	15

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan B

2D/E East Ambulatory & Acute Care Building and Mullin Plaza Café

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R4				R5				R6						
				Estimated Noise				Estimated Noise				Estimated Noise						
				Distance (ft)	Lmax	Leq	L10 Shielding, dBA	Distance (ft)	Lmax	Leq	L10 Shielding, dBA	Distance (ft)	Lmax	Leq	L10 Shielding, dBA			
Demolition					52	52				66	65			80	81			
Air Compressor	2	78	50%	500	46	43	46	15	320	60	57	60	5	55	80	77	80	0
Backhoe	2	80	40%	550	47	43	46	15	370	61	57	60	5	105	77	73	76	0
Dumpers/Tenders	2	76	20%	600	42	35	38	15	420	56	49	52	5	155	69	62	65	0
Excavator	2	81	40%	600	47	43	46	15	420	61	57	60	5	155	74	70	73	0
Forklift	1	75	10%	600	38	28	31	15	420	52	42	45	5	155	65	55	58	0
Generator Sets	1	81	50%	600	44	41	44	15	420	58	55	58	5	155	71	68	71	0
Haul Trucks	8	76	20%	600	48	41	44	15	420	62	55	58	5	155	75	68	71	0
Jackhammer	1	89	20%	600	52	45	48	15	420	66	59	62	5	155	79	72	75	0
Loader	2	79	50%	600	45	42	45	15	420	59	56	59	5	155	72	69	72	0
Grading/Excavation					59	55				73	68			86	83			
Air Compressor	1	78	50%	500	43	40	43	15	320	57	54	57	5	55	77	74	77	0
Backhoe	2	80	40%	550	47	43	46	15	370	61	57	60	5	105	77	73	76	0
Bore/Drill Rig	1	79	20%	600	42	35	38	15	420	56	49	52	5	155	69	62	65	0
Compactor (Ground)	2	83	20%	600	49	42	45	15	420	63	56	59	5	155	76	69	72	0
Dumpers/Tenders	2	76	20%	600	42	35	38	15	420	56	49	52	5	155	69	62	65	0
Excavator	3	81	40%	600	49	45	48	15	420	62	58	61	5	155	76	72	75	0
Forklift	1	75	10%	600	38	28	31	15	420	52	42	45	5	155	65	55	58	0
Generator Sets	1	81	50%	600	44	41	44	15	420	58	55	58	5	155	71	68	71	0
Haul Trucks	10	76	20%	600	49	42	45	15	420	63	56	59	5	155	76	69	72	0
Loader	2	79	50%	600	45	42	45	15	420	59	56	59	5	155	72	69	72	0
Pile Driver (Vibratory)	1	96	20%	600	59	52	55	15	420	73	66	69	5	155	86	79	82	0
Vacuum Street Sweeper	1	82	10%	600	45	35	38	15	420	59	49	52	5	155	72	62	65	0
Water Trucks	1	80	10%	600	43	33	36	15	420	57	47	50	5	155	70	60	63	0
Foundation/Concrete Pour					48	50				62	63			77	79			
Air Compressor	1	78	50%	500	43	40	43	15	320	57	54	57	5	55	77	74	77	0
Compactor (Ground)	1	83	20%	550	47	40	43	15	370	61	54	57	5	105	77	70	73	0
Dumpers/Tenders	2	76	20%	600	42	35	38	15	420	56	49	52	5	155	69	62	65	0
Forklift	1	75	10%	600	38	28	31	15	420	52	42	45	5	155	65	55	58	0
Generator Sets	1	81	50%	600	44	41	44	15	420	58	55	58	5	155	71	68	71	0
Pumps	2	81	50%	600	47	44	47	15	420	61	58	61	5	155	74	71	74	0
Trenchers	1	85	50%	600	48	45	48	15	420	62	59	62	5	155	75	72	75	0
Building Construction					46	47				60	61			80	79			
Air Compressor	2	78	50%	500	46	43	46	15	320	60	57	60	5	55	80	77	80	0
Cranes	1	81	40%	550	45	41	44	15	370	59	55	58	5	105	75	71	74	0
Dumpers/Tenders	3	76	20%	600	44	37	40	15	420	57	50	53	5	155	71	64	67	0
Forklift	1	75	10%	600	38	28	31	15	420	52	42	45	5	155	65	55	58	0
Generator Sets	1	81	50%	600	44	41	44	15	420	58	55	58	5	155	71	68	71	0
Paving					54	48				68	61			84	78			
Paver	1	77	50%	500	42	39	42	15	320	56	53	56	5	55	76	73	76	0
Pavement Scarifier	1	90	20%	550	54	47	50	15	370	68	61	64	5	105	84	77	80	0
Architectural Coating					46	47				60	61			80	79			
Air Compressor	2	78	50%	500	46	43	46	15	320	60	57	60	5	55	80	77	80	0
Cranes	1	81	40%	550	45	41	44	15	370	59	55	58	5	105	75	71	74	0
Dumpers/Tenders	3	76	20%	600	44	37	40	15	420	57	50	53	5	155	71	64	67	0
Forklift	1	75	10%	600	38	28	31	15	420	52	42	45	5	155	65	55	58	0
Generator Sets	1	81	50%	600	44	41	44	15	420	58	55	58	5	155	71	68	71	0

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Providence Saint John's Phase II Project
Construction Noise Impact on Sensitive Receptors



Phasing Plan B

2D/E East Ambulatory & Acute Care Building and Mullin Plaza Café

Construction Hours:	8 Daytime hours (7 am to 7 pm)
	0 Evening hours (7 pm to 10 pm)
	0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R7					R8					R9				
				Estimated Noise Shielding, dBA					Estimated Noise Shielding, dBA					Estimated Noise Shielding, dBA				
				Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Shielding, dBA	Distance (ft)	Lmax	Leq	L11	Shielding, dBA
Demolition				57	56			52	51			65	64					
Air Compressor	2	78	50%	550	50	47	50	10	550	45	42	45	15	350	59	56	59	5
Backhoe	2	80	40%	600	51	47	50	10	600	46	42	45	15	400	60	56	59	5
Dumpers/Tenders	2	76	20%	650	47	40	43	10	650	42	35	38	15	450	55	48	51	5
Excavator	2	81	40%	650	52	48	51	10	650	47	43	46	15	450	60	56	59	5
Forklift	1	75	10%	650	43	33	36	10	650	38	28	31	15	450	51	41	44	5
Generator Sets	1	81	50%	650	49	46	49	10	650	44	41	44	15	450	57	54	57	5
Haul Trucks	8	76	20%	650	53	46	49	10	650	48	41	44	15	450	61	54	57	5
Jackhammer	1	89	20%	650	57	50	53	10	650	52	45	48	15	450	65	58	61	5
Loader	2	79	50%	650	50	47	50	10	650	45	42	45	15	450	58	55	58	5
Grading/Excavation				64	59				59	54				72	68			
Air Compressor	1	78	50%	550	47	44	47	10	550	42	39	42	15	350	56	53	56	5
Backhoe	2	80	40%	600	51	47	50	10	600	46	42	45	15	400	60	56	59	5
Bore/Drill Rig	1	79	20%	650	47	40	43	10	650	42	35	38	15	450	55	48	51	5
Compactor (Ground)	2	83	20%	650	54	47	50	10	650	49	42	45	15	450	62	55	58	5
Dumpers/Tenders	2	76	20%	650	47	40	43	10	650	42	35	38	15	450	55	48	51	5
Excavator	3	81	40%	650	53	50	53	10	650	48	45	48	15	450	62	58	61	5
Forklift	1	75	10%	650	43	33	36	10	650	38	28	31	15	450	51	41	44	5
Generator Sets	1	81	50%	650	49	46	49	10	650	44	41	44	15	450	57	54	57	5
Haul Trucks	10	76	20%	650	54	47	50	10	650	49	42	45	15	450	62	55	58	5
Loader	2	79	50%	650	50	47	50	10	650	45	42	45	15	450	58	55	58	5
Pile Driver (Vibratory)	1	96	20%	650	64	57	60	10	650	59	52	55	15	450	72	65	68	5
Vacuum Street Sweeper	1	82	10%	650	50	40	43	10	650	45	35	38	15	450	58	48	51	5
Water Trucks	1	80	10%	650	48	38	41	10	650	43	33	36	15	450	56	46	49	5
Foundation/Concrete Pour				53	54				48	49				61	63			
Air Compressor	1	78	50%	550	47	44	47	10	550	42	39	42	15	350	56	53	56	5
Compactor (Ground)	1	83	20%	600	51	44	47	10	600	46	39	42	15	400	60	53	56	5
Dumpers/Tenders	2	76	20%	650	47	40	43	10	650	42	35	38	15	450	55	48	51	5
Forklift	1	75	10%	650	43	33	36	10	650	38	28	31	15	450	51	41	44	5
Generator Sets	1	81	50%	650	49	46	49	10	650	44	41	44	15	450	57	54	57	5
Pumps	2	81	50%	650	52	49	52	10	650	47	44	47	15	450	60	57	60	5
Trenchers	1	85	50%	650	50	50	53	10	650	48	45	48	15	450	61	58	61	5
Building Construction				50	51				45	46				59	60			
Air Compressor	2	78	50%	550	50	47	50	10	550	45	42	45	15	350	59	56	59	5
Cranes	1	81	40%	600	49	45	48	10	600	44	40	43	15	400	58	54	57	5
Dumpers/Tenders	3	76	20%	650	48	42	45	10	650	43	37	40	15	450	57	50	53	5
Forklift	1	75	10%	650	43	33	36	10	650	38	28	31	15	450	51	41	44	5
Generator Sets	1	81	50%	650	49	46	49	10	650	44	41	44	15	450	57	54	57	5
Paving				58	52				53	47				67	61			
Paver	1	77	50%	550	46	43	46	10	550	41	38	41	15	350	55	52	55	5
Pavement Scarifier	1	90	20%	600	58	51	54	10	600	53	46	49	15	400	67	60	63	5
Architectural Coating				50	51				45	46				59	60			
Air Compressor	2	78	50%	550	50	47	50	10	550	45	42	45	15	350	59	56	59	5
Cranes	1	81	40%	600	49	45	48	10	600	44	40	43	15	400	58	54	57	5
Dumpers/Tenders	3	76	20%	650	48	42	45	10	650	43	37	40	15	450	57	50	53	5
Forklift	1	75	10%	650	43	33	36	10	650	38	28	31	15	450	51	41	44	5
Generator Sets	1	81	50%	650	49	46	49	10	650	44	41	44	15	450	57	54	57	5

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005