

# Appendix G

## Noise Modeling



2438 Haverhill Dr.

2421 Sundown Dr.

3957 Brilliant Dr.

3829 Division St.

# Noise Monitoring Field Report: Haverhill Residential

4/28/2015

## General

Start Time 1:30pm  
Weather 2:30pm  
Equipment Calibrated Yes, 4/28/2015

Existing Project Site Conditions  
- Undeveloped hillside. Grasses, trees, dirt. Steep terrain. Dirt access road/trail.

Key Sources of Noise  
- Mainly motorized landscaping tool noise funneling through the local valleys. Cars are nearly inaudible.

Sensitive Receptors  
- 3957 Brilliant Drive  
- 3829 Division Street  
- 2421 Sundown Drive  
- 2438 Haverhill Drive

## 3957 Brilliant Drive



*View of 3957 Brilliant Drive from the project site*

### General

Land Use	Residential
Description	Single family home
Time	1:41pm
Open-able Windows?	Yes
Barriers	
-	A fence, but it does not obstruct line of sight to windows.
Ground Surface	Vegetated
Distance to Project Site	~15ft. Difficult to tell because of the site plans we were given.
Grade Differential	The project site has varied terrain, so it differs.

### Notes

- This house will be an issue. They are building essentially on three sides of this home. Noise and dust may be problematic.



## 3829 Division Street



*View of 3829 Division Street from the project site*

### General

Land Use	Residential
Description	Single family home
Time	2:15pm
Open-able Windows?	Could not tell from the project site.
Barriers	
-	A wooden fence and a shed obscure line of sight, either partially or fully depending upon project site location.
Ground Surface	Vegetated
Distance to Project Site	~60ft
Grade Differential	Varying, though the house itself sits at least 30ft lower than the rear of the property. This grade differential is also somewhat obscures line of sight.

### Notes

- I could foresee dust being an issue at this receptor, as it may blow and/or settle in or on the house. Also, if what little dying/dead vegetation is stripped from the hill, a heavy rain could cause some mudslide/muddy runoff problems. The hill above this receptor is very steep.

## 2421 Sundown Drive

### General

Land Use	Residential
Description	Single family home
Time	2:45pm
Open-able Windows?	Yes
Barriers	
-	None obscure line of sight.
Ground Surface	Vegetated
Distance to Project Site	30ft
Grade Differential	Minor grade changes to the nearest reaches of the project site.

### Notes

- There will be construction on three sides of this receptor, as well.

## 2438 Haverhill Drive

### General

Land Use	Residential
Description	Single family home
Time	3:00pm
Open-able Windows?	Yes
Barriers	
-	None obscure line of sight.
Ground Surface	Vegetated
Distance to Project Site	15ft
Grade Differential	Minor grade changes to the nearest reaches of the project site.

### Notes

- The residents at this location definitely noticed me. They had an "I Support NELA Greenspace" sign.

# 2421 Sundown Dr.

4/28/2015

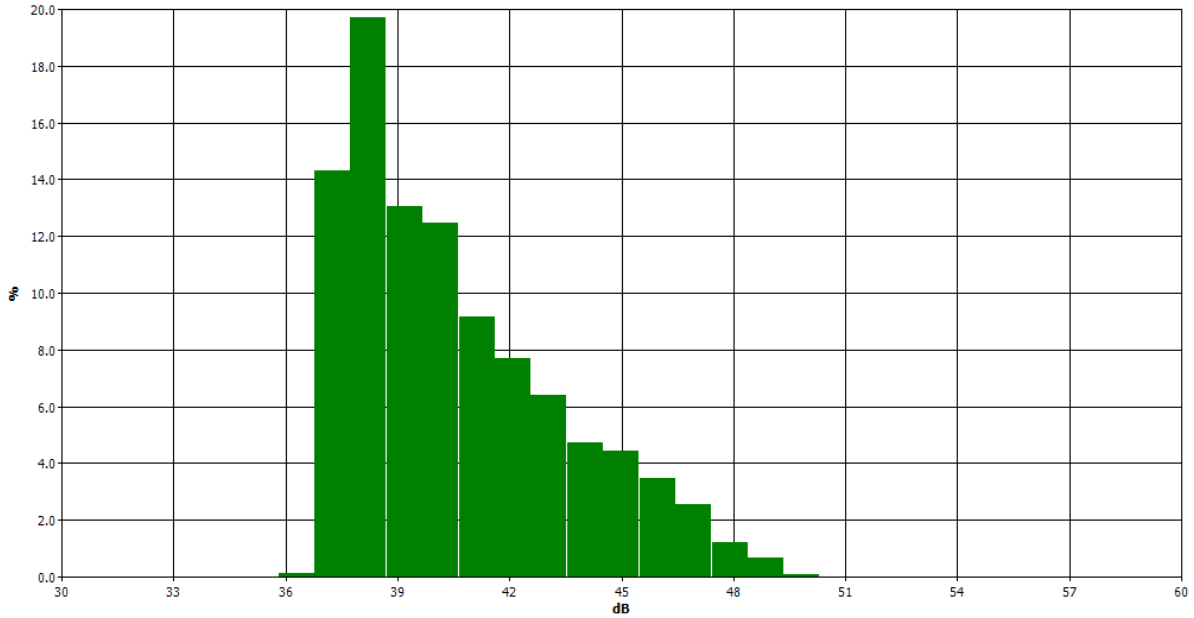
## Information Panel

Name S174\_BIJ050019\_29042015\_141345  
Start Time Tuesday, April 28, 2015, 2:44pm  
Stop Time Tuesday, April 28, 2015, 2:59pm  
Device Model Type SoundPro DL

## General Data Panel

<u>Description</u>	<u>Meter</u>	<u>Value</u>	<u>Description</u>	<u>Meter</u>	<u>Value</u>
Leq	1	42.1dB	Exchange Rate	1	3dB
Weighting	1	A	Response	1	SLOW
Bandwidth	1	OFF	Exchange Rate	2	3dB
Weighting	2	C	Response	2	SLOW

## Statistics Chart

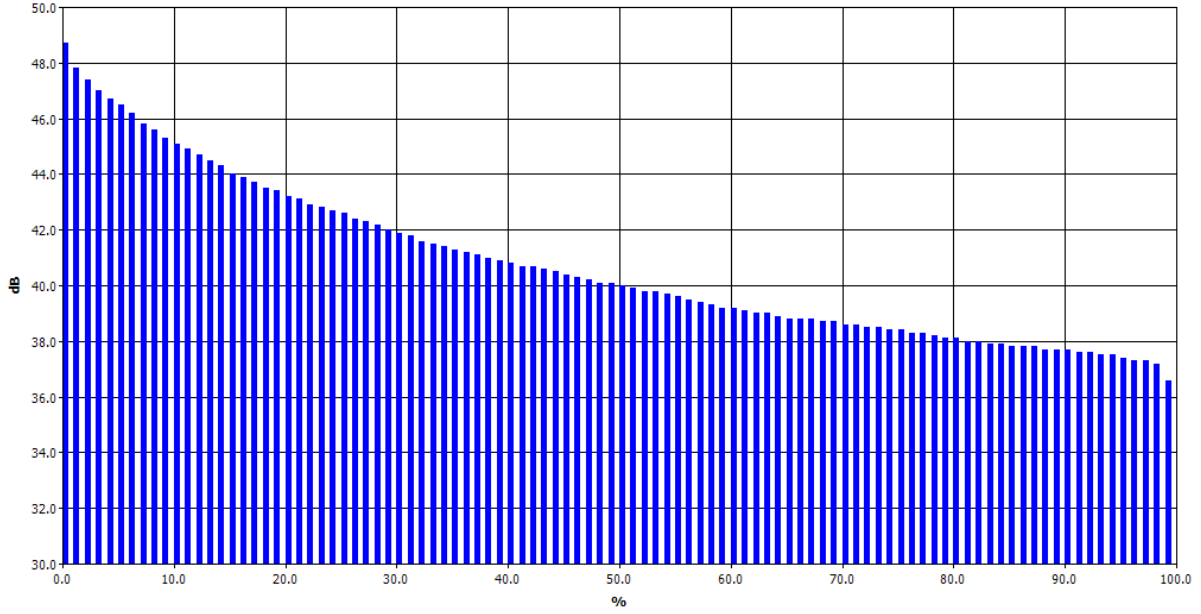


## Statistics Table

dB	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.07	0.05	0.13
37	0.07	0.26	0.34	0.89	1.31	1.38	2.06	2.53	2.80	2.65	14.30
38	2.16	2.32	1.14	1.80	1.92	2.01	1.98	2.15	2.03	2.21	19.72
39	1.82	1.54	1.49	1.19	1.26	1.08	1.19	1.20	0.99	1.28	13.04
40	1.17	1.29	1.36	1.14	1.20	1.06	1.16	1.36	1.45	1.29	12.48
41	1.16	1.06	0.72	1.08	0.93	1.01	0.86	0.80	0.63	0.90	9.14
42	0.74	0.72	0.71	0.68	0.72	0.78	0.79	0.93	0.88	0.74	7.69
43	0.70	0.76	0.69	0.67	0.51	0.61	0.58	0.60	0.65	0.63	6.40
44	0.61	0.57	0.38	0.42	0.34	0.43	0.45	0.50	0.44	0.60	4.72
45	0.55	0.53	0.44	0.48	0.55	0.42	0.34	0.38	0.40	0.34	4.43
46	0.31	0.31	0.27	0.32	0.28	0.33	0.37	0.39	0.45	0.42	3.45
47	0.39	0.41	0.21	0.23	0.19	0.23	0.29	0.26	0.18	0.15	2.55
48	0.16	0.14	0.07	0.08	0.08	0.10	0.11	0.15	0.19	0.13	1.21
49	0.14	0.10	0.11	0.06	0.05	0.04	0.04	0.05	0.05	0.02	0.66
50	0.01	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07
51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



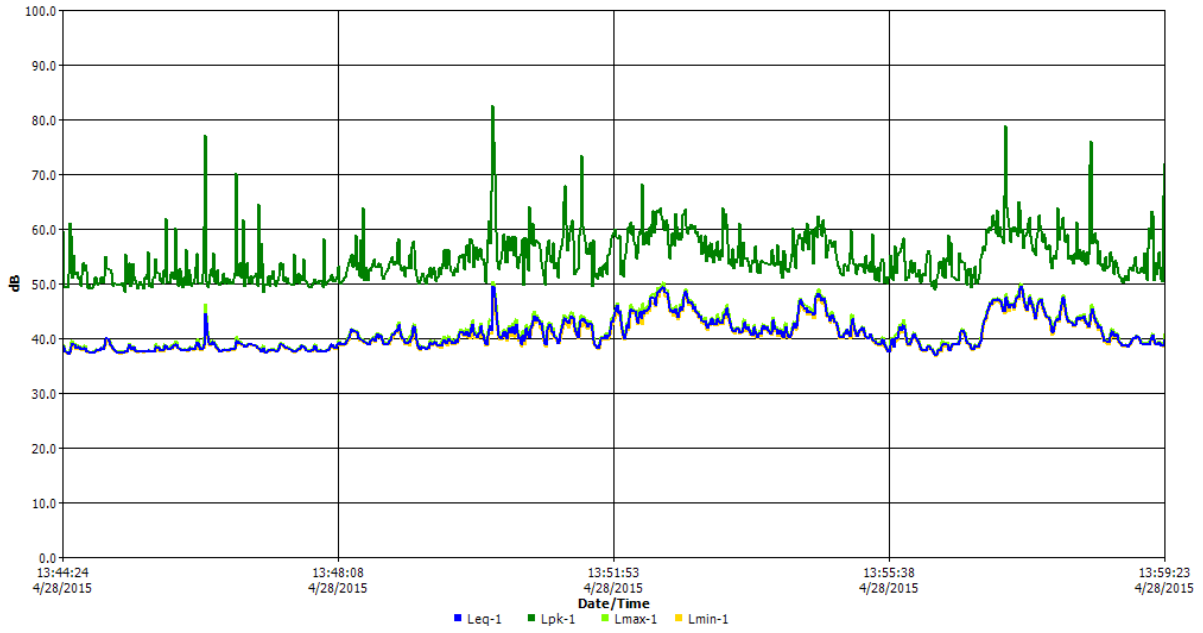
### Exceedance Chart



### Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	7%	8%	9%
0%		48.7	47.8	47.4	47	46.7	46.5	46.2	45.8	45.6
10%	45.3	45.1	44.9	44.7	44.5	44.3	44	43.9	43.7	43.5
20%	43.4	43.2	43.1	42.9	42.8	42.7	42.6	42.4	42.3	42.2
30%	42	41.9	41.8	41.6	41.5	41.4	41.3	41.2	41.1	41
40%	40.9	40.8	40.7	40.7	40.6	40.5	40.4	40.3	40.2	40.1
50%	40.1	40	39.9	39.8	39.8	39.7	39.6	39.5	39.4	39.3
60%	39.2	39.2	39.1	39	39	38.9	38.8	38.8	38.8	38.7
70%	38.7	38.6	38.6	38.5	38.5	38.4	38.4	38.3	38.3	38.2
80%	38.1	38.1	38	38	37.9	37.9	37.8	37.8	37.8	37.7
90%	37.7	37.7	37.6	37.6	37.5	37.5	37.4	37.3	37.3	37.2
100%	36.6									

### Logged Data Chart



# 2438 Haverhill Dr.

4/28/2015

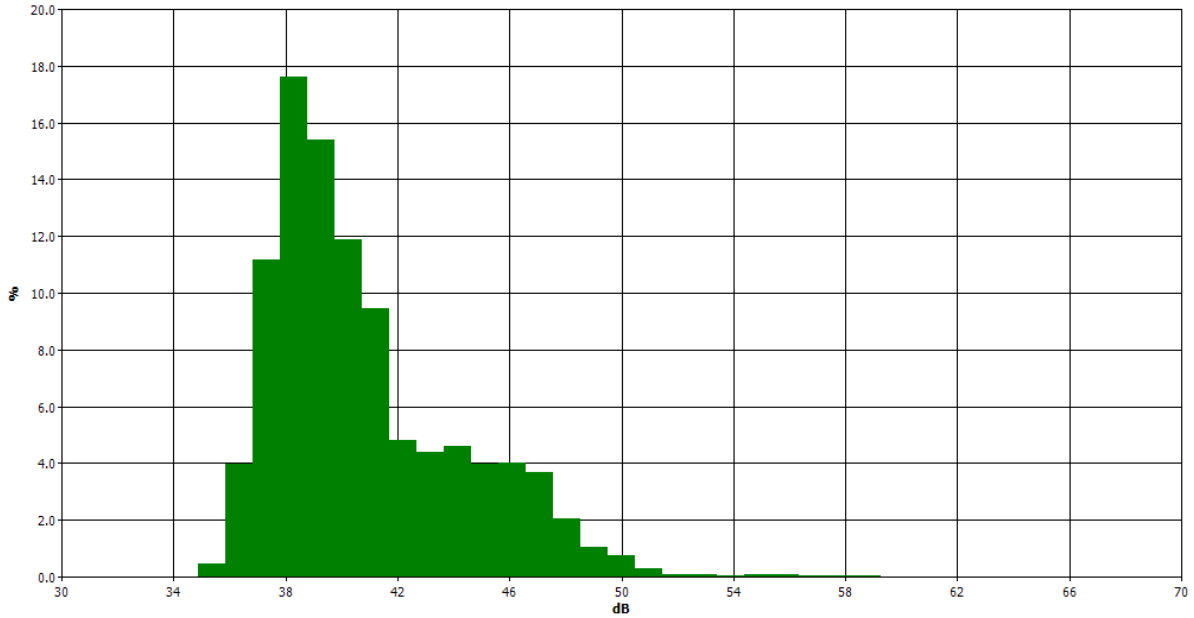
## Information Panel

Name S175\_BIJ050019\_29042015\_141345  
Start Time Tuesday, April 28, 2015, 3:01pm  
Stop Time Tuesday, April 28, 2015, 3:16pm  
Device Model Type SoundPro DL

## General Data Panel

<u>Description</u>	<u>Meter</u>	<u>Value</u>	<u>Description</u>	<u>Meter</u>	<u>Value</u>
Leq	1	42.9dB	Exchange Rate	1	3dB
Weighting	1	A	Response	1	SLOW
Bandwidth	1	OFF	Exchange Rate	2	3dB
Weighting	2	C	Response	2	SLOW

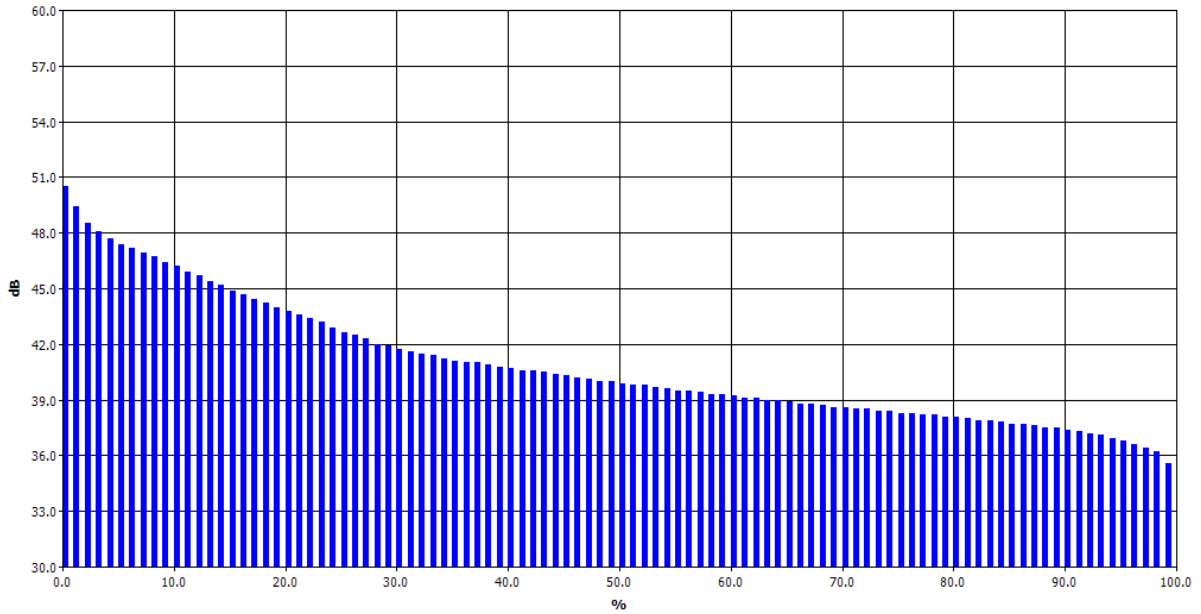
## Statistics Chart



## Statistics Table

dB	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.14	0.22	0.45
36	0.15	0.19	0.12	0.39	0.47	0.44	0.39	0.47	0.64	0.70	3.96
37	0.73	0.79	0.80	0.87	1.21	1.17	1.14	1.44	1.50	1.52	11.16
38	1.70	1.71	1.49	2.16	1.97	1.69	2.02	1.87	1.58	1.42	17.62
39	1.40	1.74	1.86	1.76	1.49	1.37	1.26	1.49	1.36	1.65	15.39
40	1.40	1.30	1.16	1.13	0.95	1.09	1.20	1.26	1.18	1.20	11.87
41	1.48	1.40	0.75	1.02	0.85	0.83	0.79	0.82	0.86	0.69	9.47
42	0.66	0.51	0.46	0.42	0.46	0.55	0.59	0.43	0.39	0.35	4.83
43	0.41	0.44	0.35	0.37	0.40	0.47	0.44	0.48	0.48	0.54	4.38
44	0.56	0.66	0.30	0.46	0.50	0.47	0.48	0.38	0.40	0.39	4.59
45	0.39	0.40	0.41	0.39	0.40	0.38	0.40	0.40	0.35	0.44	3.96
46	0.40	0.43	0.42	0.40	0.38	0.40	0.34	0.33	0.39	0.55	4.03
47	0.53	0.46	0.26	0.32	0.41	0.33	0.34	0.34	0.35	0.35	3.68
48	0.26	0.27	0.27	0.20	0.19	0.22	0.21	0.18	0.13	0.13	2.06
49	0.13	0.13	0.11	0.09	0.08	0.09	0.11	0.11	0.10	0.09	1.05
50	0.08	0.08	0.08	0.09	0.07	0.07	0.07	0.06	0.05	0.08	0.74
51	0.06	0.04	0.05	0.04	0.03	0.02	0.02	0.02	0.02	0.01	0.30
52	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.06
53	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.07
54	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.06
55	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.07
56	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.08
57	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
58	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.03
59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.03
60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

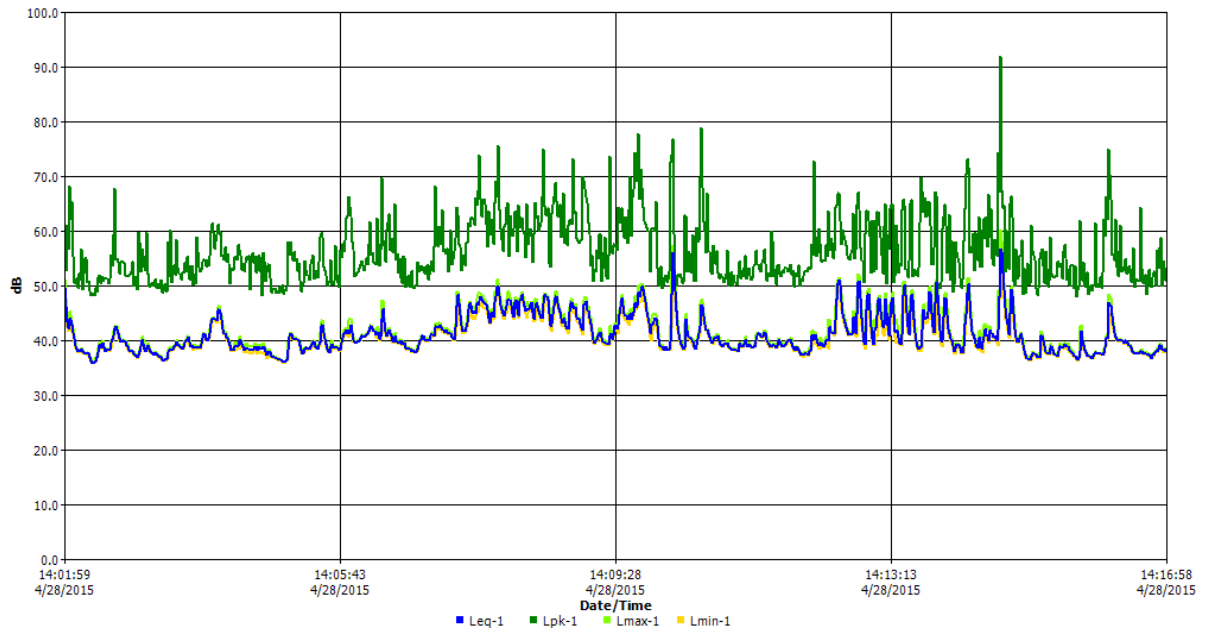
## Exceedance Chart



## Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	7%	8%	9%
0%		50.5	49.4	48.5	48.1	47.7	47.4	47.2	46.9	46.7
10%	46.4	46.2	45.9	45.7	45.4	45.2	44.9	44.7	44.4	44.2
20%	44	43.8	43.6	43.4	43.2	42.9	42.6	42.5	42.3	42
30%	41.9	41.7	41.6	41.5	41.4	41.2	41.1	41	41	40.9
40%	40.8	40.7	40.6	40.6	40.5	40.4	40.3	40.2	40.1	40
50%	40	39.9	39.8	39.8	39.7	39.6	39.5	39.5	39.4	39.3
60%	39.3	39.2	39.1	39.1	39	39	38.9	38.8	38.8	38.7
70%	38.6	38.6	38.5	38.5	38.4	38.4	38.3	38.3	38.2	38.2
80%	38.1	38.1	38	37.9	37.9	37.8	37.7	37.7	37.6	37.5
90%	37.5	37.4	37.3	37.2	37.1	36.9	36.8	36.6	36.4	36.2
100%	35.6									

## Logged Data Chart





# 3829 Division St.

4/28/2015

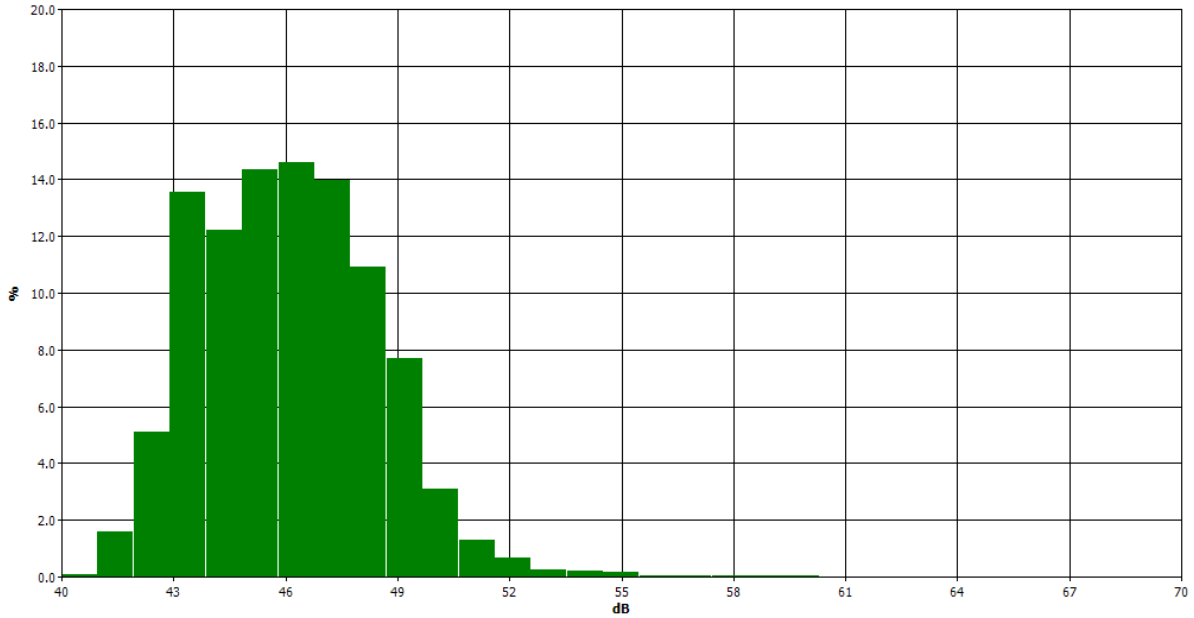
## Information Panel

Name S172\_BIJ050019\_29042015\_141344  
Start Time Tuesday, April 28, 2015, 2:12pm  
Stop Time Tuesday, April 28, 2015, 2:27pm  
Device Model Type SoundPro DL

## General Data Panel

<u>Description</u>	<u>Meter</u>	<u>Value</u>	<u>Description</u>	<u>Meter</u>	<u>Value</u>
Leq	1	47.0dB	Exchange Rate	1	3dB
Weighting	1	A	Response	1	SLOW
Bandwidth	1	OFF	Exchange Rate	2	3dB
Weighting	2	C	Response	2	SLOW

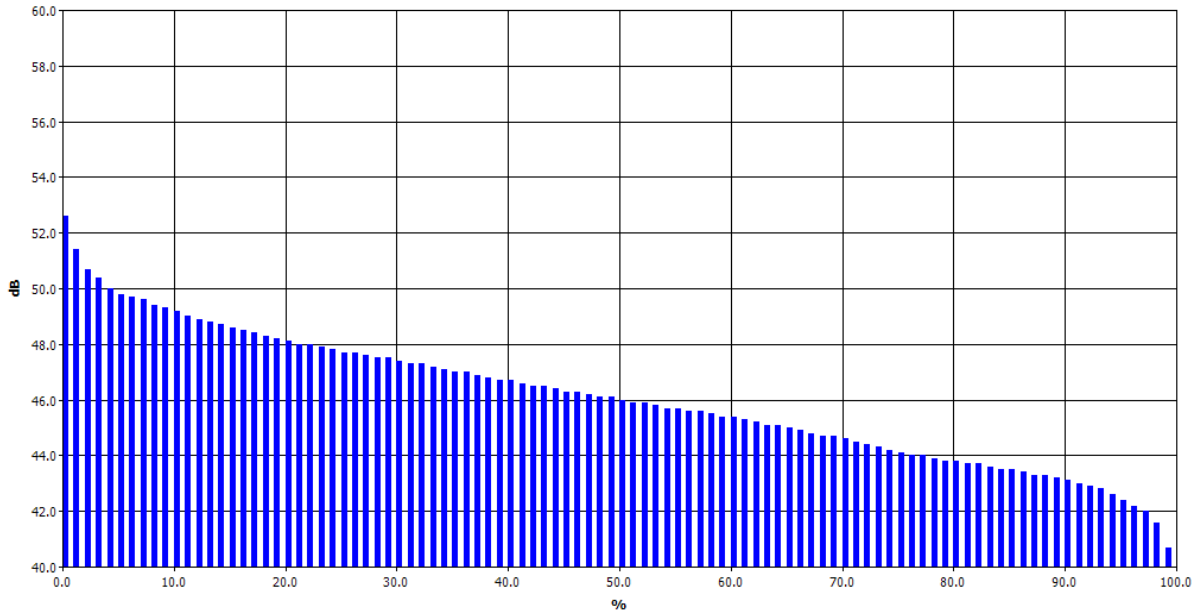
## Statistics Chart



## Statistics Table

dB	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.07	0.07
41	0.16	0.16	0.07	0.07	0.15	0.19	0.10	0.15	0.24	0.27	1.57
42	0.32	0.33	0.39	0.59	0.51	0.55	0.33	0.52	0.77	0.82	5.11
43	0.82	0.77	1.03	1.30	1.46	1.45	1.72	1.35	1.99	1.69	13.56
44	1.64	1.41	0.79	0.97	1.19	1.13	1.08	1.41	1.33	1.25	12.21
45	1.05	1.34	1.19	1.24	1.47	1.53	1.63	1.58	1.68	1.65	14.36
46	1.36	1.39	1.40	1.53	1.56	1.69	1.38	1.62	1.44	1.24	14.62
47	1.17	1.44	1.07	1.42	1.57	1.54	1.63	1.40	1.50	1.25	13.99
48	1.28	1.27	1.10	1.44	1.21	1.03	0.80	0.88	0.97	0.95	10.93
49	1.04	0.82	0.70	0.70	0.75	0.69	0.73	0.96	0.65	0.64	7.69
50	0.48	0.45	0.28	0.32	0.33	0.36	0.28	0.23	0.18	0.18	3.11
51	0.16	0.11	0.15	0.10	0.17	0.14	0.15	0.07	0.10	0.12	1.28
52	0.08	0.06	0.08	0.08	0.05	0.06	0.06	0.06	0.08	0.06	0.68
53	0.03	0.04	0.04	0.02	0.03	0.02	0.02	0.02	0.02	0.01	0.26
54	0.03	0.03	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.20
55	0.01	0.01	0.02	0.01	0.01	0.02	0.03	0.02	0.01	0.01	0.15
56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.04
57	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.06
58	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.04
59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
60	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.03
61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

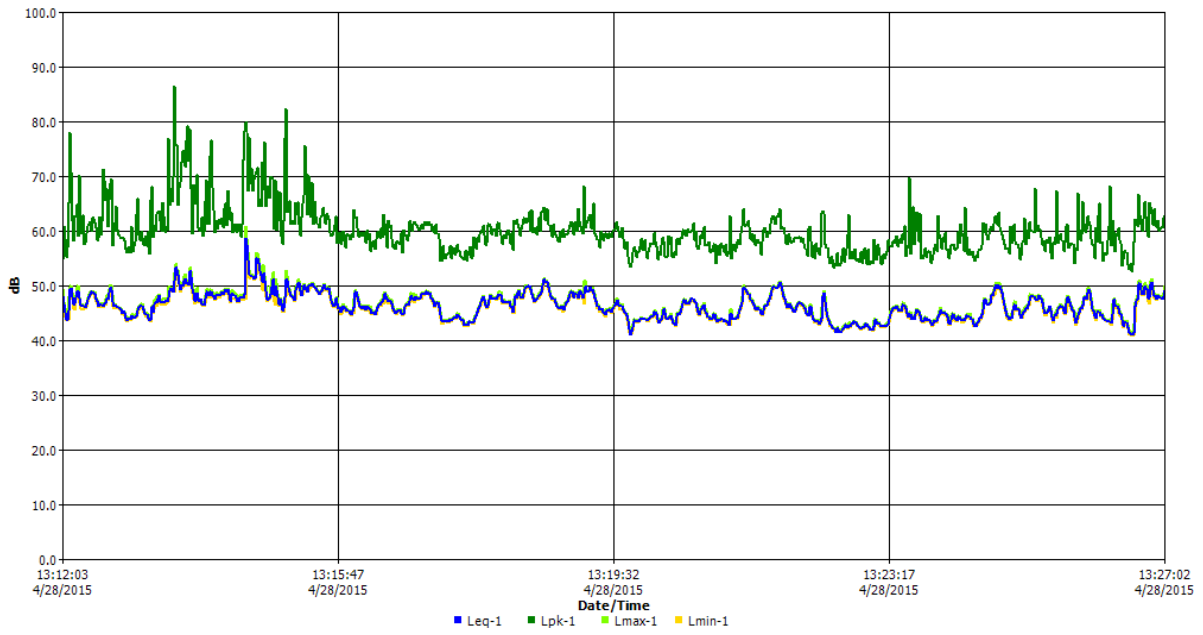
## Exceedance Chart



## Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	7%	8%	9%
0%		52.6	51.4	50.7	50.4	50	49.8	49.7	49.6	49.4
10%	49.3	49.2	49	48.9	48.8	48.7	48.6	48.5	48.4	48.3
20%	48.2	48.1	48	48	47.9	47.8	47.7	47.7	47.6	47.5
30%	47.5	47.4	47.3	47.3	47.2	47.1	47	47	46.9	46.8
40%	46.7	46.7	46.6	46.5	46.5	46.4	46.3	46.3	46.2	46.1
50%	46.1	46	45.9	45.9	45.8	45.7	45.7	45.6	45.6	45.5
60%	45.4	45.4	45.3	45.2	45.1	45.1	45	44.9	44.8	44.7
70%	44.7	44.6	44.5	44.4	44.3	44.2	44.1	44	44	43.9
80%	43.8	43.8	43.7	43.7	43.6	43.5	43.5	43.4	43.3	43.3
90%	43.2	43.1	43	42.9	42.8	42.6	42.4	42.2	42	41.6
100%	40.7									

### Logged Data Chart



# 3957 Brilliant Dr.

4/28/2014

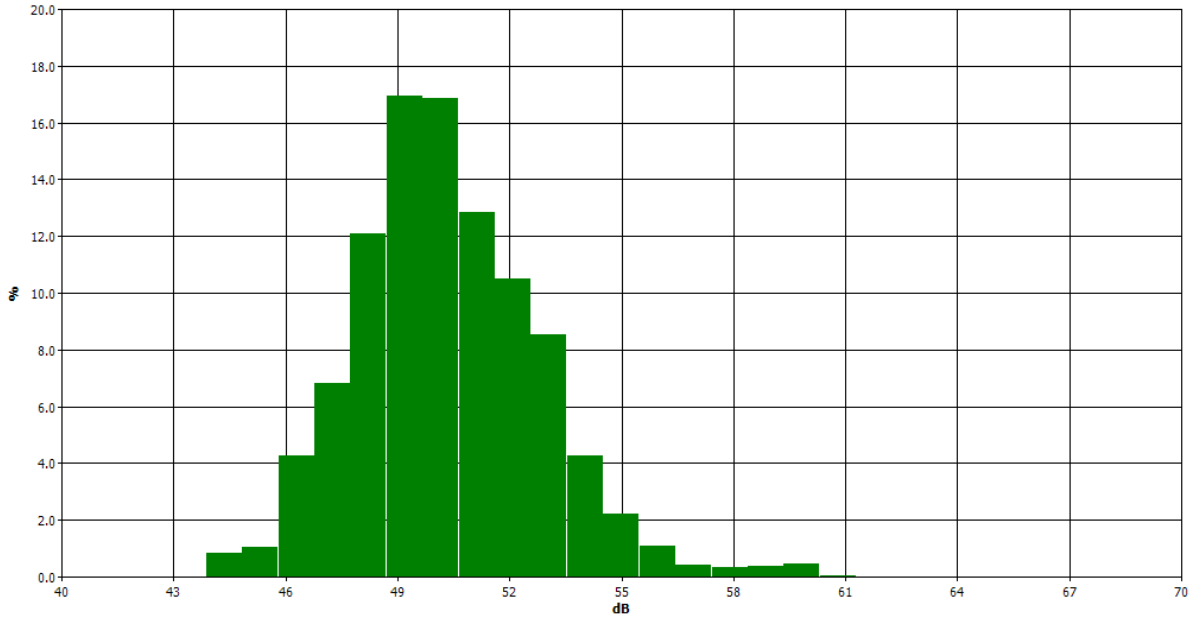
## Information Panel

Name S171\_BIJ050019\_29042015\_141344  
Start Time Tuesday, April 28, 2015, 1:41pm  
Stop Time Tuesday, April 28, 2015, 1:56pm  
Device Model Type SoundPro DL

## General Data Panel

<u>Description</u>	<u>Meter</u>	<u>Value</u>	<u>Description</u>	<u>Meter</u>	<u>Value</u>
Leq	1	51.5dB	Exchange Rate	1	3dB
Weighting	1	A	Response	1	SLOW
Bandwidth	1	OFF	Exchange Rate	2	3dB
Weighting	2	C	Response	2	SLOW

## Statistics Chart

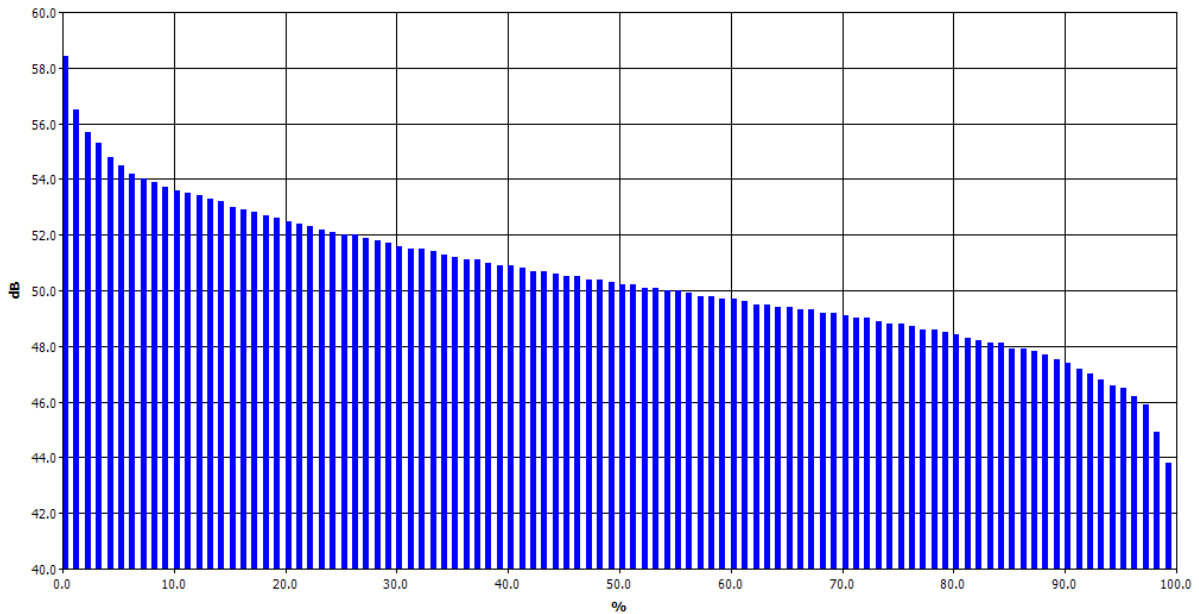


## Statistics Table

dB	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	0.09	0.04	0.02	0.10	0.09	0.08	0.05	0.06	0.09	0.22	0.84
45	0.17	0.16	0.07	0.02	0.05	0.07	0.06	0.08	0.16	0.21	1.04
46	0.30	0.30	0.31	0.31	0.36	0.46	0.59	0.61	0.57	0.43	4.25
47	0.51	0.72	0.38	0.53	0.49	0.59	0.66	0.84	1.04	1.07	6.82
48	1.11	0.82	1.28	1.23	1.18	1.07	1.18	1.48	1.47	1.29	12.11
49	1.36	1.87	1.52	1.60	2.00	1.71	1.90	1.84	1.61	1.55	16.96
50	1.81	2.09	1.40	1.96	1.57	1.70	1.68	1.56	1.67	1.43	16.88
51	1.45	1.42	1.34	1.30	1.28	1.26	1.19	1.27	1.16	1.17	12.84
52	1.22	1.10	1.10	1.06	1.05	1.02	1.11	0.99	0.87	0.97	10.49
53	1.04	0.86	0.62	0.93	0.89	0.93	1.00	0.86	0.65	0.74	8.52
54	0.71	0.61	0.48	0.48	0.37	0.45	0.35	0.26	0.31	0.28	4.28
55	0.23	0.24	0.24	0.23	0.27	0.24	0.25	0.21	0.15	0.15	2.21
56	0.10	0.14	0.07	0.09	0.13	0.11	0.15	0.10	0.11	0.10	1.11
57	0.08	0.10	0.03	0.04	0.04	0.03	0.02	0.03	0.02	0.03	0.42
58	0.03	0.03	0.05	0.07	0.04	0.02	0.02	0.02	0.02	0.05	0.34
59	0.04	0.04	0.03	0.02	0.03	0.04	0.03	0.03	0.05	0.06	0.37
60	0.05	0.05	0.04	0.04	0.03	0.04	0.05	0.05	0.08	0.02	0.44
61	0.01	0.01	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.06
62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



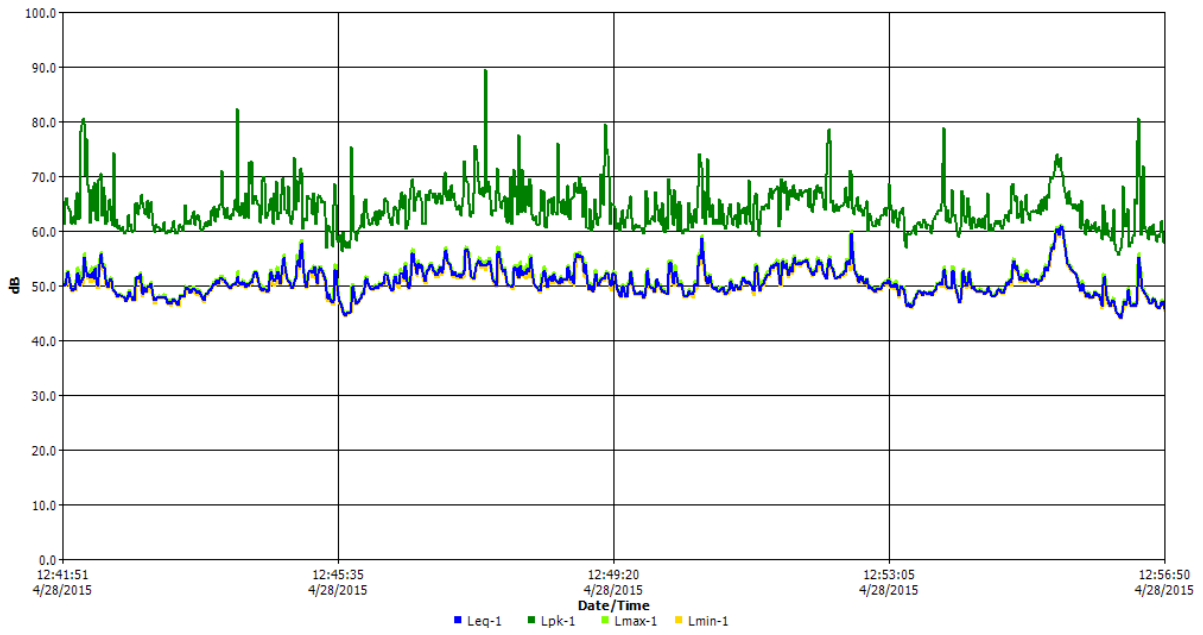
## Exceedance Chart



## Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	7%	8%	9%
0%	58.4	56.5	55.7	55.3	54.8	54.5	54.2	54	53.9	
10%	53.7	53.6	53.5	53.4	53.3	53.2	53	52.9	52.8	52.7
20%	52.6	52.5	52.4	52.3	52.2	52.1	52	52	51.9	51.8
30%	51.7	51.6	51.5	51.5	51.4	51.3	51.2	51.1	51.1	51
40%	50.9	50.9	50.8	50.7	50.7	50.6	50.5	50.5	50.4	50.4
50%	50.3	50.2	50.2	50.1	50.1	50	50	49.9	49.8	49.8
60%	49.7	49.7	49.6	49.5	49.5	49.4	49.4	49.3	49.3	49.2
70%	49.2	49.1	49	49	48.9	48.8	48.8	48.7	48.6	48.6
80%	48.5	48.4	48.3	48.2	48.1	48.1	47.9	47.9	47.8	47.7
90%	47.5	47.4	47.2	47	46.8	46.6	46.5	46.2	45.9	44.9
100%	43.8									

### Logged Data Chart



**Haverhill - Construction Vibration**

**Un-mitigated**

Receptor: 2438 Haverhill Dr. (CAT III)

Ref= *Reference vibration level (PPV)*

RefD= *Reference distance for Reference vibration level (Feet)*

Vibration PPV

Ref= 0.089 Based on type of equipment (Large Bulldozer)

RefD= 25

D= 5 Distance from equipment to sensitive receptor

Equip= 0.995

Annoyance VdB

Ref= 87 Based on type of equipment (Large Bulldozer)

RefD= 25

D= 5 Distance from equipment to sensitive receptor

Equip= 108

**Haverhill - Construction Vibration**

**Un-mitigated**

Receptor: 2421 Sundown Dr. (CAT III)

Ref= *Reference vibration level (PPV)*

RefD= *Reference distance for Reference vibration level (Feet)*

Vibration PPV

Ref= 0.089 Based on type of equipment (Large Bulldozer)

RefD= 25

D= 20 Distance from equipment to sensitive receptor

Equip= 0.124

Annoyance VdB

Ref= 87 Based on type of equipment (Large Bulldozer)

RefD= 25

D= 20 Distance from equipment to sensitive receptor

Equip= 90

**Haverhill - Construction Vibration**

**Un-mitigated**

Receptor: 3829 Division St. (CAT III)

Ref= *Reference vibration level (PPV)*

RefD= *Reference distance for Reference vibration level (Feet)*

Vibration PPV

Ref= 0.089 Based on type of equipment (Large Bulldozer)

RefD= 25

D= 20 Distance from equipment to sensitive receptor

Equip= 0.124

Annoyance VdB

Ref= 87 Based on type of equipment (Large Bulldozer)

RefD= 25

D= 20 Distance from equipment to sensitive receptor

Equip= 90

**Haverhill - Construction Vibration**

**Un-mitigated**

Receptor: 3957 Brilliant Drive (CAT III)

Ref= *Reference vibration level (PPV)*

RefD= *Reference distance for Reference vibration level (Feet)*

Vibration PPV

Ref= 0.089 Based on type of equipment (Large Bulldozer)

RefD= 25

D= 15 Distance from equipment to sensitive receptor

Equip= 0.191

Annoyance VdB

Ref= 87 Based on type of equipment (Large Bulldozer)

RefD= 25

D= 15 Distance from equipment to sensitive receptor

Equip= 94



**Haverhill - Construction Vibration**

**Mitigated**

Receptor: 2438 Haverhill Dr. (CAT III)

Ref= *Reference vibration level (PPV)*

RefD= *Reference distance for Reference vibration level (Feet)*

Vibration PPV

Ref= 0.003 Based on type of equipment (Large Bulldozer)

RefD= 25

D= 5 Distance from equipment to sensitive receptor

Equip= 0.034

Annoyance VdB

Ref= 58 Based on type of equipment (Large Bulldozer)

RefD= 25

D= 5 Distance from equipment to sensitive receptor

Equip= 79

**Haverhill - Construction Vibration**

**Mitigated**

Receptor: 2421 Sundown Dr. (CAT III)

Ref= *Reference vibration level (PPV)*

RefD= *Reference distance for Reference vibration level (Feet)*

Vibration PPV

Ref= 0.003 Based on type of equipment (Large Bulldozer)

RefD= 25

D= 20 Distance from equipment to sensitive receptor

Equip= 0.004

Annoyance VdB

Ref= 58 Based on type of equipment (Large Bulldozer)

RefD= 25

D= 20 Distance from equipment to sensitive receptor

Equip= 61

**Haverhill - Construction Vibration**

**Mitigated**

Receptor: 3829 Division St. (CAT III)

Ref= *Reference vibration level (PPV)*

RefD= *Reference distance for Reference vibration level (Feet)*

Vibration PPV

Ref= 0.003 Based on type of equipment (Large Bulldozer)

RefD= 25

D= 20 Distance from equipment to sensitive receptor

Equip= 0.004

Annoyance VdB

Ref= 58 Based on type of equipment (Large Bulldozer)

RefD= 25

D= 20 Distance from equipment to sensitive receptor

Equip= 61

**Haverhill - Construction Vibration**

**Mitigated**

Receptor: 3957 Brilliant Drive (CAT III)

Ref= *Reference vibration level (PPV)*

RefD= *Reference distance for Reference vibration level (Feet)*

Vibration PPV

Ref= 0.003 Based on type of equipment (Large Bulldozer)

RefD= 25

D= 15 Distance from equipment to sensitive receptor

Equip= 0.006

Annoyance VdB

Ref= 58 Based on type of equipment (Large Bulldozer)

RefD= 25

D= 15 Distance from equipment to sensitive receptor

Equip= 65

## Haverhill - Construction Noise - Unmitigated

Reference Noise Distance (feet) 50

Reference Noise Level

88

Reference Equipment: Scraper

Sensitive Receptor	Distance (feet)	Attenuation Factors	Maximum Construction Noise Level (dBA)	Existing Ambient (dBA, Leq)	New Ambient (dBA, Leq)	Increase
3957 Brilliant Dr.	15	9	79.0	51.5	79.0	27.5
3829 Division St.	20	9	79.0	47.0	79.0	32.0
2421 Sundown Dr.	20	7.5	80.5	42.1	80.5	38.4
2438 Haverhill Dr.	5	7.5	80.5	42.9	80.5	37.6

*A 6 dBA attenuation was given for hard ground surface, an additional 1.5 dBA reduction for soft ground surface, and 3 dBA reduction was given for the first row of buildings intervening between the construction site and sensitive receptors (1.5 dBA for subsequent intervening structures), as recommended by the Caltrans Technical Noise Supplement.*

## Haverhill - Construction Noise - Mitigated

Reference Noise Distance 50

Reference Noise Level 88

Reference Equipment: Scraper

Sensitive Receptor	Distance (feet)	Attenuation Factors	Mitigation Factors	Maximum Construction Noise Level (dBA)	Existing Ambient (dBA, Leq)	New Ambient (dBA, Leq)	Increase
3957 Brilliant Dr.	15	9	18	61.0	51.5	61.5	10.0
3829 Division St.	20	9	18	61.0	47.0	61.2	14.2
2421 Sundown Dr.	20	7.5	18	62.5	42.1	62.5	20.4
2438 Haverhill Dr.	5	7.5	18	62.5	42.9	62.5	19.6

*A 3 dBA reduction was given for mufflers.*

*Mitigation factors assume temporary sound barriers are installed that reduce reference noise levels by 10 dBA or more at 50 feet of distance.*

*A 15 dBA attenuation was given for hard ground surface, an additional 1.5 dBA reduction for soft ground surface, and 3 dBA reduction was given for the first row of buildings intervening between the construction site and sensitive receptors (1.5 dBA for subsequent intervening structures), as recommended by the Caltrans Technical Noise Supplement.*