Appendix O
Relocated Wildlife Feature – Light and Noise Memo

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TECHNICAL MEMORANDUM

GLENN LUKOS ASSOCIATES
Regulatory Services

PROJECT NUMBER: 02570045HF

TO: Jennifer Bohen

FROM: Tony Bomkamp

DATE: June 30, 2012

SUBJECT: Relocated Wildlife Corridor Feature – Light and Noise

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In order to ensure that movement of the Relocated Wildlife Corridor Feature closer to the Borrego Channel would not diminish the functions for the target species, studies were conducted to evaluate potential light spillage into the Relocated Wildlife Corridor Feature from existing sources to the east of the Borrego Channel along with potential noise impacts from the same sources. As detailed below, there would be no measurable impact on the target species due to light spillage or ambient noise levels.

Lighting

Lighting studies conducted by The Planning Center (2012) at eight locations along the eastern limits of the Relocated Wildlife Corridor Feature found that at the eastern limits of the Relocated Wildlife Corridor Feature, existing maximum light spillage ranges from 0.03 to 0.14 foot candles at the locations evaluated. Construction of Segment 2 of the Relocated Wildlife Corridor Feature includes creation of a berm along most of the length of Segment 2, which will provide further lower light spillage as will the lowering of the riparian corridor relative to existing grades such that there is expected to be a minimum difference in elevation of 10 feet between the bottom of the channel and top of berm. Finally, additional screening planting will be located along the eastern edge of the corridor (on the berm), providing additional light screening. It is expected that with the addition of the berm and additional screening vegetation, that light spillage will be reduced to less than 0.10 foot candle along the entire length of Segment 2. Segment 3, is in the same location with only slight modification to the shape of the area and lighting would not be a factor due to the minimal changes in the configuration.

Although a land development plan has not been developed for the area adjacent to the western side of the Relocated Wildlife Corridor Feature, project lighting will be designed and shielded with the intent of preventing spillage of light into adjacent preserved open space areas.

29 Orchard ▪ Lake Forest ▪ California 92630-8300
Telephone: (949) 837-0404 Facsimile: (949) 837-5834

Noise

Noise studies conducted by Urban Crossroads (2012) at three locations determined to represent the areas of highest potential noise production found that at the proposed eastern edge of the Relocated Wildlife Corridor Feature, current noise levels are summarized below:

- Observer Location L1 is located approximately 70 feet west of the property line fence opposite the FedEx Freight center located at 56 Fairbanks. The noise level meter recorded the ambient noise levels over 48 hours. Based on the noise level measurement results provided in Table 1, the average hourly noise levels range from 49.3 dBA Leq during the noise sensitive night time hours to 53.4 dBA Leq during the daytime hours. This results in an overall 24-hour CNEL noise level of 57.5 dBA CNEL.

- At Observer Location L2, the noise meter was placed approximately 54 feet west of the property line fence opposite the Albertsons distribution center employee parking lot. The noise level meter recorded the ambient noise levels over 48 hours. The average hourly Leq noise levels at Observer Location L2 ranged from 49.5 during the daytime hours and 51.7 during the nighttime hours. Due to the 10 dBA noise penalty for the noise sensitive nighttime hours, the higher nighttime noise levels results in a 24-hour CNEL of 58.8 dBA.

- For Observer Location L3, the noise meter was placed at the property line fence opposite the Albertsons distribution center loading dock area. A full 24-hour noise level measurement was collected at Observer Location L3. The measured hourly Leq noise levels ranged from 50.3 dBA during the daytime hours to 51.5 dBA during the evening hours. The measured CNEL at the Observer Location L3 was calculated at 57.4 dBA CNEL.

Given that the noise study shows that the noise levels are well below 60 dBA, potential effects on wildlife would not be adverse and with the addition of the screening planting and berms, and the vertical offset within the corridor, potential noise impacts would be further reduced.

Residential uses along the western edge of the Relocated Wildlife Corridor Feature would not produce higher than acceptable noise and with the construction of a berm along the western edge, any potential noise effects would be further reduced and within acceptable limits for the target species.

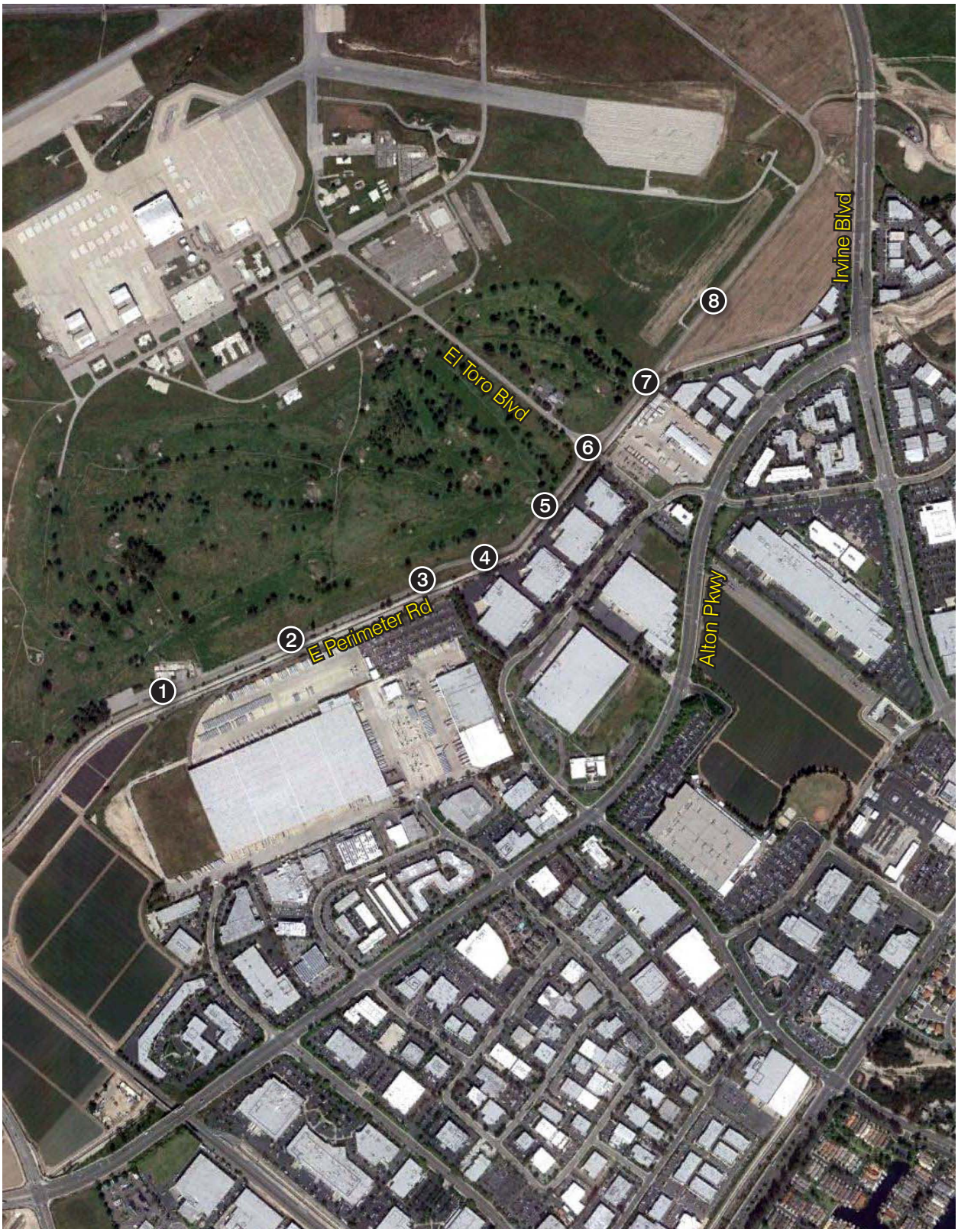
Light Measurements Heritage Fields Site East Perimeter Road May 17, 2012 Michael Milroy

Meter reading before 1st measurement with sensor cover on: 0.00 Meter range: 20.00 ft.-cd Meter source: Normal (tung.)

First measurement time: 8:20 pm Visible moon: none Sky condition: cloudy

Last measurement time: 9:15 pm Visible moon: none Sky condition: cloudy

Location	Approximate distance and direction from intersection of El Toro Blvd. and East Perimeter Road	Measurement (foot-candles)		Visible lights				
		Meter aimed at light	Meter aimed straight up	Building lights		Parking lot lights	Street lights	Vehicle lights
				Exterior	Interior			
1	3,360 feet southwest	0.04	0.04	X		X	X	
2	2,480 feet southwest	0.04	0.04	X		X		
3	1,480 feet southwest	0.03	0.04	X		X		
4	1,040 feet southwest	0.12	0.05	X		X		
5	470 feet southwest	0.14	0.05	X				
6	At intersection	0.14	0.05	X		X	X	X (few)
7	540 feet northeast	0.10	0.06	X		X	X (distant)	
8	1,440 feet northeast	0.06	0.04	X			X (distant)	X (distant)



1 Light Measurement Locations

0 1,000
Scale (Feet)

URBAN CROSSROADS

41 Corporate Park | Suite 300 | Irvine, CA 92606 | (949) 660-1994
www.urbanXroads.com

May 21, 2012

Ms. Jennifer Bohen
Heritage Fields El Toro, LLC
25 Enterprise, Suite 400
Aliso Viejo, CA 92656

Subject: Heritage Fields Project 2012 Wildlife Corridor Ambient Noise Conditions

Dear Ms. Bohen:

Urban Crossroads, Inc. is pleased to submit this review of the ambient noise conditions associated with the proposed Heritage Fields Project 2012 Wildlife Corridor. To evaluate the existing noise level environment near the proposed wildlife corridor, three (3) long-term noise level measurements were taken near the eastern project boundary. Exhibit 1-A shows the Project boundaries and the noise level measurement locations. The long-term 24-hour noise level measurements were positioned at the fence or at distances ranging from 54 feet to 70 feet west of the existing concrete channel. The noise level measurements were recorded during typical weekday conditions by Urban Crossroads, Inc. on Wednesday, May 9th, 2012 and Thursday May 10th, 2012. Appendix 1.1 includes a photo index of the project study area.

1.1 Measurement Procedure and Criteria

The long-term noise level measurements were recorded using a Quest DL Pro data logging Type 2 noise dosimeter. All noise meters were programmed in "fast" mode to record noise levels in "A" weighted form. The Quest DL noise dosimeters were calibrated using a Quest QC-10 calibrator. All noise level measurement equipment meets American National Standards Institute (ANSI) specifications for sound level meters (Standard S1.4-1983).

1.2 Noise Measurement Locations and Results

To assess the existing ambient noise level conditions opposite the warehouse and distributions center located east of the project site, long-term ambient noise level measurements were collected. The noise level measurements represent the typical weekday noise conditions with full operation of the neighboring FedEx Freight and Albertson's distribution centers. Currently, noise barriers do not exist between the project site and the neighboring distribution centers. Therefore, the following long-term ambient noise measurements reflect the unmitigated exterior noise conditions. The results for each measurement location are provided in Table 1. Noise measurements data printouts are presented in Appendix 1.2. A detailed description for each noise level measurement location is provided below:

- Observer Location L1 is located approximately 70 feet west of the property line fence opposite the FedEx Freight center located at 56 Fairbanks. The noise level meter recorded the ambient noise levels over 48 hours. Based on the noise level measurement results provided in Table 1, the average hourly noise levels range from

49.3 dBA Leq during the noise sensitive night time hours to 53.4 dBA Leq during the daytime hours. This results in an overall 24-hour CNEL noise level of 57.5 dBA CNEL.

- At Observer Location L2, the noise meter was placed approximately 54 feet west of the property line fence opposite the Albertsons distribution center employee parking lot. The noise level meter recorded the ambient noise levels over 48 hours. The average hourly Leq noise levels at Observer Location L2 ranged from 49.5 during the daytime hours and 51.7 during the nighttime hours. Due to the 10 dBA noise penalty for the noise sensitive nighttime hours, the higher nighttime noise levels results in a 24-hour CNEL of 58.8 dBA.

- For Observer Location L3, the noise meter was placed at the property line fence opposite the Albertsons distribution center loading dock area. A full 24-hour noise level measurement was collected at Observer Location L3. The measured hourly Leq noise levels ranged from 50.3 dBA during the daytime hours to 51.5 dBA during the evening hours. The measured CNEL at the Observer Location L3 was calculated at 57.4 dBA CNEL.

If you have any questions, please contact me directly at (949) 660-1994 ext. 203.

Respectfully submitted,

URBAN CROSSROADS, INC.

Bill Lawson, P.E., INCE
Principal

JN: 08141-06 Measurements.docx

EXHIBIT 1-A

NOISE MEASUREMENT LOCATIONS

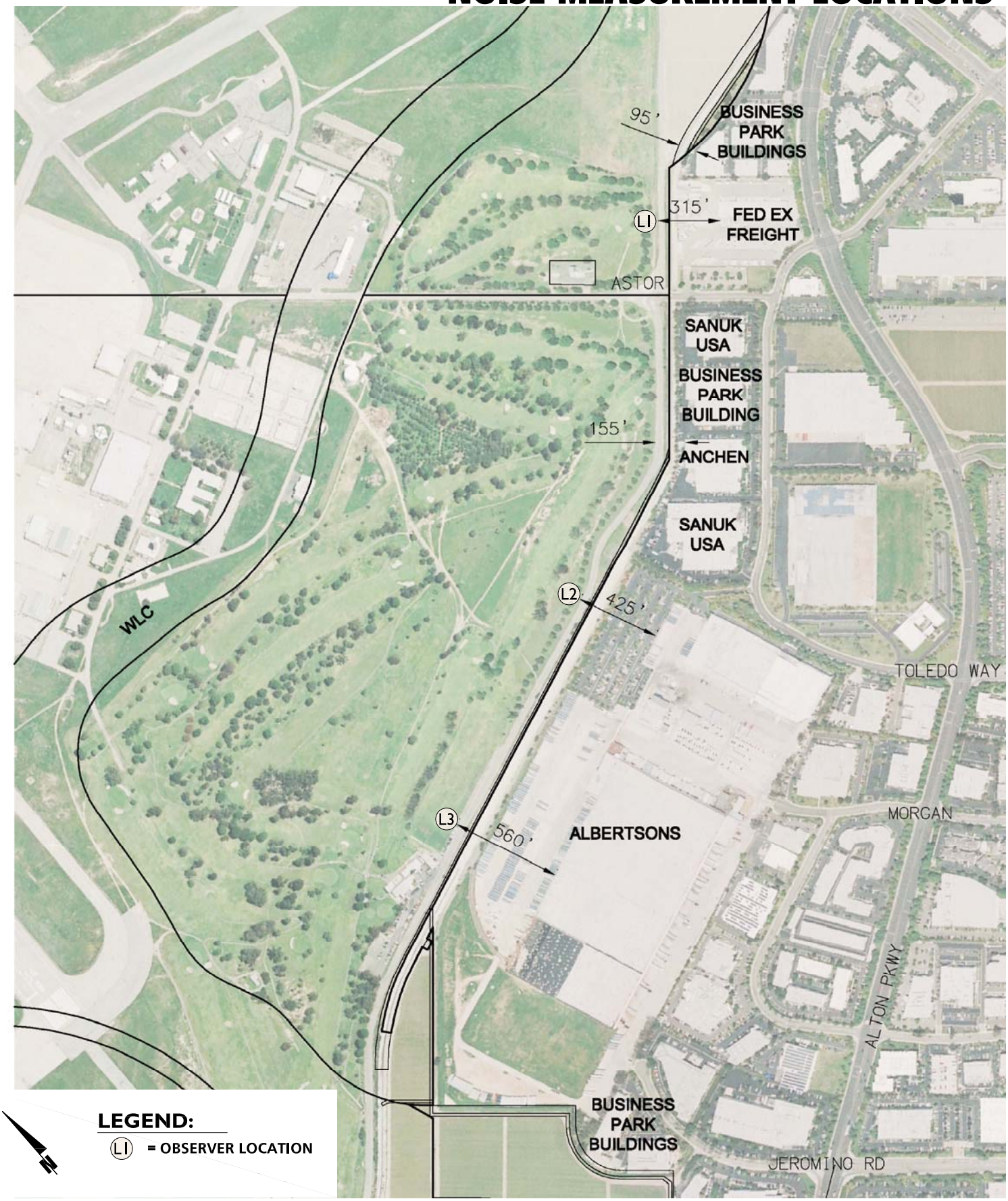


Table 1

Long-Term (Ambient) Noise Level Measurements

Observer Location[1]	Dates	Description	Hourly Noise Level (Leq dBA)[2]			CNEL
			Daytime (7am to 7pm)	Evening (7pm to 10pm)	Nighttime (10pm to 7am)	
L1	5/9/2012 5/10/2012	Noise meter was placed approximately 70 feet west of the property line fence opposite the FedEx Freight center located at 56 Fairbanks.	53.4	52.9	49.3	57.5
L2	5/9/2012 5/10/2012	Noise meter was placed approximately 54 feet west of the property line fence opposite the Albertsons distribution center employee parking lot.	49.5	50.7	51.7	58.8
L3	5/9/2012	Noise meter was placed at the property line fence opposite the Albertsons distribution center loading dock area.	50.3	51.5	50.4	57.4

[1] See Exhibit 1-A for the location of the monitoring sites, and Appendix 1.1 for Study Area Photos.

[2] Average hourly noise levels. The long-term noise level measurements printouts are included in Appendix 1.2.

APPENDIX 1.1

Study Area Photos

JN:08141 Heritage Fields 2012

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JN:08141 Heritage Fields 2012

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JN:08141 Heritage Fields 2012

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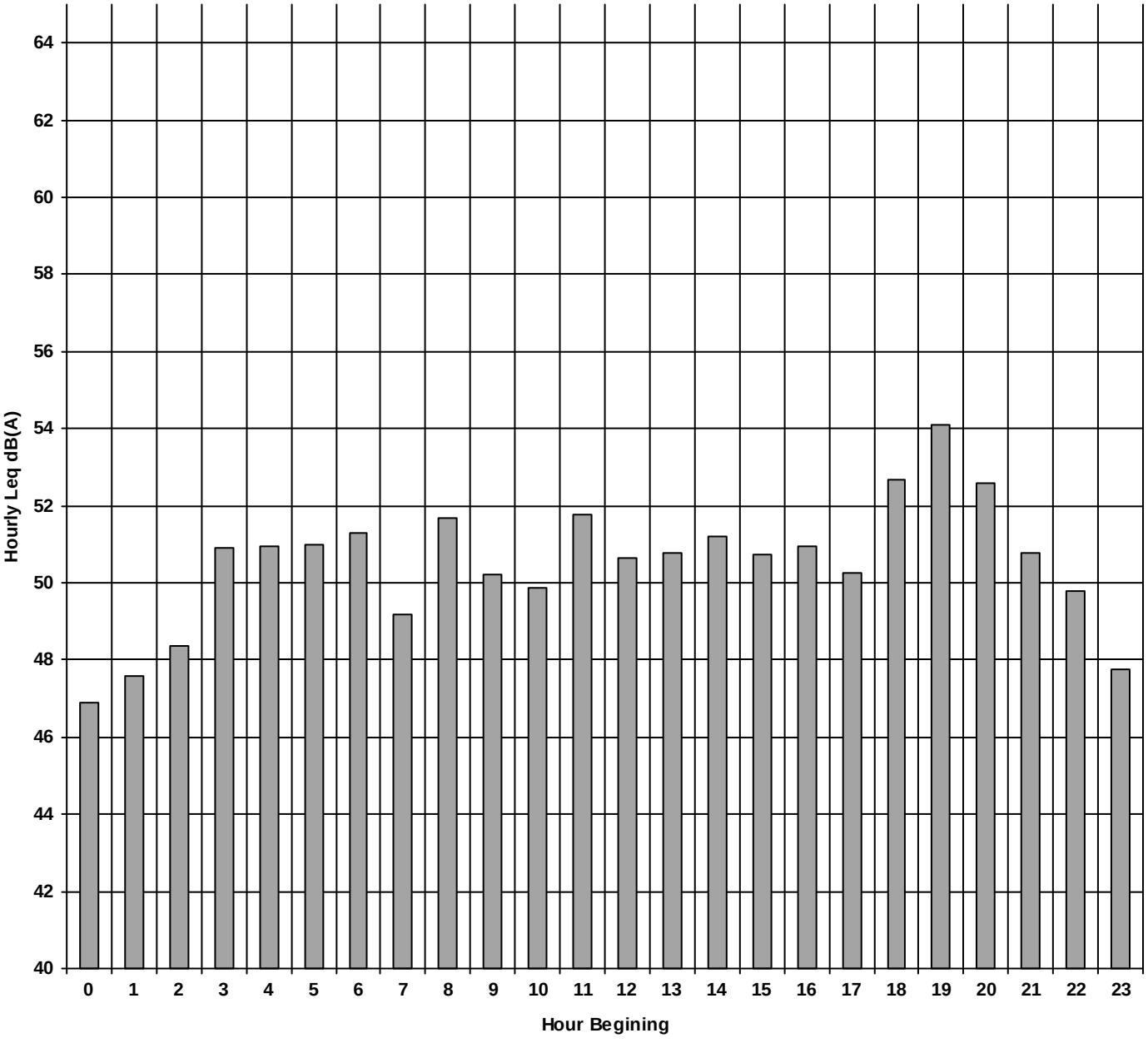
APPENDIX 1.2

Noise Monitoring Data Printouts

24-Hour Noise Level Measurement Summary

Project Name: Heritage Fields Project 2012
Job Number: 08141
Location #: L1
Analyst: B. Lawson
Description: 70' west of the fence opposite FedEx Freight
Start Date: Wednesday, May 09, 2012

Hourly Leq dB(A) Readings (unadjusted)



Measured Peak Noise Hour: 19

Measured Peak Hour dBA Leq: 54.1

24-Hour Noise Level Measurement Summary

Project Name: Heritage Fields Project 2012
Job Number: 08141
Location #: L1
Analyst: B. Lawson
Description: 70' west of the fence opposite FedEx Freight
Start Date: Wednesday, May 09, 2012

Leq To CNEL Noise Calculations

Noise Hour	*Hourly Leq*	*CNEL Penalty*	*Adjusted Hourly Leq*
0	46.9	10	56.9
1	47.6	10	57.6
2	48.3	10	58.3
3	50.9	10	60.9
4	51.0	10	61.0
5	51.0	10	61.0
6	51.3	10	61.3
7	49.2	0	49.2
8	51.7	0	51.7
9	50.2	0	50.2
10	49.9	0	49.9
11	51.8	0	51.8
12	50.7	0	50.7
13	50.8	0	50.8
14	51.2	0	51.2
15	50.7	0	50.7
16	51.0	0	51.0
17	50.3	0	50.3
18	52.7	0	52.7
19	54.1	5	59.1
20	52.6	5	57.6
21	50.8	5	55.8
22	49.8	10	59.8
23	47.7	10	57.7

Calculated CNEL: 56.9

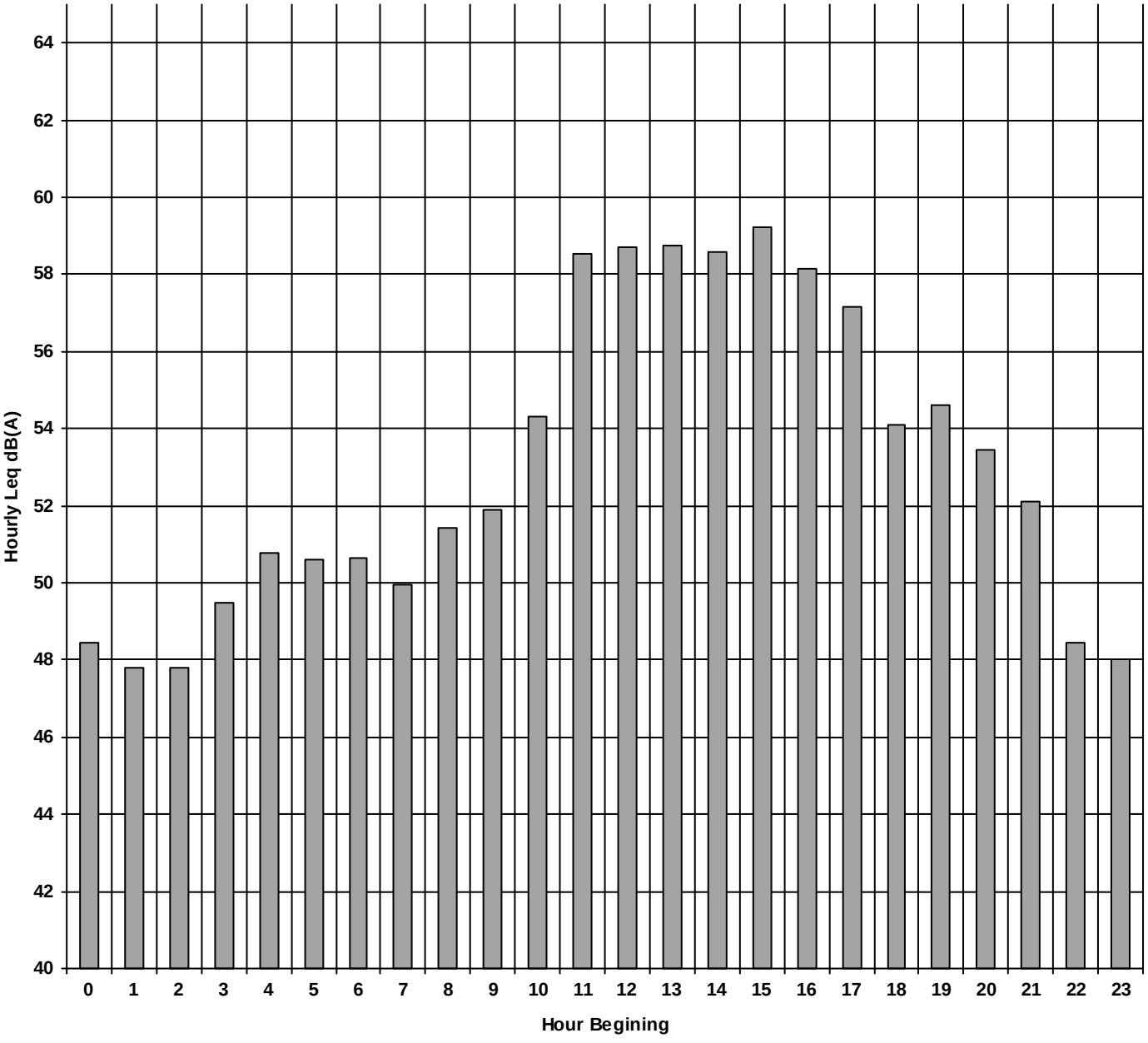
Evening Hours

Nighttime Hours

24-Hour Noise Level Measurement Summary

Project Name: Heritage Fields Project 2012
Job Number: 08141
Location #: L1
Analyst: B. Lawson
Description: 70' west of the fence opposite FedEx Freight
Start Date: Thursday, May 10, 2012

Hourly Leq dB(A) Readings (unadjusted)



Measured Peak Noise Hour: 15

Measured Peak Hour dBA Leq: 59.2

24-Hour Noise Level Measurement Summary

Project Name: Heritage Fields Project 2012
Job Number: 08141
Location #: L1
Analyst: B. Lawson
Description: 70' west of the fence opposite FedEx Freight
Start Date: Thursday, May 10, 2012

Leq To CNEL Noise Calculations

Noise Hour	*Hourly Leq*	*CNEL Penalty*	*Adjusted Hourly Leq*
0	48.4	10	58.4
1	47.8	10	57.8
2	47.8	10	57.8
3	49.5	10	59.5
4	50.8	10	60.8
5	50.6	10	60.6
6	50.7	10	60.7
7	50.0	0	50.0
8	51.4	0	51.4
9	51.9	0	51.9
10	54.3	0	54.3
11	58.6	0	58.6
12	58.7	0	58.7
13	58.7	0	58.7
14	58.6	0	58.6
15	59.2	0	59.2
16	58.1	0	58.1
17	57.2	0	57.2
18	54.1	0	54.1
19	54.6	5	59.6
20	53.5	5	58.5
21	52.1	5	57.1
22	48.4	10	58.4
23	48.0	10	58.0

Calculated CNEL: 58.1

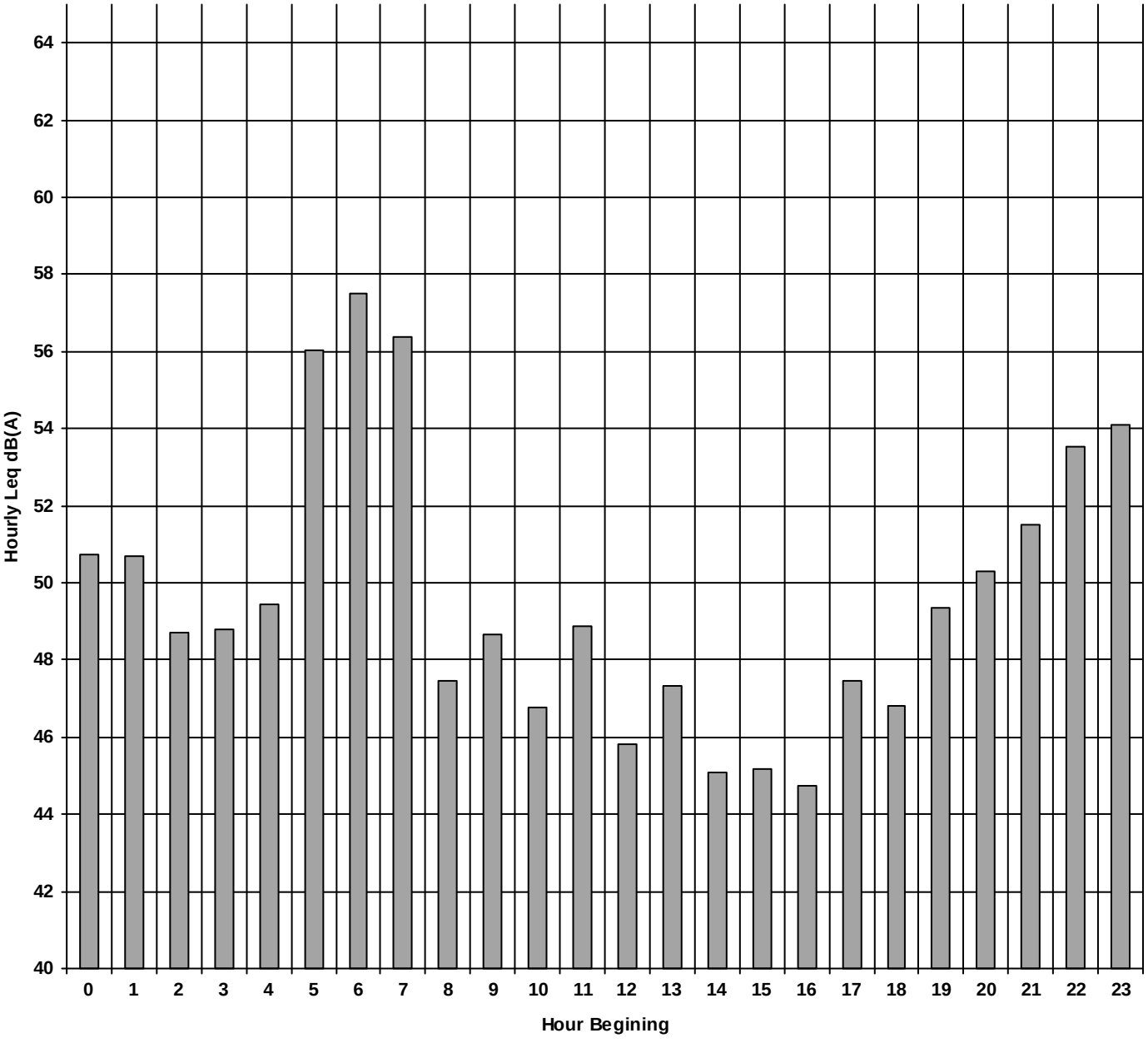
Evening Hours

Nighttime Hours

24-Hour Noise Level Measurement Summary

Project Name: Heritage Fields Project 2012 *Job Number:* 08141
Location #: L2 *Analyst:* B. Lawson
Description: 54' west of the fence opposite the Albertsons Distribution Center
Start Date: Wednesday, May 09, 2012

Hourly Leq dB(A) Readings (unadjusted)



Measured Peak Noise Hour: 6

Measured Peak Hour dBA Leq: 57.5

24-Hour Noise Level Measurement Summary

Project Name: Heritage Fields Project 2012 *Job Number:* 08141
Location #: L2 *Analyst:* B. Lawson
Description: 54' west of the fence opposite the Albertsons Distribution Center
Start Date: Wednesday, May 09, 2012

Leq To CNEL Noise Calculations

Noise Hour	*Hourly Leq*	*CNEL Penalty*	*Adjusted Hourly Leq*
0	50.7	10	60.7
1	50.7	10	60.7
2	48.7	10	58.7
3	48.8	10	58.8
4	49.5	10	59.5
5	56.0	10	66.0
6	57.5	10	67.5
7	56.4	0	56.4
8	47.5	0	47.5
9	48.7	0	48.7
10	46.8	0	46.8
11	48.9	0	48.9
12	45.8	0	45.8
13	47.3	0	47.3
14	45.1	0	45.1
15	45.2	0	45.2
16	44.7	0	44.7
17	47.5	0	47.5
18	46.8	0	46.8
19	49.4	5	54.4
20	50.3	5	55.3
21	51.5	5	56.5
22	53.5	10	63.5
23	54.1	10	64.1

Calculated CNEL: 59.5

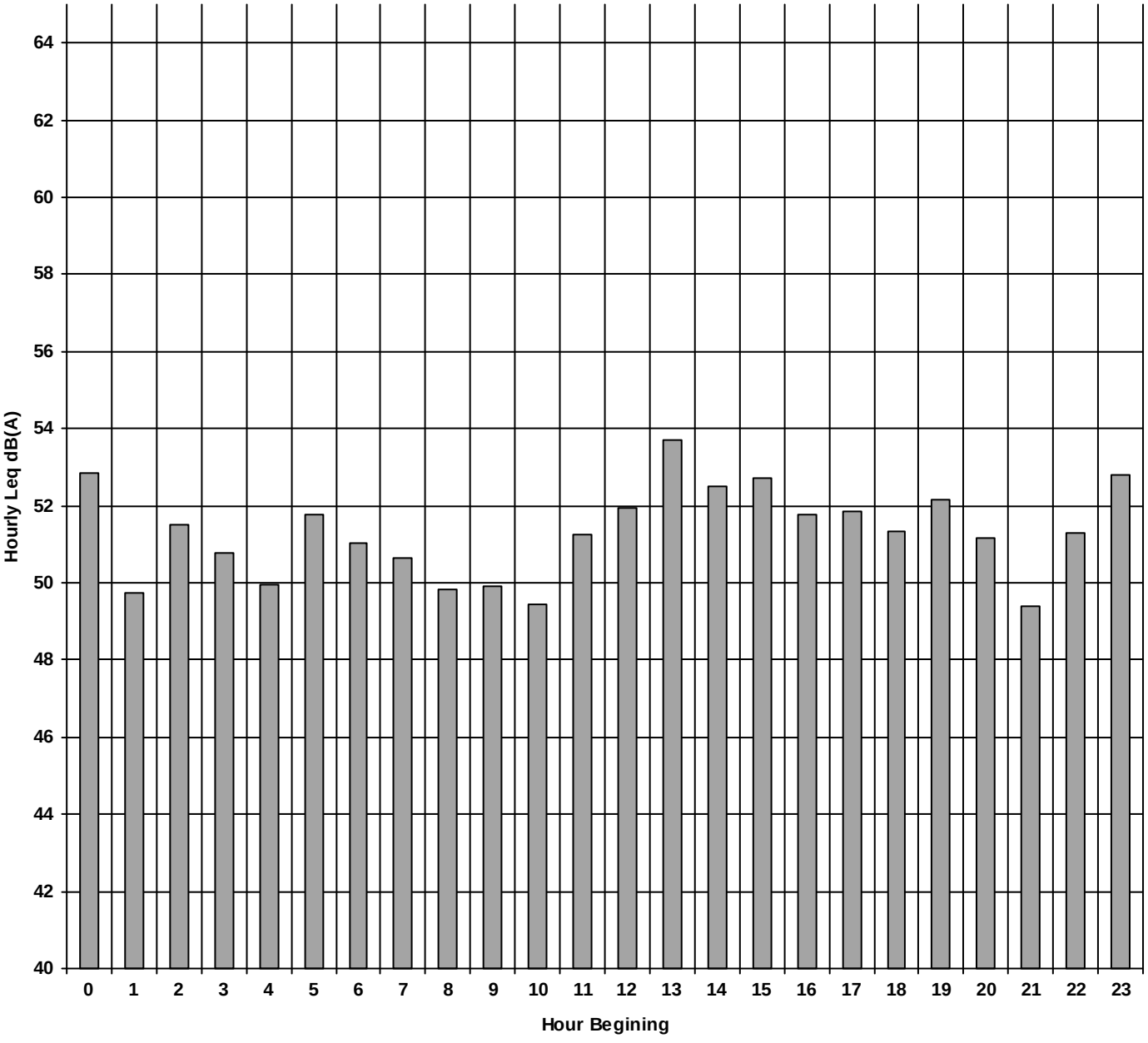
Evening Hours

Nighttime Hours

24-Hour Noise Level Measurement Summary

Project Name: Heritage Fields Project 2012 *Job Number:* 08141
Location #: L2 *Analyst:* B. Lawson
Description: 54' west of the fence opposite the Albertsons Distribution Center
Start Date: Thursday, May 10, 2012

Hourly Leq dB(A) Readings (unadjusted)



Measured Peak Noise Hour: 13

Measured Peak Hour dBA Leq: 53.7

24-Hour Noise Level Measurement Summary

Project Name: Heritage Fields Project 2012 *Job Number:* 08141
Location #: L2 *Analyst:* B. Lawson
Description: 54' west of the fence opposite the Albertsons Distribution Center
Start Date: Thursday, May 10, 2012

Leq To CNEL Noise Calculations

Noise Hour	*Hourly Leq*	*CNEL Penalty*	*Adjusted Hourly Leq*
0	52.8	10	62.8
1	49.7	10	59.7
2	51.5	10	61.5
3	50.8	10	60.8
4	49.9	10	59.9
5	51.8	10	61.8
6	51.0	10	61.0
7	50.6	0	50.6
8	49.8	0	49.8
9	49.9	0	49.9
10	49.4	0	49.4
11	51.3	0	51.3
12	51.9	0	51.9
13	53.7	0	53.7
14	52.5	0	52.5
15	52.7	0	52.7
16	51.8	0	51.8
17	51.9	0	51.9
18	51.3	0	51.3
19	52.2	5	57.2
20	51.2	5	56.2
21	49.4	5	54.4
22	51.3	10	61.3
23	52.8	10	62.8

Calculated CNEL: 58.1

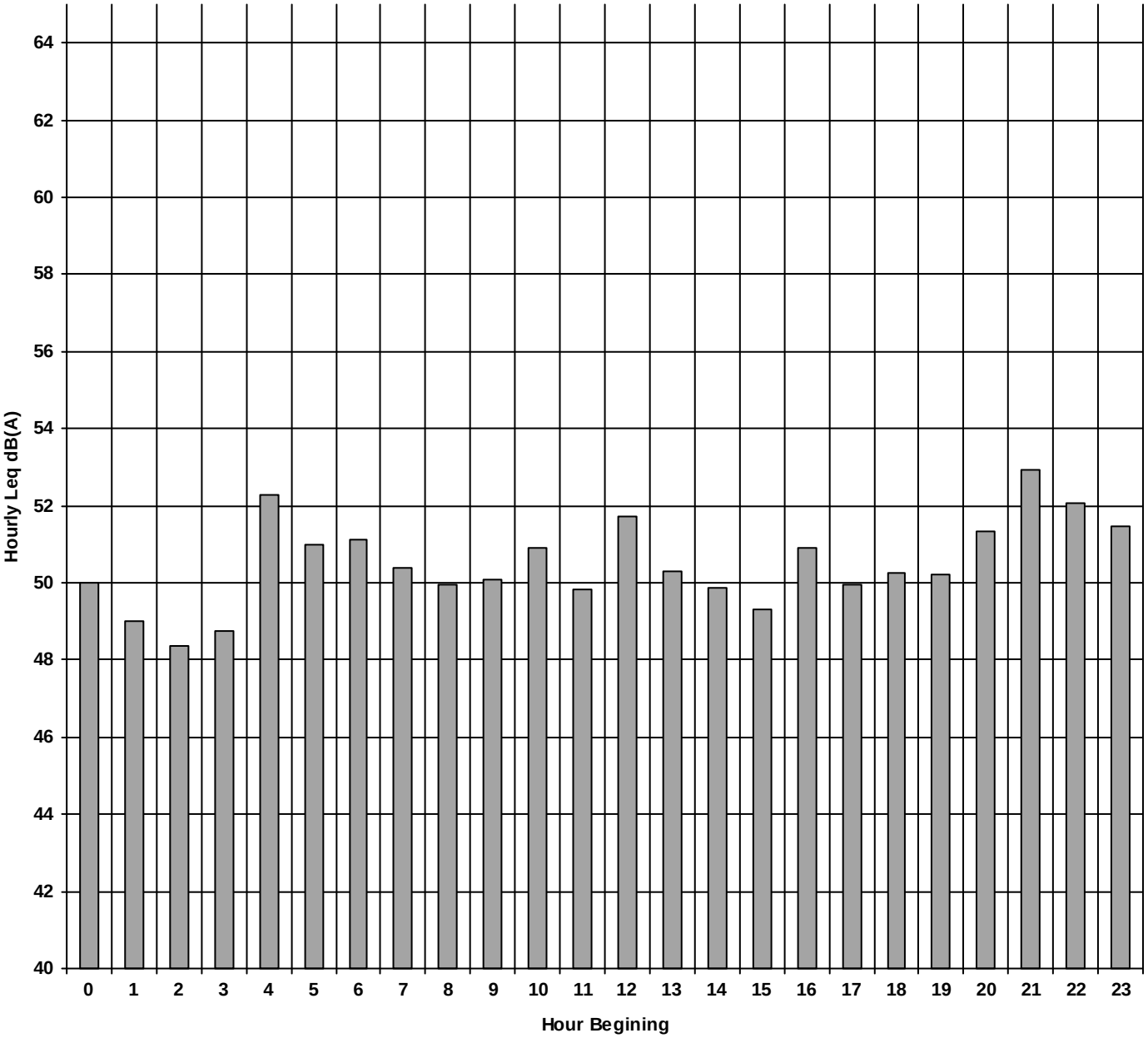
Evening Hours

Nighttime Hours

24-Hour Noise Level Measurement Summary

Project Name: Heritage Fields Project 2012 *Job Number:* 08141
Location #: L3 *Analyst:* B. Lawson
Description: At the property line fence opposite the Albertsons Distribution Center
Start Date: Wednesday, May 09, 2012

Hourly Leq dB(A) Readings (unadjusted)



Measured Peak Noise Hour: 21

Measured Peak Hour dBA Leq: 52.9

24-Hour Noise Level Measurement Summary

Project Name: Heritage Fields Project 2012 *Job Number:* 08141
Location #: L3 *Analyst:* B. Lawson
Description: At the property line fence opposite the Albertsons Distribution Center
Start Date: Wednesday, May 09, 2012

Leq To CNEL Noise Calculations

Noise Hour	*Hourly Leq*	*CNEL Penalty*	*Adjusted Hourly Leq*
0	50.0	10	60.0
1	49.0	10	59.0
2	48.3	10	58.3
3	48.7	10	58.7
4	52.3	10	62.3
5	51.0	10	61.0
6	51.1	10	61.1
7	50.4	0	50.4
8	50.0	0	50.0
9	50.1	0	50.1
10	50.9	0	50.9
11	49.8	0	49.8
12	51.7	0	51.7
13	50.3	0	50.3
14	49.9	0	49.9
15	49.3	0	49.3
16	50.9	0	50.9
17	50.0	0	50.0
18	50.3	0	50.3
19	50.2	5	55.2
20	51.3	5	56.3
21	52.9	5	57.9
22	52.1	10	62.1
23	51.4	10	61.4

Calculated CNEL: 57.4

Evening Hours

Nighttime Hours