



Forth Replacement Crossing

**Employer's Delivery Team
Construction Noise Monitoring Report**

**Principal Contract and M9J1a Contract
(October 2012)**



An agency of  The Scottish Government



FORTH REPLACEMENT CROSSING

**EMPLOYER'S DELIVERY TEAM
CONSTRUCTION NOISE MONITORING REPORT
PRINCIPAL CONTRACT AND M9J1A CONTRACT
(OCTOBER 2012)**

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FORTH REPLACEMENT CROSSING

**EMPLOYER'S DELIVERY TEAM
CONSTRUCTION NOISE MONITORING REPORT**

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1. INTRODUCTION

1.1 This report sets out the results of the construction noise monitoring undertaken on the Forth Replacement Crossing project.

1.2 The noise monitoring periods covered in this report are as follows:

- Principal Contract: October 2012 – refer to Section 2 of this report.
- M9 Junction 1a Contract: October 2012 – refer to Section 3 of this report.

1.3 Noise monitoring from the Fife ITS Contract is reported separately.

2. PRINCIPAL CONTRACT NOISE MONITORING

NOISE MONITORING LOCATIONS

2.1 Continuous noise monitoring was carried out at the fixed monitor locations in Table 2.1 below. The main construction activities carried out adjacent to the monitor locations are also listed.

Monitoring Location	Monitoring Period	Main Construction Activities
Whinny Hill (M1)	October 2012	<ul style="list-style-type: none"> • Drilling for blasting • Blasting • Breaking and excavation of rock • Haulage of rock
Tigh-Na-Grian (M3)	October 2012	<ul style="list-style-type: none"> • On-going works at Beamer Rock • Caisson Excavation • N1 excavation
Port Edgar (M6)	October 2012	<ul style="list-style-type: none"> • On-going works at CT • ST excavation • S4 excavation • Caisson works
Butlaw Fisheries (M7)	October 2012	<ul style="list-style-type: none"> • On-going works at CT • Caisson works • ST excavation • S4 excavation • Works at S7 & S8 • S6 Access Track Drainage
Inchgarvie Lodge (M10)	October 2012	<ul style="list-style-type: none"> • On-going works at CT • Caisson works • ST excavation • S4 excavation • Works at S7 & S8 • S6 Access Track Drainage • Excavation of material from launch • Creation of SUDS Pond
Linn Mill (M11)	October 2012	<ul style="list-style-type: none"> • Excavations at south abutment • Drainage works • Creation of SUDS pond
Clufflat Brae (M13)	October 2012	<ul style="list-style-type: none"> • Excavations at south abutment • Creation of SUDS pond

Springfield (M14)	October 2012	<ul style="list-style-type: none"> • Excavations at south abutment • Creation of SUDS pond
Echline Field (M15)	October 2012	<ul style="list-style-type: none"> • Cut/Fill from Queensferry gyratory
Scotstoun (M16)	October 2012	<ul style="list-style-type: none"> • Import of materials • Utility works • Soil stripping
Dundas Home Farm (M17)	October 2012	<ul style="list-style-type: none"> • Utilities works • Earthworks
Newton (M18)	October 2012	<ul style="list-style-type: none"> • No works

Table 2.1 Principal Contract – Long Term Monitoring Locations

NOISE MONITORING RESULTS

- 2.2 Monitoring results from the Principal contract are contained in Appendix A of this report. The results are presented in a report containing noise charts using the template contained in the Construction Noise Monitoring Information Note which is available on the project website at http://www.transportscotland.gov.uk/files/documents/projects/forth-replacement/FRC_Construction_Noise_Monitoring_Information_Note_2_.pdf.
- 2.3 Some exceedances of the maximum noise level thresholds occurred in October, however the majority of these are not considered to be due to construction works being carried out. Exceedances of the maximum noise level threshold at Linn Mill, Clufflat Brae, Tigh-Na-Grian and Butlaw Fisheries were attributed to construction works.
- 2.4 Exceedances of the monthly average threshold were recorded at Scotstoun and Butlaw Fisheries.
- 2.5 All exceedances were investigated in accordance with the project Code of Construction Practice.
- 2.6 All exceedance reports are available on request from the FRC Team, contactable via email at enquiries@forthreplacementcrossing.info. A summary of the information included in the exceedance reports is provided in Table 2.2 below.

Monitoring Location	Exceedance
Butlaw Fisheries (M7)	During October the maximum noise threshold was exceeded on 45 occasions (daytime, 13; evening, 6; night time, 26). Three daytime exceedances were due to piling works associated with the trial pit. However, a large number of exceedances were attributed to a range of non-construction factors, including waves on the shore, wind, birds (particularly during the early hours of the morning) and vehicles.
Clufflat Brae (M13)	During October the maximum noise threshold was exceeded on 32 occasions (daytime, 12; evening, 4; night time, 16). Three daytime exceedances were found to be due to the intermittent noise of plant operating in close proximity to the meter. A number of the exceedances were also found to be due to birds, adverse weather conditions and fireworks.
Inchgarvie Lodge (M10)	During October the maximum noise threshold was exceeded on 21 occasions (daytime, 10; evening, 4; night time, 7). No exceedances were found to be due to construction works. However, investigations found adverse weather and movements at the property to be the main contributing factors to the exceedances at this location.
Linn Mill (M11)	During October the maximum noise threshold was exceeded on 35 occasions (daytime, 11; evening, 5; night time, 19). Four exceedances were due to construction works. However, the majority of exceedances were caused by a number of non-construction factors, notably adverse weather conditions, fireworks and birds.
Tigh-Na-Grian (M3)	During October the maximum noise threshold was exceeded on 29 occasions (daytime, 14; evening, 0; night time, 15). Five night time exceedances were found to be due to construction works at the north tower caisson. However, the majority of the exceedances were due to non-construction factors including birds and windy weather conditions.
Dundas Home Farm (M17)	During October the maximum noise threshold was exceeded on 5 occasions. Exceedances were not attributable to construction works. Exceedances were due to gardening activities near the meter, birds and planes.
Echline Field (M15)	During October the maximum noise threshold was exceeded on 24 occasions. No exceedances at this location were due to construction activities. Exceedances were attributed to vehicles passing by on the adjacent roads, dogs and children making noise nearby the monitor and adverse weather conditions.
Springfield (M14)	During October the maximum noise threshold was exceeded on 11 occasions. No exceedances at this location were due to construction activities. The majority of non-construction related exceedances were due to residents at the nearby properties.

Monitoring Location	Exceedance
Scotstoun (M16)	During October the maximum noise threshold was exceeded on 23 occasions. Exceedances were attributed to vehicles passing by on the adjacent road.
Whinny Hill (M1)	During October the maximum noise threshold was exceeded on 14 occasions. Exceedances were not due to construction activities. A range of factors were found to cause exceedances at this location, including birds and wind.

Table 2.2 Principal Contract – Summary of Noise Threshold Exceedances

3. M9 J1A CONTRACT NOISE MONITORING

NOISE MONITORING LOCATIONS

3.1 Continuous noise monitoring was carried out at the fixed monitor locations in Table 3.1 below. The main construction activities carried out adjacent to the monitor locations are also listed.

Monitoring Location	Monitoring Period	Main Construction Activities
93/95 King Edwards Way (CNV02)	October 2012	<ul style="list-style-type: none">• Pavement surfacing works
15-17 Buie Rigg (CNV07)	October 2012	<ul style="list-style-type: none">• Earthworks & SUDS pond excavation• Pavement works on eastbound diverge slip• Pavement works on eastbound merge slip• Pavement works on M9 Mainline• Concrete pours at M901 Overbridge• Erection of Gantry 11• Traffic management movement of Varioguard•
8 Kirklands Park Grove (CNV16)	October 2012	<ul style="list-style-type: none">• Safety Barrier works at M9 Spur• Pavement works on northbound M9 Spur• Concrete pours at Newmains Bridge• Traffic management on southbound M9 Spur

Table 3.1 M9 J1a Contract – Long Term Monitoring Locations

NOISE MONITORING RESULTS

3.2 Monitoring results from the M9 Junction 1a contract are contained in Appendix B of this report. The results are presented in charts using the template contained in the Construction Noise Monitoring Information Note which is available on the project website at http://www.transportscotland.gov.uk/files/documents/projects/forth-replacement/FRC_Construction_Noise_Monitoring_Information_Note_2_.pdf.

3.3 Some exceedances of the maximum noise level thresholds occurred in October, however the majority of these are not considered to be due to construction works being carried out. Four exceedances were attributed to construction works at King

Edwards Way and three exceedances were attributed to construction works at Buie Rigg.

- 3.4 All exceedances of the maximum noise level thresholds were investigated in accordance with the project Code of Construction Practice.
- 3.5 An exceedance of the monthly average threshold was recorded at Kirklands Park Grove.
- 3.6 Summary information regarding the exceedances of the maximum noise level thresholds is provided In Table 3.2 below. Copies of the exceedance reports are contained in Appendix B to this report.

Monitoring Location	Contractor's Exceedance Report Reference	Exceedance
93/95 King Edwards Way (CNV02)	NERs 170 - 192	During October the maximum noise threshold was exceeded on 23 occasions (daytime, 3; evening, 5; night, 15) with 4 of the exceedances being attributed to construction works. The construction related exceedances are attributed to plant movements and pavement works (See NERs 178, 187, 191 & 192).
15-17 Buie Rigg (CNV07)	NER 193 - 198	During October the maximum noise threshold was exceeded on 6 occasions (evening, 1; night, 5) with 3 of the exceedances being attributed to construction works. The construction related exceedances are attributed to surfacing works (See NERs 193, 195 & 198.)
8 Kirklands Park Grove (CNV16)	NERs 199 - 206	During October the maximum noise threshold was exceeded on 8 occasions (daytime, 2; evening, 1; night, 5). No exceedances are attributed to construction works.

Table 3.2 M9 J1a Contract – Summary of Noise Threshold Exceedance

APPENDIX A -

**PRINCIPAL CONTRACT - CONSTRUCTION
NOISE MONITORING REPORTS**



Contractor



Forth Crossing Bridge Constructors

HOCHTIEF Solutions
American Bridge International
DRAGADOS
Morrison Construction

Project **FORTH REPLACEMENT CROSSING**

Document title

**CONSTRUCTION NOISE MONITORING REPORT:
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- 3. Noise Monitoring Results**

1 Introduction

- 1.1** Monitoring of construction noise is being undertaken by FCBC during the construction of the new Forth Crossing and the associated road network. This report covers the month of October 2012. The objective of this report is to detail the monitoring that has been undertaken across the site during this period and to present the construction noise monitoring results acquired for October 2012.
- 1.2** Monitoring of construction noise has been undertaken in accordance with the Code of Construction Practice (CoCP) and the Noise and Vibration Management Plan (NVMP).

2 Noise Monitoring Locations

- 2.1** During October 2012, construction noise was monitored using permanent, continuous noise monitoring devices at the locations listed in Table 1. The majority of the monitors were installed throughout November and December 2011, with additional monitors installed at Scotstoun Park (Arup's Office) and Newton during February and a further sound level meter installed at Whinny Hill during March.
- 2.2** At some monitoring locations, the noise monitoring devices are accompanied by associated weather stations. Weather stations are present at Echline Field, Tigh-Na-Grian, Clufflat Brae, Dundas Home Farm, Butlaw Fisheries, Linn Mill and Whinny Hill.
- 2.3** Various construction works were undertaken across the site during October 2012. The main construction activities undertaken in the locality of each of the noise meters during the period have been listed in Table 1.

Table 1: Monitoring Locations

Ref.	Monitoring Location	Crossing or Network	Main Construction Activities During October 2012
M1	Whinny Hill	Network	Drilling for blasting Blasting Breaking and excavation of rock Haulage of rock N.B. No evening, night time or Sunday daytime construction in vicinity.
M3	Tigh-Na-Grian	Crossing	On-going works at CT NT Caisson Excavation N1 excavation
M6	Port Edgar	Crossing	On-going works at CT ST excavation S4 excavation Caisson works
M7	Butlaw Fisheries	Crossing	On-going works at CT Caisson works ST excavation S4 excavation Works at S7 & S8 S6 Access Track drainage works
M10	Inchgarvie Lodge	Crossing	On-going works at CT Caisson works ST excavation S4 excavation Works at S7 & S8 S6 Access Track drainage works Excavation of material from launch and south abutment Works on SUDS ponds
M11	Linn Mill	Network (close proximity to Crossing)	Excavation of material from launch and south abutment Drainage works Works on SUDS pond
M13	Clufflat Brae	Network (close proximity to Crossing)	Excavation of material from launch and south abutment Works on SUDS pond
M14	Springfield	Network	Excavation of material from launch SUDS pond works N.B. No evening, night time or Sunday daytime construction in vicinity.
M15	Echline Field	Network	Cut/Fill from Queensferry gyratory

			N.B. No evening, night time or Sunday daytime construction in vicinity.
M16	Scotstoun	Network	Import of materials Utility works Soil stripping N.B. No evening, night time or Sunday daytime construction in vicinity.
M17	Dundas Home Farm	Network	Utilities works Earthworks N.B. No evening, night time or Sunday daytime construction in vicinity.
M18	Newton	Network	No works

3 Noise Monitoring Results

3.1 All noise monitoring results for construction days have been presented in charts using the template provided in the Construction Noise Monitoring Information Note, as available on the project website (http://www.transportscotland.gov.uk/files/documents/projects/forth-replacement/FRC_Construction_Noise_Monitoring_Information_Note_2_.pdf). All charts can be found in the appendices of this report.

3.2 With regard to the noise monitoring results charts, the following should be noted:

- All locations are considered as either 'Main Crossing' or 'Network Connections', as set out in Table 1. Main Crossing works are undertaken during the day, evening and night time periods. Network connection works, however, are undertaken during the daytime only. The inclusion of data in the graphs reflects this. Although Linn Mill and Clufflat Brae are considered as network locations, the potential for marine works near the south shore to be heard has been recognised. As a result, evening and night time data has been included for these locations although no network connection construction activities have been undertaken during these periods.
- Noise data for days, evening and nights on which no construction works were conducted have been excluded from the monthly average results presented in the graph. However, noise results (L_{Aeq} and $L_{Amax, F}$) for any days, evenings and nights on which no construction works have been conducted have been presented in the graphs in greyed out areas.
- An average for Sunday construction noise data has been included on the graphs where applicable; in locations where no Sunday works have been undertaken no average is shown.
- As set out in the CoCP, the assessment time for evening, nights and Sunday daytime is 1 hour periods. To present the construction noise results for these periods, therefore, the maximum $L_{Amax, F}$ (fast time response) and maximum L_{Aeq} within the overall evening/night time period has been taken. It should be noted, therefore, that the average shown for these periods is an average of only the highest L_{Aeq} results.

- Where noise data is missing for days, evening or nights during which construction works were conducted, this has been indicated. A loss of power, caused by a third party, resulted in periods of missing data at Inchgarvie in early October. Data is missing for the first 3 days of October at Echline due to the loss of power as reported in previous noise reports. Several device errors were also encountered in October, resulting in loss of data on the following dates from the following devices; 3 & 4 October at Linn Mill, 30 & 31 October at Newton, 12 to 14 October at Tigh-Na-Grian, 27 to 31 October at Port Edgar and 1 to 8 October at Scotstoun. Data is also missing from Springfield between 27 and 31 October due to a loss of data associated with an error with the FCBC server.

3.3 Results demonstrate that the monthly average total construction noise results for daytime were within the threshold limits for all monitoring locations for October 2012, with the exception of Scotstoun. The monthly average total construction noise results for the evening period were within the threshold for all locations throughout October 2012. For night-time, results show exceedances of the threshold at Butlaw Fisheries only, with all other monitoring locations within the threshold. The exceedance at Butlaw, however, was caused by an increase in noise levels due to several nights of adverse weather conditions causing an increase in noise levels at this location due to the waves on the shore and also birds in the early hours of the morning. When data affected by waves and birds is removed from the average, this reduces the monthly night time average from 54.9dB to 48.8dB, which is below the threshold value of 50dB.

3.4 The Sunday averages (for applicable monitoring locations) were found to be within the threshold for all monitoring locations during October 2012, with the exception of Butlaw Fisheries for the night-time period. As with the monthly night time average at Butlaw Fisheries, the Sunday night time average was also affected by adverse weather causing increased noise of waves on the shore and also birds in the early hours of the morning. Where this data is removed, the Sunday night time average is reduced from 51.1dB to 48.7dB, which lowers it below the threshold value of 50dB.

3.5 The exceedance of the daytime average at Scotstoun is due to increased background noise levels due to the location of the meter directly adjacent to the road. Traffic noise at this location is further increased during periods of wet weather which were frequent throughout October 2012.

- 3.6** During October 2012, some exceedances of the maximum noise thresholds also occurred. Each exceedance of the threshold was investigated using triggered audio recordings, records of construction works (i.e. site programmes and diaries, daily marine reports and dredging reports) and analysis of weather station data, where required. A Noise and Vibration Investigative Report (NVIR) spread sheet has been produced detailing the results of the investigation for each exceedance. Where the exceedances are due to construction works, a detailed NVIR has been completed which details the results of the investigation in addition to any additional mitigation measures required.
- 3.7** Investigations of the exceedances of the maximum noise level thresholds show the majority to have occurred as a result of non-construction related noise. Spells of adverse weather conditions during October were found to result in a number of exceedances. A large number of the exceedances, particularly those occurring between dawn and 8 am, were due to bird calls. Additionally, local noises at nearby properties were also found to be contributing factors to maximum noise level exceedances and at some locations, notably Scotstoun, existing traffic noise had an effect on maximum noise levels during the period covered in this report.
- 3.8** Where an exceedance due to construction works was identified, the works were investigated as soon as practicably reasonable and a detailed NVIR was completed, within which any additional mitigation measures were recognised.
- 3.9** The daytime L_{Amax} threshold was exceeded as a result of land based construction works on a total of 7 occasions at four different monitoring locations. Of these, four daytime exceedances at Linn Mill and three daytime exceedances at Clufflat Brae were caused by intermittent noise from plant operating in close proximity to the noise meters at these locations, in particular excavators and also the use of vehicle horns. Vehicle horns were being used as a means of informing operatives that a task had been completed and/or it was necessary to manoeuvre plant.
- 3.10** Some exceedances due to marine works were also recorded. The piling works associated with the construction of the trial pit were found to be the cause of 3 daytime exceedances at Butlaw Fisheries. Additionally, 5 night time exceedances at Tigh-Na-Grian were found to be caused by works at the North Tower caisson. These have all been investigated and mitigation measures have been implemented where possible. Please see relevant NVIRs for details.
- 3.11** A summary of the findings for exceedances occurring at each of the locations can be found in Table 2. All construction related exceedances are detailed in Table 3; further information on related remedial actions is detailed in the relevant NVIR.

Table 2: Summary of Exceedances at Monitoring Locations

Monitoring Location	Summary of Exceedance Details
Butlaw Fisheries	During October the maximum noise threshold was exceeded on 45 occasions (daytime, 13; evening, 6; night time, 26). Three daytime exceedances were due to piling works associated with the trial pit. However, a large number of exceedances were attributed to a range of non-construction factors, including waves on the shore, wind, birds (particularly during the early hours of the morning) and vehicles.
Clufflat Brae	During October the maximum noise threshold was exceeded on 32 occasions (daytime, 12; evening, 4; night time, 16). Three daytime exceedances were found to be due to the intermittent noise of plant operating in close proximity to the meter. A number of the exceedances were also found to be due to birds, adverse weather conditions and fireworks.
Inchgarvie Lodge	During October the maximum noise threshold was exceeded on 21 occasions (daytime, 10; evening, 4; night time, 7). No exceedances were found to be due to construction works. However, investigations found adverse weather and movements at the property to be the main contributing factors to the exceedances at this location.
Linn Mill	During October the maximum noise threshold was exceeded on 35 occasions (daytime, 11; evening, 5; night time, 19). Four exceedances were due to construction works. However, the majority of exceedances were caused by a number of non-construction factors, notably adverse weather conditions, fireworks and birds.
Tigh-Na-Grian	During October the maximum noise threshold was exceeded on 29 occasions (daytime, 14; evening, 0; night time, 15). Five night time exceedances were found to be due to construction works at the north tower caisson. However, the majority of the exceedances were due to non-construction factors including birds and windy weather conditions.
Echline	During October the maximum noise threshold was exceeded on 24 occasions. No exceedances at this location were due to construction activities. Exceedances were attributed to vehicles passing by on the adjacent roads, dogs and children making noise nearby the monitor and adverse weather conditions.
Dundas Home Farm	During October the maximum noise threshold was exceeded on 5 occasions. Exceedances were not attributable to construction works. Exceedances were due to gardening activities near the meter, birds and planes.
Springfield	During October the maximum noise threshold was exceeded on 11 occasions. No exceedances at this location were due to construction activities. The majority of non-construction related exceedances were due to residents at the nearby properties.

Scotstoun	During October the maximum noise threshold was exceeded on 23 occasions. Exceedances were attributed to vehicles passing by on the adjacent road.
Whinny Hill	During October the maximum noise threshold was exceeded on 14 occasions. Exceedances were not due to construction activities. A range of factors were found to cause exceedances at this location, including birds and wind.

Table 3: Summary of Construction Exceedances at Monitoring Locations

Monitor	Date	Period	Description	NVIR No.
Linn Mill	10/10/12	Day	Intermittent plant	L.D.101012
	11/10/12	Day		L.D.111012
	16/10/12	Day		L.D.161012
	19/10/12	Day		L.D.191012
Clufflat	12/10/12	Day	Intermittent plant	C.D.121012
	13/10/12	Day		C.D.131012
	15/10/12	Day		C.D.151012
Tigh-Na-Grian	23/10/12	Night	North tower caisson works	T.N.231012
	26/10/12	Night		T.N.261012
	27/10/12	Night		T.N.271012
	28/10/12	Night		T.N.281012
	29/10/12	Night		T.N.291012
Butlaw	16/10/12	Day	Piling at Trial Pit	B.D.161012
	17/10/12	Day		B.D.171012
	18/10/12	Day		B.D.181012



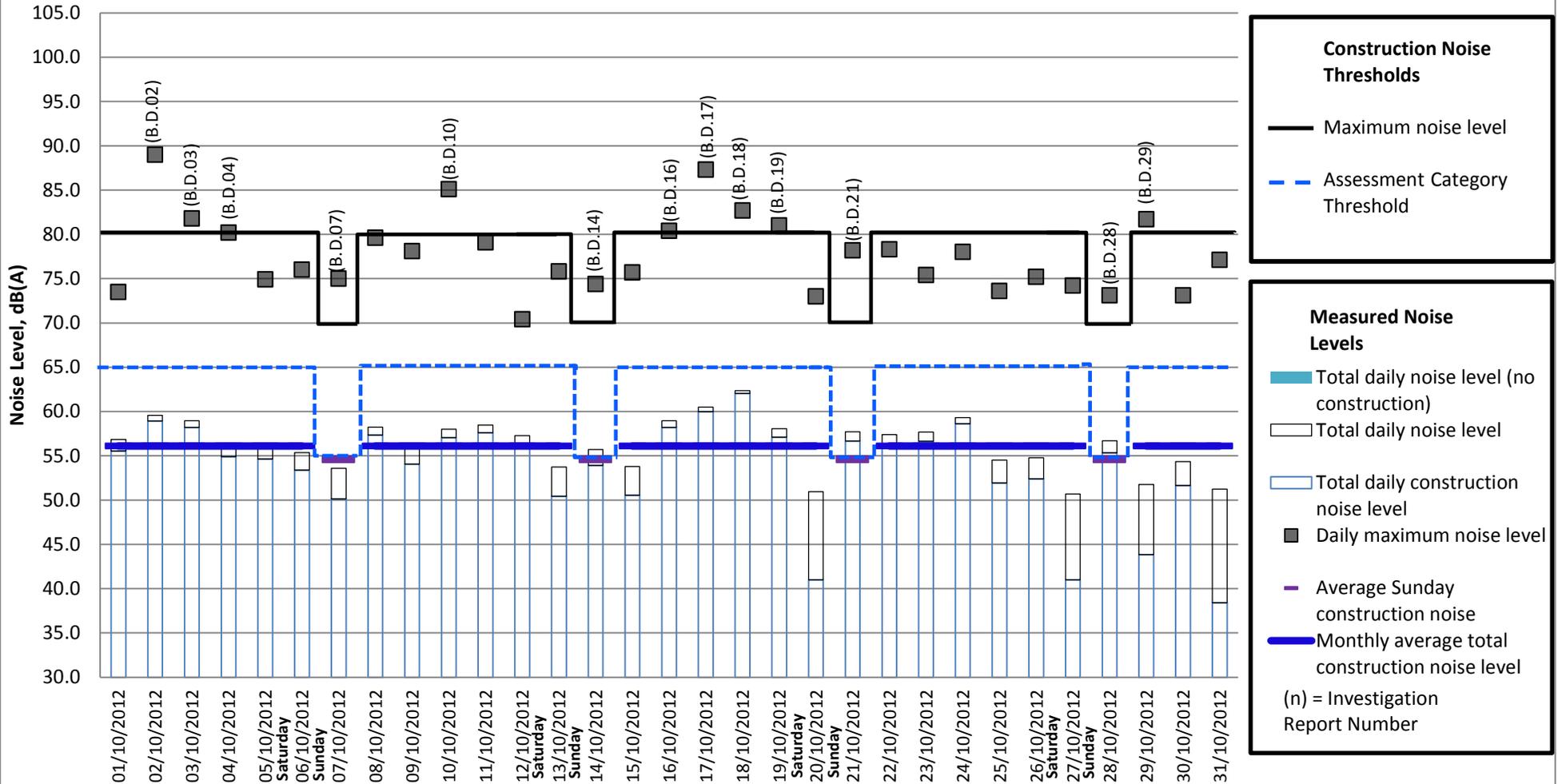
Forth Crossing Bridge Constructors

HOCHTIEF Solutions
American Bridge International
DRAGADOS
Morrison Construction

APPENDIX A

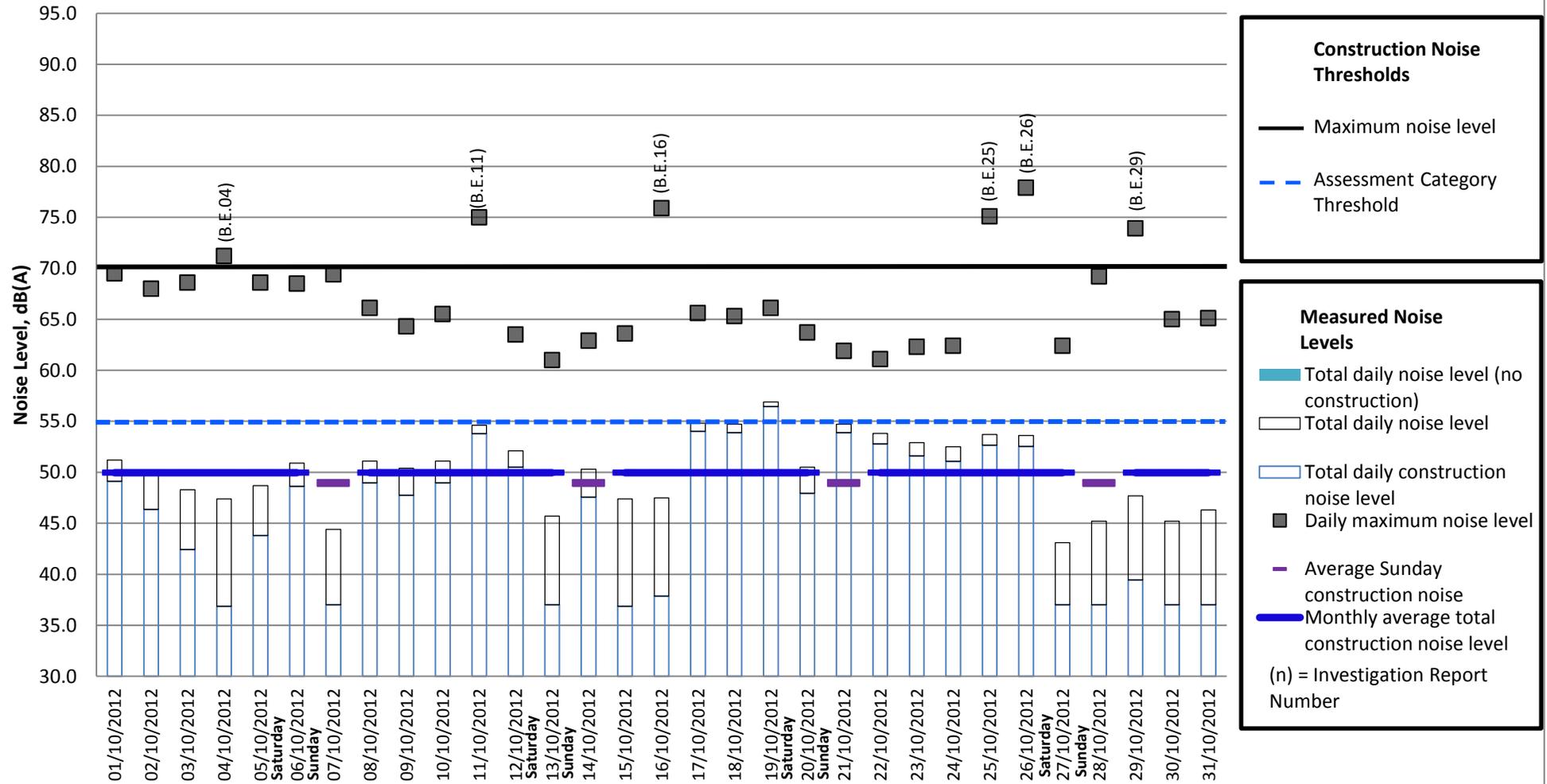
Measured Daytime Noise Levels at Butlaw Fisheries

Measurement period: October 2012



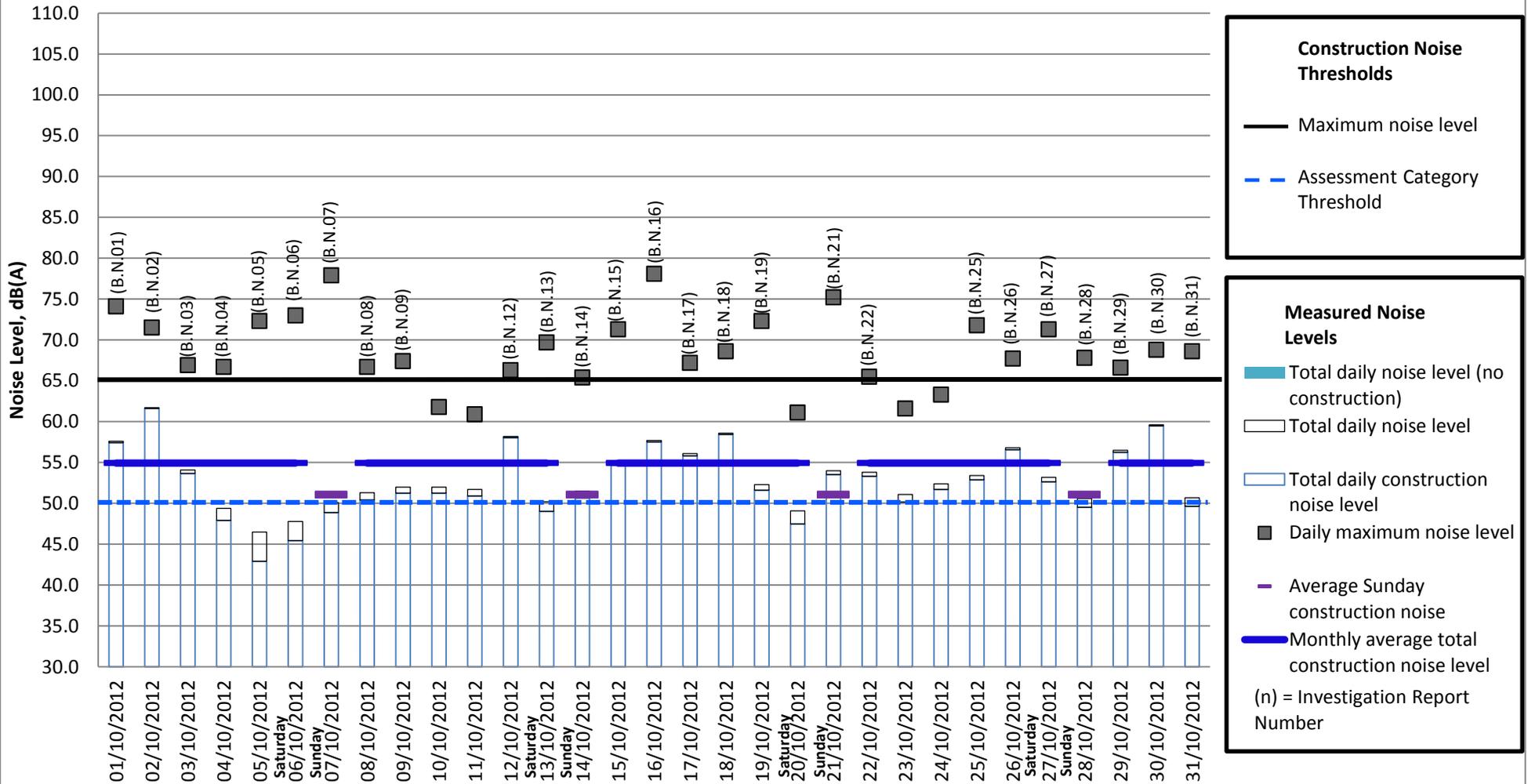
Measured Evening Noise Levels at Butlaw Fisheries

Measurement period: October 2012



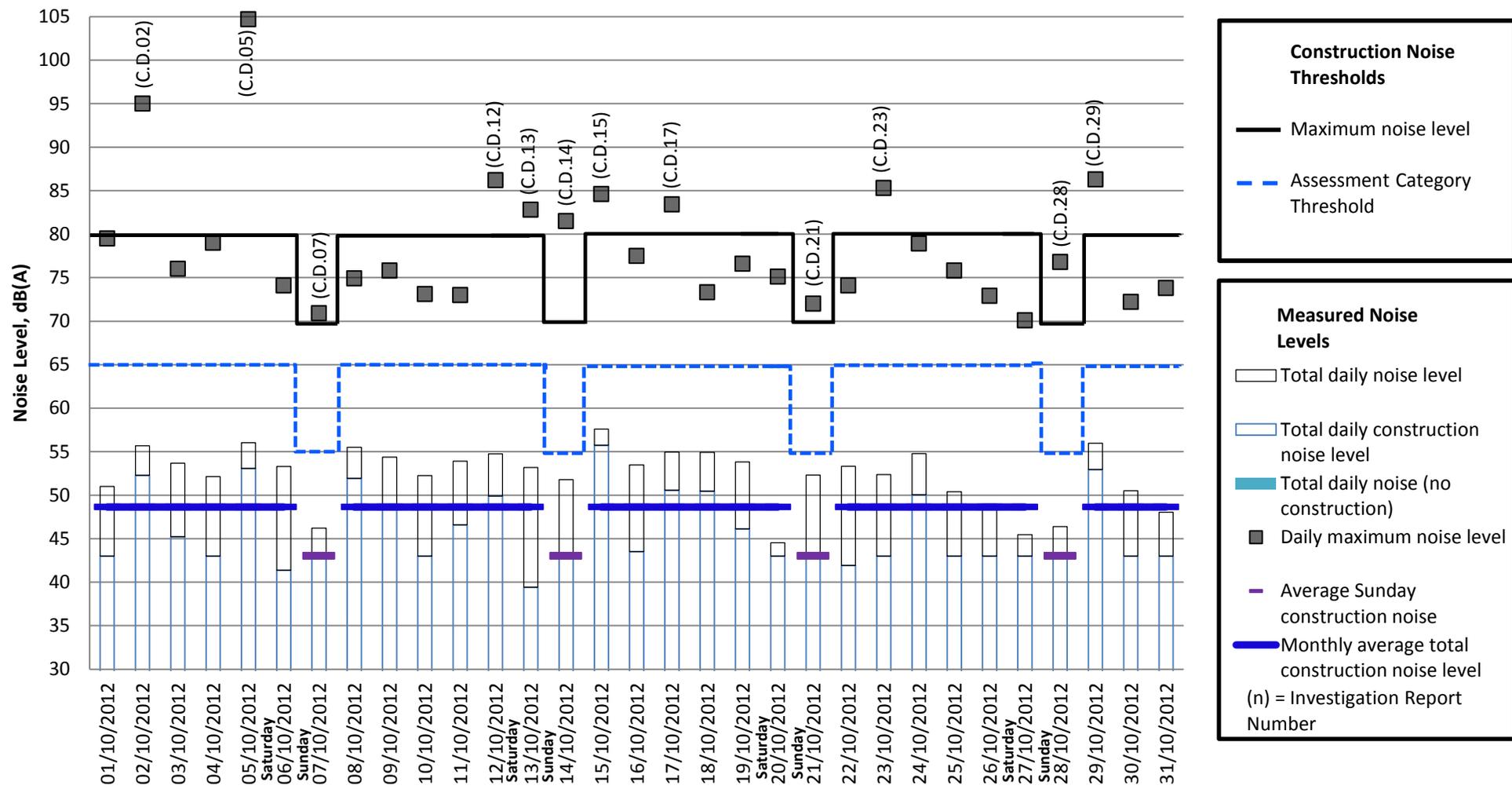
Measured Night time Noise Levels at Butlaw Fisheries

Measurement period: October 2012

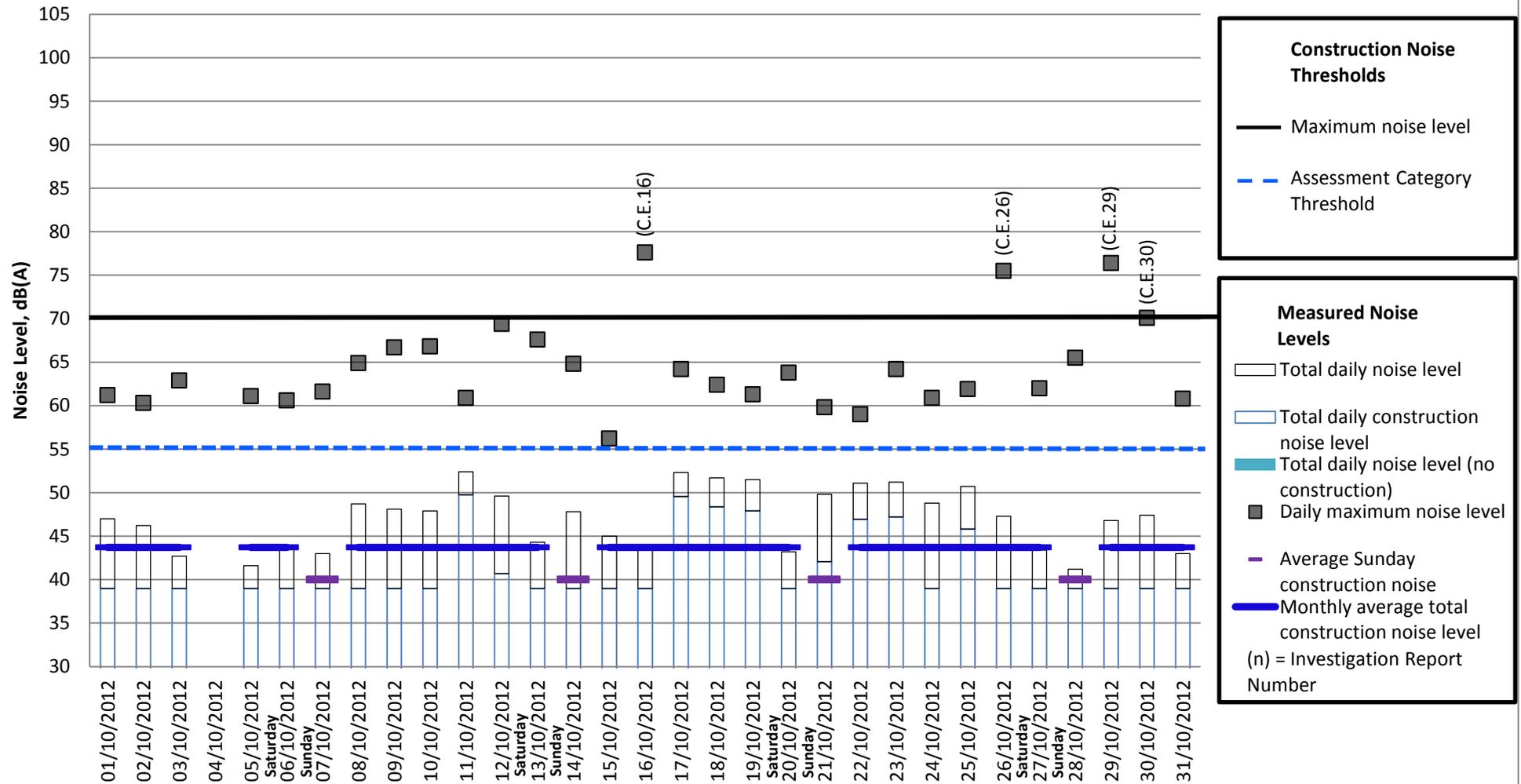


Measured Daytime Noise Levels at Clufflat Brae

Measurement period: October 2012

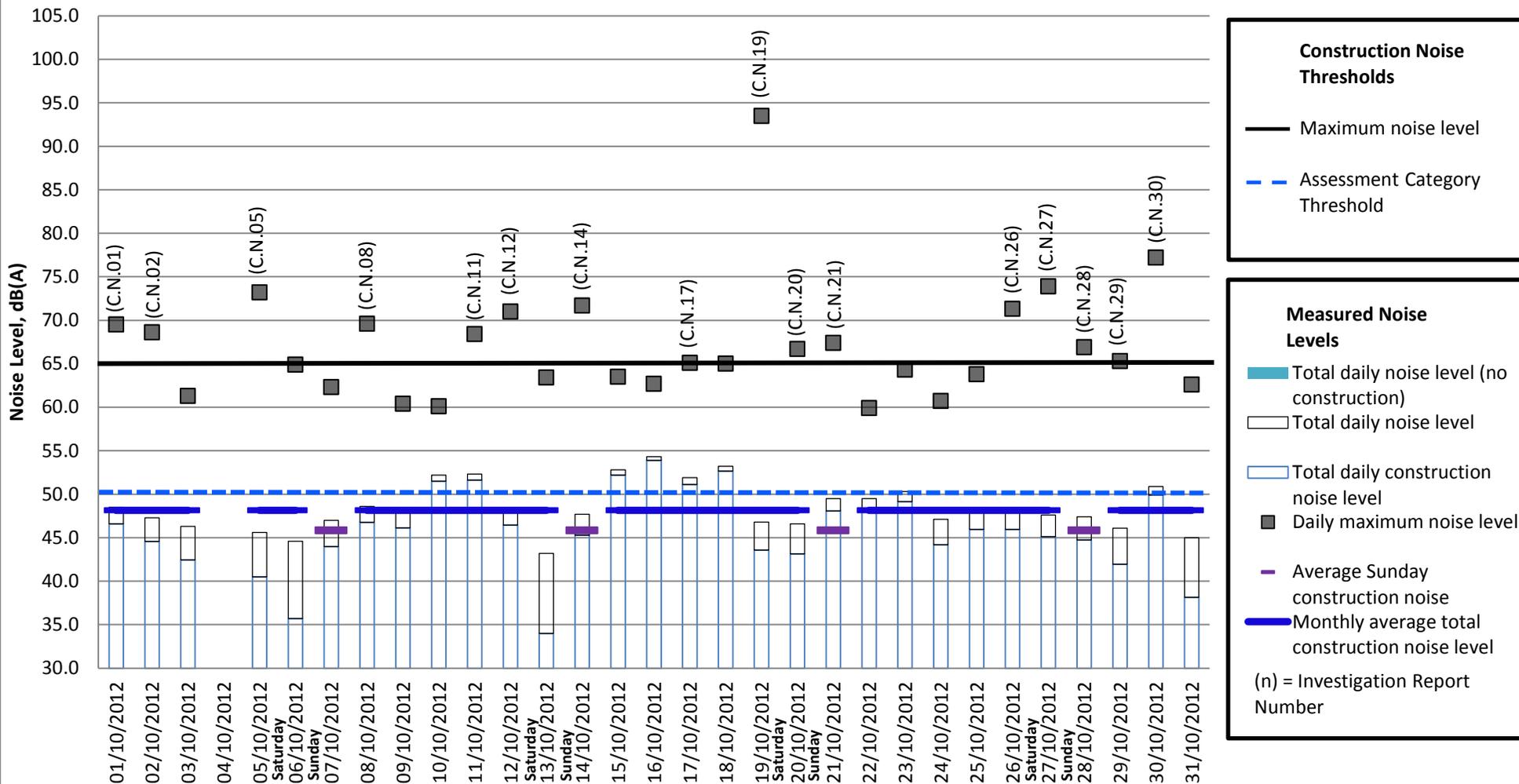


Measured Evening Noise Levels at Clufflat Brae Measurement period: October 2012



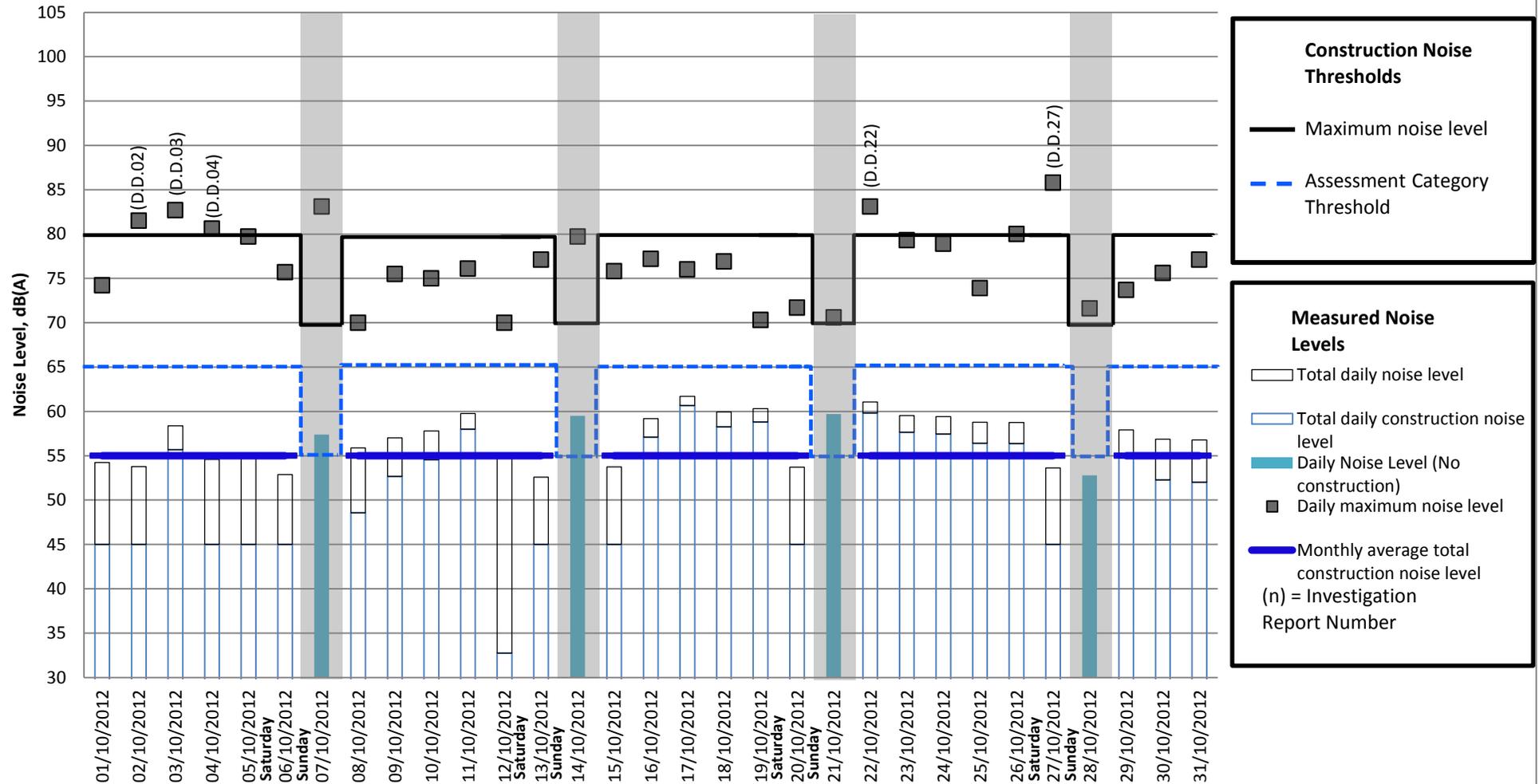
Note: Data is missing for 04/10/12 due to device error.

Measured Night-time Noise Levels at Clufflat Brae Measurement period: October 2012



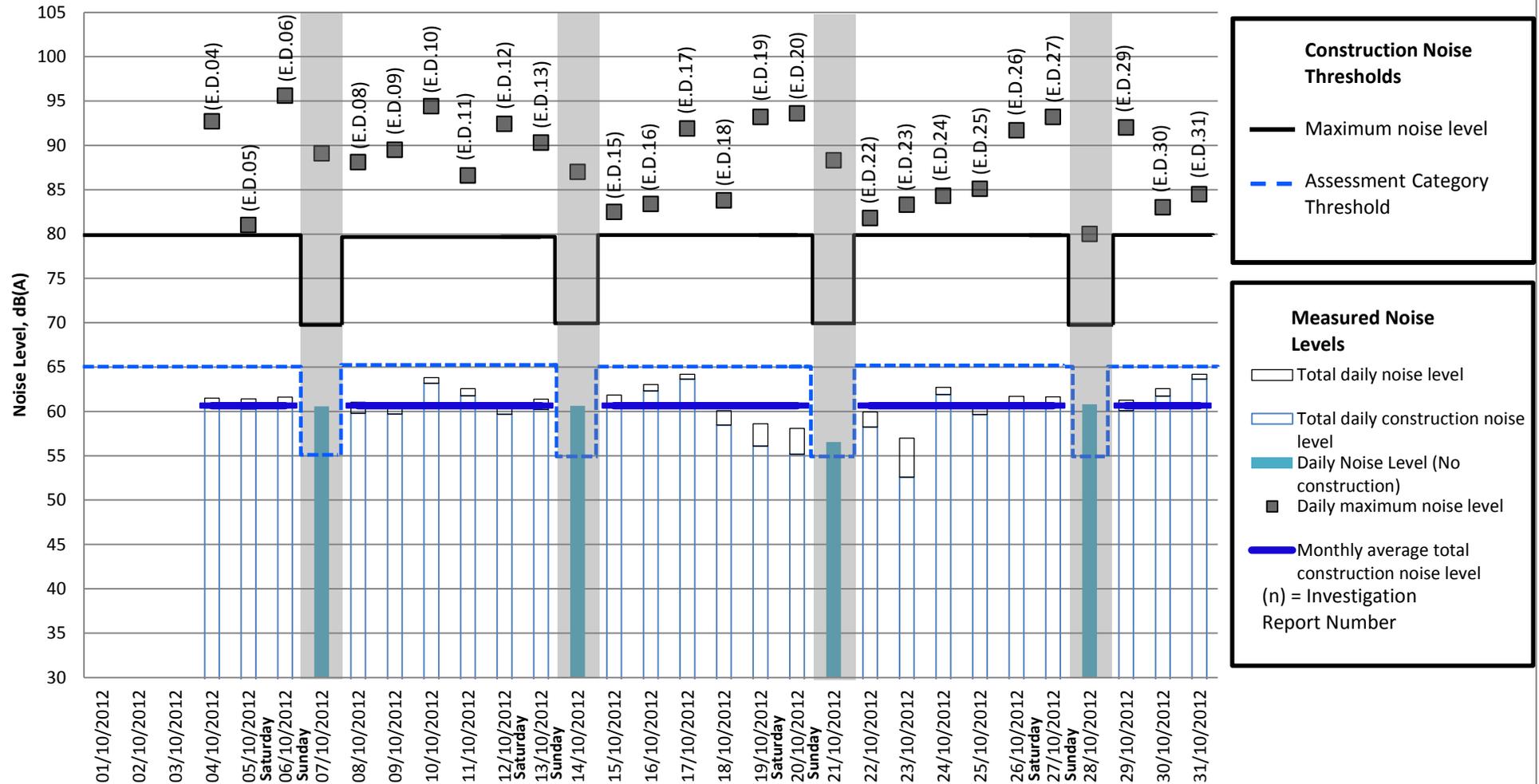
Note: Data is missing for 04/10/12 due to device error.

Measured Daytime Noise Levels at Dundas Home Farm Measurement period: October 2012



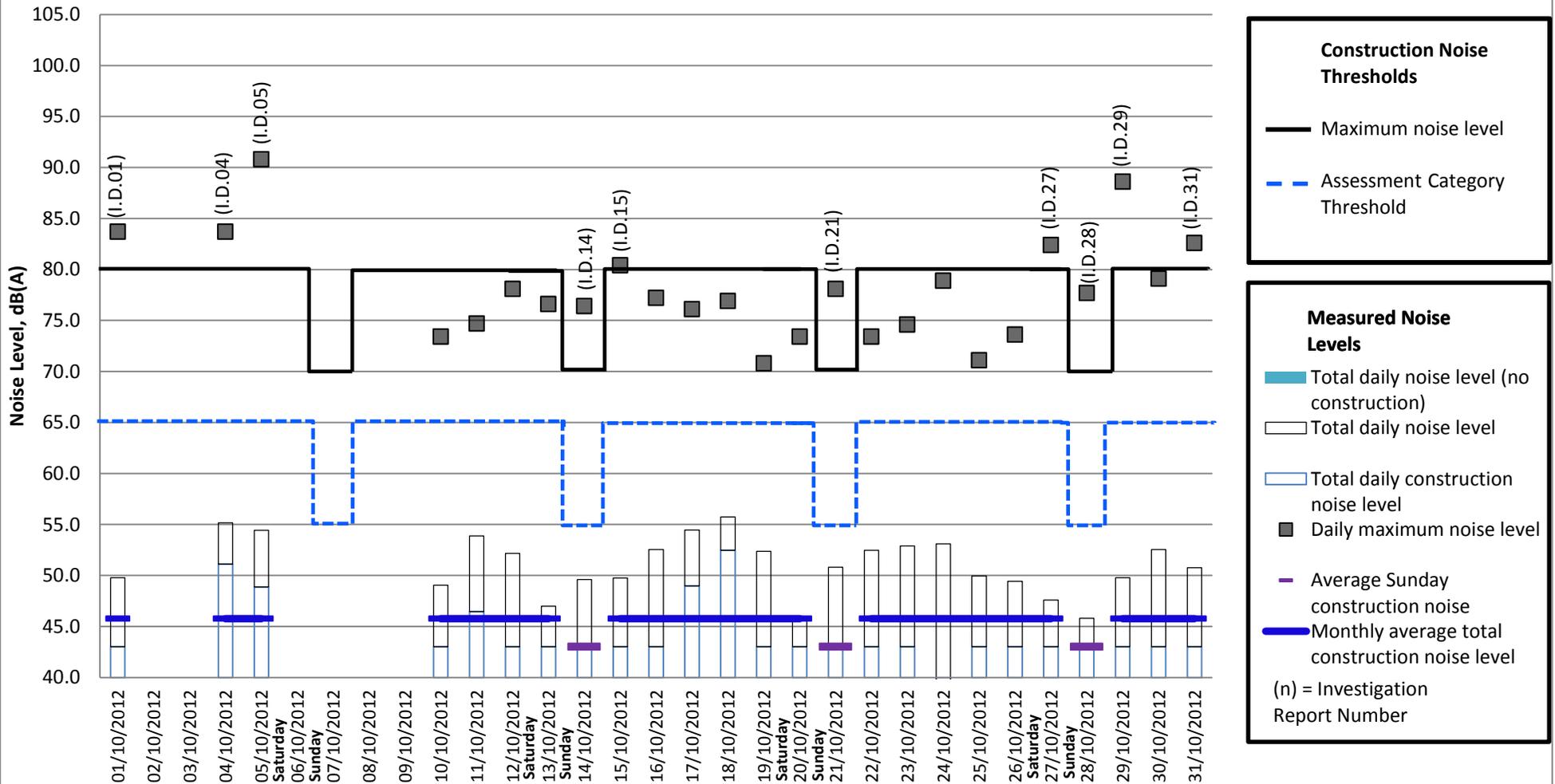
Note: The grey areas of the chart represent days on which no construction works have been conducted. The Sunday average has not been included as no Sunday works have been conducted at this location.

Measured Daytime Noise Levels at Echline Measurement period: October 2012



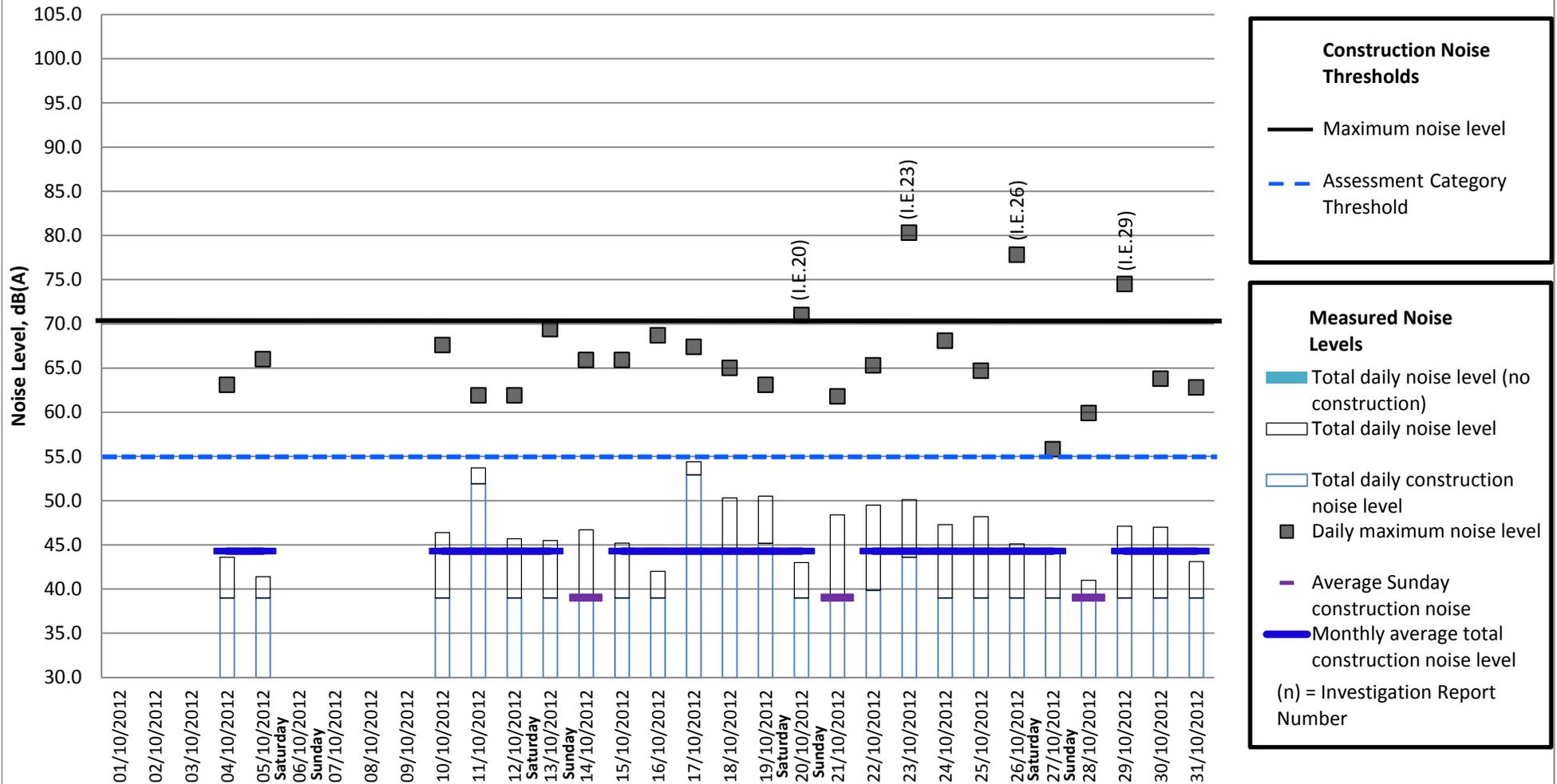
Note: The grey areas of the chart represent days on which no construction works have been conducted. The Sunday average has not been included as no Sunday works have been conducted at this location. Data is missing for 01/10/12 to 03/10/12 due to a loss of power to the device.

Measured Daytime Noise Levels at Inchgarvie Measurement period: October 2012



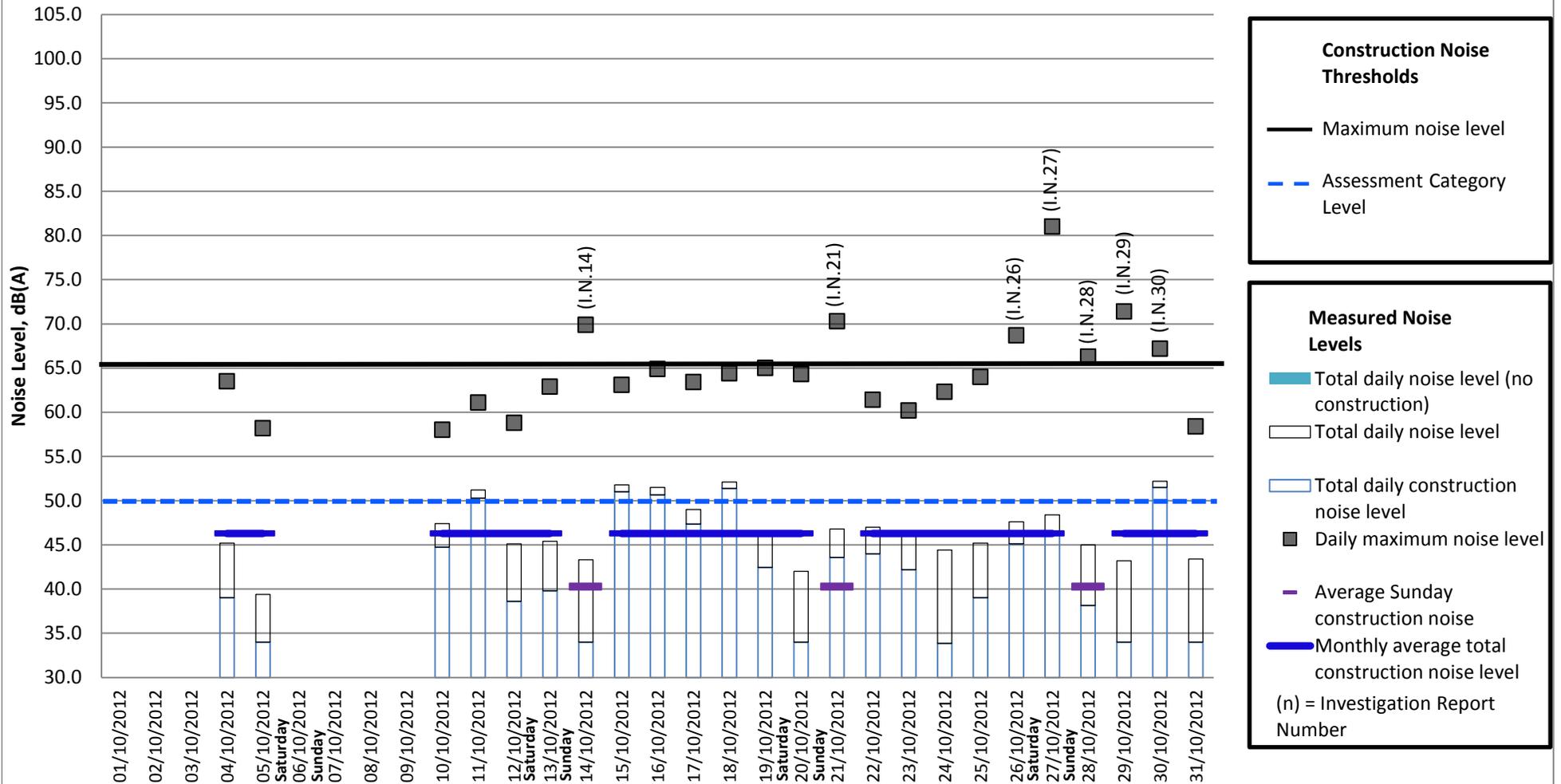
Note: Data is missing for 01/10/12, 02/10/12 and 06/10/12 to 09/10/12 due to errors with the power supply to the device.

Measured Evening Noise Levels at Inchgarvie Measurement period: October 2012



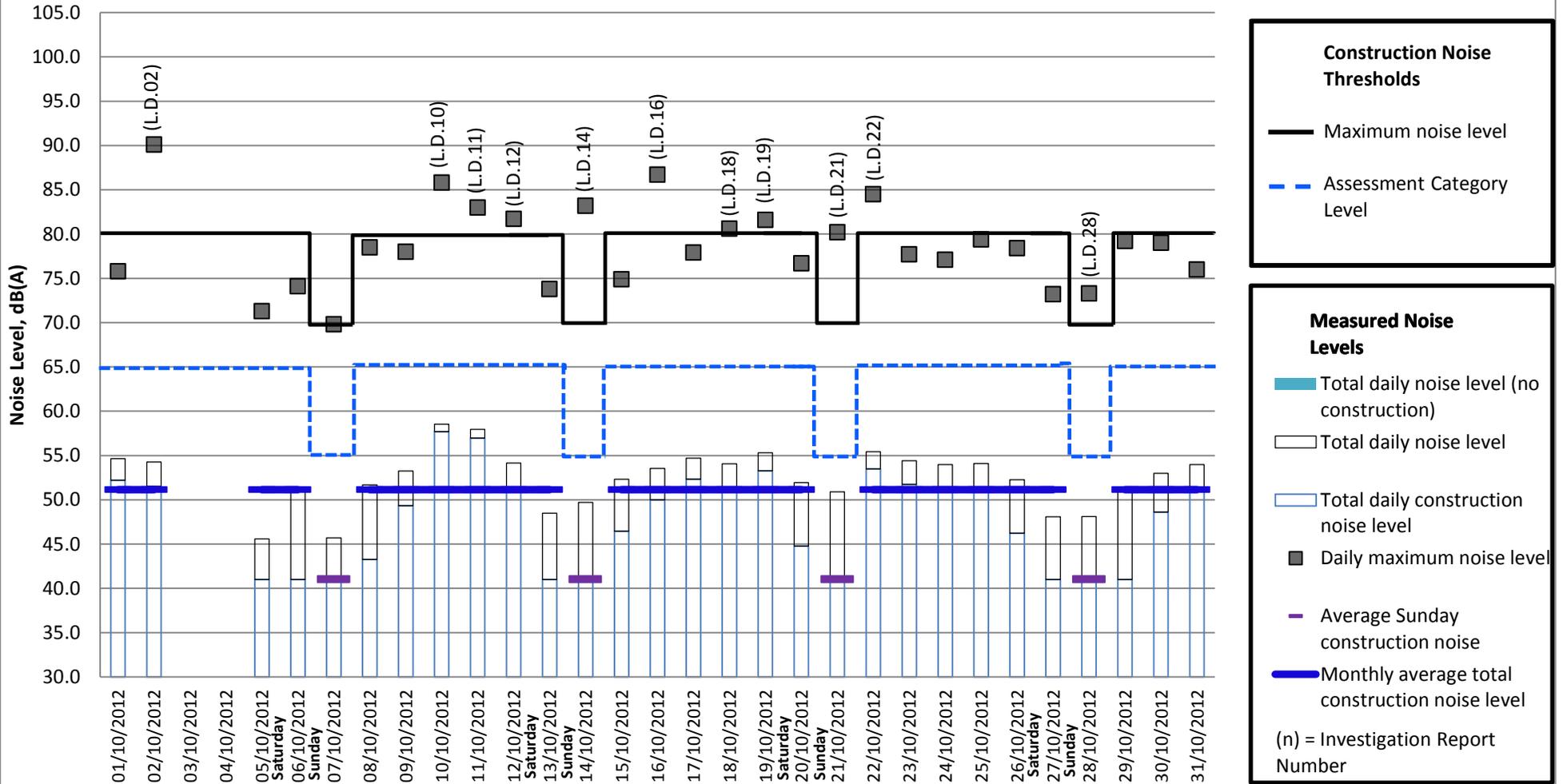
Note: Data is missing for 01/10/12 to 03/10/12 and 06/10/12 to 09/10/12 due to errors with the power supply to the device.

Measured Night-time Noise Levels at Inchgarvie Measurement period: October 2012



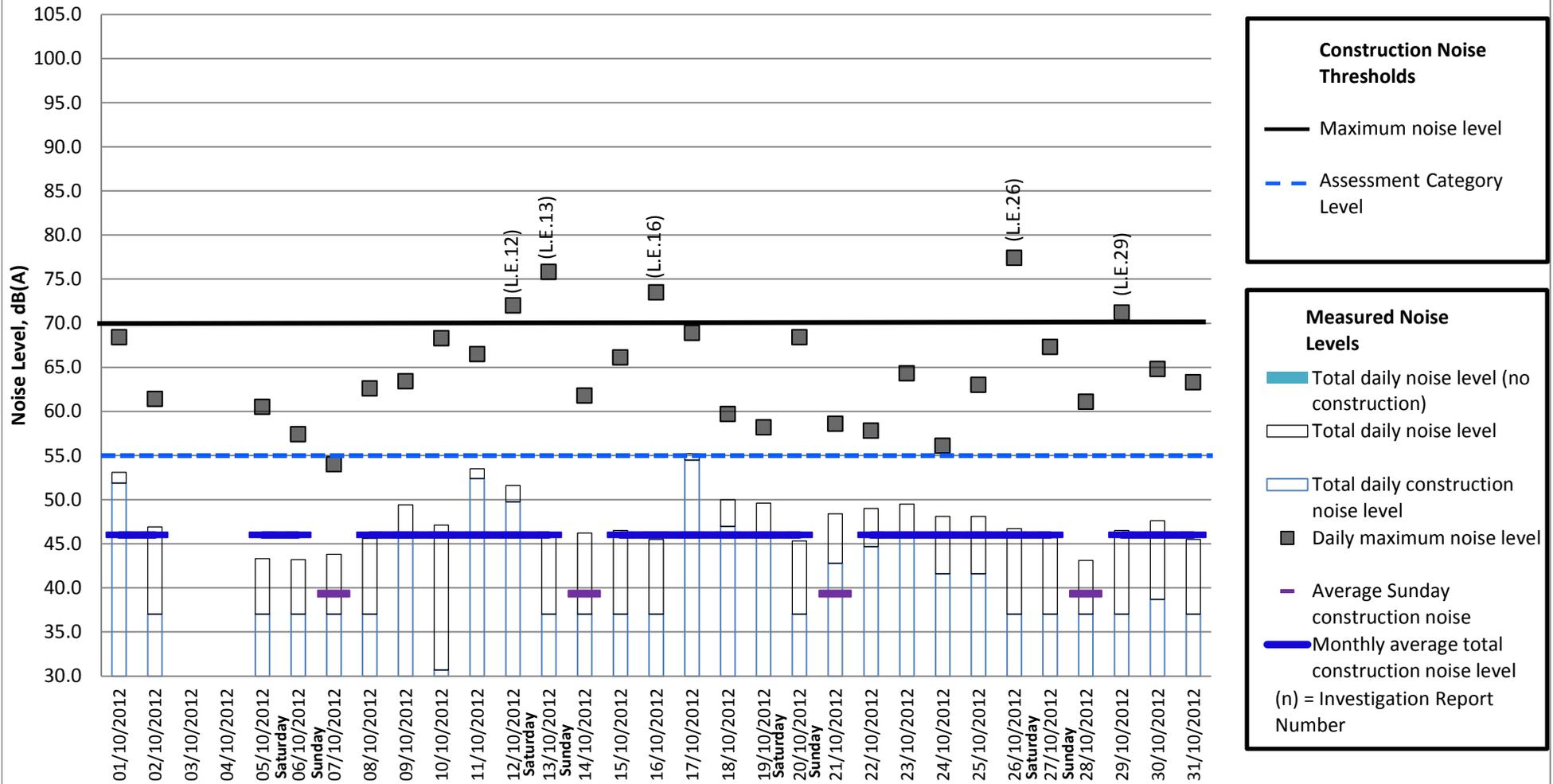
Note: Data is missing 01/10/12 to 03/10/12 and 06/10/12 to 09/10/12 due to errors with the power supply to the device.

Measured Daytime Noise levels at Linn Mill Measurement period: October 2012



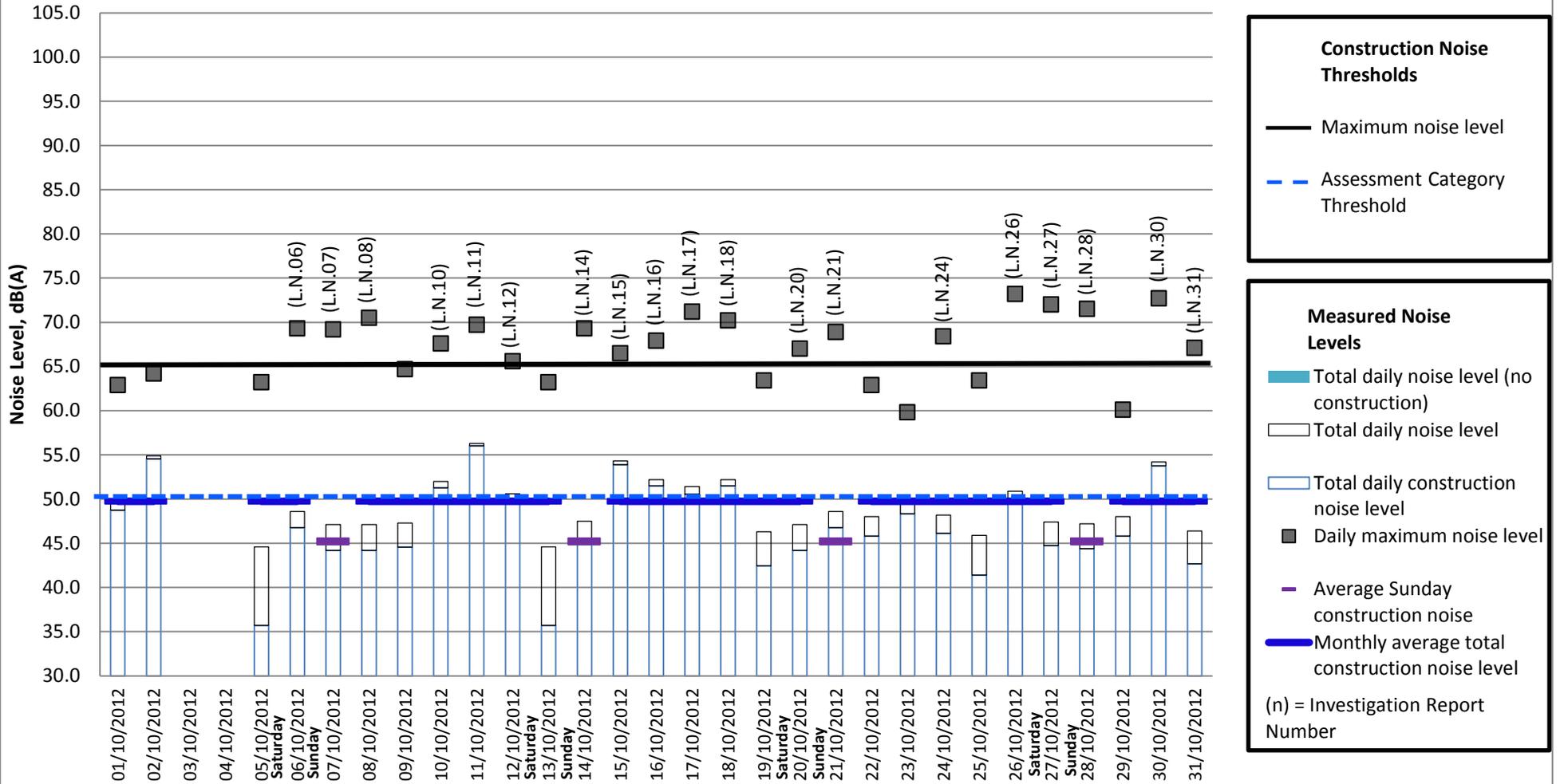
Note: Data is missing for 03/10/12 and 04/10/12 due to device error.

Measured Evening Noise Levels at Linn Mill Measurement period: October 2012



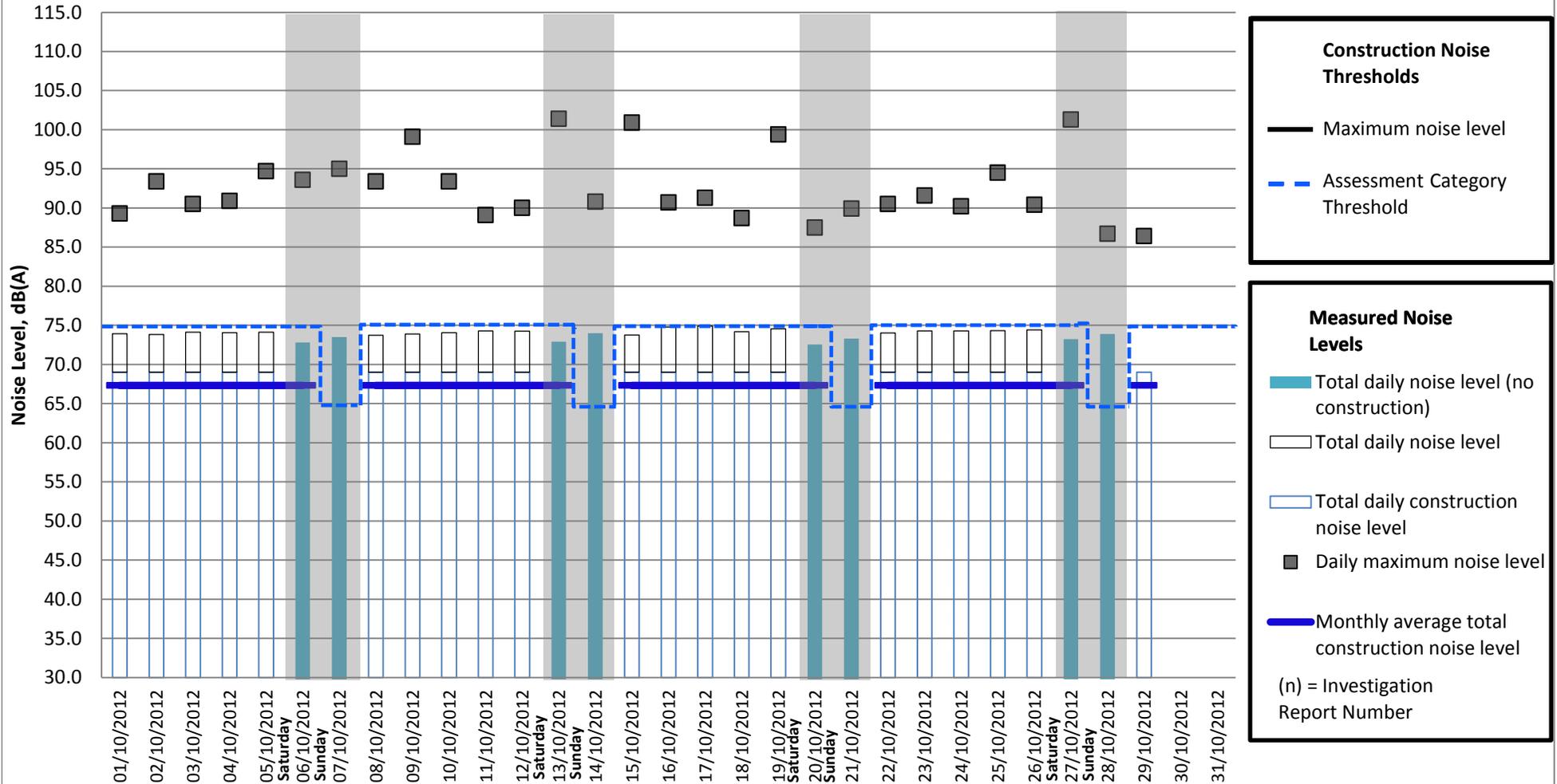
Note: Data is missing for 03/10/12 and 04/10/12 due to device error.

Measured Night-time Noise Levels at Linn Mill Measurement period: October 2012



Note: Data is missing for 03/10/12 and 04/10/12 due to device error.

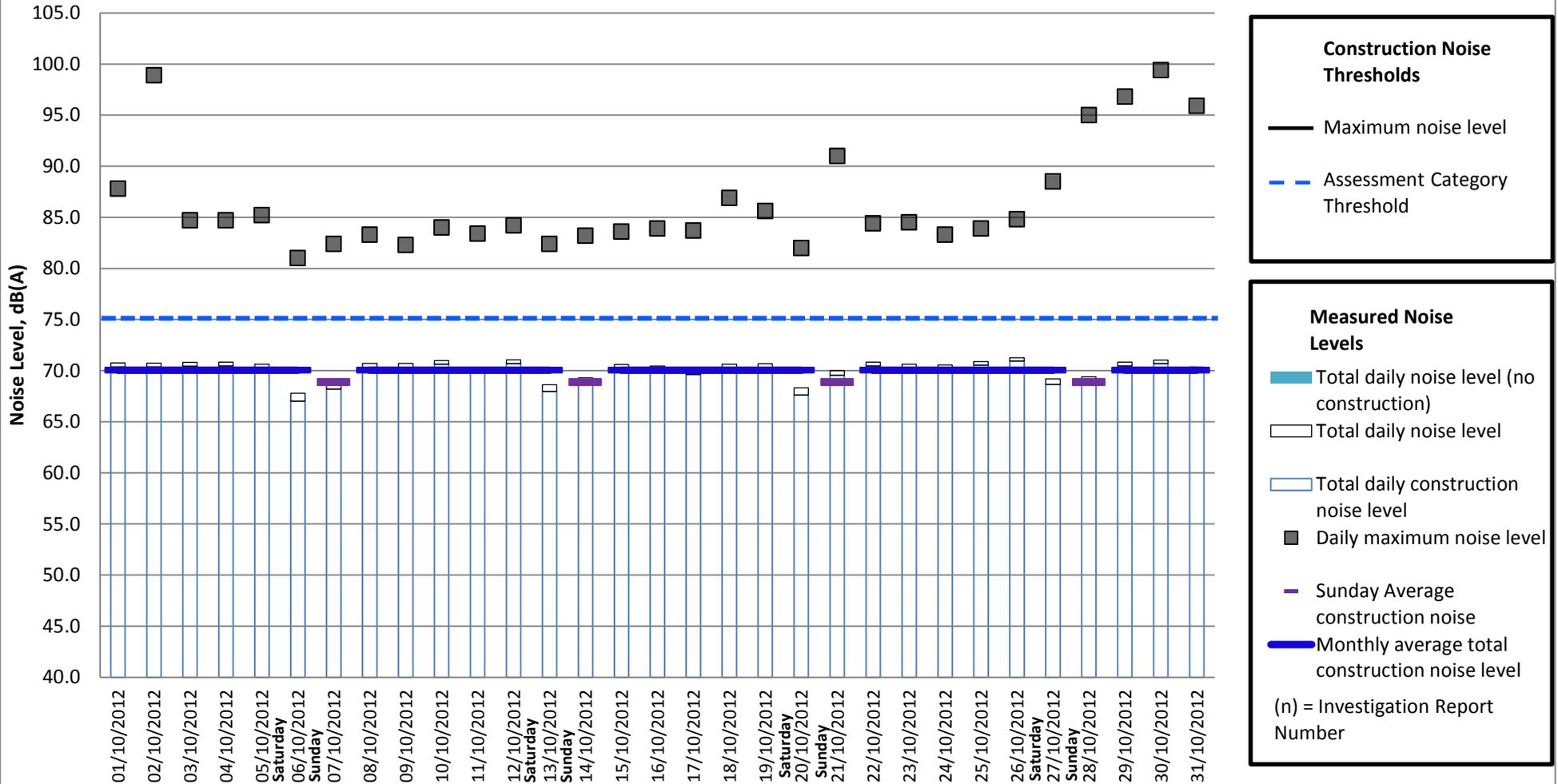
Measured Daytime Noise Levels at Newton Measurement period: October 2012



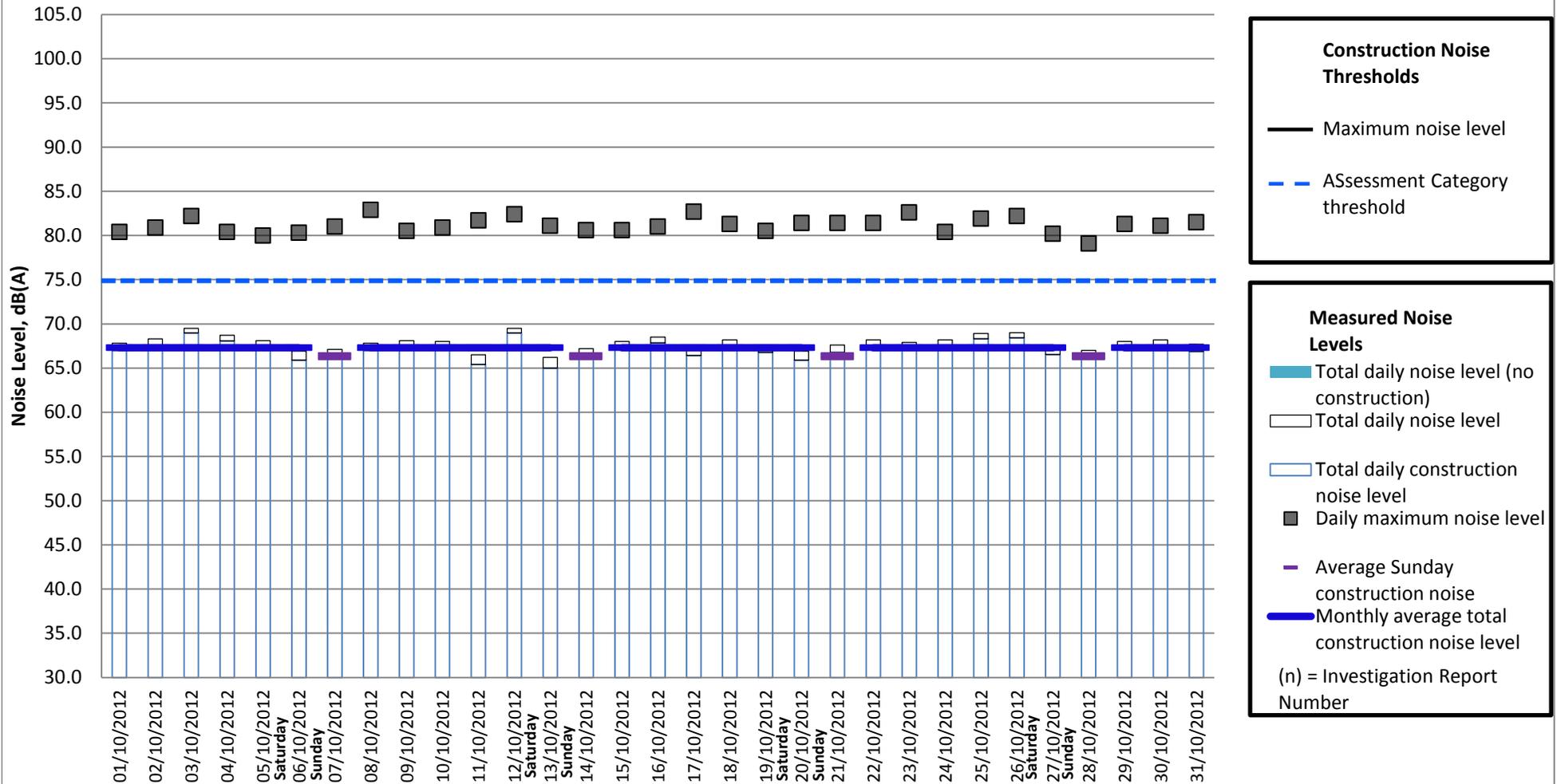
Note: The grey areas of the chart represent days on which no construction works have been conducted. It should be noted that the measured noise levels Mon - Fri can not be attributed to construction works due to the considerable distance (1.75 kilometers) between this monitoring location and the closest construction works. Due to device error, data is missing on 30/10/12 and 31/10/12

Measured Daytime Noise Levels at North Leg

Measurement period: October 2012



Measured Evening Noise Levels at North Leg Measurement period: October 2012



Construction Noise Thresholds

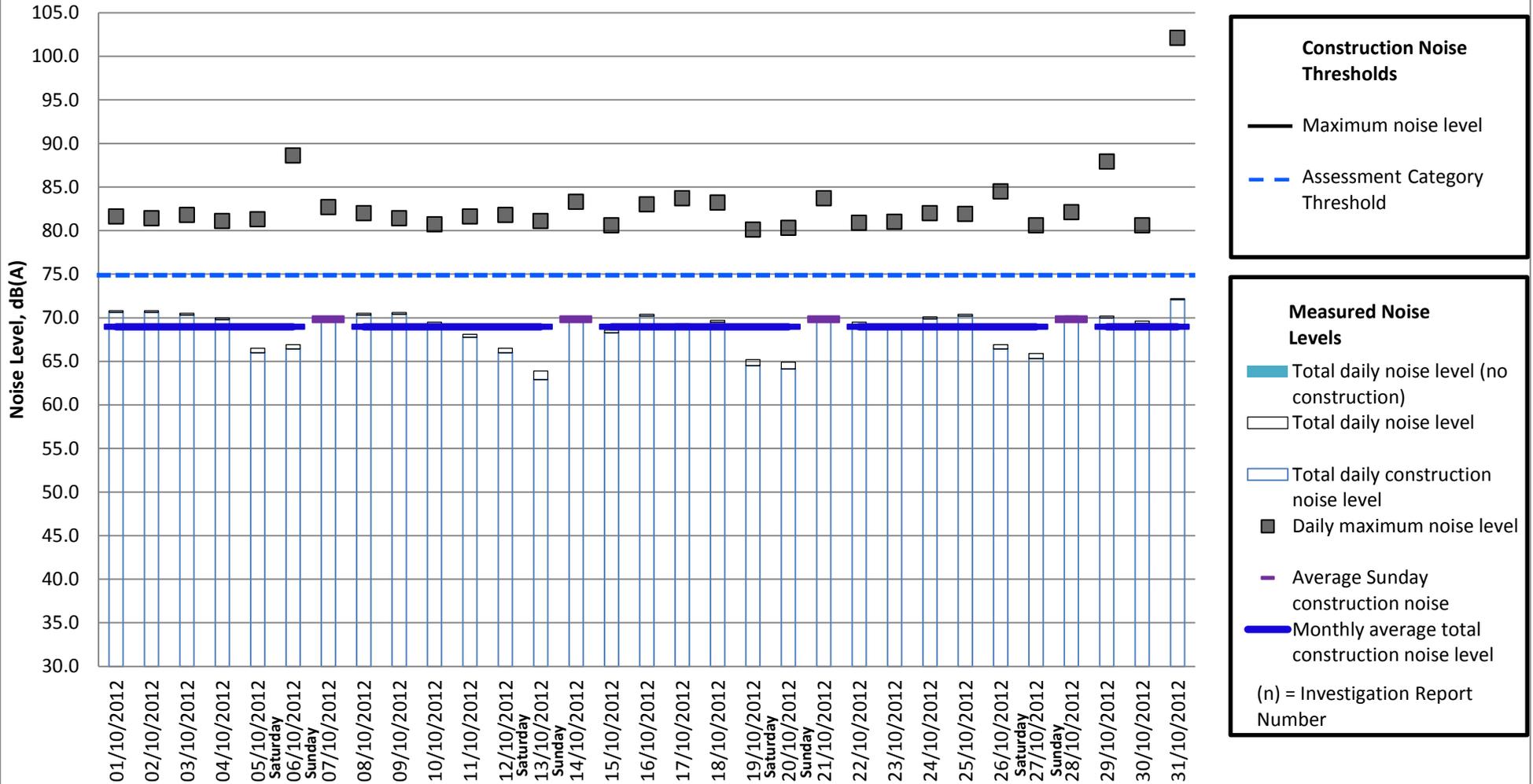
- Maximum noise level
- Assessment Category threshold

Measured Noise Levels

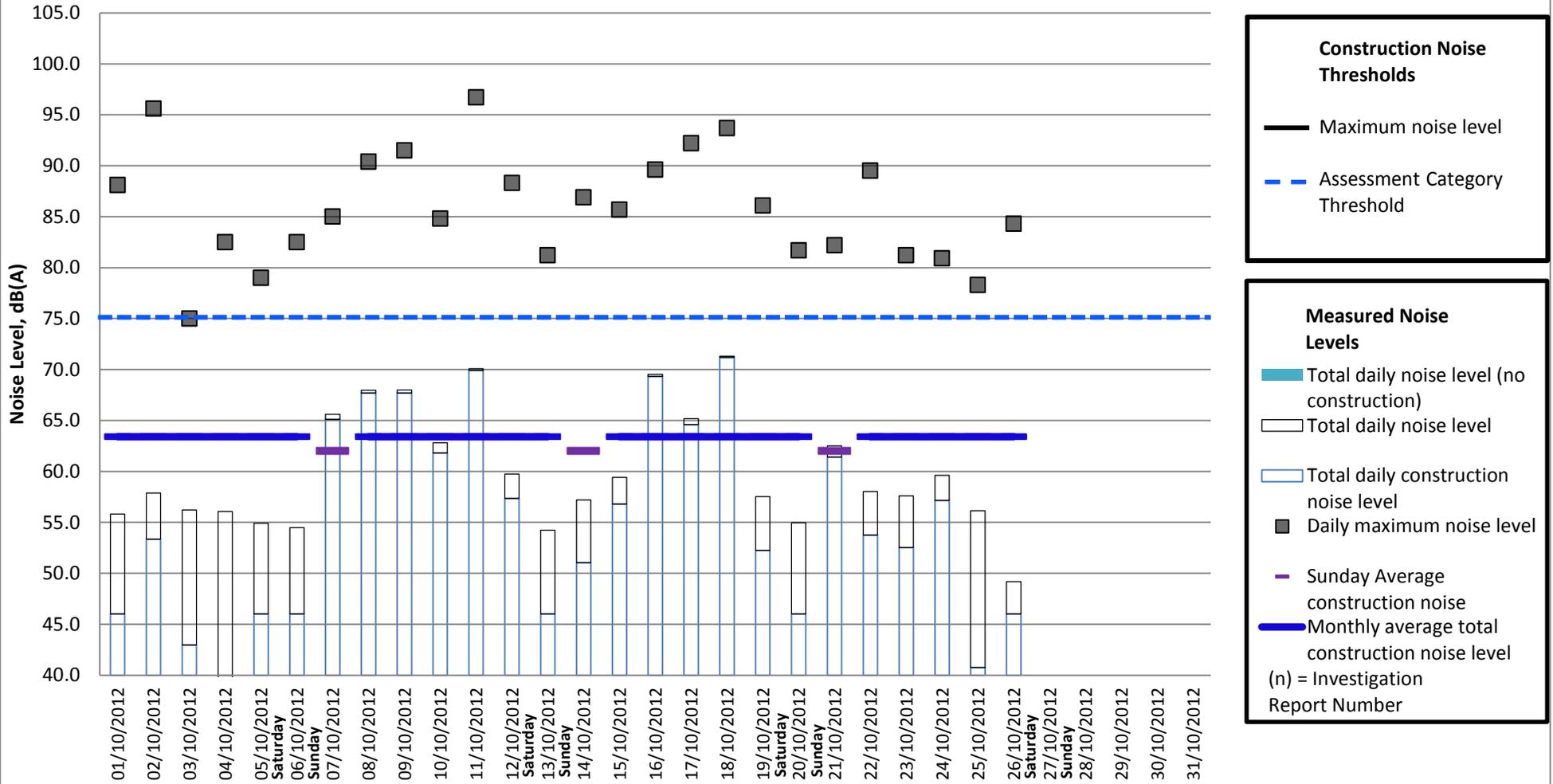
- Total daily noise level (no construction)
- Total daily noise level
- Total daily construction noise level
- Daily maximum noise level
- Average Sunday construction noise
- Monthly average total construction noise level

(n) = Investigation Report Number

Measured Night-time Noise Levels at North Leg Measurement period: October 2012



Measured Daytime Noise Levels at Port Edgar Measurement period: October 2012



Construction Noise Thresholds

- Maximum noise level
- - - Assessment Category Threshold

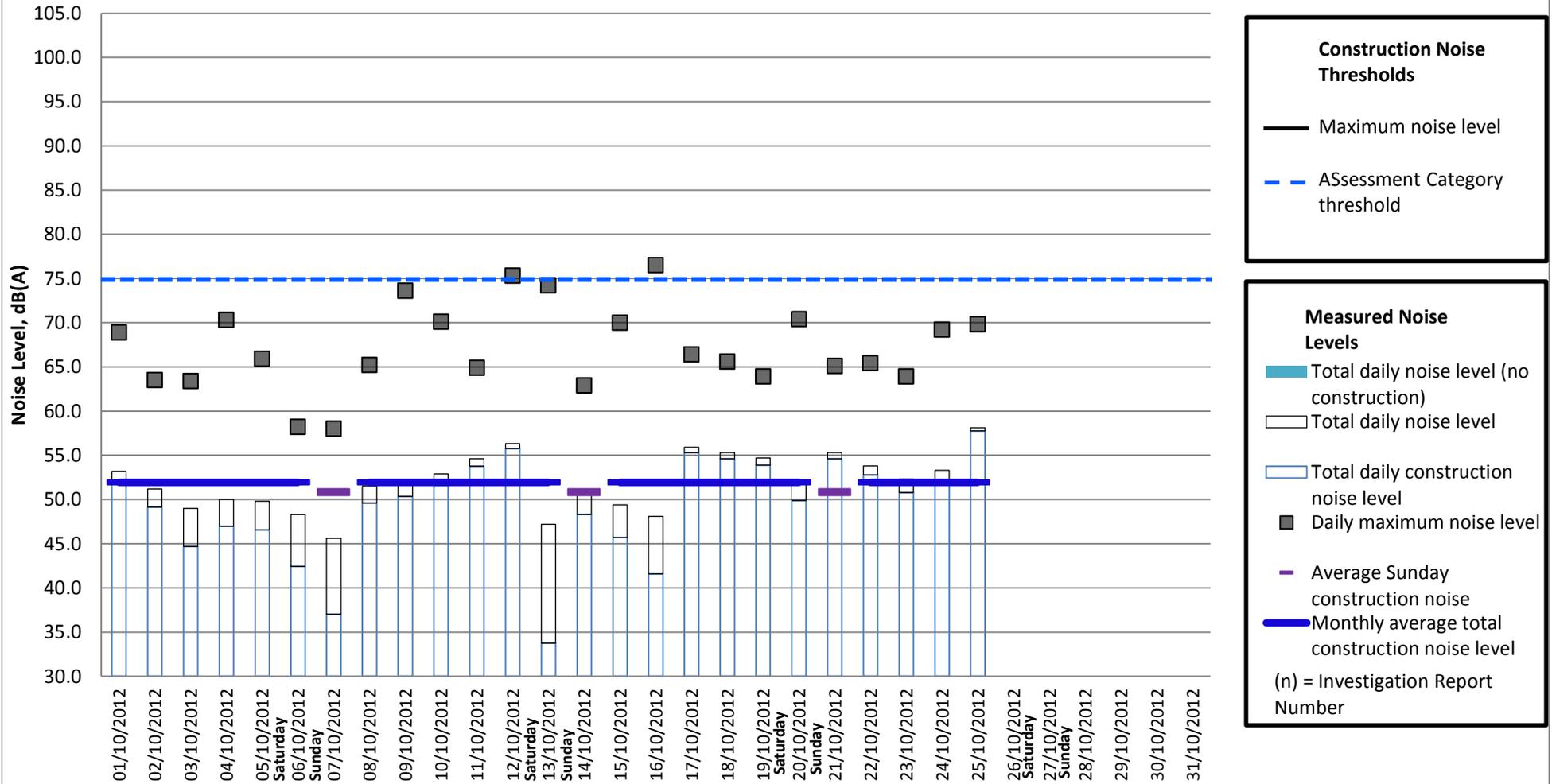
Measured Noise Levels

- Total daily noise level (no construction)
- Total daily noise level
- Total daily construction noise level
- Daily maximum noise level
- Sunday Average construction noise
- Monthly average total construction noise level

(n) = Investigation Report Number

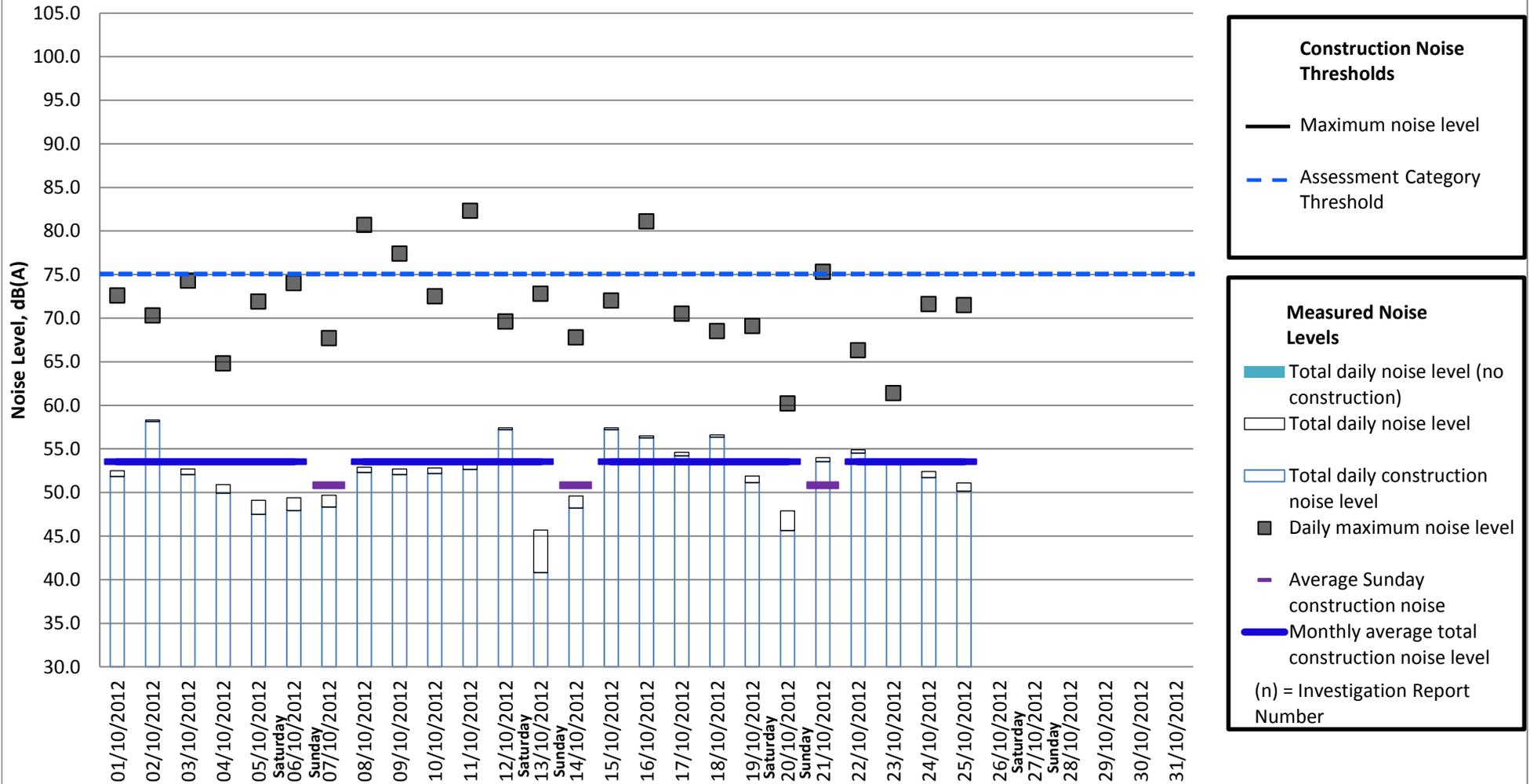
Note: Data is missing for 27/10/12 to 31/10/12 due to device error.

Measured Evening Noise Levels at Port Edgar Measurement period: October 2012



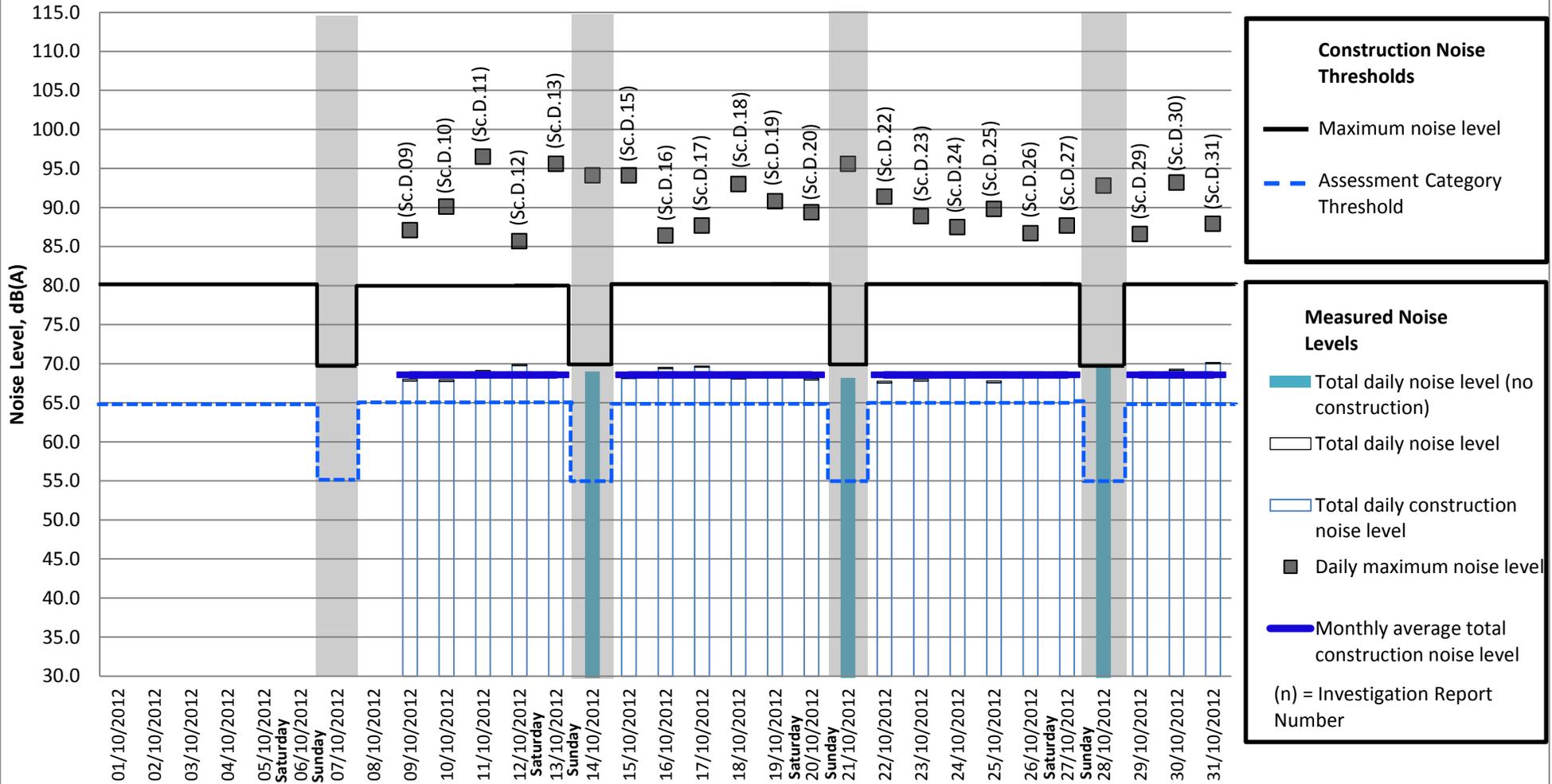
Note: Data is missing for 27/10/12 to 31/10/12 due to device error.

Measured Night-time Noise Levels at Port Edgar Measurement period: October 2012



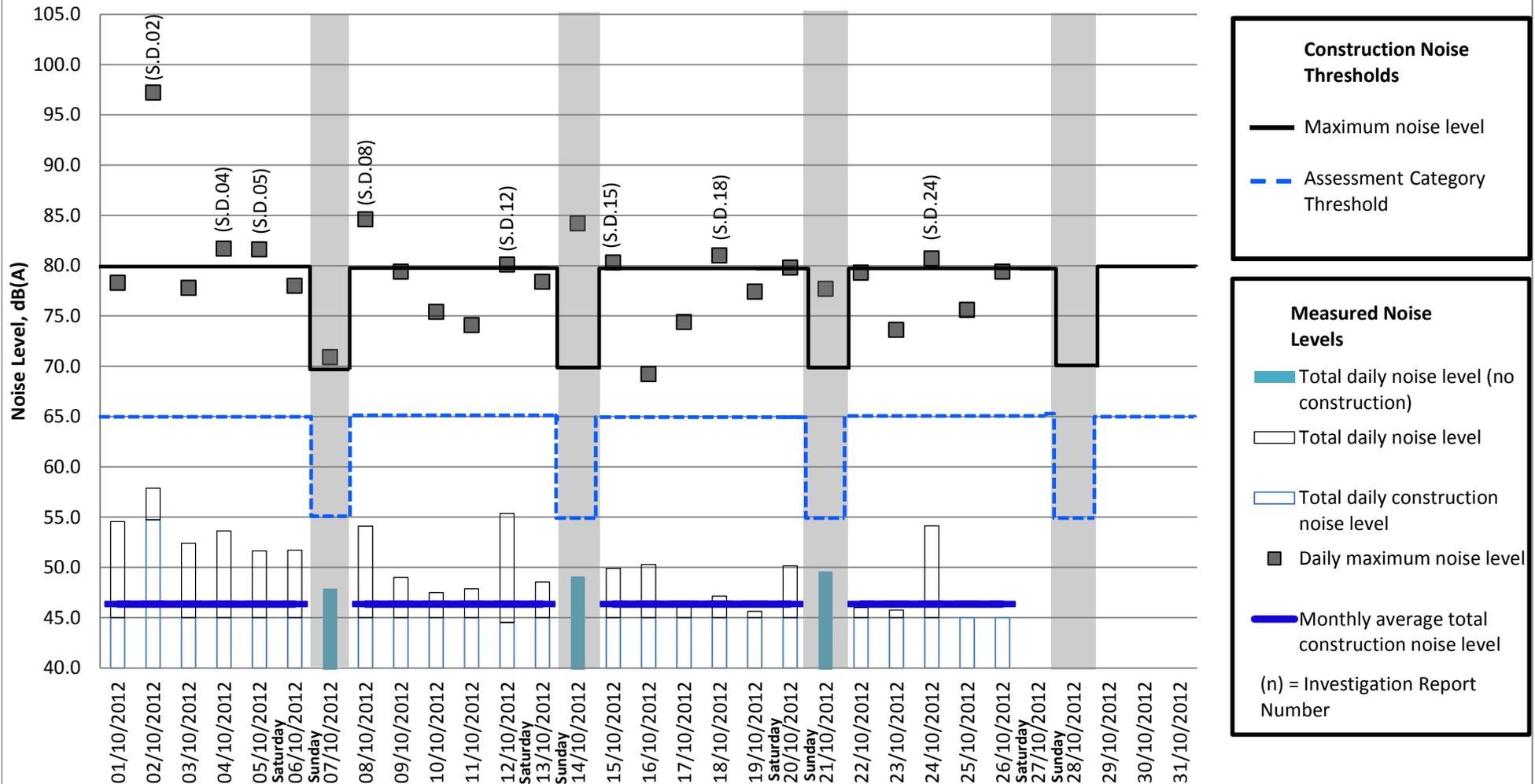
Note: Data is missing for 26/10/12 to 31/10/12 due to device error.

Measured Daytime Noise Levels at Scotstoun Measurement period: October 2012



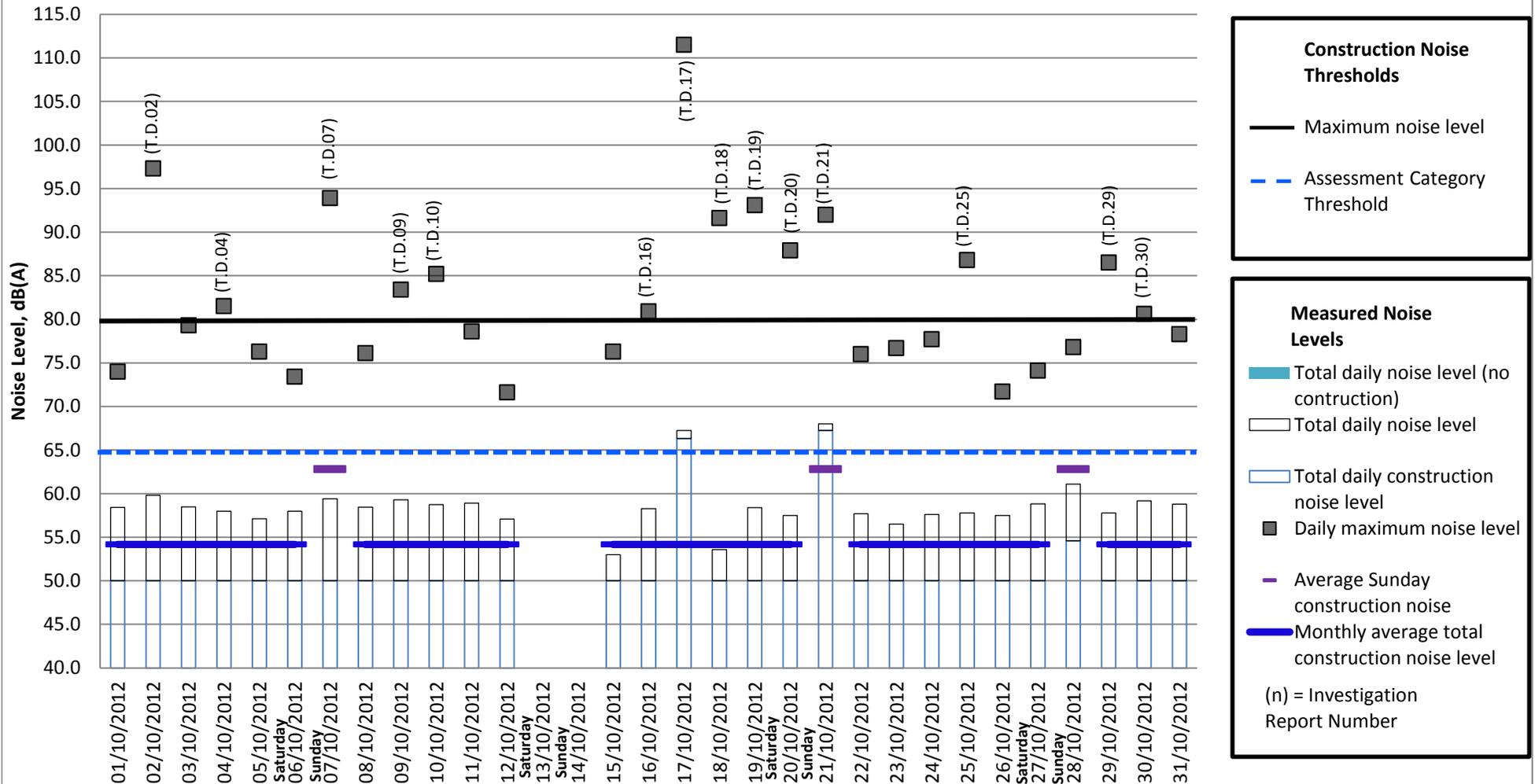
Note: The grey areas of the chart represent days on which no construction works have been conducted. The monthly average construction noise for Sunday has not been included as no Sunday works have been conducted at this location. Data is missing for 01/10/12 to 08/10/12 due to device error.

Measured Daytime Noise Levels at Springfield Measurement period: October 2012



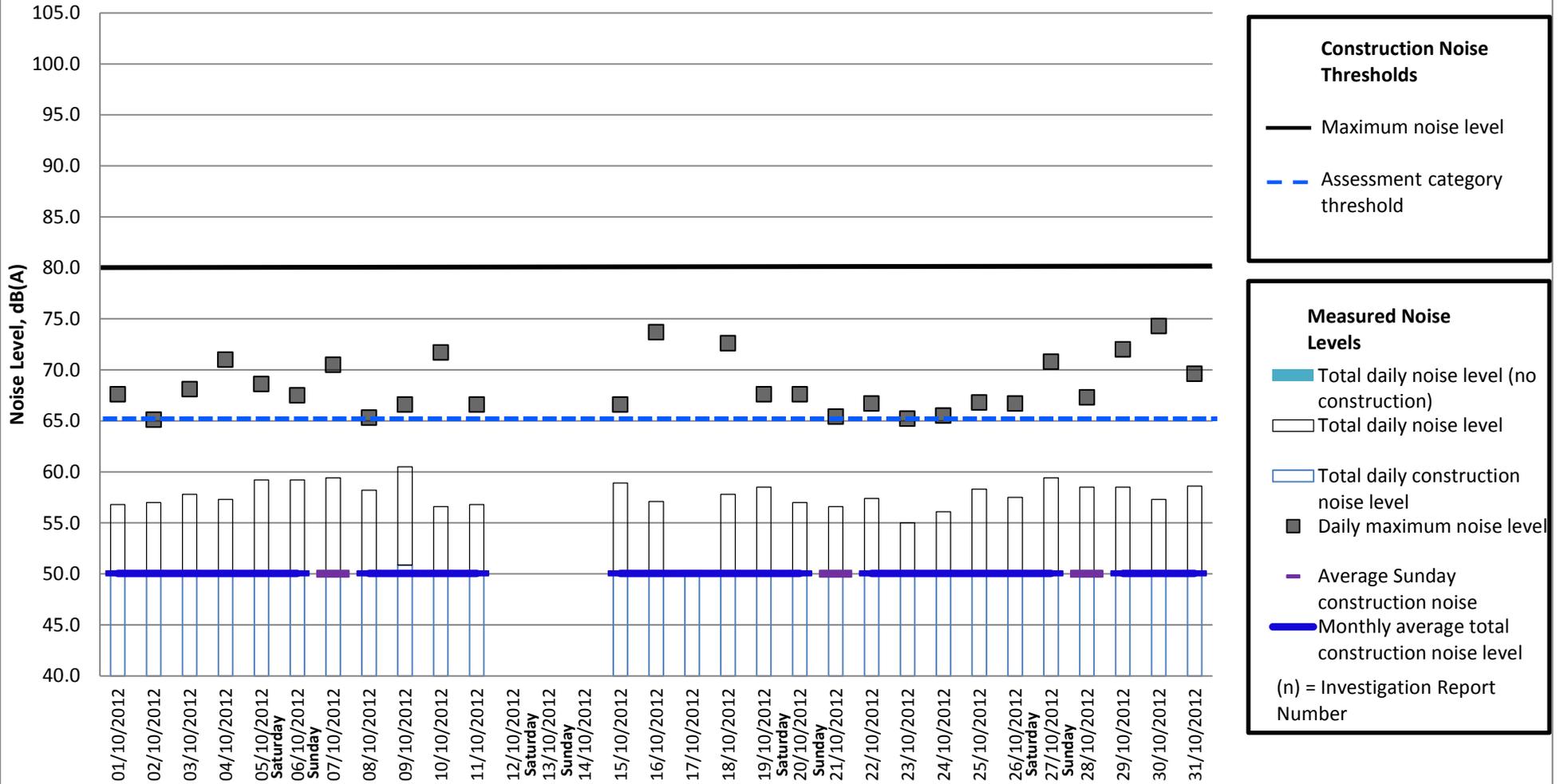
Note: The grey areas of the chart represent days on which no construction works have been conducted. The monthly average construction noise for Sunday has not been included as no Sunday works have been conducted at this location. Data is missing for 27/10/12 to 31/10/12 due to data loss as a result of an FCBC server error.

Measured Daytime Noise Levels at Tigh-Na-Grian Measurement period: October 2012



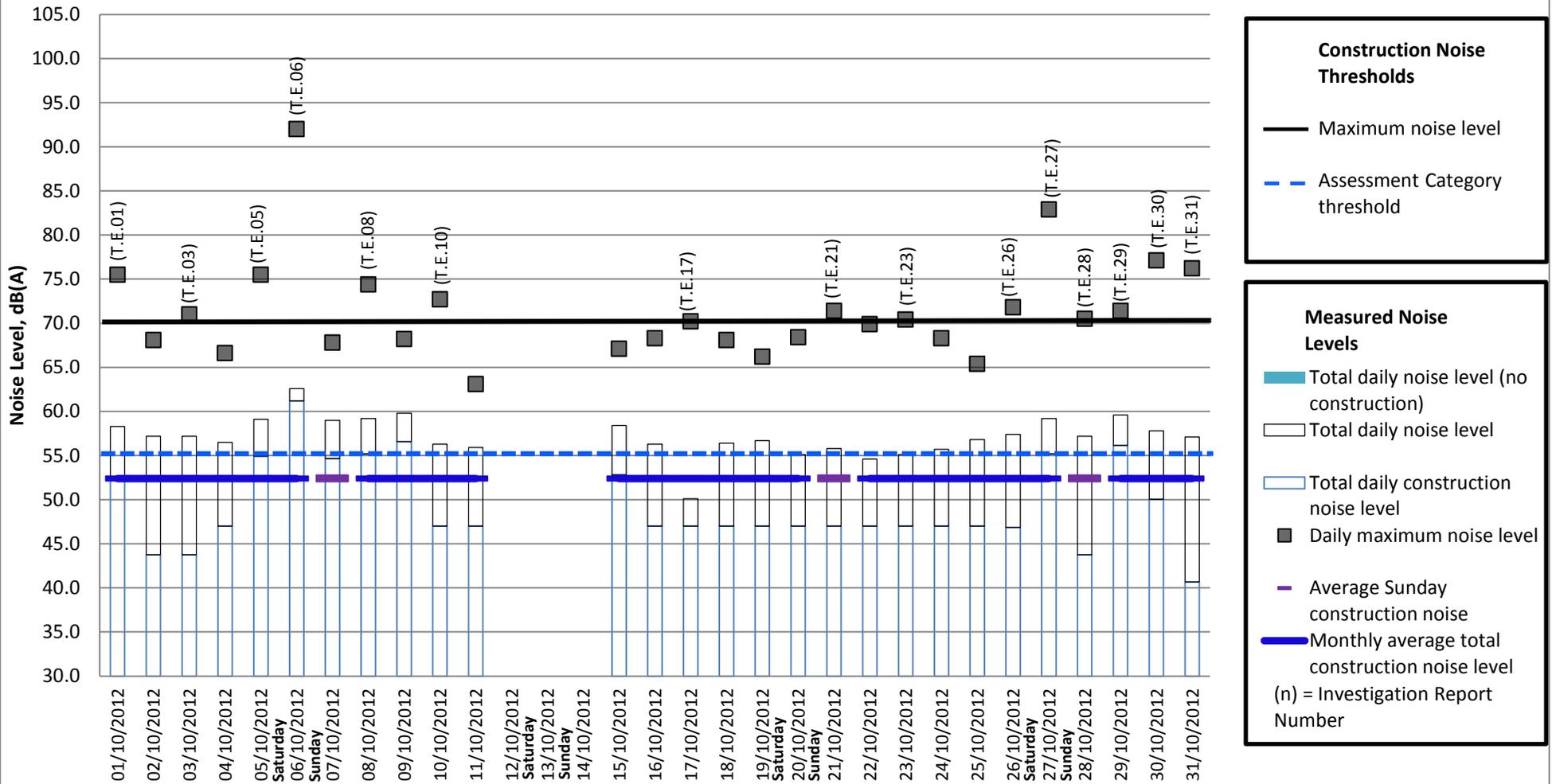
Note: Data from the 13/10/12 and 14/10/12 has been excluded from the device due to an error associated with the results.

Measured Evening Noise Levels at Tigh-Na-Grian Measurement period: October 2012



Note: Data from the 12/10/12, 13/10/12 and 14/10/12 has been excluded from the device due to an error associated with the results.

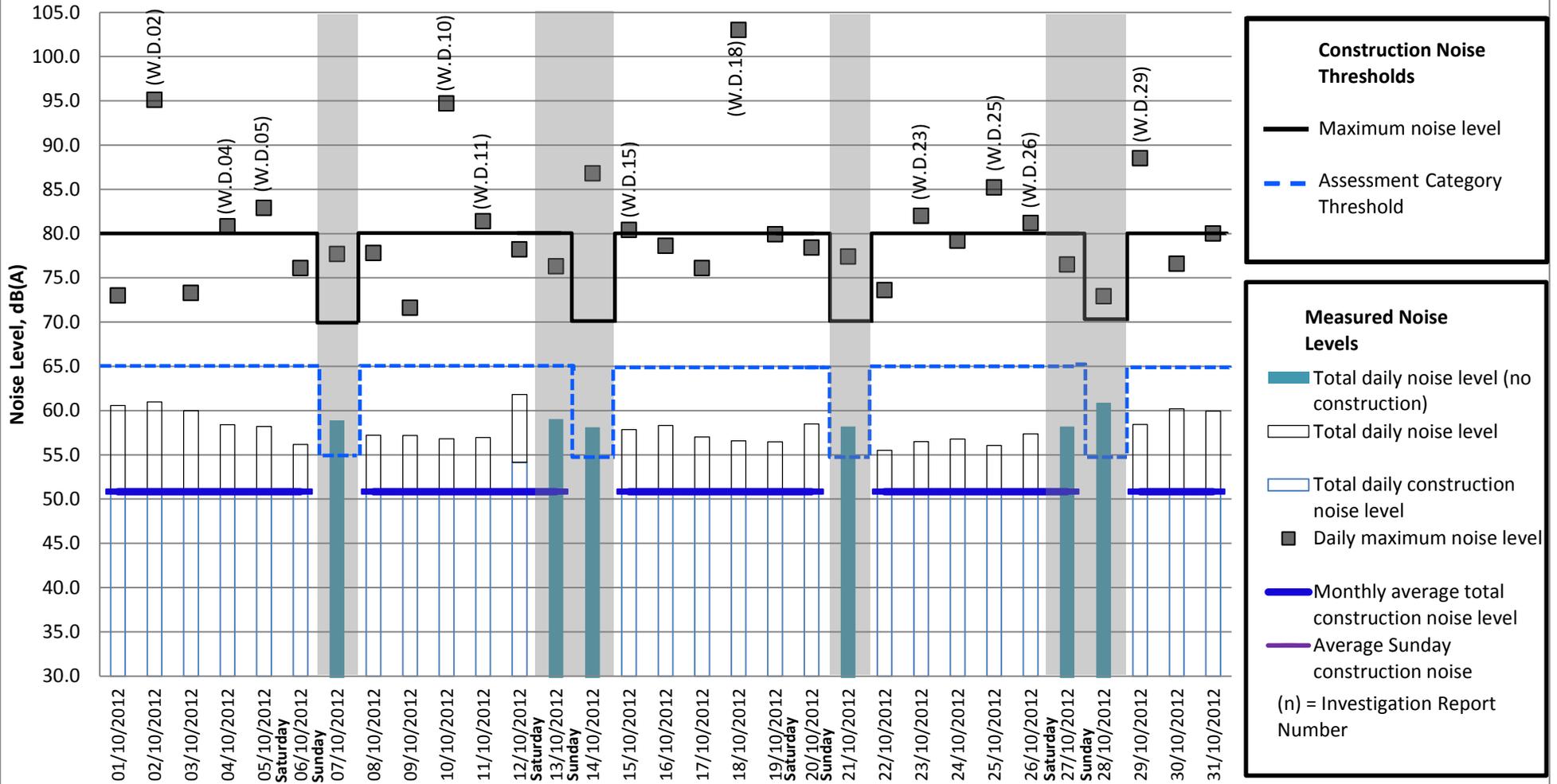
Measured Night-time Noise Levels at Tigh-Na-Grian Measurement period: October 2012



Note: Data from the 12/10/12, 13/10/12 and 14/10/12 has been excluded from the device due to an error associated with the results.

Measured Daytime Noise Levels at Whinny Hill

Measurement period: October 2012

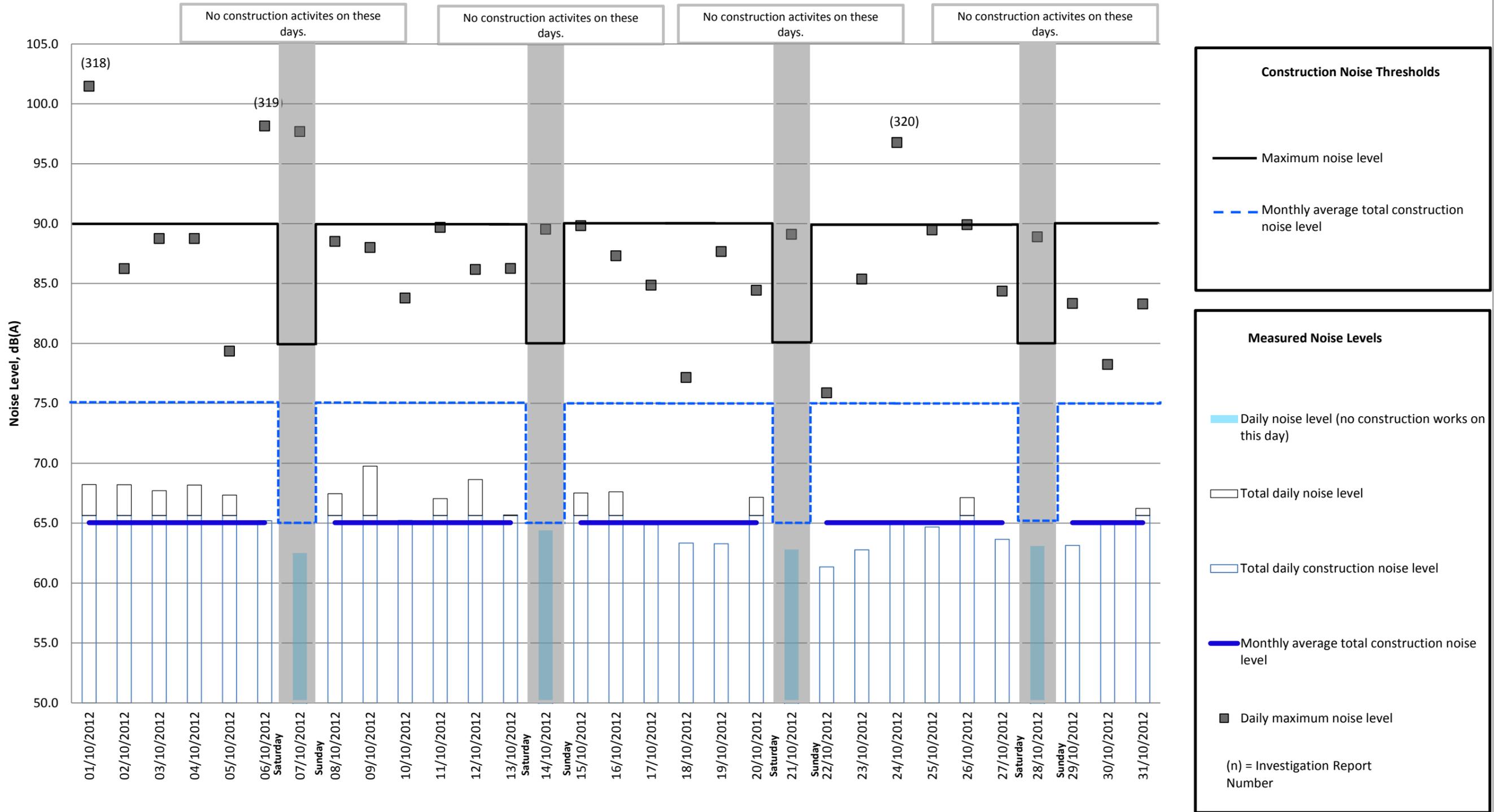


Note: The grey areas of the chart represent days on which no construction works have been conducted.

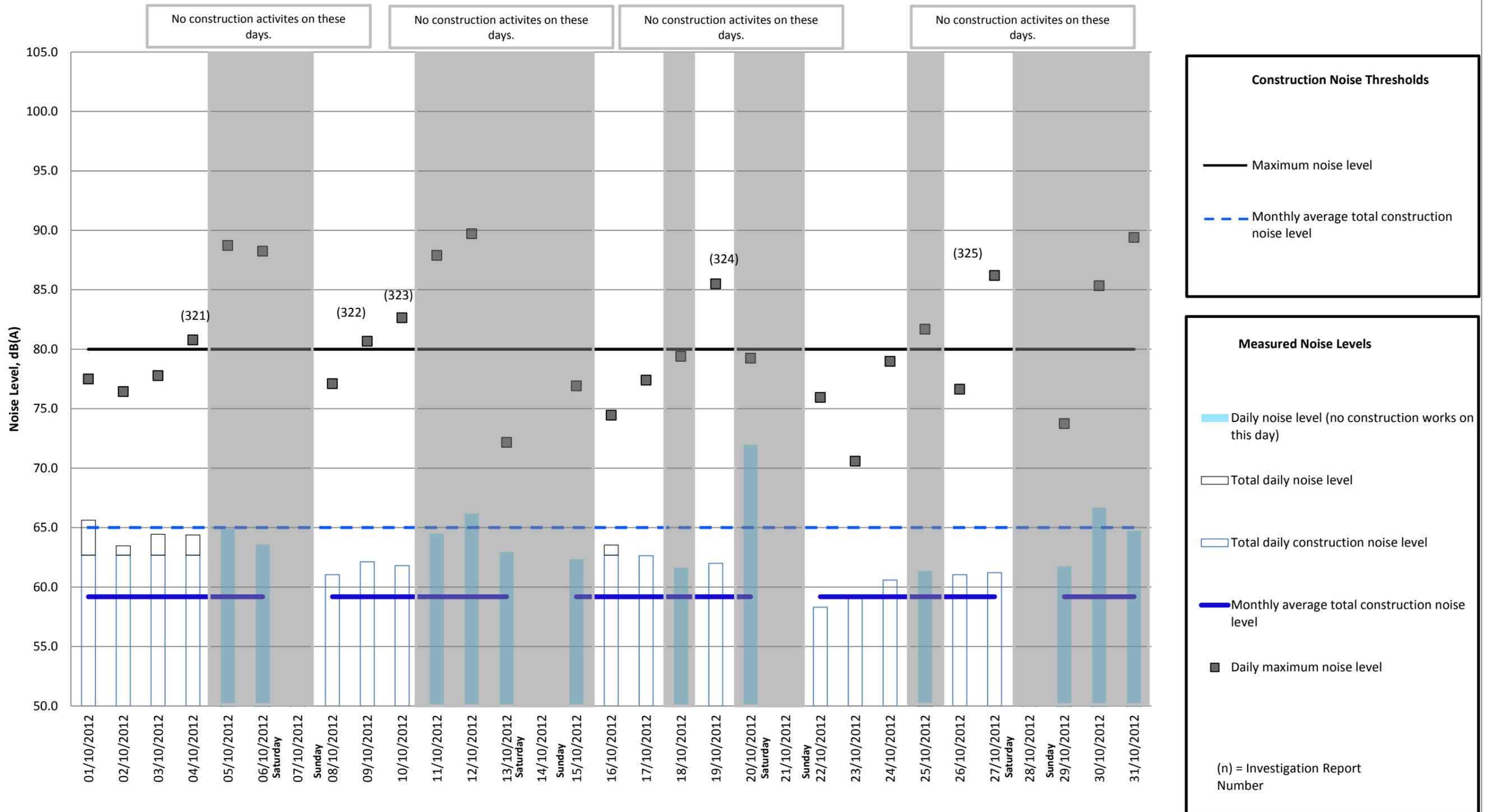
APPENDIX B -

**M9 J1A CONTRACT - CONSTRUCTION
NOISE MONITORING REPORTS**

Measured daytime noise levels, 93/95 King Edwards Way (CNV02) Measurement period 1st October to 31st October 2012

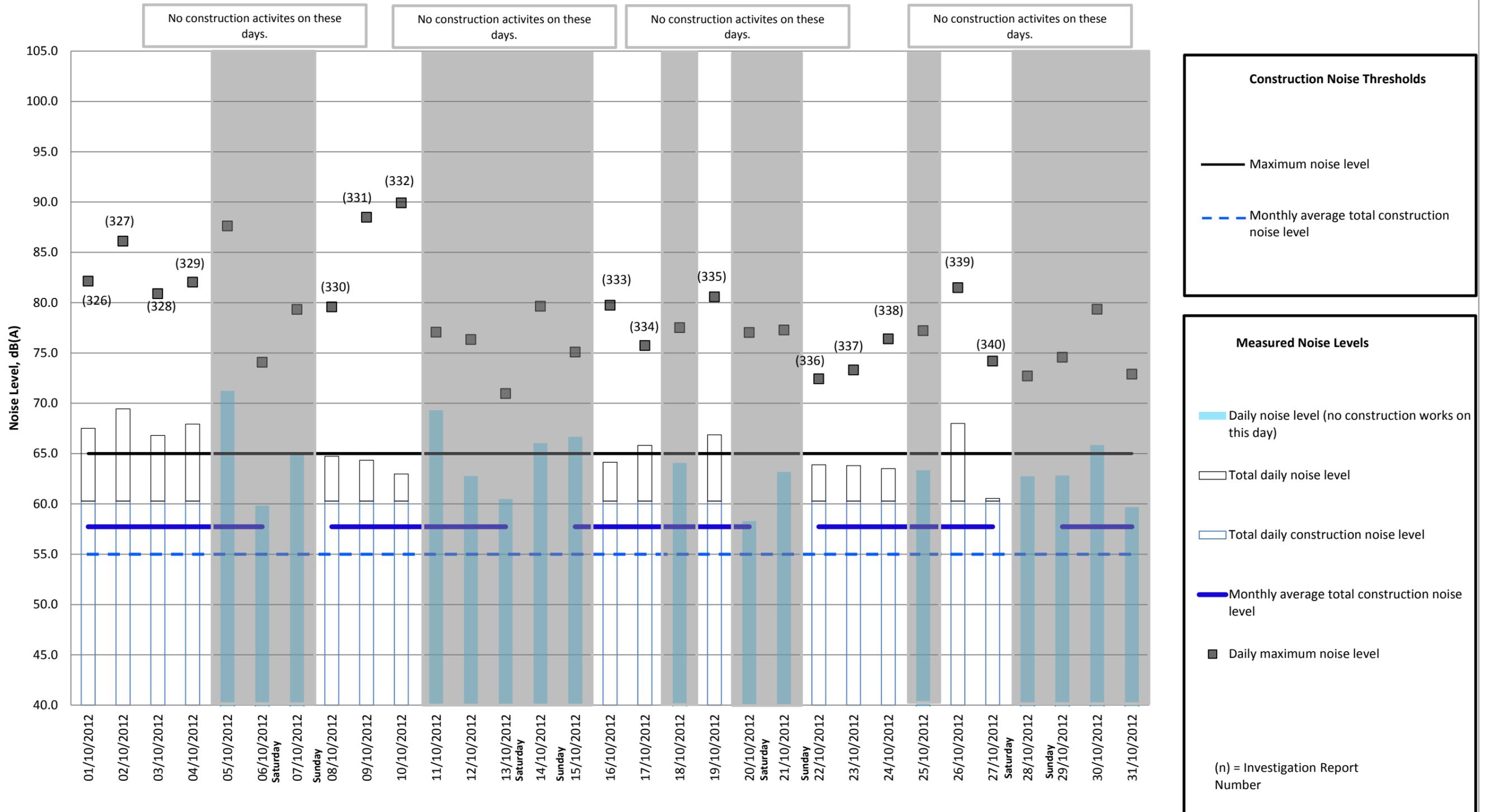


Measured evening noise levels, 93/95 King Edwards Way (CNV02) Measurement period 1st October to 31st October 2012

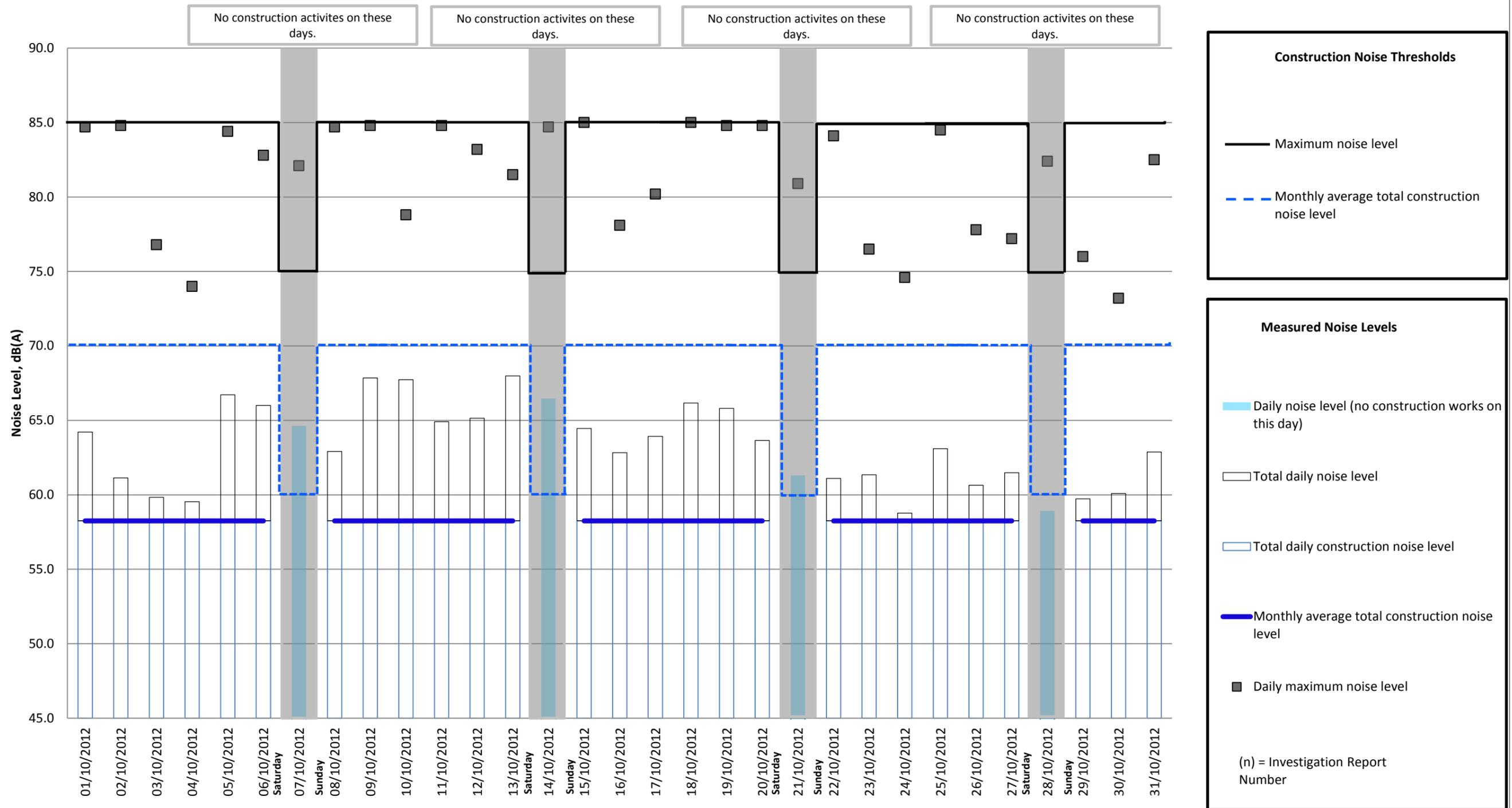


No data is included for Sundays as Sunday evenings are not defined in the Contract or CoCP.

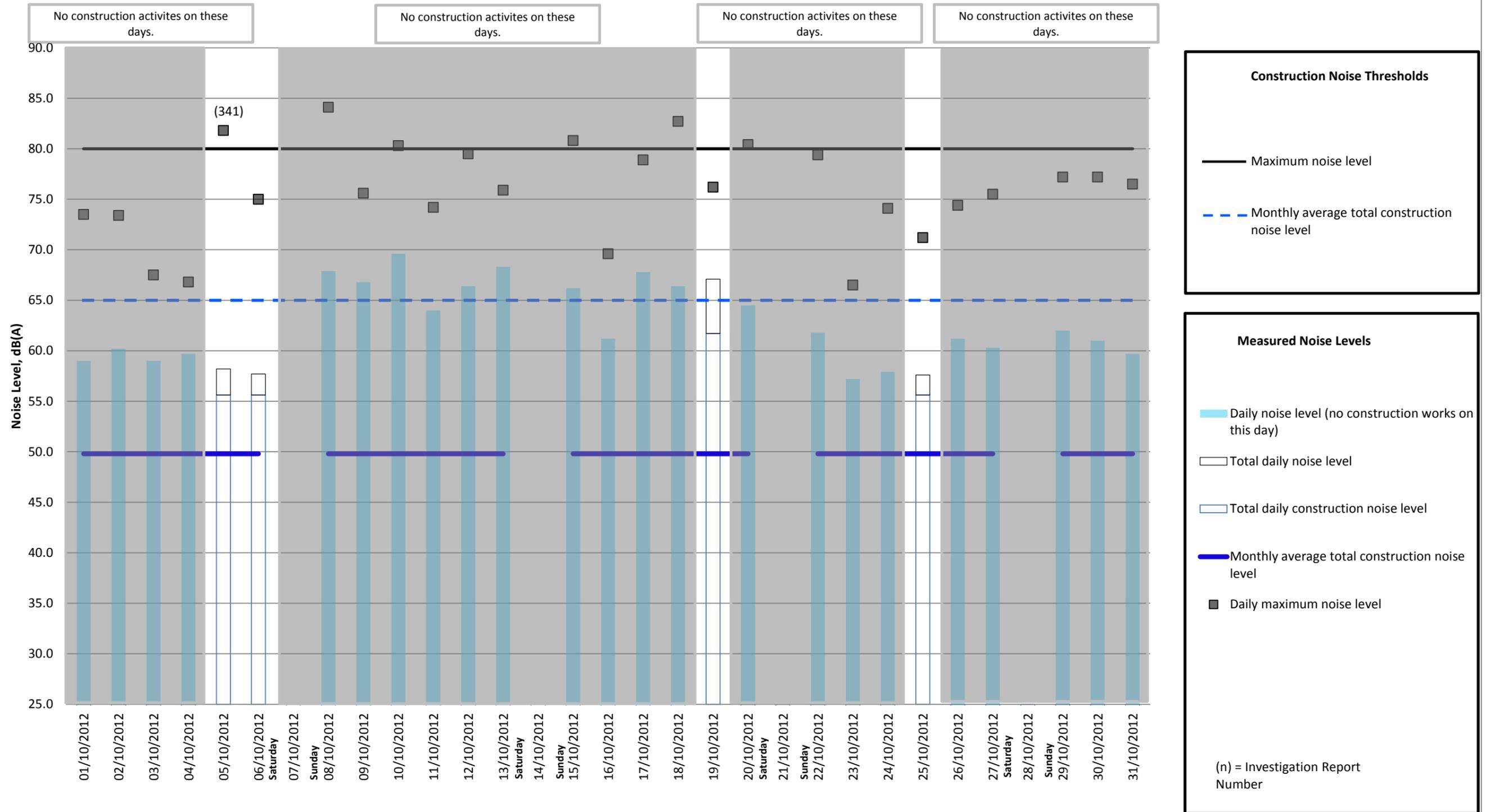
Measured night-time noise levels, 93/95 King Edwards Way (CNV02) Measurement period 1st October to 31st October 2012



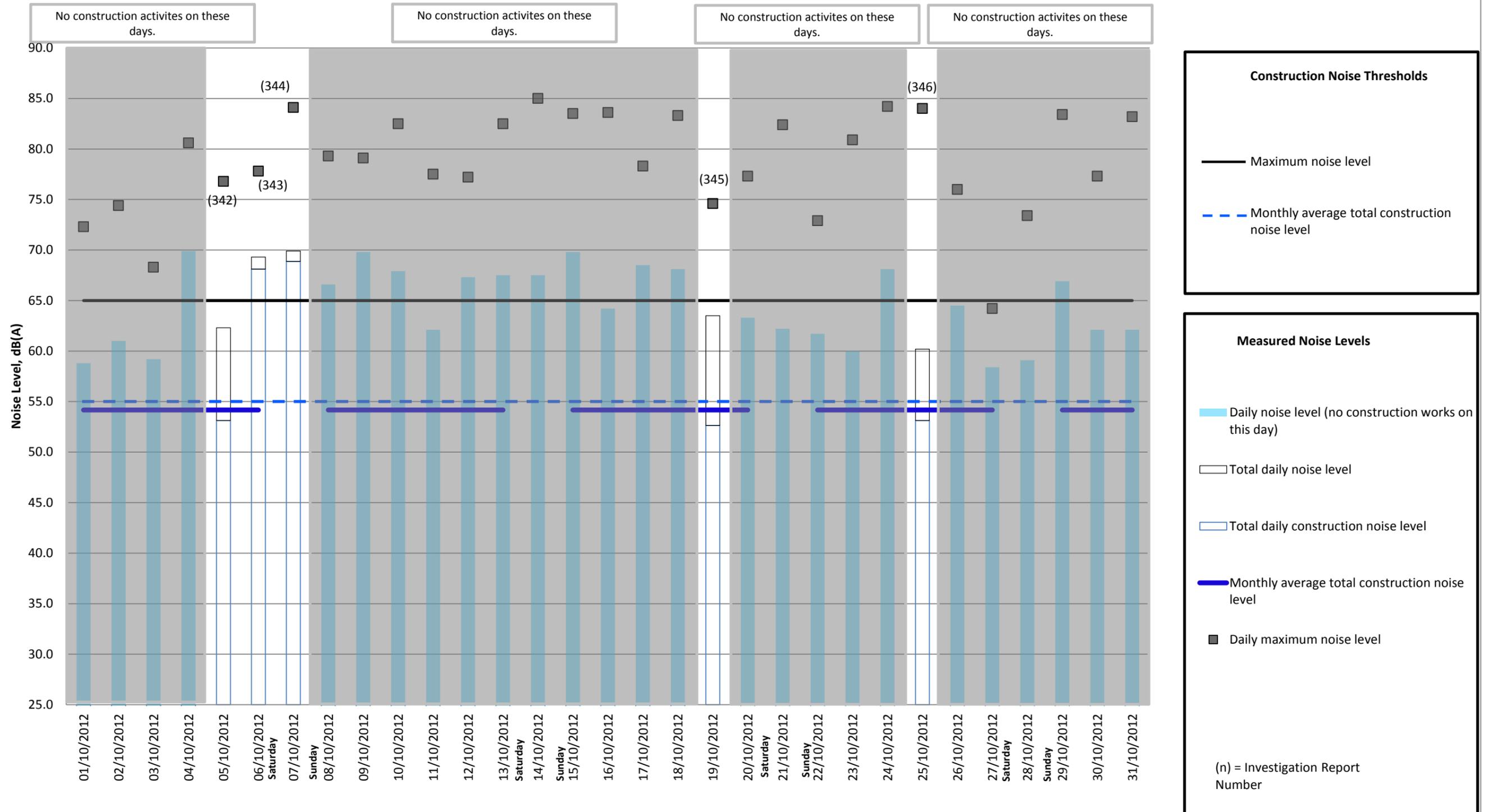
Measured daytime noise levels, Buie Rigg (CNV07) Measurement period 1st October to 31st October 2012



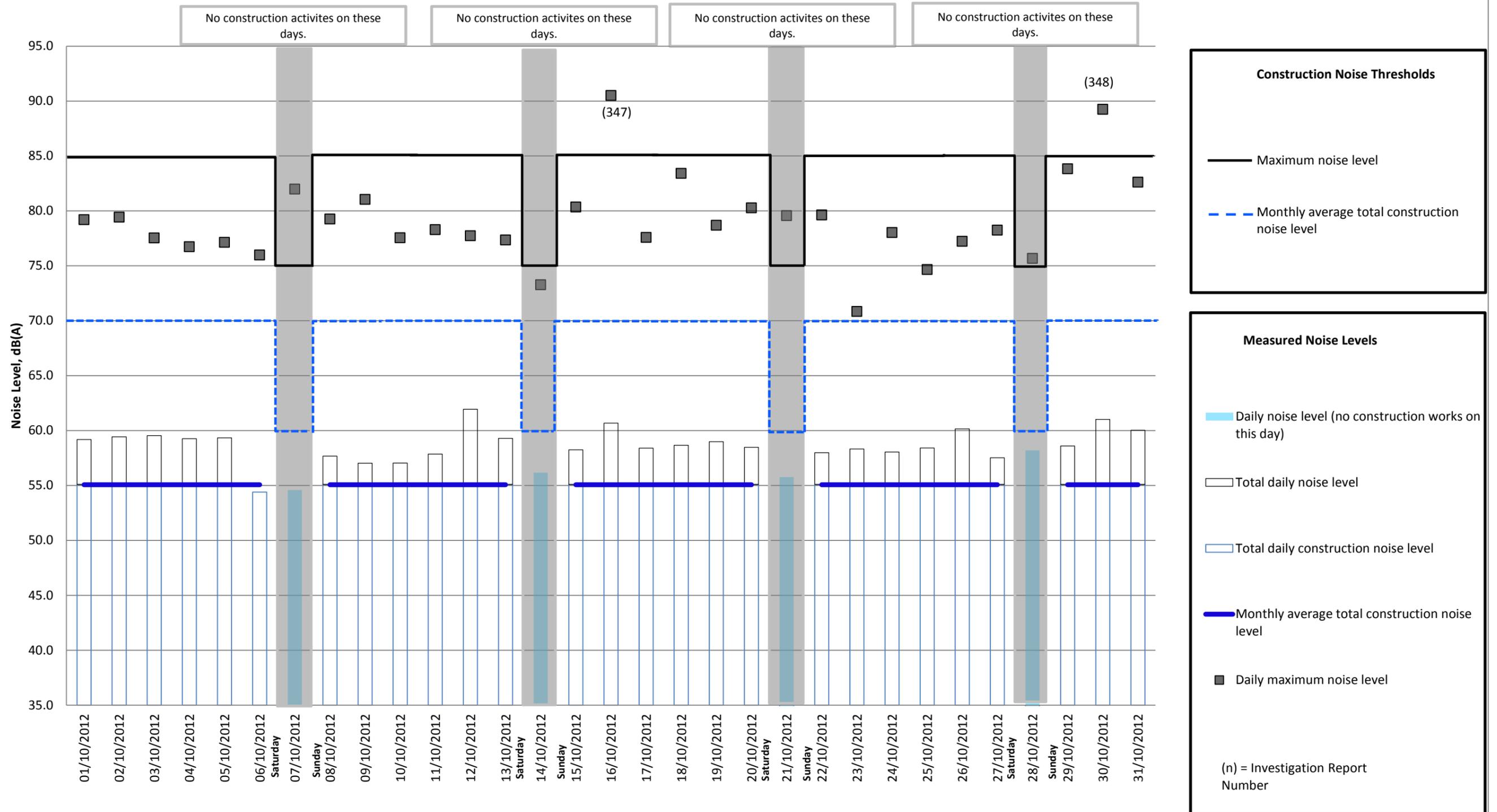
Measured evening noise levels, Buie Rigg (CNV07) Measurement period 1st October to 31st October 2012



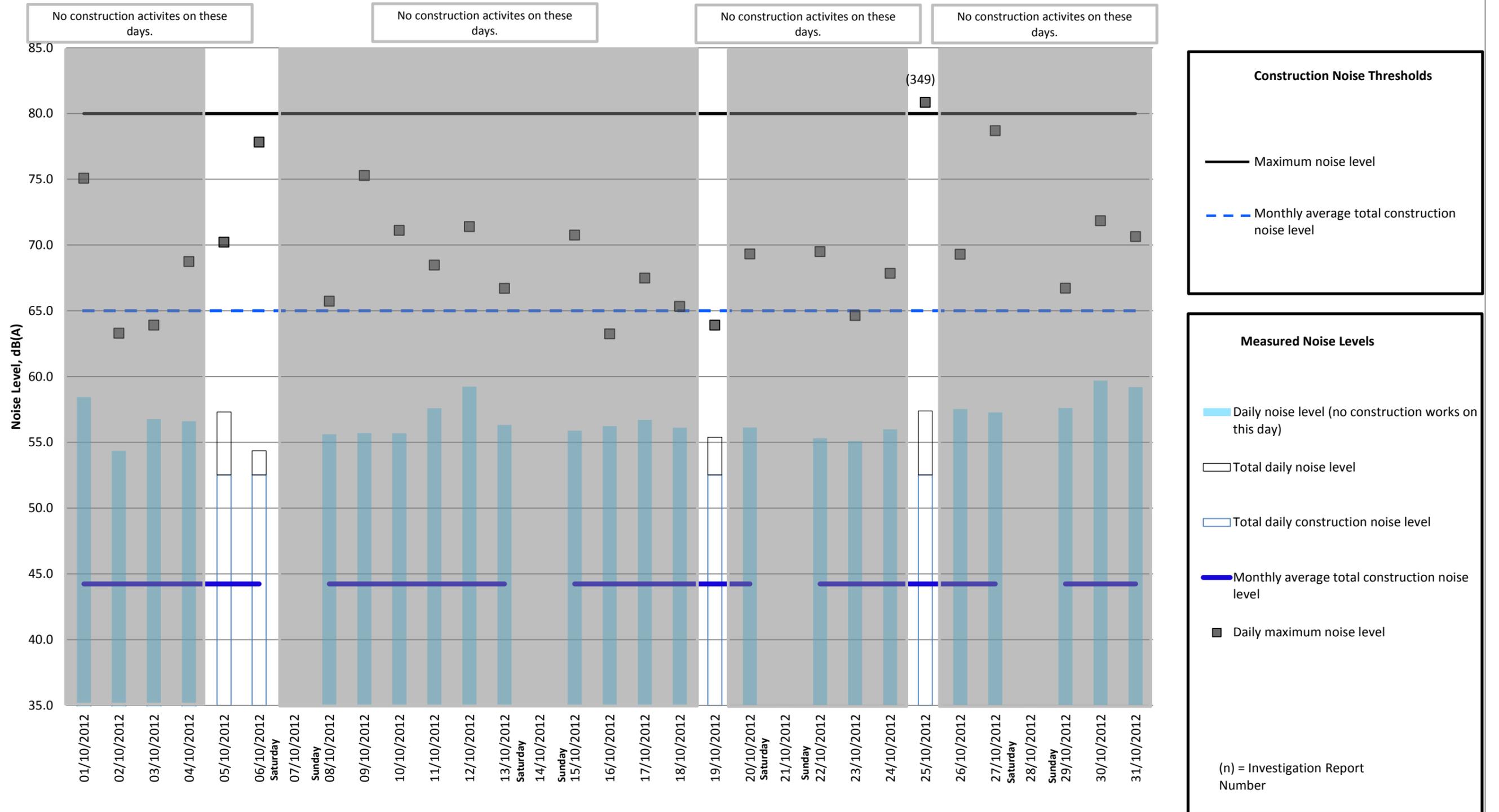
Measured night-time noise levels, Buie Rigg (CNV07) Measurement period 1st October to 31st October 2012



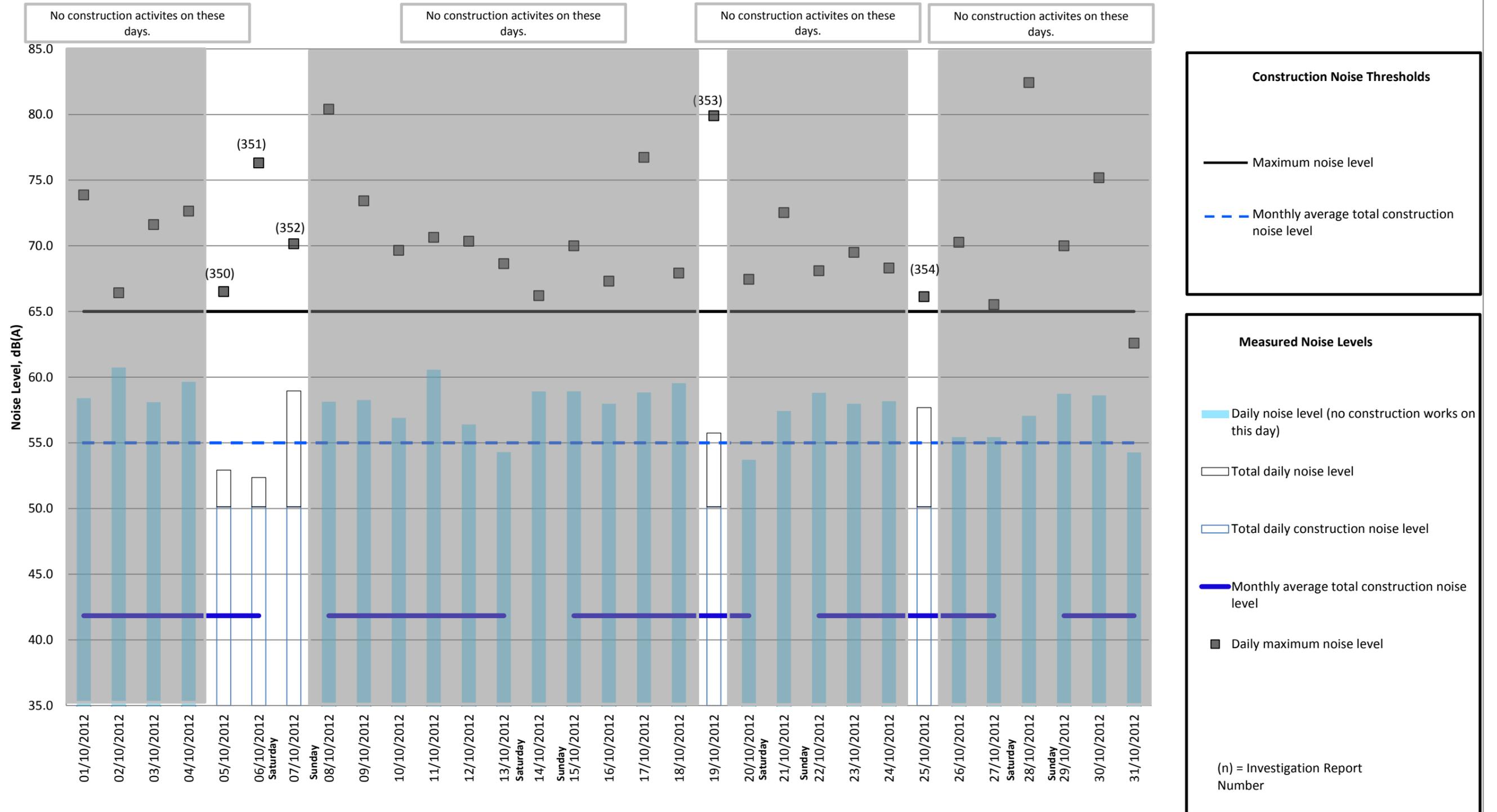
Measured daytime noise levels, 8 Kirklands Park Grove (CNV16) Measurement period 1st October to 31st October 2012



Measured evening noise levels, 8 Kirklands Park Grove (CNV16) Measurement period 1st October to 31st October 2012



Measured night-time noise levels, 8 Kirklands Park Grove (CNV16) Measurement period 1st October to 31st October 2012



 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 03-10-12	NER. 170
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 1st</u> – CNV02 Exceedences 318: Maximum Noise Level: 101.5 dB (A) at 09.52 1 st October An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the noise files shows that there were dogs barking in and around the time of this exceedence (see attached noise file) Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date02-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date02-10-12... Project Manager / Assist Project Manager			



NER 318.wav

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 07-10-12	NER. 171
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 6th</u> – <u>CNV02</u> Exceedences 319: Maximum Noise Level: 98.1 dB (A) at 17.56 06 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the noise files shows it would appear that the exceedence is related to general traffic conditions (see attached noise file) Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date07-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date07-10-12... Project Manager / Assist Project Manager			



NER 319.wav

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 25-10-12	NER. 172
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 24th – CNV02</u> Exceedences 320: Maximum Noise Level: 96.8dB (A) at 17.37pm 24 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the noise file Analysis of the noise files shows that there were dogs barking in and around the time of this exceedence (see attached noise file) Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date25-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date25-10-12... Project Manager / Assist Project Manager			



NER 320.wav

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 5-10-12	NER. 173
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 04th – CNV02</u> Exceedences 321: Maximum Noise Level: 80.8dB (A) at 19.59 4 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the noise files shows it would appear that the exceedence is related to general traffic conditions (see attached noise file) Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date05-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date05-10-12... Project Manager / Assist Project Manager			



NER 321.wav

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 10-10-12	NER. 174
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 09th</u> – <u>CNV02</u> Exceedences 322: Maximum Noise Level: 80.7dB (A) at 19.56 9 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the noise files shows it would appear that the exceedence is related to general traffic conditions (see attached noise file) Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date10-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date10-10-12... Project Manager / Assist Project Manager			



NER 322.wav

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 11-10-12	NER. 175
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 10th – CNV02</u> Exceedences 323: Maximum Noise Level: 82.6 dB (A) at 19.37 10 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the noise files shows it would appear that the exceedence is related to general traffic conditions (see attached noise file) Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date10-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date10-10-12... Project Manager / Assist Project Manager			



NER 323.wav

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 22-10-12	NER. 176
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 19th</u> – CNV02 Exceedences 324: Maximum Noise Level: 85.5 dB (A) at 21.14 19 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the noise files shows it would appear that the exceedence is related to some type of animal noise (see attached noise file) Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date22-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date22-10-12... Project Manager / Assist Project Manager			



NER 324.wav

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 29-10-12	NER. 177
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 27th – CNV02</u> Exceedences 325: Maximum Noise Level: 86.2 dB (A) at 20.46 27 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the noise files shows it would appear that the exceedence is related to dogs barking in the vicinity (see attached noise file) Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: Maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date29-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date29-10-12... Project Manager / Assist Project Manager			



NER 325.wav

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 02-10-12	NER. 178
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 01st</u> – CNV02 Exceedences 326: Maximum Noise Level: 82.1 dB (A) at 04.53 02 nd October An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the noise files indicates that the noise could be either due to a loose muffler on passing traffic or is similar to that given off by compaction plant. On this night, surfacing works on the M9 EB were being carried out between Ch1300 – 700. Therefore it is considered possible that noise from the construction activities caused the exceedence. Corrective Action Required: These works were planned and carried out in consultation with local authorities with rigorous mitigation put in place to minimise the disruption caused. No complaints were received for the works and for future works, SRB are to maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date02-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date02-10-12... Project Manager / Assist Project Manager			



NER 326.wav

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 03-10-12	NER. 179
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 02nd</u> – CNV02 Exceedences 327: Maximum Noise Level: 86.1 dB (A) at 22.27 02 nd October An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the noise files indicates that the noise appears to be general traffic noise from the adjoining M9 motorway (see noise file attached) Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: SRB are to maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date03-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date03-10-12... Project Manager / Assist Project Manager			



NER 327.wav

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 04-10-12	NER. 180
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 03rd</u> – <u>CNV02</u> Exceedences 328: Maximum Noise Level: 80.9 dB (A) at 07.27 04 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the noise files indicates that the noise appears to be general traffic noise from the adjoining M9 motorway (see noise file attached) Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: SRB are to maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date03-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date03-10-12... Project Manager / Assist Project Manager			



NER 328.wav

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 05-10-12	NER. 181
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 04th – CNV02</u> Exceedences 329 Maximum Noise Level: 82.0 dB (A) at 22.32 04 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the noise files indicates that the noise could be due to passing traffic on the adjacent M9. On this night, the following works were undertaken on the M9: <ul style="list-style-type: none"> Remove Varioguard M9 EB Ch2500 Remove Varioguard M9 EB Ch1750 Remove Varioguard M9 WB Ch2500 Therefore it is considered unlikely that noise from these activities would cause this exceedence. Corrective Action Required: These works were planned and carried out in consultation with local authorities with rigorous mitigation put in place to minimise the disruption caused. No complaints were received for the works and for future works, SRB are to maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date05-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date05-10-12... Project Manager / Assist Project Manager			



NER 329.wav

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 09-10-12	NER. 182
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 08th – CNV02</u> Exceedences 330: Maximum Noise Level: 79.6 dB (A) at 05.07 09 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the noise files indicates that the noise appears to be general traffic noise from the adjoining M9 motorway (see noise file attached) Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: SRB are to maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date09-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date09-10-12... Project Manager / Assist Project Manager			



NER 330.wav

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 09-10-12	NER. 183
	NOISE EXCEEDENCE REPORT		

Summary of Finding(s): October 09th – CNV02

Exceedences 331: Maximum Noise Level: 88.5 dB (A) at 02.22 10th October

An analysis was carried out using the following data:

- Recorded Noise Logs and Noise Data
- Noise type
- Site Diaries / Weather Data
- Inspections by Senior Engineer (Roland Tarrant)

Findings:

Analysis of the noise files indicates that the noise appears to be general traffic noise from the adjoining M9 motorway (see noise file attached)

Therefore it is considered unlikely that noise from the construction activities caused the exceedence.

Corrective Action Required:

SRB are to maintain current monitoring and surveillance levels

SignatureRoland Tarrant..... Date10-10-12.....

NER Closed

Works have been inspected and completed as described above.

SignatureSeamus O'Brien.....Date10-10-12...

Project Manager / Assist Project Manager



NER 331.wav

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 10-10-12	NER. 184
	NOISE EXCEEDENCE REPORT		

Summary of Finding(s): October 10th – CNV02

Exceedences 332: Maximum Noise Level: 89.9 dB (A) at 03.59 11th October

An analysis was carried out using the following data:

- Recorded Noise Logs and Noise Data
- Noise type
- Site Diaries / Weather Data
- Inspections by Senior Engineer (Roland Tarrant)

Findings:

Analysis of the noise files indicates that the noise appears to be general traffic noise from the adjoining M9 motorway (see noise file attached)

Therefore it is considered unlikely that noise from the construction activities caused the exceedence.

Corrective Action Required:

SRB are to maintain current monitoring and surveillance levels

SignatureRoland Tarrant..... Date11-10-12.....

NER Closed

Works have been inspected and completed as described above.

SignatureSeamus O'Brien.....Date11-10-12...

Project Manager / Assist Project Manager



NER 332.wav

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 16-10-12	NER. 185
	NOISE EXCEEDENCE REPORT		

Summary of Finding(s): October 16th – CNV02

Exceedences 333: Maximum Noise Level: 79.7dB (A) at 00.44 17th October

An analysis was carried out using the following data:

- Recorded Noise Logs and Noise Data
- Noise type
- Site Diaries / Weather Data
- Inspections by Senior Engineer (Roland Tarrant)

Findings:

Analysis of the noise files indicates that the noise appears to be general traffic noise from the adjoining M9 motorway (see noise file attached)

Therefore it is considered unlikely that noise from the construction activities caused the exceedence.

Corrective Action Required:

SRB are to maintain current monitoring and surveillance levels

SignatureRoland Tarrant..... Date17-10-12.....

NER Closed

Works have been inspected and completed as described above.

SignatureSeamus O'Brien.....Date17-10-12...

Project Manager / Assist Project Manager



NER 333.wav

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 18-10-12	NER. 186
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 17th – CNV02</u> Exceedences 334: Maximum Noise Level: 76.5dB (A) at 04.38 18 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the noise files indicates that the noise appears to be general traffic noise from the adjoining M9 motorway (see noise file attached) Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: SRB are to maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date18-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date18-10-12... Project Manager / Assist Project Manager			



NER 334.wav

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 19-10-12	NER. 187
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 19th – CNV02</u> Exceedences 335: Maximum Noise Level: 01.55 dB (A) at 80.6 20 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diaries indicate that the noise exceedence could be associated with the works. The works carried out on the night in question are: <ul style="list-style-type: none"> Cutting Loops M9 WB at Ch0 Surfacing M9 WB Ch600 – Ch1570 Therefore it is considered possible that noise from the construction activities caused the exceedence. Corrective Action Required: These works were planned and carried out in consultation with local authorities with rigorous mitigation put in place to minimise the disruption caused. No complaints were received for the works and for future works, SRB are to maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date18-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date18-10-12... Project Manager / Assist Project Manager			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 22-10-12	NER. 188
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 22nd</u> – CNV02 Exceedences 336: Maximum Noise Level: 72.2dB (A) at 06.04 23 rd October An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the noise files indicates that the noise appears to be general traffic noise from the adjoining M9 motorway (see noise file attached) Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: SRB are to maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date23-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date23-10-12... Project Manager / Assist Project Manager			



NER 336.wav

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 23-10-12	NER. 189
	NOISE EXCEEDENCE REPORT		

Summary of Finding(s): October 23rd – CNV02

Exceedences 337: Maximum Noise Level: 73.3dB (A) at 06.05 24th October

An analysis was carried out using the following data:

- Recorded Noise Logs and Noise Data
- Noise type
- Site Diaries / Weather Data
- Inspections by Senior Engineer (Roland Tarrant)

Findings:

Analysis of the noise files indicates that the noise appears to be general traffic noise from the adjoining M9 motorway (see noise file attached)

Therefore it is considered unlikely that noise from the construction activities caused the exceedence.

Corrective Action Required:

SRB are to maintain current monitoring and surveillance levels

SignatureRoland Tarrant..... Date24-10-12.....

NER Closed

Works have been inspected and completed as described above.

SignatureSeamus O'Brien.....Date24-10-12...

Project Manager / Assist Project Manager



NER 337.wav

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 25-10-12	NER. 190
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 24th – CNV02</u> Exceedences 338: Maximum Noise Level: 75.6 dB (A) at 23.54 24 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the noise files indicates that the noise appears to be general traffic noise or HGV's from the adjoining M9 motorway (see noise file attached) Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: SRB are to maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date25-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date25-10-12... Project Manager / Assist Project Manager			



NER 338.wav

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 28-10-12	NER. 191&192
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 26 and 27th – CNV02</u> Exceedences 339: Maximum Noise Level: 81.5 dB (A) at 04.42 27 th October 340: Maximum Noise Level: 74.4 dB (A) at 00.23 28 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diaries indicate that the noise exceedence could be associated with the works. The works carried out on the nights in question were: Surfacing M9 WB Ch1400 - 600 Therefore it is considered possible that noise from the construction activities caused the exceedence. Corrective Action Required: These works were planned and carried out in consultation with local authorities with rigorous mitigation put in place to minimise the disruption caused. No complaints were received for the works and for future works, SRB are to maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date28-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date28-10-12... Project Manager / Assist Project Manager			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 8-10-12	NER. 193
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 05th – CNV07</u> Exceedences 341: Maximum Noise Level: 82 dB (A) at 21.00 05 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diaries indicate that the noise exceedence could be associated with the works. The works carried out on the nights in question were: <p style="text-align: center;">Spur SB closed for surfacing M9 EB Ch1300 - 700</p> Therefore it is considered possible that noise from the construction activities caused the exceedence. Corrective Action Required: These works were planned and carried out in consultation with local authorities with rigorous mitigation put in place to minimise the disruption caused. No complaints were received for the works and for future works, SRB are to maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date8-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date8-10-12... Project Manager / Assist Project Manager			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 5-10-12	NER. 194
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 05th – CNV07</u> Exceedences 342: Maximum Noise Level: 76.8 dB (A) at 06.00 06 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diaries indicate works were on-going during the night in question. These included: <p style="text-align: center;">Spur SB closed for surfacing M9 EB Ch1300 - 700</p> However, the works were finished and completed before the time the exceedence occurred. Therefore it is considered unlikely that the exceedence was caused by construction activities. Historic levels have shown that the noise trigger limits are regularly exceeded in this area from the sheer volumes of traffic using the spur route. Corrective Action Required: SRB are to maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date6-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date6-10-12... Project Manager / Assist Project Manager			

 <p>QUALITY MANAGEMENT SYSTEM</p>	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 6-10-12	NER. 195
	NOISE EXCEEDENCE REPORT		

Summary of Finding(s): October 05th – CNV07

Exceedences 343: Maximum Noise Level: 77.8 dB (A) at 04.00 06th October

An analysis was carried out using the following data:

- Recorded Noise Logs and Noise Data
- Noise type
- Site Diaries / Weather Data
- Inspections by Senior Engineer (Roland Tarrant)

Findings:

Analysis of the site diaries indicate works were on-going during the night in question. These included:

Spur SB closed for surfacing M9 EB Ch1300 - 700

Therefore it is considered possible that noise from the construction activities caused the exceedence.

Corrective Action Required:

These works were planned and carried out in consultation with local authorities with rigorous mitigation put in place to minimise the disruption caused. No complaints were received for the works and for future works, SRB are to maintain current monitoring and surveillance levels

SignatureRoland Tarrant.....

Date6-10-12.....

NER Closed

Works have been inspected and completed as described above.

SignatureSeamus O'Brien.....Date6-10-12...

Project Manager / ~~Assist Project Manager~~

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 7-10-12	NER. 196
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 07th – CNV07</u> Exceedences 344: Maximum Noise Level: 84.1 dB (A) at 07.00 08 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diaries indicate works were on-going during the night in question. These included: <p style="text-align: center;">Spur SB closed for surfacing M9 EB Ch1300 - 700</p> However, the works were finished and completed before the time the exceedence occurred. Therefore it is considered unlikely that the exceedence was caused by construction activities. Historic levels have shown that the noise trigger limits are regularly exceeded in this area from the sheer volumes of traffic using the spur route. Corrective Action Required: SRB are to maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date8-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date8-10-12... Project Manager / Assist Project Manager			

 <p>QUALITY MANAGEMENT SYSTEM</p>	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 7-10-12	NER. 197
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 19th – CNV07</u> Exceedences 345: Maximum Noise Level: 74.6 dB (A) at 07.00 20 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diaries indicate works were on-going during the night in question. These included: <p style="text-align: center;">Spur NB closed for removal of varioguard</p> However, the works were finished and completed before the time the exceedence occurred. Therefore it is considered unlikely that the exceedence was caused by construction activities. Historic levels have shown that the noise trigger limits are regularly exceeded in this area from the sheer volumes of traffic using the spur route. Corrective Action Required: SRB are to maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date20-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date20-10-12... Project Manager / Assist Project Manager			

 <p>QUALITY MANAGEMENT SYSTEM</p>	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 25-10-12	NER. 198
	NOISE EXCEEDENCE REPORT		

Summary of Finding(s): October 25th – CNV07

Exceedences 346: Maximum Noise Level: 84 dB (A) at 02.00 26th October

An analysis was carried out using the following data:

- Recorded Noise Logs and Noise Data
- Noise type
- Site Diaries / Weather Data
- Inspections by Senior Engineer (Roland Tarrant)

Findings:

Analysis of the site diaries indicate works were on-going during the night in question. These included:

Spur SB closed for surfacing M9 EB Ch1500

Therefore it is considered possible that noise from the construction activities caused the exceedence.

Corrective Action Required:

These works were planned and carried out in consultation with local authorities with rigorous mitigation put in place to minimise the disruption caused. No complaints were received for the works and for future works, SRB are to maintain current monitoring and surveillance levels

SignatureRoland Tarrant..... Date26-10-12.....

NER Closed

Works have been inspected and completed as described above.

SignatureSeamus O'Brien.....Date26-10-12...

Project Manager / ~~Assist Project Manager~~

 <p>QUALITY MANAGEMENT SYSTEM</p>	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 16-10-12	NER. 199
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 16th – CNV16</u> Exceedences 347: Maximum Noise Level: 90.5 dB (A) at 11.00 16 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diaries indicate that general works were on-going around the area of Newmains Bridge and it is possible, though not likely, that these were loud enough to cause excessive noise levels at CNV016 as the receptor is over 250m away. In addition, there have not been any noise complaints received from residents of this area and therefore it is considered unlikely that the exceedence was caused by the construction works. Corrective Action Required: SRB are to maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date17-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date17-10-12... Project Manager / Assist Project Manager			

 <p>QUALITY MANAGEMENT SYSTEM</p>	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 31-10-12	NER. 200
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 30th – CNV16</u> Exceedences 348: Maximum Noise Level: 89.2 dB (A) at 11.00 30 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diaries indicate that there were no works ongoing in this area during this time period Therefore it is considered unlikely that the exceedence was caused by the construction works. Corrective Action Required: SRB are to maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date31-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date31-10-12... Project Manager / Assist Project Manager			

 <p>QUALITY MANAGEMENT SYSTEM</p>	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 25-10-12	NER. 201
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 25th – CNV16</u> <p>Exceedences 349: Maximum Noise Level: 80.8 dB (A) at 20.00 25th October</p> <p>An analysis was carried out using the following data:</p> <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) <p>Findings:</p> <p>Analysis of the site diaries indicate works were on-going during the night in question. These included:</p> <p style="text-align: center;">Spur SB closed for surfacing M9 EB Ch1500</p> <p>However, the day works were completed by 17.00 and the night works did not commence until after 20.00.</p> <p>Therefore it is considered unlikely that noise from the construction activities caused the exceedence.</p> <p>Corrective Action Required:</p> <p>SRB are to maintain current monitoring and surveillance levels</p> <p>SignatureRoland Tarrant..... Date26-10-12.....</p>			
<p>NER Closed</p> <p>Works have been inspected and completed as described above.</p> <p>SignatureSeamus O'Brien.....Date26-10-12...</p> <p style="text-align: center;">Project Manager / Assist Project Manager</p>			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 05-10-12	NER. 202
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 05th – CNV16</u> Exceedences 350: Maximum Noise Level: 66.1 dB (A) at 06.00 06 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the noise recordings show that there were birds singing near the receptor monitor during this time period (see attached noise file). There were no works ongoing on site during this period. Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: SRB are to maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date06-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date06-10-12... Project Manager / Assist Project Manager			



NER 350.wav

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 06-10-12	NER. 203
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 06th – CNV16</u> Exceedences 351: Maximum Noise Level: 76.3 dB (A) at 06.00 07 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the noise recordings show that there were birds singing and heavy traffic (from the M9 Spur) near the receptor monitor during this time period. There were no works ongoing on site during this period (See attached noise file) Therefore it is considered unlikely that noise from the construction activities caused the exceedence. Corrective Action Required: SRB are to maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date07-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date07-10-12... Project Manager / Assist Project Manager			



NER 351.wav

 <p>QUALITY MANAGEMENT SYSTEM</p>	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 08-10-12	NER. 204
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 19th</u> – <u>CNV16</u> Exceedences 352: Maximum Noise Level: 70.1 dB (A) at 06.00 08 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> Recorded Noise Logs and Noise Data Noise type Site Diaries / Weather Data Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diaries indicate that there were no works on-going in this area during the time period in question. Works were carried out overnight but they were complete before 07.00. These included: <ul style="list-style-type: none"> Spur NB closed for removal of varioguard Therefore it is considered unlikely that the exceedence was caused by construction activities. Corrective Action Required: SRB are to maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date08-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date08-10-12... Project Manager / Assist Project Manager			

 <p>QUALITY MANAGEMENT SYSTEM</p>	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 19-10-12	NER. 205
	NOISE EXCEEDENCE REPORT		
Summary of Finding(s): <u>October 19th – CNV16</u> Exceedences 353: Maximum Noise Level: 79.9 dB (A) at 07.00 20 th October An analysis was carried out using the following data: <ul style="list-style-type: none"> • Recorded Noise Logs and Noise Data • Noise type • Site Diaries / Weather Data • Inspections by Senior Engineer (Roland Tarrant) Findings: Analysis of the site diaries indicate that there were no works on-going in this area during the time period in question. Works were carried out overnight but they were complete before 07.00. These included: <ul style="list-style-type: none"> • Spur NB closed for removal of varioguard Therefore it is considered unlikely that the exceedence was caused by construction activities. Corrective Action Required: SRB are to maintain current monitoring and surveillance levels SignatureRoland Tarrant..... Date20-10-12.....			
NER Closed Works have been inspected and completed as described above. SignatureSeamus O'Brien.....Date20-10-12... Project Manager / Assist Project Manager			

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 25-10-12	NER. 206
	NOISE EXCEEDENCE REPORT		

Summary of Finding(s): October 25th – CNV16

Exceedences 354: Maximum Noise Level: 66.1 dB (A) at 07.00 26th October

An analysis was carried out using the following data:

- Recorded Noise Logs and Noise Data
- Noise type
- Site Diaries / Weather Data
- Inspections by Senior Engineer (Roland Tarrant)

Findings:

Analysis of the site diaries indicate that there were no works on-going in this area during the time period in question. Works were carried out overnight but they were complete before 07.00. These included:

- Spur SB closed for surfacing M9 EB Ch1500

Therefore it is considered unlikely that the exceedence was caused by construction activities.

Corrective Action Required:

SRB are to maintain current monitoring and surveillance levels

SignatureRoland Tarrant..... Date26-10-12.....

NER Closed

Works have been inspected and completed as described above.

SignatureSeamus O'Brien.....Date26-10-12...

Project Manager / ~~Assist Project Manager~~

 QUALITY MANAGEMENT SYSTEM	Project Title: FORTH REPLACEMENT CROSSING M9 Junction 1A		Project Number: 208
	Contractor: SRB	Date: 02-11-12	NER. 207
	NOISE EXCEEDENCE REPORT		

Summary of Finding(s): October Monthly L_{AEQ} – CNV16

Exceedences: Monthly average Night-time Noise Level L_{AEQ}: 57.5 dB

An analysis was carried out using the following data:

- Recorded Noise Logs and Noise Data
- Noise type
- Site Diaries / Weather Data
- Inspections by Senior Engineer (Roland Tarrant)

Findings:

Analysis of the site diaries, noise files and noise logs for this area, we consider that the majority of the noise was due to traffic passing on the adjacent M9 Motorway. NER's 179, 180, 182 to 186 and 188 to 190 detail that the likely source of the noise was passing traffic. In addition, the average noise readings obtained during the baseline survey at CNV01, 02 and 03 (prior to works commencing) were in the range 63-76 dB for night-time periods and this was mainly due to passing traffic noise. October noise levels were in the range 63-68dB. These are in line with the lower end of the pre-construction baseline readings. Also, weather conditions during the month were quite blustery and seasonal further increasing average noise levels.

Therefore it is unlikely that the construction activities had a significant effect on the overall noise levels.

Corrective Action Required:

SRB are to maintain current monitoring and surveillance levels.

These readings were reviewed by the contract team to inform them of the rise in background noise levels. Works activities were revised accordingly as far as practicable to ensure that construction noise did not further increase levels.

SignatureRoland Tarrant.....

Date02-11-12.....

NER Closed

Works have been inspected and completed as described above.

SignatureSeamus O'Brien.....Date02-11-12...

Project Manager / Assist Project Manager