Forth Replacement Crossing

Employer's Delivery Team
Construction Noise Monitoring Report

Principal Contract and M9J1a Contract
(August 2012)

TRANSPORT SCOTLAND

An agency of The Scottish Government

FORTH REPLACEMENT CROSSING

FORTH REPLACEMENT CROSSING

EMPLOYER'S DELIVERY TEAM
CONSTRUCTION NOISE MONITORING REPORT

PRINCIPAL CONTRACT AND M9J1A CONTRACT
(AUGUST 2012)

Revision Status

Revision	Date	Description	Author	Approved for Use
0	October 2012	Original	DGC / RML	AMM

FORTH REPLACEMENT CROSSING

EMPLOYER'S DELIVERY TEAM
CONSTRUCTION NOISE MONITORING REPORT

CONTENTS

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: August 2012 – refer to Section 2 of this report.
- M9 Junction 1a Contract: August 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)	August 2012	• Drilling for blasting • Blasting • Rock removal • Break out rock
Tigh-Na-Grian (M3)	August 2012	• On-going works at Beamer Rock • Caisson Excavation • N1 excavation
Port Edgar (M6)	August 2012	• On-going works at Beamer Rock • Dredging at South shores • ST excavation • S5 excavation • Caisson works • Drainage works
Butlaw Fisheries (M7)	August 2012	• On-going works at Beamer Rock • Dredging at South shores • Caisson works • ST excavation • S5 excavation • Works at S7 and S8 • S6 Access Track
Inchgarvie Lodge (M10)	August 2012	• On-going works at Beamer Rock • Dredging at South shores • Caisson works • ST excavation • S5 excavation • Utility works • Works at S7 and S8 • Drainage works • Excavation of material from launch
Linn Mill (M11)	August 2012	• Utility works • Excavation of material from launch • Drainage works
Clufflat Brae (M13)	August 2012	• Utility works • Drainage works • Excavation of material from launch • Cut/Fill of East SUDS pond

Springfield (M14)	August 2012	• Utility works • Excavation of material from launch • Cut/Fill of East SUDS pond
Echline Field (M15)	August 2012	• Utility works • Cut from Queensferry gyratory • Fill to bunds
Scotstoun (M16)	August 2012	• Works at bus link • Utility works (including top soil stripping)
Dundas Home Farm (M17)	August 2012	• Utilities works • Haul road
Newton	August 2012	• 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 August, 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 Butlaw Fisheries, Inchgarvie Lodge, Clufflat Brae and Linn Mill were attributed to construction works.

2.4 Exceedances of the monthly average threshold occurred at Scotstoun, Butlaw Fisheries, Linn Mill.

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	Contractor's Exceedance Report Reference	Exceedance
Butlaw Fisheries (M7)	NVIRs	During August the maximum noise threshold was exceeded on 55 occasions (daytime, 13; evening, 12; night time, 30). Seventeen exceedances (1 day, 2 evening and 14 night) were due to the dredging works on the southern shore. However, a large number of exceedances were attributed to a range of non-construction factors, including birds (particularly during the early hours of the morning), water on the shore, cars, planes and ship horns.
Clufflat Brae (M13)	NVIRs	During August the maximum noise threshold was exceeded on 44 occasions (daytime, 17; evening, 9; night time, 18). Nine exceedances were found to be due to the intermittent noise of plant operating in close proximity to the meter, associated with both the construction of the East SUDS pond and Scottish Water works. A number of the exceedances were also found to be due to birds, adverse weather conditions and people at the nearby properties, in particular children playing.
Inchgarvie Lodge (M10)	NVIRs	During August the maximum noise threshold was exceeded on 48 occasions (daytime, 14; evening, 13; night time, 21). A single exceedance was found to be due dredging works at the south shore. However, investigations found birds and movements at the property to be the main contributing factors to the exceedances at this location.
Linn Mill (M11)	NVIRs	During August the maximum noise threshold was exceeded on 37 occasions (daytime, 13; evening, 7; night time, 17). Nine exceedances were due to construction works, in particular excavators, in close proximity to the meter. However, the majority of exceedances were caused by a number of non-construction factors, including birds, adverse weather conditions, and aircraft.
Tigh-Na-Grian (M3)	NVIRs	During August the maximum noise threshold was exceeded on 47 occasions (daytime, 19; evening, 7; night time, 21). All exceedances were due to non-construction factors such as birds, ship horns in the estuary, noise local to the property and fireworks.
Dundas Home Farm (M17)	NVIRs	During August the maximum noise threshold was exceeded on 11 occasions. Exceedances were not attributable to construction works.

Monitoring Location	Contractor's Exceedance Report Reference	Exceedance
		Exceedances were the result of vehicles, thunder, children playing and the use of lawnmowers near the monitor.
Echline Field (M15)	NVIRs	No information available due to sound level meter malfunction.
Springfield (M14)	NVIRs	During August the maximum noise threshold was exceeded on 14 occasions. No exceedances at this location were due to construction activities. The non-construction related exceedances were attributed to factors including birds and local noises at the nearby properties.
Scotstoun (M16)	NVIRs	During August the maximum noise threshold was exceeded on 27 occasions. Exceedances were attributed to vehicles passing by on the adjacent road and the use of a chainsaw (not related to FCBC construction works) during one period.
Whinny Hill (M1)	NVIRs	During August the maximum noise threshold was exceeded on 16 occasions. Exceedances were not due to construction activities. A range of factors were found to cause exceedances at this location, including birds and monitor maintenance.

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)	August 2012	• Erection of noise barrier • Fencing works • ITS works along M9 eastbound • Pavement works near Gateside
15-17 Buie Rigg (CNV07)	August 2012	• Continued concrete invert works inside new Swineburn culvert • Piling at G11 near Buie Rigg • Newmains Bridge North Abutment • ITS works on eastbound merge • Drainage completed near Buie Rigg • Pavement works on eastbound diverge
8 Kirklands Park Grove (CNV16)	August 2012	• Piling at Gantry 12 • Newmains Bridge North Abutment • Noise barrier erected • Drainage works ongoing on A90 southbound

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 August, however the majority of these are not considered to be due to construction works being carried out. Three night time exceedance of the maximum noise level threshold at Buie Rigg was attributed to construction works.

3.4 The monthly average threshold level was exceeded at King Edwards Way, however this is not considered to be due to construction works being carried out.

3.5 All exceedances were investigated in accordance with the project Code of Construction Practice.

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 122 - 131	During August the maximum noise threshold was exceeded on 24 occasions (daytime, 10; evening, 6; night time, 8). However, no exceedances were attributed to construction related activities. The exceedances were attributed to dogs barking, residents' shouting and carrying out works on their property.
15-17 Buie Rigg (CNV07)	NER 132 - 137	During August the maximum noise threshold was exceeded on 8 occasions (evening, 1; night time, 7). However, only 3 of the exceedances are attributed to construction works. 2 night time exceedance have been attributed to loop cutting operations and 1 night time exceedance has been attributed to works on varioguard (See NER 134, 135 & 136).
8 Kirklands Park Grove (CNV16)	NERs 138 - 140	During August the maximum noise threshold was exceeded on 4 occasions (day time, 1; evening, 1; night, 2). However, the exceedances are not attributed to construction related activities as works were being carried out over 300m away from the sensitive receptor location. Children playing in the vicinity of the receptor has also been attributed to the day time exceedance.

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:

AUGUST 2012

00	14/09/12	First Revision	ESE	MWN	MWN
Rev	**Rev. Date**	**Purpose of revision**	**Made**	**Checked**	**Reviewed**

Document status

FOR REVIEW

Made by: Ellie Slee	Checked By: Martin Wilson
Initials: ESE	Initials: MWN

Document number	Rev
REP-00061	00

Forth Crossing Bridge Constructors

HOCHTIEF Solutions
American Bridge International
DRAGADOS
Morrison Construction

Contents

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 August 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 August 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 August 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 two additional monitors installed at Scotstoun Park (Arup's Office) and Newton during February and a further sound level meter was installed at Whinny Hill during March.

2.2 At some monitoring locations, the noise monitoring devices are accompanied by an associated weather station. 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 August 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 August 2012
M1	Whinny Hill	Network	Drilling for blasting Blasting Rock Removal Breaking out rock N.B. No evening, night time, Saturday or Sunday daytime construction in vicinity.
M3	Tigh-Na-Grian	Crossing	On-going works at Beamer Rock Caisson Excavation N1 excavation
M6	Port Edgar	Crossing	On-going works at Beamer Rock Dredging at South shores ST excavation S5 excavation Caisson works Drainage works
M7	Butlaw Fisheries	Crossing	On-going works at Beamer Rock Dredging at South shores Caisson works ST excavation S5 excavation Works at S7 and S8 S6 Access Track
M10	Inchgarvie Lodge	Crossing	On-going works at Beamer Rock Dredging at South shores Caisson works ST excavation S5 excavation Utility works Works at S7 and S8 Drainage works Excavation of material from launch
M11	Linn Mill	Network (close proximity to Crossing)	Utility works Excavation of material from launch Drainage works
M13	Clufflat Brae	Network (close proximity to Crossing)	Utility works Drainage works Excavation of material from launch Cut/Fill of East SUDS pond

M14	Springfield	Network	Utility works Excavation of material from launch Cut/Fill of East SUDS pond N.B. No evening, night time or Sunday daytime construction in vicinity.
M15	Echline Field	Network	Utility works Cut from Queensferry gyratory Fill to bunds N.B. No evening, night time or Sunday daytime construction in vicinity.
M16	Scotstoun	Network	Works at bus link Utility works (including top soil stripping) N.B. No evening, night time, Saturday or Sunday daytime construction in vicinity.
M17	Dundas Home Farm	Network	Utilities works Haul road N.B. No evening, night time, Saturday 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 for August 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. Due to a loss of power supply to the meter at Echline, no data is available for this monitoring location for August 2012. FCBC worked throughout August to restore the power supply to this device and, whilst a power supply to this meter was sourced, there were faults with the connection. As a result, further works to restore the meter at this location have been undertaken by FCBC and a new enclosure was built at the end of August to house the monitoring equipment, including the noise meter, at Echline Corner. FCBC are currently working to restore power to this device and it is anticipated that this device will be operational by mid-August. Due to device error, data is missing for one evening and night time period at both Butlaw Fisheries (23 August) and Inchgarvie (8 August).

3.3 Results demonstrate that the monthly average total construction noise results for daytime were within the threshold limits for all monitoring locations for August 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 August 2012. For night-time, results show exceedances of the threshold at Butlaw Fisheries, with all other monitoring locations within the threshold.

3.4 The daytime Sunday average (for applicable monitoring locations) was found to be within the threshold for all monitoring locations during August 2012, with the exception of Butlaw Fisheries and Linn Mill. For the evening period, the Sunday average was below the threshold for all monitoring locations. The Sunday night time average was exceeded at Butlaw Fisheries, whilst all other locations were below the threshold.

3.5 With regard to the exceedances at Butlaw Fisheries, it should be noted that both night time and Sunday (daytime and night) averages represent only the highest 1 hour periods recorded within the period. During August marine works were on-going during the night time period. However, attended monitoring at Butlaw Fisheries highlighted that levels at the nearest occupied receptor are at least 5 dB different from the levels recorded at the monitoring device at Butlaw Fisheries; this therefore lowers the averages to below the threshold values of 50 dB for these periods at the nearest sensitive receptors. Furthermore, birds and adverse weather conditions have contributed to the average levels.

3.6 The exceedance of the daytime Sunday average at Linn Mill is not considered to be attributable to construction works. The average was influenced by a dog barking over a period of around 2 hours; as works were on-going in the estuary at the time it is not possible to exclude the data. However, when this data is removed and the highest period selected outwith the two hours influence by the dog barking the Sunday daytime average is reduced to 41 dB, which is significantly lower than the threshold value (55 dB).

3.7 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 August 2012.

3.8 During August 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.

3.9 Investigations of the exceedances of the maximum noise level thresholds show the majority to have occurred as a result of non-construction related noise. A significant number of the exceedances, particularly those occurring between dawn and 8 am, were due to bird calls. Adverse weather conditions, ship horns and local noises at nearby properties were also found to be contributing factors to maximum noise level exceedances. Additionally, at some locations, notably Scotstoun, existing traffic noise had an effect on maximum noise levels during the period covered in this report.

3.10 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.

3.11 The daytime Lmax thresholds at Clufflat Brae and Linn Mill were exceeded during August as a result of construction works on a total of 18 occasions. Intermittent noise from plant operating in close proximity to the noise meters at these locations was found to cause exceedances during daytime periods on 16 of these instances. In particular, the exceedances at Clufflat Brae were caused by plant movements and excavators associated with the construction of the East SUDS pond, which is in very close proximity to the meter. An daytime exceedance on 3 August at Clufflat Brae was found to be due to plant movements associated with the Scottish Water works. The additional two exceedances at these locations were during the night-time periods and were also due to plant operated by Scottish Water. It should be noted that the Scottish Water works are not covered by an official PCNV; these are essential diversion works conducted by Scottish Water, for which FCBC are not responsible. The night time works were conducted on only one night.

3.12 Some exceedances due to marine works were also recorded. The dredging works at the southern shore were also found to cause exceedances at Butlaw Fisheries and a single exceedance at Inchgarvie Lodge. Attended monitoring has highlighted that the vast majority of such exceedances arise from excavated rock material falling from bucket and landing on the steel hull of the split barge. Dredging operators are aware of the need to keep noise to a minimum, and try hard to eradicate isolated incidents such as these by carefully placing material into the barge at all times and lowering bucket as slowly as possible, however, this proves extremely challenging and occasionally loose rocks do fall onto the barge. The sidewalks of the barges have recently been lined with absorbent material so as to reduce noise levels exhibited by such activities.

3.13 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 August the maximum noise threshold was exceeded on 55 occasions (daytime, 13; evening, 12; night time, 30). Seventeen exceedances (1 day, 2 evening and 14 night) were due to the dredging works on the southern shore. However, a large number of exceedances were attributed to a range of non-construction factors, including birds (particularly during the early hours of the morning), water on the shore, cars, planes and ship horns.
Clufflat Brae	During August the maximum noise threshold was exceeded on 44 occasions (daytime, 17; evening, 9; night time, 18). Nine exceedances were found to be due to the intermittent noise of plant operating in close proximity to the meter, associated with both the construction of the East SUDS pond and Scottish Water works. A number of the exceedances were also found to be due to birds, adverse weather conditions and people at the nearby properties, in particular children playing.
Inchgarvie Lodge	During August the maximum noise threshold was exceeded on 48 occasions (daytime, 14; evening, 13; night time, 21). A single exceedance was found to be due dredging works at the south shore. However, investigations found birds and movements at the property to be the main contributing factors to the exceedances at this location.
Linn Mill	During August the maximum noise threshold was exceeded on 37 occasions (daytime, 13; evening, 7; night time, 17). Nine exceedances were due to construction works, in particular excavators, in close proximity to the meter. However, the majority of exceedances were caused by a number of non-construction factors, including birds, adverse weather conditions, and aircraft.
Tigh-Na-Grian	During August the maximum noise threshold was exceeded on 47 occasions (daytime, 19; evening, 7; night time, 21). All exceedances were due to non-construction factors such as birds, ship horns in the estuary, noise local to the property and fireworks.
Dundas Home Farm	During August the maximum noise threshold was exceeded on 11 occasions. Exceedances were not attributable to construction works. Exceedances were the result of vehicles, thunder, children playing and the use of lawnmowers near the monitor.
Springfield	During August the maximum noise threshold was exceeded on 14 occasions. No exceedances at this location were due to construction activities. The non-construction related exceedances were attributed to factors including birds and local noises at the nearby properties.

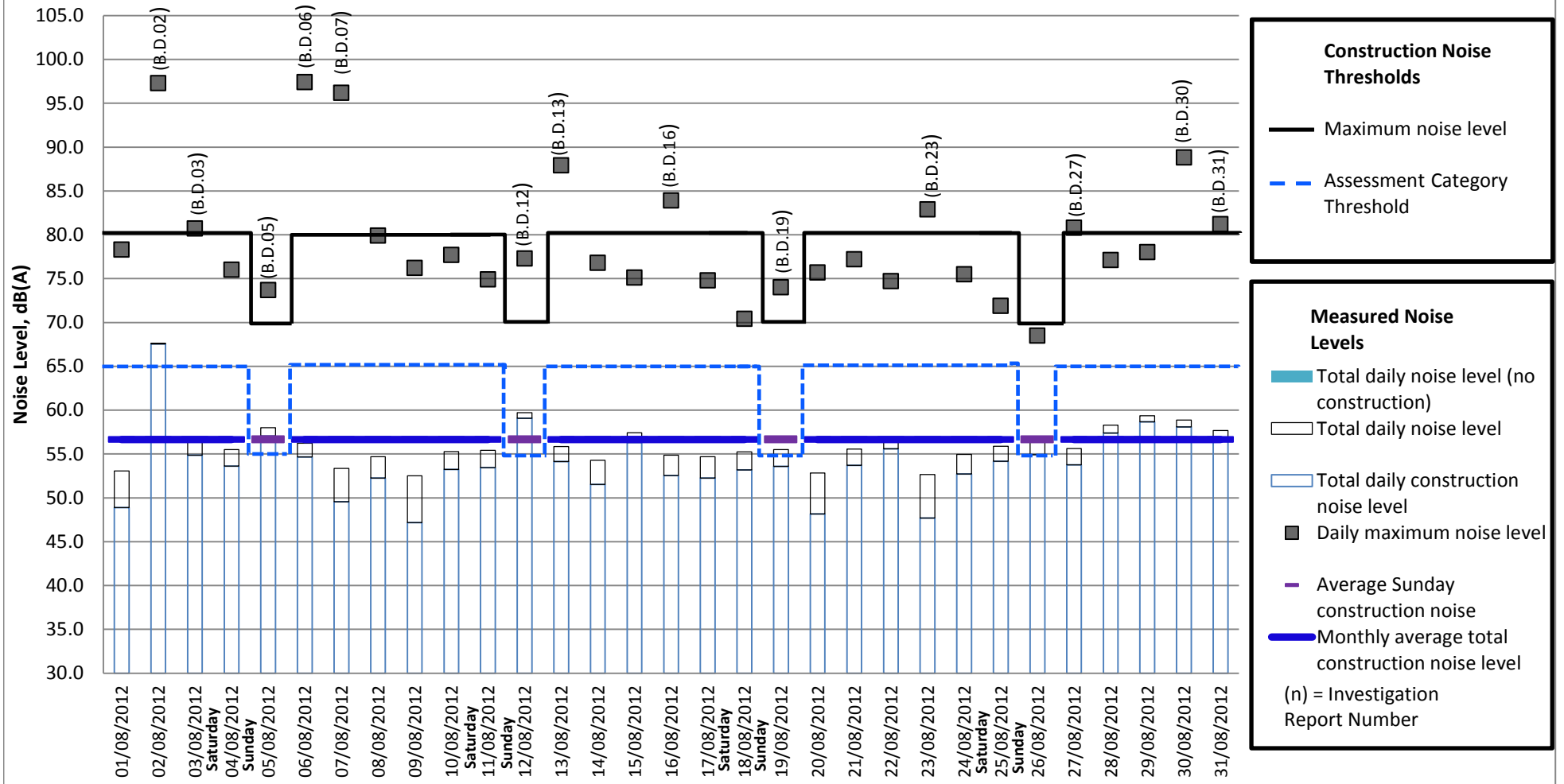
Scotstoun	During August the maximum noise threshold was exceeded on 27 occasions. Exceedances were attributed to vehicles passing by on the adjacent road and the use of a chainsaw (not related to FCBC construction works) during one period.
Whinny Hill	During August the maximum noise threshold was exceeded on 16 occasions. Exceedances were not due to construction activities. A range of factors were found to cause exceedances at this location, including birds and monitor maintenance.

Table 3: Summary of Construction Exceedances at Monitoring Locations

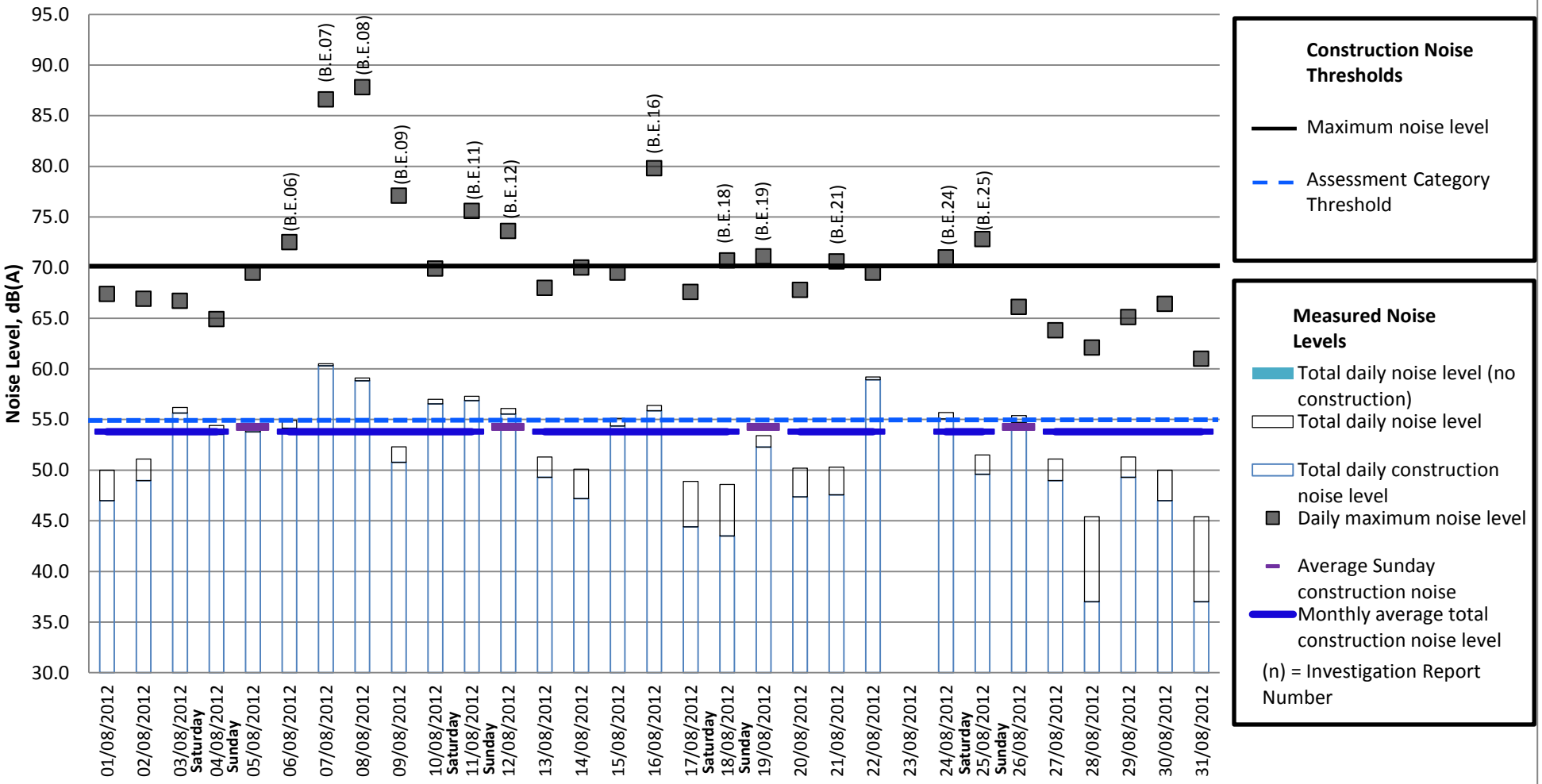
Monitor	Date	Period	Description	NVIR No.
Butlaw Fisheries	03/08/2012	Night	Dredging	B.N.020812
	03/08/2012	Day		B.D.030812
	05/08/2012	Night		B.N.040812
	06/08/2012	Night		B.N.050812
	07/08/2012	Night		B.N.060812
	08/08/2012	Night		B.N.070812
	10/08/2012	Night		B.N.100812
	13/08/2012	Night		B.N.120812
	14/08/2012	Night		B.N.130812
	16/08/2012	Night		B.N.150812
	17/08/2012	Night		B.N.160812
	18/08/2012	Night		B.N.170812
	19/08/2012	Night		B.N.180812
	19/08/2012	Evening		B.E.190812
	25/08/2012	Night		B.N.240812
	25/08/2012	Evening		B.E.250812
	27/08/2012	Night		B.N.270812
Inchgarvie Lodge	08/08/2012	Night	Dredging	I.N.070812
Clufflat Brae	03/08/2012	Night	Utility Works	C.N.020812
	03/08/2012	Day		C.D.030812
	09/08/2012	Day	SUDs pond construction works	C.D.090812
	10/08/2012	Day		C.D.100812
	11/08/2012	Day		C.D.110812
	13/08/2012	Day		C.D.130812
	14/08/2012	Day		C.D.140812
	15/08/2012	Day		C.D.150812
	16/08/2012	Day		C.D.160812
Linn Mill	02/08/2012	Night	Utility Works	L.N.020812
	06/08/2012	Day		L.D.060812
	07/08/2012	Day		L.D.070812
	10/08/2012	Day		L.D.100812
	13/08/2012	Day		L.D.130812
	14/08/2012	Day		L.D.140812
	15/08/2012	Day		L.D.150812

APPENDICES

Measured Daytime Noise Levels at Butlaw Fisheries
Measurement period: August 2012

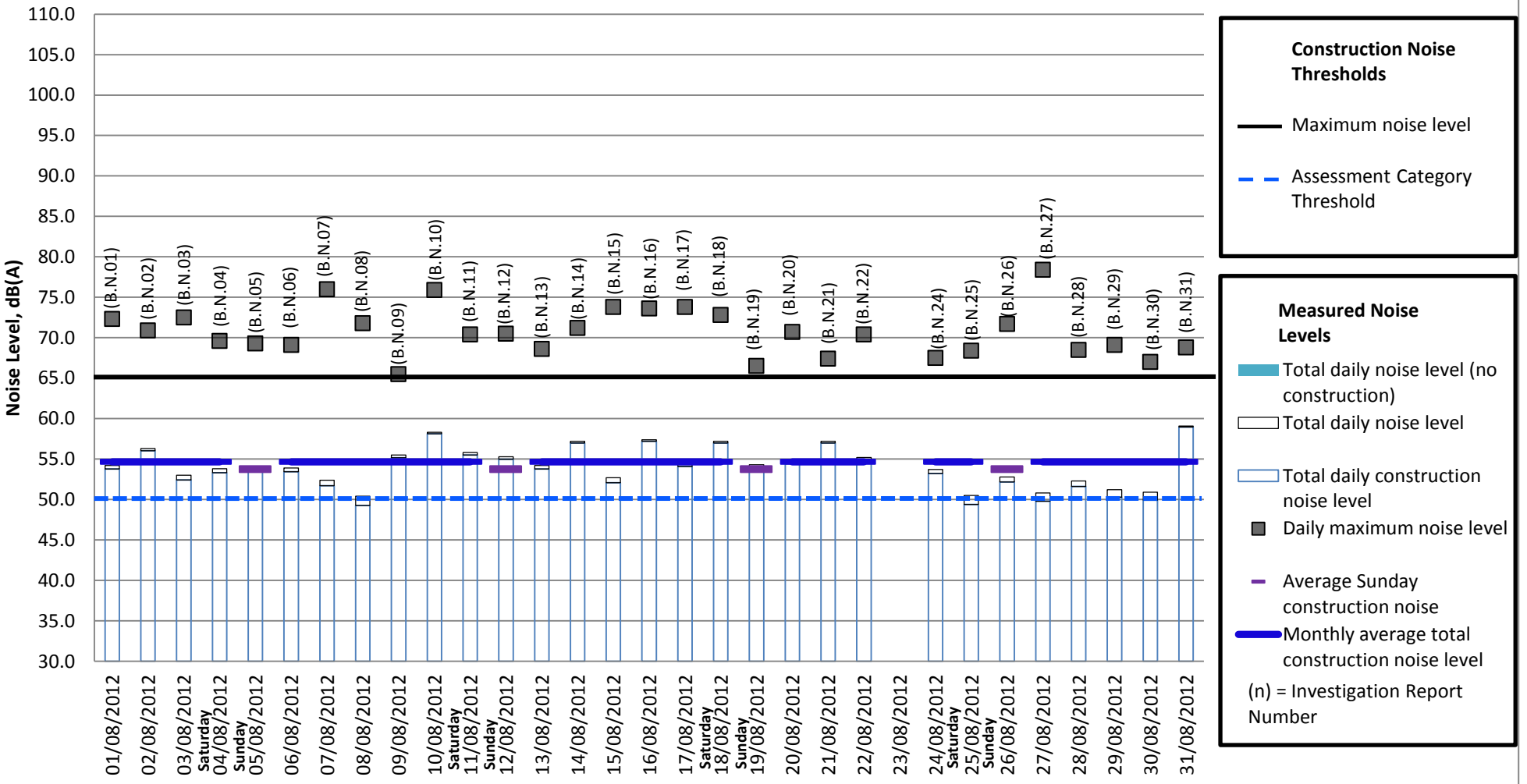


Measured Evening Noise Levels at Butlaw Fisheries
Measurement period: August 2012



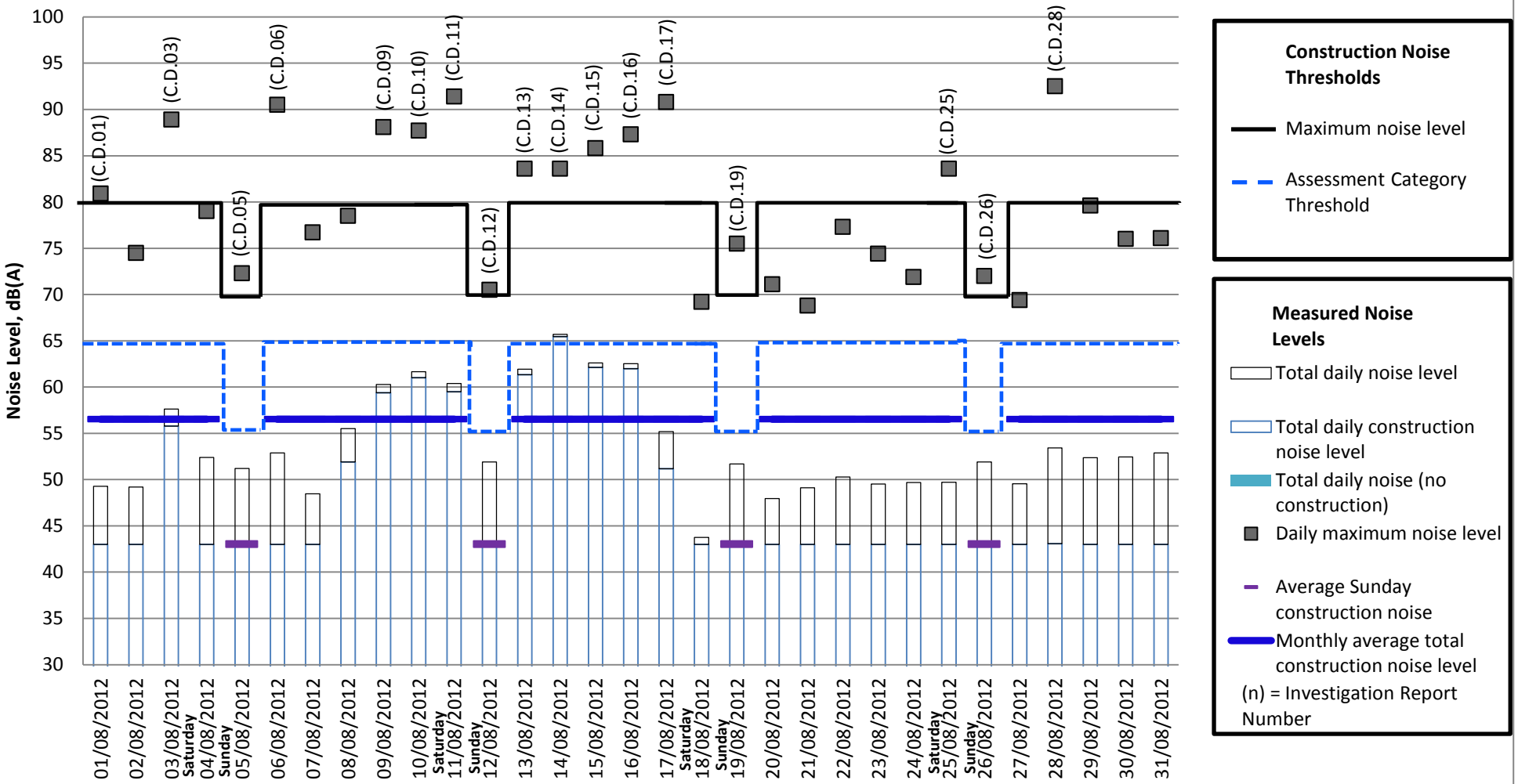
Note: Due to an error with the device, evening data is missing for 23/08/12.

Measured Night time Noise Levels at Butlaw Fisheries
Measurement period: August 2012

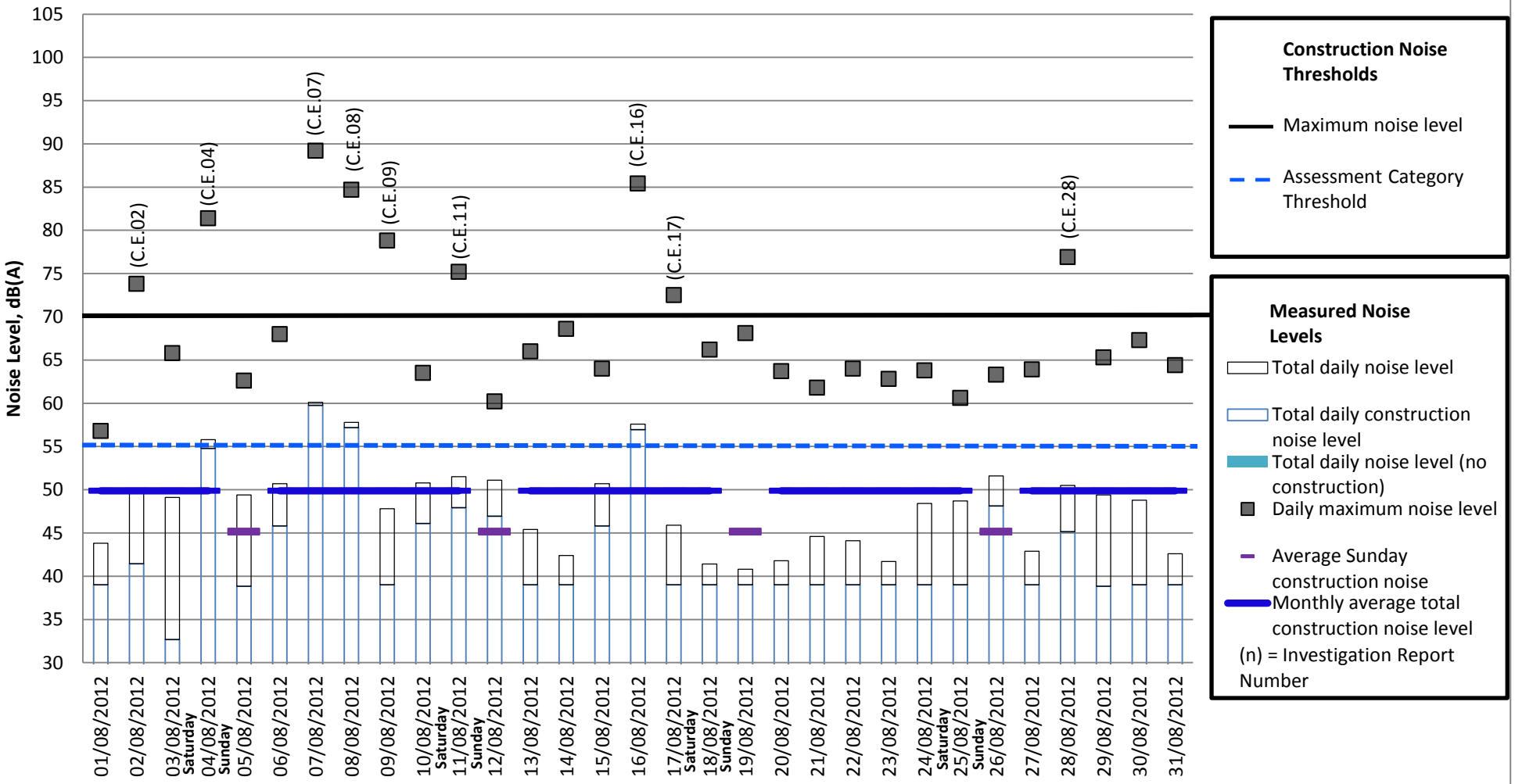


Note: Due to an error with the device, night time data is missing for 23/08/12.

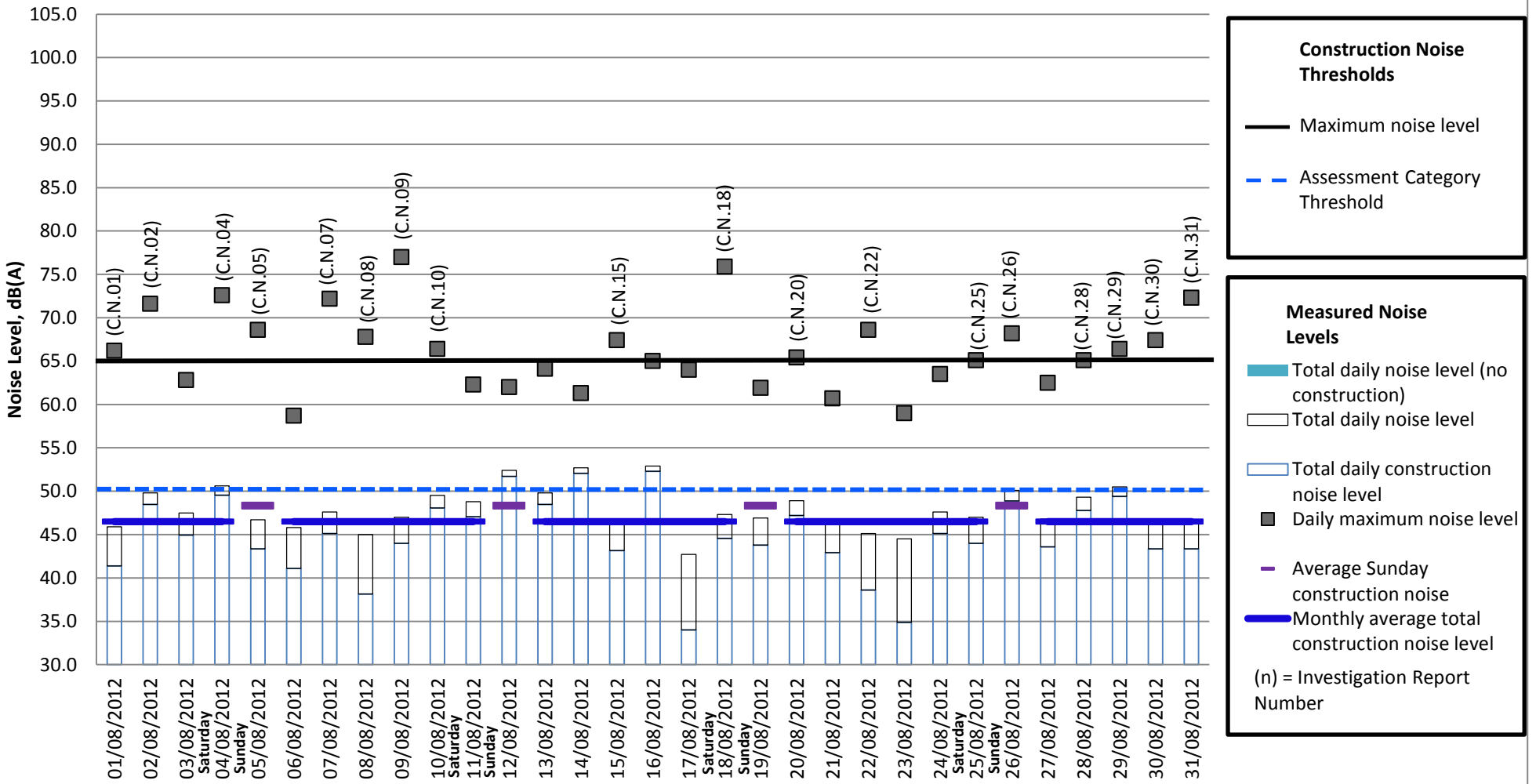
Measured Daytime Noise Levels at Clufflat Brae
Measurement period: August 2012



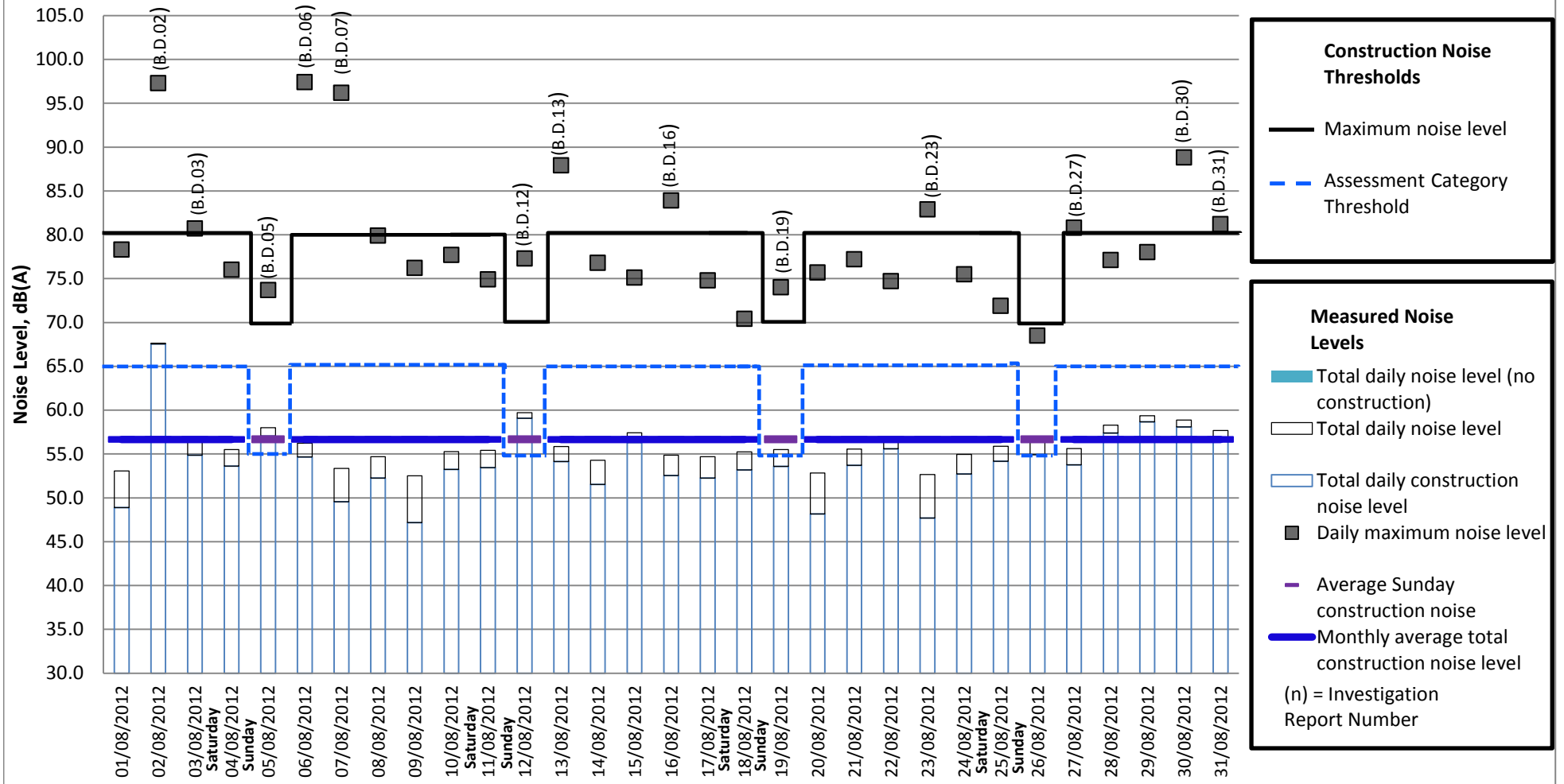
Measured Evening Noise Levels at Clufflat Brae
Measurement period: August 2012



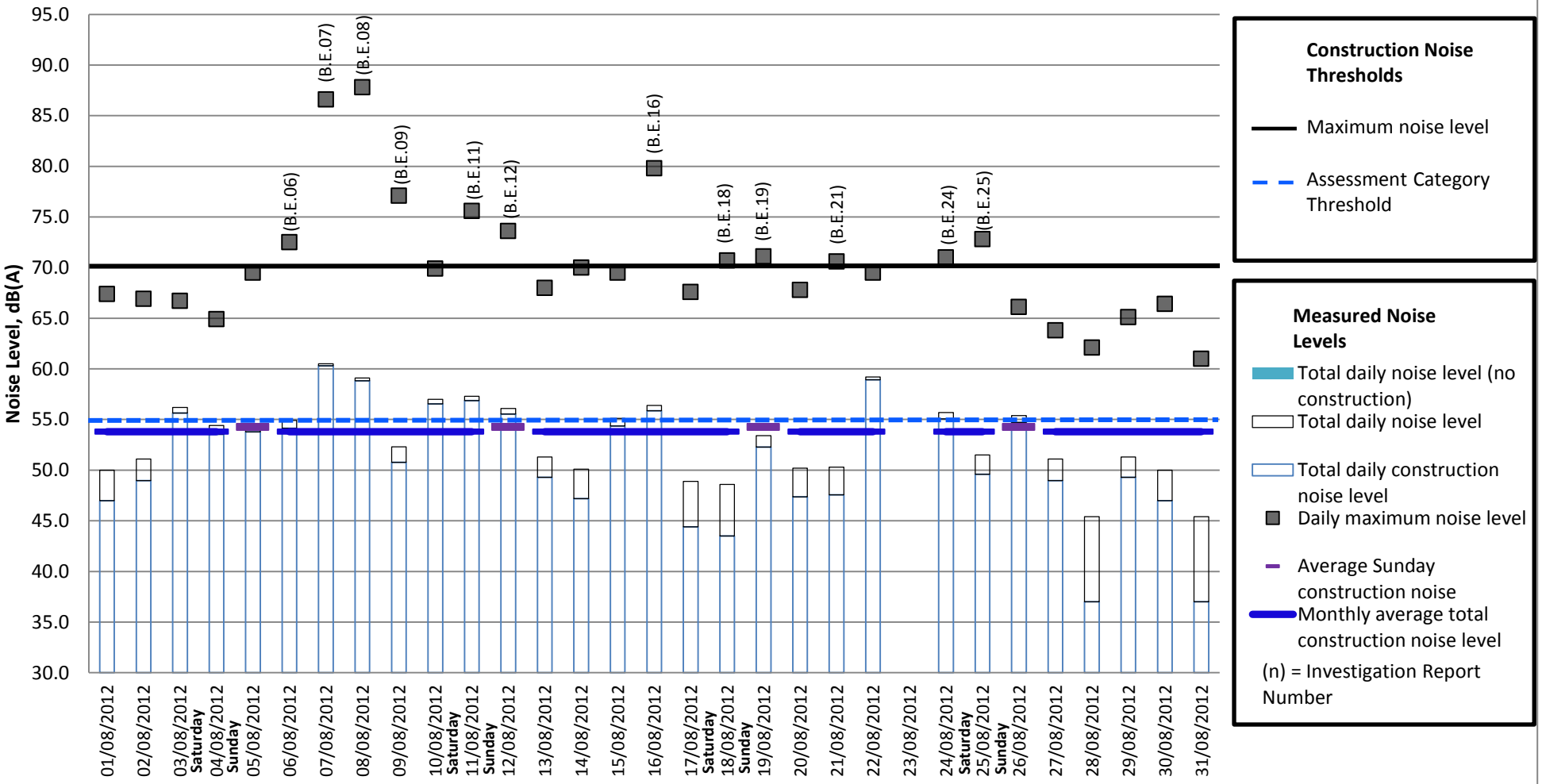
Measured Night-time Noise Levels at Clufflat Brae
Measurement period: August 2012



Measured Daytime Noise Levels at Butlaw Fisheries
Measurement period: August 2012

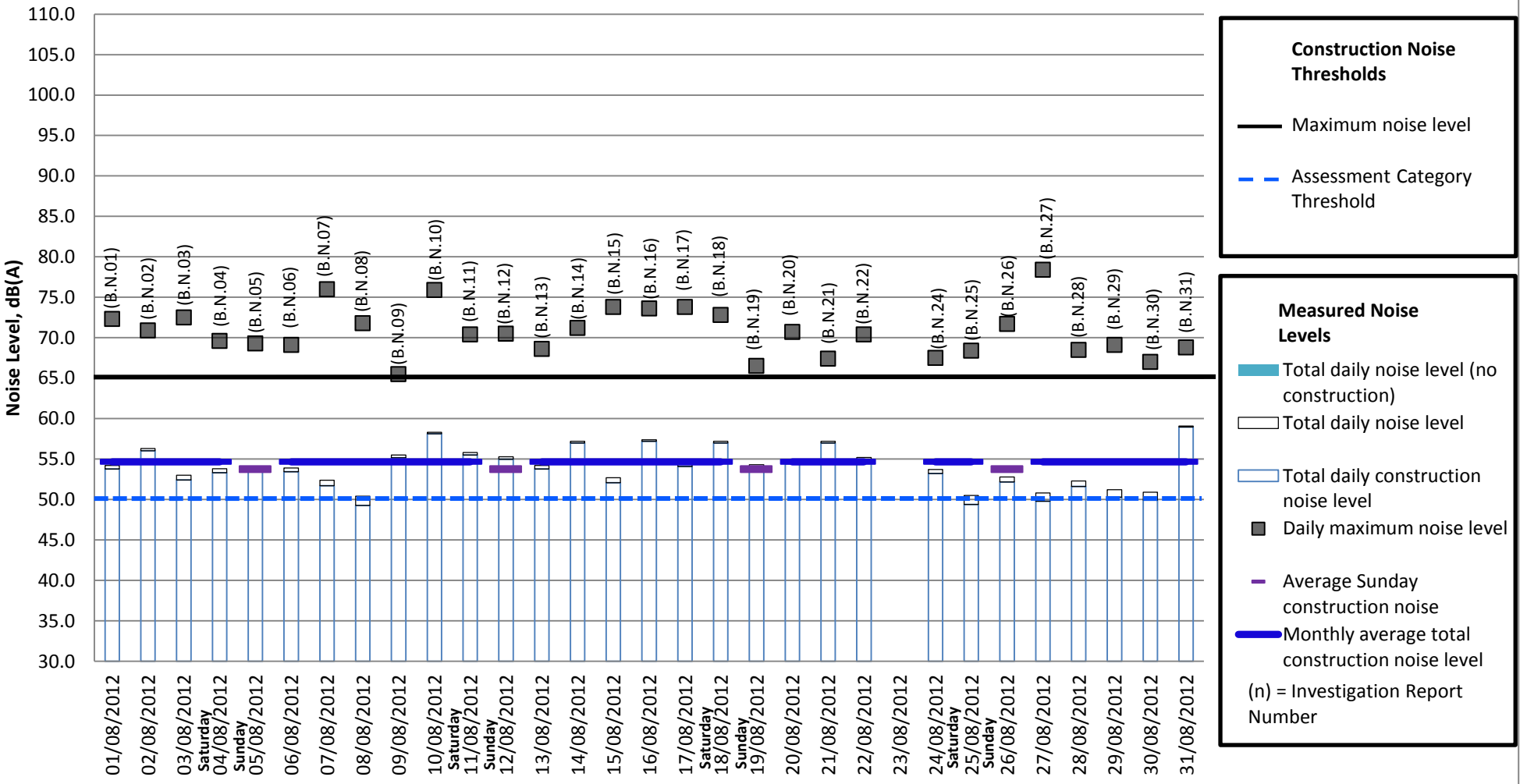


Measured Evening Noise Levels at Butlaw Fisheries
Measurement period: August 2012



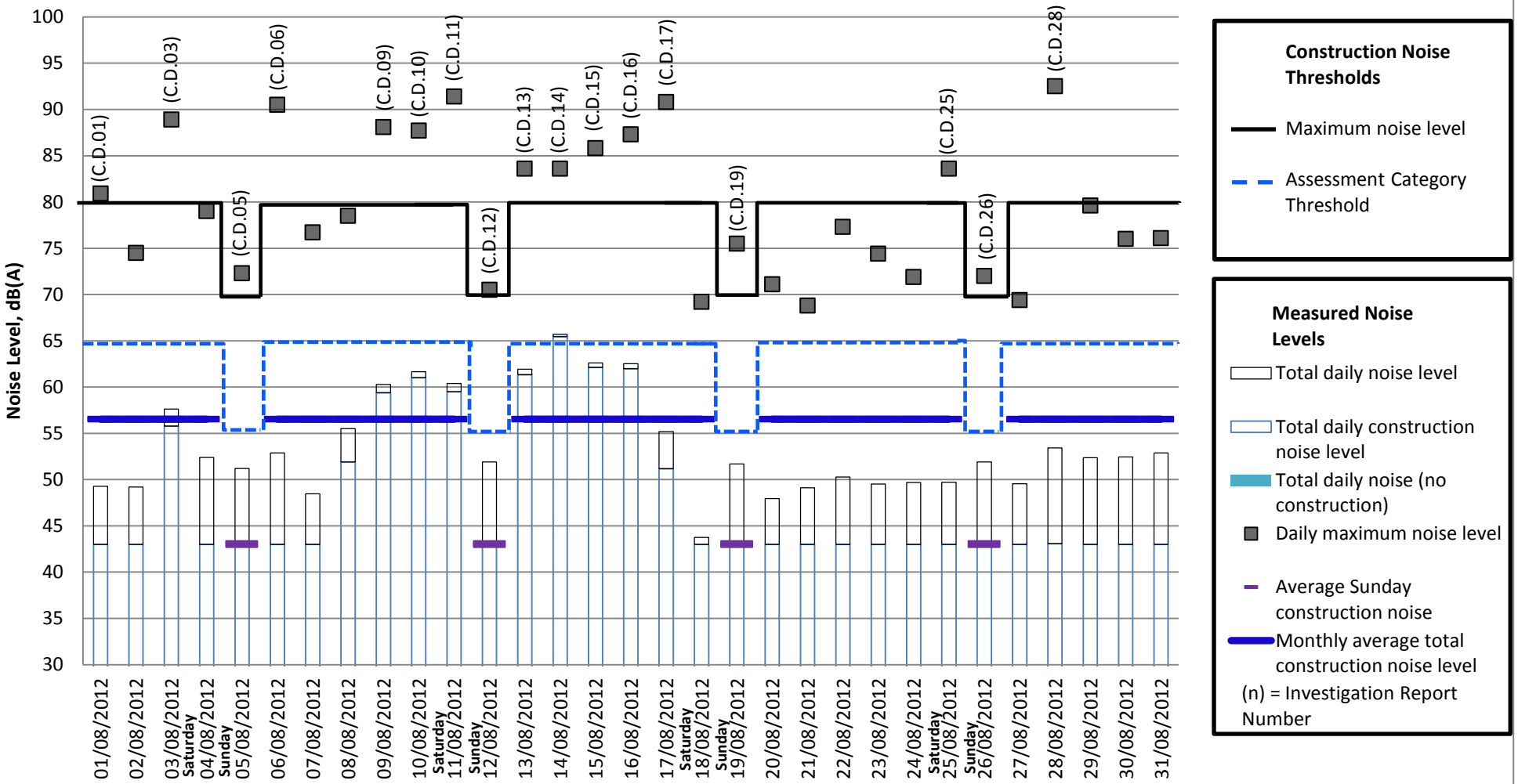
Note: Due to an error with the device, evening data is missing for 23/08/12.

Measured Night time Noise Levels at Butlaw Fisheries
Measurement period: August 2012

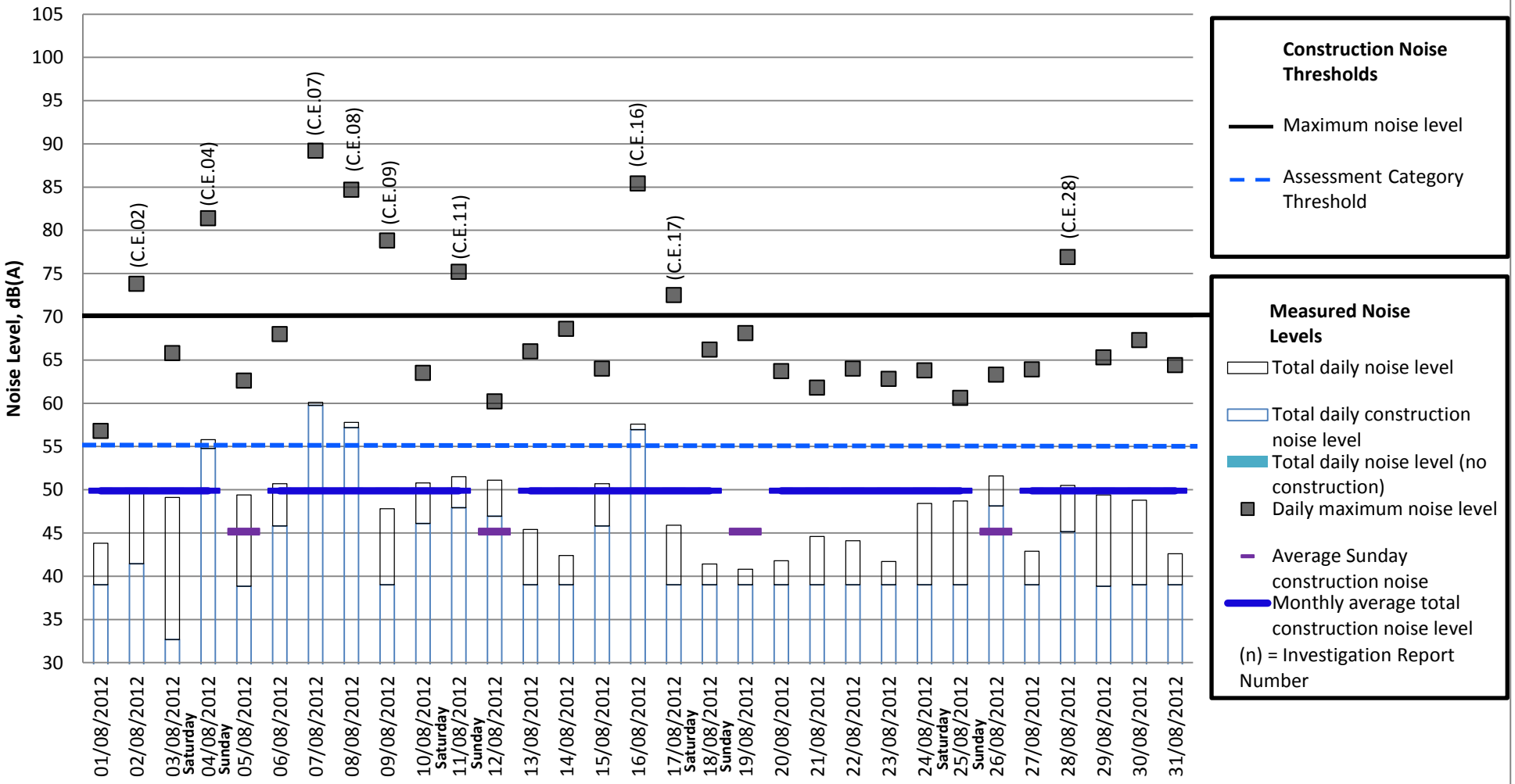


Note: Due to an error with the device, night time data is missing for 23/08/12.

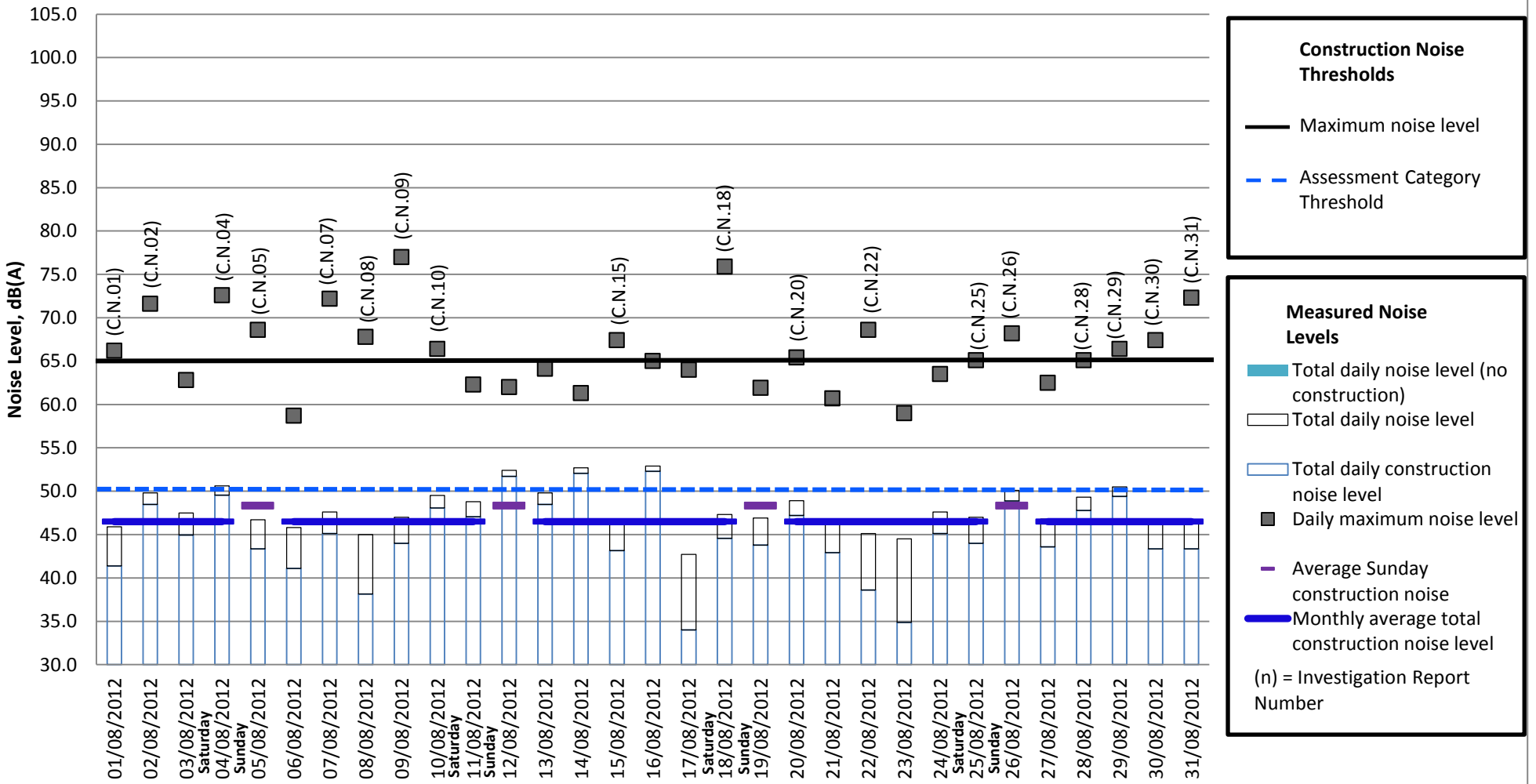
Measured Daytime Noise Levels at Clufflat Brae
Measurement period: August 2012



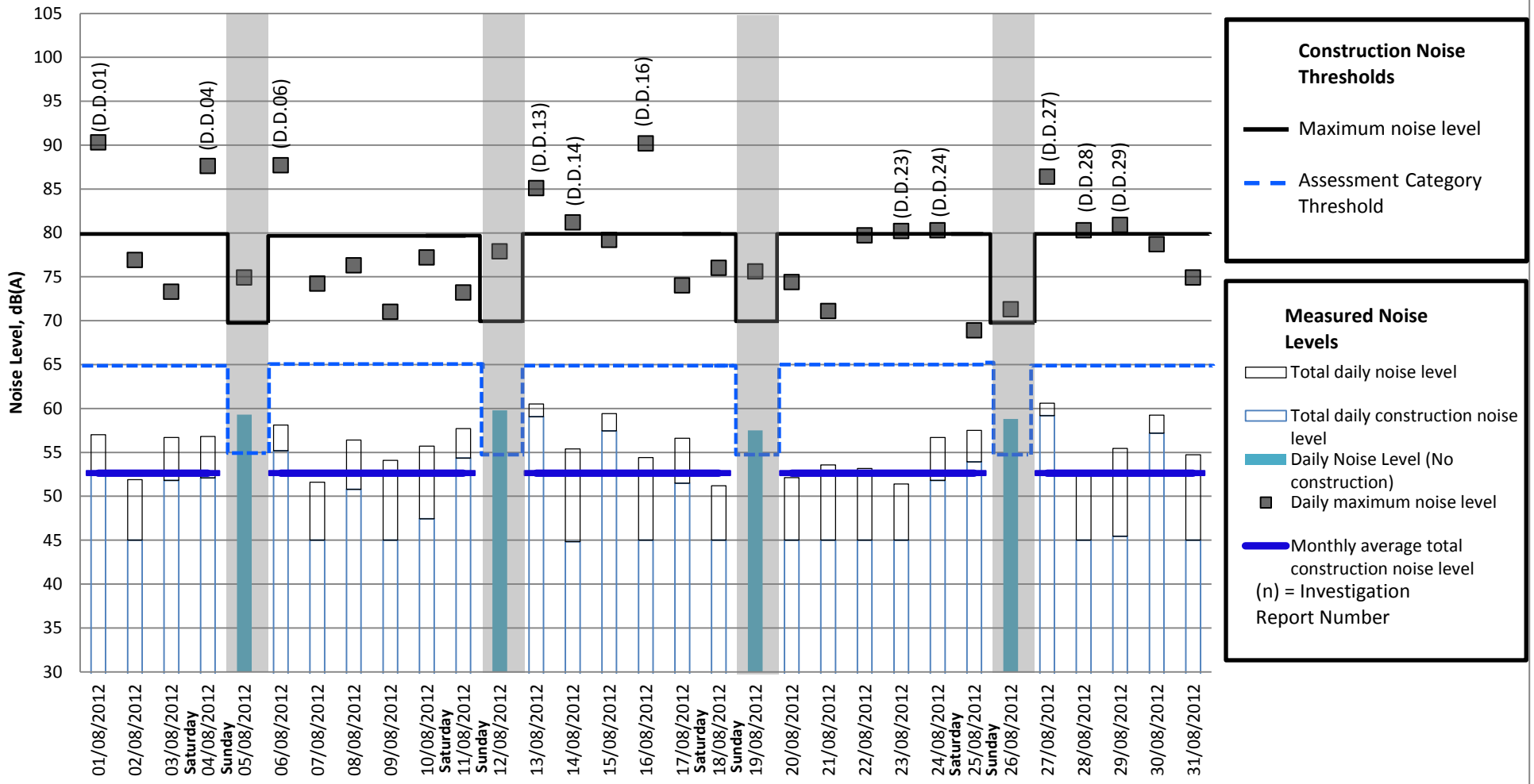
Measured Evening Noise Levels at Clufflat Brae
Measurement period: August 2012



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

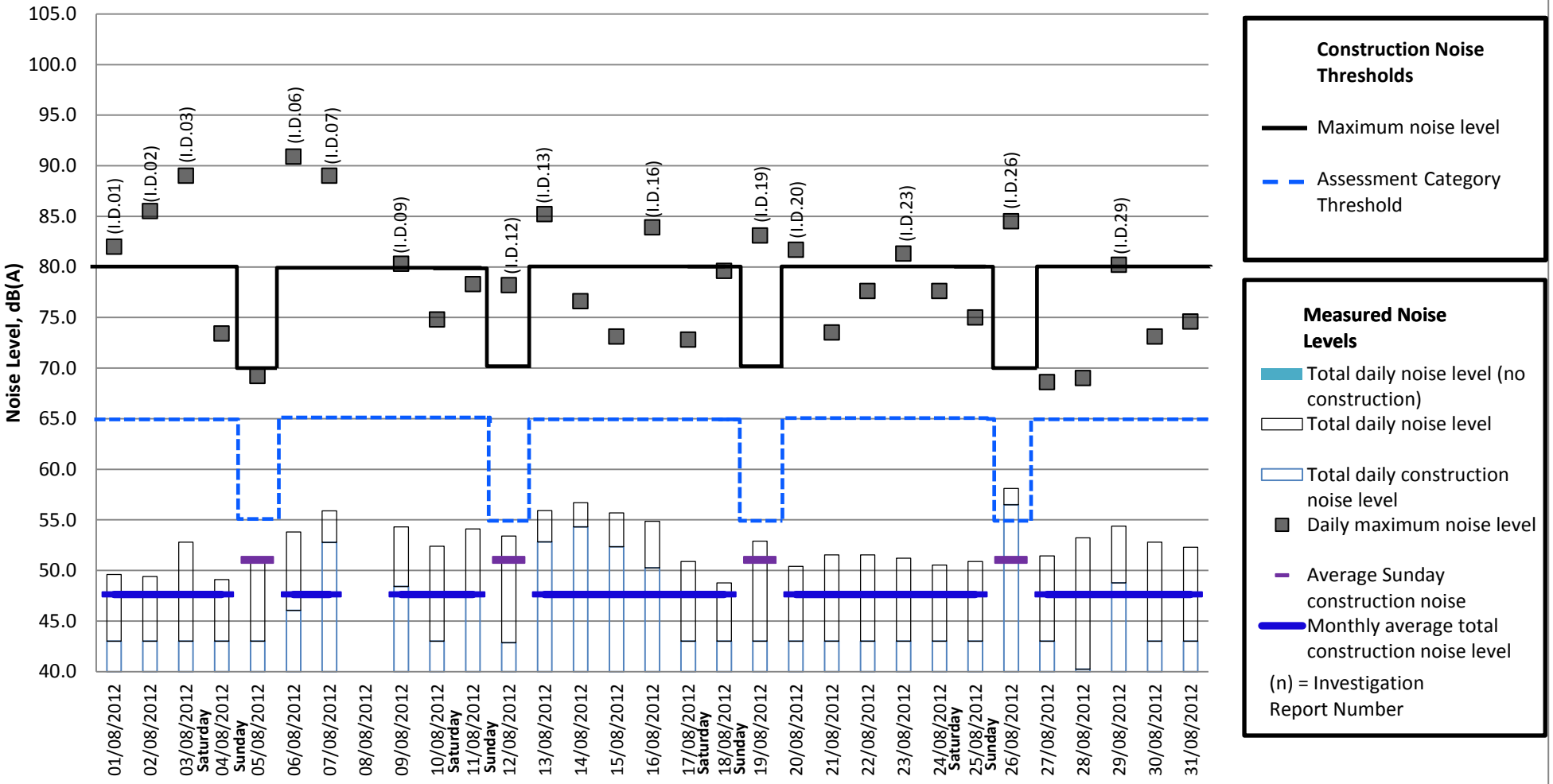


Measured Daytime Noise Levels at Dundas Home Farm
Measurement period: August 2012



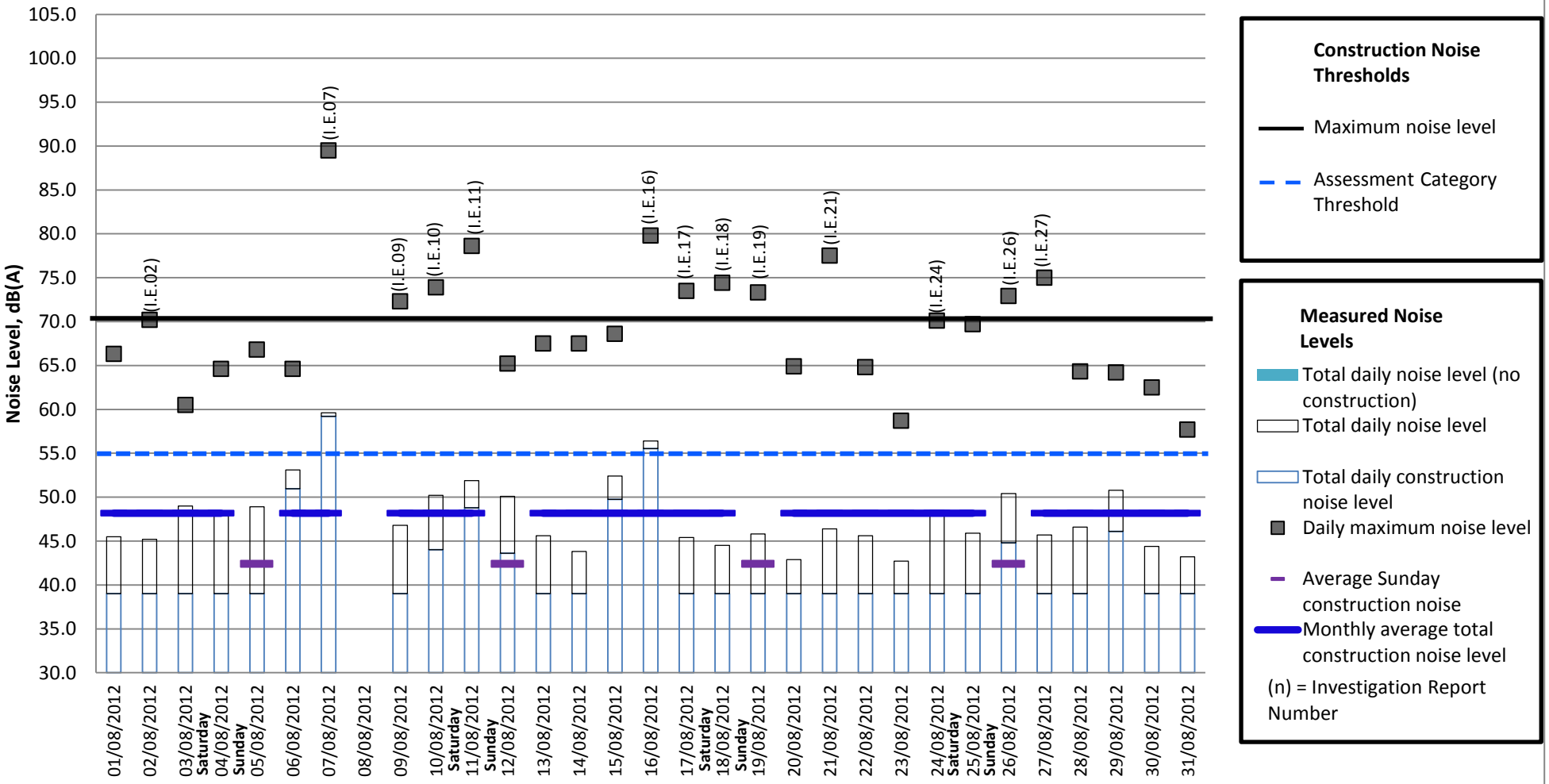
Note: The grey areas of the chart represent days on which no construction works have been conducted. The Sunday average has not been included as no Sunday works have been conducted at this location.

Measured Daytime Noise Levels at Inchgarvie
Measurement period: August 2012



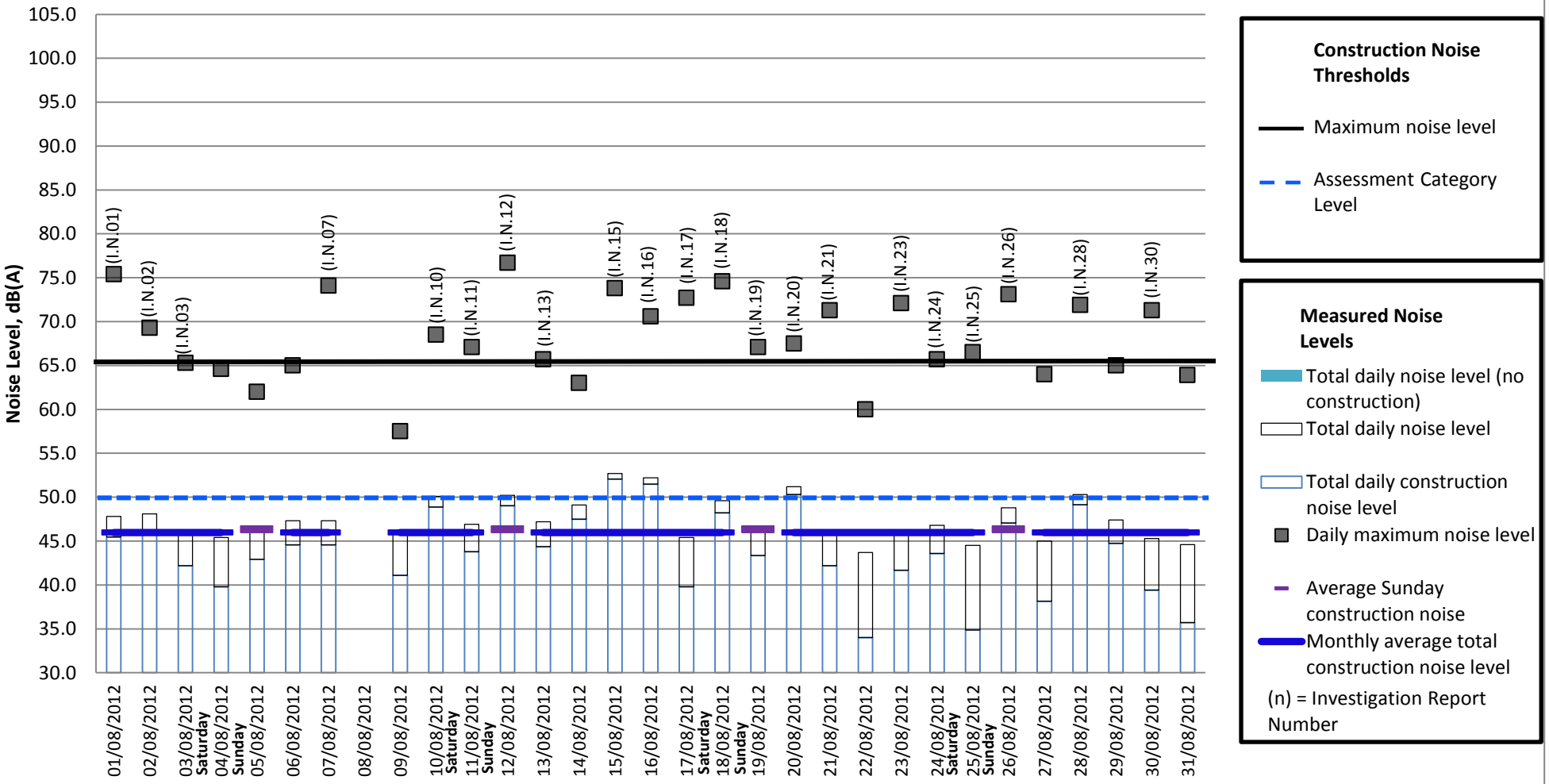
Note: Due to an error with the device, daytime data is missing for 08/08/12.

Measured Evening Noise Levels at Inchgarvie
Measurement period: August 2012



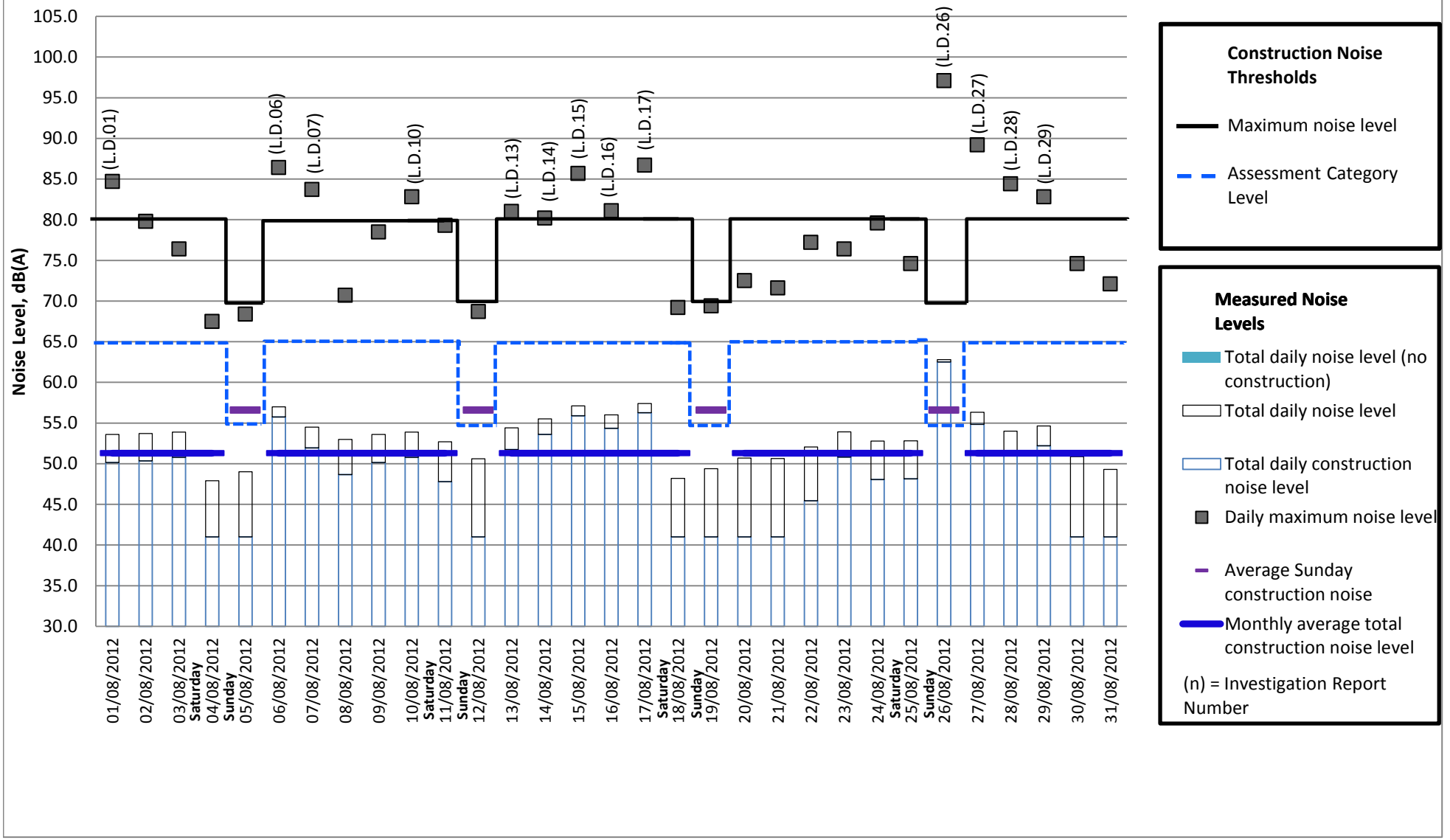
Note: Due to an error with the device, evening data is missing for 08/08/12.

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

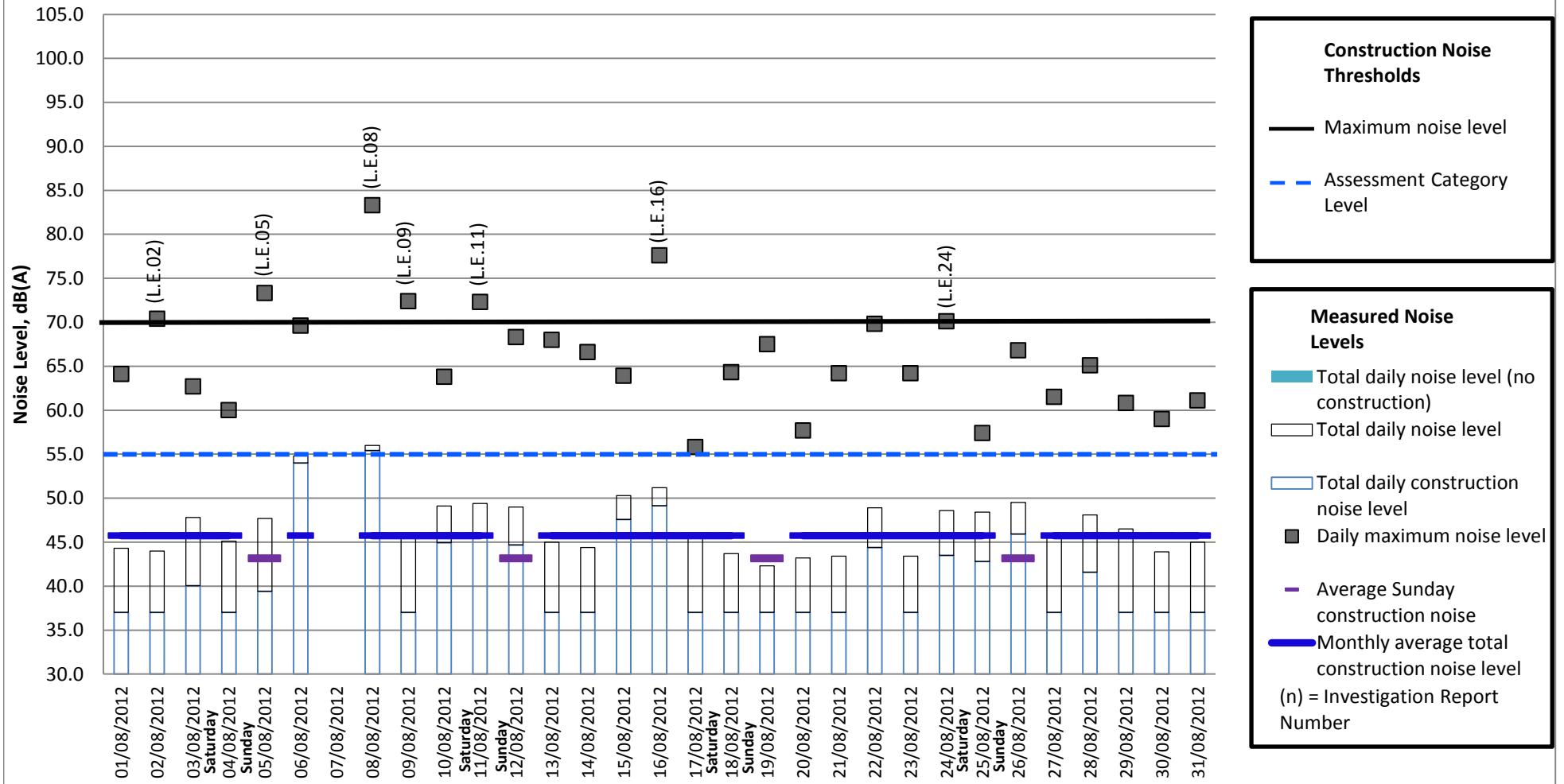


Note: Due to an error with the device, night time data is missing for 08/08/12.

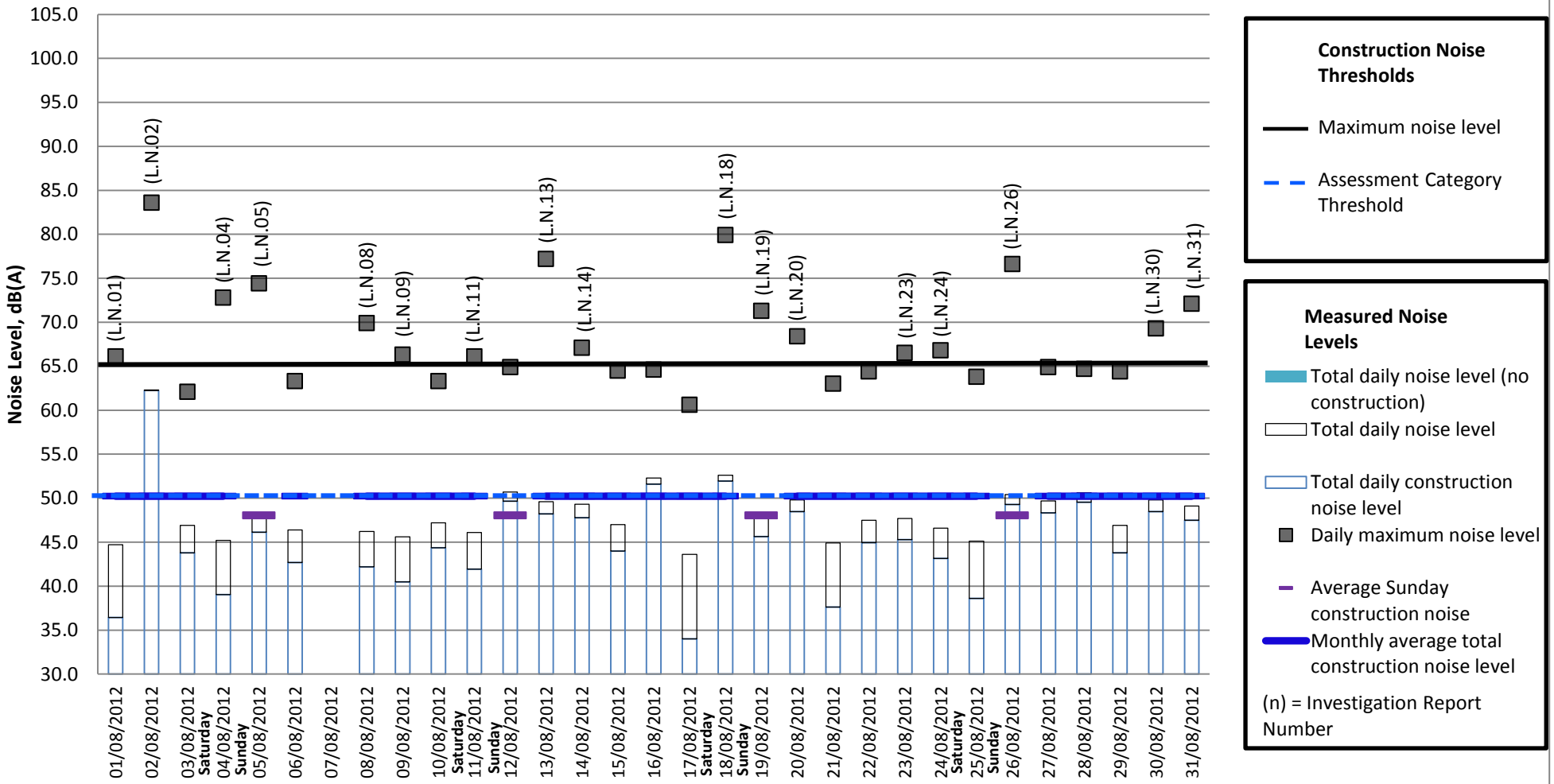
Measured Daytime Noise levels at Linn Mill
Measurement period: August 2012



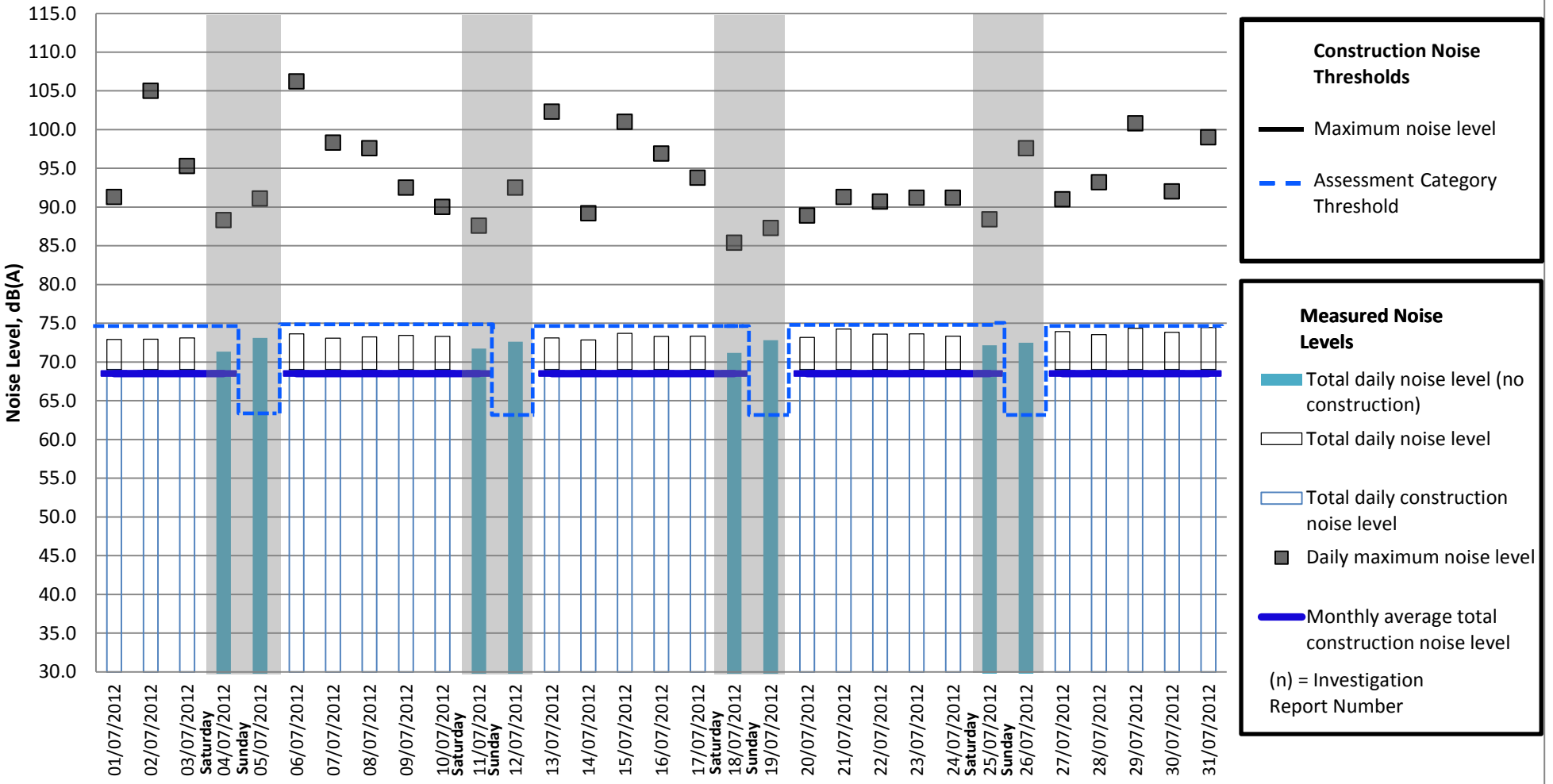
Measured Evening Noise Levels at Linn Mill
Measurement period: August 2012



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

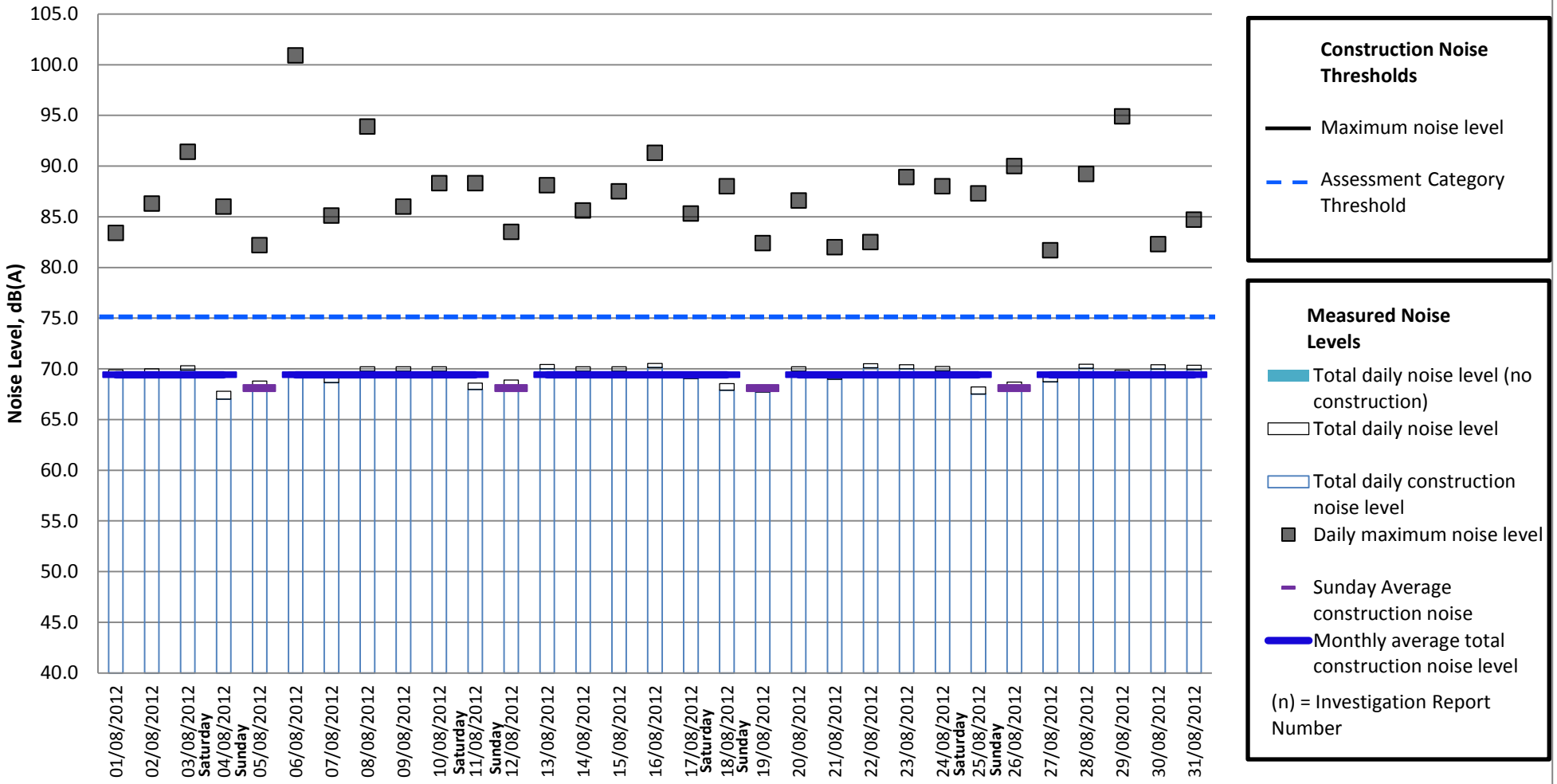


Measured Daytime Noise Levels at Newton
Measurement period: August 2012

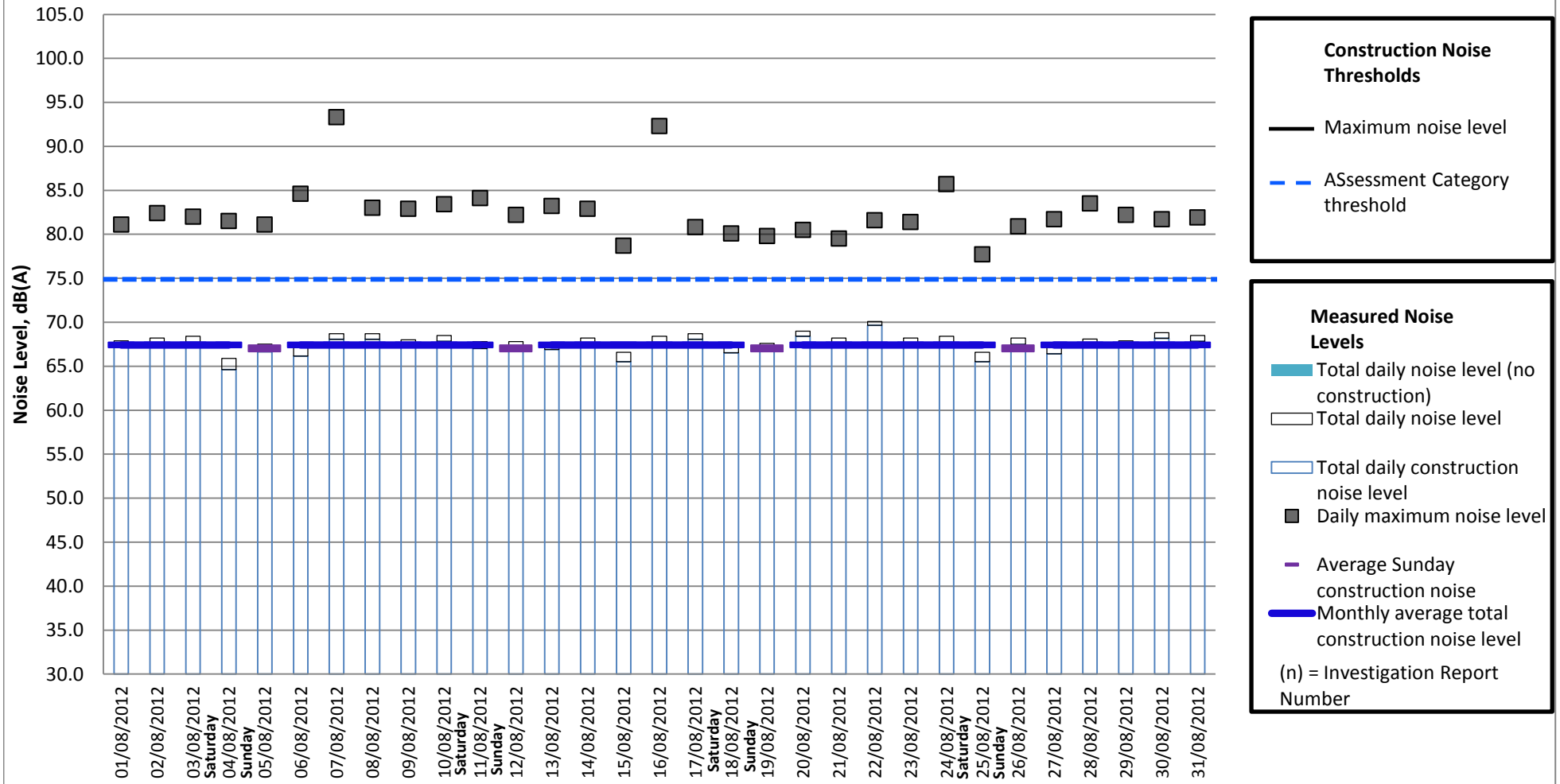


Note: The grey areas of the chart represent days on which no construction works have been conducted. It should be noted that the measured noise levels Mon - Fri can not be attributed to construction works due to the considerable distance (1.75 kilometers) between this monitoring location and the closest construction works.

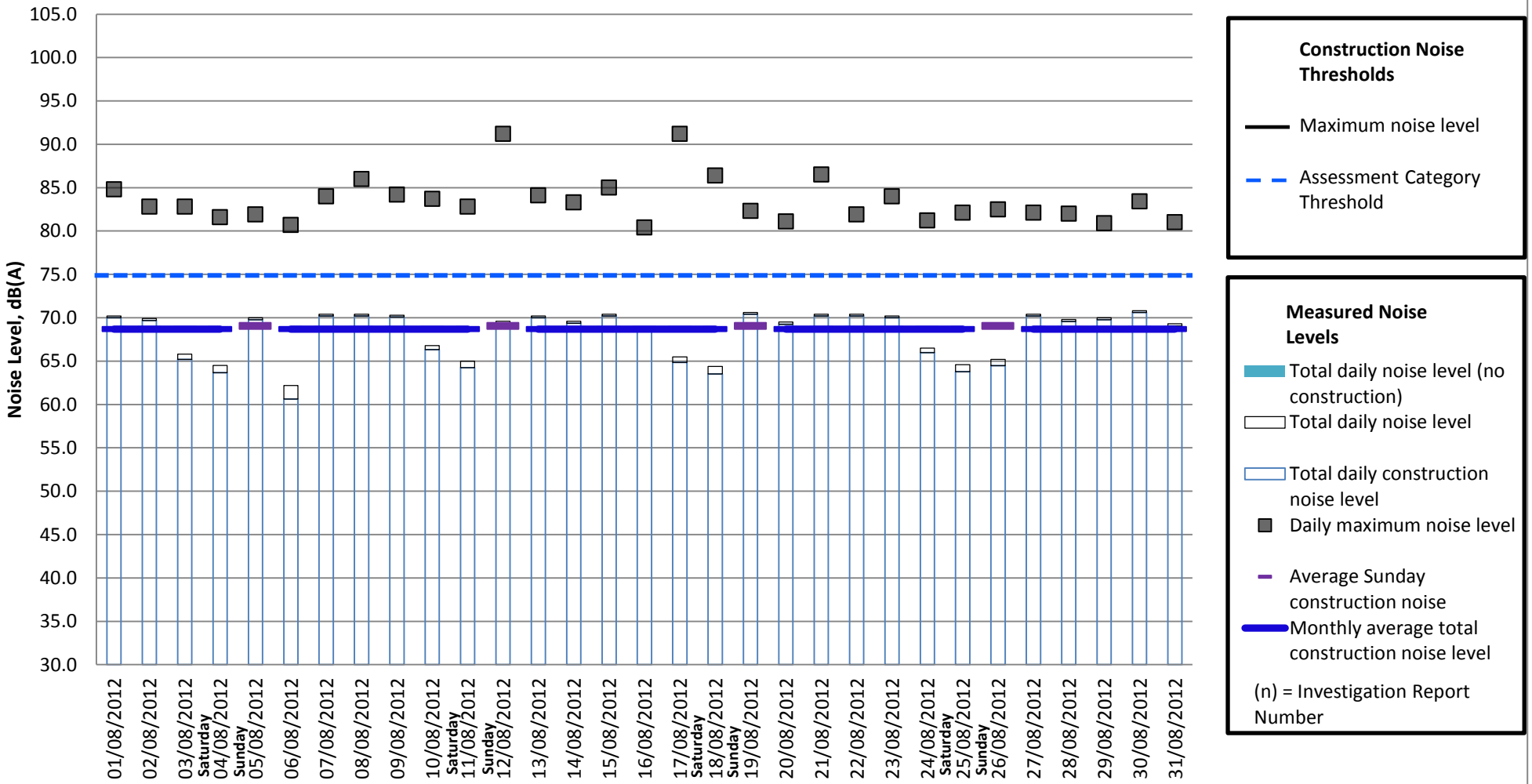
Measured Daytime Noise Levels at North Leg
Measurement period: August 2012



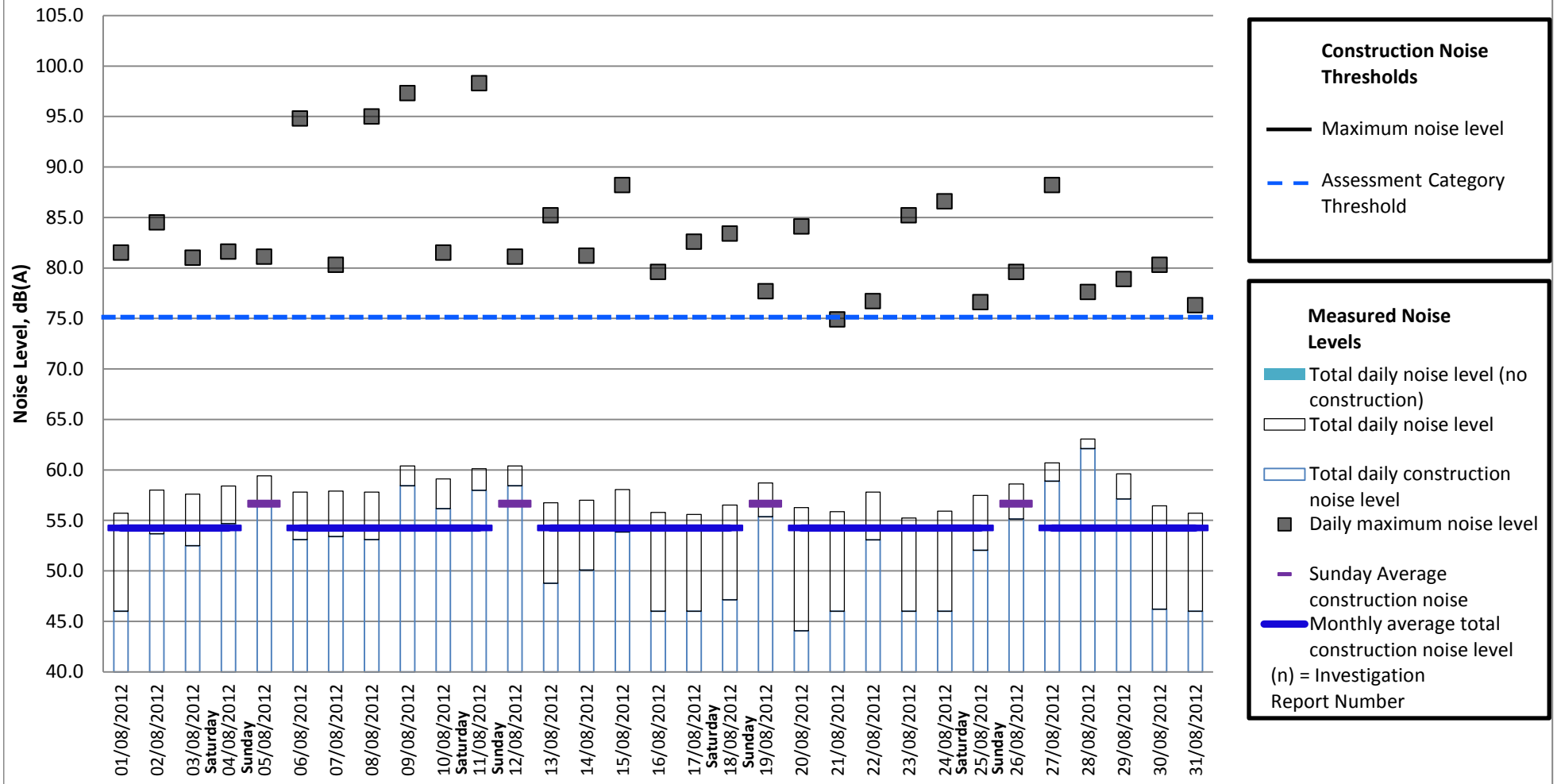
Measured Evening Noise Levels at North Leg
Measurement period: August 2012



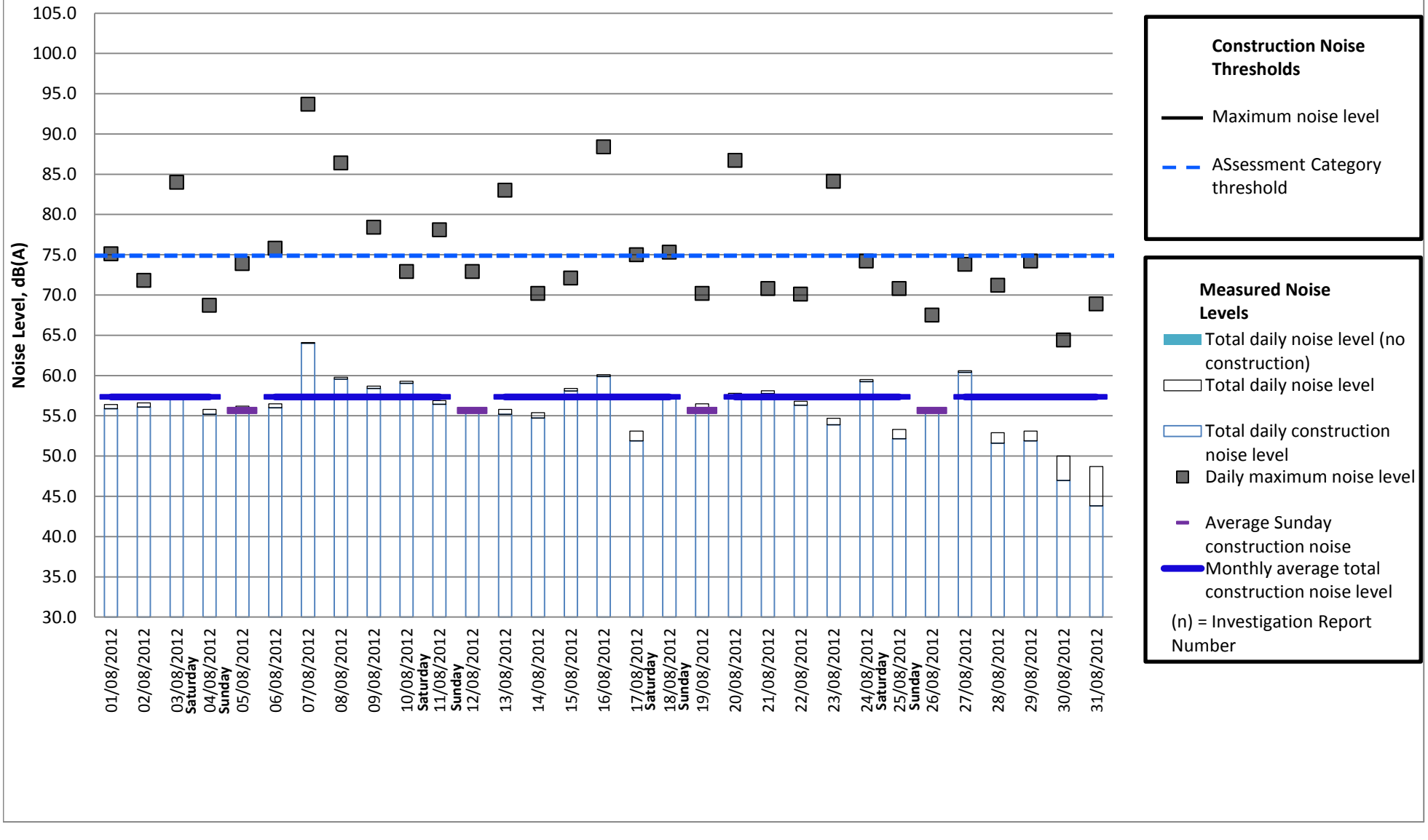
Measured Night-time Noise Levels at North Leg
Measurement period: August 2012



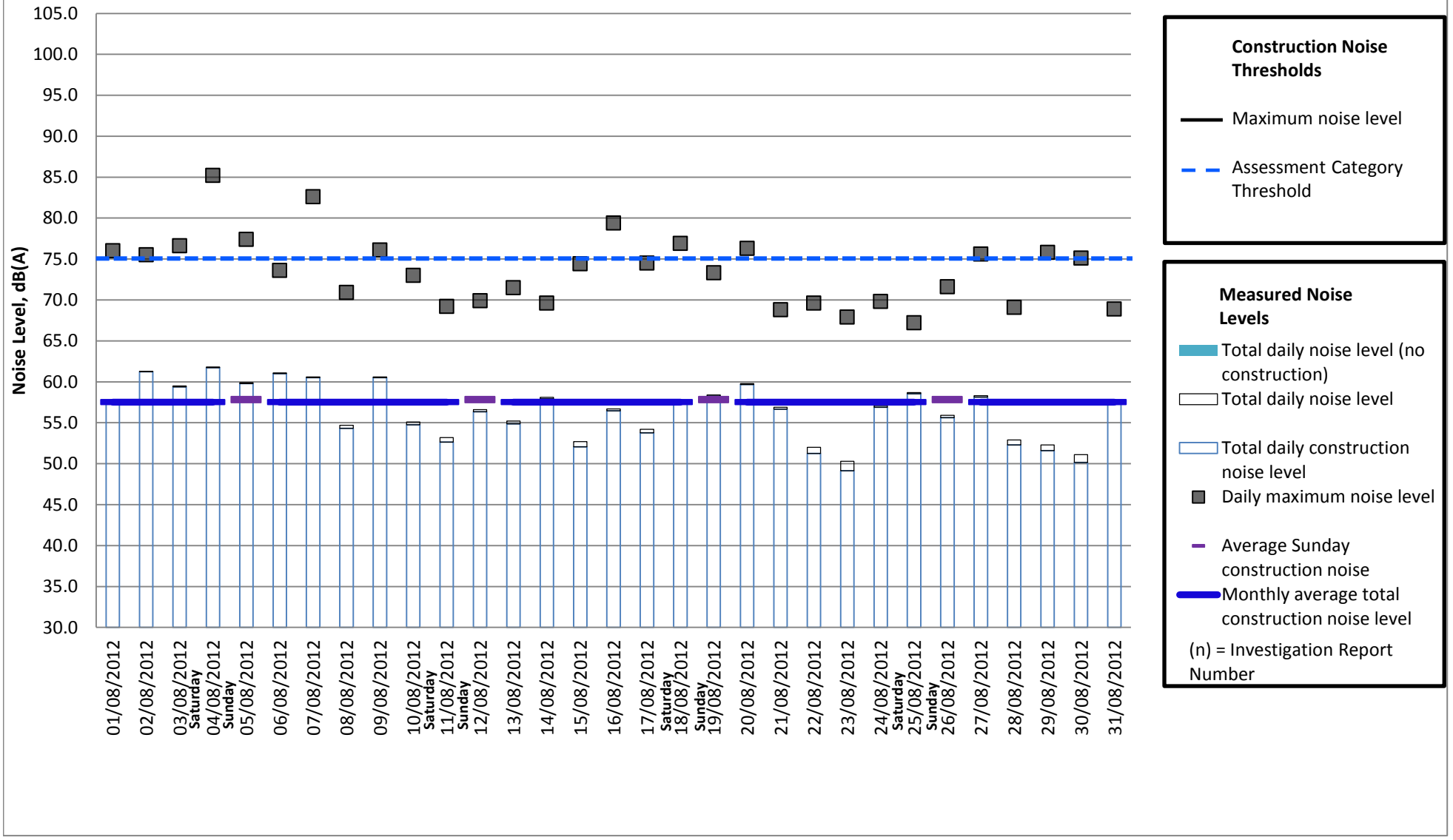
Measured Daytime Noise Levels at Port Edgar
Measurement period: August 2012



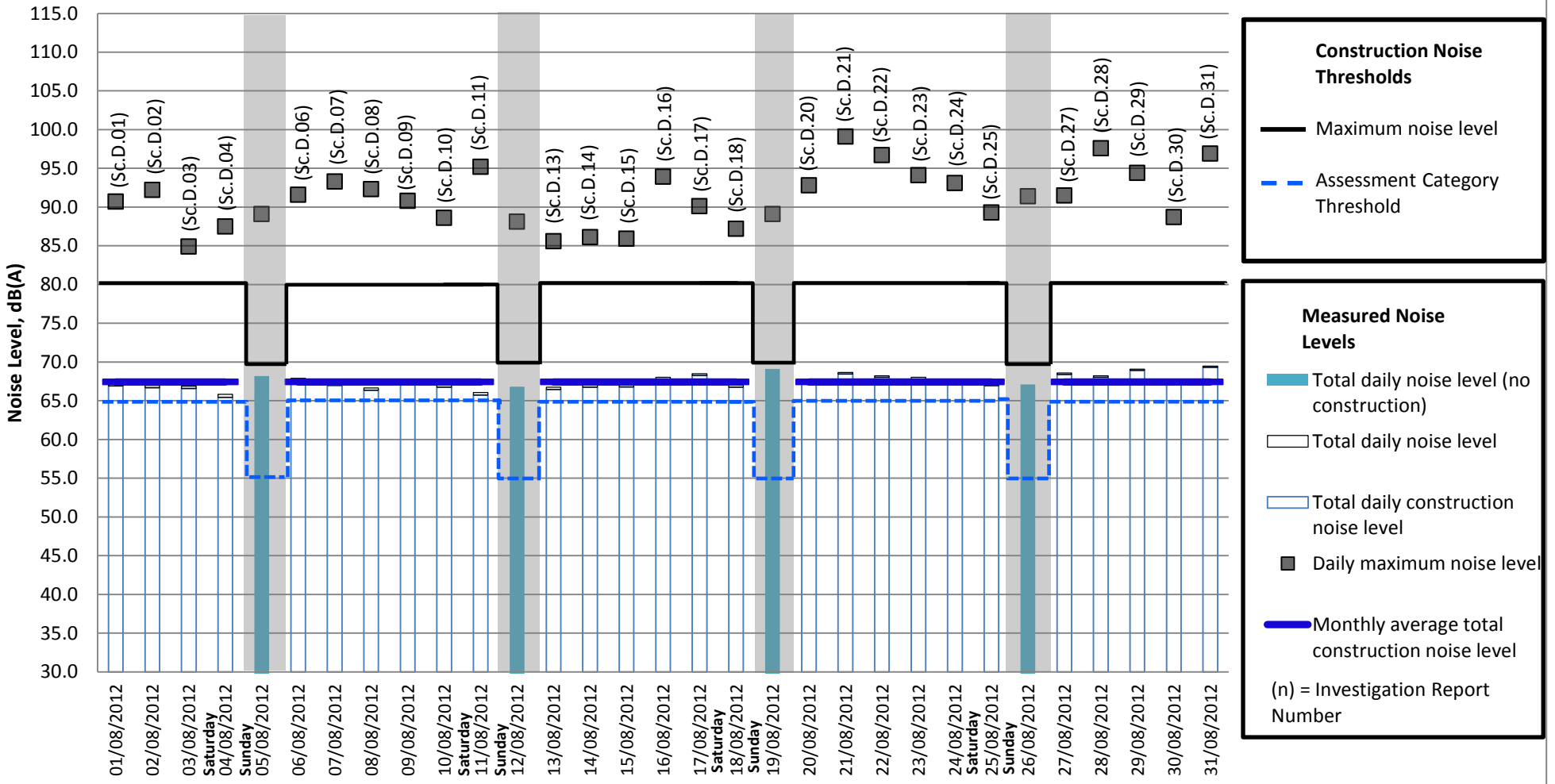
Measured Evening Noise Levels at Port Edgar
Measurement period: August 2012



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

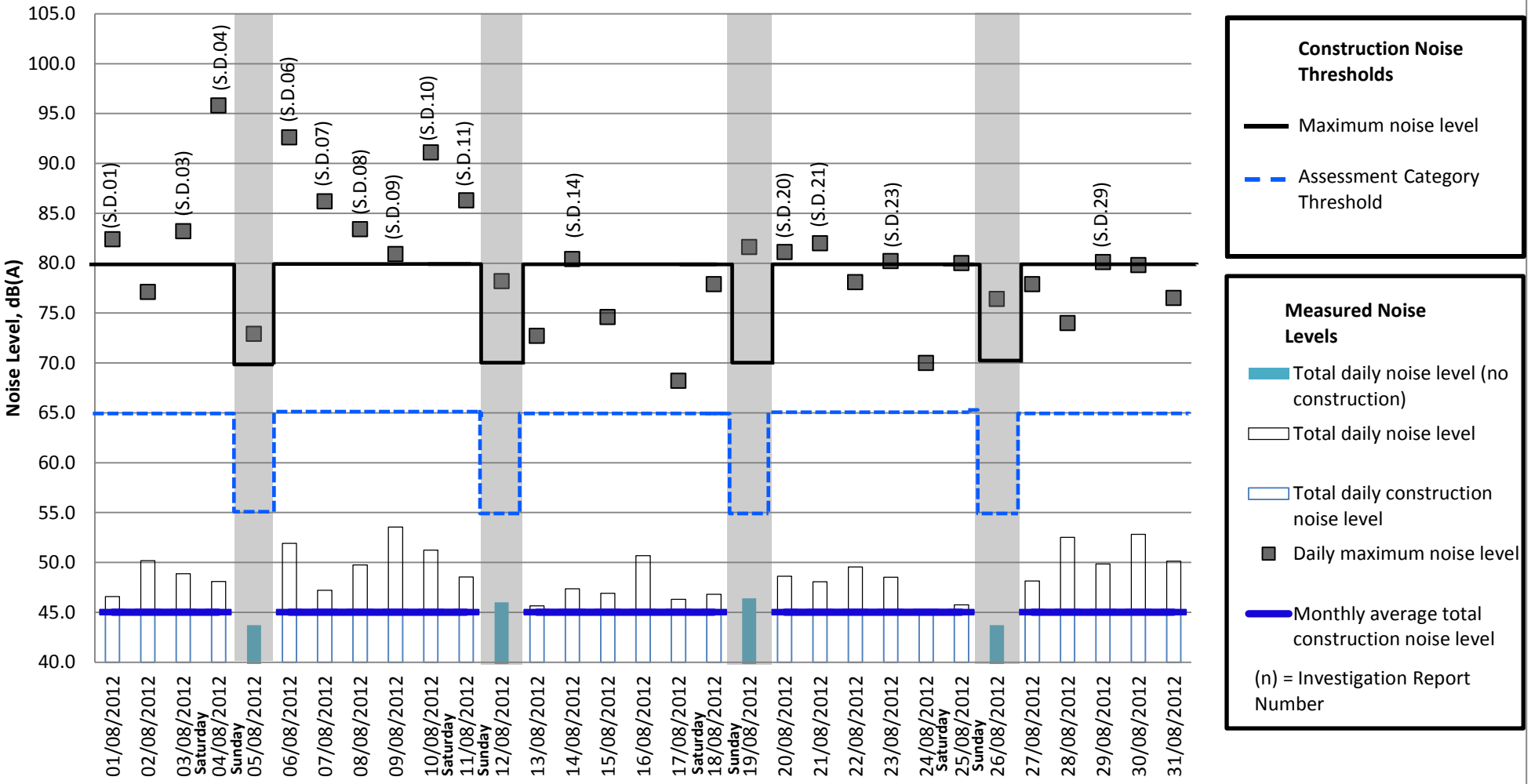


Measured Daytime Noise Levels at Scotstoun
Measurement period: August 2012



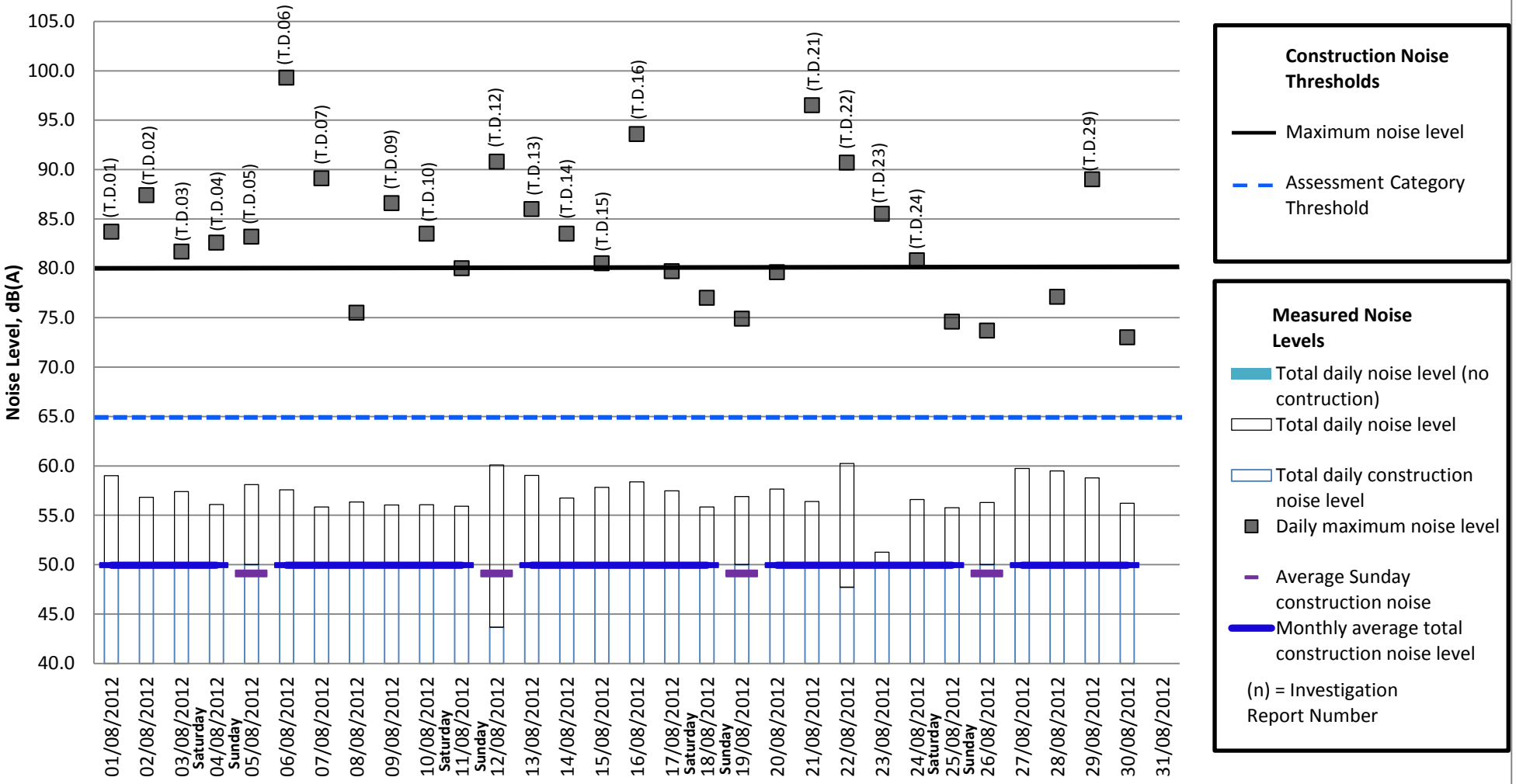
Note: The grey areas of the chart represent days on which no construction works have been conducted. The monthly average construction noise for Sunday has not been included as no Sunday works have been conducted at this location .

Measured Daytime Noise Levels at Springfield
Measurement period: August 2012



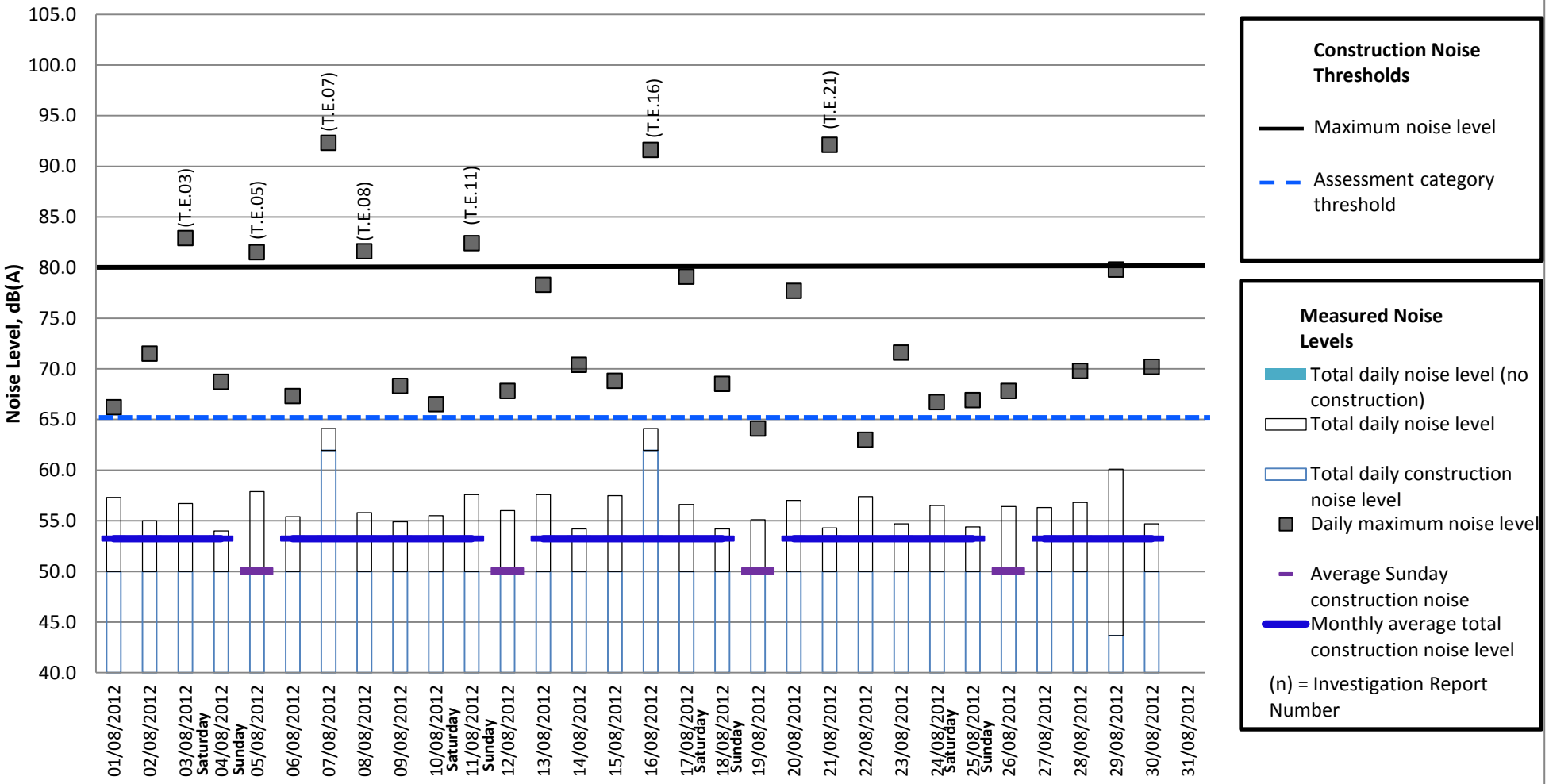
Note: The grey areas of the chart represent days on which no construction works have been conducted. The monthly average construction noise for Sunday has not been included as no Sunday works have been conducted at this location.

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



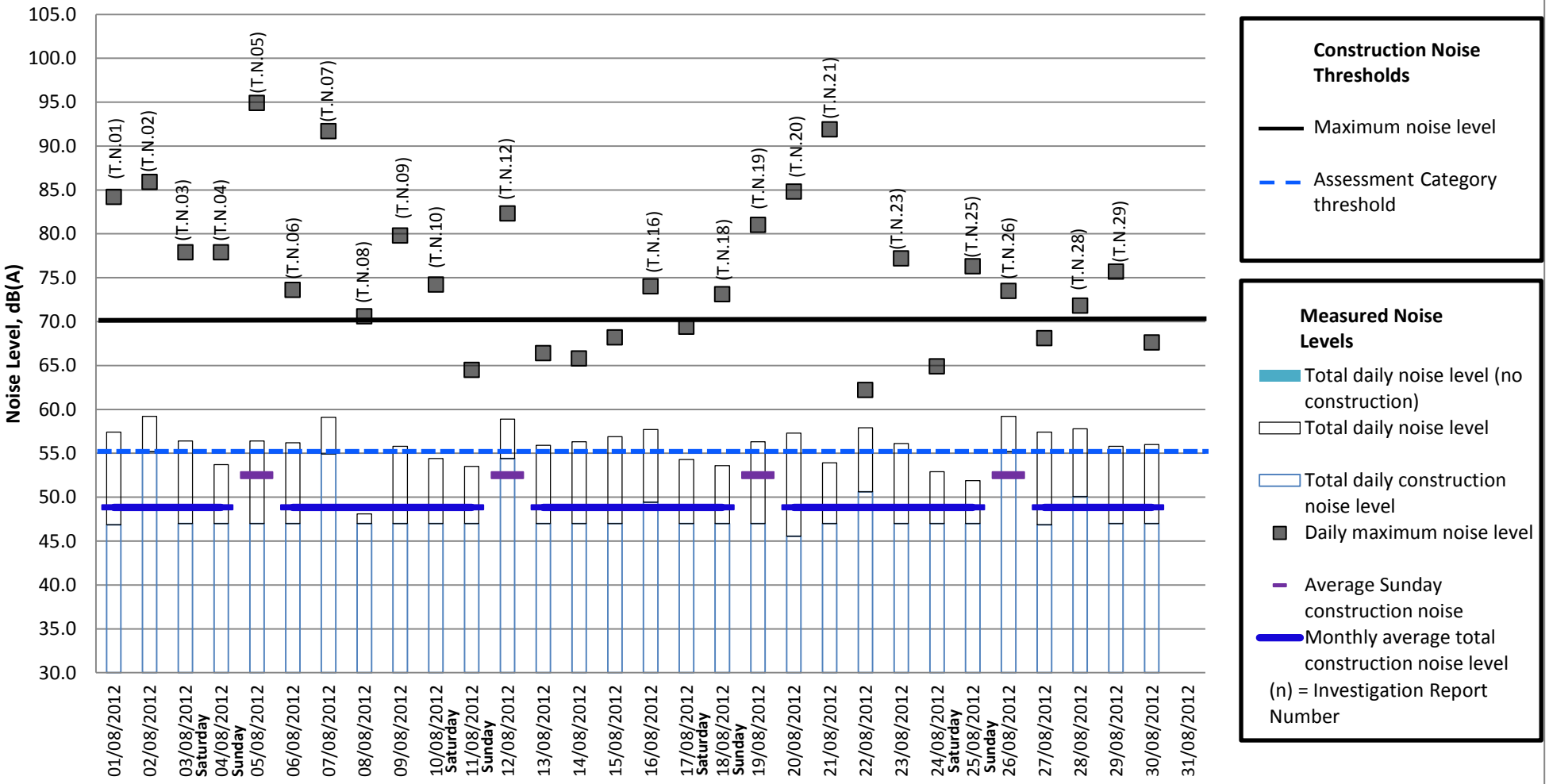
Note: Due to an error with the device, daytime data is missing for 31/08/12 and the Lmax data missing for 27/08/12.

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



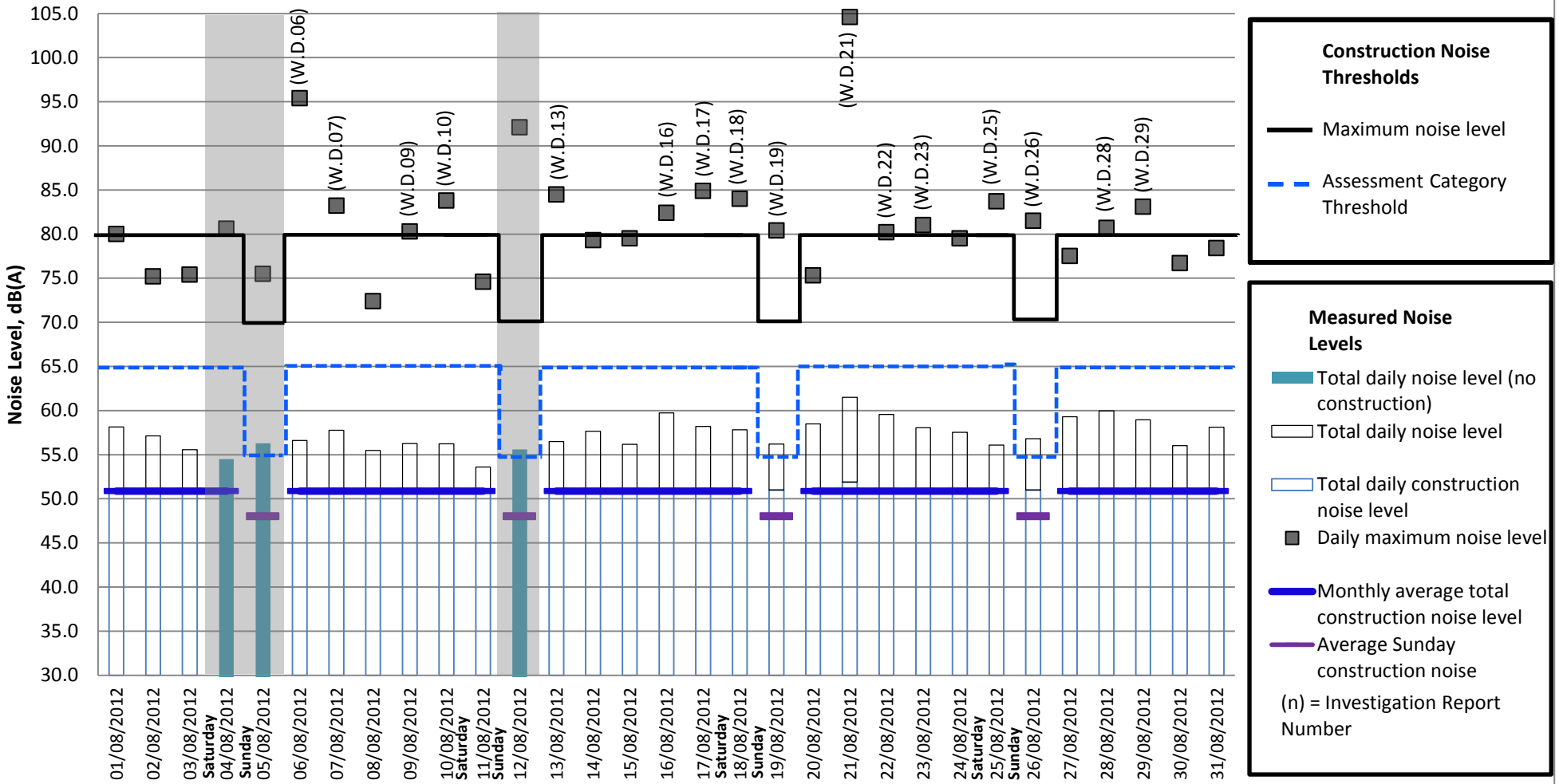
Note: Due to an error with the device, evening data is missing for 31/08/12 and the Lmax data is missing for 27/0812.

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



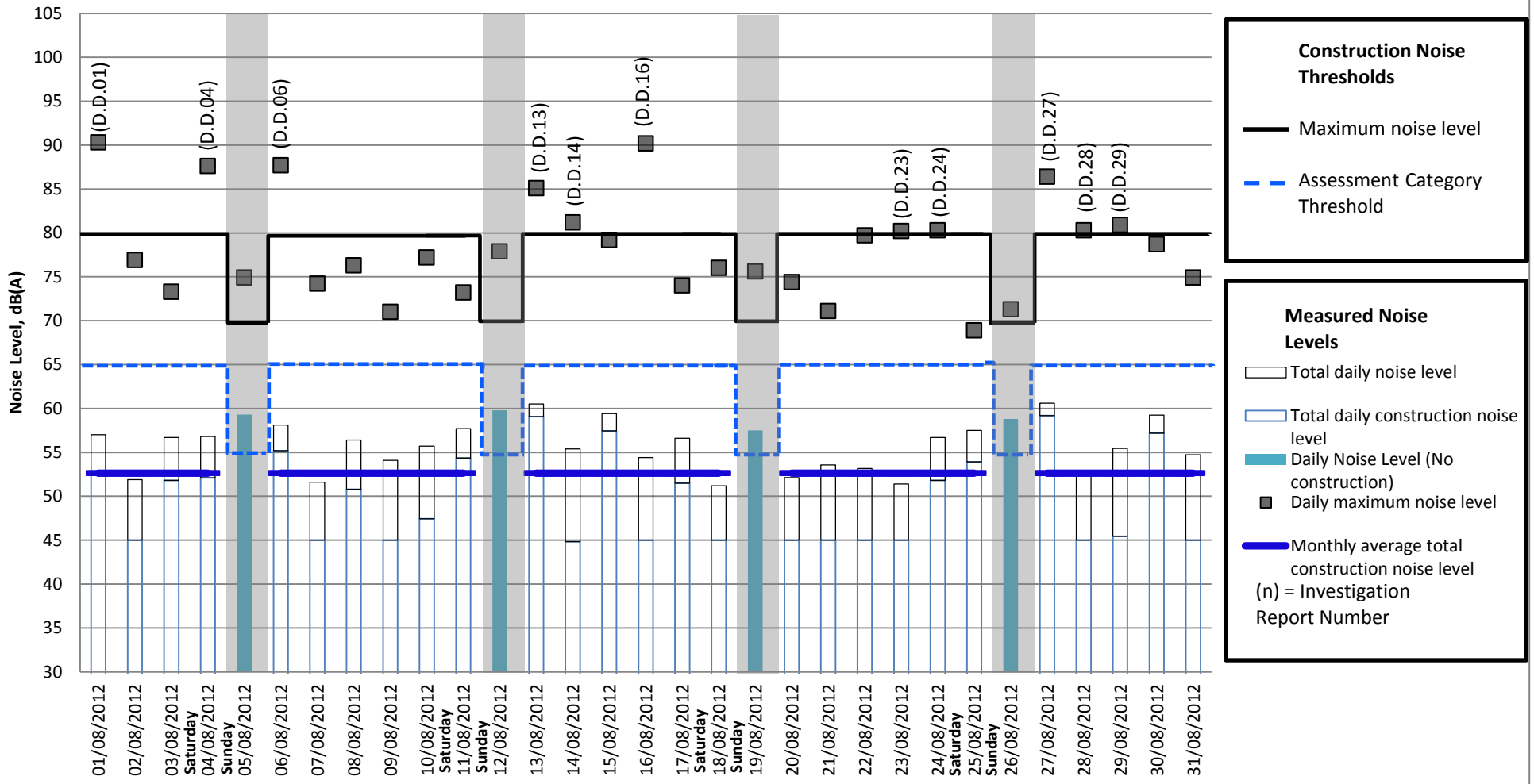
Note: Due to an error with the device, night time data is missing for 31/08/12.

Measured Daytime Noise Levels at Whinny Hill
Measurement period: August 2012



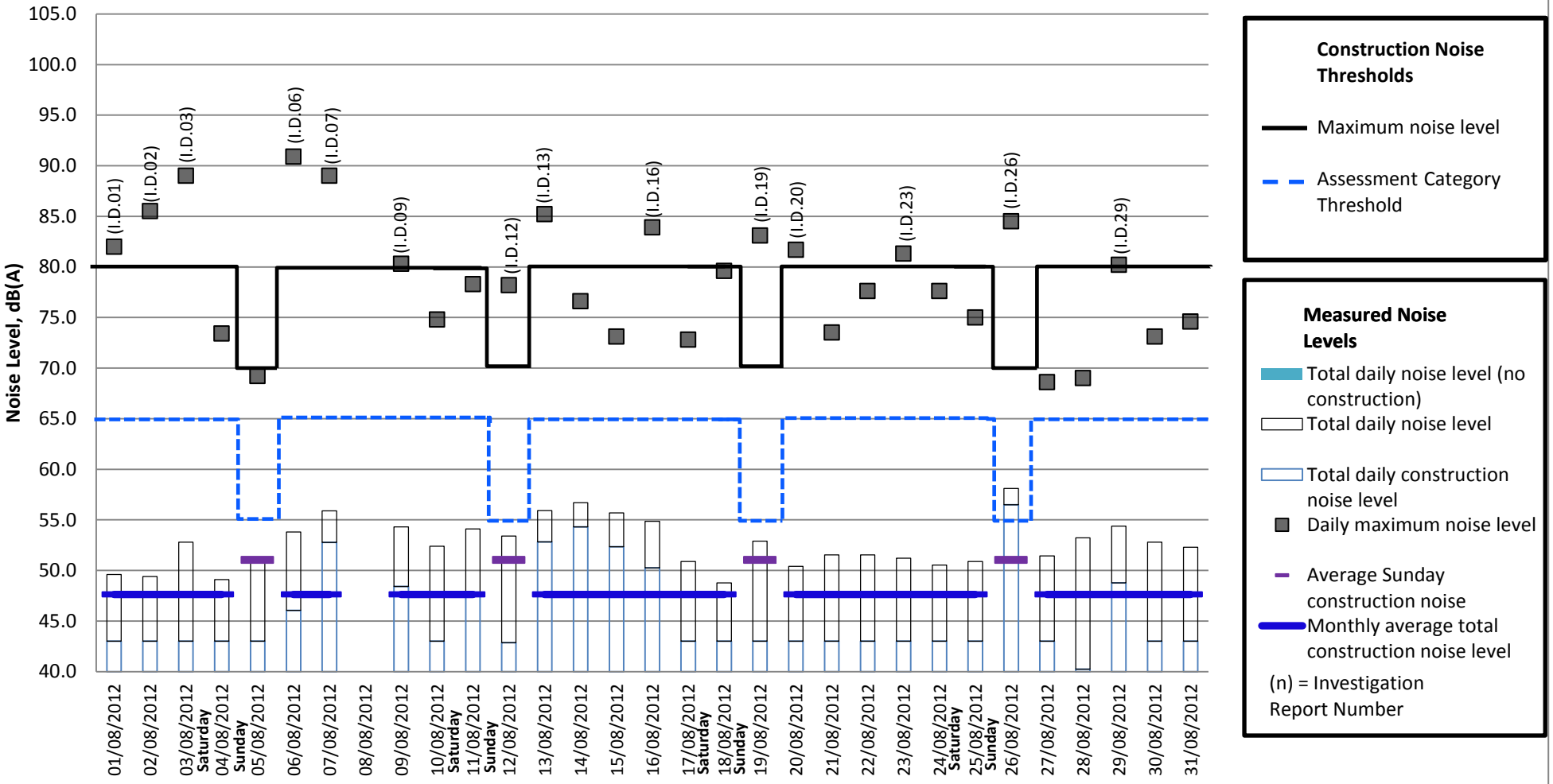
Note: The grey areas of the chart represent days on which no construction works have been conducted.

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



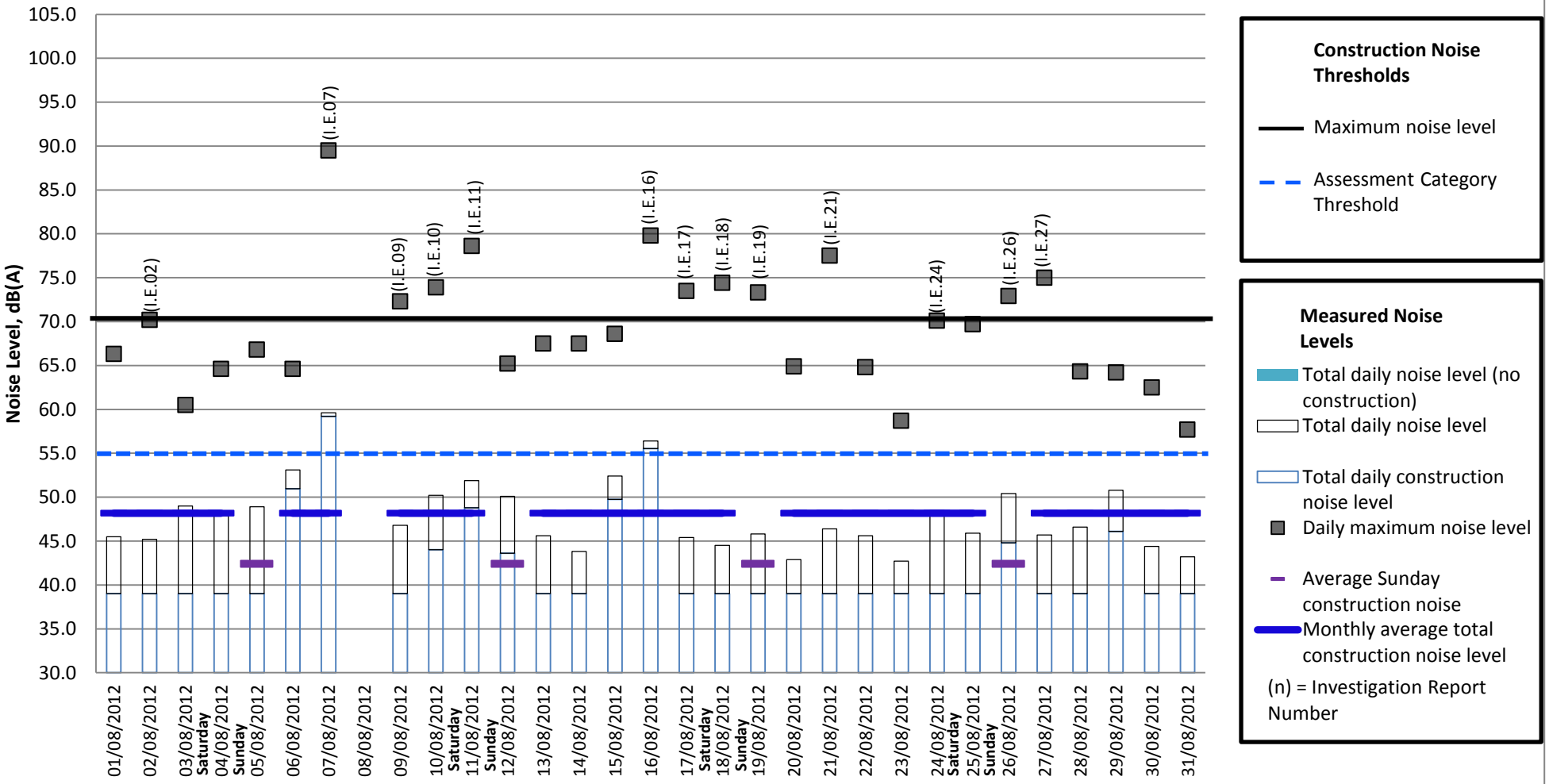
Note: The grey areas of the chart represent days on which no construction works have been conducted. The Sunday average has not been included as no Sunday works have been conducted at this location.

Measured Daytime Noise Levels at Inchgarvie
Measurement period: August 2012



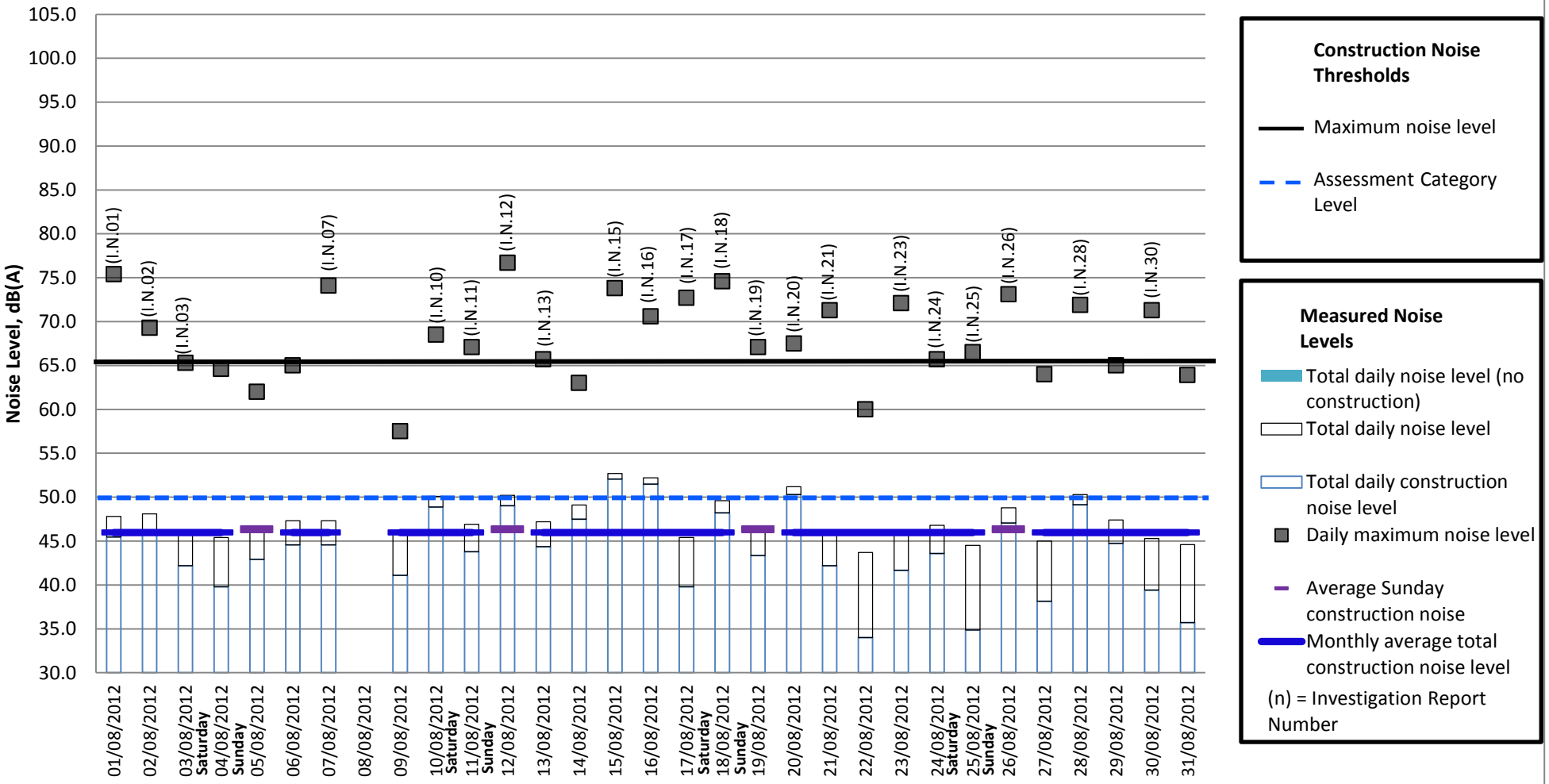
Note: Due to an error with the device, daytime data is missing for 08/08/12.

Measured Evening Noise Levels at Inchgarvie
Measurement period: August 2012



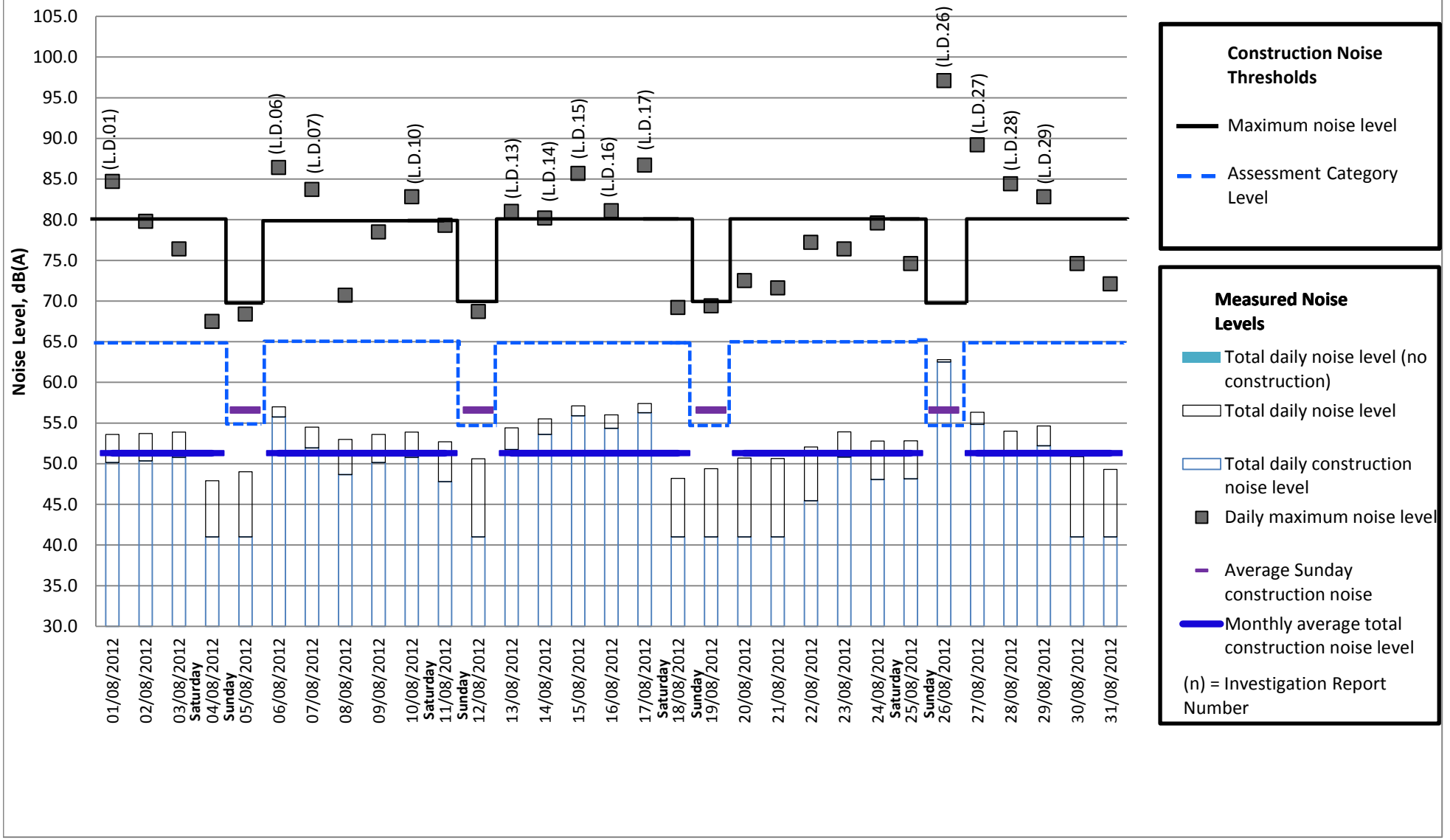
Note: Due to an error with the device, evening data is missing for 08/08/12.

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

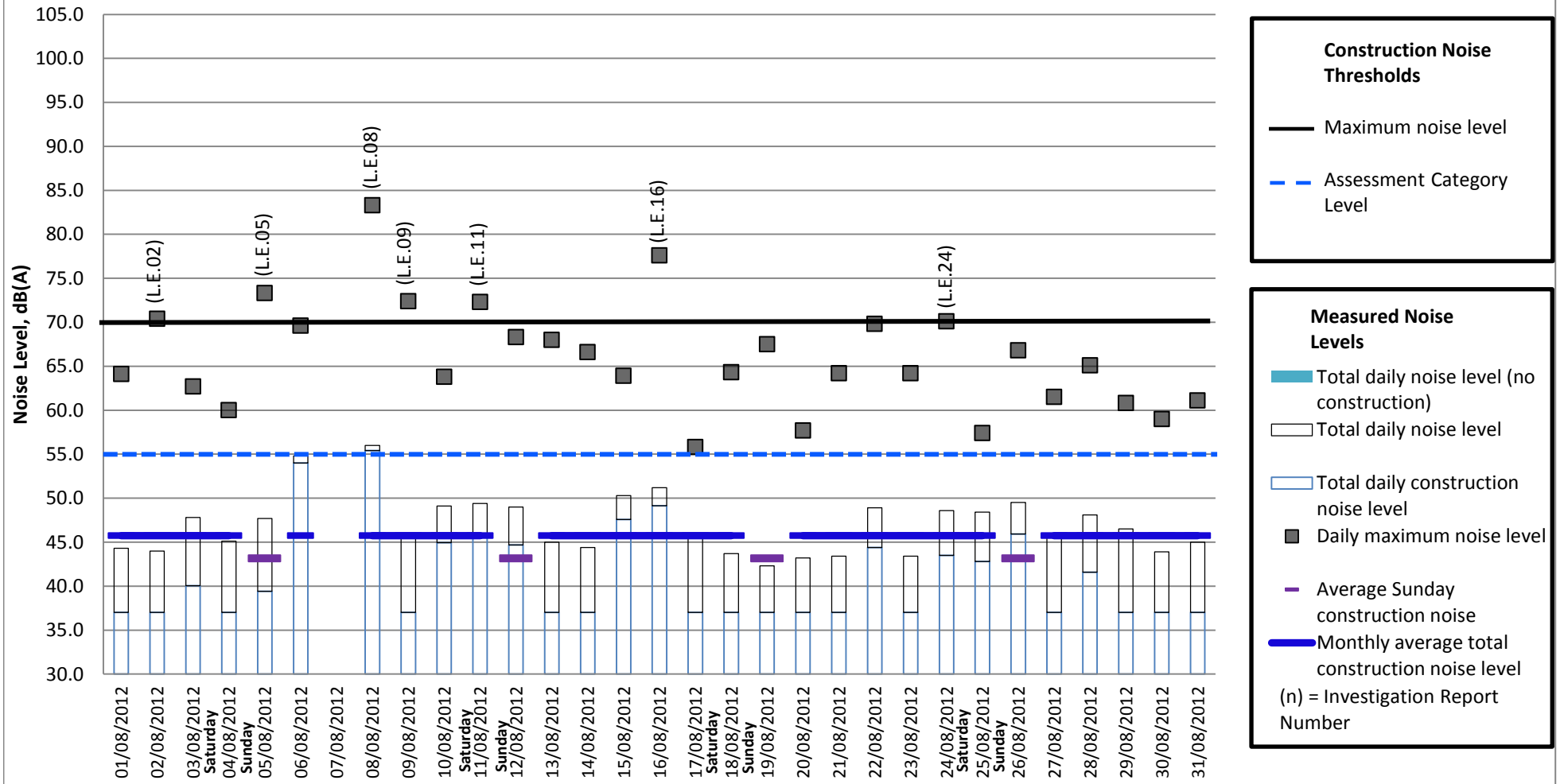


Note: Due to an error with the device, night time data is missing for 08/08/12.

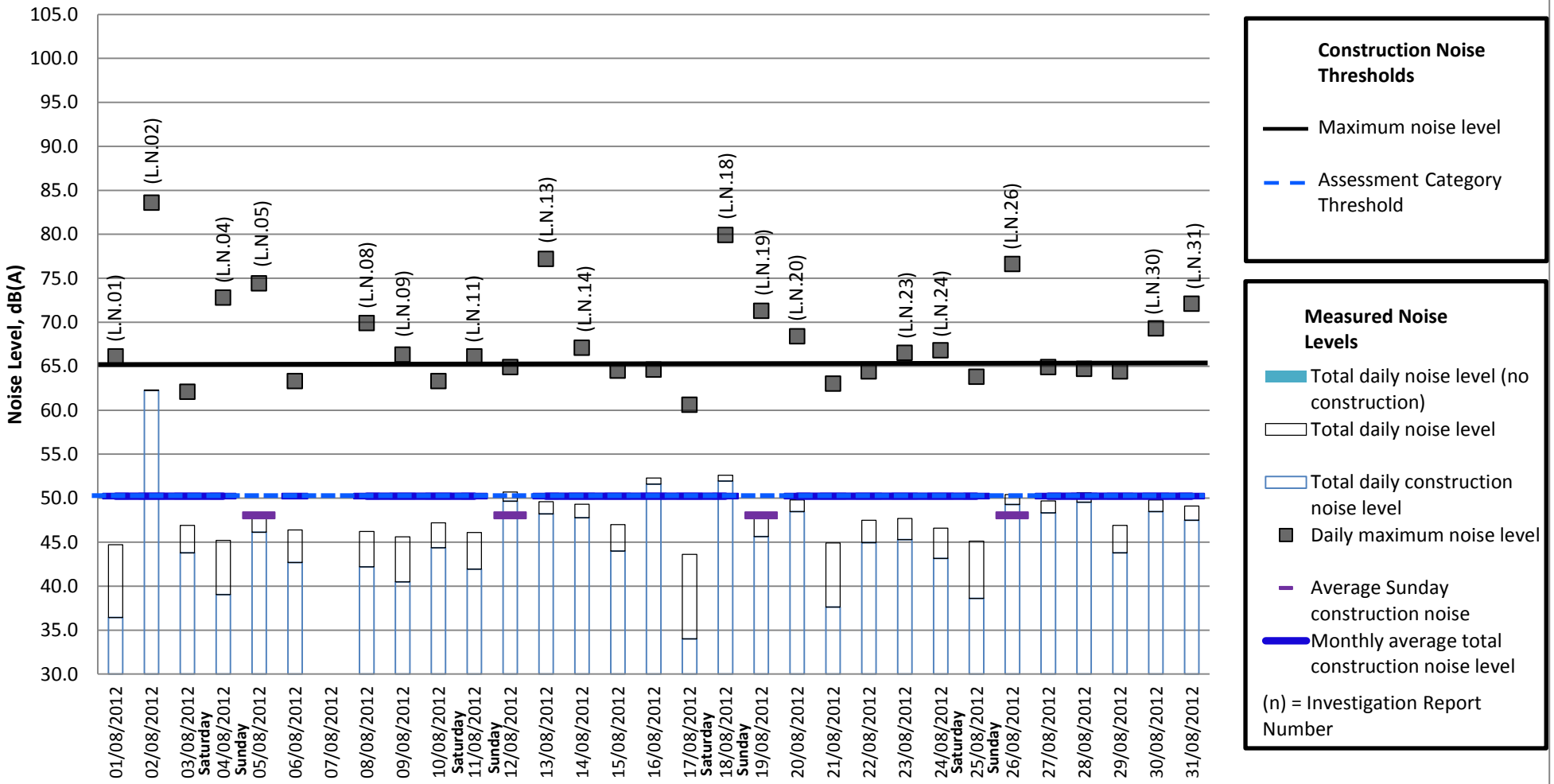
Measured Daytime Noise levels at Linn Mill
Measurement period: August 2012



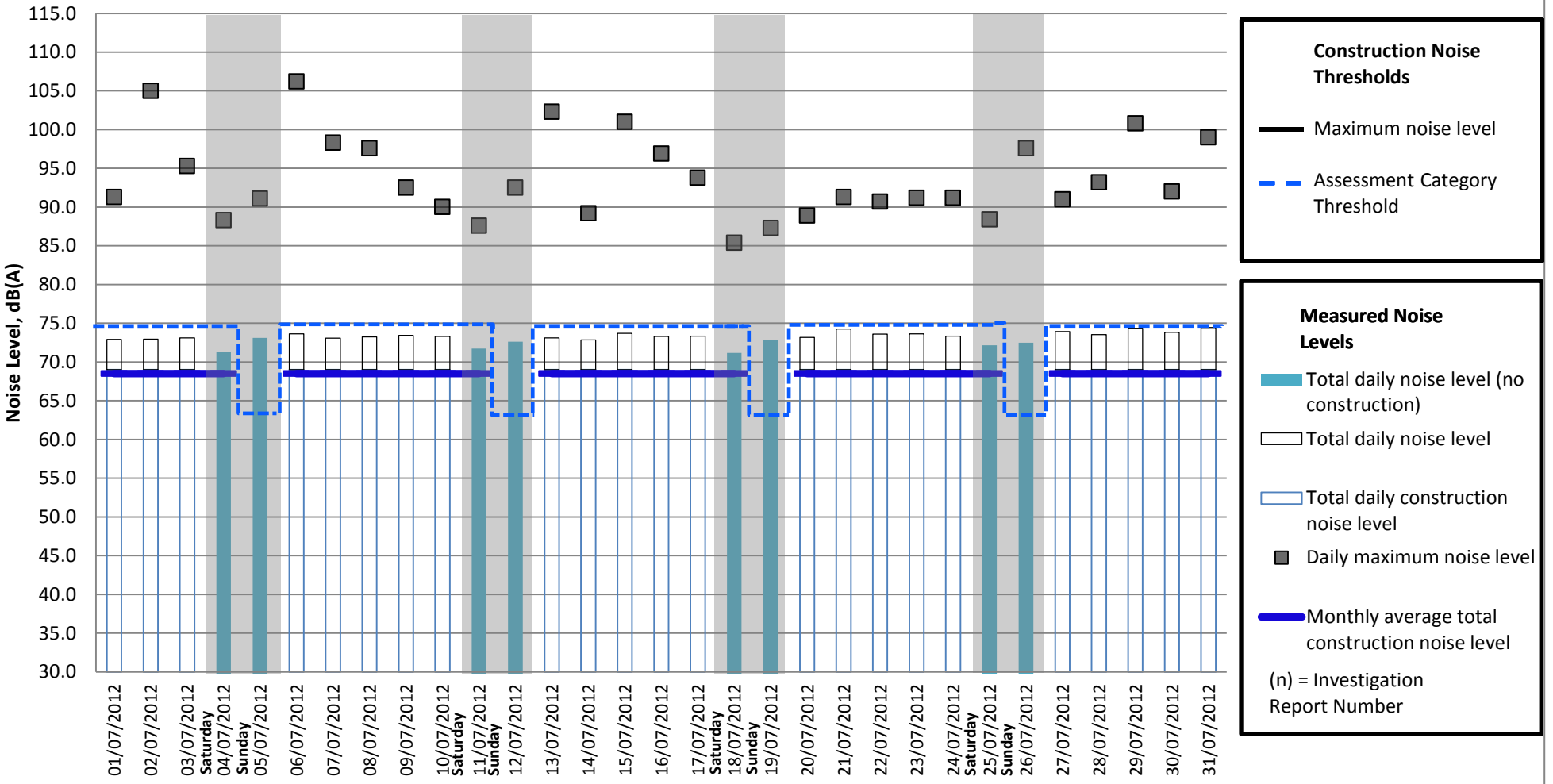
Measured Evening Noise Levels at Linn Mill
Measurement period: August 2012



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

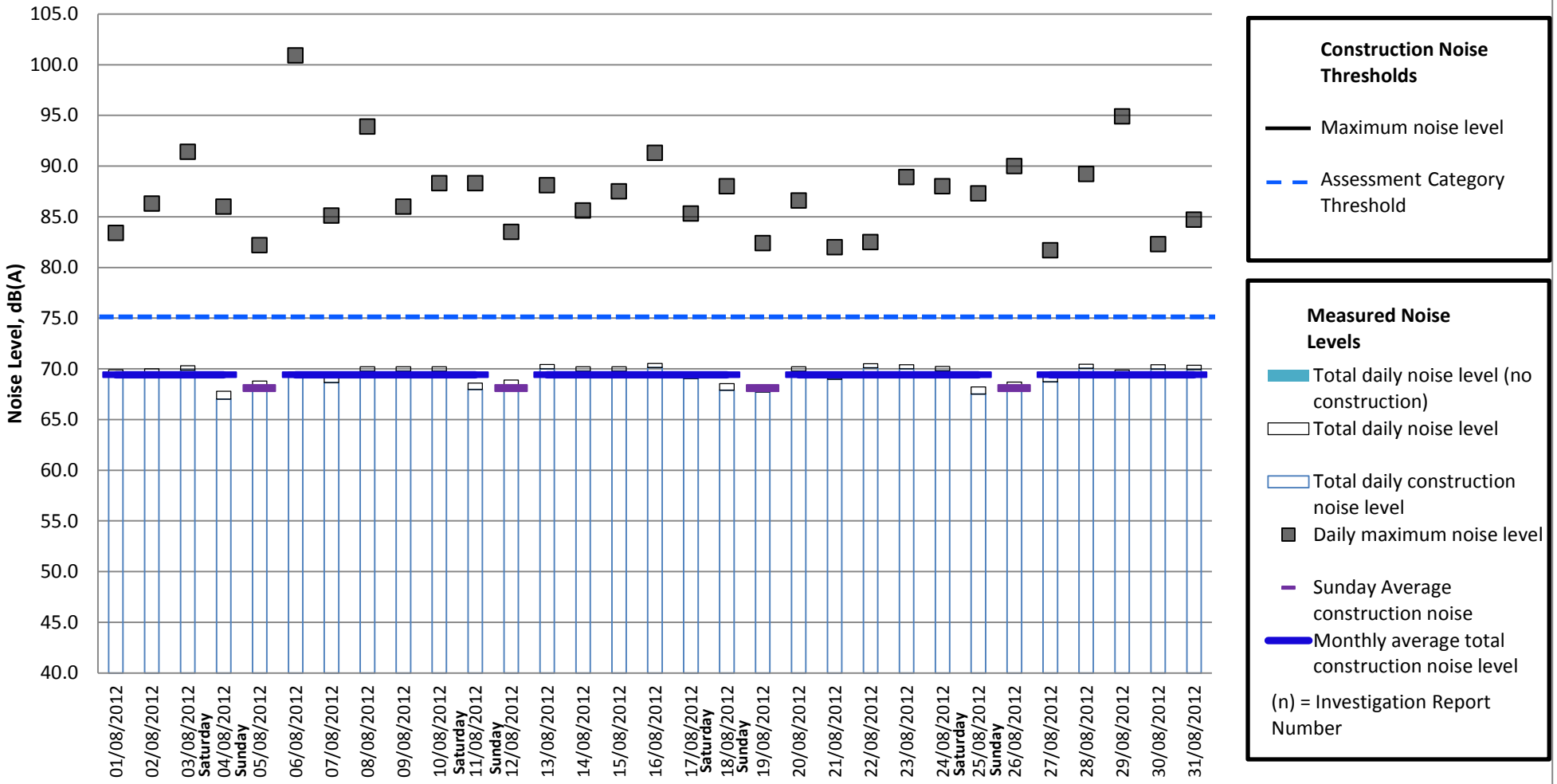


Measured Daytime Noise Levels at Newton
Measurement period: August 2012

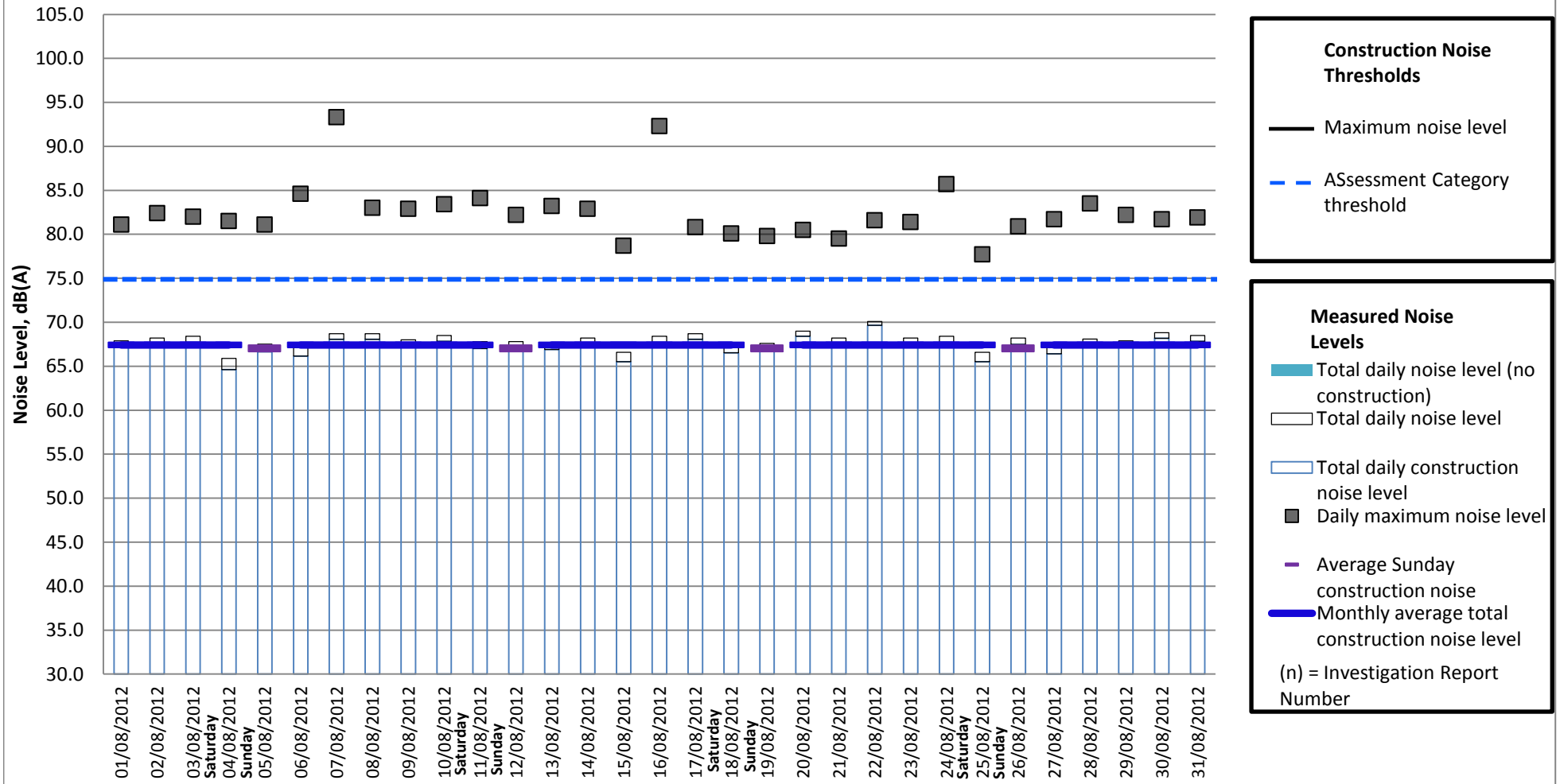


Note: The grey areas of the chart represent days on which no construction works have been conducted. It should be noted that the measured noise levels Mon - Fri can not be attributed to construction works due to the considerable distance (1.75 kilometers) between this monitoring location and the closest construction works.

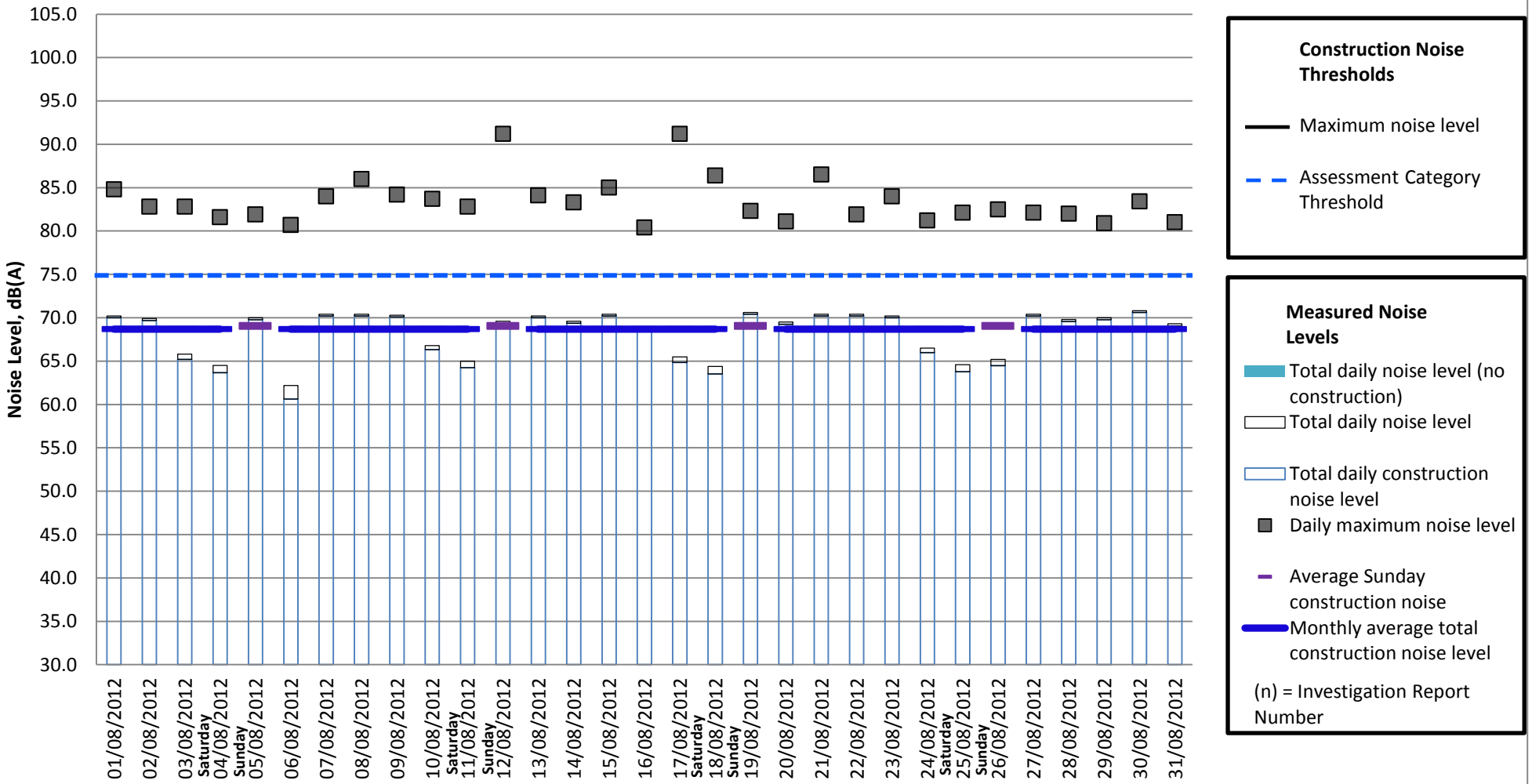
Measured Daytime Noise Levels at North Leg
Measurement period: August 2012



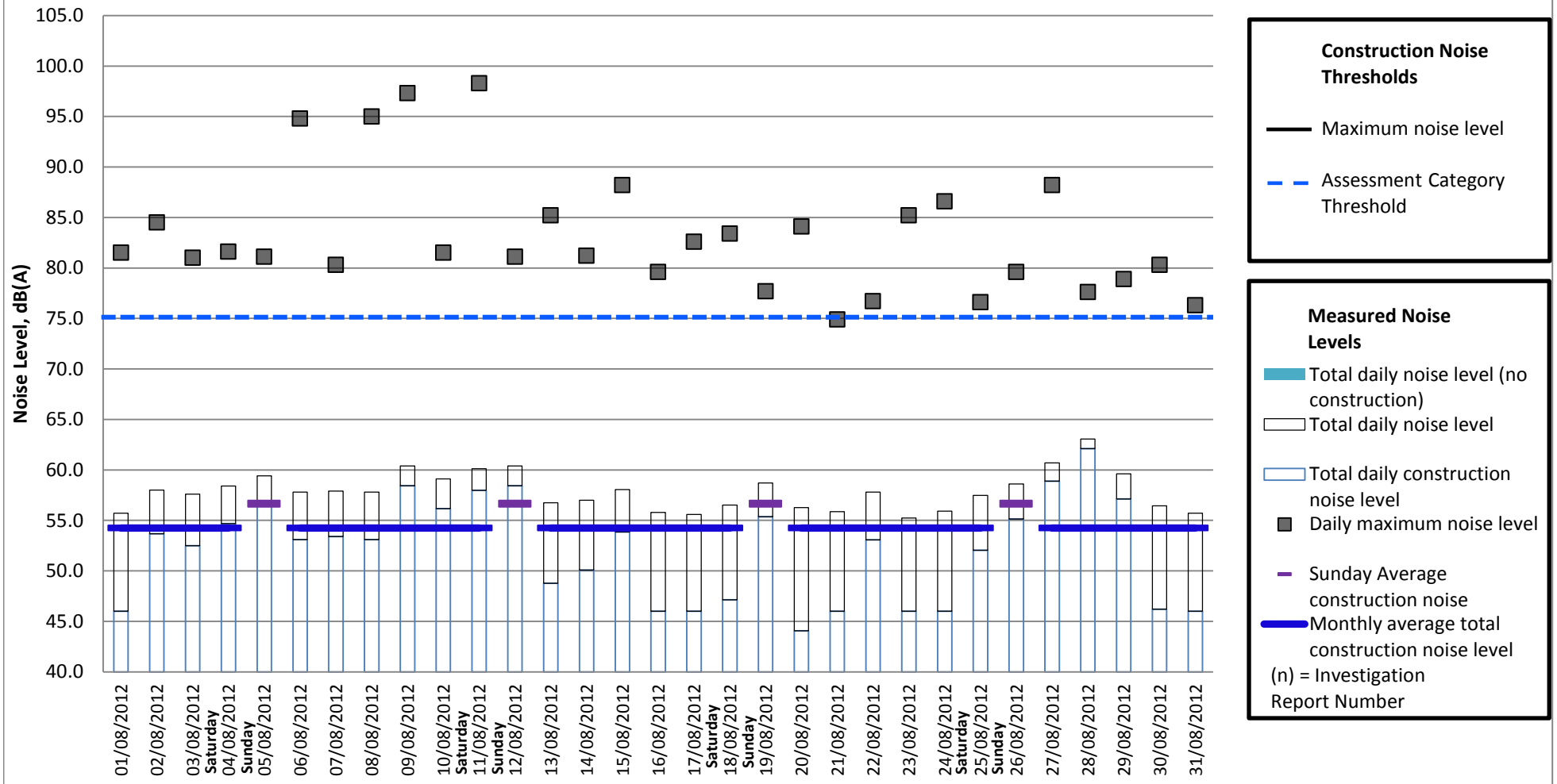
Measured Evening Noise Levels at North Leg
Measurement period: August 2012



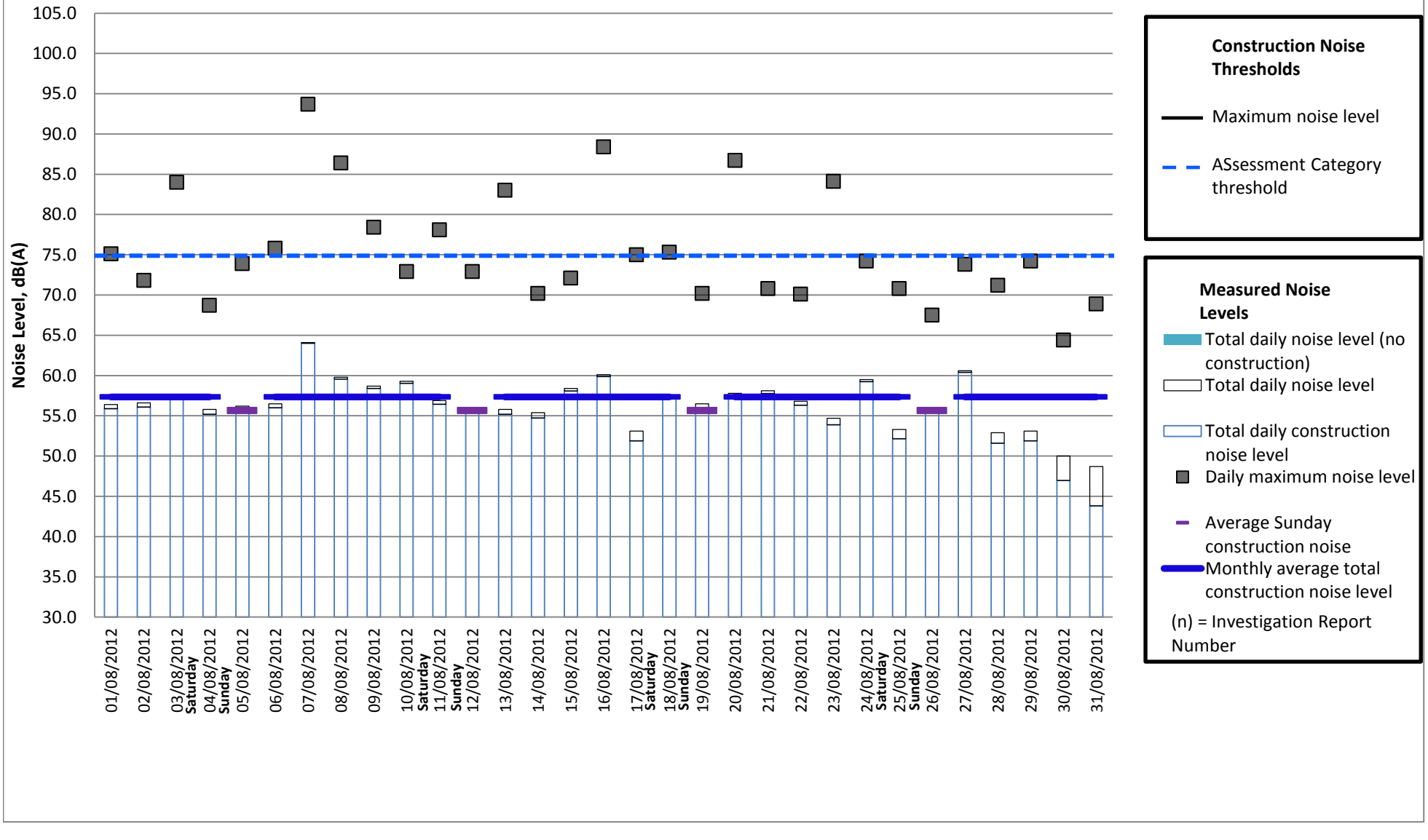
Measured Night-time Noise Levels at North Leg
Measurement period: August 2012



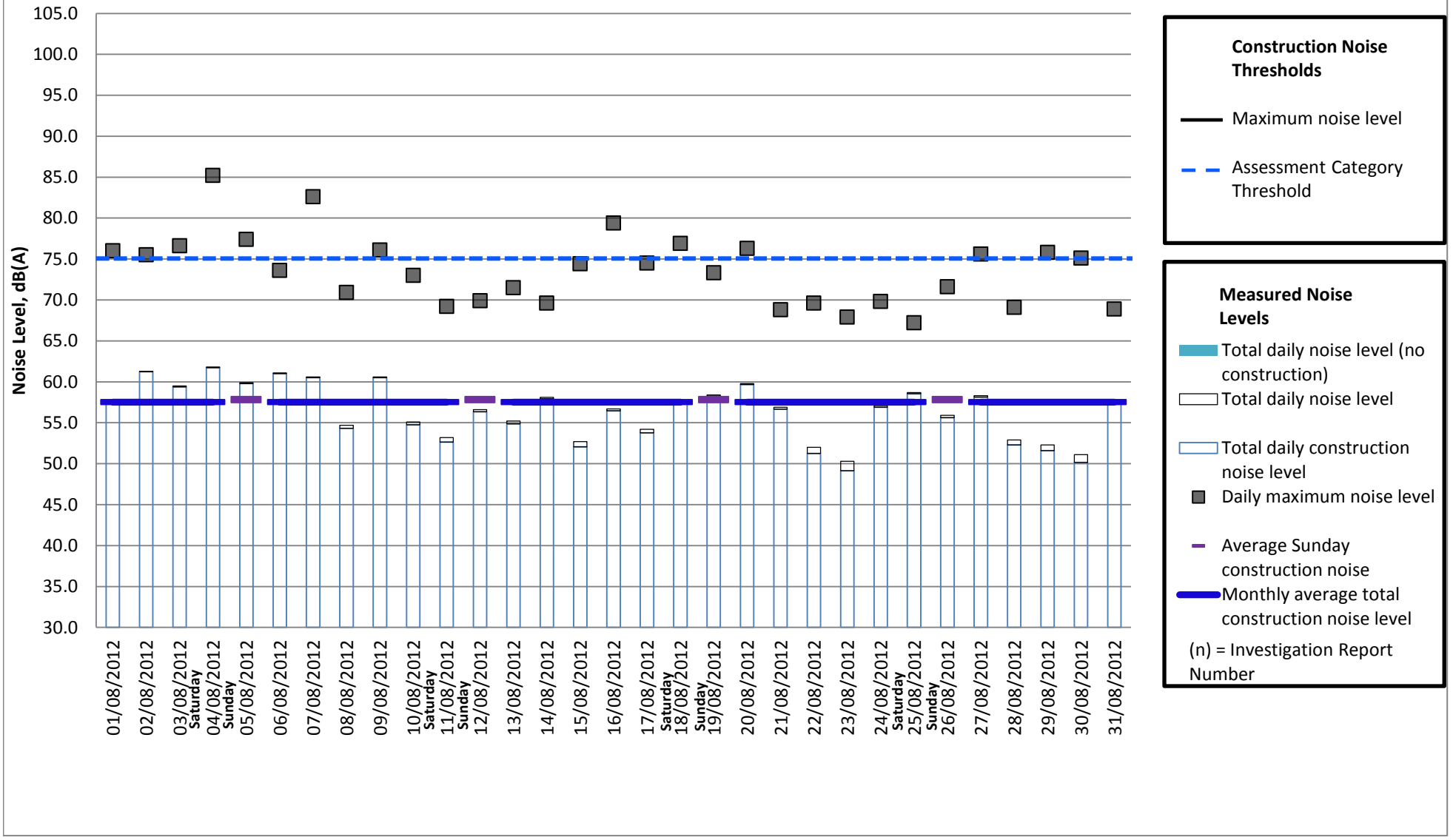
Measured Daytime Noise Levels at Port Edgar
Measurement period: August 2012



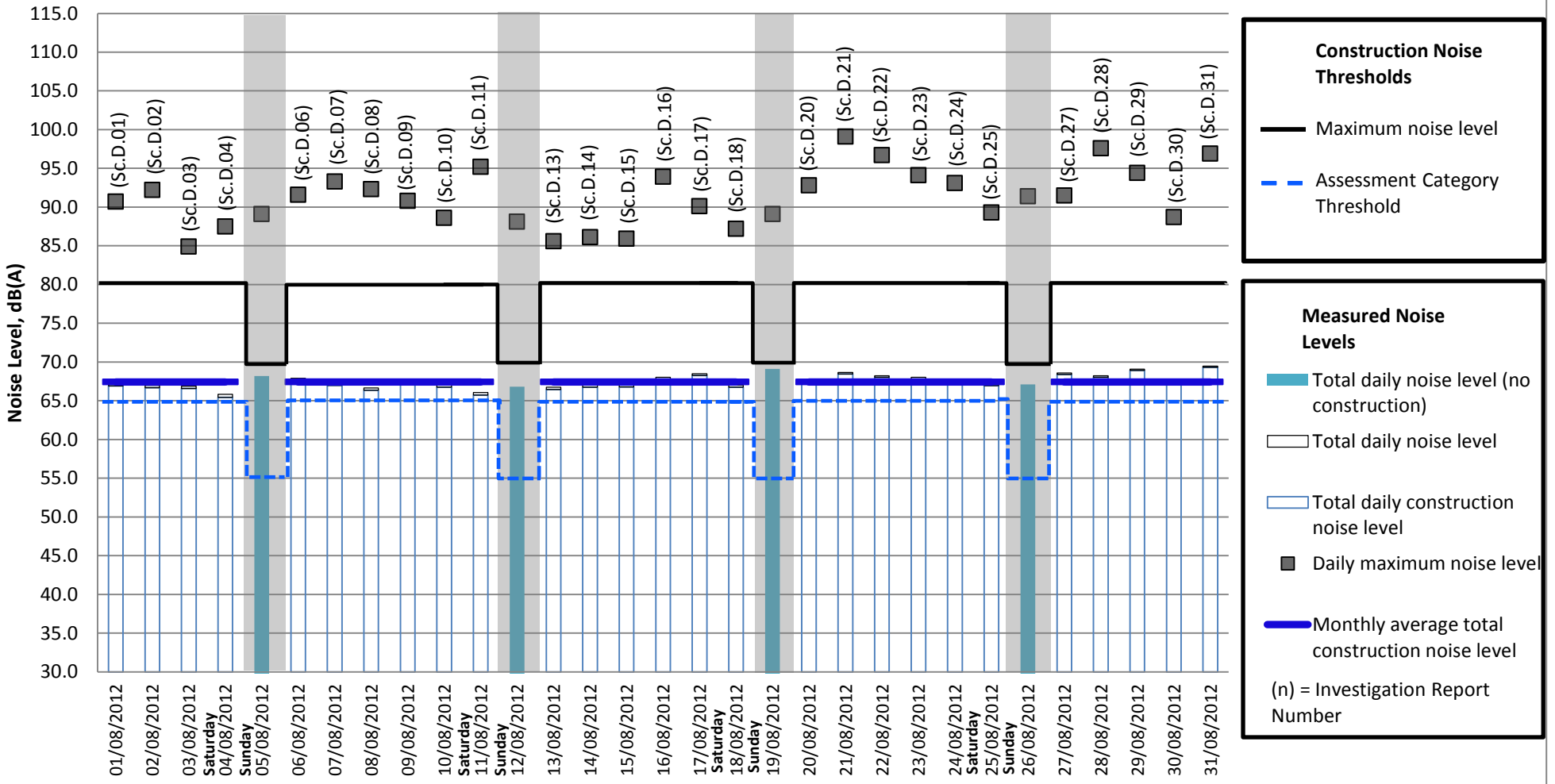
Measured Evening Noise Levels at Port Edgar
Measurement period: August 2012



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

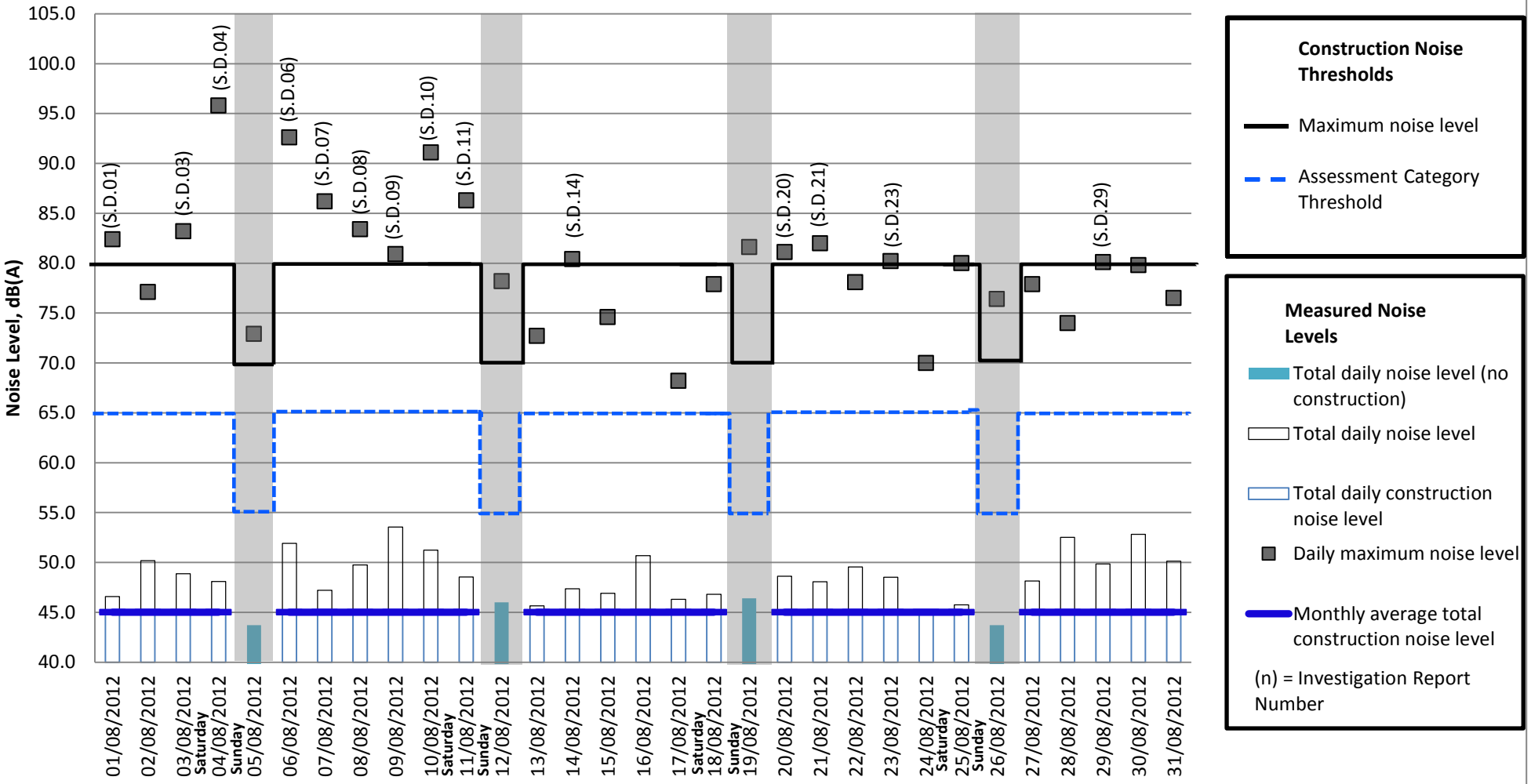


Measured Daytime Noise Levels at Scotstoun
Measurement period: August 2012



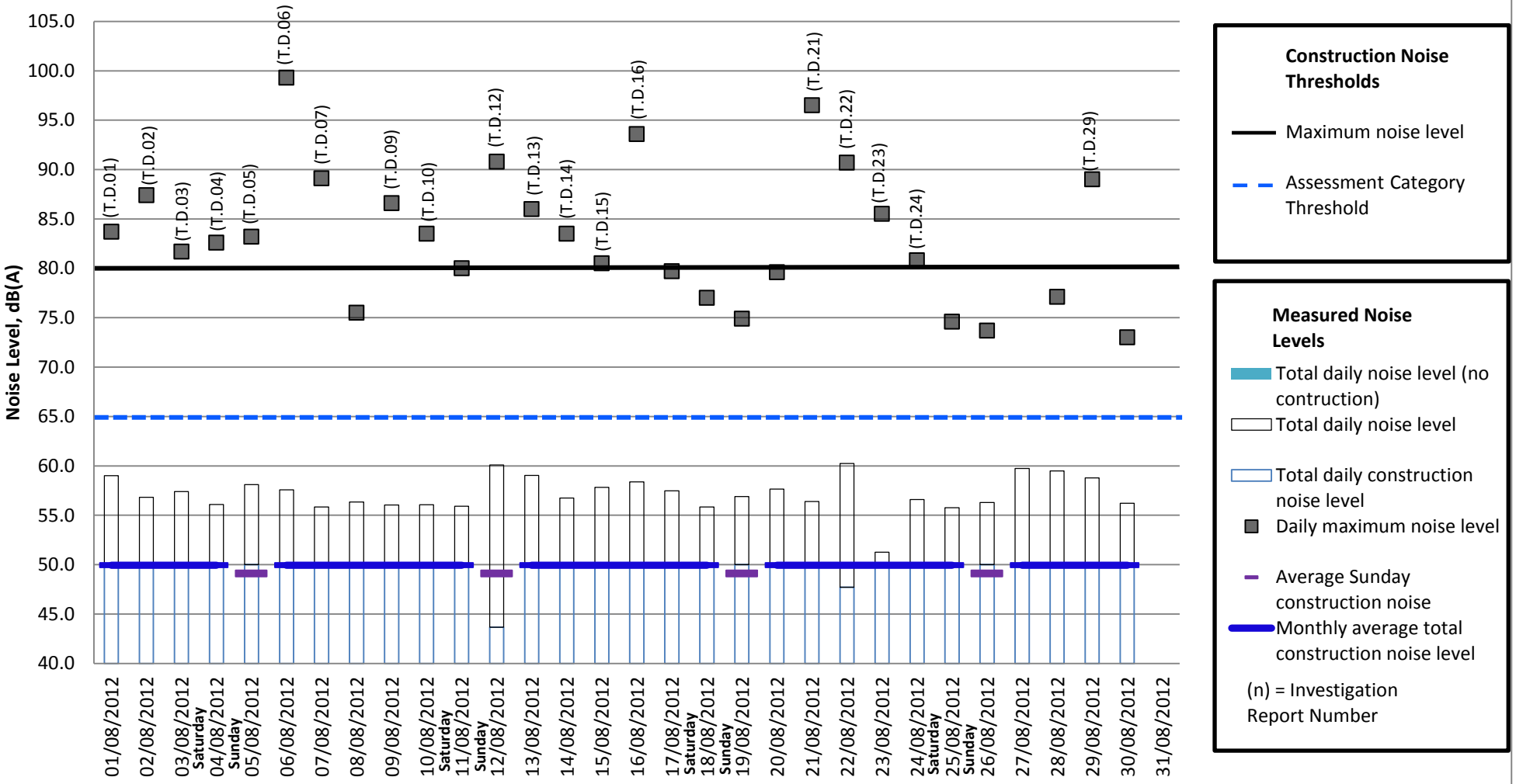
Note: The grey areas of the chart represent days on which no construction works have been conducted. The monthly average construction noise for Sunday has not been included as no Sunday works have been conducted at this location .

Measured Daytime Noise Levels at Springfield
Measurement period: August 2012



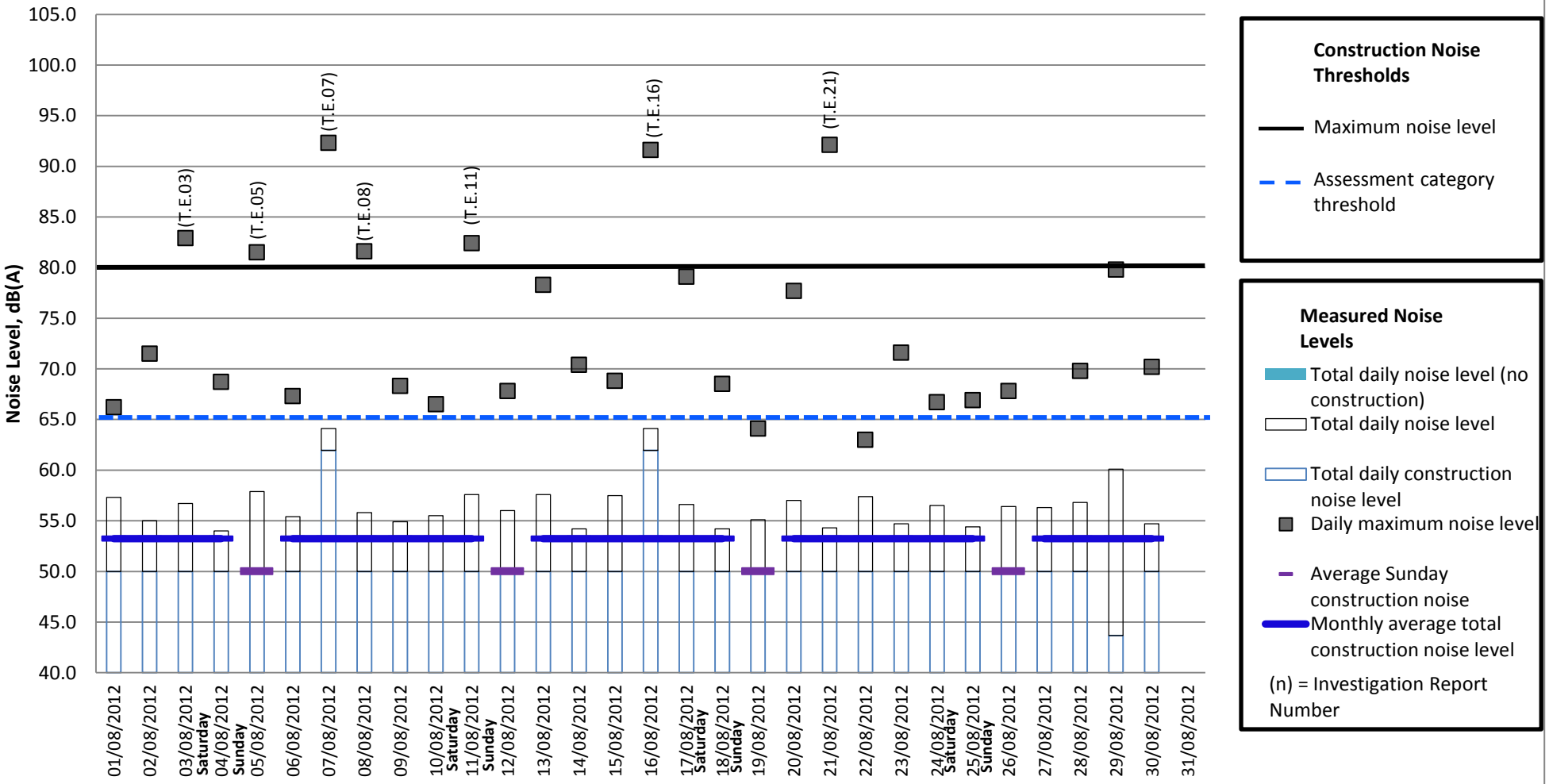
Note: The grey areas of the chart represent days on which no construction works have been conducted. The monthly average construction noise for Sunday has not been included as no Sunday works have been conducted at this location.

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



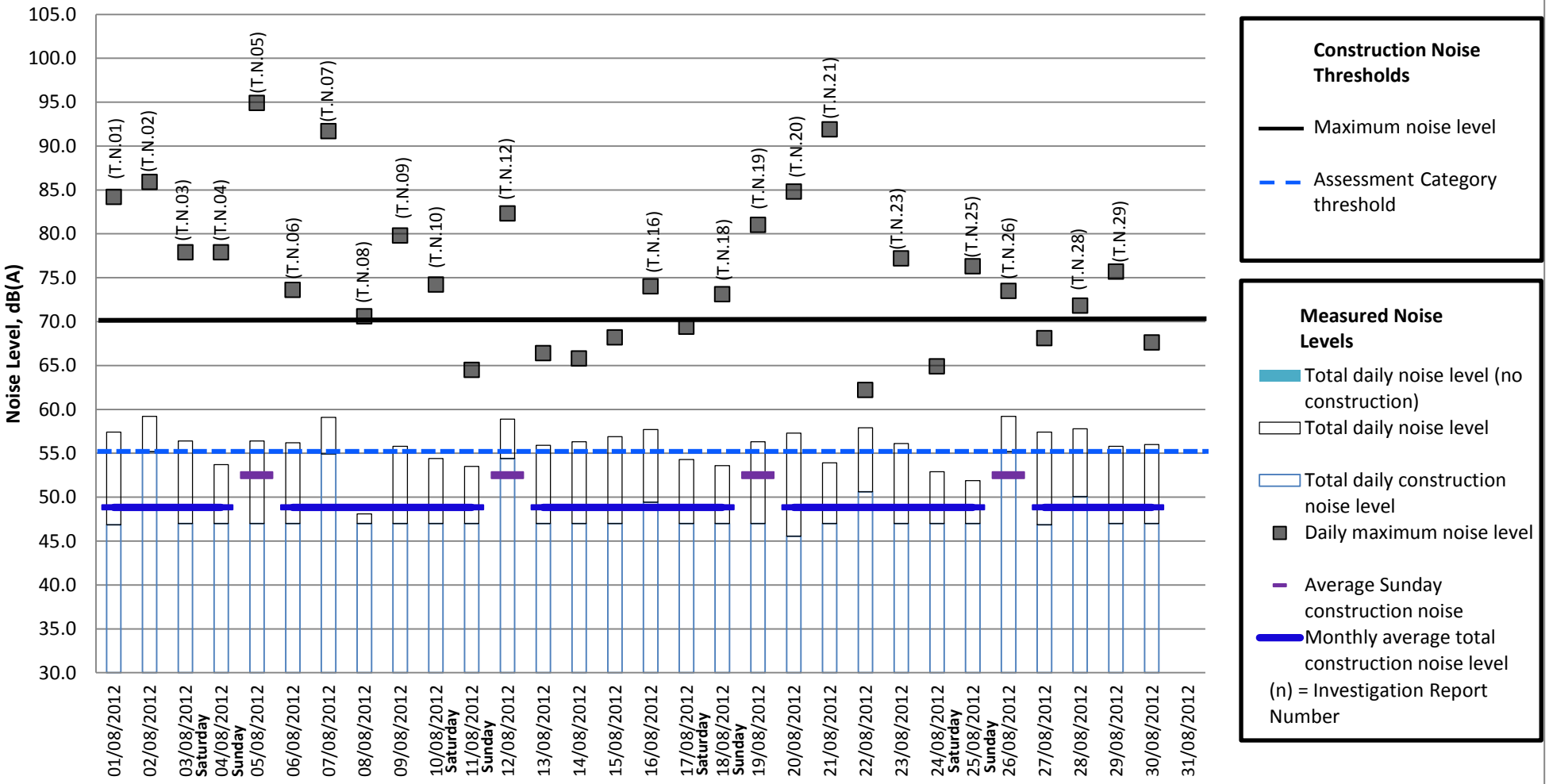
Note: Due to an error with the device, daytime data is missing for 31/08/12 and the Lmax data missing for 27/08/12.

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



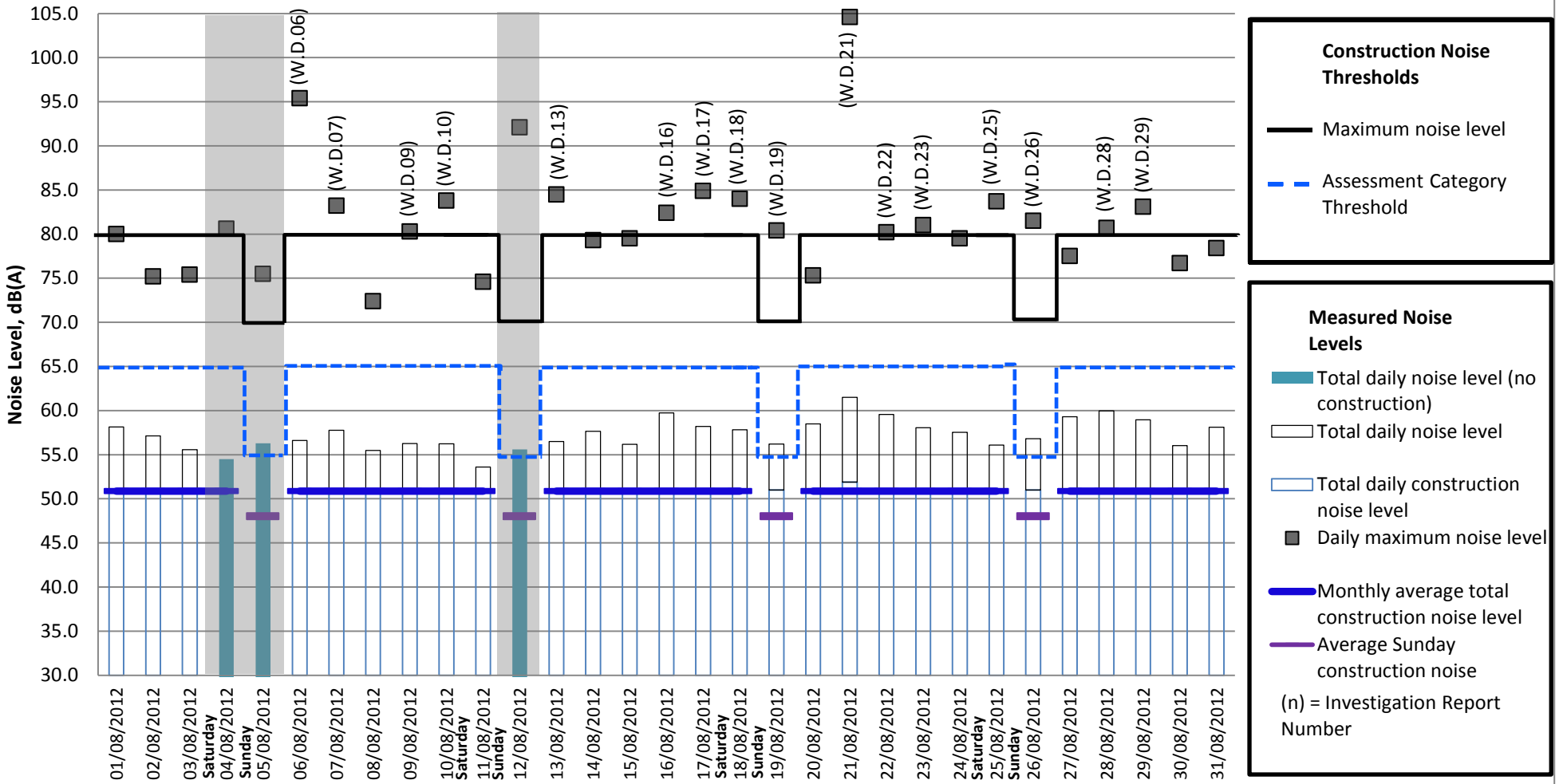
Note: Due to an error with the device, evening data is missing for 31/08/12 and the Lmax data is missing for 27/0812.

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



Note: Due to an error with the device, night time data is missing for 31/08/12.

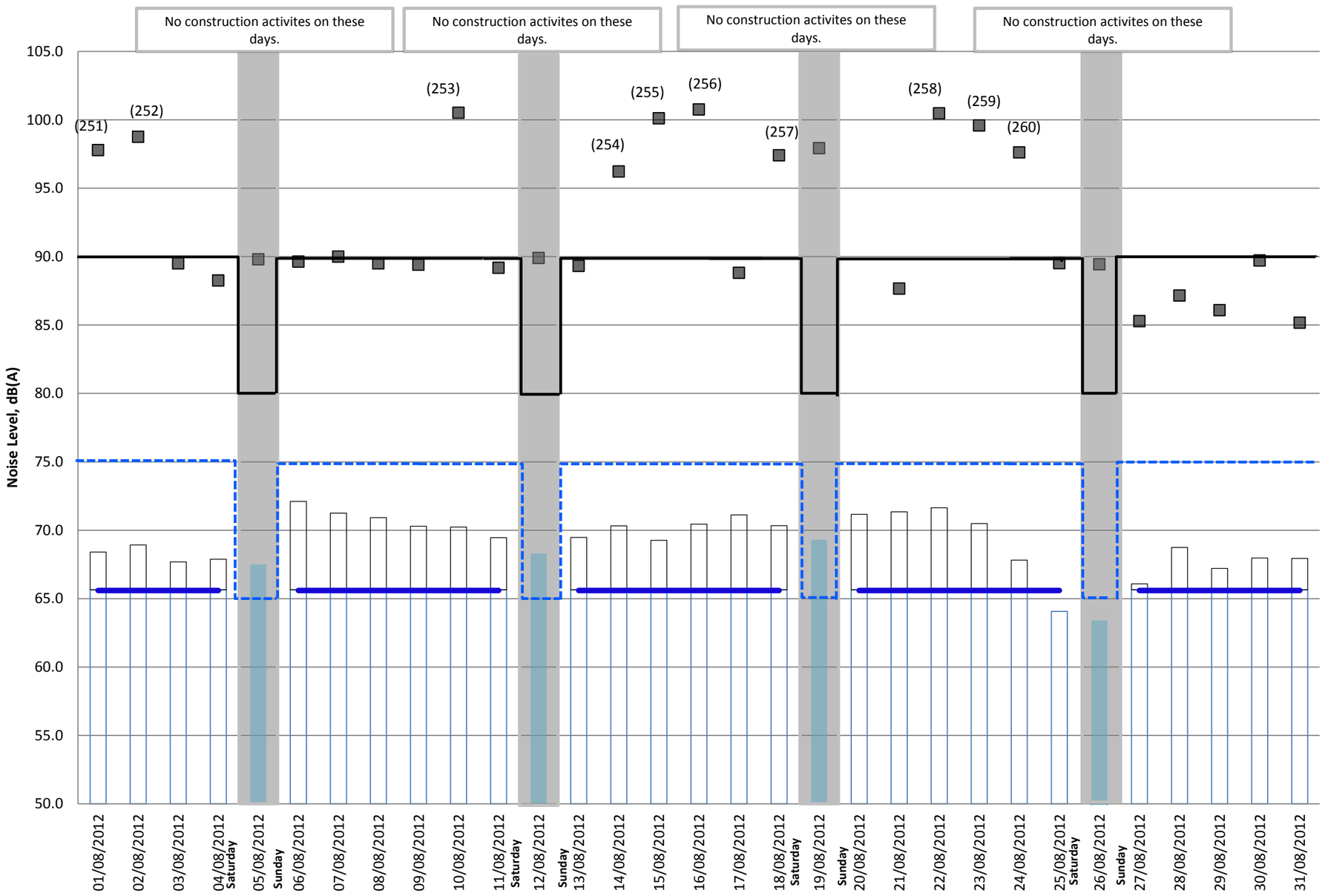
Measured Daytime Noise Levels at Whinny Hill
Measurement period: August 2012



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 August to 31st August 2012



Construction Noise Thresholds

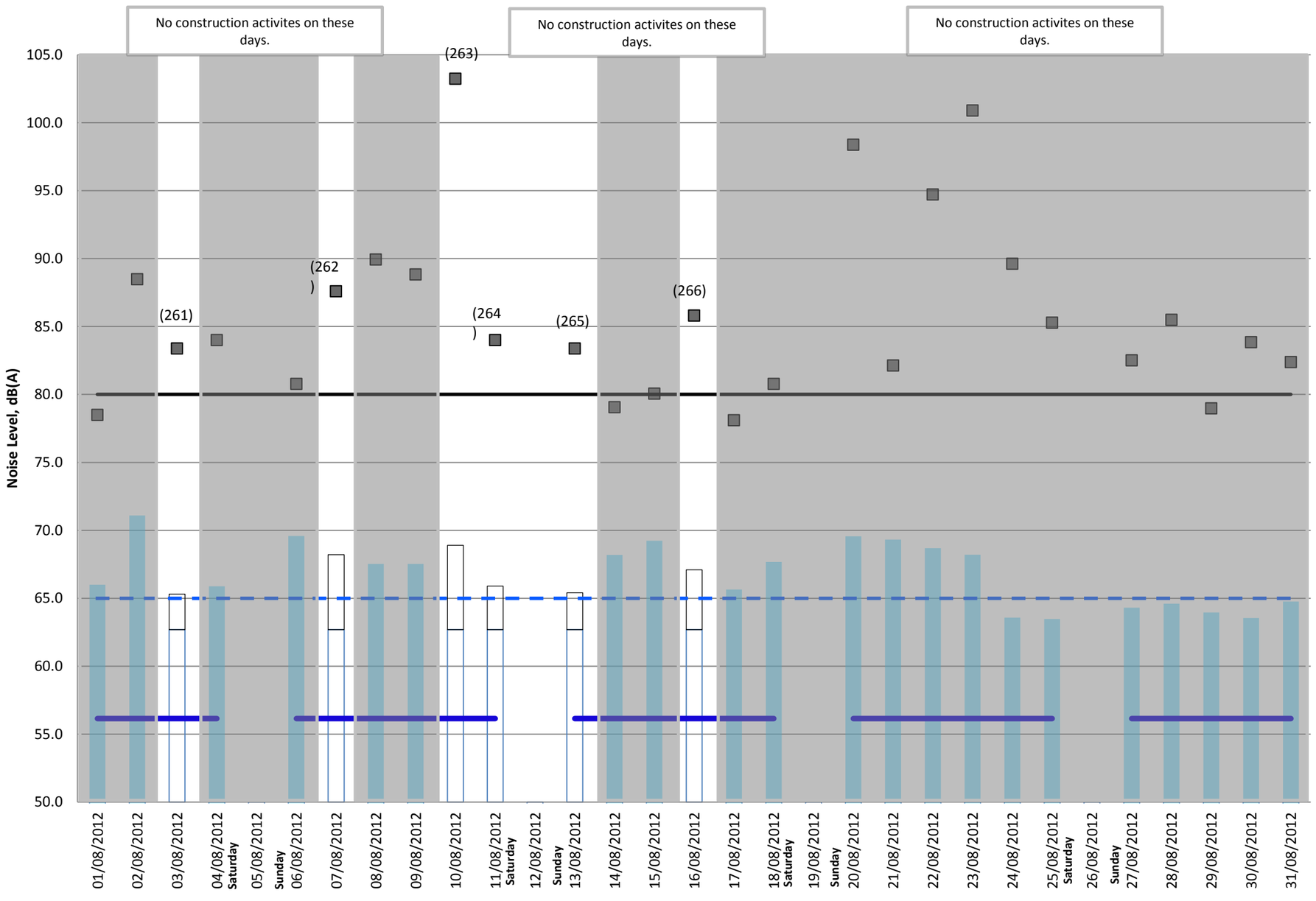
- Maximum noise level
- Monthly average total construction noise level

Measured Noise Levels

- Daily noise level (no construction works on this day)
- Total daily noise level
- Total daily construction noise level
- Monthly average total construction noise level
- Daily maximum noise level

(n) = Investigation Report Number

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



Construction Noise Thresholds

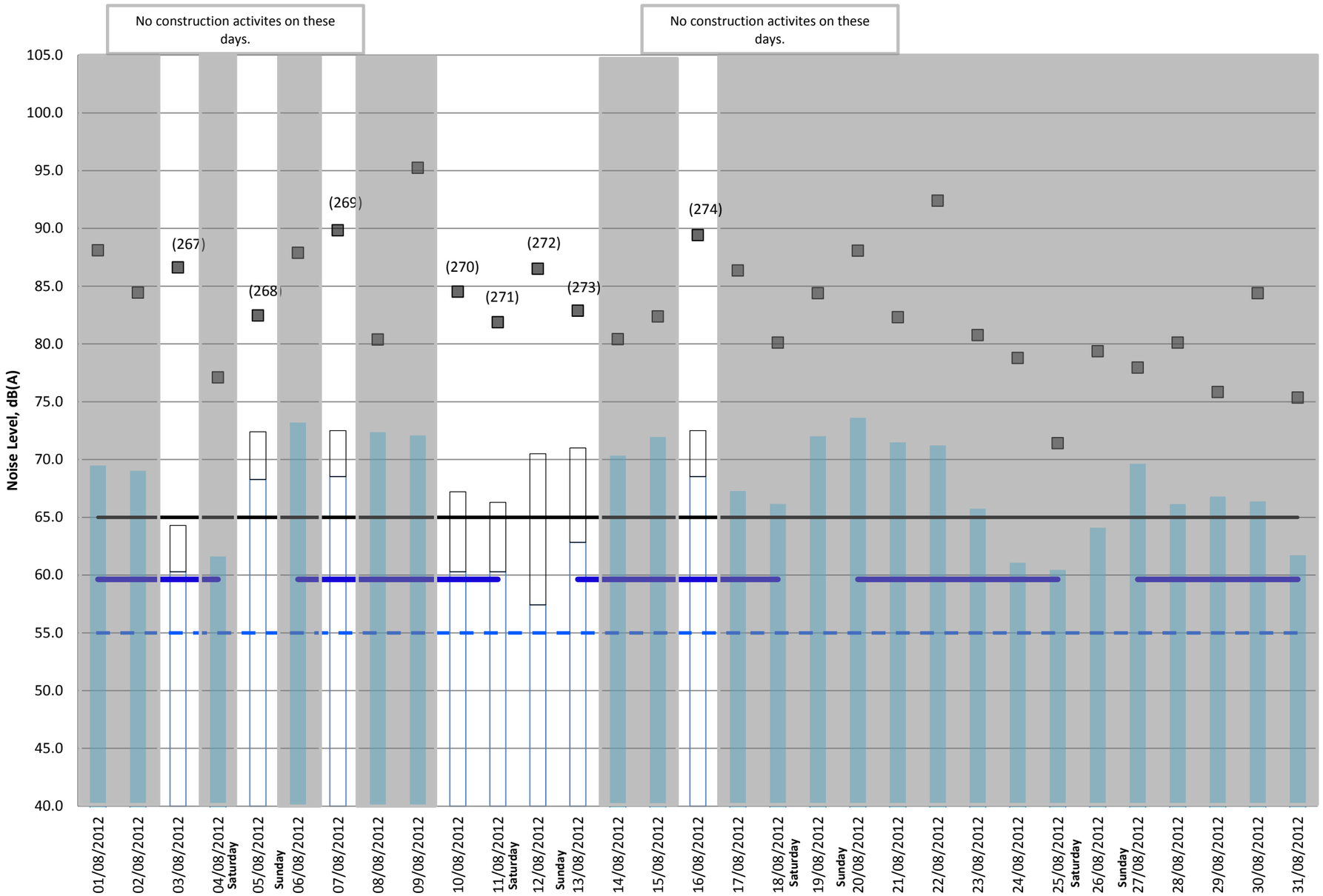
- Maximum noise level
- Monthly average total construction noise level

Measured Noise Levels

- Daily noise level (no construction works on this day)
- Total daily noise level
- Total daily construction noise level
- Monthly average total construction noise level
- Daily maximum noise level

(n) = Investigation Report Number

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



Construction Noise Thresholds

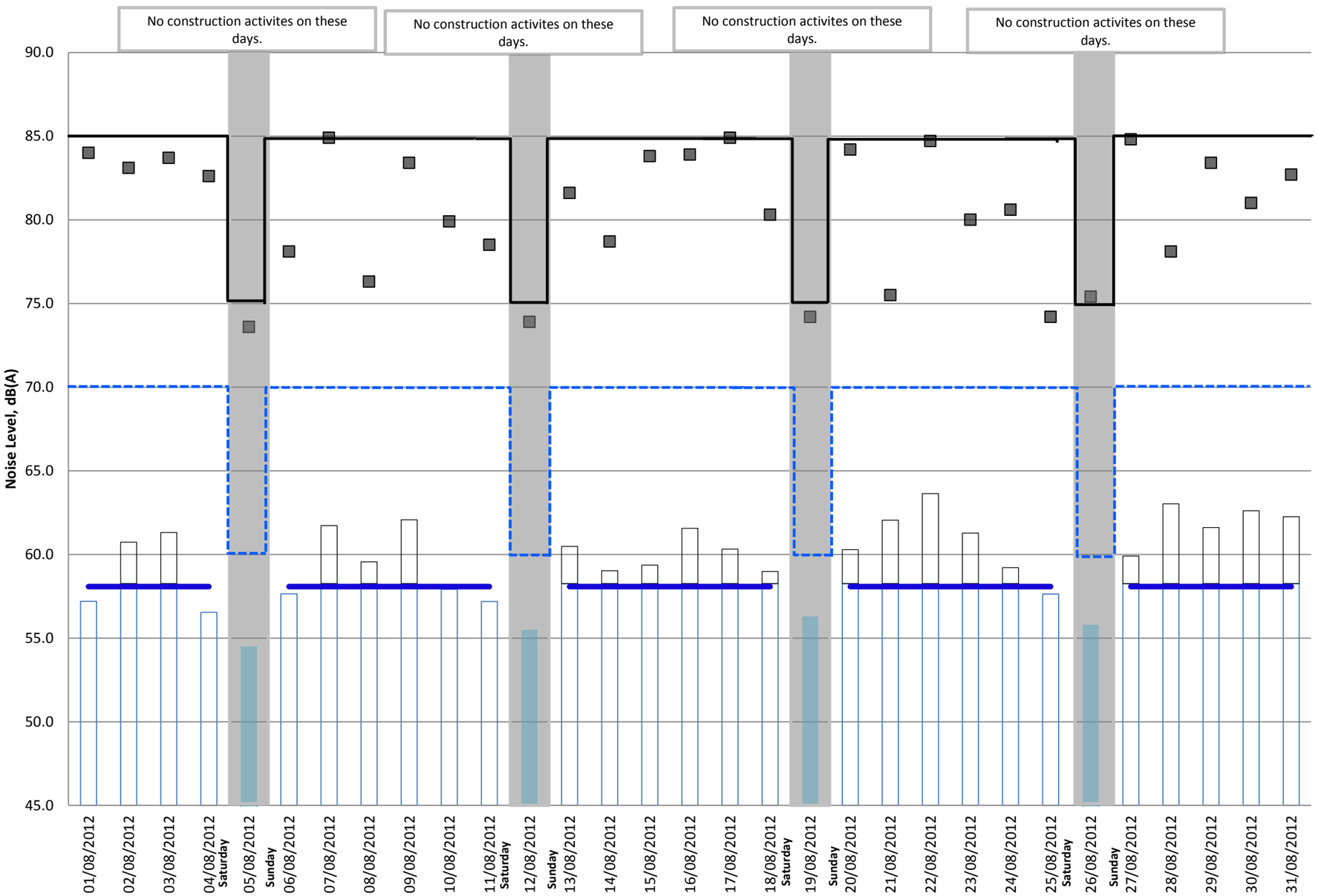
- Maximum noise level
- Monthly average total construction noise level

Measured Noise Levels

- Daily noise level (no construction works on this day)
- Total daily noise level
- Total daily construction noise level
- Monthly average total construction noise level
- Daily maximum noise level

(n) = Investigation Report Number

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



Construction Noise Thresholds

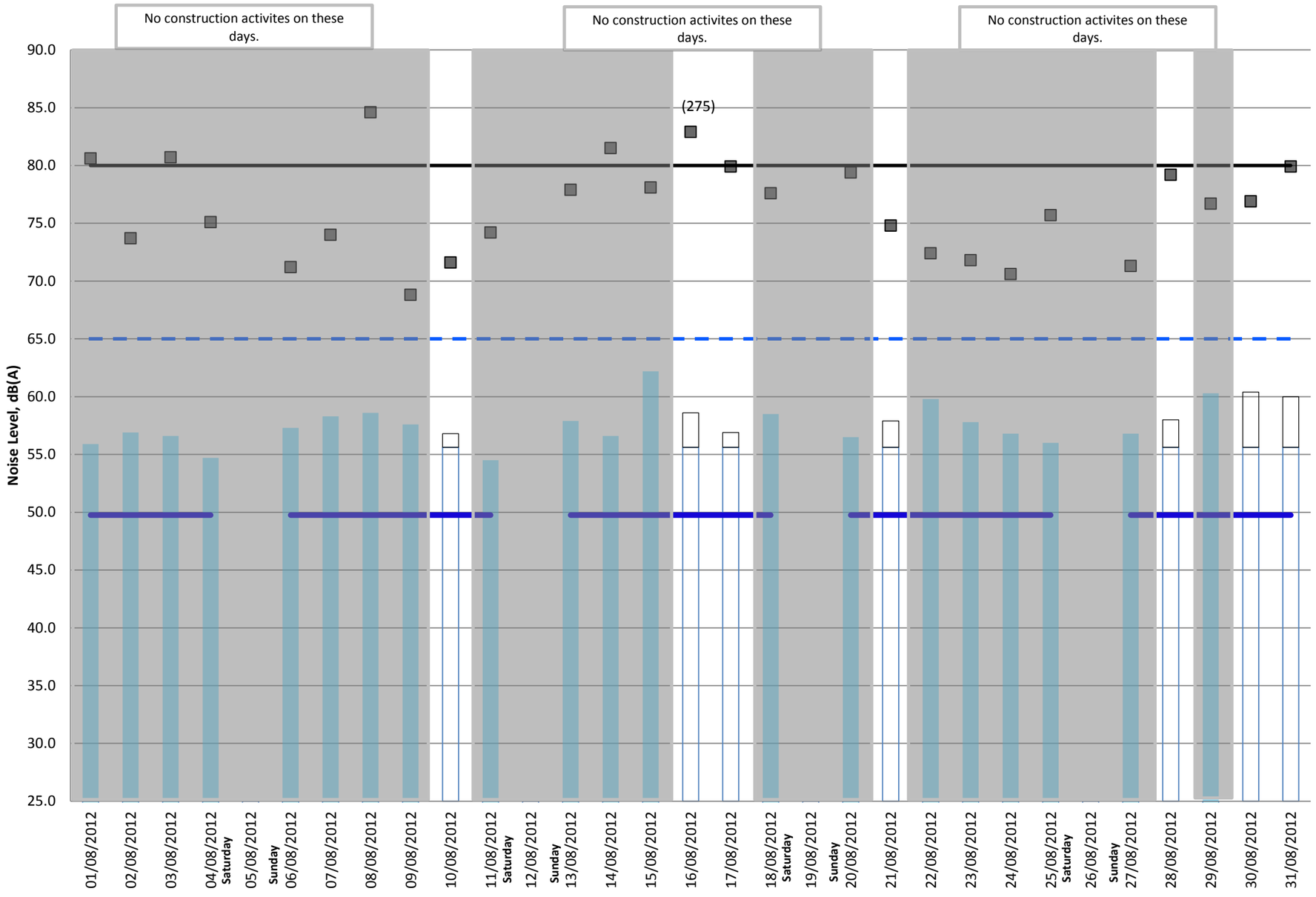
- Maximum noise level
- Monthly average total construction noise level

Measured Noise Levels

- Daily noise level (no construction works on this day)
- Total daily noise level
- Total daily construction noise level
- Monthly average total construction noise level
- Daily maximum noise level

(n) = Investigation Report Number

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



Construction Noise Thresholds

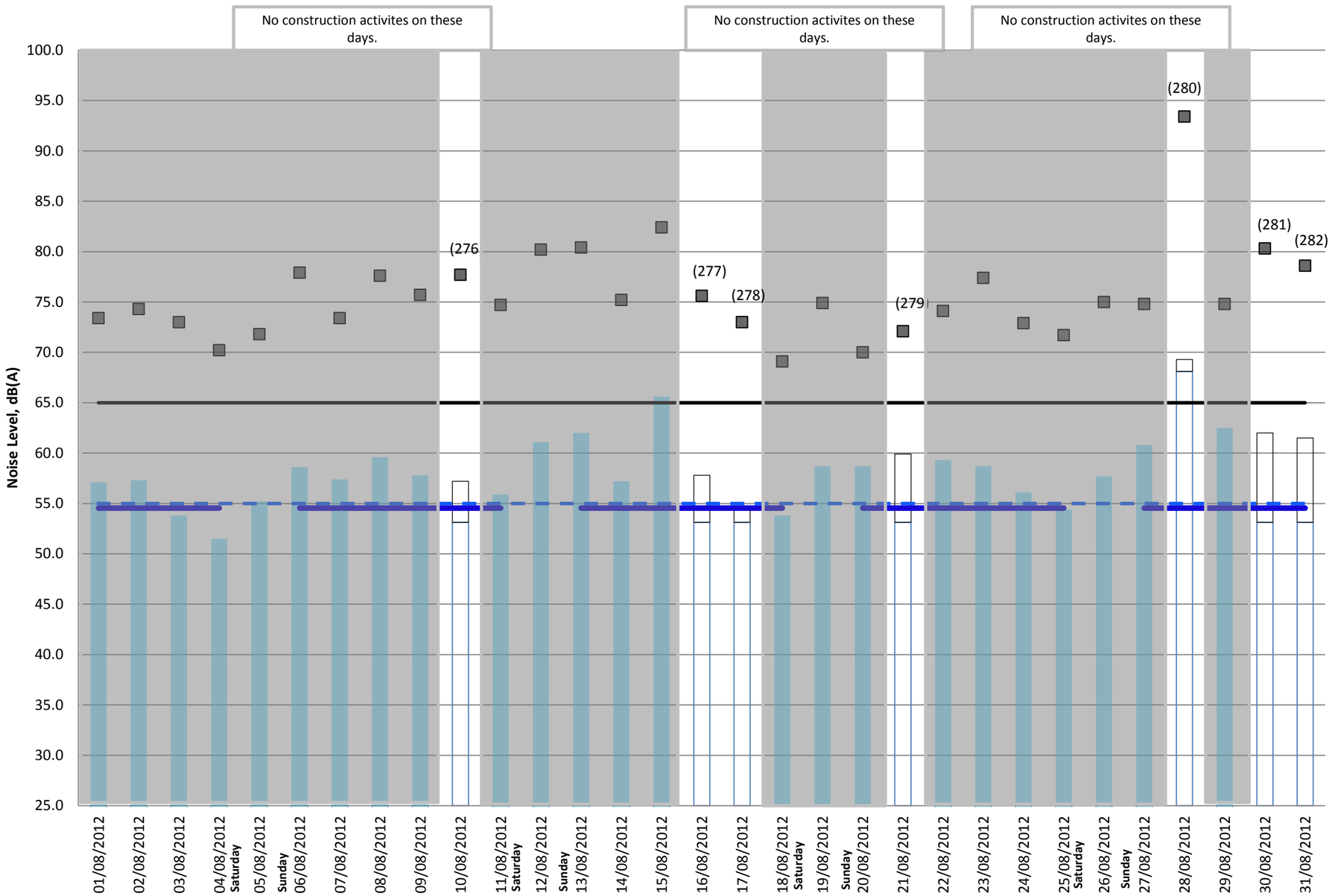
- Maximum noise level
- Monthly average total construction noise level

Measured Noise Levels

- Daily noise level (no construction works on this day)
- Total daily noise level
- Total daily construction noise level
- Monthly average total construction noise level
- Daily maximum noise level

(n) = Investigation Report Number

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



Construction Noise Thresholds

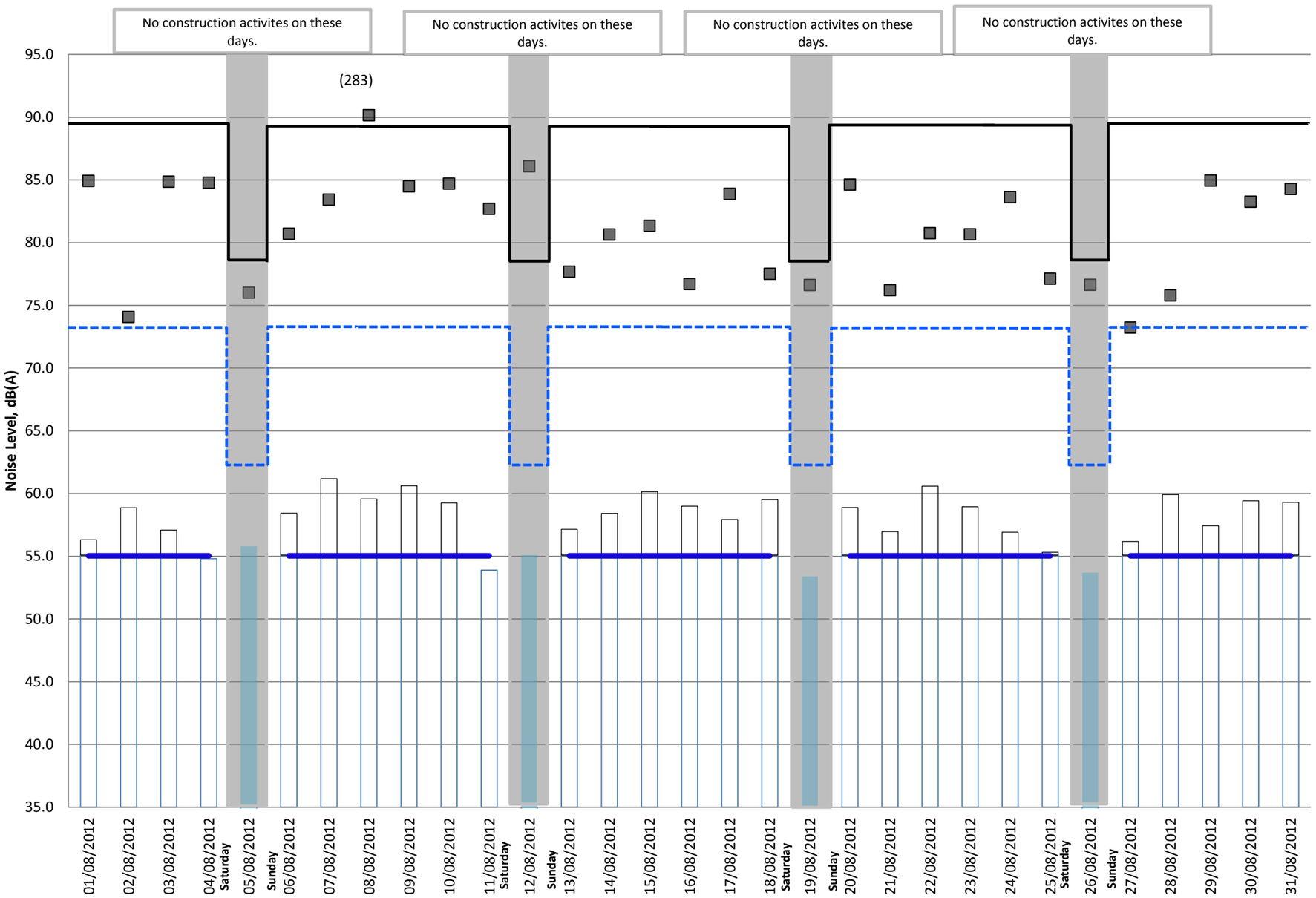
- Maximum noise level
- Monthly average total construction noise level

Measured Noise Levels

- Daily noise level (no construction works on this day)
- Total daily noise level
- Total daily construction noise level
- Monthly average total construction noise level
- Daily maximum noise level

(n) = Investigation Report Number

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



Construction Noise Thresholds

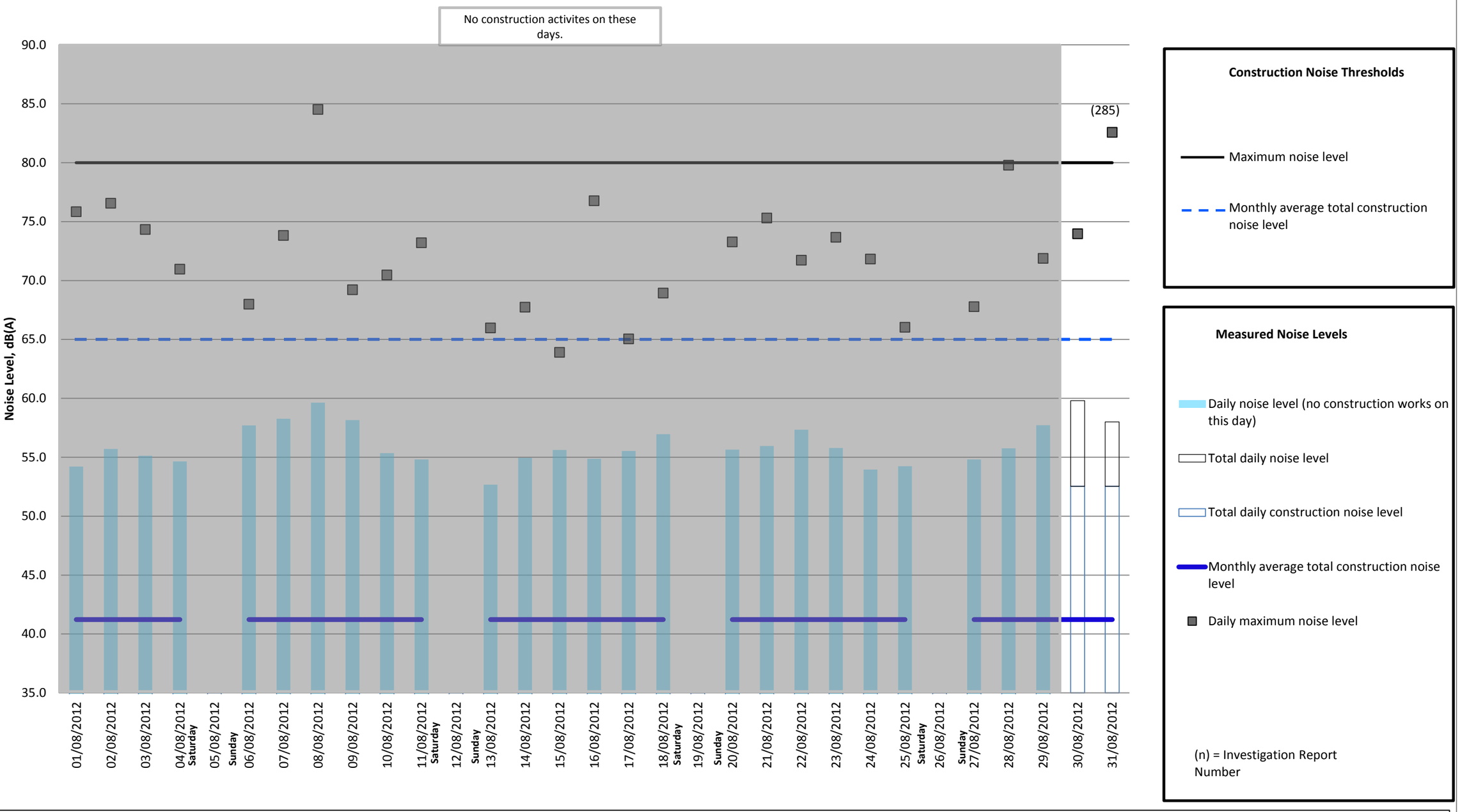
- Maximum noise level
- Monthly average total construction noise level

Measured Noise Levels

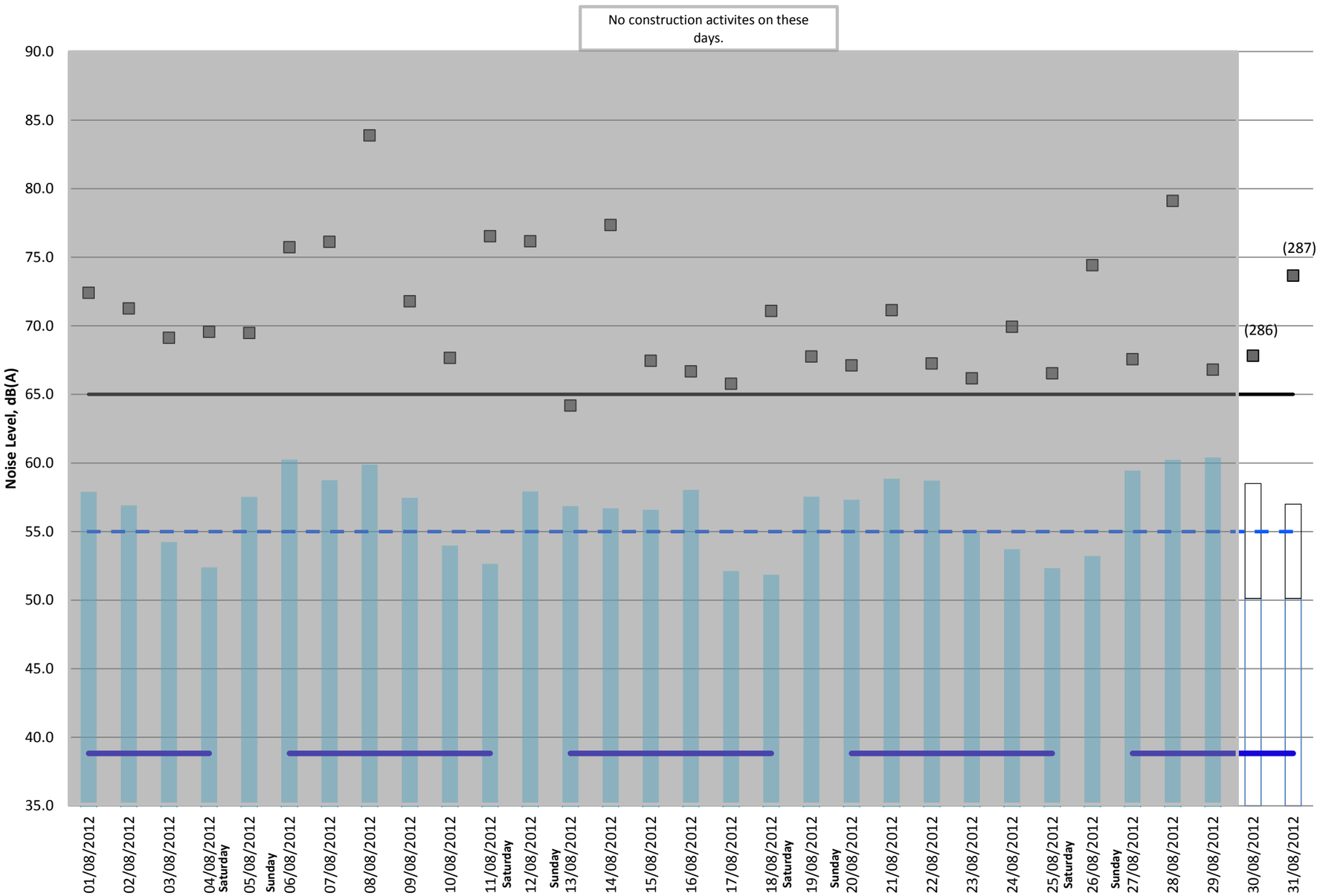
- Daily noise level (no construction works on this day)
- Total daily noise level
- Total daily construction noise level
- Monthly average total construction noise level
- Daily maximum noise level

(n) = Investigation Report Number

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



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



Construction Noise Thresholds

- Maximum noise level
- Monthly average total construction noise level

Measured Noise Levels

- Daily noise level (no construction works on this day)
- Total daily noise level
- Total daily construction noise level
- Monthly average total construction noise level
- Daily maximum noise level

(n) = Investigation Report Number

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **23-08-12**	**NER. 122**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): August 01st,2nd 14th, 15th 16th, 18th, 22nd – CNV2

Exceedences 251: Maximum Noise Level: 97.8 dB (A) at 2.14pm - 01st August

252: Maximum Noise Level: 98.8 dB (A) at 12.48pm – 02nd August

254: Maximum Noise Level: 96.2 dB (A) at 6.42pm – 14th August

255: Maximum Noise Level: 100.1 dB(A) at 4.55pm – 15th August

256: Maximum Noise Level: 100.8 dB(A) at 10.07am – 16th August

257: Maximum Noise Level: 97.4 dB(A) at 11.09am – 18th August

258: Maximum Noise Level:100.5 dB(A) at 6.06pm – 22ndAugust

Analysis:

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 recordings available from the monitoring equipment indicates that barking dog(s) were responsible for the exceedences (see attached noise files)

Therefore it is considered that it is unlikely that construction activities caused these exceedences

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date …….23-08-12……

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……23-08-12…

Project Manager ~~/ Assist Project Manager~~

SRB Civil Engineering Limited ROADBRIDGE CIVIL ENGINEERING & BUILDING CONTRACTORS SISK BUILDERS CONTRACTORS Established 1859	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **24-08-12**	**NER. 123**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): August 23rd – CNV2

Exceedences: (259 + 260): During this period there were a number of exceedences over the two days. As a result of investigation, Barry O Riordan (SRB Engineer) visited the area where the monitor was located and found that the property owner was removing decking structure from the rear of the property.

Analysis:

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:

As a result of the site visit the noise exceedences were likely to be related to the activities of the property owner.

Therefore it is considered that it is unlikely that construction activities caused these exceedences

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date ……24-08-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……24-08-12…

Project Manager ~~/ Assist Project Manager~~

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **25-08-12**	**NER. 124**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): August 24th – CNV2

Exceedences 260: Maximum Noise Level: 97.6 dB (A) at 6.43pm – 24th August

Analysis:

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 recordings available from the monitoring equipment indicates that shouting from what appears to be residents whilst carrying out works to the rear of the property and also a dog barking accounts for the noise exceedence recorded (see attached noise recording)

Therefore it is considered that it is unlikely that construction activities caused this exceedence

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date ……25-08-12……

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……25-08-12…

Project Manager ~~/ Assist Project Manager~~

Exced 260.wav

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **11-08-12**	**NER. 125**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): August 10th – CNV2

Exceedences 253 and 263: Maximum Noise Level: 100.5 dB (A) at 09.17am but also throughout the day and evening– 24th August

Analysis:

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 recordings available from the monitoring equipment would appear to indicate that the dogs present at the property were barking intermittently for most of the day and evening (see attached noise files)

Therefore it is considered that it is unlikely that construction activities caused this exceedence

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date ……11-08-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……11-08-12…

Project Manager ~~/ Assist Project Manager~~

Exced 253.wav Exced 263.wav

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **17-08-12**	**NER. 126**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): August 03rd, 07th, 11th, 13th and 16th – CNV2

Exceedences 261: Maximum Noise Level: 82.4 dB (A) at 8.25pm – 03rd August

262: Maximum Noise Level: 87.6 dB(A) at 7.59pm – 7th August

264: Maximum Noise Level: 83.4 dB(A) at 8.39pm – 11th August

265: Maxmum Noise Level: 83.9 dB(A) at 8.28pm – 13th August

266: Maximum Noise Level: 85.8 dB(A) at 8.03pm – 16th August

Analysis:

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 traffic management records indicates that overnight activities did not commence on these evenings and nights until after 9pm.

Therefore it is considered that it is unlikely that construction activities caused these exceedences

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date ……17-08-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……17-08-12…

Project Manager ~~/ Assist Project Manager~~

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **13-08-12**	**NER. 127**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): August 10th – CNV2

Exceedences 270: Maximum Noise Level: 84.5 dB (A) at 07.15am – 11th August

Analysis:

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 records shows that a high revving motorbike passed this location at the time of the exceedence (see noise file attached)

Therefore it is considered that it is unlikely that construction activities caused this exceedence

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date ……17-08-12……

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……..17-08-12…

Project Manager ~~/ Assist Project Manager~~

Exced 270.wav

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **14-08-12**	**NER. 128**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): August 10th – CNV2

Exceedences 267: Maximum Noise Level: 86.6 dB (A) at 06.36am – 03rd August

268: Maximum Noise Level: 82.5 dB (A) at 06.56am – 05th August

271: Maximum Noise Level: 81.9 dB (A) at 04.19am – 11th August

273: Maximum Noise Level: 82.9 dB (A) at 05.58am – 13th August

Analysis:

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 traffic management records indicates that works on these nights finished at 4am and there were no construction activities being carried out after this time on these nights.

Therefore it is considered that it is unlikely that construction activities caused this exceedence

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date ……14-08-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……14-08-12…

Project Manager ~~/ Assist Project Manager~~

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **08-08-12**	**NER. 129**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): August 07th – CNV2

Exceedences 269: Maximum Noise Level: 89.9 dB (A) at 12.46am

Analysis:

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 traffic management records indicates that works on this night commenced further west than CH 1300 at 9pm, moving westward and were more than 300m from the sensitive receptor location at this time.

Therefore it is considered that it is unlikely that construction activities caused this exceedence

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date ……08-08-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……08-08-12…

Project Manager ~~/ Assist Project Manager~~

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **13-08-12**	**NER. 130**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): August 12th – CNV2

Exceedences 272: Maximum Noise Level: 86.5 dB (A) at 00.40am

Analysis:

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 traffic management records indicates that the works on this night commenced at 10.30pm and consisted of varioguard being placed from Ch1700 to Ch1100 M9 East bound. As the works were quite slow to progress that laydown at the time of the exceedence was located more than 300m from the sensitive receptor location.

Therefore it is considered that it is unlikely that construction activities caused this exceedence

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date …….13-08-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……13-08-12…

Project Manager ~~/ Assist Project Manager~~

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **18-08-12**	**NER. 131**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): August 16th – CNV2

Exceedences 274: Maximum Noise Level: 89.4 dB (A) at 22.15pm

Analysis:

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:

On this night, welding on the new M9 Bridge took place. This bridge is located more than 300m from the sensitive receptor location.

Therefore it is considered that it is unlikely that construction activities caused this exceedence

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date ……18-08-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……18-08-12…

Project Manager ~~/ Assist Project Manager~~

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **17-08-12**	**NER. 132**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): August 16th – CNV7

Exceedences 275: Maximum Noise Level: 82.9 dB (A) between 7 and 8pm.

Analysis:

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:

On the evening in question, the main site activities finished at 7pm and the night works (that invoved welding on the new M9j1a bridge did not commence until after 9pm.

Therefore it is considered that it is unlikely that construction activities caused this exceedence

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date ……18-08-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……18-08-12…

Project Manager ~~/ Assist Project Manager~~

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **31-08-12**	**NER. 133**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): August 16th – CNV7

Exceedences 276: Maximum Noise Level: 82.9 dB (A) between 7 and 8pm. 10th August

279: Maximum Noise Level: 82.9 dB (A) between 6 and 7am. 21st August

282: Maximum Noise Level: 78.6 dB (A) between 11pm and 12am. 31st August

Analysis:

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:

On each of the evenings and nights in question, works taking place on the new M9J1a bridge. There is no line of sight from the bridge to the receptor location and the nature of the works makes it unlikely that they could be heard at CNV 07.

Therefore it is considered that it is unlikely that construction activities caused this exceedence

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date ……31-08-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……31-08-12…

Project Manager ~~/ Assist Project Manager~~

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **17-08-12**	**NER. 134**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): August 16th – CNV7

Exceedences 277: Maximum Noise Level: 75.6 dB (A) between 10 and 11pm.

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:

Cutting of the loops on the Spur took place at this time and it is likely that the works were responsible for this exceedence.

More care needs to be taken when carrying out these works and letter drops are required in advance of carrying out these works. A complaint was received from a resident in relation to these works and has been entered into the complaints register and is being dealt with by the Communications Liaison Office for the M9J1a Project.

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date ……17-08-12……

NER Closed

As per comments above, more care needs to be taken in keeping local residents informed.

Signature ……Seamus O'Brien……Date ……17-08-12…

Project Manager ~~/ Assist Project Manager~~

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **17-08-12**	**NER. 135**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): August 17th – CNV7

Exceedences 278: Maximum Noise Level: 72.7 dB (A) between 1 and 2am.

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 records available indicate the night works involved cutting of loops on the M9 Spur southbound during this time period.

While it is possible that construction activities may have caused this exceedence, there were no complaints concerning the works.

More care needs to be taken when carrying out these works and letter drops are required in advance of carrying out these works.

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date …….17-08-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……..17-08-12…

Project Manager ~~/ Assist Project Manager~~

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **29-08-12**	**NER. 136**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): August 28th – CNV7

Exceedences 280: Maximum Noise Level: 93.4 dB (A) between 10 and 11pm.

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:

Works on the varioguard at Newmains Bridge took place during this period.

More care needs to be taken when carrying out these works and letter drops are required in advance of carrying out these works. A complaint was received from a resident in relation to these works and has been entered into the complaints register and is being dealt with by the Communications Liaison Office for the M9J1a Project.

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date ……29-08-12……

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……29-08-12…

Project Manager ~~/ Assist Project Manager~~

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **31-08-12**	**NER. 137**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): August 30th – CNV7

Exceedences 281: Maximum Noise Level: 80.3 dB (A) between 10 and 11pm.

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:

Lining works to the M9 Spur south bound took place on this night but due to a machinery breadown, they did not commence until 10.30pm and started up past the leisure centre. Therefore,at this particular time they would not have been concentrated within 300m of this area.

Therefore it is considered that it is unlikely that construction activities caused this exceedence

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date ……31-08-12……

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……31-08-12…

Project Manager ~~/ Assist Project Manager~~

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **09-08-12**	**NER. 138**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): August 9th – CNV16

Exceedences 283: Maximum Noise Level: 90.2 dB (A) at 4.43pm

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:

The exceedence was recorded as children playing at the property (see attached noise file)

Therefore it is considered that it is unlikely that construction activities caused this exceedence

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date ……31-08-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……31-08-12…

Project Manager ~~/ Assist Project Manager~~

Exced 283.wav

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **31-08-12**	**NER. 139**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): <u>August 31st – CNV16</u>

Exceedences 285: Maximum Noise Level: 82.6 dB (A) at 8.22pm

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:

On the night in question, works were concentrated near the M9J1a Bridge at CH500m. This is more than 300m away from the sensitive receptor location.

Therefore it is considered that it is unlikely that construction activities caused this exceedence

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date ……31-08-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……..31-08-12…

Project Manager ~~/ Assist Project Manager~~

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **31-08-12**	**NER. 140**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): August 31st – CNV16

Exceedences 286: Maximum Noise Level: 67.8 dB (A) at 05.51am 30th August

287: Maximum Noise Level: 73.7 dB (A) at 23.19pm 31st August

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:

On the night and morning in question, works were concentrated near the M9J1a Bridge at CH500-550m. This is more than 300m away from the sensitive receptor location.

Therefore it is considered that it is unlikely that construction activities caused this exceedence

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date …….31-08-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……..31-08-12…

Project Manager ~~/ Assist Project Manager~~