Forth Replacement Crossing

Employer's Delivery Team
Construction Noise Monitoring Report

Principal Contract and M9J1a Contract
(July 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
(JULY 2012)

Revision Status

Revision	Date	Description	Author	Approved for Use
0	September 2012	Original	DGC	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: July 2012 – refer to Section 2 of this report.
- M9 Junction 1a Contract: July 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)	July 2012	• Drilling for blasting • Blasting • Rock removal • Break out rock
Tigh-Na-Grian (M3)	July 2012	• On-going works at Beamer Rock • Caisson Excavation • N2 excavation
Port Edgar (M6)	July 2012	• On-going works at Beamer Rock • Dredging at South shores • S1 excavation • S5 excavation • Caisson works
Butlaw Fisheries (M7)	July 2012	• On-going works at Beamer Rock • Dredging at South shores • Caisson works • S1 excavation • S5 excavation • Utility works • Society Road works
Inchgarvie Lodge (M10)	July 2012	• On-going works at Beamer Rock • Dredging at South shores • Caisson works • S1 excavation • S5 excavation • Utility works • Earthworks • Drainage works
Linn Mill (M11)	July 2012	• Utility works • Earthworks • Drainage works • Fencing • Soil stripping
Clufflat Brae (M13)	July 2012	• Utility works • Earthworks • Drainage works

Springfield (M14)	July 2012	• Utility works • Drainage works • Earthworks • Soil stripping
Echline Field (M15)	July 2012	• Works at Southern Compound • Utility works • Drainage works • Earthworks • Soil stripping • Rock excavation
Scotstoun (M16)	July 2012	• Utilities works
Dundas Home Farm (M17)	July 2012	• Utilities works
Newton	July 2012	• No works within 1.75 km

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 July, 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 Clufflat Brae, Linn Mill and Butlaw Fisheries were attributed to construction works.

2.4 Exceedances of the monthly average threshold occurred at Scotstoun, Butlaw Fisheries, Inchgarvie Lodge and Linn Mill, however these are not considered to be due to construction works being carried out.

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 July the maximum noise threshold was exceeded on 46 occasions (daytime, 10; evening, 9; night time, 27). The majority 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 and ship horns. Eight exceedances were due to construction works, in particular due to dredging works.
Clufflat Brae (M13)	NVIRs	During July the maximum noise threshold was exceeded on 47 occasions (daytime, 11; evening, 10; night time, 26). A number of the exceedances were found to be due to birds, adverse weather conditions and people at the nearby properties, in particular children playing. Three exceedances were found to be due to the intermittent noise of plant operating in close proximity to the meter.
Inchgarvie Lodge (M10)	NVIRs	During July the maximum noise threshold was exceeded on 51 occasions (daytime, 11; evening, 13; night time, 27). No exceedances were found to be due to construction woks. Investigations found birds and movements at the property to be the main contributing factor to the exceedances at this location.
Linn Mill (M11)	NVIRs	During July the maximum noise threshold was exceeded on 44 occasions (daytime, 12; evening, 5; night time, 27). Five exceedances were due to construction works; each of these exceedances was due to works being undertaken by Scottish Water. However, the majority of exceedances were caused by a number of non-construction factors, including birds, animals and adverse weather conditions.
Tigh-Na-Grian (M3)	NVIRs	During July the maximum noise threshold was exceeded on 61 occasions (daytime, 23; evening, 10; night time, 28). The night time threshold was exceeded on 4 occasions due to works on the North Tower caisson. However the majority of exceedances were due to other non- construction factors such as birds and ship horns in the estuary.

Monitoring Location	Contractor's Exceedance Report Reference	Exceedance
Dundas Home Farm (M17)	NVIRs	During July the maximum noise threshold was exceeded on 3 occasions. Exceedances were not attributable to construction works. Exceedances were the result of vehicle noises (car horns), 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 July the maximum noise threshold was exceeded on 13 occasions. Four exceedances at this location were due to construction activities close to the monitor. Other, non-construction related exceedances were attributed to factors including birds and local noises at the nearby properties.
Scotstoun (M16)	NVIRs	During July the maximum noise threshold was exceeded on 24 occasions. Exceedances were attributed to vehicles passing by on the adjacent road.
Whinny Hill (M1)	NVIRs	During July the maximum noise threshold was exceeded on 10 occasions. Exceedances were not due to construction activities. A range of factors were found to cause exceedances at this location, including use of a lawnmower, birds, children playing and other noises from the nearby property.

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)	July 2012	• Erection of noise barrier • Excavation of quarry area • Earthworks north of Gateside • Drainage works on M9 • Sub-base and pavement on the M9 • Gantry bases for G4
15-17 Buie Rigg (CNV07)	July 2012	• Earthworks over Swineburn culvert • Drainage works at eastbound merge • Newmains Bridge backfilling
8 Kirklands Park Grove (CNV16)	July 2012	• M9 Spur Earthworks • Drainage near on M9 Spur • M908E Newmains Bridge backfilling • Gantry 12 pilecap poured

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 July, however the majority of these are not considered to be due to construction works being carried out. However, one day 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 94 - 109	During July the maximum noise threshold was exceeded on 17 occasions (daytime, 7; evening, 3; night time, 7). However, no exceedances were attributed to construction related activities. The exceedances were attributed to dogs barking, residents' voices and emergency services vehicle sirens.
15-17 Buie Rigg (CNV07)	NER 110 - 120	During July the maximum noise threshold was exceeded on 11 occasions (daytime, 9; night time, 2). However, none of the exceedances are attributed to construction works with the exception of 1 day time exceedance which has been attributed earthmoving plant operations (See NER 115).
8 Kirklands Park Grove (CNV16)	NERs 120 - 122	During July the maximum noise threshold was exceeded on 2 occasions (day time). However, the exceedances are not attributed to construction related activities as no works were being carried out on in the vicinity of the receptor at the time of the exceedances.

Table 3.2 M9 J1a Contract – Summary of Noise Threshold Exceedances

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:

JULY 2012

00	16/08/12	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-00042	00

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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 July 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 July 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 July 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 July 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 July 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 N2 excavation
M6	Port Edgar	Crossing	On-going works at Beamer Rock Dredging at South shores S1 excavation S5 excavation Caisson works
M7	Butlaw Fisheries	Crossing	On-going works at Beamer Rock Dredging at South shores Caisson works S1 excavation S5 excavation Utility works Society Road works
M10	Inchgarvie Lodge	Crossing	On-going works at Beamer Rock Dredging at South shores Caisson works S1 excavation S5 excavation Utility works Earthworks Drainage works
M11	Linn Mill	Network (close proximity to Crossing)	Utility works Earthworks Drainage works Fencing Soil stripping
M13	Clufflat Brae	Network (close proximity to Crossing)	Utility works Earthworks Drainage works
M14	Springfield	Network	Utility works Drainage works Earthworks Soil stripping N.B. No evening, night time or Sunday daytime construction in vicinity.

M15	Echline Field	Network	Utility works Drainage works Earthworks Soil stripping N.B. No evening, night time or Sunday daytime construction in vicinity.
M16	Scotstoun	Network	Utilities works N.B. No evening, night time, Saturday or Sunday daytime construction in vicinity.
M17	Dundas Home Farm	Network	Utilities works 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 July 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 July 2012. FCBC are currently working to restore power to this device and it is anticipated that this device will be operational by mid-August. Data is missing for 3 days for Scotstoun during July due to an error associated with the download of data and data is missing for a weekend period at Butlaw due to a device error.

3.3 Results demonstrate that the monthly average total construction noise results for daytime were within the threshold limits for all monitoring locations for July 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 July 2012. For night-time, results show exceedances of the threshold at Butlaw Fisheries and Linn Mill, with all other monitoring locations within the threshold. The daytime Sunday average (for applicable monitoring locations) was found to be within the threshold for all monitoring locations during July 2012, with the exception of Inchgarvie Lodge. 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, Inchgarvie and Linn Mill, whilst all other locations were below the threshold.

3.4 With regard to the exceedances of the night time averages at Butlaw Fisheries and Linn Mill, it should be noted that night time averages represent only the highest 1 hour periods recorded within the period. The highest 1 hour L_{Aeqs} are generally recorded during the early hours of the morning, during which background noise levels are increased due to birds. Where high levels were noted only in the early hours these were removed from the data set to give an indication of the effect that bird calls have on the average; for both Butlaw Fisheries and Linn Mill this lowered the average by over 1dB. Furthermore, the third party works undertaken by Scottish Water on the night of the 25 July were found to significantly influence the monthly night time average for July; as this was not controlled by FCBC a PCNV was not in place for these works. Where these works alone are excluded from the average then the average falls below the monthly threshold to 46.4 dB. For Butlaw Fisheries, adverse weather conditions also influence the averages as the noise levels during periods of adverse weather are increased due to the proximity to the water's edge. Additionally, it should be noted that recent attended monitoring at Butlaw Fisheries highlighted that levels at the nearest occupied receptor are around 5 to 10 dB different from the levels recorded at the monitoring device at Butlaw Fisheries.

3.5 The exceedances of the night time Sunday averages at Butlaw Fisheries, Inchgarvie Lodge and Linn Mill are also not considered to be attributable to construction works. Weather data and audio recordings demonstrate that heavy rain on 8 July and heavy rain accompanied by strong winds on 22 July influenced the night time Sunday average at each of these locations.

3.6 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 July.

3.7 During July 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 detail the results of the investigation in addition to any additional mitigation measures required.

3.8 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.

3.9 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.

3.10 The daytime Lmax thresholds at Clufflat Brae, Linn Mill and Springfield were exceeded during July as a result of construction works on a total of nine occasions. Intermittent noise from plant operating in close proximity to the noise meters at these locations was found to cause exceedances. The exceedances at Linn Mill and Clufflat Brae were due to plant operated by Scottish Water. These works resulted in exceedances on one evening and night at Linn Mill and one night at Clufflat Brae.

3.11 Some exceedances due to marine works were also recorded. Works within the caisson at the north tower caused the night-time threshold to be exceeded on 4 occasions. Furthermore, the dredging works at the southern shore were also found to cause three exceedances at Butlaw Fisheries on 8 occasions.

3.12 A summary of the findings for exceedances occurring at each of the locations can be found in Table 2.

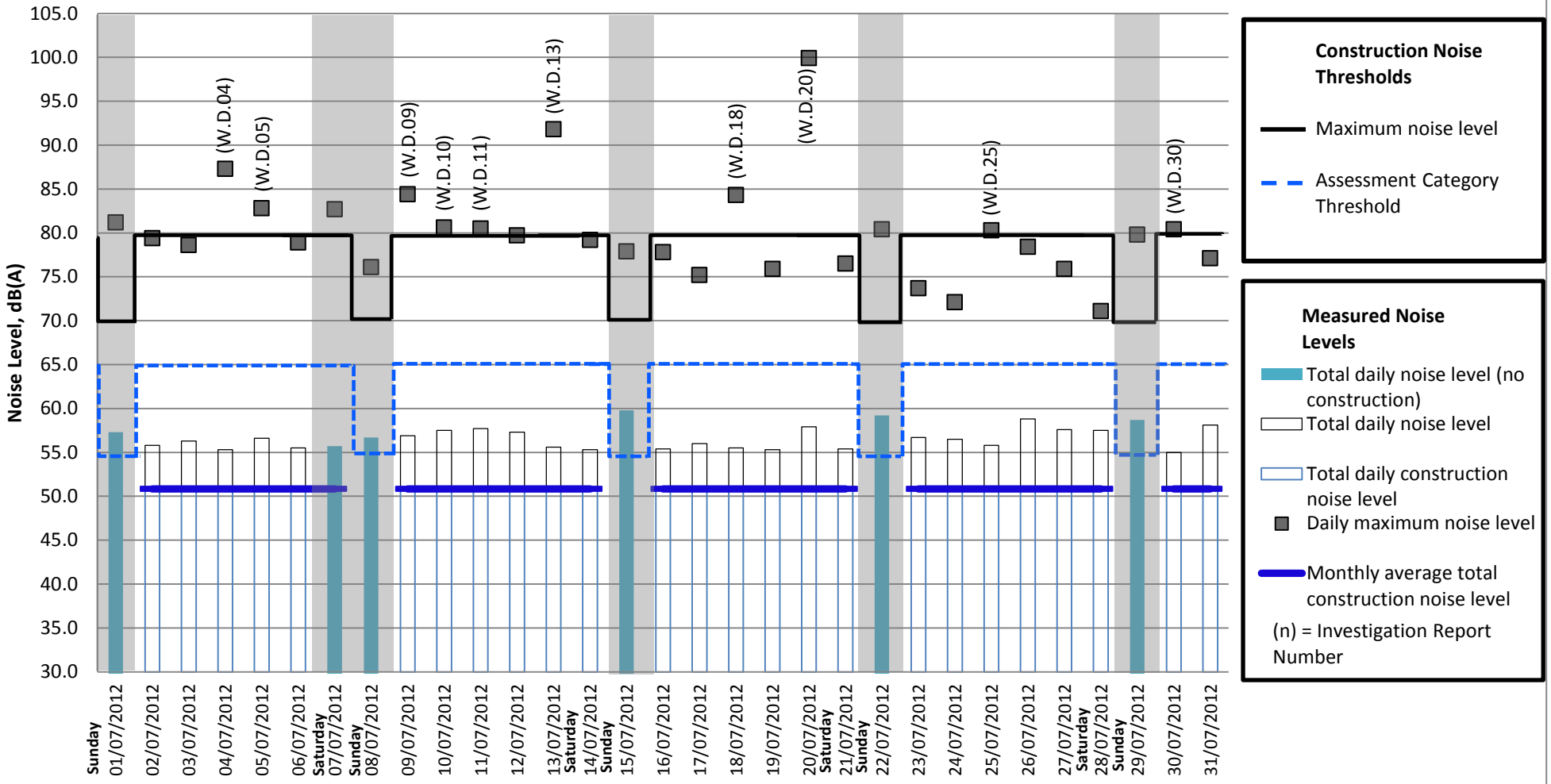
Table 2: Summary of Exceedances at Monitoring Locations

Monitoring Location	Summary of Exceedance Details
Butlaw Fisheries	During July the maximum noise threshold was exceeded on 46 occasions (daytime, 10; evening, 9; night time, 27). The majority 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 and ship horns. Eight exceedances were due to construction works, in particular due to dredging works.
Clufflat Brae	During July the maximum noise threshold was exceeded on 47 occasions (daytime, 11; evening, 10; night time, 26). A number of the exceedances were found to be due to birds, adverse weather conditions and people at the nearby properties, in particular children playing. Three exceedances were found to be due to the intermittent noise of plant operating in close proximity to the meter.
Inchgarvie Lodge	During July the maximum noise threshold was exceeded on 51 occasions (daytime, 11; evening, 13; night time, 27). No exceedances were found to be due to construction woks. Investigations found birds and movements at the property to be the main contributing factor to the exceedances at this location.
Linn Mill	During July the maximum noise threshold was exceeded on 44 occasions (daytime, 12; evening, 5; night time, 27). Five exceedances were due to construction works; each of these exceedances was due to works being undertaken by Scottish Water. However, the majority of exceedances were caused by a number of non-construction factors, including birds, animals and adverse weather conditions.
Tigh-Na-Grian	During July the maximum noise threshold was exceeded on 61 occasions (daytime, 23; evening, 10; night time, 28). The night time threshold was exceeded on 4 occasions due to works on the NT caisson. However the majority of exceedances were due to other non- construction factors such as birds and ship horns in the estuary.
Dundas Home Farm	During July the maximum noise threshold was exceeded on 3 occasions. Exceedances were not attributable to construction works. Exceedances were the result of vehicle noises (car horns), children playing and the use of lawnmowers near the monitor.
Springfield	During July the maximum noise threshold was exceeded on 13 occasions. Four exceedances at this location were due to construction activities close to the monitor. Other, non-construction related exceedances were attributed to factors including birds and local noises at the nearby properties.
Scotstoun	During July the maximum noise threshold was exceeded on 24 occasions. Exceedances were attributed to vehicles passing by on the adjacent road.

Whinny Hill	During July the maximum noise threshold was exceeded on 10 occasions. Exceedances were not due to construction activities. A range of factors were found to cause exceedances at this location, including use of a lawnmower, birds, children playing and other noises from the nearby property.

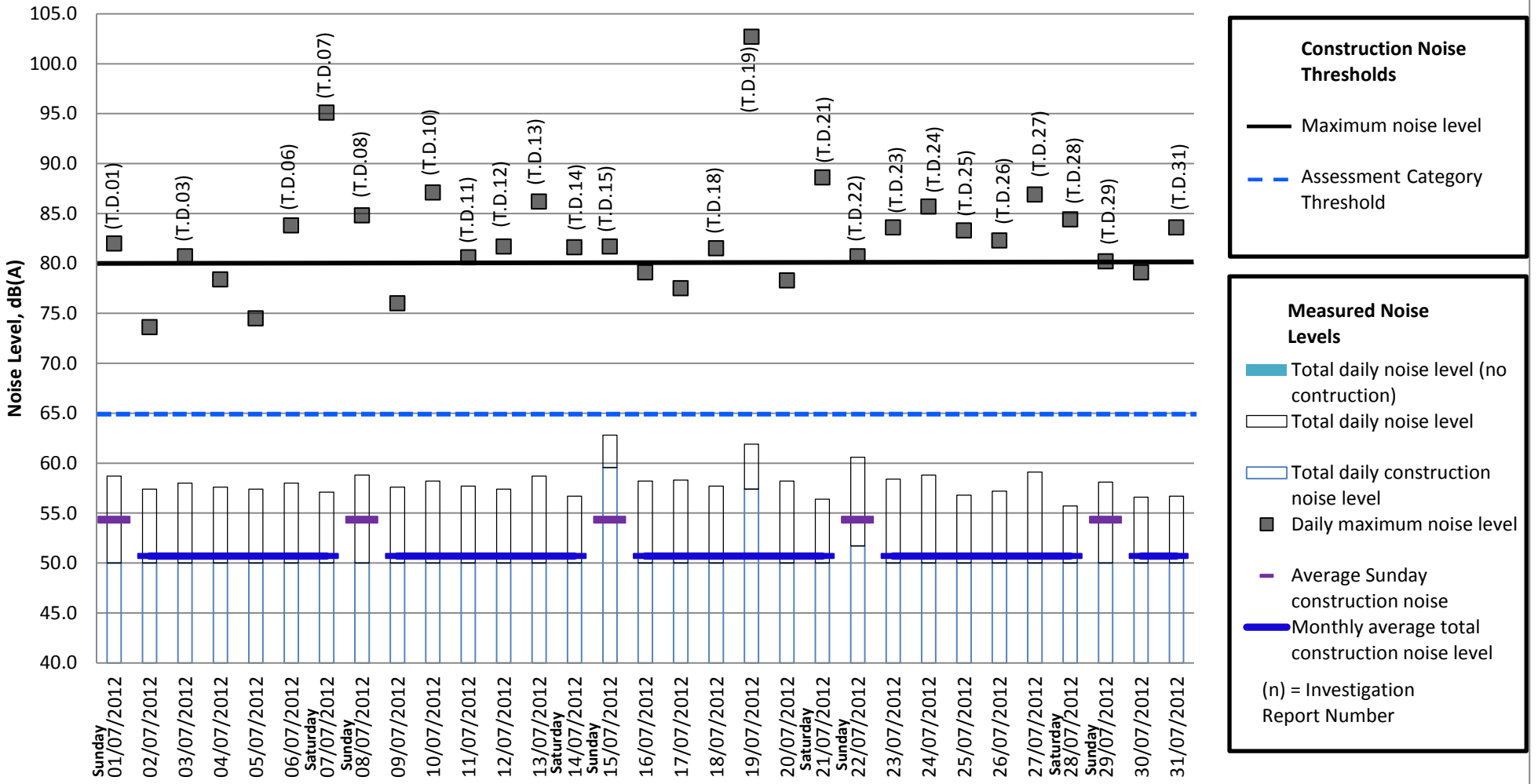
APPENDICES

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

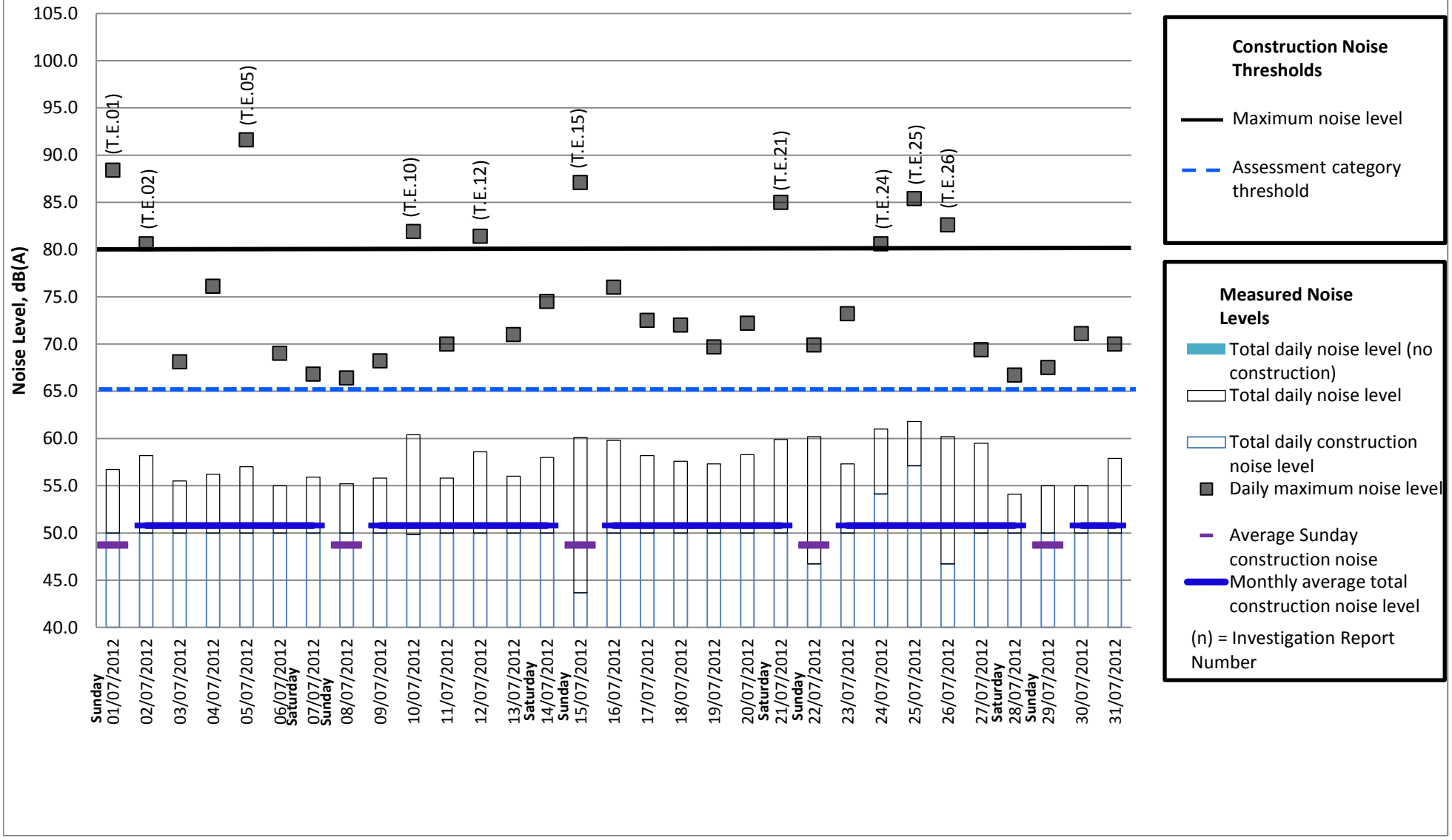


Note: The grey areas of the chart represent days on which no construction works have been conducted. The monthly average construction noise for Sunday has not been included as no Sunday works have been conducted at this location .

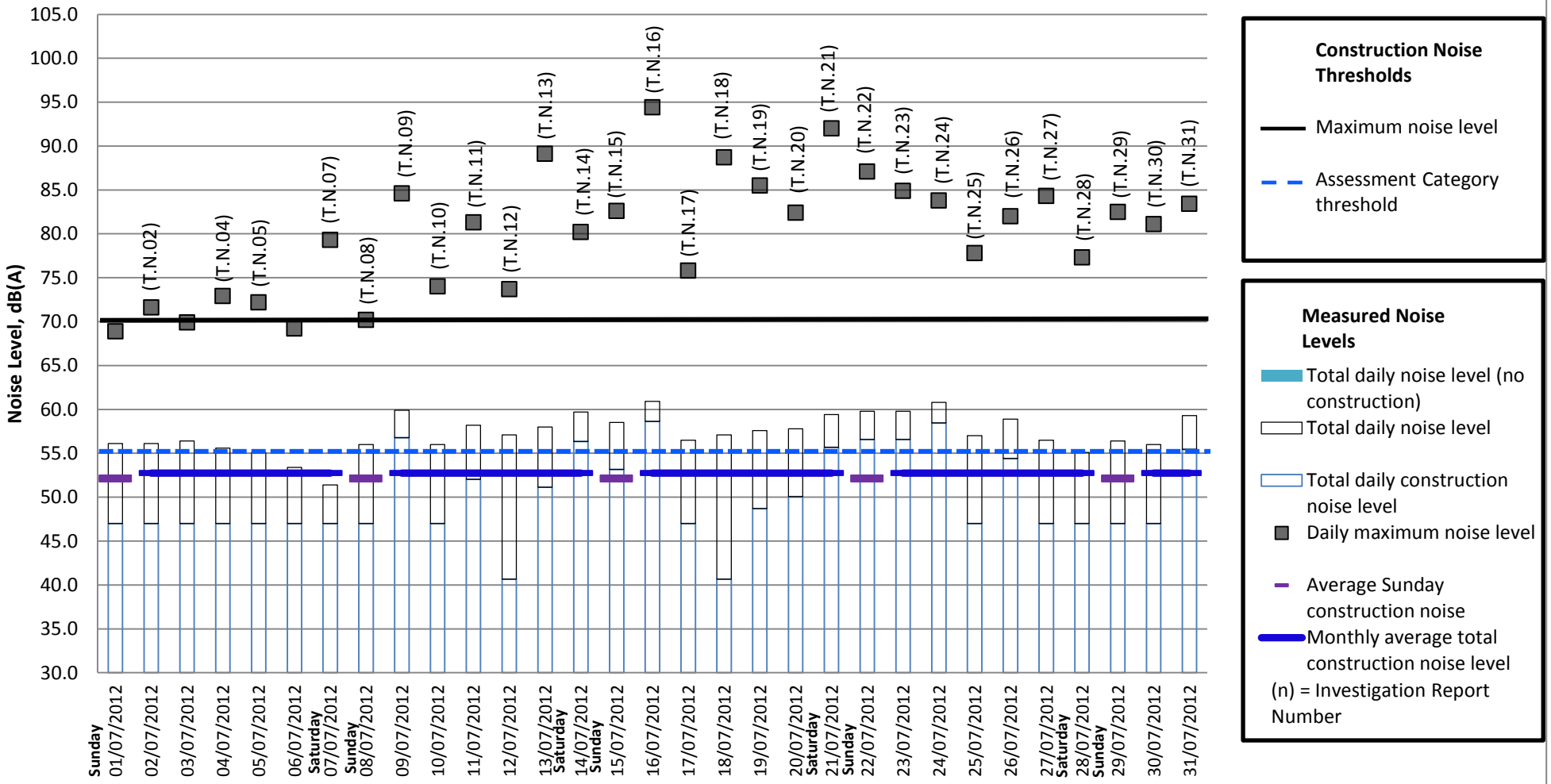
Measured Daytime Noise Levels at Tigh-Na-Grian
Measurement period: July 2012



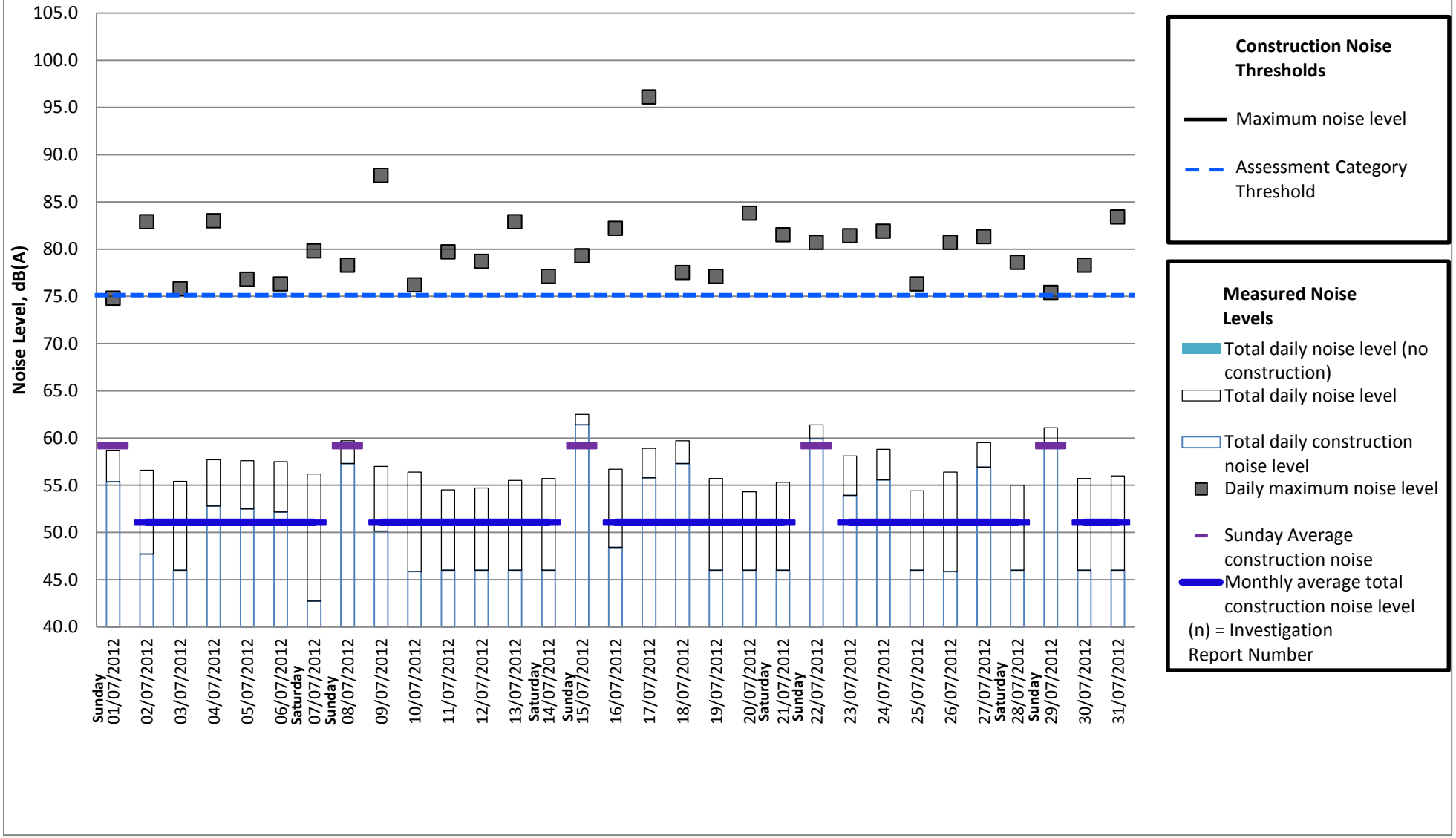
Measured Evening Noise Levels at Tigh-Na-Grian
Measurement period: July 2012



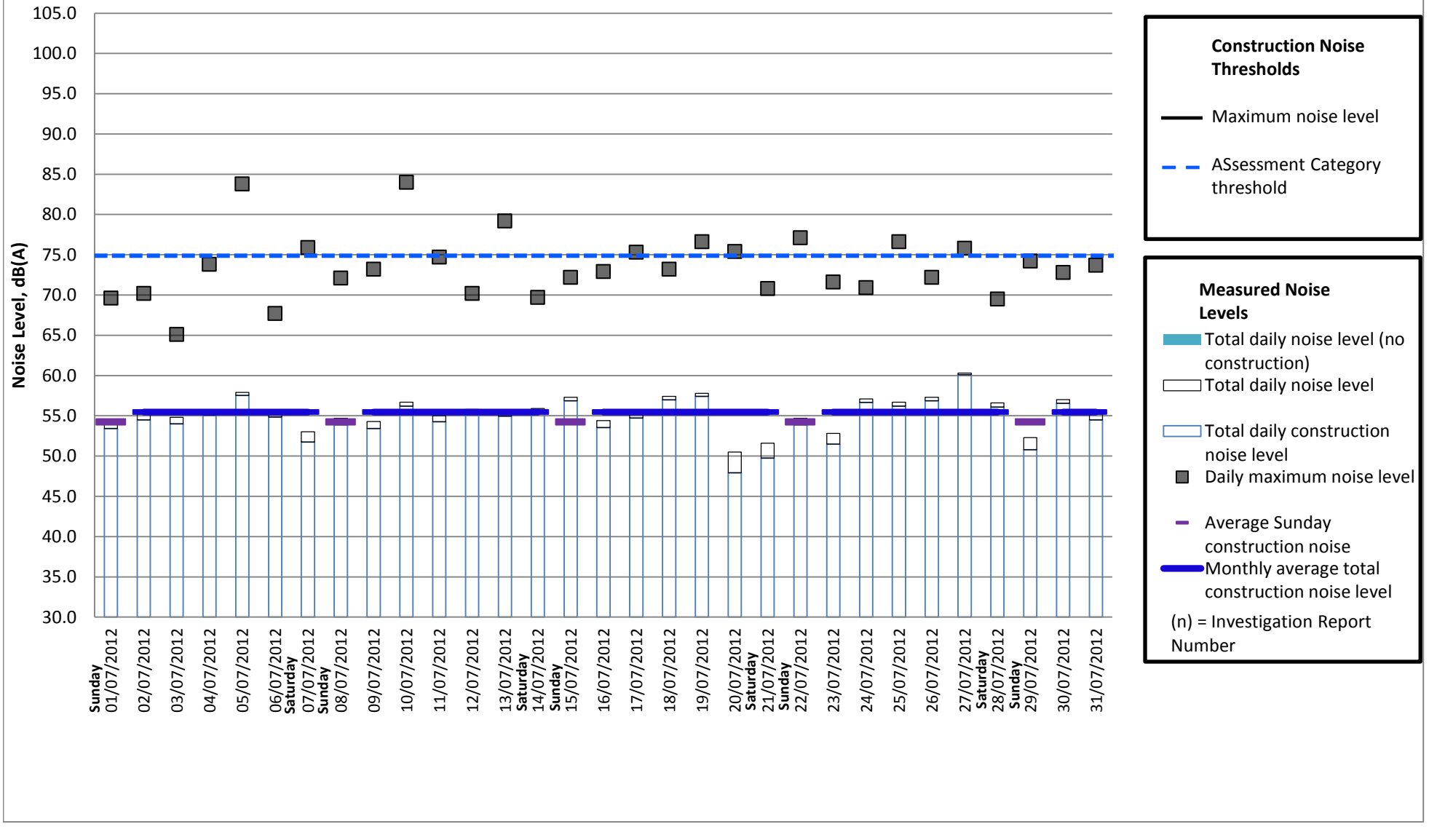
Measured Night-time Noise Levels at Tigh-Na-Grian
Measurement period: July 2012



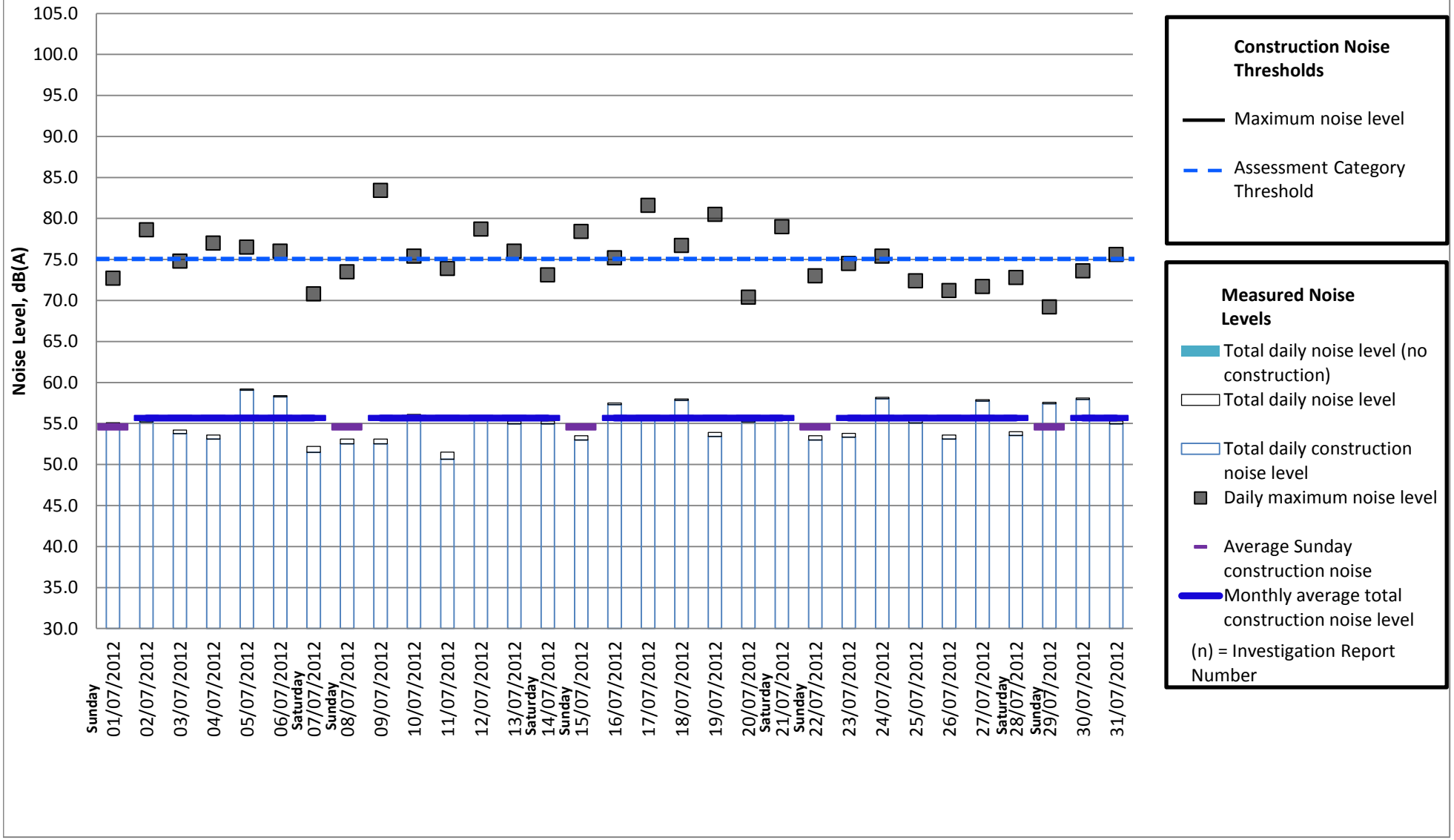
Measured Daytime Noise Levels at Port Edgar
Measurement period: July 2012



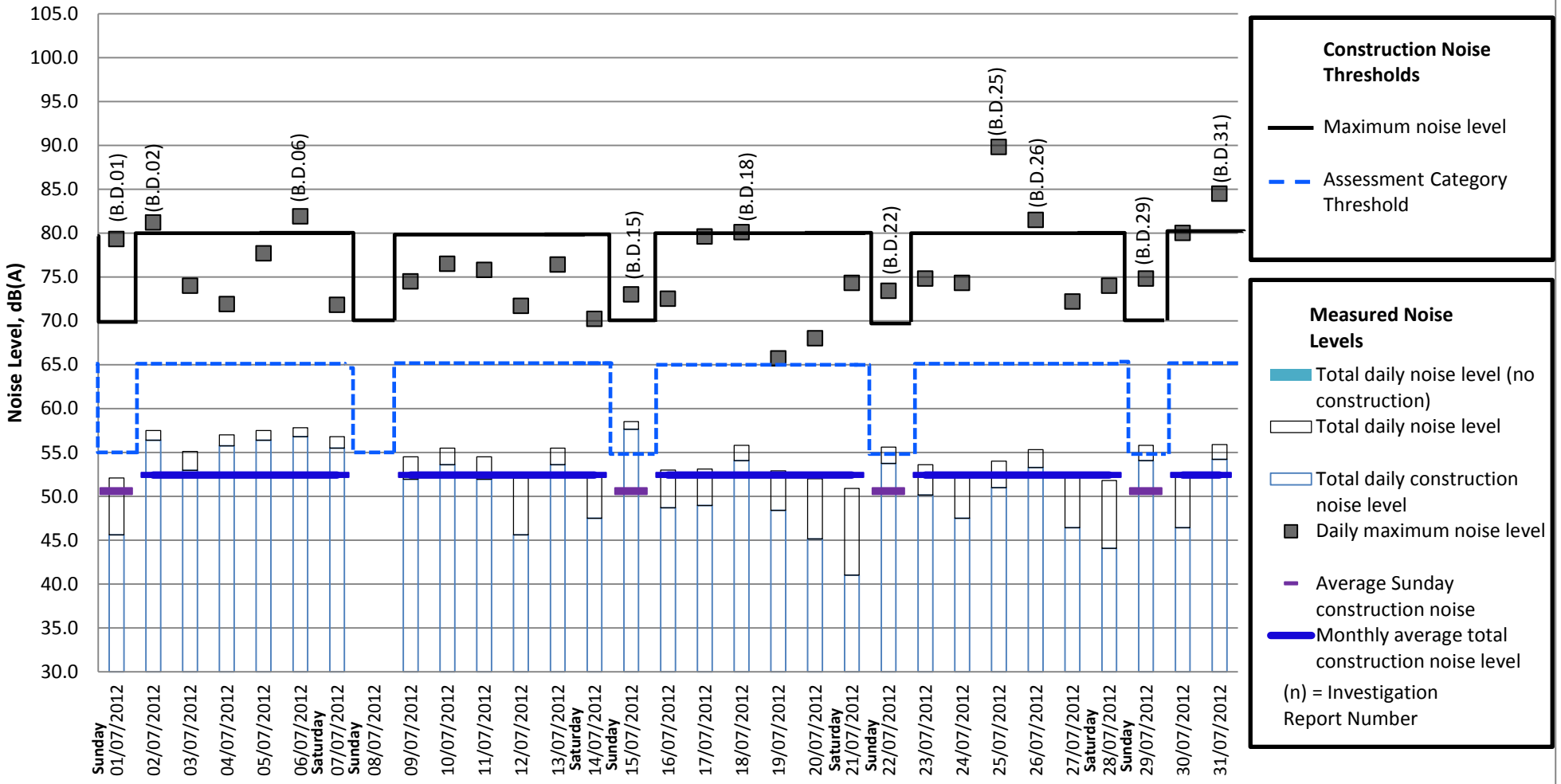
Measured Evening Noise Levels at Port Edgar
Measurement period: July 2012



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

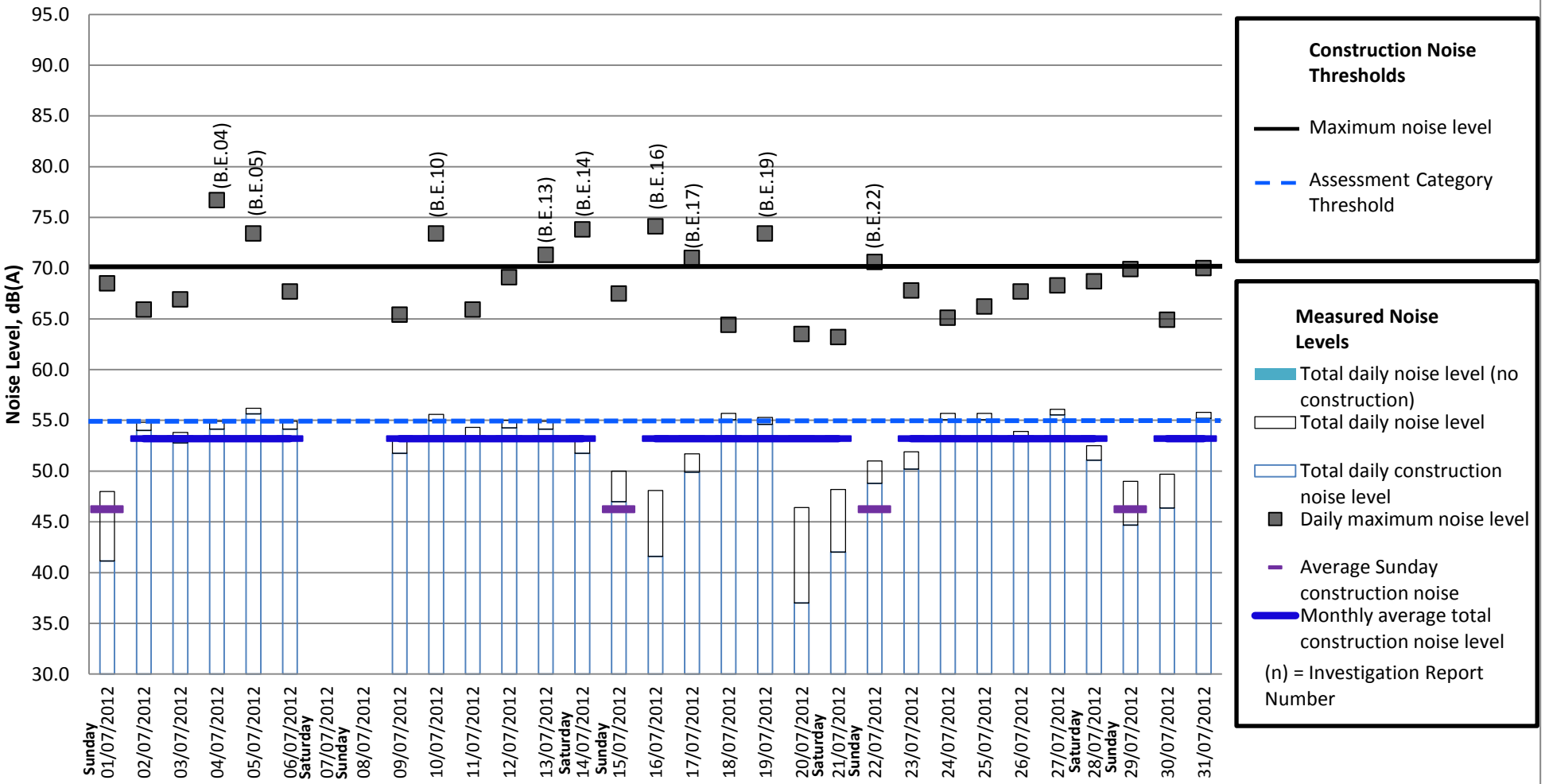


Measured Daytime Noise Levels at Butlaw Fisheries
Measurement period: July 2012



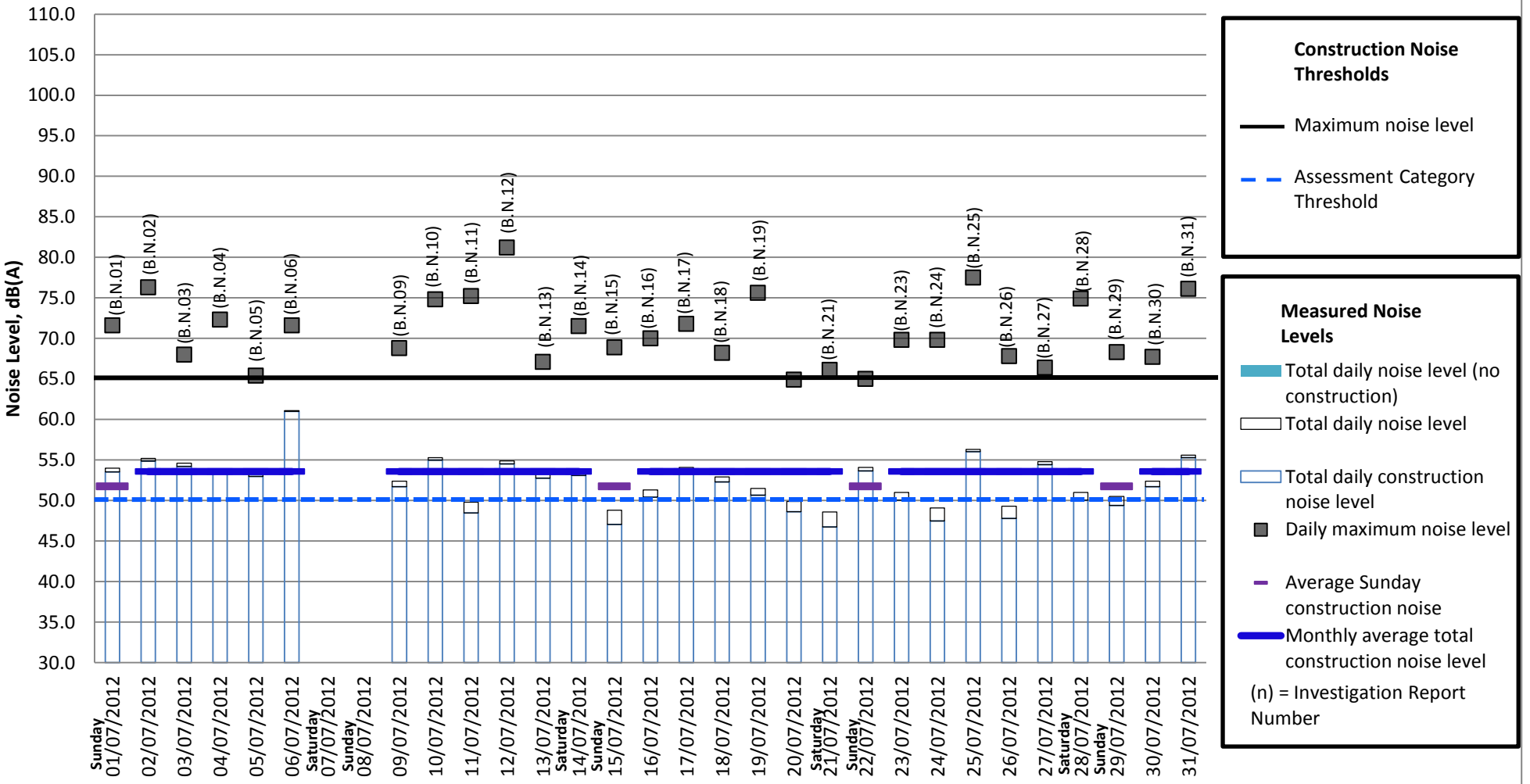
Note: Due to an error with the device, data is missing for 08/07/12.

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



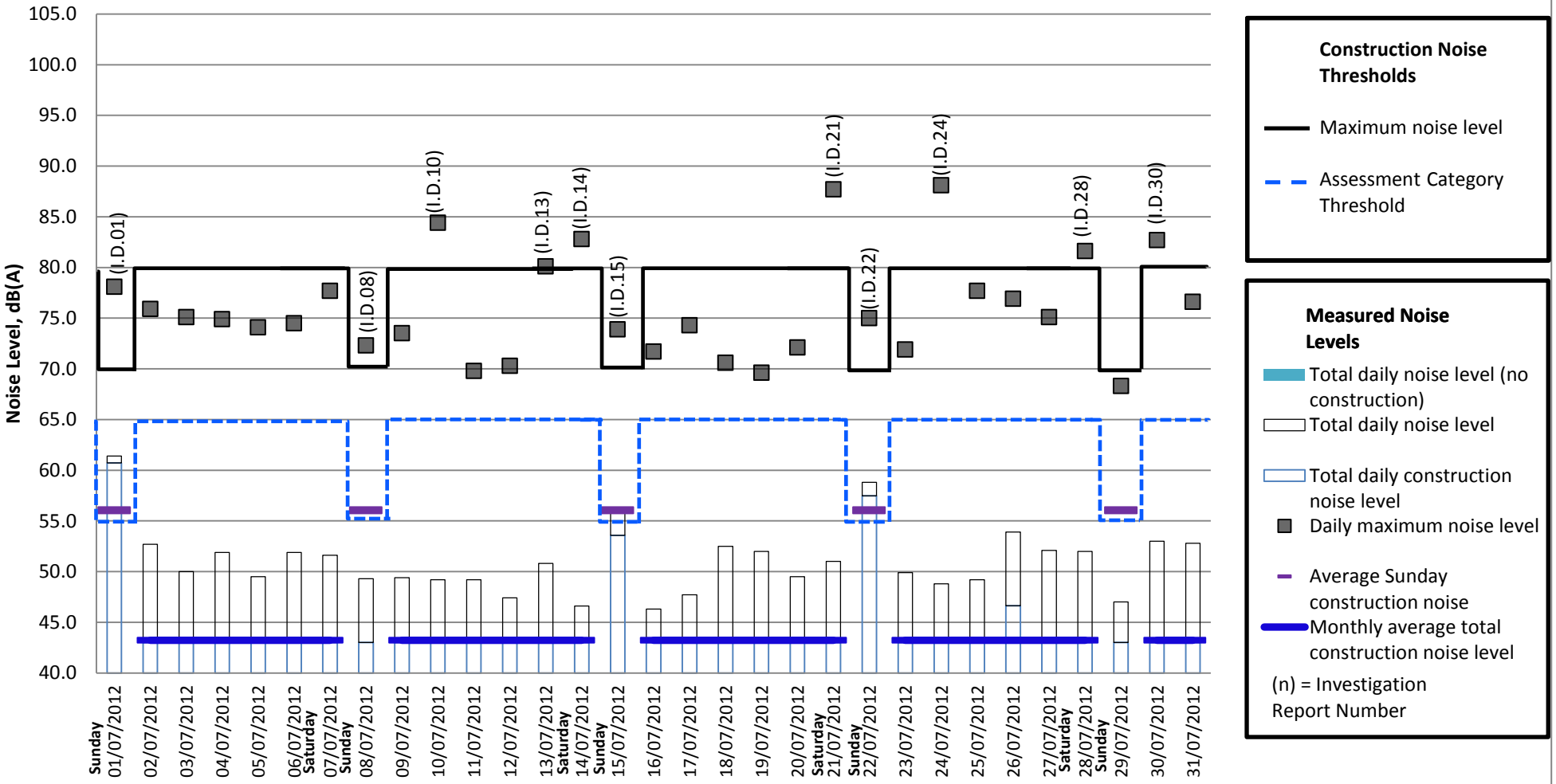
Note: Due to an error with the device, evening data is missing for 07/07/12 and 08/07/12.

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

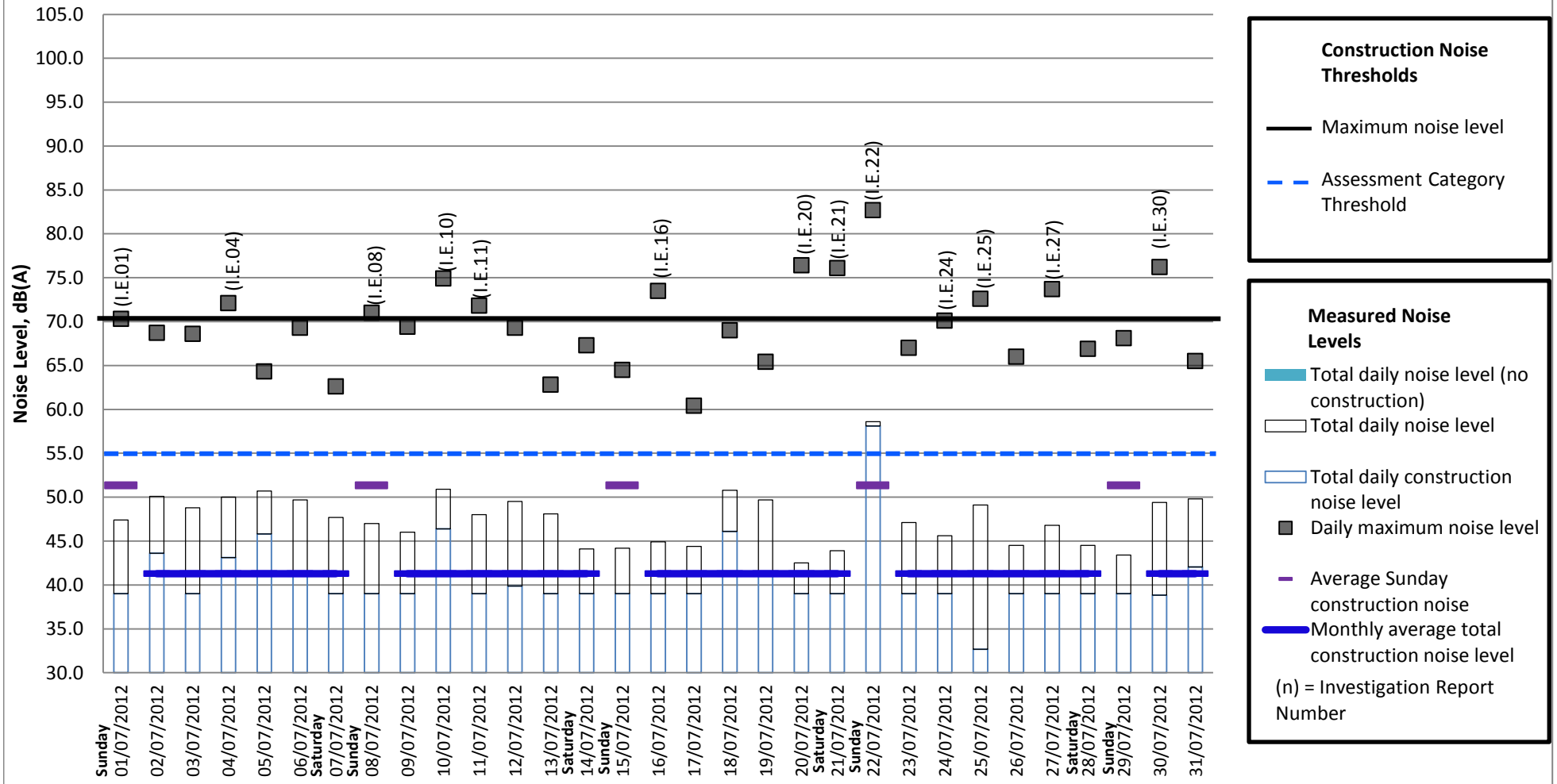


Note: Due to an error with the device, night time data is missing for 07/07/12 and 08/07/12.

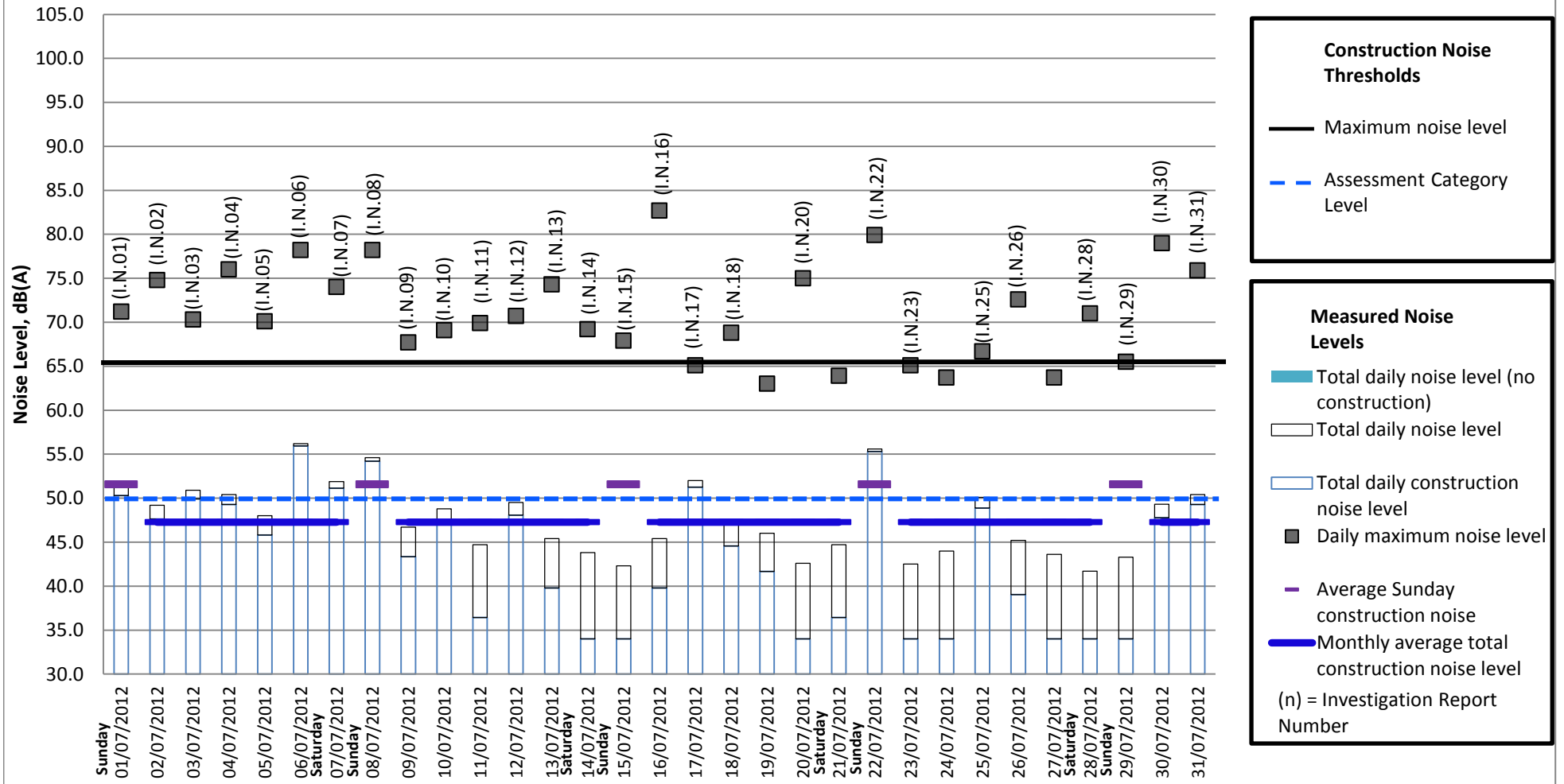
Measured Daytime Noise Levels at Inchgarvie
Measurement period: July 2012



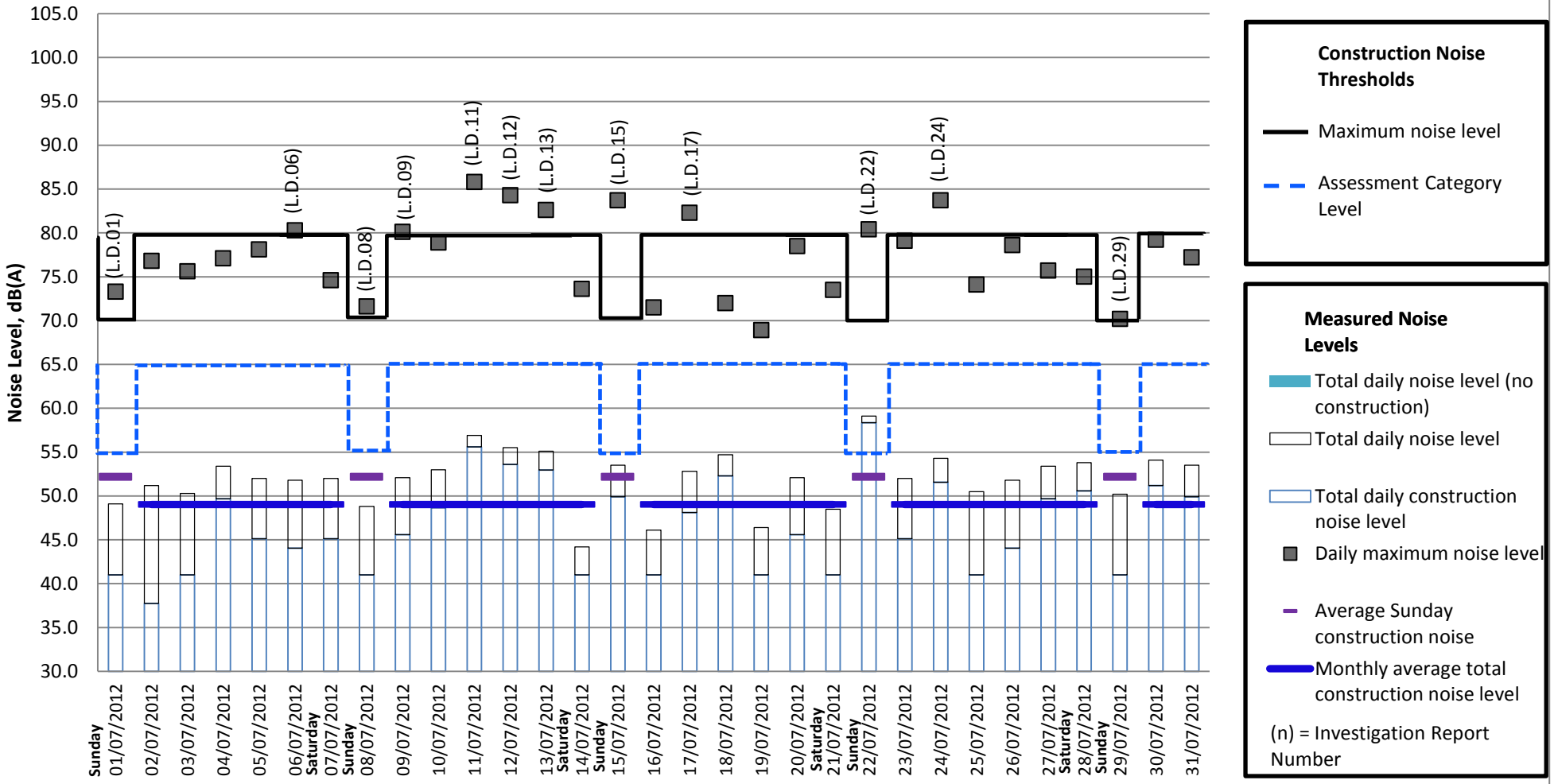
Measured Evening Noise Levels at Inchgarvie
Measurement period: July 2012



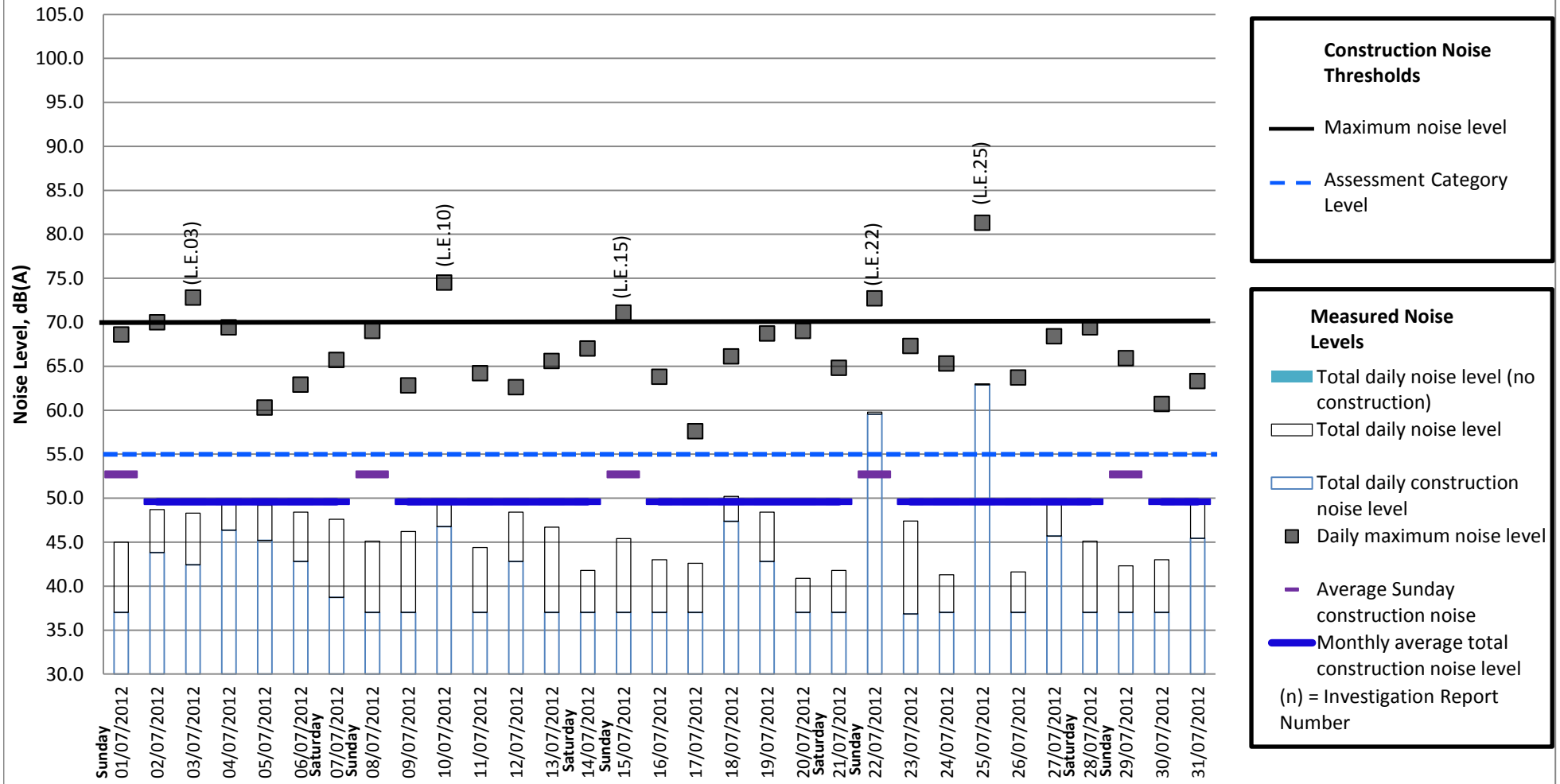
Measured Night-time Noise Levels at Inchgarvie
Measurement period: July 2012



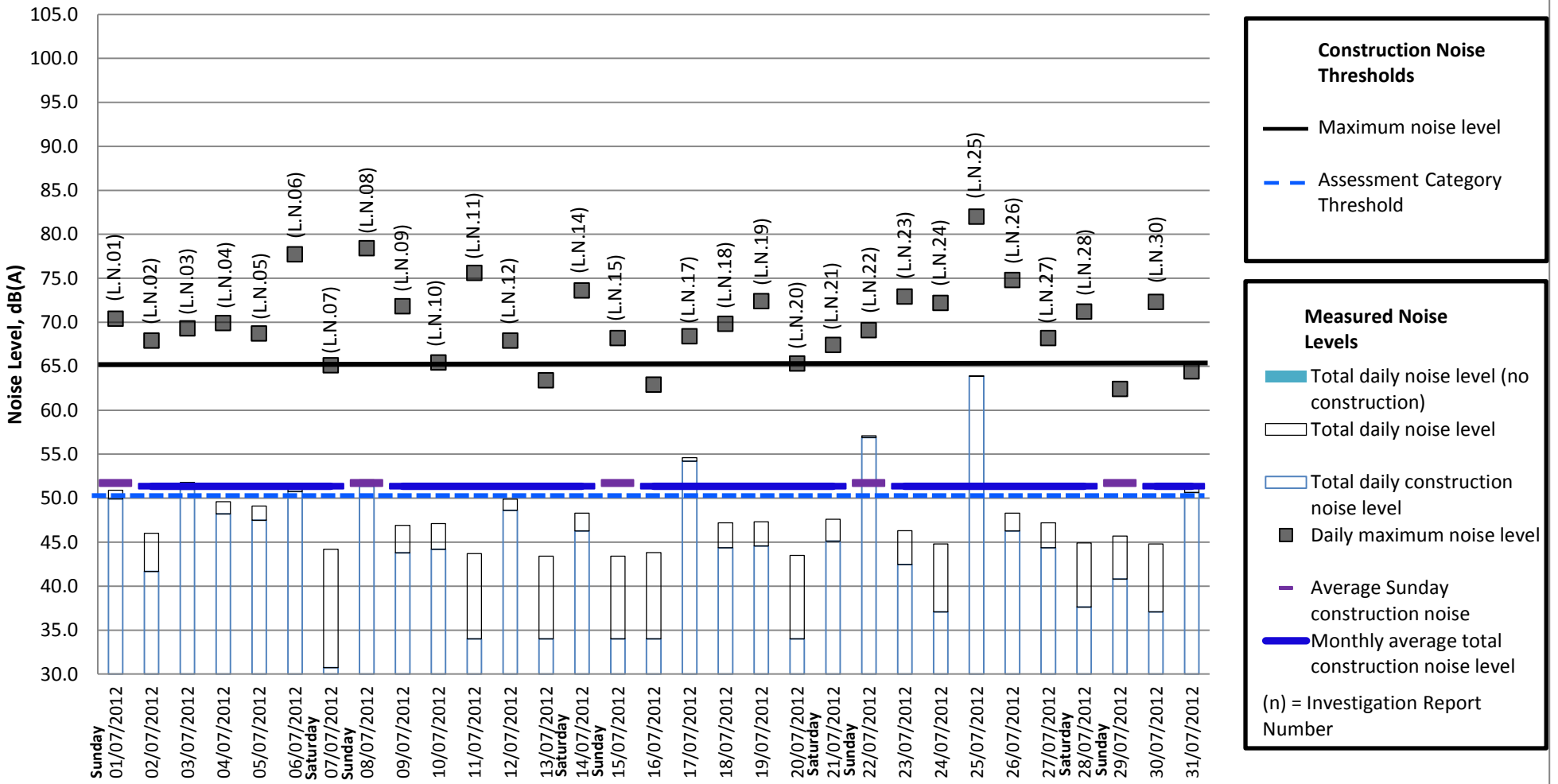
Measured Daytime Noise levels at Linn Mill
Measurement period: July 2012



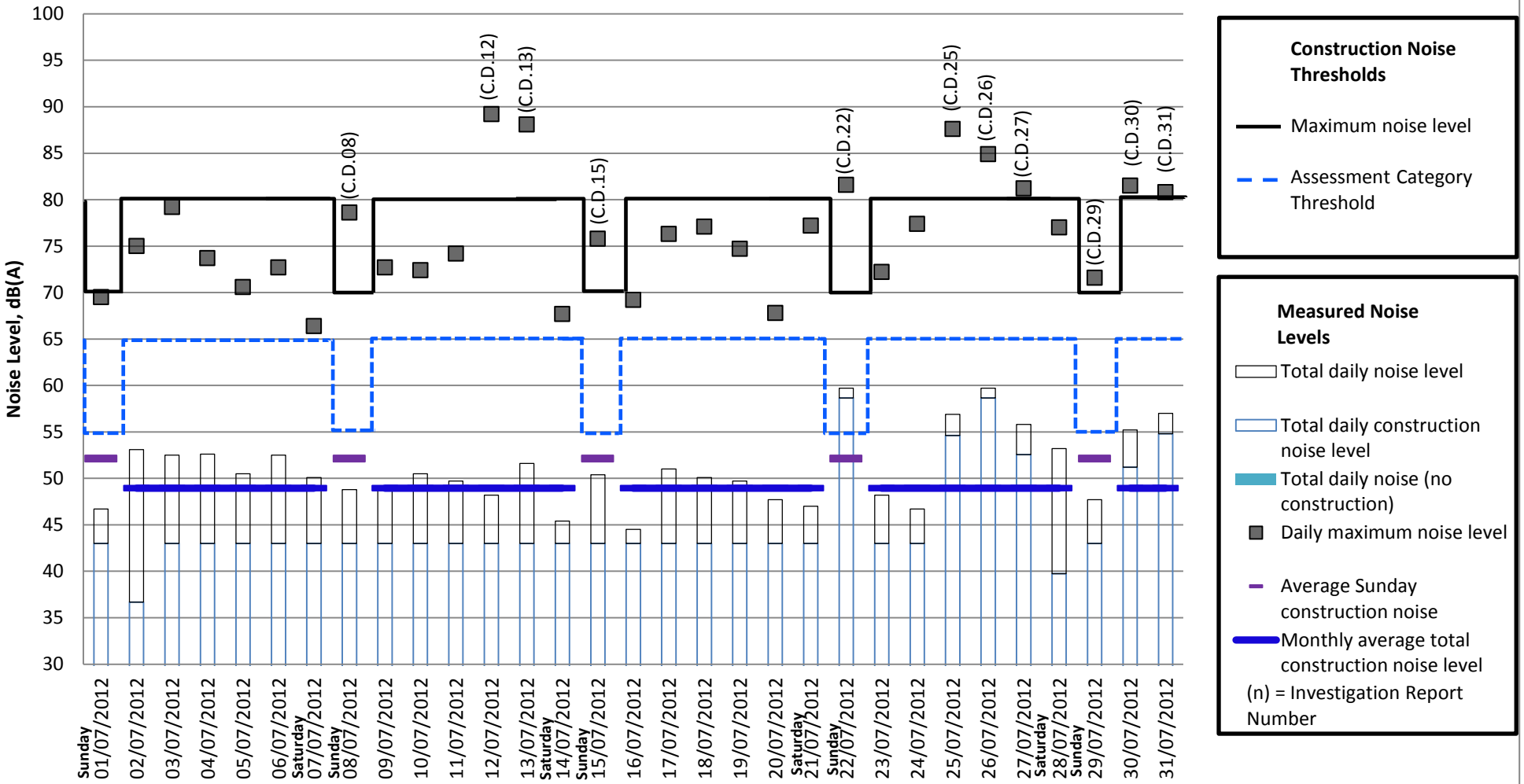
Measured Evening Noise Levels at Linn Mill
Measurement period: July 2012



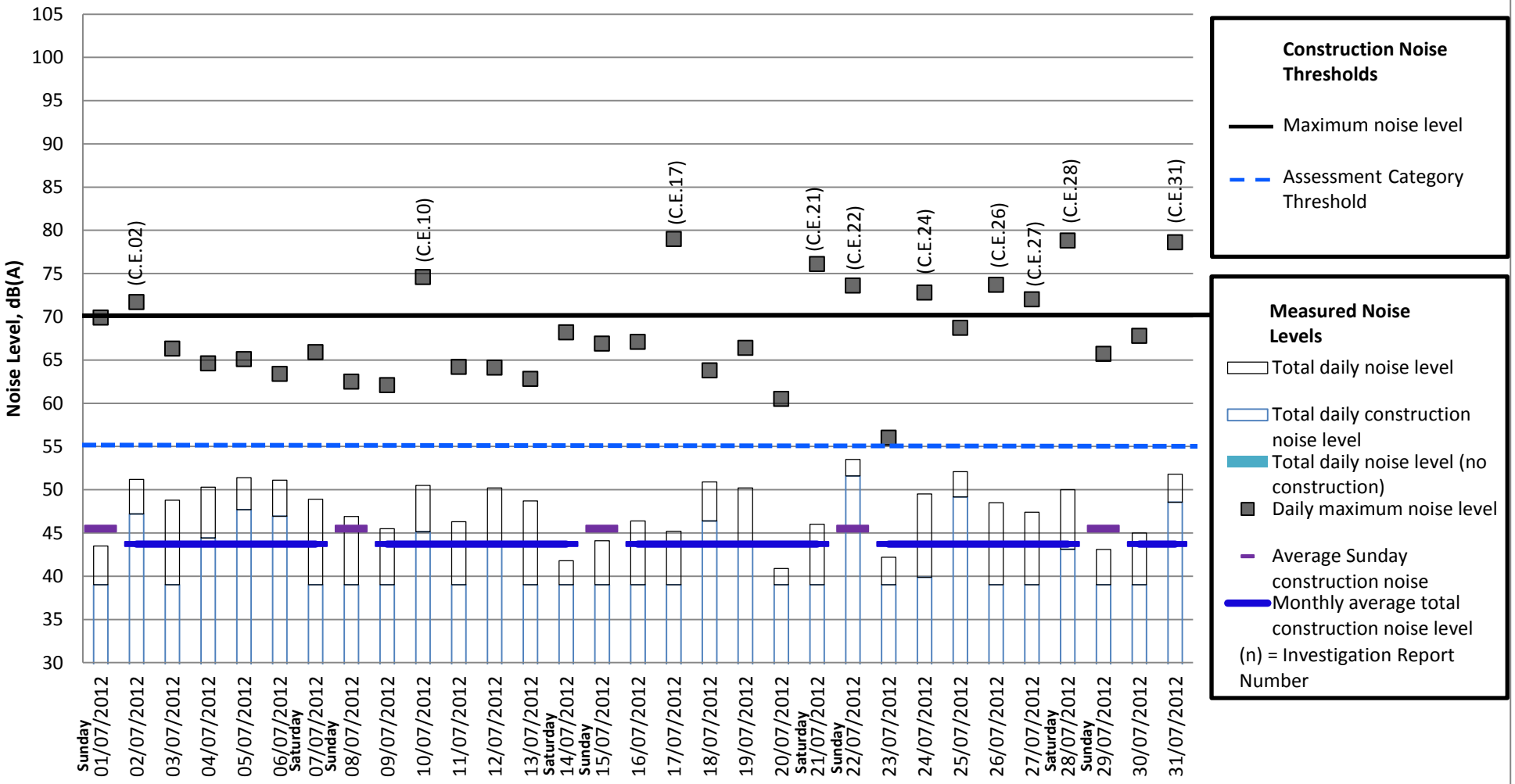
Measured Night-time Noise Levels at Linn Mill
Measurement period: July 2012



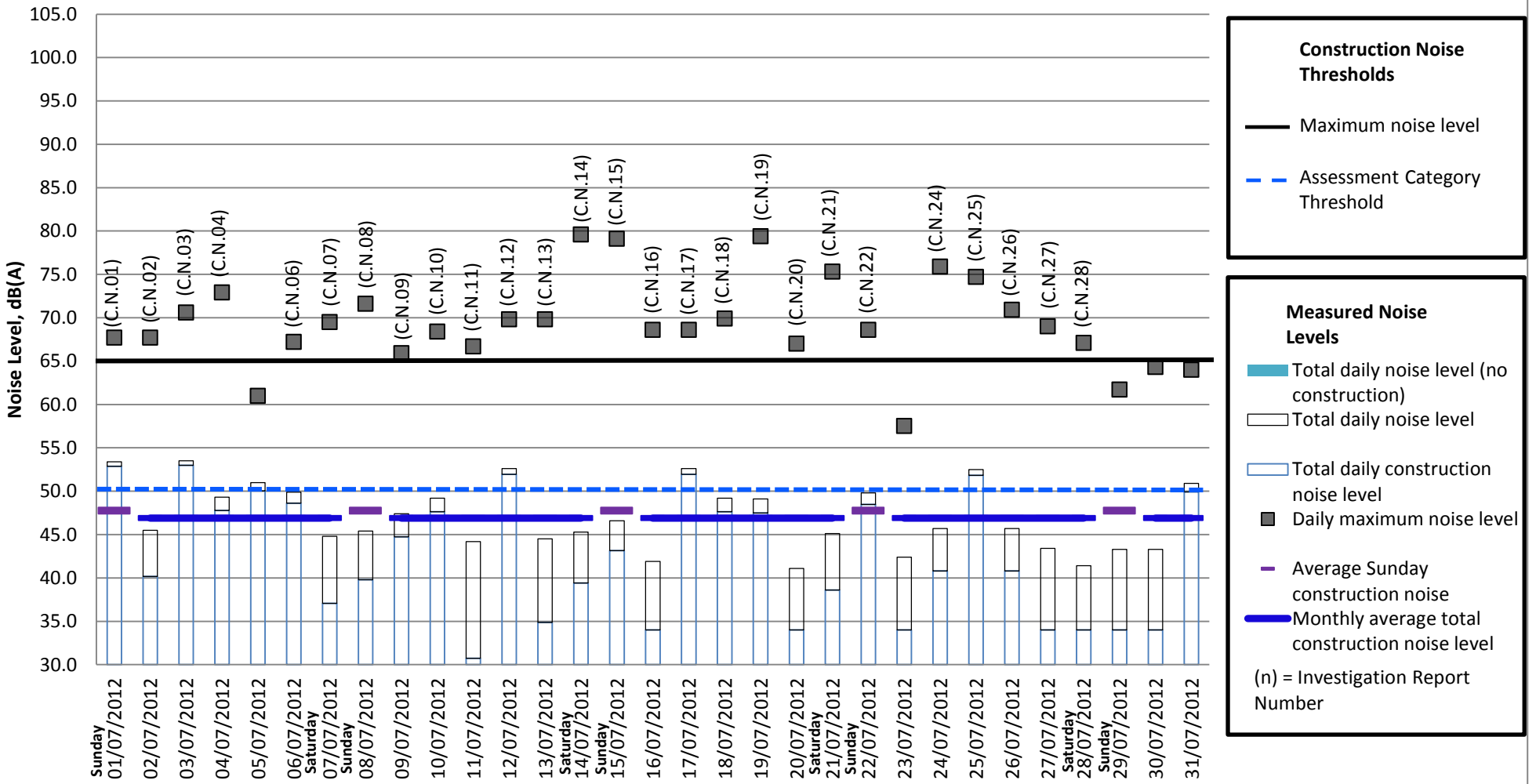
Measured Daytime Noise Levels at Clufflat Brae
Measurement period: July 2012



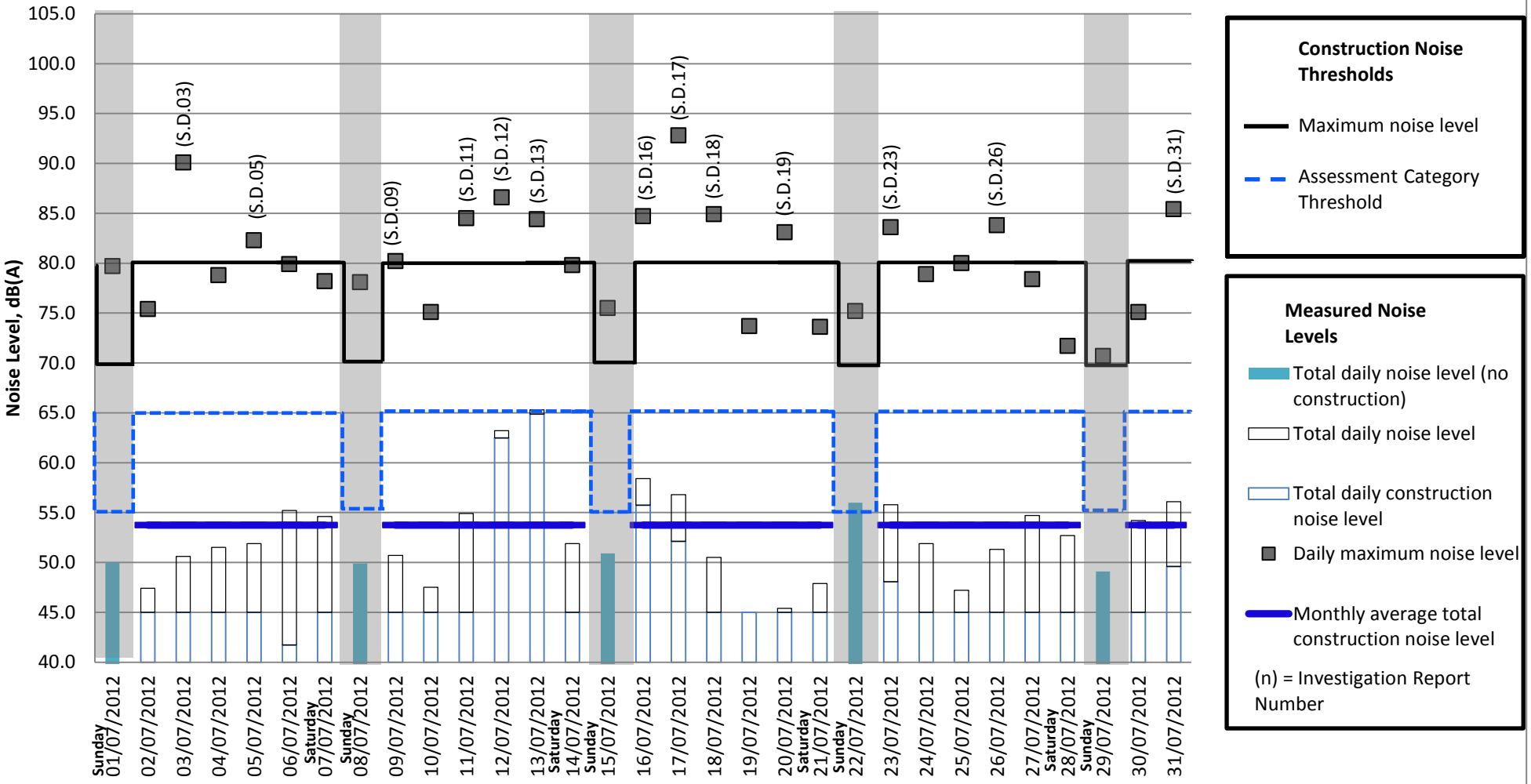
Measured Evening Noise Levels at Clufflat Brae
Measurement period: July 2012



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

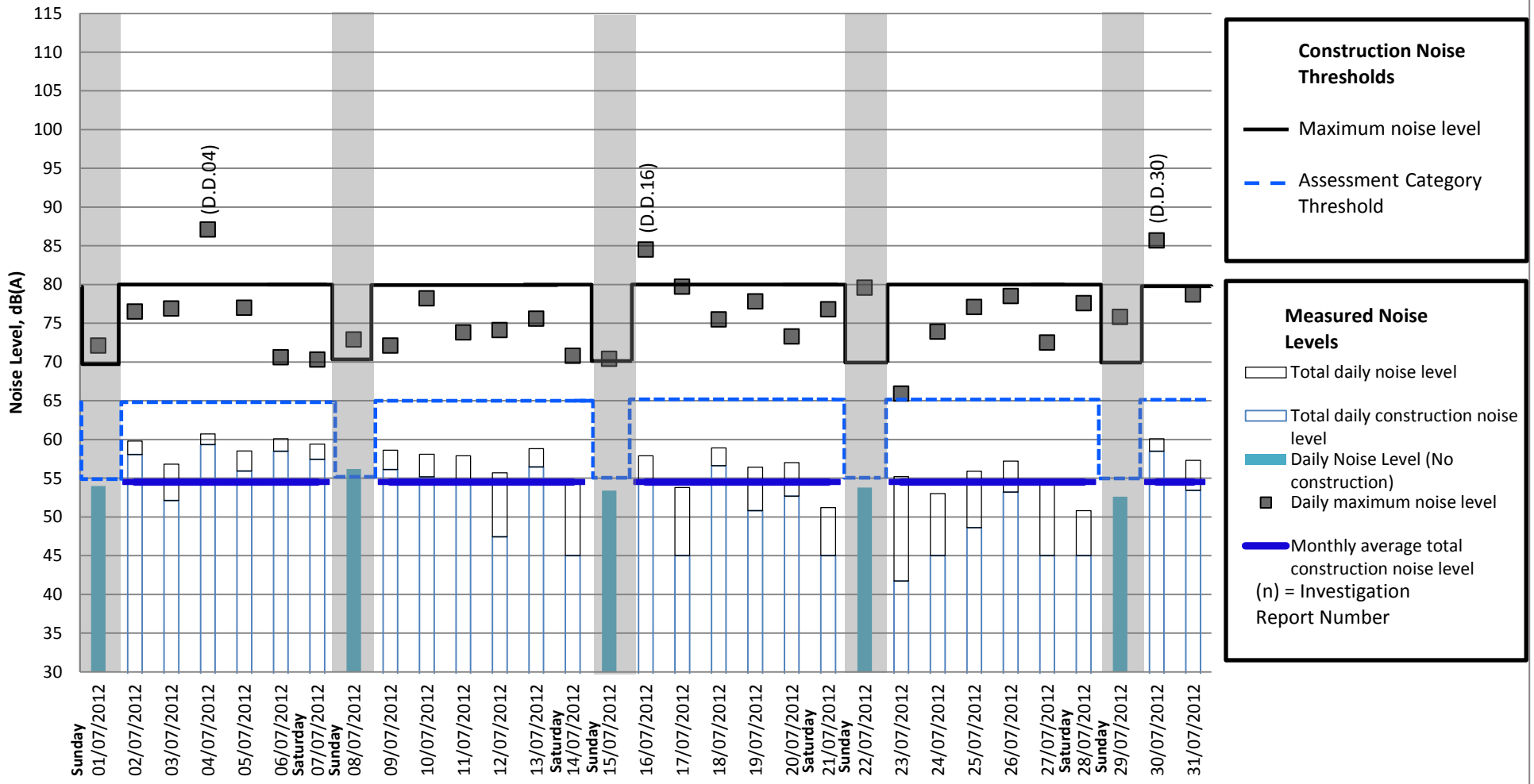


Measured Daytime Noise Levels at Springfield
Measurement period: July 2012



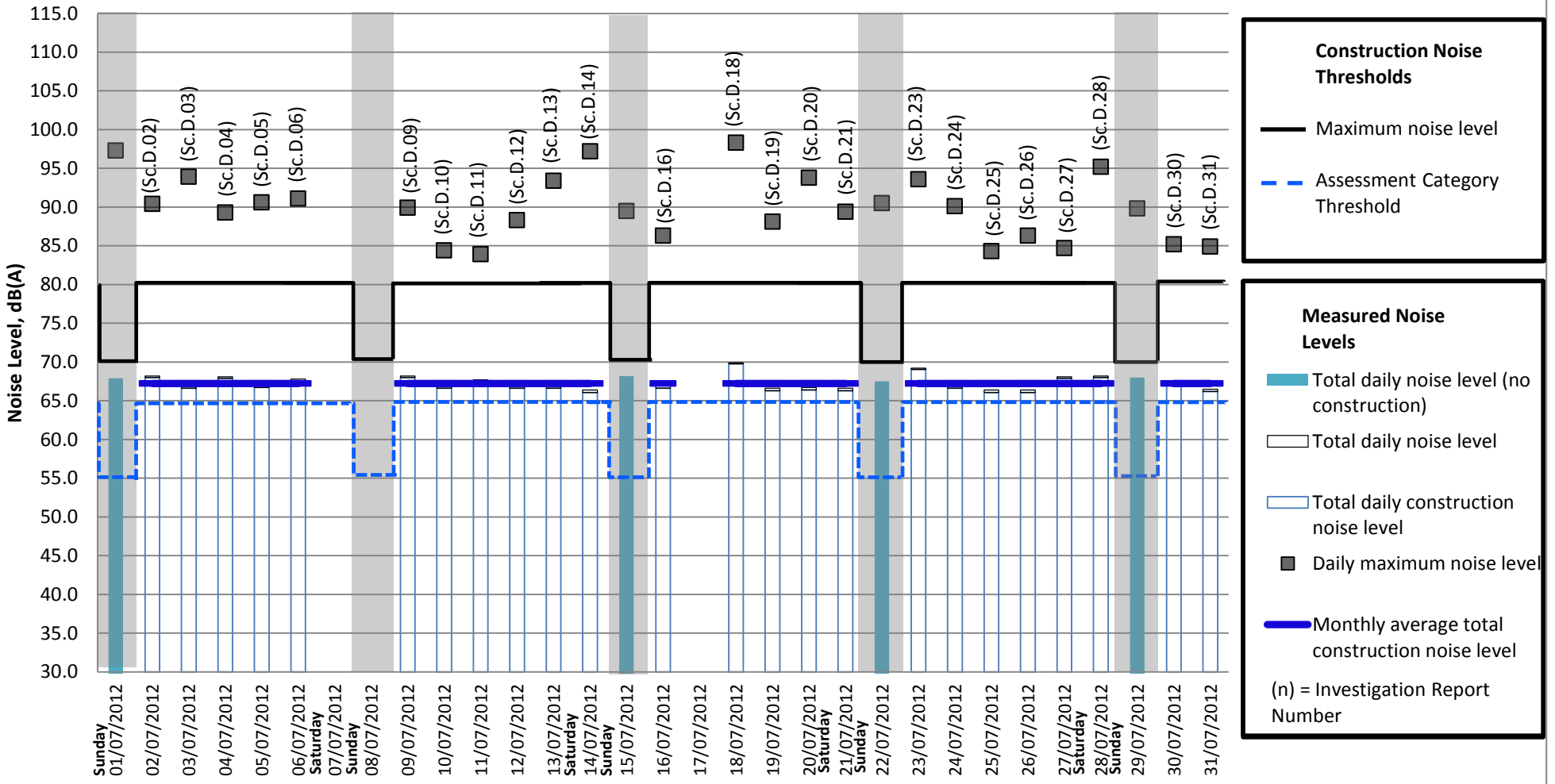
Note: The grey areas of the chart represent days on which no construction works have been conducted. The monthly average construction noise for Sunday has not been included as no Sunday works have been conducted at this location.

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



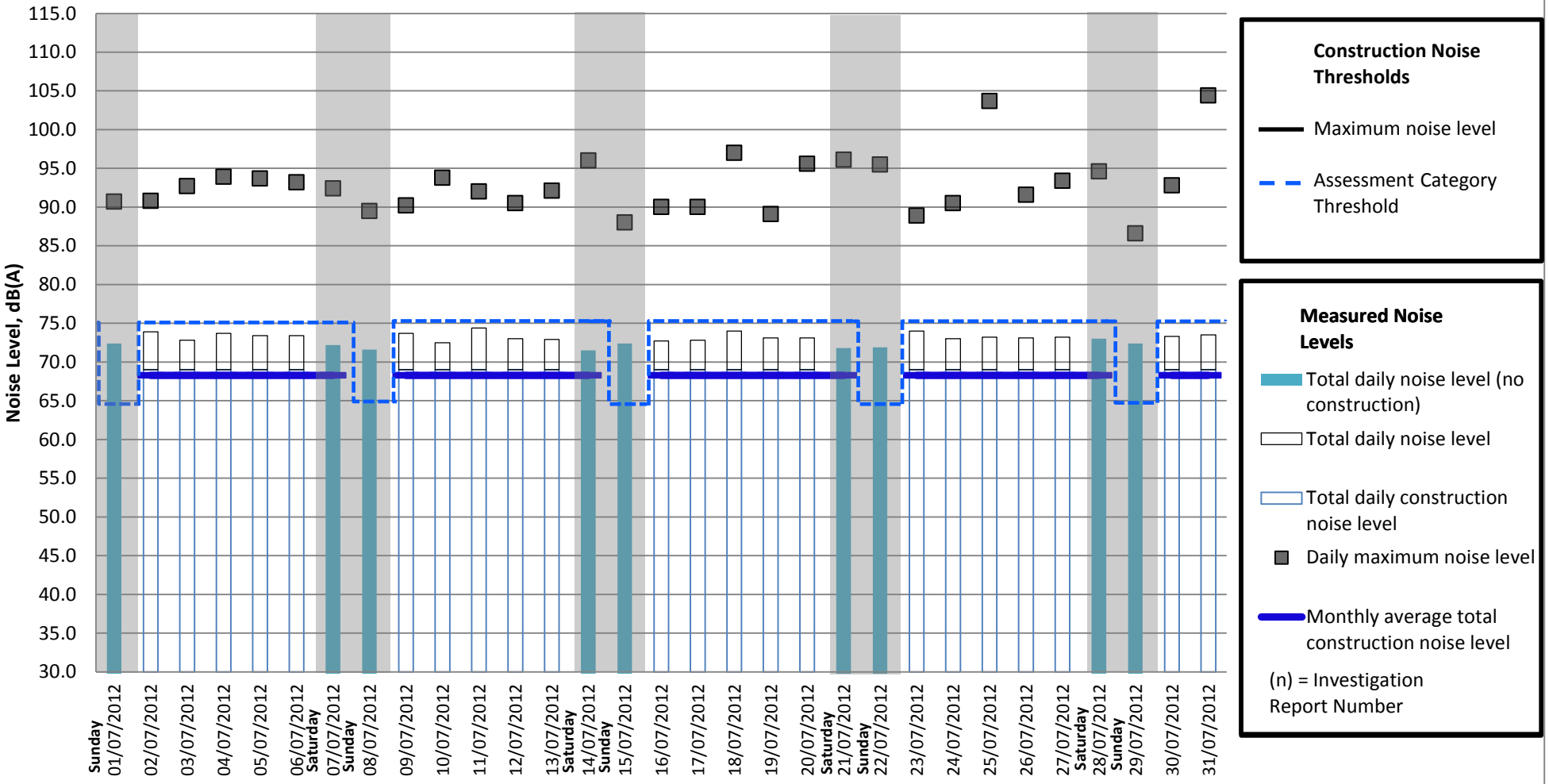
Note: The grey areas of the chart represent days on which no construction works have been conducted. The Sunday average has not been included as no Sunday works have been conducted at this location.

Measured Daytime Noise Levels at Scotstoun
Measurement period: July 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 . Due to device error, data is missing for 07/07/12, 08/07/12 and 17/07/12.

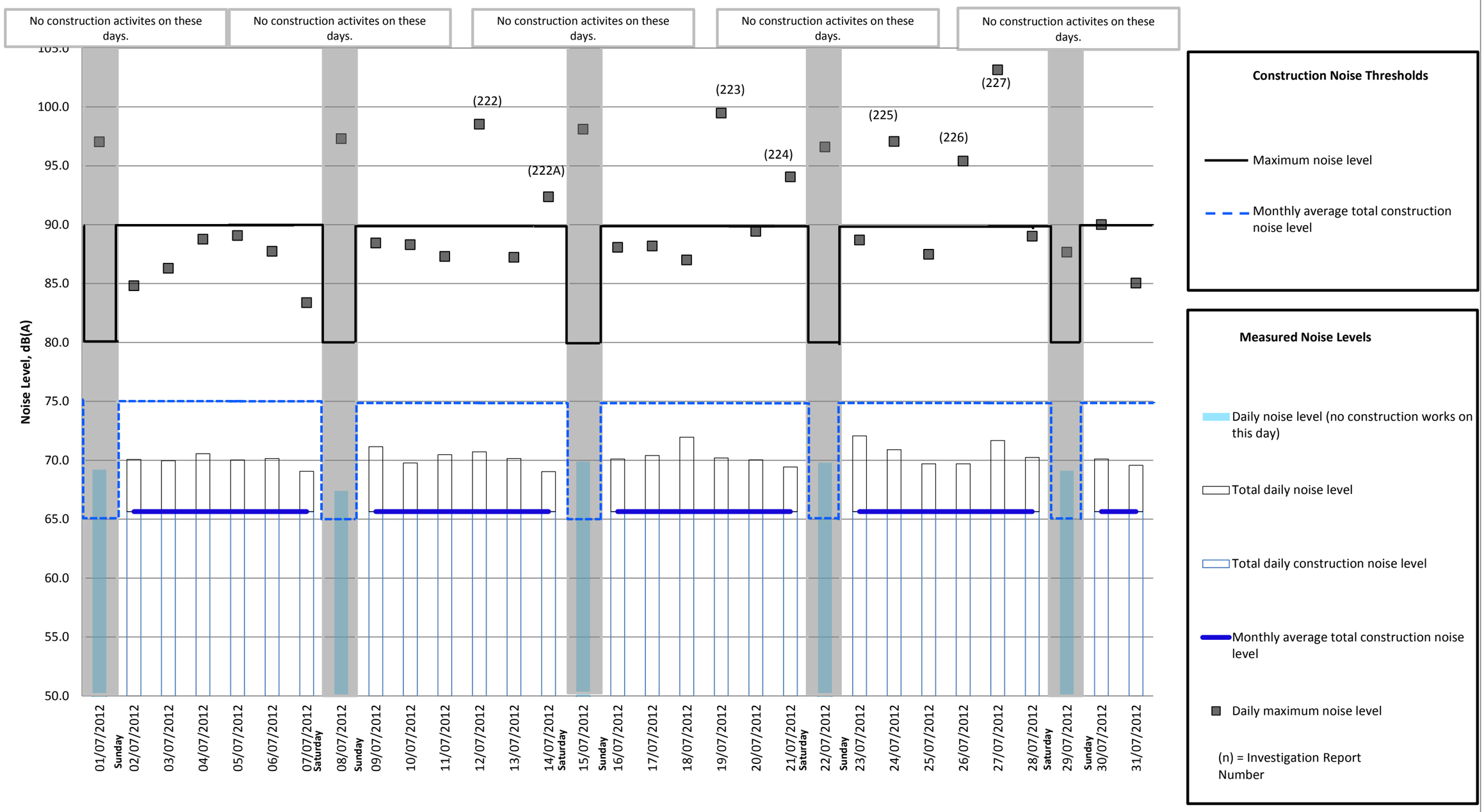
Measured Daytime Noise Levels at Newton
Measurement period: July 2012



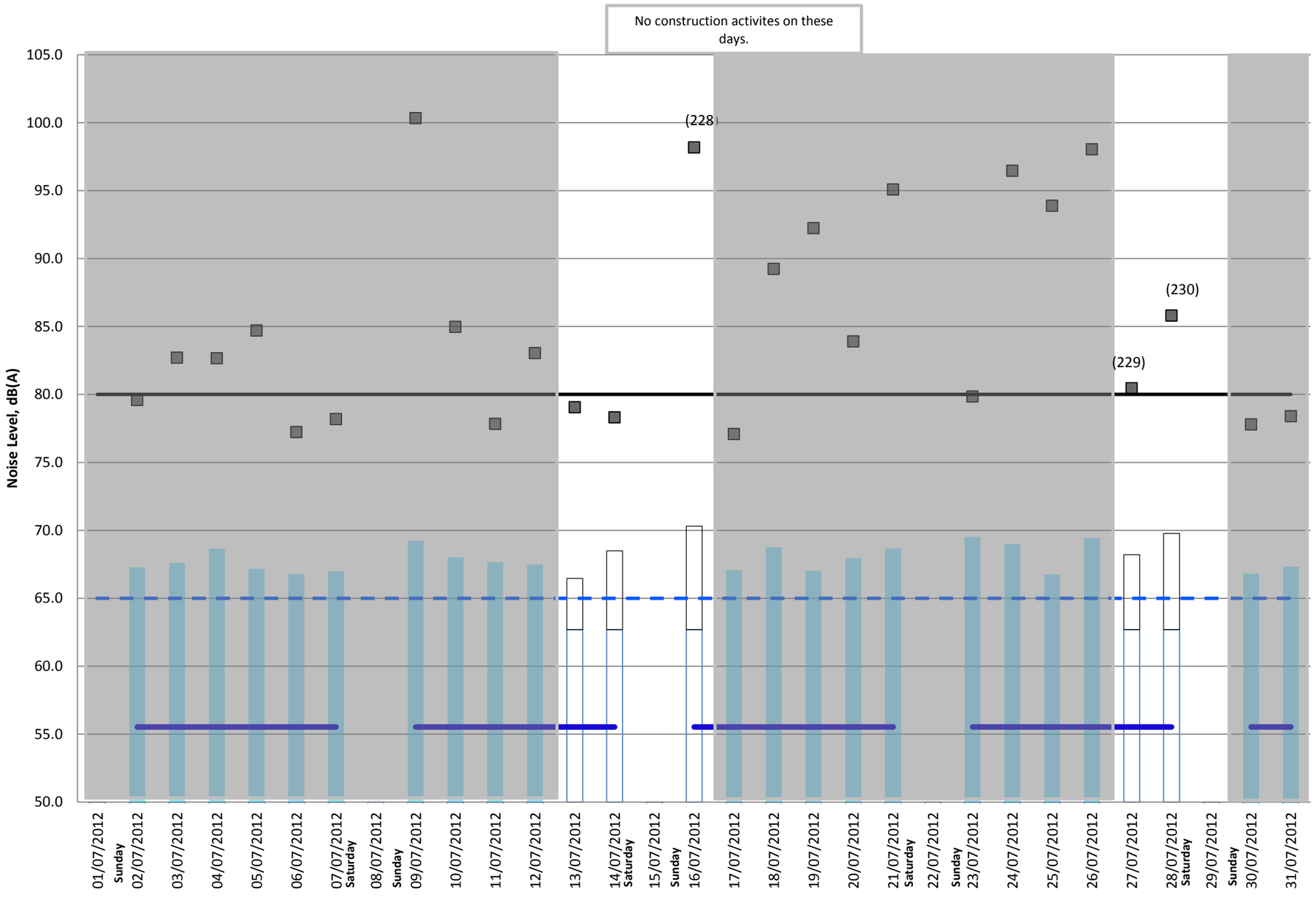
Note: The grey areas of the chart represent days on which no construction works have been conducted. It should be noted that the measured noise levels Mon - Fri can not be attributed to construction works due to the considerable distance (1.75 kilometers) between this monitoring location and the closest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

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

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



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



Construction Noise Thresholds

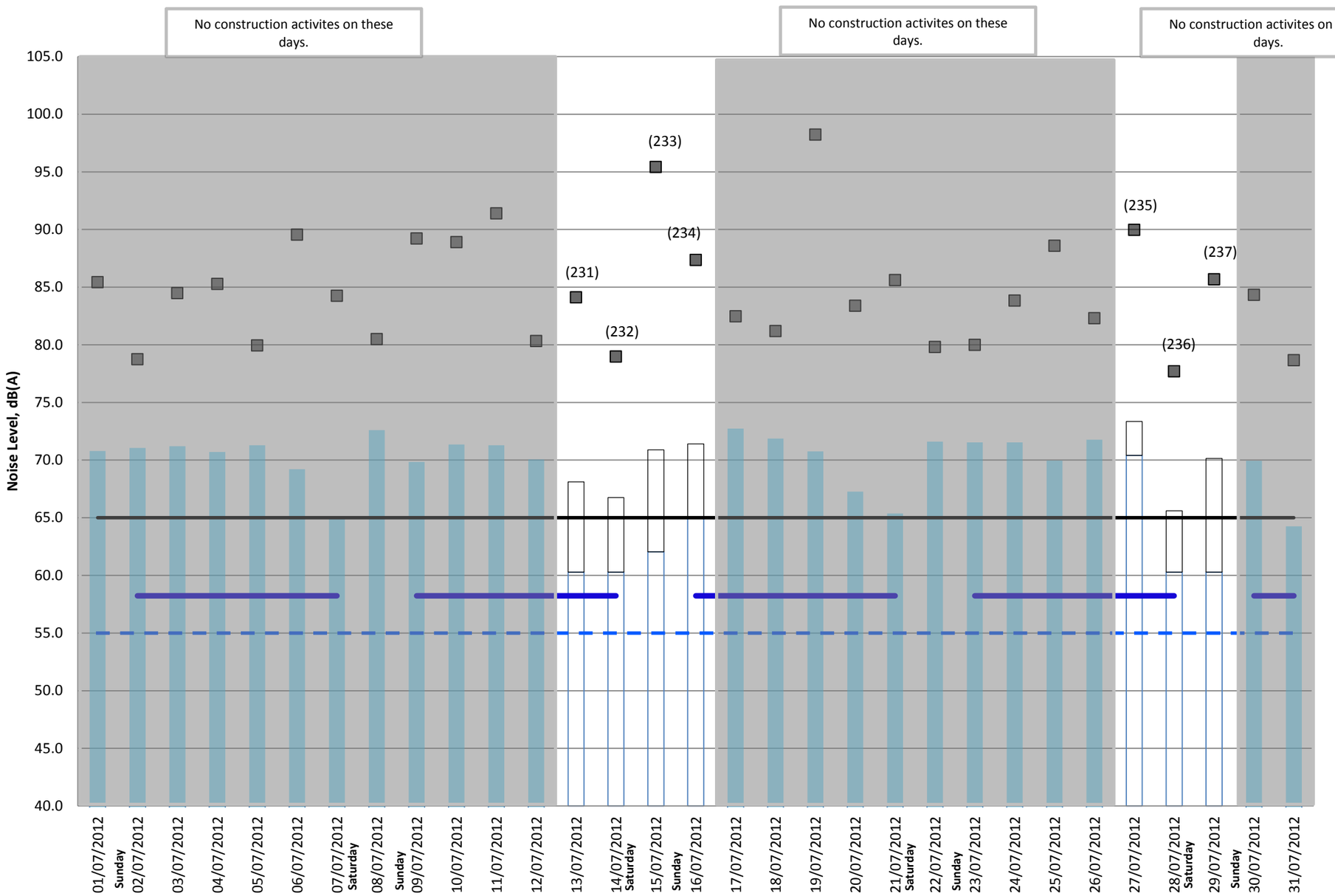
- Maximum noise level
- Monthly average total construction noise level

Measured Noise Levels

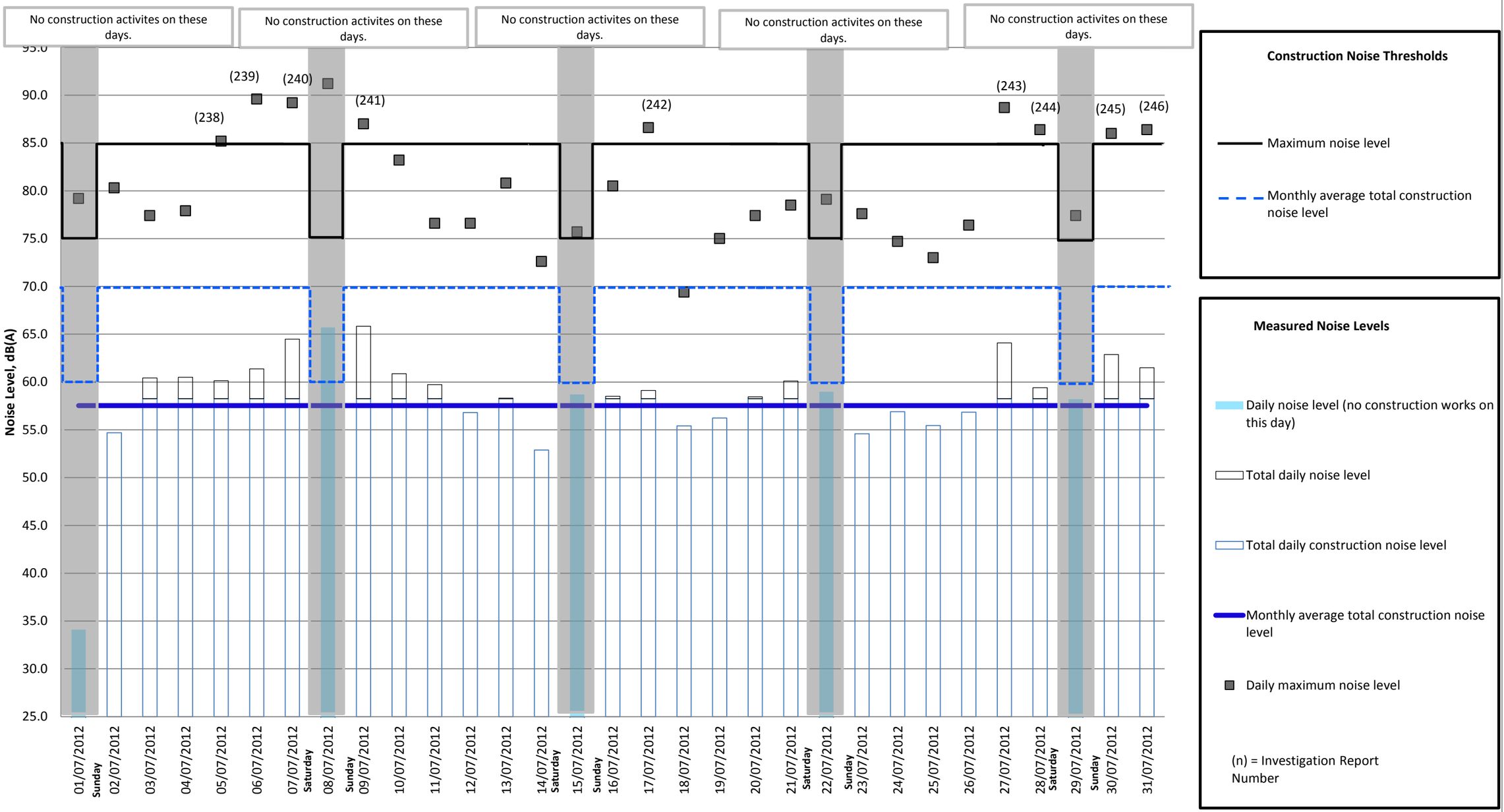
- Daily noise level (no construction works on this day)
- Total daily noise level
- Total daily construction noise level
- Monthly average total construction noise level
- Daily maximum noise level

(n) = Investigation Report Number

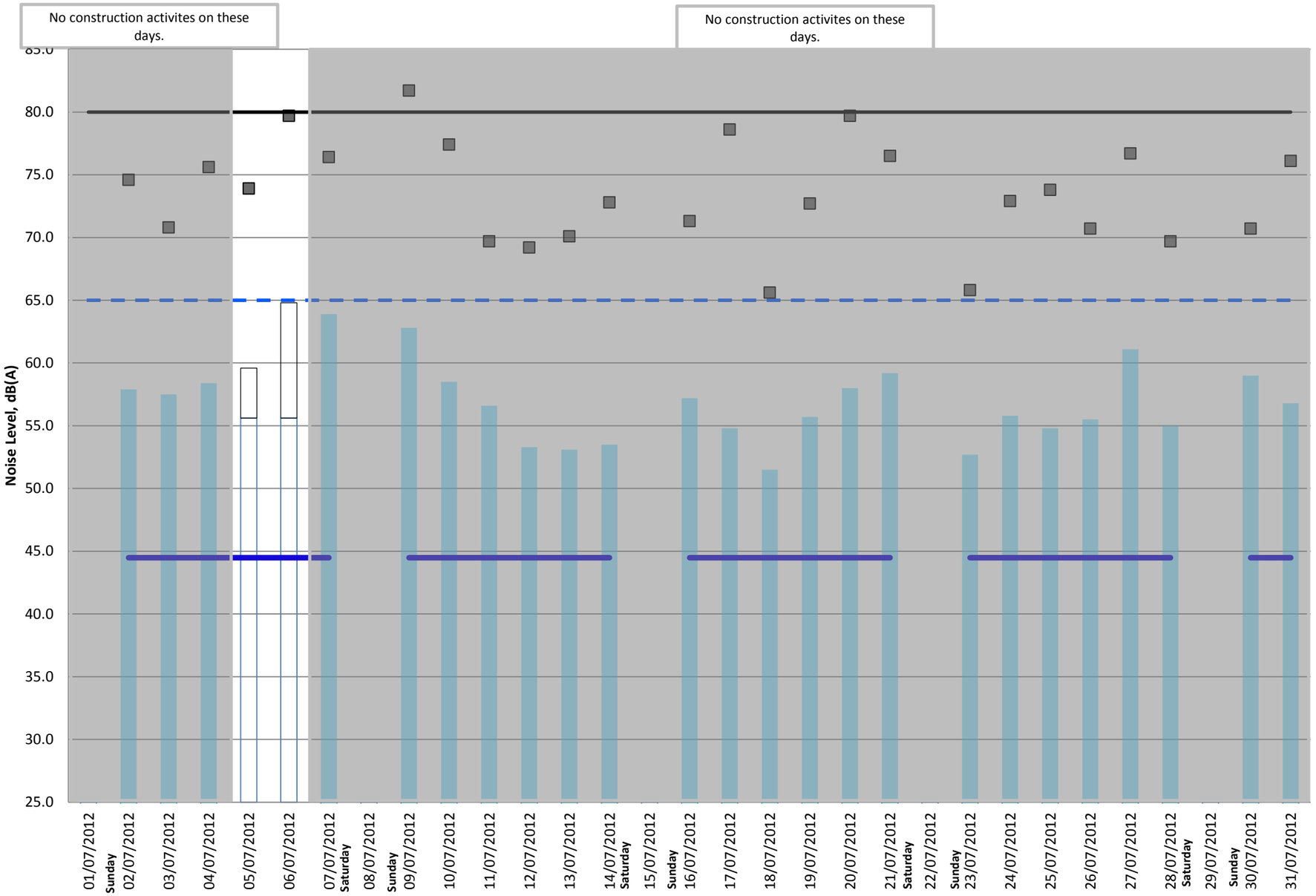
Measured night-time noise levels, 93/95 King Edwards Way (CNV02)
Measurement period 1st July to 31st July 2012



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



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



Construction Noise Thresholds

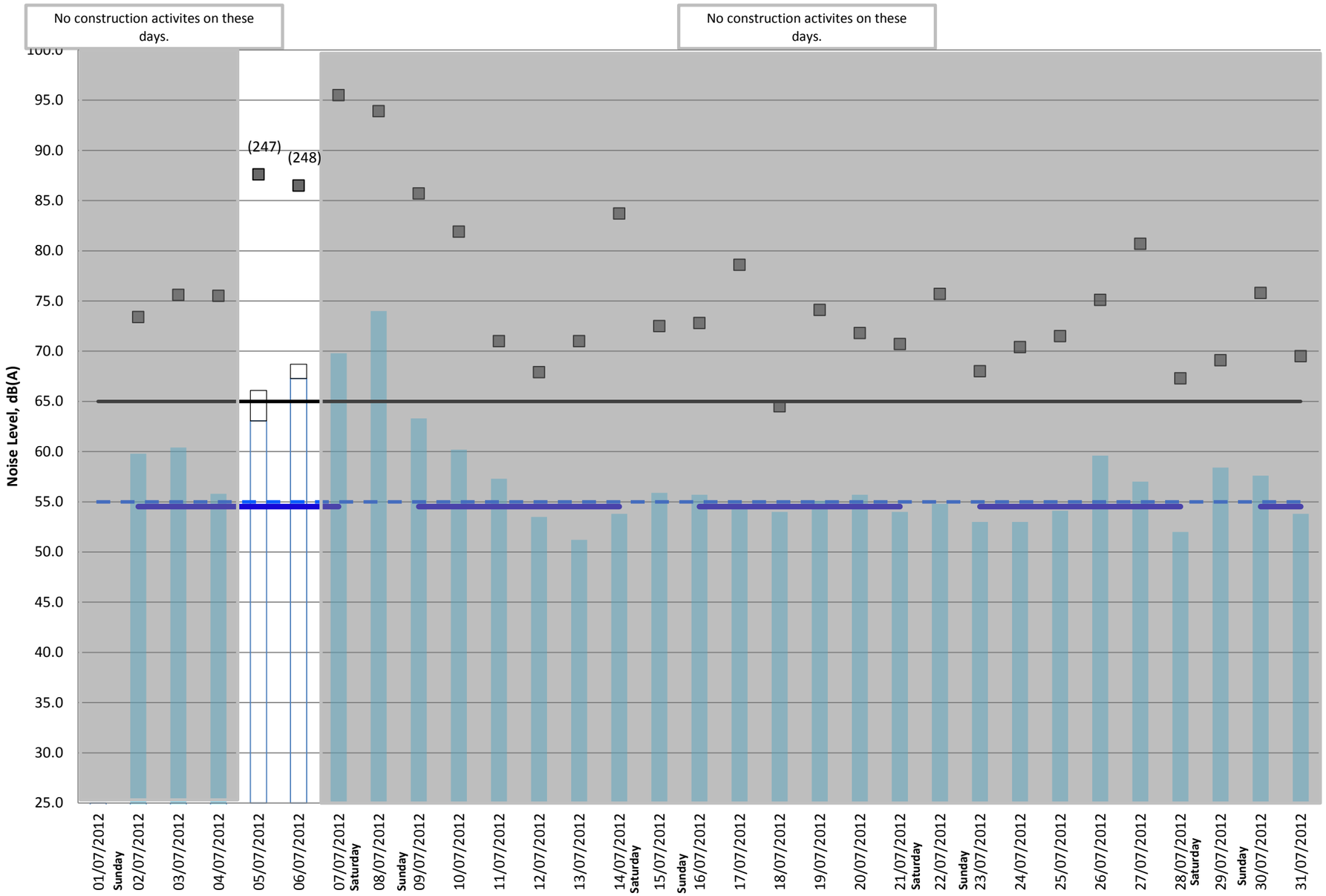
- Maximum noise level
- Monthly average total construction noise level

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 July to 31st July 2012



Construction Noise Thresholds

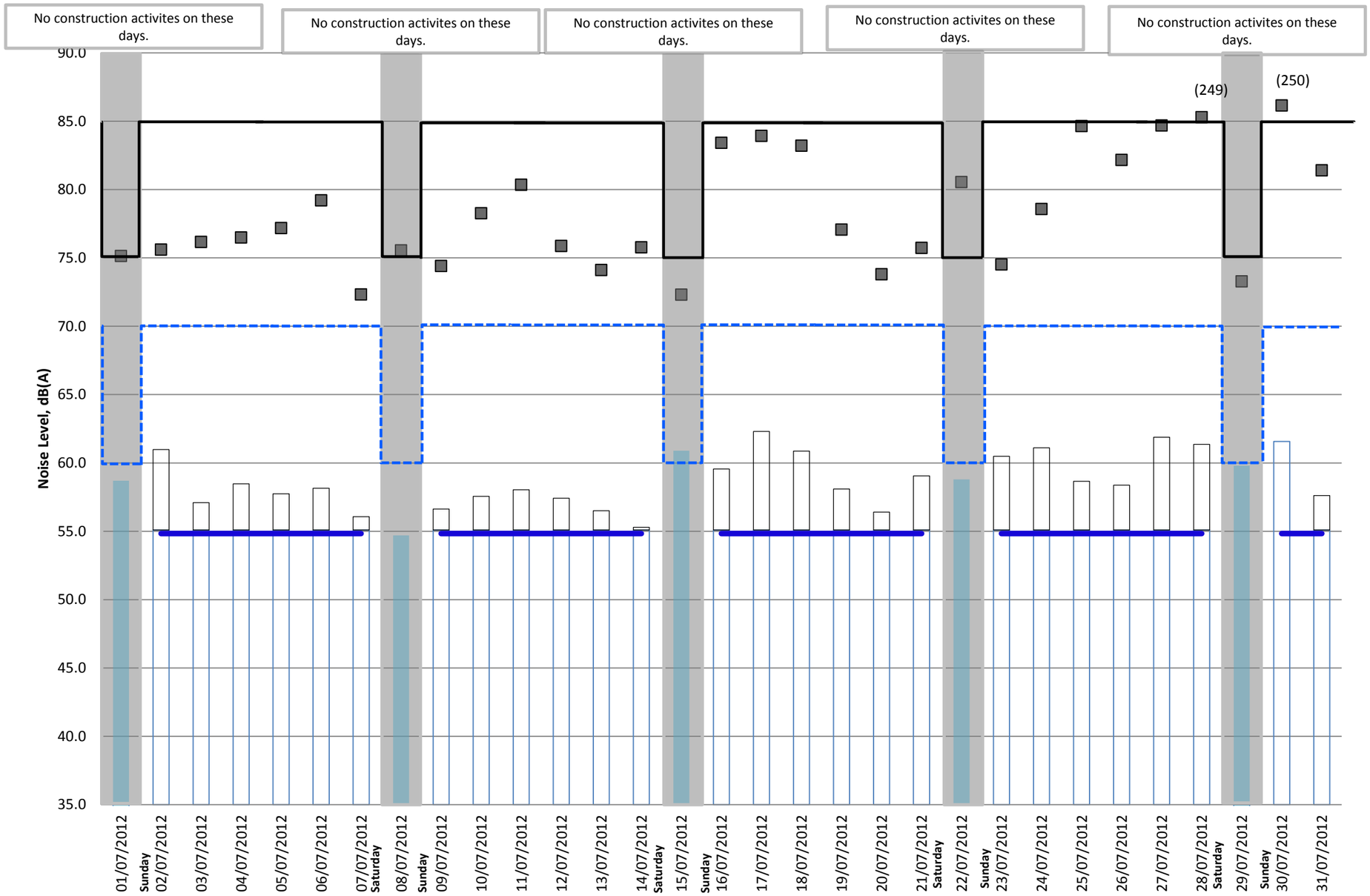
- Maximum noise level
- Monthly average total construction noise level

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 July to 31st July 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: **13-07-12**	**NER. 94**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**	

Summary of Finding(s): July12th 2012 Thursday – CNV2

Exceedence 222: Maximum Noise Level: 98.5dB (A) at 11.26am

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 Site Diary confirms that the exceedence is due to dogs barking in this area. See attached noise file. It is considered unlikely that the exceedence is caused by construction activities in this area.

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date …….13-07-12……

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……13-07-12…

Project Manager ~~/ Assist Project Manager~~

NER 94 120712.wav

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **20-07-12**	**NER. 95**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): July19th 2012 Thursday – CNV2

Exceedence 223: Maximum Noise Level: 99.5 dB (A) at 18.53pm

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 Site Diary confirms that the exceedence is due to property owners shouting and dogs barking in this area. See attached noise file. It is considered unlikely that the exceedence is caused by construction activities in this area.

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date ……20-07-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……20-07-12…

Project Manager ~~/ Assist Project Manager~~

NER 95 190712.wav

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **23-07-12**	**NER. 96**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): July21st 2012 Saturday – CNV2

Exceedence 224: Maximum Noise Level: 94.1 dB (A) at 17.44pm

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 Site Diary confirms there were no works being carried out at this time on site.

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 ……23-07-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……23-07-12…

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: **25-07-12**	**NER. 97**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): July24th 2012 Tuesday – CNV2

Exceedence 225: Maximum Noise Level: 97.1 dB (A) at 11.55am

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 Site Diary confirms that the exceedence is due to dogs barking in this area. See attached noise file. It is considered unlikely that the exceedence is caused by construction activities in this area

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date ……25-07-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……25-07-12…

Project Manager ~~/ Assist Project Manager~~

NER 97 240712.wav

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **27-07-12**	**NER. 98**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): July26th 2012 Thursday – CNV2

Exceedence 226: Maximum Noise Level: 95.4 dB (A) at 17.05pm

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 Site Diary confirms that the exceedence is due to emergency vehicles passing on the nearby M9. See attached noise file. It is considered unlikely that the exceedence is caused by construction activities in this area

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date ……27-07-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……27-07-12…

Project Manager ~~/ Assist Project Manager~~

NER 98 260712.wav

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **28-07-12**	**NER. 99**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): July 27th 2012 Friday – CNV2

Exceedence 227: Maximum Noise Level: 103.1 dB (A) at 18.52pm

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 Site Diary confirms that the exceedence is due to dogs barking in this area. See attached noise file. It is considered unlikely that the exceedence is caused by construction activities in this area

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date …….28-07-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……28-07-12…

Project Manager ~~/ Assist Project Manager~~

NER 99 270712.wav

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **17-07-12**	**NER. 100**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): <u>July 16th 2012 Monday – CNV2</u>

Exceedence 228: Maximum Noise Level: 98.2 dB (A) at 21.57pm

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 Site Diary confirms that the exceedence is due to dogs barking in this area. See attached noise file. It is considered unlikely that the exceedence is caused by construction activities in this area

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date …….17-07-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……17-07-12…

Project Manager ~~/ Assist Project Manager~~

NER 100 160712.wav

SRB Civil Engineering Limited ROADBRIDGE SISK	Project Title: **FORTH REPLACEMENT CROSSING** **M9 Junction 1A**		**Project Number:** **208**
	Contractor: **SRB**	Date: **30-07-12**	**NER. 101**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): July 27th 2012 Friday – CNV2

Exceedence 229: Maximum Noise Level: 80.5 dB (A) at 21.19pm

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 Site Diary confirms Varioguard operations took place between CH900 and CH1500 on the M9 on Friday night. At 21.19pm the vario-guard operation had not yet commenced.

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 …….30-07-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……..30-07-12…

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: **30-07-12**	**NER. 102**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): July 28th 2012 Friday – CNV2

Exceedence 230: Maximum Noise Level: 85.8 dB (A) at 20.56pm

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 Site Diary confirms that line marking was taking place on the M9 between CH900-1500 in this area. However the works were completed at 20.45pm and the operating vehicles were off the carriageway.

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 …….30-07-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……30-07-12…

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: **16-07-12**	**NER. 103**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): July 13th 2012 Friday – CNV2

Exceedence 231: Maximum Noise Level: 84.1 dB (A) at 00.05am

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 Site Diary confirms that varioguard removal operations took place on the M9 HS WB from Newbridge Interchange to CH1000 on this night. However, these works were carried out in linear moving convoy and at their nearest were 150-200m from the receptor.

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 ……..16-07-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……16-07-12…

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: **16-07-12**	**NER. 104**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): July 14th 2012 Saturday – CNV2

Exceedence 232: Maximum Noise Level: 79 dB (A) at 22.14pm

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 Site Diary confirms that lining operations took place on the M9 HS WB from Newbridge Interchange to CH500 on this night. However, these works were carried out in linear moving convoy and at their nearest were 300-350m from the receptor.

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 ……..16-07-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……16-07-12…

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: **16-07-12**	**NER. 105**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): <u>July 15th 2012 Sunday – CNV2</u>

Exceedence 233: Maximum Noise Level: 95.4 dB (A) at 22.45pm

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 Site Diary confirms that there were no construction activities within 300m of this receptor on this night.

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 …….16-07-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……16-07-12…

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: **17-07-12**	**NER. 106**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): July 16th 2012 Monday – CNV2

Exceedence 234: Maximum Noise Level: 87.3 dB (A) at 05.00am on Tuesday morning

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 Site Diary confirms that works took place to install varioguard to the median M9 WB from Newbridge interchange to CH1000 on this night but that these works were finished by 1am on the Tuesday morning.

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 ……..17-07-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……17-07-12…

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: **30-07-12**	**NER. 107**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): <u>July 27th 2012 Friday – CNV2</u>

Exceedence 235: Maximum Noise Level: 89.7 dB (A) at 23.52pm

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 Site Diary confirms that works took place to move varioguard on the M9 from CH900 to CH1000 on this night but that these works were finished by 11pm on the Friday night.

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 …….30-07-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……..30-07-12…

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: **30-07-12**	**NER. 108**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): July 28th 2012 Saturday – CNV2

Exceedence 236: Maximum Noise Level: 77.7 dB (A) at 22.31pm

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 Site Diary confirms that works took place to install linemarkings on the M9 from CH 900 to CH1500 on this night but that these works were taking place up at CH 1500 at this time (more than 300m from the sensitive receptor)

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 ……30-07-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……30-07-12…

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: **30-07-12**	**NER. 109**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): July 29th 2012 Sunday – CNV2

Exceedence 237: Maximum Noise Level: 85.7 dB (A) at 22.05pm

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 Site Diary confirms that works took place to install varioguard on the M9 median from CH 900 to CH1500 on this night but that these works commenced at CH 1500 at 9.30pm and advanced at 60m an hour towards CH900 (more than 300m from the sensitive receptor).

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 ……30-07-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……30-07-12…

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: **06-07-12**	**NER. 110**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): July 05th 2012 Thursday – CNV7

Exceedence 238: Maximum Noise Level: 85.2 dB (A) at 18.00pm

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:

The maximum noise level recorded should be reported to 85 bB (A) and so is not regarded as an exceedence.

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date ……06-07-12……

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……06-07-12…

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: **06-07-12**	**NER. 111**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): July 06th 2012 Friday – CNV7

Exceedence 239: Maximum Noise Level: 89.1 dB (A) at 08.00am

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 Site Diary confirms that works were taking place in this area from mid-morning onwards. This included moving materials from this area to the area adjoining at Gateside. However these works did not commence until after mid-morning break @ 10.30am.

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 ……06-07-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……06-07-12…

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: **09-07-12**	**NER. 112**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): July 07th 2012 Saturday – CNV7

Exceedence 240: Maximum Noise Level: 89.2 dB (A) at 12.00pm

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 Site Diary confirms that there were site works ongoing but not in the area in question on the Saturday.

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 ……09-07-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……09-07-12…

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: **09-07-12**	**NER. 113**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): July 09th 2012 Monday – CNV7

Exceedence 241: Maximum Noise Level: 87 dB (A) at 09.00am

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 Site Diary confirms that due to rain over the weekend, site mobilisation was delayed on the Monday until after mid-morning break when conditions cleared up @10-10.30am.

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 ……09-07-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……09-07-12…

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: **18-07-12**	**NER. 114**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): July 17th 2012 Tuesday – CNV7

Exceedence 242: Maximum Noise Level: 86.6 dB (A) at 14.00pm

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 Site Diary confirms that during this period, the only activity that took place was the loosening of the shutter bolts on the recently poured Newmains bridge south abutment to allow curing to take place. This would not have been a particularly noise activity and there would not have been line of sight to 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 ……18-07-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……18-07-12…

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: **30-07-12**	**NER. 115**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): July 27th 2012 Friday – CNV7

Exceedence 243: Maximum Noise Level: 88.7 dB (A) at 14.00pm

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 Site Diary confirms that there were some construction activities carried out on the area adjacent at this time. This included some earthmoving plant operations, some of it concentrated in this area. The peak noise recorded was almost 4dB (A) above the trigger level, which is over double the trigger noise power level agreed for the area.

Therefore it is considered possible that some of the construction activities may have contributed to this exceedence. Works were immediately inspected and restricted so that trigger levels would not be reached again. It is worth noting that the L_{AEQ} level for this period was 70 dB, just below the L_{AEQ} Trigger level agreed for the area.

Corrective Action Required:

Review planning of works and monitoring arrangements to ensure that activities are not concentrated in one area with a lot of plant operating, resulting in cumulative levels causing exceedences.

Signature ……Roland Tarrant…….. Date ……30-07-12…….

NER Closed

Works have been inspected and completed as described above. Monitoring will take place on an ongoing basis.

Signature ……Seamus O'Brien……Date ……..30-07-12…

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: **30-07-12**	**NER. 116**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): July 28th 2012 Saturday – CNV7

Exceedence 244: Maximum Noise Level: 86.4 dB (A) at 08.00am

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 Site Diary confirms that works were taking place on the Gantry bases in this area but these did not start until after 8.30am to 9am.

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 …….30-07-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……..30-07-12…

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: **31-07-12**	**NER. 117**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): <u>July 30th 2012 Monday – CNV7</u>

Exceedence 245: Maximum Noise Level: 86.0 dB (A) at 08.00am

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 Site Diary confirms that there were no construction activities taking place near this receptor during this period.

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 …….31-07-12……

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……..31-07-12…

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: **31-07-12**	**NER. 118**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): July 31st 2012 Tuesday – CNV7

Exceedence 246: Maximum Noise Level: 86.4 dB (A) at 11.00am

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 Site Diary confirms that backfilling operations were taking place at Newmains bridge during this period. These works were not in the line of sight of CNV 07 and it is considered likely that the abutment and existing M9 Spur embankment would have acted as a noise barrier to this activity being 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 ……31-07-12……

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……31-07-12…

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: **06-07-12**	**NER. 119**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): July 5th 2012 Thursday – CNV7

Exceedence 247: Maximum Noise Level: 87.2 dB (A) at 05.00amon Friday morning.

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 Site Diary confirms that a there were varioguard operations taking place at Newmains bridge on the Winchburgh road on Thursday night but these works were completed by 22.30pm.

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 ……06-07-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……06-07-12…

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: **07-07-12**	**NER. 120**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): July 6th 2012 Friday – CNV7

Exceedence 248: Maximum Noise Level: 86.5 dB (A) at 01.00am, also L_{AEQ} measures 68.7dB(A) at 1am in the morning on the 7th.

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 Site Diary confirms that a beam lift too place at the M9 Overbridge

The beam lift operations ended before 1am on the night.

Therefore it is considered that it is unlikely that construction activities caused this exceedence and the exceedence may be weather related.

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date ……07-07-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……07-07-12…

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: **30-07-12**	**NER. 121**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): <u>July 28th 2012 Saturday – CNV16</u>

Exceedence 249: Maximum Noise Level: 85.3 dB (A) at 11.57am

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 Site Diary confirms works were taking place at Gantry 12, adjacent to Kirklands Park Grove on this date but they were completed by mid-morning. Construction activities were on-going from the construction of the housing estate adjacent to CNV16 at this time though including the use of power tools and cutting discs

Therefore it is considered that it is unlikely that M9J1a related construction activities caused this exceedence

Corrective Action Required:

Maintain current monitoring and surveillance levels

Signature ……Roland Tarrant…….. Date ……30-07-12……

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……..30-07-12…

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: **31-07-12**	**NER. 122**
QUALITY MANAGEMENT SYSTEM	**NOISE EXCEEDENCE REPORT**		

Summary of Finding(s): <u>July 30th 2012 Monday – CNV16</u>

Exceedence 250: Maximum Noise Level: 86.2 dB (A) at 16.21pm

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 Site Diary confirms that there were no construction activities taking place around CNV 16 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 …….31-07-12…….

NER Closed

Works have been inspected and completed as described above.

Signature ……Seamus O'Brien……Date ……..31-07-12…

Project Manager ~~/ Assist Project Manager~~