

# **Environmental Impact Assessment Report (EIAR)**

## **Volume 6 of 6: Appendices**

### **(Appendix A6.5) Termination Point Reservoir Unattended Noise Monitoring (N10)**

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## Acronyms and Abbreviations

Acronym	Meaning
dB(A)	An 'A-weighted decibel' - a measure of the overall noise level of sound across the audible frequency range (20 Hz – 20 kHz) with A-frequency weighting (i.e. 'A'-weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.
$L_{Aeq,T}$	This is the equivalent continuous sound level. It is a type of average and is used to describe a fluctuating noise in terms of a single noise level over the sample period (T).
$L_{AFmax, T}$	This is the instantaneous maximum sound level measured during the sample period using the 'F' time weighting.
$L_{Amin, T}$	This is the instantaneous minimum sound level measured during the sample period.
$L_{A10, T}$	This is the sound level that is exceeded for 10% of the sample period. It is typically used as a descriptor for traffic noise.
$L_{A90, T}$	This is the sound level that is exceeded for 90% of the sample period. It is typically used as a descriptor for background noise.
TPR	Termination Point Reservoir.

## 1. TPR Unattended Noise Monitoring (N10)

### 1.1 Introduction

1. An environmental noise survey was conducted in order to quantify the existing noise environment at a unattended monitoring position at Peamount Hospital representative of baseline noise levels at the Termination Point Reservoir (TPR) infrastructure site. The survey was conducted in general accordance with ISO 1996: 2017: *Acoustics – Description and measurement and assessment of environmental noise*. Specific details are set out below.

### 1.2 Survey Parameters

2. The noise survey results are presented in terms of the following parameters:

$L_{Aeq}$  is the equivalent continuous sound level. It is a type of average and is used to describe a fluctuating noise in terms of a single noise level over the sample period.

$L_{A10}$  is the sound level that is exceeded for 10% of the sample period. It is typically used as a descriptor for traffic noise.

$L_{A90}$  is the sound level that is exceeded for 90% of the sample period. It is typically used as a descriptor for background noise.

$L_{AFmax}$  is the instantaneous maximum sound level measured during the sample period using the 'F' time weighting.

$L_{Amin}$  is the instantaneous minimum sound level measured during the sample period.

3. The "A" suffix for the noise parameters denotes the fact that the sound levels have been "A-weighted" in order to account for the non-linear nature of human hearing. All sound levels in this report are expressed in terms of decibels (dB) relative to  $2 \times 10^{-5}$  Pa.

### 1.3 Survey Results

4. Unattended measurements were carried out from 11:15hrs on 12<sup>th</sup> July 2021 to 9:45hrs on 14<sup>th</sup> July 2021. Measured noise levels are shown in Table A6.4.1.

Table A6.4.1: Unattended Noise Monitoring Results (N10)

Start Time & Date	Measurement Duration (Time)	Measured Noise Levels (dB re. $2 \times 10^{-5}$ Pa)				
		$L_{Aeq}$	$L_{AFmax}$	$L_{Amin}$	$L_{A10}$	$L_{A90}$
12/07/2021 11:15	00d 00:15:00.0	41.9	68.8	28.9	41	31.3
12/07/2021 11:30	00d 00:15:00.0	38.5	58.3	28.9	38.3	30.9
12/07/2021 11:45	00d 00:15:00.0	35.6	46.4	29.6	38.2	32.1
12/07/2021 12:00	00d 00:15:00.0	37.3	59.1	29.5	37.8	32.2
12/07/2021 12:15	00d 00:15:00.0	40.3	60.4	28.1	38.7	29.7
12/07/2021 12:30	00d 00:15:00.0	34.9	52.2	28.5	36.8	30.8

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Start Time & Date	Measurement Duration (Time)	Measured Noise Levels (dB re.2x10 <sup>-5</sup> Pa)				
		L <sub>Aeq</sub>	L <sub>AFmax</sub>	L <sub>Amin</sub>	L <sub>A10</sub>	L <sub>A90</sub>
12/07/2021 12:45	00d 00:15:00.0	36.1	53.4	29.3	38.3	31.8
12/07/2021 13:00	00d 00:15:00.0	33.7	45.4	28.5	36	30.2
12/07/2021 13:15	00d 00:15:00.0	35.4	48.1	30.2	37.2	32.8
12/07/2021 13:30	00d 00:15:00.0	34.4	50.9	28.9	36.1	31.8
12/07/2021 13:45	00d 00:15:00.0	35.2	51.3	28.8	37.6	31.1
12/07/2021 14:00	00d 00:15:00.0	37.2	58	29.8	39.9	31.3
12/07/2021 14:15	00d 00:15:00.0	39	59.5	30.6	41	32.2
12/07/2021 14:30	00d 00:15:00.0	38.4	58.8	30.7	39.9	32.8
12/07/2021 14:45	00d 00:15:00.0	34	43.7	29.6	36.1	31.5
12/07/2021 15:00	00d 00:15:00.0	35.2	50	29.6	37.2	32.2
12/07/2021 15:15	00d 00:15:00.0	35.8	52.1	30.4	37.8	32.7
12/07/2021 15:30	00d 00:15:00.0	42.1	60.9	30.6	43.6	33.5
12/07/2021 15:45	00d 00:15:00.0	36.1	52.5	31.1	38	33.3
12/07/2021 16:00	00d 00:15:00.0	44.2	65.1	30	45.6	32.7
12/07/2021 16:15	00d 00:15:00.0	37.9	54.9	31.1	40.5	33
12/07/2021 16:30	00d 00:15:00.0	38.8	57.2	30.9	39.2	33.1
12/07/2021 16:45	00d 00:15:00.0	35.7	54.7	28.6	38	30.9
12/07/2021 17:00	00d 00:15:00.0	40.1	60.6	29.3	36	31.1
12/07/2021 17:15	00d 00:15:00.0	33.9	57.2	28.2	35.7	31.3
12/07/2021 17:30	00d 00:15:00.0	37.4	56.9	30	37	32.1
12/07/2021 17:45	00d 00:15:00.0	41.2	57	30.9	44.4	34.1
12/07/2021 18:00	00d 00:15:00.0	38.2	52.2	31.5	40	33.8
12/07/2021 18:15	00d 00:15:00.0	42.8	61	31.9	45.8	34.7
12/07/2021 18:30	00d 00:15:00.0	43.9	59.6	29.5	47.8	32.5
12/07/2021 18:45	00d 00:15:00.0	42.6	59	31.2	45.9	35.3
12/07/2021 19:00	00d 00:15:00.0	43.1	58.7	32.7	45.3	35
12/07/2021 19:15	00d 00:15:00.0	40.9	58.9	29.7	41.4	33.4
12/07/2021 19:30	00d 00:15:00.0	43.5	59.5	30.7	46.4	34.4
12/07/2021 19:45	00d 00:15:00.0	45.3	60.7	32.5	49.7	35
12/07/2021 20:00	00d 00:15:00.0	42.8	60	32.6	44.3	36.3
12/07/2021 20:15	00d 00:15:00.0	42.1	53.1	33.3	45.6	36.8
12/07/2021 20:30	00d 00:15:00.0	44.6	61.6	31.2	45.6	34.6
12/07/2021 20:45	00d 00:15:00.0	44.1	59.9	30.6	45.9	33.7
12/07/2021 21:00	00d 00:15:00.0	43.3	59.4	27.9	46.1	33
12/07/2021 21:15	00d 00:15:00.0	41.7	60.3	28.7	43.9	31.7
12/07/2021 21:30	00d 00:15:00.0	47	61.4	29.4	52.3	32.4
12/07/2021 21:45	00d 00:15:00.0	45.5	61	28.2	50	32.1
12/07/2021 22:00	00d 00:15:00.0	39.1	51.9	29.2	43	31.3

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Start Time & Date	Measurement Duration (Time)	Measured Noise Levels (dB re.2x10 <sup>-5</sup> Pa)				
		L <sub>Aeq</sub>	L <sub>AFmax</sub>	L <sub>Amin</sub>	L <sub>A10</sub>	L <sub>A90</sub>
12/07/2021 22:15	00d 00:15:00.0	37.3	48.7	29.2	40.7	32.1
12/07/2021 22:30	00d 00:15:00.0	35.8	46.3	28.7	38.8	31.8
12/07/2021 22:45	00d 00:15:00.0	34.7	51.8	27.7	38.4	29.6
12/07/2021 23:00	00d 00:15:00.0	36.4	67.1	27.6	39.3	29.4
12/07/2021 23:15	00d 00:15:00.0	37.7	49.7	29.6	41.3	32.4
12/07/2021 23:30	00d 00:15:00.0	33.2	46.7	26.8	36.5	28.6
12/07/2021 23:45	00d 00:15:00.0	31.6	44.5	25.9	33	27.5
13/07/2021 00:00	00d 00:15:00.0	36.6	49.3	26.3	41	28.1
13/07/2021 00:15	00d 00:15:00.0	35.5	67.5	26.1	37.2	27.6
13/07/2021 00:30	00d 00:15:00.0	29.7	43.6	25.2	30.8	26.9
13/07/2021 00:45	00d 00:15:00.0	33.4	44	26.3	36.8	28.6
13/07/2021 01:00	00d 00:15:00.0	32.6	44.7	26.7	35.6	28.7
13/07/2021 01:15	00d 00:15:00.0	30.8	43.8	27.7	32.2	28.9
13/07/2021 01:30	00d 00:15:00.0	31.3	43.7	25.9	32.9	28.4
13/07/2021 01:45	00d 00:15:00.0	30.9	45.2	26.9	32.2	28.5
13/07/2021 02:00	00d 00:15:00.0	28.8	37	25.5	30	27.3
13/07/2021 02:15	00d 00:15:00.0	30	37.1	26.6	31.1	28.5
13/07/2021 02:30	00d 00:15:00.0	30.8	42.4	25.5	33.2	27.7
13/07/2021 02:45	00d 00:15:00.0	29.5	40.5	25.7	31.2	27.2
13/07/2021 03:00	00d 00:15:00.0	30.7	36	27	32.5	28.7
13/07/2021 03:15	00d 00:15:00.0	31	49	25.7	33	27.9
13/07/2021 03:30	00d 00:15:00.0	30.7	62	24.9	30.5	26.7
13/07/2021 03:45	00d 00:15:00.0	32.3	45.1	27.4	34.6	28.7
13/07/2021 04:00	00d 00:15:00.0	29.1	36.4	25.6	30.4	27.5
13/07/2021 04:15	00d 00:15:00.0	31.1	48	26	32.8	27.8
13/07/2021 04:30	00d 00:15:00.0	44.3	61.1	26	50.4	27.6
13/07/2021 04:45	00d 00:15:00.0	47.4	61.9	26.3	52.3	29.3
13/07/2021 05:00	00d 00:15:00.0	50.5	69.2	27.6	55.6	30.6
13/07/2021 05:15	00d 00:15:00.0	49.2	63.4	28.3	54.8	32.2
13/07/2021 05:30	00d 00:15:00.0	47.5	62.8	29.9	50.5	33.2
13/07/2021 05:45	00d 00:15:00.0	45.9	63	33.5	48.4	35.5
13/07/2021 06:00	00d 00:15:00.0	49	62.9	33	54.7	35.9
13/07/2021 06:15	00d 00:15:00.0	49.7	64.5	34.2	54.3	37.5
13/07/2021 06:30	00d 00:15:00.0	45.3	58.3	34.7	49.1	38.6
13/07/2021 06:45	00d 00:15:00.0	47.9	60.9	35.1	53.2	38.6
13/07/2021 07:00	00d 00:15:00.0	47.3	62.7	34.5	50.8	38.1
13/07/2021 07:15	00d 00:15:00.0	46.6	62.1	34.4	48.2	38.7
13/07/2021 07:30	00d 00:15:00.0	46.7	64.3	34.7	48	39

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Start Time & Date	Measurement Duration (Time)	Measured Noise Levels (dB re.2x10 <sup>-5</sup> Pa)				
		L <sub>Aeq</sub>	L <sub>AFmax</sub>	L <sub>Amin</sub>	L <sub>A10</sub>	L <sub>A90</sub>
13/07/2021 07:45	00d 00:15:00.0	45.2	62.2	34.8	46.1	38.2
13/07/2021 08:00	00d 00:15:00.0	48.7	64.8	34.2	54.3	37.7
13/07/2021 08:15	00d 00:15:00.0	43.2	59.8	35.1	44.6	38.6
13/07/2021 08:30	00d 00:15:00.0	44.5	57.7	36.1	48.4	38.7
13/07/2021 08:45	00d 00:15:00.0	45.5	59.4	35.8	50.6	38.5
13/07/2021 09:00	00d 00:15:00.0	46.5	60.8	36.1	50.1	38.5
13/07/2021 09:15	00d 00:15:00.0	45.6	61.9	36.2	47.3	38.1
13/07/2021 09:30	00d 00:15:00.0	50.2	61.7	33	55.7	37.1
13/07/2021 09:45	00d 00:15:00.0	46.9	61.9	30.2	52.1	34.3
13/07/2021 10:00	00d 00:15:00.0	49.3	67.3	32.1	54	35
13/07/2021 10:15	00d 00:15:00.0	44.6	63.2	30.7	47.7	35
13/07/2021 10:30	00d 00:15:00.0	48.9	63.3	29.8	53.8	32.5
13/07/2021 10:45	00d 00:15:00.0	47.6	68.6	29.7	44.6	32.3
13/07/2021 11:00	00d 00:15:00.0	48.8	66.8	30.3	46.6	33.5
13/07/2021 11:15	00d 00:15:00.0	41.9	60.7	30.5	43	33.9
13/07/2021 11:30	00d 00:15:00.0	46.8	64.2	32.1	49.2	35
13/07/2021 11:45	00d 00:15:00.0	43.5	65.7	32.8	45.9	35.8
13/07/2021 12:00	00d 00:15:00.0	42.2	59.9	32.5	43.7	35.7
13/07/2021 12:15	00d 00:15:00.0	38.9	55.6	32	40.7	34.6
13/07/2021 12:30	00d 00:15:00.0	40.9	60.2	30.6	39.9	33.7
13/07/2021 12:45	00d 00:15:00.0	44.7	61.3	30.4	47.5	33.5
13/07/2021 13:00	00d 00:15:00.0	40	59.9	30.4	41.9	32.9
13/07/2021 13:15	00d 00:15:00.0	41	64.2	30.7	43.5	33.8
13/07/2021 13:30	00d 00:15:00.0	40.1	63.9	32.5	39.9	35.3
13/07/2021 13:45	00d 00:15:00.0	38.7	54.4	32	40.3	35
13/07/2021 14:00	00d 00:15:00.0	39.2	51.2	32.4	41.7	35.6
13/07/2021 14:15	00d 00:15:00.0	39.1	55.9	31.1	41.7	34.9
13/07/2021 14:30	00d 00:15:00.0	40.7	55.8	31.8	42.9	35.4
13/07/2021 14:45	00d 00:15:00.0	43.4	62.4	31.7	45.7	36.2
13/07/2021 15:00	00d 00:15:00.0	40	57.2	31.4	41.6	34.7
13/07/2021 15:15	00d 00:15:00.0	39.2	50.9	33.8	41.5	36
13/07/2021 15:30	00d 00:15:00.0	52.5	75.9	32.8	45.3	36.7
13/07/2021 15:45	00d 00:15:00.0	44.1	67.4	31.1	44.5	35.1
13/07/2021 16:00	00d 00:15:00.0	44.7	65	33.1	43.9	36.9
13/07/2021 16:15	00d 00:15:00.0	41	54.8	34	42.6	37.3
13/07/2021 16:30	00d 00:15:00.0	43.8	61.2	34.1	44.2	38.2
13/07/2021 16:45	00d 00:15:00.0	45.4	62.9	34.3	47.1	37.7
13/07/2021 17:00	00d 00:15:00.0	53.6	76.5	34.5	44.4	37.8

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Start Time & Date	Measurement Duration (Time)	Measured Noise Levels (dB re.2x10 <sup>-5</sup> Pa)				
		L <sub>Aeq</sub>	L <sub>AFmax</sub>	L <sub>Amin</sub>	L <sub>A10</sub>	L <sub>A90</sub>
13/07/2021 17:15	00d 00:15:00.0	45.1	66.9	34.3	44	38.4
13/07/2021 17:30	00d 00:15:00.0	39.4	51.7	33.2	41.6	36.3
13/07/2021 17:45	00d 00:15:00.0	39.2	54.2	32.4	41.3	35.8
13/07/2021 18:00	00d 00:15:00.0	41	53.3	33.3	43.4	37.2
13/07/2021 18:15	00d 00:15:00.0	40.5	53.8	30.9	42.9	36
13/07/2021 18:30	00d 00:15:00.0	40.9	55.2	32.1	43.6	36.8
13/07/2021 18:45	00d 00:15:00.0	41.1	55.7	32.5	43.5	36.2
13/07/2021 19:00	00d 00:15:00.0	43.7	59.1	30.5	46	34.8
13/07/2021 19:15	00d 00:15:00.0	44.5	57.3	34.7	46.8	39.8
13/07/2021 19:30	00d 00:15:00.0	43.6	57.7	33.6	46.6	38.7
13/07/2021 19:45	00d 00:15:00.0	47.1	57.4	36.8	50.8	39.9
13/07/2021 20:00	00d 00:15:00.0	50.1	59.9	39.8	53	42.5
13/07/2021 20:15	00d 00:15:00.0	53	67.8	41.1	55.9	47.7
13/07/2021 20:30	00d 00:15:00.0	45.2	58.7	28.8	50.4	32.6
13/07/2021 20:45	00d 00:15:00.0	36.8	50.3	23.7	40.8	26.6
13/07/2021 21:00	00d 00:15:00.0	39.7	57.2	24.5	40.7	29.5
13/07/2021 21:15	00d 00:15:00.0	42.8	61.9	28.4	42.4	33.3
13/07/2021 21:30	00d 00:15:00.0	46.2	61.7	23.7	50.9	29.7
13/07/2021 21:45	00d 00:15:00.0	44.4	60.4	20.8	47.9	25.6
13/07/2021 22:00	00d 00:15:00.0	41.7	56.7	20.4	44.8	25.6
13/07/2021 22:15	00d 00:15:00.0	35.9	47.5	24.5	39.8	28.6
13/07/2021 22:30	00d 00:15:00.0	35	60.7	22.2	37.9	27.4
13/07/2021 22:45	00d 00:15:00.0	35.6	47.9	21.7	40.1	24.2
13/07/2021 23:00	00d 00:15:00.0	34.5	46.4	22	38.7	24.6
13/07/2021 23:15	00d 00:15:00.0	33.9	51	24	37.2	27
13/07/2021 23:30	00d 00:15:00.0	34.6	53.9	22.2	37.5	23.7
13/07/2021 23:45	00d 00:15:00.0	29.9	44.9	22.4	33.5	23.9
14/07/2021 00:00	00d 00:15:00.0	36.4	66.5	24.1	40.2	25.9
14/07/2021 00:15	00d 00:15:00.0	32	52.8	23.1	34.8	24.7
14/07/2021 00:30	00d 00:15:00.0	32.2	51.7	23.1	31.8	24.7
14/07/2021 00:45	00d 00:15:00.0	37	49.6	24.7	41.4	28.3
14/07/2021 01:00	00d 00:15:00.0	27.6	42.2	21.1	29.3	22.8
14/07/2021 01:15	00d 00:15:00.0	29.7	45.6	22.2	32.3	24.1
14/07/2021 01:30	00d 00:15:00.0	27.9	40.7	22.1	30.4	24.3
14/07/2021 01:45	00d 00:15:00.0	31.7	46.5	23.5	33.9	26.1
14/07/2021 02:00	00d 00:15:00.0	29.5	46.5	25.4	29.5	26.9
14/07/2021 02:15	00d 00:15:00.0	29.6	41.7	25.5	30.9	27.9
14/07/2021 02:30	00d 00:15:00.0	31.5	43.8	26	33.8	28

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Start Time & Date	Measurement Duration (Time)	Measured Noise Levels (dB re.2x10 <sup>-5</sup> Pa)				
		L <sub>Aeq</sub>	L <sub>AFmax</sub>	L <sub>Amin</sub>	L <sub>A10</sub>	L <sub>A90</sub>
14/07/2021 02:45	00d 00:15:00.0	28.5	35.4	24.6	29.7	26.8
14/07/2021 03:00	00d 00:15:00.0	29.9	45.9	25.4	30.5	26.8
14/07/2021 03:15	00d 00:15:00.0	29.3	39.5	25.6	30.7	27.6
14/07/2021 03:30	00d 00:15:00.0	32.5	46.6	28.1	34.4	29.5
14/07/2021 03:45	00d 00:15:00.0	31.2	44.7	27.2	32.3	28.8
14/07/2021 04:00	00d 00:15:00.0	31.2	40.1	27.2	32.8	28.9
14/07/2021 04:15	00d 00:15:00.0	35.3	51.9	27.5	36.3	29.1
14/07/2021 04:30	00d 00:15:00.0	48.3	61.8	28.9	54.3	30.8
14/07/2021 04:45	00d 00:15:00.0	50.8	62.5	28	55.7	32.7
14/07/2021 05:00	00d 00:15:00.0	48.4	61.3	30.3	53.6	32.8
14/07/2021 05:15	00d 00:15:00.0	45.4	62.5	30.9	47.3	33.3
14/07/2021 05:30	00d 00:15:00.0	41.3	58.8	31.1	43.4	34
14/07/2021 05:45	00d 00:15:00.0	42.4	63.6	33.1	43.6	35.8
14/07/2021 06:00	00d 00:15:00.0	44.6	60.5	35.1	46.6	37.2
14/07/2021 06:15	00d 00:15:00.0	48.5	65	36.4	52.1	39.2
14/07/2021 06:30	00d 00:15:00.0	48.4	64.3	39	52.6	41.5
14/07/2021 06:45	00d 00:15:00.0	47.2	62.8	38.3	48.2	40.6
14/07/2021 07:00	00d 00:15:00.0	44.1	55.1	38.8	46.3	41
14/07/2021 07:15	00d 00:15:00.0	47.7	60.6	37.8	52.6	41.2
14/07/2021 07:30	00d 00:15:00.0	46.6	60.3	38	49.7	41.5
14/07/2021 07:45	00d 00:15:00.0	44.5	64.3	37.2	45.4	39.9
14/07/2021 08:00	00d 00:15:00.0	43	59.5	35.9	44.5	39.1
14/07/2021 08:15	00d 00:15:00.0	44.7	66.8	34.1	44.3	37.8
14/07/2021 08:30	00d 00:15:00.0	43.1	58.6	34.1	44.2	37.4
14/07/2021 08:45	00d 00:15:00.0	42.5	58.7	34.1	44.3	37.4
14/07/2021 09:00	00d 00:15:00.0	39.9	47.5	31.9	42.6	35.7
14/07/2021 09:15	00d 00:15:00.0	42.9	63.5	32	42.7	35.2
14/07/2021 09:30	00d 00:15:00.0	53.5	73.6	33.3	54.2	37.1
14/07/2021 09:45	00d 00:15:00.0	52.8	62.9	49.1	54	51.7