



# Pollution Monitoring Report August 2022 M12 Motorway West

Project number:	N00160
Document number:	M12WCO-CPBGGJV-ALL-EN-RPT-000001
Revision:	00

**Document Approval** 

Rev.	Date	Prepared by	Reviewed by	Approved by	Remarks
00		Phillip Matevski		Kimberley Purkiss	
Signature:		fallithe		X Pur & SS	





# Table of Contents

	Tab	le of Contents	i
1		oduction	
	1.1	Background	1
2	Pro	ject Details	1
		M12 Motorway West Project Details	
3	Sco	ppe of this Report	6
4	Rep	oorting Requirements	7
5		nitoring	
		Weather Monitoring	
	5.2	Noise and Vibration	9
	5.3	Discharge to Water	10
6		rection Log	
Appe	endic	ces	12
	Арр	endix A1 – Weather Observations	13
	Арр	endix A2 – Noise and Vibration Monitoring Results	14
	Ann	endix A3 – Active Discharge Points	15



### 1 Introduction

### 1.1 Background

Western Sydney's population is anticipated to increase from 2.5 million in 2021 to 3 million by 2036, which is an average of 46,000 additional residents per year. This strong forecast growth is driven by a number of transformational changes in the region, including the Western Sydney International Airport (WSIA), South West Growth Area, Western Sydney Employment Area and Western Sydney Aerotropolis. Additional travel demand associated with these planned developments is expected to put significant pressure on the existing transport network and negatively impact traffic efficiency and road safety in the region.

The M12 Motorway will connect The Northern Road at Luddenham and the M7 Motorway at Cecil Hills, over a distance of about 16 km. The M12 Motorway project will provide the main access from the WSIA at Badgerys Creek to Sydney's motorway network and must be opened to traffic six months before the opening of the WSIA.

The M12 Motorway will provide the capacity to meet traffic demand generated by Western Sydney urban development, provide a high standard connection to WSIA to meet future freight and passenger needs and will support and integrate with the broader transport network. The M12 Motorway Project objectives include:

- Provide direct access from the M7 Motorway to the planned Western Sydney airport at Badgerys Creek, and from the M4 via The Northern Road.
- Provide sufficient road capacity to meet traffic demand generated by the planned Western Sydney urban development.
- Provide a road which supports and integrates with the broader transport network.
- Support the provision of an integrated regional and local public transport system.
- Provide active local transport within the east-west corridor.

Approval for the Project under the EP&A Act was granted by the Minister for Planning on 23 April 2021. Approval for the Project under the EPBC Act was granted by the Federal Minister for the Environment on 3 June 2021. The project must be carried out in accordance with the terms of the NSW and Federal Approvals.

# 2 Project Details

# 2.1 M12 Motorway West Project Details

The M12 Motorway West Project involves construction of a new approximately 6km of dual carriageway motorway predominantly through greenfield area between The Northern Road, Luddenham and approximately 250m east of Badgerys Creek, including WSIA Interchange and Elizabeth Drive Interchange. The works are within the Liverpool and Penrith City Councils (Council) local government areas (LGA).

Features of these Works include:

- Construction of 6km of dual carriageway motorway predominantly through greenfield area between The Northern Road, Luddenham and approximately 250m east of Badgerys Creek.
- Construction of 11 bridges.
- A grade-separated interchange referred to as the Western Sydney International Airport interchange, including a dual-carriageway four-lane airport access road (two lanes in each direction for about 1.5 kilometres) connecting with the Western Sydney International Airport Main Access Road.
- Connection to the signalised at grade intersection at The Northern Road with provision for grade separation in the future as part of the future Outer Sydney Orbital.
- Realignment and duplication of approximately 1,500m of Elizabeth Drive with a new bridge over the Airport Access Road and Metro Rail corridor including associated utility adjustments.
- A four-way signalised intersection east of Airport Access Road.
- A left-in/left-out intersection west of Airport Access Road.



 A signalised single point interchange with north facing ramps from Elizabeth Drive to M12 and south facing ramps from Elizabeth Drive to Airport Access Road.

### Activities included in the Works:

- site establishment
- control of traffic including the provision of approved Traffic Management Plans to facilitate the construction of the works
- provision for pedestrians and cyclists
- provision of site accommodation for the Principal
- searching for and protecting public utility services
- maintenance of the existing roadways
- drainage works (both surface and subsurface)
- permanent and temporary erosion and sedimentation controls
- removal and disposal of some existing roads, kerbs, gutters, footpaths, stormwater and other minor structures
- demolition of structures including houses and sheds
- earthworks including clearing and grubbing, removal and stockpiling of topsoil, excavation of cuttings, placing of general fill, management of potentially/ actually contaminated materials, possible off-Site disposal of spoil material, foundation treatments, placement of upper zone material and Selected Material Zone using imported materials
- construction of rigid pavements including lean-mix concrete sub-base, continuously reinforced concrete pavement, dense grade asphalt intermediate and wearing courses
- flexible sub-base and base pavements
- ancillary works, including new kerbs and/or gutters and paving of cycleways/footpaths
- construction of bridges
  - Bridge over Luddenham Road (BR01)
  - Bridge over Cosgroves Creek (BR02)
  - Bridge over Airport Access Road (AAR) on Elizabeth Drive (BR04A)
  - Bridge over Sydney Metro on Elizabeth Drive (BR04B)
  - Bridge over Western Sydney Airport (WSA) Channel on Northbound Off Ramp (BR04C)
  - Bridge over WSA Channel on Southbound On Ramp (BR04D)
  - Twin Bridges over Badgerys Creek (BR05)
  - Bridge over M12 Motorway and Airport Access Road Ramps (BR21)
  - Bridge over M12 (BR22)
  - Bridge over M12 Motorway on ramp (BR24)
- construction of a RCBC as a stock underpass
- construction of precast arch structures as a shared use path underpass
- construction of retaining walls
- construction of reinforced soil walls
- design development and installation of pits and conduits for an underground Intelligent Transport System cableway including supply and installation of Closed-Circuit Television Cameras, Electronic Message Signs, Emergency Telephones, Vehicle Detection Sites and Permanent Automatic Weather Stations
- relocation of existing and installation of new (or upgraded) public utilities
- property access and property adjustments
- Road furniture
- pavement marking and raised pavement markers
- signposting including sign structures





- opening to traffic
- revegetation and landscaping of exposed new works and of areas disturbed by construction activities
- clean up and restoration of work areas and the areas disturbed by utility authorities in carrying out adjustments within the Site
- preparation of "work-as-executed" drawings and asset acceptance documentation
- all other work which CPBGG JV are obliged to undertake by the terms of the Contract.

CPB Contractors Pty Limited and Georgiou Group Joint Venture (CPBGG JV) were engaged by Transport for New South Wales (TfNSW) to construct the M12 Motorway West Package.



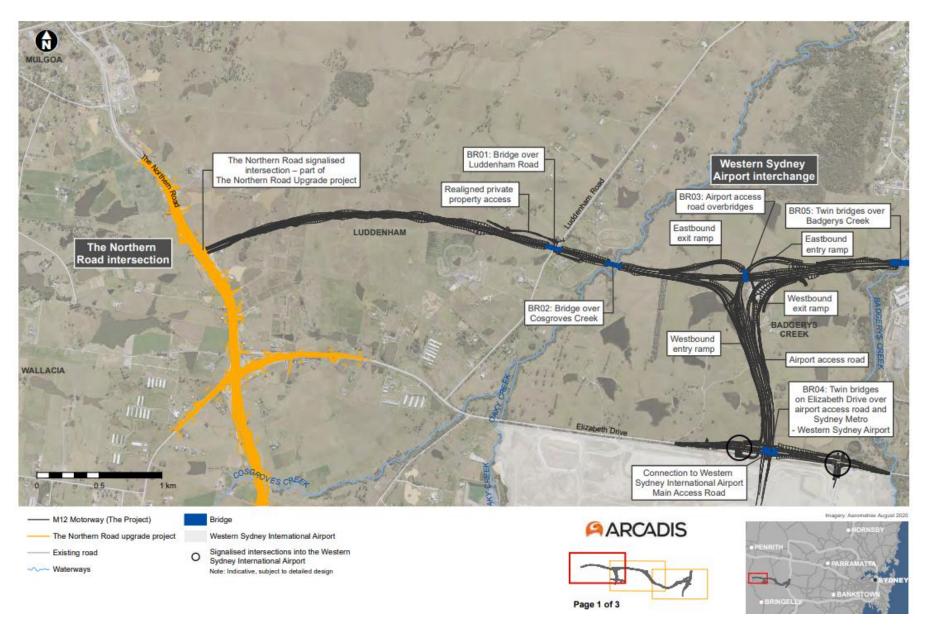


Figure 2-1 Keys features of the M12 Motorway West Project





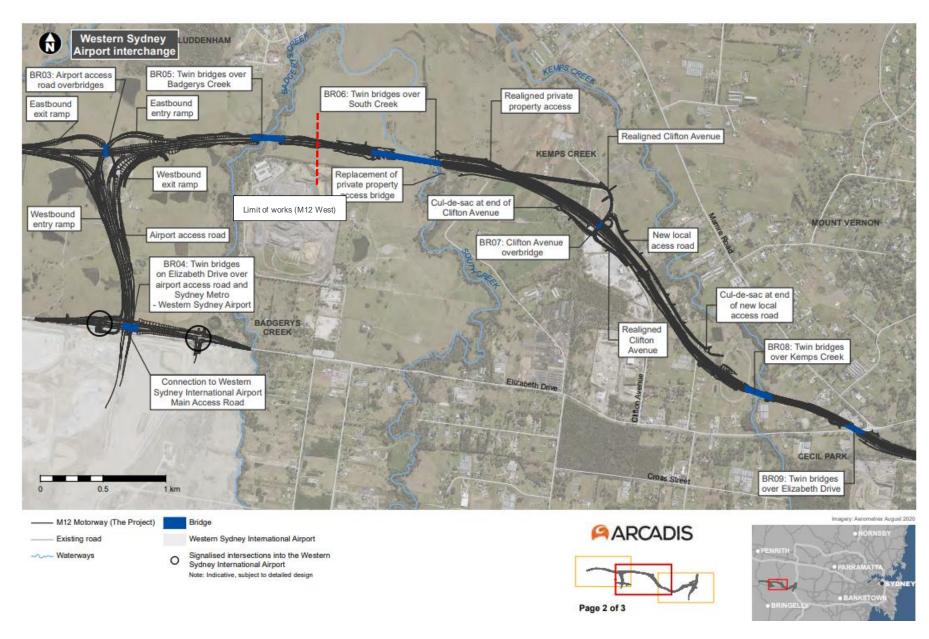


Figure 2-2 Keys features of the M12 Motorway West Project



# 3 Scope of this Report

Transport for New South Wales (TfNSW) were issued an Environmental Protection Licence (EPL21595) from the NSW Environment Protection Authority (EPA) on 21 March 2021 under Schedule 1 of the *Protection of the Environment Operations Act 1997* (POEO Act) for the M12 Motorway West package. This EPL was transferred to CPB Contractors Pty Limited on 17 June 2022.

The EPL applies to the works approved under the Infrastructure Approval SSI-9364 associated with the delivery of the M12 Motorway project.

This EPL Pollution Monitoring Report provides the results of all pollution monitoring required to be measured or monitored by the licensee of EPL 21347 as required by Section 66 of the *Protection of the Environment Operations Act 1997* (POEO Act) and with reference to EPA Publication Requirements for publishing pollution monitoring data (Environment Protection Authority, 2013).

Table 3-1 provides a summary of the pollution monitoring requirements of EPL 21595.

Table 3-1 Licence Details

Licence [	Details
Number	21595
Copy of Licence	https://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=257133&SYSUID=1&LICID=21595
Anniversary Date	21 March
Licensee	CPB Contractors Pty Ltd
Premises	The M12 Motorway Project – West Package, Elizabeth Drive, Penrith NSW 2740
Scheduled Activity	Road Construction (>=50,000T & road to be constructed <10km)



# 4 Reporting Requirements

Under the POEO Act, holders of environment protection licences (licensees) must publish or make pollution monitoring data available to members of the public.

The POEO Act Section 66 requires:

"66 Conditions requiring monitoring, certification or provision of information, and related offences

- (1) Monitoring The conditions of a licence may require—
  - (a) monitoring by the holder of the licence of the activity or work authorised, required or controlled by the licence, including with respect to—
    - (i) the operation or maintenance of premises or plant, and
    - (ii) discharges from premises, and
    - (iii) relevant ambient conditions prevailing on or outside premises, and
    - (iv) anything required by the conditions of the licence, and
  - (b) the provision and maintenance of appropriate measuring and recording devices for the purposes of that monitoring, and
  - (c) the analysis, reporting and retention of monitoring data.
- (2) False or misleading information A holder of a licence who supplies information, or on whose behalf information is supplied, to the appropriate regulatory authority under the conditions of the licence is guilty of an offence if the information is false or misleading in a material respect."

The primary objective of the pollution monitoring reporting requirements is that members of the public have access to the results of all pollution monitoring (which a licence specifies must be carried out) in a way that is meaningful to them. Data for the M12 Motorway West Works is presented on a monthly sampling period.

The monitoring data that must be published and/or made available on request is any data that is obtained as a result of a monitoring condition on a licence that relates to air, water (surface or groundwater), noise and/or land pollution. The data to be published or provided is limited to data that relates to pollutants generated, discharged or emitted from the licensed premises.

The data is provided in tabular format that is easy for the general public to understand. Tables definitively display raw data values, while graphs and charts are useful for overviews and visualisation of long-term trends. Raw data will be provided upon request.

An upfront note will be included on the licensee's website or in this report to explain why any data may appear to be missing because there is no discharge or the level of pollutant being below the detection level of the measurement instrument.

It's possible from time to time that incorrect data may get published in good faith. As soon as practicable after the licensee becomes aware that the published pollution monitoring data is incorrect or misleading, licensees must then publish a correction log to correct this data that is incorrect or misleading (refer to Section 6).

Table 4-1 provides a summary of the pollution monitoring requirements of EPL21595

Table 4-1 EPL 21595 Pollution Monitoring Requirements

EPL Condition	Requirement	Report Reference
M5.1	Monitor and record temperature, humidity, wind direction, wind velocity and rainfall at either the project weather station, or through analysis of equivalent weather information obtained from the Australian Bureau of Meteorology.	Section 5.1 Appendix A1
L5.6	Monitoring to validate the noise predictions for works undertaken outside of the standard construction hours as per the construction noise impact assessment	Section 5.2 Appendix A2
M2.2	Discharge of pollutants to water from nominated discharge points	Section 5.3 Appendix A3



EPL Condition	Requirement	Report Reference
M4.4	Noise and vibration monitoring as directed by an authorised officer of the EPA	Section 5.2 AppendixA2
M7.6	Noise and vibration monitoring of noise and vibration complaints	Section 5.2 AppendixA2
L2.5	Discharge from sediment basins solely as a result of rainfall measured at the premise the rainfall depth value	Section 5.3 Appendix A3



# 5 Monitoring

Section 5 presents summaries of the monitoring programs completed in the reporting period from 18<sup>th</sup> August 2022 to 1<sup>st</sup> September 2023.

Detailed monitoring results for each program are presented in the Appendices.

### 5.1 Weather Monitoring

EPL Condition M5.1 requires CPB to collect and store meteorological data. Meteorological data is not considered to be pollution data and therefore does not have to be published. However, the meteorological data is published with the pollution monitoring data to provide additional context to the water discharge pollution.

The meteorological observations are based data from Badgerys Creek AWS (station 067108) from the 18<sup>th</sup> August 2022 to 1<sup>st</sup> September 2023 (14 days).

The total rainfall for the month of August was 24.4mm with four (4) rain days (days with >1mm of rain).

No rain days exceeded the 85th percentile (32.2mm) design rainfall events. Detailed weather observations are presented in Appendix A-1.

A summary of the reporting period's monthly meteorological observations summarised in Table 5-1. A comparison between long term monthly means and recorded values can be found in Figure 5-1 for rainfall.

Table 5-1 Weather Summary and Trigger Weather Events from August 2022 (AWS #067108)

Weather Event	August 2022
Minimum temperature	1.0°C
Maximum temperature	25.4°C
Total Rainfall	32.8mm
Number of days with rain (>1mm)	4 days
>25km/hr wind	7 days
>50km/hr wind	0 day

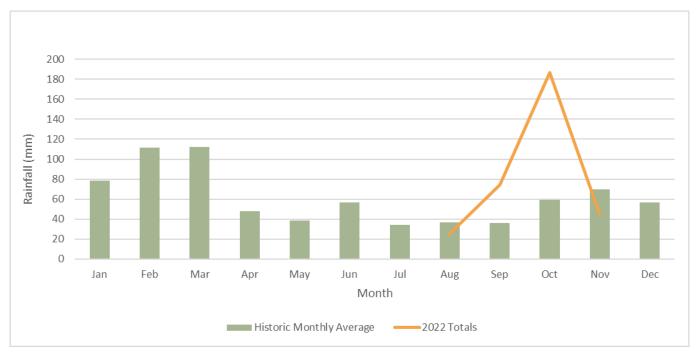


Figure 5-1 Rainfall received compared to historic monthly averages (Source BOM)

### 5.2 Noise and Vibration



No works undertaken outside of the standard construction hours during the reporting period required noise monitoring to validate noise assessments, in accordance with EPL condition L5.6, as noise predictions were inaudible (<5db above the RBL) at the nearest sensitive receiver.

Noise and vibration monitoring was not directed by an authorised officer of the EPA during the reporting period, in accordance with EPL condition M4.4.

No complaints pertaining to noise or vibration were received during the reporting period to require investigation/ verification monitoring, in accordance with EPL condition M7.6.

Table 5-2 provides a summary of background noise monitoring completed between from 18<sup>th</sup> August 2022 to 1<sup>st</sup> September 2022. Detailed noise and vibration monitoring results are presented in Appendix A2.

Table 5-2 Summary of background noise monitoring from August 2022

Date	Monitoring Location	Description
31/08/2022	L07 - Lot 20 DP1276633	Attended noise monitoring conducted during daytime standard construction hours.

No vibratory compaction activities have occurred within 50m of residential buildings during the reporting period. Nor have any activities occurred within the safe working distances for cosmetic damage.

### 5.3 Discharge to Water

The EPL discharge criteria apply to the sediment basins referred to in condition P1.3 are the active basins and discharge points identified and located in the document titled 'M12 Motorway West Sediment Basins Schedule\_3Feb2023' and maintained on electronic file EF21/13233. The active basins and discharge points during the reporting period are summarised in Appendix A3.

Table 5-3 provides a summary of the discharges by CPBGGJV at the current active monitoring/discharge points that complied with condition P1.3. There were a total 0 discharges from these points during the reporting period.

Table 5-4 provides a summary discharge events that occurred solely as a result of rainfall measured at the premises exceeding the design rainfall depth value for the corresponding discharge point. There were no discharge events as a result of rainfall exceeding the design rainfall depth value during the reporting period.

Table 5-3 - Summary of Sediment Basin Discharges during August 2022

Sediment Basin ID	Date tested	Date discharged
None discharged.	N/A	N/A

Table 5-4 Discharge Events as a result in exceedance of rainfall design capacity

Date of discharge	Sediment Basin	Five-day Rainfall Event
None discharged	N/A	N/A

# **6 Correction Log**

It's possible from time to time that incorrect data may get published in good faith.





As soon as practicable after the licensee becomes aware that the published pollution monitoring data is incorrect or misleading, licensees must then publish a correction log to correct this data that is incorrect or misleading.

There are no matters included in the correction log for this reporting period.





# **Appendices**



# Appendix A1 – Weather Observations

## Badgerys Creek, New South Wales August 2022 Daily Weather Observations

		Temps	Data	E	c	Max	wind	gust			ć	9 am						3 pm		
ate	Day	Min Max	Kain	Evap	Sun	Dir	Spd	Time	Temp	RH	Cld	Dir	Spd	MSLP	Temp	RH	Cld	Dir	Spd	MSLE
		°C °C	mm	mm	hours		km/h	local	°C	%	8 <sup>th</sup>		km/h	hPa	°C	%	8 <sup>th</sup>		km/h	hP
1	Мо	4.5 20.6	0.2			WNW	35	12:09	12.2	88		N	7	1016.2	19.4	34		WSW	15	1014.
2	Tu	1.6 19.8	0			WNW	20	08:58	11.8	65		WNW	15	1020.9	19.1	36		NNE	7	1016.
3	We	5.3 24.1	0.2			N	37	13:10	9.3	88		NW	6	1015.9	22.9	48		NNE	20	1009.
4	Th	9.3 20.1	0			NNE	52	18:23	16.1	81		WNW	7	1009.9	18.4	75		N	19	1004
5	Fr	10.5 23.1	2.0			W	50	14:38	13.3	97		W	6	1006.1	21.7	34		WNW	31	1002
6	Sa	10.6 19.2	0.2			WNW	59	14:05	16.0	46		W	13	1008.9	18.3	34		WNW	26	1007
7	Su	3.7 19.5	0			SSW	37	13:47	12.0	74		WSW	6	1015.8	15.4	53		SSW	9	1015
8	Мо	5.9 18.7	0			SW	30	09:22	12.0	70		WSW	19	1023.2	17.8	39		S	11	1020
9	Tu	5.2 15.8	0			SW	33	10:21	11.3	69		SW	15	1025.3	15.3	58		SSW	19	1024
10	We	5.7 19.2	0			WSW	19	09:36	11.4	71		SW	11	1029.5	15.7	56		ESE	4	1026
11	Th	6.8 15.8	0.2			N	19	14:33	9.9	100		(	Calm	1025.5	14.9	69		N	13	1020
12	Fr	9.9 19.1	0			NNE	26	13:00	12.6	82		NNE	7	1018.5	14.8	79		NNE	11	1015
13	Sa	8.7 19.4	4.2			WNW	41	16:37	11.4	95		NNW	6	1013.3	16.5	52		SW	9	1009
14	Su	6.5 17.9	0.4			NW	43	13:43	14.3	55		NW	9	1009.4	17.2	45		WNW	26	1006
15	Мо	6.7 18.0	0			NW	50	14:17	13.2	55		NW	9	1009.6	15.4	48		WNW	28	1007
16	Tu	2.8 19.2	0			WSW	37	12:47	11.5	73		NNW	4	1010.4	15.7	42		SW	19	1009
17	We	3.4 20.3	0			WSW	26	10:55	12.6	71		SW	9	1020.4	19.9	38		S	2	1017
18	Th	4.2 19.3	0			NNW	13	12:56	9.4	99		SSW	4	1016.1	17.3	56		WNW	2	1012
19	Fr	9.2 20.0	0			SW	44	15:35	13.4	75		NW	4	1012.1	19.8	48		W	22	1011
20	Sa	2.1 18.9	0			SW	43	16:31	11.2	69		NNW	7	1020.2	17.5	45		NNE	9	1018
21	Su	9.1 19.4	0			SSW	22	03:00	12.9	54		SW	13	1028.0	19.2	41		NE	6	1024
22	Мо	1.0 22.0	0			WNW	46	14:29	9.7	81		N	4	1021.2	20.1	32		WNW	31	1014
23	Tu	7.0 23.1	0			SSW	52	15:12	15.9	55		NNE	17	1009.4	9.2	91		SSW	31	1010
24	We	5.1 17.2	14.6			SSW	35	09:38	10.9	52		SW	22	1021.4	16.8	33		SSW	17	1019
25	Th	5.5 20.2	0			SSW	30	10:10	11.6	71		N	6	1022.3	17.0	47		SE	9	1021
26	Fr	6.9 19.1	0.2			S	24	11:03	13.8	69		SW	13	1028.1	17.6	57		SE	6	1026
27	Sa	8.3 19.7	0.4			E	20	11:23	13.5	82		SW	9	1030.5	15.7	78		SE	6	1027
28	Su	6.4 21.2	9.4			NNE	20	13:55	11.9	100		ENE	2	1030.1	19.3	60		NE	6	1026
29	Мо	8.9 19.8	0			NNE	17	11:43	14.7	99		Е	6	1026.6	17.8	67		NNW	2	1022
30	Tu	9.3 25.4	0.8			NNW	41	13:54	15.7	94		N	15	1016.9	24.6	35		WNW	19	1014
31	We	6.4 21.9	0		1	ENE	26	14:05	15.8	60		SSW	_	1024.9	18.8	60		Е	-	1022
tatis	stics	for Augu	st 202	22																
	1ean		The same of	2000					12.6	75			9	1018.9	17.7	51			14	1016
		1.0 15.8	0				***************************************		9.3	46		(		1006.1	9.2			#		1002
		10.6 25.4	14.6			WNW	59		16.1			SW		1030.5	24.6	91		#		1027
	Total		32.8																	

IDCJDW2005.202208 Prepared at 13:00 UTC on Monday 6 February 2023

Badgerys Creek AWS #067108 - August 2022





# Appendix A2 – Noise and Vibration Monitoring Results

Monitoring Event No.	Date	Time	Period	Site	Location	Zone	< 500 m from residence T/F?	Leq	La-max	La-min	La- 10	NML	Predicted	Exceedance of NML	La- 90	Comments	by	Equipment	Weighting Filter	Time Weighting	Time (min)	Receiver Number	Construction Phase	Actions carried out in the event of an exceedance.
1	19/09/202	12:37PM	Daytime	M12 West	L07 - Lot 20 DP1276633	NCA09	т	64.6	91	N/A	64.2	50	N/A	N/A	51.1	Dominant noise comes from cars and other LVs running along Luddenham Road. Few birds chirping. Noise associated with construction not audible during this monitoring event.	Л	dBAir	N/A	N/A	N/A	N/A	Earthworks	N/A
2	31/08/202	1:13PM	Daytime	M12 West	AF2 Site Compound	NCA07	F	69.4	87.5	N/A	72.8	44	N/A	N/A	52.8	Dominant noise source is construction, with frequent sounds of LVs, trucks and rollers. This monitoring event was recorded at source of noise, next to plant.	И	dBAir	N/A	N/A	N/A	N/A	Earthworks	N/A
3	7/09/202	9:34AM	Daytime	M12 West	L13 - Lot 82 DP1277406	NCA08	т	68.9	85.9	N/A	71.5	52	N/A	N/A	53.7	Dominant noise comes from non-project related LVs and trucks running along Elizabeth Drive. Noise associated with construction not audible during this monitoring event.	Л	dBAir	N/A	N/A	N/A	N/A	Earthworks	N/A
4	29/09/202	8:52AM	Daytime	M12 West	AF1	NCA10	F	59.7	76.8	N/A	63.3	54	N/A	N/A	52.5	Dominant noise comes from non-project related LVs and trucks running along The Northern Road. Noise associated with construction not audible during this monitoring event.	Л	dBAir	N/A	N/A	N/A	N/A	Earthworks	N/A
5	4/10/202	09:50AM	Daytime	M12 West	1953 Elizabeth Drive, Badgerys Creek	NCA07	F	57.6	91.4	N/A	58	44	N/A	N/A	45	Dominant noise comes from birds chirping. Noise associated with construction not audible during this monitoring event.	JI	dBAir	N/A	N/A	N/A	N/A	Earthworks	N/A
7	27/10/202	6.30PM	Evening	M12 West	L11, former house along Elizabeth Drive (south side)	NCA08	F	70.4	95.7	N/A	74	44	N/A	N/A	47	62 cars/N/s and 13 trucks passed during the recording Semi-trailer trucks were the source of the foundest noise Which onevernest along filtabeth Drive dominated the sound scape Cleerly audiles ound of forg consist, was heard coming from Dam 19, which is appointed. If appointed the contrained of the contrained the contrained out by the vehicle movement.	P.M	Sonik	N/A	N/A	N/A	N/A	N/A	N/A
8	27/10/202	7:00PM	Evening	M12 West	L07 - Lot 20 DP1276633	NCA09	т	65.7	81.5	N/A	69	41	N/A	N/A	45	27 cars/UV, passed, zero (0) trucks passed during the recording The fact that no trucks passed makes sense as they would either use Mamre Rd or Blazbeth Drive for throughfaire. Loudest source of noise was a modified car that passed that had a louder than normal enhanced that the control of the control of the control of the control of the control of Which de horoughfaire predominately consistent from both directions Clear audiles sound of insect chips and frog crosking.	P.M	Sonik	N/A	N/A	N/A	N/A	N/A	N/A
9	27/10/202	7:30PM	Evening	M12 West	AF1	NCA10	F	57.6	70.4	N/A	62	49	N/A	N/A	44	59 cars/LVs and 12 trucks passed during the recording Vehicle movement along The Northern Road dominated the sound scape Trucks were the loodest source of noise An audible sound of insect chirp was heard, however drowned out by the vehicle movement	P.M	Sonik	N/A	N/A	N/A	N/A	N/A	N/A
10	27/10/202	7:58PM	Evening	M12 West	1953 Elizabeth Drive, Badgerys Creek	NCA07	т	60.2	82.3	N/A	62	39	N/A	N/A	N/A	29 Cary/Us and three (3) trusts passed within the duration of monitoring Frogs calls consistently heard coming from AF2 Weather clear with on a warm night Oversized truck delivery accompanied by escort occurred at 9:41PM which was the loudest source of noise	P.M	Sonik	N/A	N/A	N/A	N/A	N/A	N/A
11	27/10/202	8:15PM	Evening	M12 West	L13 - Lot 82 DP1277406	NCA08	т	60.5	87.7	N/A	58	44	-	-	N/A	Faint sound of insect thinp from all directions  20 cars/UVs and one (1) trutk passed during the monitoring  The one truck that passed was the loudest source of noise  Vehicle direction predominately easterly along Elizabeth Drive  Audible insect frin beard consistently throughout the recording	P.M	Sonik	N/A	N/A	N/A	N/A	N/A	N/A
12	27/10/202	8:30PM	Evening	M12 West	AF2 Site Compound	NCA07	F	54.2	75.4	N/A	56	39	-		N/A	17 cars/LVs and one (1) truck for the duration of recording. Loudest source of noise were the LVs that passed using Elizabeth Drive Barely audible sound of insects chirping No frogs heard croaking at this location due to no near water source	P.M	Sonik	N/A	N/A	N/A	N/A	N/A	N/A
13	17/11/202	10:30PM	Night	M12 West	L11, former house along Elizabeth Drive (south side)	NCA08	F	43.5	N/A	N/A	N/A	38	-	-	N/A	Is can I/V. sand 4 mucks passed during the recording  Smirt faller trucks were the source of the founds most seen  Whick on movement along Elizabeth Drive dominated the sound scape  Clearly audible sound of fing crosking was heard coming from Dam 09, which is  opposite L11. An audible sound of insect thirp was heard, however drowned out by the vehicle  movement.  The predicted level for L11 was 38UAL 4, 31.5 LK was recorded.	P.M	Sonik	N/A	N/A	N/A	N/A	N/A	N/A
14	17/11/202	11:00PM	Night	M12 West	L07 - Lot 20 DP1276633	NCA09	т	39.2	N/A	N/A	N/A	31			N/A	S cany/LVs passed, zero [0] brucks passed during the recording The fact that no trucks passed makes some as they would either use Mamre Rd or Elazabeth Prince for troughtile. Loudest source of notes was a standard LV. Loudest source of notes was a standard LV. Close adults sound of innect ching and for growing in the southern direction Close audiles sound of innect ching and for growinging. Recorded volume of 33 2.1 AE loudest source of notes were the LVs that passed using Elazabeth and Close Barrley audible sound of innects chipping No flogs heard coading at this location due to no near water source	P.M	Sonik	N/A	N/A	N/A	N/A	N/A	N/A
15	17/11/202	11:30PM	Night	M12 West	AF1 Site Compound	NCA10	F	37.9	N/A	N/A	N/A	36	-	-	N/A	19 can JAV and 11 trucks passed during the recording Vehicle movement along The Northern Road dominated the sound scape Vehicle movement along The Northern Road dominated the sound scape An audible sound of insect chirp was heard, however drowned out by the vehicle movement.	P.M	Sonik	N/A	N/A	N/A	N/A	N/A	N/A
16	17/11/202	12:05AM	Night	M12 West	L13 - Lot 82 DP1277406	NCA08	т	41.6	N/A	N/A	N/A	38	-	-	N/A	7 cars/Us and two (2) trucks passed during the monitoring The first truck that passed at 1.41.00 was the loudest source of noise Weblied direction predominately estatory along Elizabeth Drive Audible insect thirp heard consistently throughout the recording L4E exceeded 88.b to anorox .28 b.	P.M	Sonik	N/A	N/A	N/A	N/A	N/A	N/A
17	17/11/202	12.20AM	Night	M12 West	1953 Elizabeth Drive, Badgerys Creek	NCA07	F	41.6	N/A	N/A	N/A	35	-	-	N/A	Four (4) Cars/LVs and three (3) trucks passed within the duration of monitoring Weather clear with on a cool night Faint sound of intect chipf from all directions Recorded LAE exceeded the RBL by approx. 6 dB	P.M	Sonik	N/A	N/A	N/A	N/A	N/A	N/A
18	17/11/202	12:40AM	Night	M12 West	AF2 Site Compound	NCA07	F	42.2	N/A	N/A	N/A	36	-	-	N/A	Two cars/LVs and zero (0) trucks for the duration of recording. Loudest source of noise were the cars that passed using Elizabeth Drive Barely audille sound of insects the/ping No froes heard croaking at this location due to no near water source	P.M	Sonik	N/A	N/A	N/A	N/A	N/A	N/A
19	18/12/202	11:26PM	Night	M12 West	725 Luddenham Road, Luddenham	NCA08	т	48	69.2	43.9	48	31	47	N/A	44.9	Delivery of piling rig equipment consisting of two trucks and a frana crane	P.M	Sonik	N/A	N/A	N/A	N/A	N/A	N/A
20	10/02/202	10:00AM	Daytime	M12 West	821-849 Luddenham Rd, Luddenham NSW 23	NCA09	т	44.7	55.4	38.3	47.8	50	N/A	N/A	39.9	No race carts were in operation of the monitoring so an accurate result achieved.  Montoring was conducted to gauge noise output of the rock crushing in operation.  Results did not exceed NML	P.M	Sonik	N/A	N/A	N/A	N/A	N/A	N/A

# Appendix A3 – Active Discharge Points

### Sediment Basin Sizing based upon "Soils and Construction - Volume 1 - 4th Edition - March 2004"

Revised Universal Soil Loss Equation	on (RUSLE) Coefficients:
R=	2500
P=	1.3
C=	1

		Settling Zon	e Parameters:						
Cv =	0.64								
R	%ile	80	85						
2 day	mm	15.0	20.3	Blacktown					
5 day	mm	24.6	32.2	Blacktown					
Rainfall Erosivity factor - From map given in Appendix B of Blue Book									
Based on Type D soils:									

All licenced discharge points are located at the spillway of the associated basin.

Discharge Criteria (EPL#21595 condition	рН	Turbidity (NTU)	Oil and Grease	
L2.4)	6.5-8.5	50	Not visible	

Desilting and dewatering managed in accordance with approved CSWMP and EWMS.
Basins removed from the licence (and onsite) are shown with the font strikethrough option used.

Basin Name	Basin Type	Chainage / Location	Date Constructed	Catchment area	Rainfall Intensity	Percentile	Design Rainfall Depth	Required Sediment Storage (soil) Volume	Required Settling (water) Volume	Required Total Volume	Non designed volume sump / excavation	Discharge Point Coordinates (MGA)		Comments / Recommendations	
				(ha)	day	%	mm	m³	m³	m³		Easting (m)	Northing (m)	Y/N	
SB10925E	Т	10925	-	2.09	5	85	32.2	111	431	542	-	287112.160	6251486.779	Υ	Currently not discharging off site
SB11150E	Т	11150	-	3.19	5	85	32.2	203	657	860	-	287348.797	6251563.857	Υ	Currently not discharging off site
SB11655E	Т	11655	-	1.29	5	85	32.2	96	266	362	-	287839.726	6251654.770	Υ	Currently not discharging off site
SB12100E	Т	12100	-	0.7	5	85	32.2	52	144	196	-	288271.213	6251666.295	Υ	Currently not discharging off site
SB12500E	Т	12500	-	0.75	5	85	32.2	60	155	215	-	288739.035	6251618.550	Υ	Currently not discharging off site
SB12550E	Т	12550	-	3.0	5	85	32.2	222	618	840	-	288700.547	6251608.234	Υ	Currently not discharging off site
SB13000W	Т	13000	-	1.25	5	85	32.2	93	258	351	-	289207.554	6251436.058	Υ	Currently not discharging off site
SB13350W	Т	13350	-	2.37	5	85	32.2	176	488	564	-	289547.743	6251336.070	Υ	Currently not discharging off site
SB13800E	Т	13800	-	1.61	5	85	32.2	119	332	451	-	-	-	N	Not yet constructed
SB13825W	Т	13825	-	1.11	5	85	32.2	82	229	311	-	289953.598	6251216.021	Υ	Currently not discharging off site
SB14100E	Т	14100	-	3.67	5	85	32.2	195	756	951	-	-	-	N	Not yet constructed

SB14550A	Т	14550	-	2.23	5	85	32.2	142	460	602	-	290719.632	6251247.275	Υ	Currently not discharging off site
SB14650A	Т	14650	-	3.99	5	85	32.2	254	822	1076	-	290770.284	6251255.682	Υ	Currently not discharging off site
SB14650B	Т	14650B	-	9.76	5	85	32.2	622	2011	2633	-	290803.487	6251202.105	Υ	Currently not discharging off site
SB14650C	Т	14650	-	12.07	5	85	32.2	769	2487	3256	-	290810.182	6251033.341	Υ	Currently not discharging off site
SB15800W	Т	15800	-	11.39	5	85	32.2	844	2347	3191	-	291913.474	6251140.965	Υ	Currently not discharging off site
SB15900S	Т	15900	-	0.98	5	85	32.2	73	202	275	-	292033.039	6251179.298	Υ	Currently not discharging off site
SB16200E	Т	16200	-	3.02	5	85	32.2	224	622	846	-	-	-	N	Not yet constructed
SB16500E	Т	16500	-	1.59	5	85	32.2	101	328	429	-	-	-	N	Not yet constructed
SB1629	Т	1629	-	1.42	5	85	32.2	9	103	112	-	291340.049	6250482.677	Υ	Currently not discharging off site
SB1700	Т	1700	-	1.74	5	85	32.2	105	293	398	-	291348.192	6250344.778	Υ	Currently not discharging off site
SB2150	Т	2150	-	2.93	5	85	32.2	67	604	671	-	291445.615	6249899.417	Υ	Currently not discharging off site
SB125	Т	125	-	2.19	2	85	32.2	22	285	307	-	291223.210	6249814.564	Υ	Currently not discharging off site
SB1600	Т	1600	-	10.34	5	85	32.2	766	2131	2897	-	-	-	N	Not yet constructed
AF02 Stage 1	Т	AF02	20/08/2022	5.14	5	85	32.2	90	1059	1149	-	291013.354	6249852.803	Υ	Currently not discharging off site
AF02 Stage 2	Т	AF02	-	3.65	5	85	32.2	64	752	816	-	291247.773	6249848.331	Υ	Currently not discharging off site
AF02 Stage 2 Laydown	Т	AF02	01/09/2022	1.58	5	85	32.2	36	326	362	-	290998.102	6250129.015	Υ	Currently not discharging off site
AF11 Stage 1	Т	AF11		1.36	5	85	32.2	17	280	297	-	-	-	N	Not yet constructed
AF11 Stage 2	Т	AF11		2.21	5	85	32.2	85	455	540	-	-	-	N	Not yet constructed
SB Dam 9 Footprint	Т	AF02		13	5	85	32.2	227	2679	2906		291629.729	6249868.001	Υ	Currently not discharging off site

Notes:

• T - Temporary Sediment Basin (Type D)