



# Environmental Monitoring Data

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Project: Sydney Gateway Project

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## Document Approval

Rev.	Date	Prepared by	Reviewed by	Approved by	Remarks
01	08/12/2022	A.Wray	J. Paul	R. Muir	For publication

## Project Summary

The Sydney Gateway Road Project ('the Project') is a new direct high-capacity road connection linking the Sydney motorway network at St Peters interchange, where the M4 and M8 motorways meet, with Sydney Airport's domestic and international terminals and the Port Botany Precinct. John Holland Seymour Whyte have been contracted by Transport for New South Wales to design and construct the works for the Sydney Gateway Road Project. Figure 1 provides an overview of the Project.

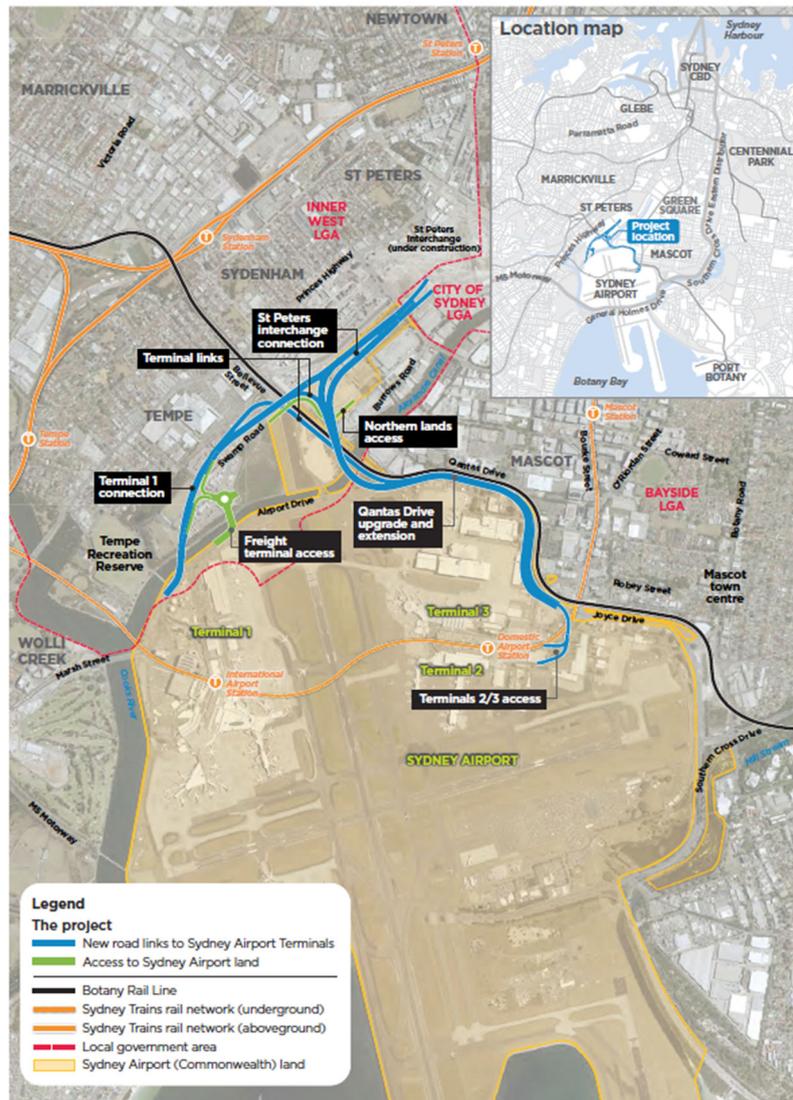


Figure 1: Project Overview

## Environmental Protection Licence and Reporting Requirements

John Holland Pty Ltd obtained the Environment Protection Licence (EPL No. 21524) from the NSW Environment Protection Authority for the Project on behalf of the John Holland Seymour (JHSW) Joint Venture. The licence is for construction works relating Scheduled Activities as defined under Schedule 1 of the *Protection of the Environment Operations Act, 1997* (POEO Act).

The licence describes monitoring and reporting requirements for the Works. The following report details environmental monitoring undertaken during this reporting month conducted in accordance with the EPL.

The EPL can be found by following the link below to the EPA's website: [ViewPOEOLicence.aspx\(nsw.gov.au\)](http://ViewPOEOLicence.aspx(nsw.gov.au))

## **Noise and Vibration Monitoring**

### **Vibration**

Vibration monitoring was undertaken during the reporting period, all works were deemed compliant. Table 1 contains the vibration monitoring data. Results were recorded below the adopted structural damage criteria on all occasions.

### **Noise**

Noise monitoring was undertaken during the reporting period, all works were deemed compliant as the dominant noise source was determined to be caused by background noise sources, specifically local traffic, aircraft movements. Table 2 contains the noise monitoring results.

## **Discharge Water Quality Monitoring**

Offsite discharge from the 30L/s WTP occurred during November 2022. All discharges were compliant. See Table 3 for sample results.

## **Landfill Gas and Gas Accumulation Monitoring**

Landfill gas and gas accumulation monitoring was undertaken during the November 2022 monitoring period. Results are summarised in Table 4 below.

Table 1: Vibration Monitoring Data

Monitoring Location	Monitoring Date	Attended or Continuous Monitoring	Measured VDV (m/s <sup>1.75</sup> )	VDV Target (m/s <sup>1.75</sup> )	VDV Compliant	Measured PPV (mm/s)	PPV Target (mm/s)	PPV Compliant	Comment
3 Fanning Street, Tempe (Routine Monitoring)	04/11/2022 – 04/11/2022	Attended	0.397	0.4	Yes	0.61	20	Yes	Works were monitored and found to be compliant with structural criteria and human comfort criteria.
2 Barden Street, Tempe (Routine Monitoring)	10/11/2022 – 10/11/2022	Attended	0.111	0.4	Yes	0.17	20	Yes	Works were monitored and found to be compliant with structural criteria and human comfort criteria.
113 Robey St, Mascot (Routine Monitoring)	10/11/2022 – 10/11/2022	Attended	0.150	0.4	Yes	0.23	20	Yes	Works were monitored and found to be compliant with structural criteria and human comfort criteria.
Desal pipeline (Desal)	17/11/2022 – 19/11/2022	Continuous	N/A	N/A	N/A	0.49	20	Yes	Works were monitored and found to be compliant with structural criteria for the desalination pipeline.
Desal pipeline (Desal)	21/11/2022 – 22/11/2022	Continuous	N/A	N/A	N/A	0.3	20	Yes	Works were monitored and found to be compliant with structural criteria for the desalination pipeline.
Viva/Ampol Relocation	21/11/2022 – 23/11/2022	Continuous	N/A	N/A	N/A	0.33	20	Yes	Works were monitored and found to be compliant with structural criteria for the VIVA/Ampol pipeline.
Desal pipeline (Desal)	21/11/2022 – 24/11/2022	Continuous	N/A	N/A	N/A	0.33	20	Yes	Works were monitored and found to be compliant with structural criteria for the desalination pipeline.
1 Fanning Street, Tempe (Routine Monitoring)	25/11/2022 – 25/11/2022	Attended	0.326	0.4	Yes	0.5	20	Yes	Works were monitored and found to be compliant with structural criteria and human comfort criteria.
5 Barden St, Tempe (Routine Monitoring)	30/11/2022 – 30/11/2022	Attended	0.189	0.4	Yes	0.29	20	Yes	Works were monitored and found to be compliant with structural criteria and human comfort criteria.
124 High Street, Mascot (Routine Monitoring)	30/11/2022 – 30/11/2022	Attended	0.267	0.4	Yes	0.41	20	Yes	Works were monitored and found to be compliant with structural criteria and human comfort criteria.

**Note:**

1. VDV – Vibration Dose Value
2. PPV – Peak Particle

Table 2: Noise Monitoring Data

Monitoring Location (Noise-Catchment Area, Street, Suburb)	Monitoring Date	Attended or Continuous Monitoring	Parameter	Measured Value dB(A)	Goals / Targets dB(A)	Comments
NCA06a, 247 Coward St, Mascot	04/11/2022	Attended	L <sub>Aeq</sub> 15min	70.3	42	Sydney Gateway works inaudible. Dominant noise source was traffic on Coward St and aircrafts flying over monitoring location. Sydney Gateway works compliant.
NCA_08, 109 Baxter Rd, Mascot	04/11/2022	Attended	L <sub>Aeq</sub> 15min	63.4	52	Dominant noise source was traffic on Baxter St. Sydney Gateway works compliant.
NCA_03, 3 Fanning St, Tempe	04/11/2022	Attended	L <sub>Aeq</sub> 15min	55.8	65	Sydney Gateway works inaudible. Dominant noise source was traffic on South St, local birds and residential building works. Sydney Gateway works compliant.
NCA_02, 4 Bellevue Street, Tempe	08/11/2022	Attended	L <sub>Aeq</sub> 15min	56.5	55	Dominant noise source was works within the shipping container terminal. This source also caused the L <sub>Amax</sub> . Sydney Gateway works compliant.
NCA_02, 4 Bellevue Street, Tempe	07/11/2022	Attended	L <sub>Aeq</sub> 15min	61.1	55	Dominant noise source was works within the shipping container terminal. This source also caused the L <sub>Amax</sub> . Sydney Gateway works compliant.
NCA_03, 1 Hart Street, Tempe	08/11/2022	Attended	L <sub>Aeq</sub> 15min	44.1	37	Sydney Gateway works inaudible. Dominant noise source was local fauna from Tempe Lands Park. Sydney Gateway works compliant.
NCA_03, 2 Fanning Street, Tempe	08/11/2022	Attended	L <sub>Aeq</sub> 15min	43.7	39	Sydney Gateway works inaudible. Dominant noise source was local fauna from Tempe Lands Park. Sydney Gateway works compliant.
NCA_03, 2 Station Street, Tempe	10/11/2022	Attended	L <sub>Aeq</sub> 15min	56.7	63	Sydney Gateway works inaudible. Dominant noise source was traffic on Station St and South St. Sydney Gateway works compliant.
NCA_03, 2 Barden Sreet, Tempe	10/11/2022	Attended	L <sub>Aeq</sub> 15min	68.8	66	Dominant noise source was traffic on Barden St and South St. Sydney Gateway works compliant.

NCA_03, 2 Hart St, Tempe	15/11/2022	Attended	LAeq 15min	58.3	66	Dominant noise source was traffic on Hart St and South St. Sydney Gateway works compliant.
NCA_03, 5 Wentworth Street, Tempe	15/11/2022	Attended	LAeq 15min	56.4	66	Dominant noise source was traffic on Wentworth St and South St. Sydney Gateway works compliant.
NCA_03, 2 Fanning Street, Tempe	23/11/2022	Attended	LAeq 15min	49.2	39	Sydney Gateway works inaudible. Dominant noise source was local fauna from Tempe Lands Park. Sydney Gateway works compliant.
NCA_03, 1 Hart Street, Tempe	23/11/2022	Attended	LAeq 15min	48.9	37	Sydney Gateway works inaudible. Dominant noise source was local fauna from Tempe Lands Park. Sydney Gateway works compliant.
NCA_01, 34 Harber Street, St Peters	23/11/2022	Attended	LAeq 15min	67.5	39	Sydney Gateway works inaudible. Dominant noise source was traffic on Campbell Rd. Sydney Gateway works compliant.
NCA_01, 179 Princes Hwy, St Peters	23/11/2022	Attended	LAeq 15min	70.6	39	Sydney Gateway works inaudible. Dominant noise source was traffic on Princess Highway. Sydney Gateway works compliant.
NCA_03, 1 Fanning Street, Tempe	25/11/2022	Attended	LAeq 15min	61.2	66	Sydney Gateway works inaudible. Dominant noise source was local fauna from Tempe Lands Park. Sydney Gateway works compliant.
NCA_03, 5 Barden St, Tempe	30/11/2022	Attended	LAeq 15min	51.8	70	Dominant noise source was traffic on Barden St and South St. Sydney Gateway works compliant.
NCA_08a, 124 High Street, Mascot	30/11/2022	Attended	LAeq 15min	59.4	55	Sydney Gateway works inaudible. Dominant noise source was traffic on O'Riordon St and High St. Sydney Gateway works compliant.

**Note:**

1. LAeq (15min) - The A-weighted equivalent continuous (energy average) A-weighted sound pressure level of the construction works under consideration over a 15-minute period and excludes other noise sources such as from industry, road, rail and the community.
2. dBA - Decibels using the A-weighted scale measured according to the frequency of the human ear

Table 3: WTP Discharge Monitoring Data

Analyte	Units	Limit	Date 07/11/2022	Date 24/11/2022	Comments
Ammonia	ug/l	1200	<5	73	Compliant
Anthracene	ug/l	0.4	<0.1	<0.1	Compliant
Arsenic (III)	ug/l	2.3	2	<1	Compliant
Arsenic (V)	ug/l	4.5	2	<1	Compliant
Barium (dissolved)	mg/l	2	<1	<1	Compliant
Benzo(a)pyrene	ug/l	0.2	<0.05	<0.05	Compliant
Boron	ug/l	5100	<5	1070	Compliant
Cadmium (dissolved)	ug/l	5.5	<0.1	<0.1	Compliant
Chromium (hexavalent)	ug/l	20	<10	<10	Compliant
Chromium (trivalent)	ug/l	49	<10	<10	Compliant
Cobalt (dissolved)	ug/l	14	<1	<1	Compliant
Copper (dissolved)	ug/l	3	<1	<1	Compliant
Ethyl benzene	ug/l	110	3	3	Compliant
Fluoranthene	ug/l	1.4	<0.1	<0.1	Compliant
Iron (dissolved)	ug/l	300	80	80	Compliant
Lead (dissolved)	ug/l	6.6	<1	<1	Compliant
Manganese (dissolved)	ug/l	80	<1	<1	Compliant
Mercury (dissolved)	ug/l	0.4	<0.1	<0.1	Compliant
m-Xylene	ug/l	100	16	17	Compliant
Naphthalene	ug/l	70	<5	<0.1	Compliant
Nickel (dissolved)	ug/l	70	<1	<1	Compliant
Nitrate + nitrite (oxidised nitrogen)	ug/l	15	<2	13	Compliant
Nitrogen (total)	ug/l	300	20	260	Compliant
o-Xylene	ug/l	470	3	3	Complaint
Perfluorooctane sulphonate (PFOS)	ug/l	0.13	<0.01	<0.01	Compliant
Perfluorooctanoic acid (PFOA)	ug/l	220	<0.01	<0.01	Compliant
pH	pH	7-8.5	7.85	7.74	Compliant
Phenanthrene	ug/l	2	<0.1	<0.1	Compliant
Phosphorus (total)	ug/l	30	27	<10	Compliant
p-Xylene	ug/l	250	16	17	Compliant
TPH C10-C36 Fraction	ug/l	600	<50	<50	Compliant
TPH C6-C9 Fraction	ug/l	150	90	70	Compliant
Turbidity	NTU	10	0.4	0.8	Compliant
Zinc (dissolved)	ug/l	23	<5	<5	Compliant

Table 4: Landfill Gas Monitoring Results (17 November 2022)

EPA identification no.	Type of Monitoring Point*	Methane Limit	Results (Stabilised)%	Comment
GW1A	Landfill Gas Monitoring <sup>1</sup>	1%v/v	0	Compliant
GW2	Landfill Gas Monitoring <sup>1</sup>	1%v/v	0	Compliant
GW3	Landfill Gas Monitoring <sup>1</sup>	1%v/v	0	Compliant
GW4A	Landfill Gas Monitoring <sup>1</sup>	1%v/v	0	Compliant
GW5A	Landfill Gas Monitoring <sup>1</sup>	1%v/v	0	Compliant
GW6A	Landfill Gas Monitoring <sup>1</sup>	1%v/v	0	Compliant
GW7	Landfill Gas Monitoring <sup>1</sup>	1%v/v	-	Destroyed unable to be sampled
GW8	Landfill Gas Monitoring <sup>1</sup>	1%v/v	-	Destroyed unable to be sampled
GW9	Landfill Gas Monitoring <sup>1</sup>	1%v/v	0	Compliant
GW9A	Landfill Gas Monitoring <sup>2</sup>	N/A	-	Unable to be sampled
GW11A	Landfill Gas Monitoring <sup>1</sup>	1%v/v	0	Compliant
GW12	Landfill Gas Monitoring <sup>2</sup>	1%v/v	-	Destroyed unable to be sampled
GW13	Landfill Gas Monitoring <sup>1</sup>	1%v/v	-	Destroyed unable to be sampled
GW14	Landfill Gas Monitoring <sup>2</sup>	N/A	5.2	Compliant
GW16	Landfill Gas Monitoring <sup>1</sup>	1%v/v	0	Compliant
GW17	Landfill Gas Monitoring <sup>1</sup>	1%v/v	0	Compliant
GW19A	Landfill Gas Monitoring <sup>1</sup>	1%v/v	0	Compliant
GW22s	Landfill Gas Monitoring <sup>1</sup>	1%v/v	0	Compliant
JHSW-LFG02	Landfill Gas Monitoring <sup>1</sup>	1%v/v	0	Compliant
OSA1	Gas Accumulation Monitoring <sup>3</sup>	500ppm	<3	Compliant
OSA2	Gas Accumulation Monitoring <sup>3</sup>	500ppm	<3	Compliant
OSA3	Gas Accumulation Monitoring <sup>3</sup>	500ppm	<3	Compliant
C3 Site Compound	Gas Accumulation Monitoring <sup>4</sup>	500ppm	<3	Compliant

1. Outside the passive interception and venting trench
2. Inside the passive interception and venting trench
3. Gas accumulation monitoring within buildings located outside of the landfill boundary
4. Gas accumulation monitoring within buildings located onsite