Southwest Metro Station Upgrade Works Package 4:

Marrickville, Canterbury & Lakemba Stations

HSEJV Construction Monitoring Report: Sept 2021 – Feb 2022



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Revision History

REV	DATE	DESCRIPTION	REVIEW	APPROVED
A	26/04/2022	Original Content Development	Elena Ivanova	Ryan O'Leary
B	24/05/2022	Updated following comments by Sydney Metro	Elena Ivanova	Ryan O'Leary
C	08/06/2022	Updated following comments by ER	Elena Ivanova	Ryan O'Leary
0	09/06/2022	Final for issue	Elena Ivanova	Ryan O'Leary

Terms and Definitions

TERMS	EXPLANATION
AMMs	Additional Mitigation Measures
AMMM	Additional Mitigation Measures Matrices
CEMP	Construction Environmental Management Plan
CoA	Condition of Approval
CNVS	Sydney Metro Construction Noise and Vibration Strategy (2016)
CNVMP	Construction Noise and Vibration Management Plan
CoCB	City of Canterbury Bankstown
CSSI	Critical State Significant Infrastructure
EIS	Environmental Impact Statement
DPE (formerly DPIE)	Department of Planning and Environment
EPA	NSW Environment Protection Authority
ER	Environmental Representative
HSEJV	Haslin Construction & Stephen Edwards Joint Venture
IWC	Inner West Council
M	Monitoring
NATA	National Association of Testing Authorities
NML	Noise Management Level
NVMP	Noise and Vibration Management Plan
REMM	Revised Environmental Mitigation Measure
SWMP	Soil and Water Management Plan
VML	Vibration Management Level

1. Introduction

1.1. Project Summary

The Sydney Metro City & Southwest project includes a new 30km metro line extending metro rail from the end of the Metro Northwest Line at Chatswood, under Sydney Harbour, through new CBD stations and southwest to Bankstown. It is due to open in 2024 with the ultimate capacity to run a metro train every two minutes each way through the centre of Sydney. Sydney Metro City & Southwest comprises two core components – the Chatswood to Sydenham project, and the Sydenham to Bankstown upgrade. This document refers to the Sydenham to Bankstown Section, Southwest Metro Station Upgrade Works Package 4. In particular to the Station Upgrades at Marrickville, Canterbury, and Lakemba, refer to Figure 1 below.

Figure 1: Location of the Project

1.2. Planning Approval Requirements

The Sydney Metro Authority received planning approval to construct the project from the Department of Planning and Environment (DPE). The Conditions of Approval (CoA) Critical State Significant Infrastructure (CSSI) 8256 granted 12 December 2018 cover the works from Marrickville to Bankstown.

A Construction Environmental Management Plan (CEMP) and sub-plans were developed for the project to address all environmental aspects, including construction monitoring. Approval of the plans enabled commencement of Construction on 20 March 2021. Construction monitoring requirements are detailed in the CEMP, the Soil and Water Management Sub-Plan (SWMP) (CoA C3(b) and the Construction Noise and Vibration Management Plan (CNVMP) (CoA C3(a). These plans can be accessed at the HSEJV website: https://hsejv.com.au/home.

Environmental monitoring was undertaken to validate the impacts predicted for the Project, to measure the effectiveness of environmental controls and implementation of the CEMP and supplementary plans, and to address approval requirements.

The objectives for this report are to provide construction monitoring results for the 6 months of work on the HSEJV Project as required in the Construction Monitoring Program, from the start of September 2021 to the end of February 2022.

1.3. Submission Requirements

This Construction Monitoring Report will be submitted to the Planning Secretary (DPE), and relevant regulatory agencies, for information in accordance with Condition C14 of CSSI 8256 every six months as outlined in the Construction Monitoring Program.

1.4. Role of the ER in Reviewing the Report

Sydney Metro engaged, and received DPE approval, for an Independent ER for the Project. The role of the ER, in this instance, is to review documents identified in Condition A26 (d) and in this case reviewing this Construction Monitoring Report (CMR) prior to submission to DPE. The Independent Environmental Representative (ER) has reviewed this CMR prior to submission to the DPE, Inner West Council (IWC) and City of Canterbury Bankstown (CoCB).

2. Details of Pre-Construction Monitoring

Works commenced in February 2021 with non-intrusive survey works, dilapidation reports and site familiarisation.

The Southwest Metro Early Works (SMEW) project conducted water quality monitoring at the Cooks River, adjacent to the rail corridor for the purpose of establishing baseline water quality data from May 2019 to September 2020 at quarterly intervals and also during a number of rainfall events. These monitoring locations (on Broughton Street, Canterbury) are located approximately 150m from the nearest works at Canterbury Station. It is noted that the data captured as part of the monitoring indicates that the water quality within the Cooks River at the monitoring location exceeds several of the ANZECC/ANZG criteria regularly including pH and turbidity. Due to fluctuating results, they offer little in terms of interpretation or predictable trends. No further baseline water quality monitoring is proposed by the Project. HSEJV did not conduct any baseline water quality monitoring further to what was provided by the SMEW project.

The NSW Water Quality and River Flow Objectives (refer Tables below) provide water quality objectives for the Cooks River and Georges River catchments, for the protection of the following within waterways affected by urban development, or estuaries:

- Aquatic ecosystems
- Visual amenity.

As per the Sydney Metro – Water Discharge or Reuse Procedure and HSEJV Soil and Water Management Plan, pH, total suspended solids (TSS)/ turbidity (NTU) and oil and grease are considered the main potential contamination for surface water.

Table 1-2NSW water quality objectives

Water quality objective	Indicators	Associated trigger values or criteria	Catchments to which it applies
Aquatic ecosystems			
Maintaining or improving the ecological condition of waterbodies and their riparian zones over the long term	Total phosphorus	Lowland rivers: 0.025 mg/L for rivers flowing to the coast Estuaries: 0.03 mg/L	Cooks River Georges River (Salt Pan Creek)
	Total nitrogen	Lowland rivers: 0.350 mg/L for rivers flowing to the coast Estuaries: 0.300 mg/L	
	Chlorophyll-a	Lowland rivers: 0.005 mg/L. Estuaries: 0.004 mg/L.	
	Turbidity	Lowland rivers: 6–50 NTU Estuaries: 0.5–10 NTU	
	Salinity (electrical conductivity)	Lowland rivers: 125–2200 µS/cm	
	Dissolved oxygen	Lowland rivers: 85–110 % Estuaries: 80–110 %	
	pH	Lowland rivers: 6.5–8.5 Estuaries: 7.0–8.5	

Water quality objective	Indicators	Associated trigger values or criteria	Catchments to which it applies
Visual amenity			
Maintain aesthetic qualities of waters	Visual clarity and colour	Natural visual clarity should not be reduced by more than 20 % Natural hue of water should not be changed by more than 10 points on the Munsell Scale Natural reflectance of water should not be changed by more than 50 %	Cooks River Georges River (Salt Pan Creek)
	Surface film and debris	Oils and petrochemicals should not be noticeable as a visible form on the water, nor should they be detectable by odour Waters should be free from floating debris and litter	
	Nuisance organisms	Macrophytes, phytoplankton scums, filamentous algal mats, blue-green algae, sewage fungus and leeches should not be present in unsightly amounts	

3. Construction Water Quality Monitoring

The Sydney Metro - Water Discharge or Reuse Procedure regulates both onsite reuse and offsite point source discharge. Prior to any discharge, the water is tested and if suitable, the HSEJV Environment Manager (or delegate) approves the discharge, either that the water is suitable for reuse onsite or discharge on/off site, by using the permit to discharge. e.

3.1. Reuse or discharge on site

Where practicable, water may be reused on site, for example, for dust suppression, to assist with compaction or for watering landscape/ retained vegetation. If water cannot be reused onsite, water can be discharged to land within the project site boundary if complying with the following criteria:

- No potential for water to leave the premises;
- No surface runoff will be generated from the reuse (reuse includes dust suppression, watering retained vegetation etc.); and
- No potential for water to reach any watercourse.

As with discharges to land, the TSS criterion does not apply as water will not be discharged to any watercourse. However, to avoid impacts to vegetation pH testing and a visual inspection for oil or grease must be undertaken as outlined in Table 1 below.

Table 1 – Criteria for Onsite Reuse or Discharge

Parameter	Criterion	Method	Time prior to discharge
Oil and grease	Non visible	Visual inspection	< 1 hour
pH	6.5 – 8.5	Probe/Meter	< 1 hour

Due to wet weather conditions, there were no instances of water reuse onsite during this reporting period at Marrickville and Canterbury Stations. Daily rainfall data for the reporting period is provided in Appendix A.

Marrickville

During the reporting period there were no instances of water reused or discharged to land at Marrickville Station.

Canterbury

During the reporting period there were no instances of water reuse. In September 2021, approximately 1,600 litres of treated stormwater were discharged to land within the rail corridor at the Canterbury Station. All discharged waters were treated and tested in accordance with the onsite discharge criteria to ensure that discarded water meets required criteria (refer to Table 1). A dewatering register is provided in Appendix B.

Lakemba

At Lakemba Station, approximately 17,000 litres of stormwater was re-used in water-filled barriers and approximately 22,000 litres of stormwater was discharge on the ballast within the rail corridor during this reporting period. All stormwater was tested and met the onsite discharge criteria (refer to Table 1). A dewatering register is provided in Appendix B.

3.2. Water discharge offsite to receiving waters

The SWMP includes the Water Quality Monitoring Program which requires water quality monitoring to be undertaken for controlled discharges offsite to ensure compliance with the discharge criteria defined in Section 5.2.2 of the SWMP (refer Table 1 below). The Water Quality Monitoring Program requires a 6-monthly report from the results of monitoring undertaken prior to controlled discharge offsite.

Table 2 – Criteria for Offsite Discharge

Parameter	Criterion	Method	Time prior to discharge
Oil and grease	Non visible	Visual inspection	< 1 hour
pH	6.5 – 8.5	Probe/Meter	< 1 hour
Total Suspended Solids (TSS)	<50 mg/L	Meter/grab sample	< 1 hour/ <24 hours

No controlled discharge off site at all three (3) stations occurred during the reporting period.

3.3. Permit to Dewater

HSEJV has an internal Permit to Dewater system, which ensures compliance with discharge criteria at all times. Monitoring is done prior to each dewatering event and must be in compliance with Section 5.2.2 of the SWMP.

During the reporting period, one Permit to Discharge was issued at Canterbury Station and 12 Permits to Dewater or Re-use were issued at Lakemba Station. Refer to Appendix B for the dewatering register.

3.4. Environmental Condition Surveys

HSEJV did not undertake any works at major drainage crossings and outlets within the localised catchments during this reporting period. Therefore, no environmental conditions survey on major drainage crossings/outlets was required.

Also, no works are within or near the immediate vicinity of watercourses including the Cooks River.

The ancillary facility at 6 Charles Street (approved under A17) is located close to the Cooks River at a distance of approximately 20 m.

The Marrickville MSB area is located along a drainage channel that is connected with the Cooks River.

Erosion and sediment controls are in place to prevent discharge offsite to the Cooks River. Refer to Appendix A for inspection reports.

3.5. Monitoring following a Rain Event (>20mm) in 24 hours

Regular and ongoing maintenance of erosion and sediment controls, inspections of rumble grids were implemented at all three stations. The HSEJV Environment team conducted inspections pre, during and post rainfall events (>20mm) in 24 hours. Refer to records in Appendix A.

3.6. Uncontrolled Discharge from Site

Discharge occurred via stabilised controls into the urban stormwater catchment at Lakemba, Canterbury and Marrickville Stations. No uncontrolled discharge was recorded during this reporting period as water pooled and filtered through the rail corridor and MSB.

4. Noise and Vibration

The CNVMP includes the Construction Noise and Vibration Monitoring Program. This program requires a 6-monthly report from the results of construction noise and vibration monitoring. The results for the September 2021 to February 2022 monitoring period are included in this report.

Below are details regarding noise and vibration modelling and monitoring:

- Renzo Tonin and Associates were engaged on 3 June 2021 to conduct noise and vibration modelling as well as part of the noise monitoring and all of the vibration monitoring. A web-based Construction noise modelling tool (Gatewave) has been used to produce Construction Noise and Vibration Assessment (CNVIA) reports for this project during the reporting period.

4.1. Noise Monitoring

In accordance with CoA C13, the Noise and Vibration Monitoring Program is to be carried out for the duration of Construction.

As per Section 7.2 of the CNVMP, noise monitoring is required:

- In response to noise complaints
- If requested by Sydney Metro, the Environmental Representative (ER), Department of Planning and Environment (DPE) or NSW Environment Protection Authority (EPA)
- To augment baseline noise levels, if the noise environment at a receiver is considered to be different from the noise logger locations used for the Environmental Impact Statement (EIS)
- To verify predictions
- As part of a plant noise audit
- If predicted noise levels exceed the trigger levels requiring “M” (Monitoring) in accordance with the additional mitigation measures matrices (AMMM) provided in Section 6.18 of the CNVMP.

Noise monitoring is required if the predicted airborne noise level is above the applicable additional mitigation measures (AMM) trigger level, which is set relative to the noise management level (NML).

Ground borne noise measurements were reviewed and it was agreed with the HSEJV noise consultant, Sydney Metro and the ER that air borne noise would be dominant from the surface works. Therefore, ground borne noise does not require further assessment in accordance with the Sydney Metro Construction Noise and Vibration Strategy (2016) (CNVS) (refer Section 6.5 of the CNVMP).

Generally, noise monitoring which is triggered by the CNVS AMMs is to be carried out in a location representing the receiver. HSEJV has determined the most appropriate monitoring locations, based on construction activities, noise modelling undertaken and community feedback. Gatewave provides NMLs for monitoring locations to directly compare the measured NMLs against predicted noise levels modelled in the CNVIA reports.

Nominated noise monitoring locations are provided in Appendix C, however these locations can be changed for specific construction activities. Noise summary results of attended noise monitoring conducted by HSEJV in the reporting period are provided in Appendix D, demonstrating compliance with project requirements, including the above extract from the management plan.

Noise monitoring equipment details for the Class 1 sound level meter and calibrator, including make, model, serial number, last calibration date and The National Association of Testing Authorities (NATA) testing facility, are provided in Appendix E.

Further details are collected for each field reading, including time, duration, description of works and extraneous noise sources during reading. Sample Noise Monitoring Record Sheets are provided in Appendix F. Where exceedances have occurred above predicted noise levels, these have been explained/justified with a response.

4.2. Vibration Monitoring

In accordance with CoA C13, the Noise and Vibration Monitoring Program is to be carried out for the duration of Construction.

As per section 8.2 of the CNVMP, vibration monitoring is required:

- In response to vibration complaints;
- If requested by Sydney Metro, the ER, DPE or EPA;
- To confirm baseline vibration levels currently experienced at heritage-listed structures and at any vibration-sensitive equipment;
- To verify predictions, particularly at the commencement of vibration-generating works;
- Where vibration levels are predicted to exceed the vibration screening level, attended vibration monitoring would be carried out to ensure vibration levels remain below appropriate limits for that structure, in accordance with the revised environmental mitigation measure (REMM) NVC12;
- If predicted vibration levels exceed the trigger levels requiring “M” (Monitoring) in accordance with the AMMM matrices provided in Section 7.12 of the CNVMP.

Vibration monitoring is required if vibration-generating works are carried out within the safe working distances provided in Section 6.4 in the CNVMP.

Generally, vibration monitoring which is triggered by the CNVS AMMs are to be carried out in a location representing the receiver. HSEJV has determined the most appropriate monitoring locations, based on construction activities and vibration modelling undertaken. The measurements include a method to derive or directly compare the measured levels with the applicable vibration management level (VML).

During the reporting period, there were numerous locations and work campaigns where vibration monitoring was conducted. Gatewave modelling predicted cosmetic damage of heritage structure/s

within/adjacent to the platforms at Marrickville, Canterbury and Lakemba Stations. Monitoring was conducted by the vibration consultant to determine whether there were any exceedances of vibration limits. Summary results demonstrating compliance with vibration criteria are included in Appendix G.

Samples of Vibration Monitoring Reports are provided in Appendix H. Where exceedances have occurred above predicted noise levels, these have been explained/justified with a response.

5. Conclusion

This report presents surface water, noise and vibration monitoring data and observations for the 6-month reporting period of 1 September 2021 to 28 February 2022.

At Lakemba Station, approximately 17,000 litres of stormwater was re-used in water-filled barriers and approximately 22,000 litres of stormwater was discharged on the ballast within the rail corridor.

At Canterbury Station, approximately 1,600 litres of treated stormwater was discharged within the approved project boundary.

All re-used or discharged water met the criteria for onsite reuse or discharge.

No controlled discharge off site at all three (3) stations occurred during the reporting period.

Verification noise and vibration monitoring was undertaken at all three (3) stations during the reporting period. The noise monitoring results did not identify any exceedances of the predicted noise levels that were related to HSEJV construction activities. This shows that the provision of construction noise mitigation measures has been appropriate.

However, some exceedances of the predicted noise levels were recorded during the reporting period, which have been explained below:

- At Lakemba Station, two exceedances were related to the local traffic and the train replacement buses. Another exceedance was related to the activities of another construction company in the immediate vicinity of the site. Refer to Appendix E for noise monitoring results and clarifications.
- At Marrickville Station, one exceedance of the predicted noise levels was recorded during the reporting period. This was related to unloading materials very close to the noise monitor. Refer to Appendix E for noise monitoring results and clarifications.

The vibration monitoring results have indicated that that monitored vibration levels were below the established vibration screening level for infrastructure and buildings. Some exceedances were recorded during the reporting period at Canterbury Station. It was confirmed that construction workers bumped the vibration monitors causing these exceedances. Refer to Appendix E for vibration monitoring results and clarifications.

It is noted that vibration monitoring conducted at the beginning of vibratory works was used to adjust or modify equipment settings to meet established vibration limits for the project.

No vibration or noise complaints were received during the reporting period.

Appendices

Appendix A: Daily Rainfall Data and Inspections Records

Daily Rainfall (millimetres)

MARRICKVILLE GOLF CLUB

Station Number: 066036 · State: NSW · Opened: 1904 · Status: Open · Latitude: 33.92°S · Longitude: 151.14°E · Elevation: 6 m

2021	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1st									*0*	*1.0*	*0*	*0*
2nd									*0*	*12.0*	*0*	*0*
3rd									*0*	*6.0*	*0*	*0*
4th									*0*	*0*	*0*	*0*
5th									*12.0*	*0*	*11.0*	*1.0*
6th									*1.0*	*0*	*0*	*0*
7th									*0*	*0*	*0*	*0*
8th									*0*	*0*	*13.0*	*1.0*
9th									*0*	*0*	*3.0*	*5.0*
10th									*0*	*0*	*0*	*17.0*
11th									*0*	*8.0*	*13.0*	*13.0*
12th									*0*	*1.0*	*22.0*	*0*
13th									*0*	*3.0*	*0*	*0*
14th									*27.0*	*4.0*	*0*	*0*
15th									*3.0*	*24.0*	*0*	*0*
16th									*0*	*0*	*0*	*5.0*
17th									*0*	*0*	*0*	*0*
18th									*0*	*0*	*0*	*0*
19th									*1.0*	*0*	*0*	*12.0*
20th									*0*	*0*	*0*	*0*
21st									*0*	*0*	*15.0*	*0*
22nd									*0*	*0*	*17.0*	*0*
23rd									*0*	*0*	*3.0*	*7.0*
24th									*0*	*0*	*0*	*0*
25th									*0*	*2.0*	*4.0*	*0*
26th									*5.0*	*0*	*46.0*	*0*
27th									*0*	*0*	*12.0*	*1.0*
28th									*0*	*0*	*1.0*	*25.0*
29th									*0*	*0*	*0*	*4.0*
30th									*3.0*	*0*	*0*	*0*
31st										*0*		*0*
Highest daily									*27.0*	*24.0*	*46.0*	*25.0*
Monthly Total									*52.0*	*61.0*	*160.0*	*91.0*

Product code: IDCJAC0009 reference: 84401004

Daily Rainfall (millimetres)

MARRICKVILLE GOLF CLUB

Station Number: 066036 · State: NSW · Opened: 1904 · Status: Open · Latitude: 33.92°S · Longitude: 151.14°E · Elevation: 6 m

2022	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1st	*0*	*0*										
2nd	*0*	*10.0*										
3rd	*0*	*3.0*										
4th	*0*	*0*										
5th	*2.0*	*8.0*										
6th	*13.0*	*2.0*										
7th	*0*	*7.0*										
8th	*24.0*	*11.0*										
9th	*0*	*1.0*										
10th	*0*	*0*										
11th	*0*	*7.0*										
12th	*0*	*5.0*										
13th	*14.0*	*17.0*										
14th	*17.0*	*0*										
15th	*1.0*	*0*										
16th	*0*	*0*										
17th	*0*	*0*										
18th	*0*	*1.0*										
19th	*8.0*	*2.0*										
20th	*3.0*	*0*										
21st	*0*	*0*										
22nd	*3.0*	*6.0*										
23rd	*4.0*	*170.0*										
24th	*2.0*	*36.0*										
25th	*0*	*20.0*										
26th	*0*	*47.0*										
27th	*0*	*36.0*										
28th	*0*	*5.0*										
29th	*0*											
30th	*0*											
31st	*0*											
Highest daily	*24.0*	*170.0*										
Monthly Total	*91.0*	*394.0*										

Product code: IDCJAC0009 reference: 84400933

Daily Rainfall (millimetres)

CANTERBURY RACECOURSE AWS

Station Number: 066194 · State: NSW · Opened: 1995 · Status: Open · Latitude: 33.91°S · Longitude: 151.11°E · Elevation: 3 m

2021	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1st									*0*	*3.0*	*0*	*1.4*
2nd									*0*	*6.8*	*0*	*0.2*
3rd									*0*	*11.0*	*0*	*0*
4th									*0*	*0*	*0*	*0*
5th									*14.8*	*0*		*0.4*
6th									*0.8*	*0*		*0.2*
7th									*0*	*0*		*0*
8th									*0*	*0*		*0.6*
9th									*0*	*0*		*5.4*
10th									*0*	*0*	*0*	*18.8*
11th									*0*	*11.0*	*12.4*	*21.0*
12th									*0*	*4.4*	*19.8*	*0.2*
13th									*0*	*4.6*	*0.2*	*0*
14th									*30.4*	*6.0*	*0*	*0*
15th									*2.0*	*33.4*	*0.2*	*0*
16th									*0.2*	*0*	*0*	*4.4*
17th									*0*	*0*	*0*	*0*
18th									*0*	*0*	*0*	*0*
19th									*1.2*	*0*	*0*	*11.2*
20th									*0*	*0*	*0*	*0*
21st									*0*	*0*	*12.8*	*0*
22nd									*0*	*0*	*15.2*	*0*
23rd									*0*	*0*	*2.8*	*1.6*
24th									*0*	*0.4*	*0.4*	*0.4*
25th									*0*	*0.4*	*4.0*	*0*
26th									*3.8*	*0*	*43.8*	*0*
27th									*0*	*0*	*14.0*	*1.0*
28th									*0*	*0*	*1.0*	*17.4*
29th									*0*	*0*	*0*	*2.6*
30th									*3.8*	*0*	*0*	*2.4*
31st										*0*		*0*
Highest daily									*30.4*	*33.4*	*43.8*	*21.0*
Monthly Total									*57.0*	*81.0*		*89.2*

Product code: IDCJAC0009 reference: 84527278

Daily Rainfall (millimetres)

CANTERBURY RACECOURSE AWS

Station Number: 066194 · State: NSW · Opened: 1995 · Status: Open · Latitude: 33.91°S · Longitude: 151.11°E · Elevation: 3 m

2022	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1st	*0*	*0*										
2nd	*0*	*9.6*										
3rd	*0*	*3.0*										
4th	*0*	*0*										
5th	*2.8*	*9.6*										
6th	*18.6*	*1.2*										
7th	*0.2*	*8.0*										
8th	*15.8*	*10.2*										
9th	*0.8*	*1.8*										
10th	*0.2*	*0*										
11th	*0.6*	*6.2*										
12th	*0*	*1.2*										
13th	*13.8*	*18.0*										
14th	*7.8*	*0*										
15th	*0.4*	*0*										
16th	*0.2*	*0*										
17th	*0*	*0*										
18th	*0*	*1.2*										
19th	*7.2*	*1.6*										
20th	*2.0*	*0.2*										
21st	*0.6*	*0*										
22nd	*3.0*	*5.0*										
23rd	*4.8*	*119.4*										
24th	*1.6*	*34.4*										
25th	*0.2*	*14.2*										
26th	*0*	*49.8*										
27th	*0*	*36.2*										
28th	*0*	*4.6*										
29th	*0*											
30th	*0*											
31st	*0*											
Highest daily	*18.6*	*119.4*										
Monthly Total	*80.6*	*335.4*										

Product code: IDCJAC0009 reference: 84527250

Weekly Site Environmental & Sustainability Inspection

SEQ-CL-005 (1)

To be completed by Site Manager, Environmental/ Sustainability Manager or delegated person at least once a week. Possible more than one inspection per week may be required for high-risk sites.

Project / Site Inspected: Canterbury Site

Inspection undertaken by: Elena Ivanova – Environmental Advisor

Date: 25/01/2022 Time: 10:30-11:30 Signature: Elena Ivanova

Complete Relevant sections only:

TfNSW Environment Sustainability Inspection Questions combined with Haslin Template					
Question		Y	N	N/A	Details
23.	General / Community (Applicable to works site and compound)				
**	Have the previous week's actions been addressed and actioned?	☒	☐	☐	No outstanding actions.
23a	Is the site clean and free of waste and debris?	☒	☐	☐	Well maintained.
23b	Is the site secured appropriately (e.g. fencing) with appropriate signage?	☒	☐	☐	ATF fencing in place.
23c	Has appropriate provision been made for passage of pedestrians around the work site (including footpath protection)?	☒	☐	☐	Footpath and fenced access in place.
23d	Does the equipment on site appear to be in appropriate working order (noise, exhaust fumes, leakage)?	☒	☐	☐	No issues observed.
23e	Are construction elements (Plant, equipment, materials, etc) located in area to minimise visual impacts, ie within site compounds and behind fencing/hoarding?	☒	☐	☐	Within work site fence.
23f	Have parking changes been communicated?	☒	☐	☐	
23g	Are all environmental no-go zones well delineated and protected?	☒	☐	☐	
23h	Are hoardings clean of graffiti and bill posters?	☒	☐	☐	No graffiti observed
23i	Is the community signage up to date?	☒	☐	☐	
23j	Is the shade cloth up with legible contact details?	☒	☐	☐	
23k	Is the hoarding and fencing be maintained in a neat and tidy condition	☒	☐	☐	
23l	Is fencing, walls, and hoarding designed and implemented to increase natural surveillance with straight runs	☒	☐	☐	
23m	Has the latest community notification been sent out on time?	☒	☐	☐	
23n	Has the next OOHW been communicated to relevant sensitive receivers?	☐	☐	☒	No OOHW scheduled this week.
23o	Are night works planned to ensure light spill is minimised? Is this reflected in ECM and/or OOHW application?	☐	☐	☒	
23p	Is site lighting directed away from sensitive receivers and direct views minimised?	☐	☐	☒	
24.	Flora and Fauna (Applicable to works site and compound)				
24a	Are exclusion areas appropriately marked and isolated (e.g. heritage sites, flora/ fauna, environment sensitive areas, wetlands, water courses)?	☒	☐	☐	Minimal works taking place this week.

TfNSW Environment Sustainability Inspection Questions combined with Haslin Template					
	Question	Y	N	N/A	Details
24b	Do the trees have adequate protection around the TPZ (bunting, fencing or other delineating signs)? (No storage allowed under the TPZ)	☒	☐	☐	Tree protection in place.
24c	Has landscaping/offset commenced on site to stabilise exposed areas? Strive to minimise clearance of vegetation	☒	☐	☐	Landscaping not yet possible. Vegetation clearing only where required.
24d	Are the works area free of weeds? Are the controls adequate to prevent weeds?	☐	☒	☐	The MSB area (railway embankment) is overgrown with weeds. Weeds shall be sprayed in the MSB area.
24e	Is there any tree trimming or vegetation removal planned to minimise the tree remove? Are the required Pre-Clearing Checklist, Permit to Clear and approvals in place as per Flora and Fauna Management Procedure (SEQ-PR-035)?	☐	☐	☒	No clearing or pruning taking place this week.
24f	Local Wires numbers on emergency plan?	☒	☐	☐	
25.	Surface Water Quality/Soil Conservation (Applicable to works site and compound)				
25a	Sediment transport to stormwater drains and nearby water courses controlled by silt traps/ barriers? (check adequacy of controls after rain event)	☒	☐	☐	Drains protected. No discharge from the site was observed during rain.
25b	Silt traps/barriers effective and maintained? Are they compostable and/or reusable?	☒	☐	☐	In good condition.
25c	Are erosion and sediment controls in place in accordance with ECMS and/or ESCPs?	☒	☐	☐	A minor improvement is suggested: place coir log at lower point at 6 Charles Street access gate
25d	Is water discharged in accordance with conditions of approval / EPL? (Water Discharge Permit may be required) No construction water can leave site premises without being tested.	☐	☐	☒	No discharge was required from the site.
25e	No harmful discharges to nearby water course?	☒	☐	☐	NIL discharges to watercourses.
25f	Any Dewatering of trenches, water storage, or dams, discharged into local water ways? If so has SEQ-CL-44 been used? Or local authority's approvals been met?	☐	☐	☒	No discharges to waterways.
25g	Where necessary, wheel wash facility in place and effective?	☐	☐	☒	Not in place at this site.
25h	Stock piles adequately segregated, covered & protected with sediment controls (refer to CEMP)	☐	☐	☒	No stockpiles on site.
25i	Vegetation maintained where possible	☒	☐	☐	
25j	Public Roads Clean with Entry/exit points stabilized / wheel cleaning available? Haul road integrity maintained?	☒	☐	☐	
25k	Is the Erosion and Sediment Control Plan being implemented and effective?	☒	☐	☐	Controls being effective. The disturbed rail embarkment must be stabilised (e.g. sprayed with polymer or covered with geofabric).
26.	Waste & Spoil (Applicable to works site and compound)				
26a	Have adequate bins for waste and reusable/recyclable materials been provided?	☒	☐	☐	Bins available in compound area.
26b	Concrete Waste Area provided and disposed of at regular intervals	☒	☐	☐	In compound area when required.
26c	No waste stored or left in unauthorised areas?	☒	☐	☐	No issues sighted.
26d	Recyclable and reusable waste are segregated and stored in separate bins?	☒	☐	☐	Skip bin used for construction waste and recyclables bins available.
26e	Waste dockets kept for records?	☒	☐	☐	Waste dockets kept in M-files.

TfNSW Environment Sustainability Inspection Questions combined with Haslin Template						
Question		Y	N	N/A	Details	
26f	Waste removed from site at required intervals and disposed of in authorised manner?	☒	☐	☐	Disposed to licensed facilities.	
26g	Is topsoil correctly segregated & stored for reuse or recycling?	☐	☐	☒	No topsoil being impacted.	
26h	Is spoil (uncontaminated excavated material) correctly stored for reuse or recycling?	☒	☐	☐	Classified and managed in accordance with classification.	
26i	Is green waste mulched, composted and stockpiled for reuse on site?	☐	☐	☒	NIL green waste on site.	
26j	Is office waste being segregated and recycled?	☒	☐	☐		
27.	Traffic Management (Applicable to works site and compound)					
27a	Where required, a Traffic Management Plan is in place and effectively implemented?	☒	☐	☐	TMP approved and in place.	
27b	Speed restriction and warning signs are in place?	☒	☐	☐		
27c	Where required, trained Traffic Controllers engaged for ensuring safe pedestrian movements?	☒	☐	☐		
27d	Vehicle parking facility for employees, sub-contractors and visitors established and adequate?	☒	☐	☐		
27e	Material loading and unloading areas have no interface with pedestrian and vehicular movement?	☒	☐	☐	Within the worksite and segregated from pedestrians.	
28.	Contamination and Spills (Applicable to works site and compound)					
28a	No spillage of hydrocarbons or chemicals on site? Or potential for contamination (i.e. Asbestos Containing Materials (ACM) adequately managed)	☒	☐	☐	No spills sighted.	
28b	Spill kits provided and where? Are personal trained in using it?	☒	☐	☐		
28c	No harmful discharges to nearby water course?	☒	☐	☐	NIL discharges.	
28d	Has a concrete washout facility been established and maintained?	☒	☐	☐		
28e	Are materials, product and equipment appropriately stored on site?(e.g. hazardous chemical storage, bunding)	☒	☐	☐		
28f	Is there an appropriate refuelling area?	☐	☐	☒	Refueling using bunds.	
29.	Heritage (Applicable to works site and compound)					
29a	Heritage buildings or artefacts identified and delineated	☒	☐	☐		
29b	Are all current works covered by appropriate heritage approvals?	☒	☐	☐	As per HMP and AMS.	
29c	Does the site induction cover heritage topic and on the ECM?	☒	☐	☐		
29d	Are heritage items being managed, fenced & signposted as per CEMP and is the unexpected finds protocol being implemented?	☒	☐	☐		
29e	Are temporary works on heritage fully reversible with no impacts to fabric?	☒	☐	☐		
30	Noise and Vibration (Applicable to works site and compound)					
30a	Construction activities kept within working hours and high noise and vibrating generating activities adhere to defined requirements	☒	☐	☐	Due to rainy weather, minimal work was carried out.	
30b	Are standard noise and vibration mitigation measures working effectively and adequately maintained? (Any Non-tonal reversing alarm installed?)	☒	☐	☐	Non-tonal alarms in use.	

TfNSW Environment Sustainability Inspection Questions combined with Haslin Template					
Question		Y	N	N/A	Details
30c	Dilapidation reports done for possible vibration close to other buildings	☒	☐	☐	
30d	Are out of hours works planned? Are the noise or vibration controls suitable?	☐	☐	☒	No OOHW scheduled this week.
30e	Is noise and vibration monitoring taking place as defined in the Project Monitoring Plan or as required for OOHW?	☒	☐	☐	
31.	Materials (Applicable to works site and compound)				
31a	Are deliveries of materials being tracked and recorded?	☐	☐	☒	Not checked during the inspection. Reported to sustainability team monthly.
31b	Are internal spoil / topsoil movements being tracked (for tracking onsite re-use)?	☐	☐	☒	As above.
32.	Air Quality (Applicable to works site and compound)				
32a	Dust suppression practices implemented as required in the Air Quality Procedure (SEQ-PR-033)? Minimal to no dust leaving site?	☒	☐	☐	No dust observed. Due to rainy weather, minimal work was carried out.
32b	Trucks are leaving site with loads adequately covered?	☐	☐	☒	No trucks observed leaving site. Due to rainy weather, all deliveries were cancelled for the day.
32c	No excessive fumes or smoke from plants / vehicles?	☒	☐	☐	
33.	Sustainability Reporting (Applicable to works site and compound)				
33a	Is water usage being monitored (e.g. water trucks) and recorded on at least a monthly basis?	☐	☐	☐	Sustainability aspects were not checked during the inspection.
33b	Is potable water use being minimised?	☐	☐	☐	
33c	Are rainwater tanks in place/to be set up on site?	☐	☐	☐	
33d	Is rain/recycled water being used for washdown/dust suppression/irrigation etc?	☐	☐	☐	
33e	Is energy usage being monitored and recorded on a monthly basis (e.g. office compound electricity, fuel use)?	☐	☐	☐	
33f	Do vehicles, plant and equipment meet the following requirements? - Operated for optimum energy efficiency. - Are not left idling when not in use. - fitted with catalytic converters, diesel particulate filters or equivalent devices. - Well maintained and serviced?	☐	☐	☐	
33g	Is waste and recycling being monitoring for both office and construction waste and recorded on at least a monthly basis?	☐	☐	☐	
33h	Is the TfNSW non-road diesel plant workbook being completed as required by the contract?	☐	☐	☐	
33i	Does the works and compound site have energy and water efficient fixtures, fittings and controls?	☐	☐	☐	
33j	Does all plug-in electrical equipment at the site compound has at least a five-star Energy Rating Label?	☐	☐	☐	
33k	Has the selection of materials used on site been undertaken to meet the SMP Materials Management Sub-Plan?	☐	☐	☐	
33l	Are there any construction and demolition waste/materials being reused or recycled on site? (provide details)	☐	☐	☐	
33m	Have any additional fuel/energy/water/material use reduction opportunities been identified?	☐	☐	☐	
34.	Document Checklist				

TfNSW Environment Sustainability Inspection Questions combined with Haslin Template					
Question		Y	N	N/A	Details
34a	Last revision of CEMP, CEMP sub-plans, SMP, and correspondent procedures	☒	☐	☐	Current version approved and being updated.
34b	Environment Control Map and Erosion and Sediment Control Plans	☒	☐	☐	Being implemented.
34c	Community Liaison Management Plan	☒	☐	☐	Community and communications strategy implemented.
	OTHER:				
		☐	☐	☐	

Inspection Criteria Ref:	Items of observation needing correction:	Actioned by:	Signature:	Date closed out:
Previous inspection 28b	It was noted that rubbish was placed in the spill kit. Please provide the toolbox/ pre-start to discuss that the spill kit bins are not for rubbish disposal.	Vitor Reis		
Previous inspection 29e	Minor damage to door of the station building at Platform 0 was detected during the inspection. An incident report to be raised, refer to photos below.	Vitor Reis		
19.01.2022 25k	The disturbed rail embarkment must be stabilised (e.g. sprayed with polymer or covered with geofabric).	Vitor Reis		
19.01.2022 24d	The MSB area (railway embankment) is overgrown with weeds. Weeds shall be sprayed in the MSB area.	Vitor Reis		
25.01.2021 25c	A minor improvement is suggested: place coir log at lower point at 6 Charles Street access gate	Vitor Reis		

Signature: Date: 25/01/2022

HSE JV Environmental Manager

Subcontractor Sign-Off

A representative from a Sub Contractor company on site to sign off that they have completed and gone through the Weekly Inspection with Haslin Staff.

Name	Company	Position/Role	Signature	Date

Photos

1. The disturbed rail embarkment must be stabilised (e.g. sprayed with polymer or covered with geofabric).

2. The MSB area (railway embankment) is overgrown with weeds. Weeds shall be sprayed in the MSB area.

Castor Oil Weed

Weekly Site Environmental & Sustainability Inspection

SEQ-CL-005 (1)

To be completed by Site Manager, Environmental/ Sustainability Manager or delegated person at least once a week. Possible more than one inspection per week may be required for high-risk sites.

Project / Site Inspected: Marrickville Site (MSB area)

Inspection undertaken by: Elena Ivanova – Environmental Advisor

Date: 25/01/2022 Time: 11:45-12:40 Signature: Elena Ivanova

Complete Relevant sections only:

TfNSW Environment Sustainability Inspection Questions combined with Haslin Template						
Question		Y	N	N/A	Details
23.	General / Community (Applicable to works site and compound)				
**	Have the previous week's actions been addressed and actioned?	☒	☐	☐	No outstanding actions.
23a	Is the site clean and free of waste and debris?	☒	☐	☐	Well maintained.
23b	Is the site secured appropriately (e.g. fencing) with appropriate signage?	☒	☐	☐	ATF fencing in place.
23c	Has appropriate provision been made for passage of pedestrians around the work site (including footpath protection)?	☒	☐	☐	Footpath and fenced access in place.
23d	Does the equipment on site appear to be in appropriate working order (noise, exhaust fumes, leakage)?	☒	☐	☐	No issues observed.
23e	Are construction elements (Plant, equipment, materials, etc) located in area to minimise visual impacts, ie within site compounds and behind fencing/hoarding?	☒	☐	☐	Within work site fence.
23f	Have parking changes been communicated?	☒	☐	☐	
23g	Are all environmental no-go zones well delineated and protected?	☒	☐	☐	As per ECM.
23h	Are hoardings clean of graffiti and bill posters?	☒	☐	☐	No graffiti.
23i	Is the community signage up to date?	☒	☐	☐	
23j	Is the shade cloth up with legible contact details?	☒	☐	☐	In good condition.
23k	Is the hoarding and fencing be maintained in a neat and tidy condition	☒	☐	☐	Fence well maintained.
23l	Is fencing, walls, and hoarding designed and implemented to increase natural surveillance with straight runs	☒	☐	☐	
23m	Has the latest community notification been sent out on time?	☒	☐	☐	
23n	Has the next OOHW been communicated to relevant sensitive receivers?	☐	☐	☒	No OOHW scheduled this week.
23o	Are night works planned to ensure light spill is minimised? Is this reflected in ECM and/or OOHW application?	☐	☐	☒	
23p	Is site lighting directed away from sensitive receivers and direct views minimised?	☐	☐	☒	
24.	Flora and Fauna (Applicable to works site and compound)				
24a	Are exclusion areas appropriately marked and isolated (e.g. heritage sites, flora/ fauna, environment sensitive areas, wetlands, water courses)?	☒	☐	☐	

TfNSW Environment Sustainability Inspection Questions combined with Haslin Template					
Question		Y	N	N/A	Details
24b	Do the trees have adequate protection around the TPZ (bunting, fencing or other delineating signs)? (No storage allowed under the TPZ)	☒	☐	☐	Tree protection in place.
24c	Has landscaping/offset commenced on site to stabilise exposed areas? Strive to minimise clearance of vegetation	☒	☐	☐	Landscaping not yet possible. Vegetation clearing only where required.
24d	Are the works area free of weeds? Are the controls adequate to prevent weeds?	☒	☐	☐	
24e	Is there any tree trimming or vegetation removal planned to minimise the tree remove? Are the required Pre-Clearing Checklist, Permit to Clear and approvals in place as per Flora and Fauna Management Procedure (SEQ-PR-035)?	☐	☐	☒	No clearing or pruning taking place this week.
24f	Local Wires numbers on emergency plan?	☒	☐	☐	
25.	Surface Water Quality/Soil Conservation (Applicable to works site and compound)				
25a	Sediment transport to stormwater drains and nearby water courses controlled by silt traps/ barriers? (check adequacy of controls after rain event)	☒	☐	☐	Drains protected. No discharge from the site was observed during rain.
25b	Silt traps/barriers effective and maintained? Are they compostable and/or reusable?	☒	☐	☐	In good condition. It was noted that sediment fence was installed incorrectly (gap between fence and ground). Sed fence needs to be dug in. Minor repair of the sed fence along the drainage channel in the MSB area is required. It is recommended to stabilize entry point at the MSB area (ARTC Access point).
25c	Are erosion and sediment controls in place in accordance with ECMS and/or ESCPs?	☒	☐	☐	As per ESCP.
25d	Is water discharged in accordance with conditions of approval / EPL? (Water Discharge Permit may be required) No construction water can leave site premises without being tested.	☐	☐	☒	No discharge was required from the site.
25e	No harmful discharges to nearby water course?	☒	☐	☐	NIL discharges to watercourses.
25f	Any Dewatering of trenches, water storage, or dams, discharged into local water ways? If so has SEQ-CL-44 been used? Or local authority's approvals been met?	☐	☐	☒	No discharges to waterways.
25g	Where necessary, wheel wash facility in place and effective?	☐	☐	☒	Not in place at this site.
25h	Stock piles adequately segregated, covered & protected with sediment controls (refer to CEMP)	☒	☐	☐	
25i	Vegetation maintained where possible	☒	☐	☐	
25j	Public Roads Clean with Entry/exit points stabilized / wheel cleaning available? Haul road integrity maintained?	☒	☐	☐	
25k	Is the Erosion and Sediment Control Plan being implemented and effective?	☒	☐	☐	Controls being effective.
26.	Waste & Spoil (Applicable to works site and compound)				
26a	Have adequate bins for waste and reusable/recyclable materials been provided?	☒	☐	☐	Bins available in compound area.
26b	Concrete Waste Area provided and disposed of at regular intervals	☒	☐	☐	In compound area when required.
26c	No waste stored or left in unauthorised areas?	☒	☐	☐	No issues sighted.
26d	Recyclable and reusable waste are segregated and stored in separate bins?	☒	☐	☐	Skip bin used for construction waste and recyclables bins available.

TfNSW Environment Sustainability Inspection Questions combined with Haslin Template					
Question		Y	N	N/A	Details
26e	Waste dockets kept for records?	☒	☐	☐	
26f	Waste removed from site at required intervals and disposed of in authorised manner?	☒	☐	☐	Disposed to licensed facilities.
26g	Is topsoil correctly segregated & stored for reuse or recycling?	☐	☐	☒	No topsoil being impacted.
26h	Is spoil (uncontaminated excavated material) correctly stored for reuse or recycling?	☒	☐	☐	Classified and managed in accordance with classification.
26i	Is green waste mulched, composted and stockpiled for reuse on site?	☐	☐	☒	NIL green waste on site.
26j	Is office waste being segregated and recycled?	☒	☐	☐	
27.	Traffic Management (Applicable to works site and compound)				
27a	Where required, a Traffic Management Plan is in place and effectively implemented?	☒	☐	☐	TMP approved and in place.
27b	Speed restriction and warning signs are in place?	☒	☐	☐	
27c	Where required, trained Traffic Controllers engaged for ensuring safe pedestrian movements?	☒	☐	☐	
27d	Vehicle parking facility for employees, sub-contractors and visitors established and adequate?	☒	☐	☐	
27e	Material loading and unloading areas have no interface with pedestrian and vehicular movement?	☒	☐	☐	Within the worksite and segregated from pedestrians.
28.	Contamination and Spills (Applicable to works site and compound)				
28a	No spillage of hydrocarbons or chemicals on site? Or potential for contamination (i.e. Asbestos Containing Materials (ACM) adequately managed)	☒	☐	☐	No spills sighted.
28b	Spill kits provided and where? Are personal trained in using it?	☒	☐	☐	
28c	No harmful discharges to nearby water course?	☒	☐	☐	NIL discharges.
28d	Has a concrete washout facility been established and maintained?	☒	☐	☐	
28e	Are materials, product and equipment appropriately stored on site?(e.g. hazardous chemical storage, bunding)	☒	☐	☐	
28f	Is there an appropriate refuelling area?	☐	☐	☒	Refueling using bunds.
29.	Heritage (Applicable to works site and compound)				
29a	Heritage buildings or artefacts identified and delineated	☒	☐	☐	
29b	Are all current works covered by appropriate heritage approvals?	☒	☐	☐	
29c	Does the site induction cover heritage topic and on the ECM?	☒	☐	☐	
29d	Are heritage items being managed, fenced & signposted as per CEMP and is the unexpected finds protocol being implemented?	☒	☐	☐	
29e	Are temporary works on heritage fully reversible with no impacts to fabric?	☒	☐	☐	
30	Noise and Vibration (Applicable to works site and compound)				
30a	Construction activities kept within working hours and high noise and vibrating generating activities adhere to defined requirements	☒	☐	☐	Due to rainy weather, minimal work was carried out.

TfNSW Environment Sustainability Inspection Questions combined with Haslin Template					
Question		Y	N	N/A	Details
30b	Are standard noise and vibration mitigation measures working effectively and adequately maintained? (Any Non-tonal reversing alarm installed?)	☒	☐	☐	Non-tonal alarms in use.
30c	Dilapidation reports done for possible vibration close to other buildings	☒	☐	☐	
30d	Are out of hours works planned? Are the noise or vibration controls suitable?	☐	☐	☒	No OOHW scheduled this week.
30e	Is noise and vibration monitoring taking place as defined in the Project Monitoring Plan or as required for OOHW?	☒	☐	☐	
31.	Materials (Applicable to works site and compound)				
31a	Are deliveries of materials being tracked and recorded?	☐	☐	☒	Not checked during the inspection. Reported to sustainability team monthly.
31b	Are internal spoil / topsoil movements being tracked (for tracking onsite re-use)?	☐	☐	☒	As above.
32.	Air Quality (Applicable to works site and compound)				
32a	Dust suppression practices implemented as required in the Air Quality Procedure (SEQ-PR-033)? Minimal to no dust leaving site?	☒	☐	☐	No dust observed. Due to rainy weather, minimal work was carried out.
32b	Trucks are leaving site with loads adequately covered?	☐	☐	☒	No trucks observed leaving site. Due to rainy weather, all deliveries were cancelled for the day.
32c	No excessive fumes or smoke from plants / vehicles?	☒	☐	☐	
33.	Sustainability Reporting (Applicable to works site and compound)				
33a	Is water usage being monitored (e.g. water trucks) and recorded on at least a monthly basis?	☐	☐	☐	Sustainability aspects were not checked during the inspection.
33b	Is potable water use being minimised?	☐	☐	☐	
33c	Are rainwater tanks in place/to be set up on site?	☐	☐	☐	
33d	Is rain/recycled water being used for washdown/dust suppression/irrigation etc?	☐	☐	☐	
33e	Is energy usage being monitored and recorded on a monthly basis (e.g. office compound electricity, fuel use)?	☐	☐	☐	
33f	Do vehicles, plant and equipment meet the following requirements? - Operated for optimum energy efficiency. - Are not left idling when not in use. - fitted with catalytic converters, diesel particulate filters or equivalent devices. - Well maintained and serviced?	☐	☐	☐	
33g	Is waste and recycling being monitoring for both office and construction waste and recorded on at least a monthly basis?	☐	☐	☐	
33h	Is the TfNSW non-road diesel plant workbook being completed as required by the contract?	☐	☐	☐	
33i	Does the works and compound site have energy and water efficient fixtures, fittings and controls?	☐	☐	☐	
33j	Does all plug-in electrical equipment at the site compound has at least a five-star Energy Rating Label?	☐	☐	☐	
33k	Has the selection of materials used on site been undertaken to meet the SMP Materials Management Sub-Plan?	☐	☐	☐	
33l	Are there any construction and demolition waste/materials being reused or recycled on site? (provide details)	☐	☐	☐	

TfNSW Environment Sustainability Inspection Questions combined with Haslin Template					
Question		Y	N	N/A	Details
33m	Have any additional fuel/energy/water/material use reduction opportunities been identified?	☐	☐	☐	
34.	Document Checklist				
34a	Last revision of CEMP, CEMP sub-plans, SMP, and correspondent procedures	☒	☐	☐	Current version approved and being updated.
34b	Environment Control Map and Erosion and Sediment Control Plans	☒	☐	☐	Being implemented.
34c	Community Liaison Management Plan	☒	☐	☐	Community and communications strategy implemented.
	OTHER:				
		☐	☐	☐	

Inspection Criteria Ref:	Items of observation needing correction:	Actioned by:	Signature:	Date closed out:
Previous inspection 24b	Construction materials were stacked too close to a tree outside of the project boundary. Materials must be moved from the dripline and placed onto the existing concrete pad at Wooley Ln.	JBlanch/ MBroughton		
28e 19.01.2022	During the inspection it was observed that the chemical storage bunds were filled with rainwater. There was no capacity left to capture any potential spills of chemicals. *The chemical storage bunds must be emptied and collected rainwater shall be disposed of as liquid waste due to potential hydrocarbons contamination.* *The chemical storage bunds capacity should be 110% of the volume of the largest container or 25% of the total volume.* *Please place the portable bund with chemicals under the cover during the rainy weather.*	JBlanch/ MBroughton	MBroughton	25.01.2022
Previous inspections	The status of groundwater disposal from groundwater investigations was discussed further with HSEJV. *Discuss disposal of stored groundwater with a company that will provide treatment for groundwater from ULX construction.*	JBlanch/ MBroughton		
Previous inspection 28d	During the inspection, a small spill was discovered in the MSB area. *Remove contaminated aggregate materials and dispose them appropriately.* *Provide details of the spill incident.*	JBlanch/ MBroughton	MBroughton	25.01.2022
Previous inspection 28d	It was noted that un-bunded concrete washout had occurred adjacent to the MSB During the inspection, conducted on 12/01/2022, concrete spills were observed around the MSB that need to be removed. *Clean up the MSB area from spilled concrete.*	JBlanch/ MBroughton	MBroughton	25.01.2022
25b 19.01.2022	It was noted that sediment fence was installed properly (gap between fence and ground). Minor repair of the sed fence along the drainage channel in the MSB area is required.	JBlanch/ MBroughton		
25b 25.01.2022	It is recommended to stabilize entry point at the MSB area (ARTC Access point) by adding aggregate materials.	JBlanch/ MBroughton		

Signature: 

HSE JV Environmental Manager

Date: 25/01/2022

Subcontractor Sign-Off

A representative from a Sub Contractor company on site to sign off that they have completed and gone through the Weekly Inspection with Haslin Staff.

Name	Company	Position/Role	Signature	Date

1. Photos Construction materials were stacked too close to a tree outside of the project boundary. Materials must be moved from under the dripline and placed onto the existing concrete pad at Wooley Ln.

No materials stockpiling under the trees

The existing concrete pad

2. It was noted that sediment fence was installed incorrectly (gap between fence and ground). Sed fence needs to be dug in. Minor repair of the sed fence along the drainage channel in the MSB area is required.

3. It is recommended to stabilize entry point at the MSB area (ARTC Access point).

Weekly Site Environmental & Sustainability Inspection

SEQ-CL-005 (1)

To be completed by Site Manager, Environmental/ Sustainability Manager or delegated person at least once a week. Possible more than one inspection per week may be required for high-risk sites.

Project / Site Inspected: Canterbury Site

Inspection undertaken by: Elena Ivanova – Environmental Advisor

Date: 23/02/2022 Time: 08:00-09:00 Signature: Elena Ivanova

Complete Relevant sections only:

TfNSW Environment Sustainability Inspection Questions combined with Haslin Template					
Question		Y	N	N/A	Details
23.	General / Community (Applicable to works site and compound)				
**	Have the previous week's actions been addressed and actioned?	☐	☒	☐	Actions status is outlined in the action section below.
23a	Is the site clean and free of waste and debris?	☐	☒	☐	During the inspection rubbish (packaging from food) was observed on the ground across the MSB area. Waste bins provided must be used and subcontractors made aware of where to throw household waste.
23b	Is the site secured appropriately (e.g. fencing) with appropriate signage?	☒	☐	☐	ATF fencing in place.
23c	Has appropriate provision been made for passage of pedestrians around the work site (including footpath protection)?	☒	☐	☐	Footpath and fenced access in place.
23d	Does the equipment on site appear to be in appropriate working order (noise, exhaust fumes, leakage)?	☒	☐	☐	No issues observed.
23e	Are construction elements (Plant, equipment, materials, etc) located in area to minimise visual impacts, ie within site compounds and behind fencing/hoarding?	☒	☐	☐	Within work site fence.
23f	Have parking changes been communicated?	☒	☐	☐	
23g	Are all environmental no-go zones well delineated and protected?	☒	☐	☐	
23h	Are hoardings clean of graffiti and bill posters?	☒	☐	☐	No graffiti observed.
23i	Is the community signage up to date?	☒	☐	☐	
23j	Is the shade cloth up with legible contact details?	☒	☐	☐	
23k	Is the hoarding and fencing be maintained in a neat and tidy condition	☒	☐	☐	
23l	Is fencing, walls, and hoarding designed and implemented to increase natural surveillance with straight runs	☒	☐	☐	
23m	Has the latest community notification been sent out on time?	☒	☐	☐	
23n	Has the next OOHW been communicated to relevant sensitive receivers?	☐	☐	☒	No night works are scheduled for this weekend.
23o	Are night works planned to ensure light spill is minimised? Is this reflected in ECM and/or OOHW application?	☐	☐	☒	No night works are scheduled for this weekend.
23p	Is site lighting directed away from sensitive receivers and direct views minimised?	☐	☐	☒	
24.	Flora and Fauna (Applicable to works site and compound)				
24a	Are exclusion areas appropriately marked and isolated (e.g. heritage sites, flora/ fauna, environment sensitive areas, wetlands, water courses)?	☒	☐	☐	

TfNSW Environment Sustainability Inspection Questions combined with Haslin Template					
Question		Y	N	N/A	Details
24b	Do the trees have adequate protection around the TPZ (bunting, fencing or other delineating signs)? (No storage allowed under the TPZ)	☒	☐	☐	Tree protection in place.
24c	Has landscaping/offset commenced on site to stabilise exposed areas? Strive to minimise clearance of vegetation	☐	☐	☒	Landscaping not yet possible.
24d	Are the works area free of weeds? Are the controls adequate to prevent weeds?	☒	☐	☐	
24e	Is there any tree trimming or vegetation removal planned to minimise the tree remove? Are the required Pre-Clearing Checklist, Permit to Clear and approvals in place as per Flora and Fauna Management Procedure (SEQ-PR-035)?	☐	☐	☒	No clearing or pruning taking place this week.
24f	Local Wires numbers on emergency plan?	☒	☐	☐	
25.	Surface Water Quality/Soil Conservation (Applicable to works site and compound)				
25a	Sediment transport to stormwater drains and nearby water courses controlled by silt traps/ barriers? (check adequacy of controls after rain event)	☒	☐	☐	
25b	Silt traps/barriers effective and maintained? Are they compostable and/or reusable?	☒	☐	☐	In good condition.
25c	Are erosion and sediment controls in place in accordance with ECMS and/or ESCPs?	☒	☐	☐	
25d	Is water discharged in accordance with conditions of approval / EPL? (Water Discharge Permit may be required) No construction water can leave site premises without being tested.	☐	☐	☒	No discharge was required from the site.
25e	No harmful discharges to nearby water course?	☒	☐	☐	No discharges from the site were observed during rain.
25f	Any Dewatering of trenches, water storage, or dams, discharged into local water ways? If so has SEQ-CL-44 been used? Or local authority's approvals been met?	☐	☐	☒	No discharges to waterways.
25g	Where necessary, wheel wash facility in place and effective?	☐	☐	☒	Not in place at this site.
25h	Stockpiles adequately segregated, covered & protected with sediment controls (refer to CEMP)	☒	☐	☐	
25i	Vegetation maintained where possible	☒	☐	☐	
25j	Public Roads Clean with Entry/exit points stabilized / wheel cleaning available? Haul road integrity maintained?	☒	☐	☐	
25k	Is the Erosion and Sediment Control Plan being implemented and effective?	☒	☐	☐	
26.	Waste & Spoil (Applicable to works site and compound)				
26a	Have adequate bins for waste and reusable/recyclable materials been provided?	☒	☐	☐	
26b	Concrete Waste Area provided and disposed of at regular intervals	☒	☐	☐	In compound area when required.
26c	No waste stored or left in unauthorised areas?	☒	☐	☐	No issues sighted.
26d	Recyclable and reusable waste are segregated and stored in separate bins?	☒	☐	☐	Skip bin used for construction waste and recyclables bins available.
26e	Waste dockets kept for records?	☒	☐	☐	

TfNSW Environment Sustainability Inspection Questions combined with Haslin Template					
Question		Y	N	N/A	Details
26f	Waste removed from site at required intervals and disposed of in authorised manner?	☒	☐	☐	
26g	Is topsoil correctly segregated & stored for reuse or recycling?	☐	☐	☒	
26h	Is spoil (uncontaminated excavated material) correctly stored for reuse or recycling?	☒	☐	☐	Classified and managed in accordance with classification.
26i	Is green waste mulched, composted and stockpiled for reuse on site?	☐	☐	☒	NIL green waste on site.
26j	Is office waste being segregated and recycled?	☒	☐	☐	
27.	Traffic Management (Applicable to works site and compound)				
27a	Where required, a Traffic Management Plan is in place and effectively implemented?	☒	☐	☐	
27b	Speed restriction and warning signs are in place?	☒	☐	☐	
27c	Where required, trained Traffic Controllers engaged for ensuring safe pedestrian movements?	☒	☐	☐	
27d	Vehicle parking facility for employees, sub-contractors and visitors established and adequate?	☒	☐	☐	
27e	Material loading and unloading areas have no interface with pedestrian and vehicular movement?	☐	☐	☒	Due to rainy weather, no delivery was scheduled for that day.
28.	Contamination and Spills (Applicable to works site and compound)				
28a	No spillage of hydrocarbons or chemicals on site? Or potential for contamination (i.e. Asbestos Containing Materials (ACM) adequately managed)	☒	☐	☐	No spills sighted.
28b	Spill kits provided and where? Are personal trained in using it?	☒	☐	☐	
28c	No harmful discharges to nearby water course?	☒	☐	☐	NIL discharges.
28d	Has a concrete washout facility been established and maintained?	☒	☐	☐	
28e	Are materials, product and equipment appropriately stored on site?(e.g. hazardous chemical storage, bunding)	☒	☐	☐	
28f	Is there an appropriate refuelling area?	☐	☐	☒	Refueling using bunds.
29.	Heritage (Applicable to works site and compound)				
29a	Heritage buildings or artefacts identified and delineated	☒	☐	☐	
29b	Are all current works covered by appropriate heritage approvals?	☒	☐	☐	As per HMP and AMS.
29c	Does the site induction cover heritage topic and on the ECM?	☒	☐	☐	
29d	Are heritage items being managed, fenced & signposted as per CEMP and is the unexpected finds protocol being implemented?	☒	☐	☐	
29e	Are temporary works on heritage fully reversible with no impacts to fabric?	☒	☐	☐	
30	Noise and Vibration (Applicable to works site and compound)				
30a	Construction activities kept within working hours and high noise and vibrating generating activities adhere to defined requirements	☒	☐	☐	
30b	Are standard noise and vibration mitigation measures working effectively and adequately maintained? (Any Non-tonal reversing alarm installed?)	☒	☐	☐	Non-tonal alarms in use.

TfNSW Environment Sustainability Inspection Questions combined with Haslin Template					
Question		Y	N	N/A	Details
30c	Dilapidation reports done for possible vibration close to other buildings	☒	☐	☐	
30d	Are out of hours works planned? Are the noise or vibration controls suitable?	☐	☐	☒	OOHW is not scheduled on the day of the inspection.
30e	Is noise and vibration monitoring taking place as defined in the Project Monitoring Plan or as required for OOHW?	☐	☐	☒	
31.	Materials (Applicable to works site and compound)				
31a	Are deliveries of materials being tracked and recorded?	☐	☐	☒	Not checked during the inspection. Reported to sustainability team monthly.
31b	Are internal spoil / topsoil movements being tracked (for tracking onsite re-use)?	☐	☐	☒	As above.
32.	Air Quality (Applicable to works site and compound)				
32a	Dust suppression practices implemented as required in the Air Quality Procedure (SEQ-PR-033)? Minimal to no dust leaving site?	☒	☐	☐	
32b	Trucks are leaving site with loads adequately covered?	☐	☐	☒	Due to rainy weather, no delivery was scheduled for that day.
32c	No excessive fumes or smoke from plants / vehicles?	☒	☐	☐	
33.	Sustainability Reporting (Applicable to works site and compound)				
33a	Is water usage being monitored (e.g. water trucks) and recorded on at least a monthly basis?	☐	☐	☐	Sustainability aspects were not checked during the inspection.
33b	Is potable water use being minimised?	☐	☐	☐	
33c	Are rainwater tanks in place/to be set up on site?	☐	☐	☐	
33d	Is rain/recycled water being used for washdown/dust suppression/irrigation etc?	☐	☐	☐	
33e	Is energy usage being monitored and recorded on a monthly basis (e.g. office compound electricity, fuel use)?	☐	☐	☐	
33f	Do vehicles, plant and equipment meet the following requirements? - Operated for optimum energy efficiency. - Are not left idling when not in use. - fitted with catalytic converters, diesel particulate filters or equivalent devices. - Well maintained and serviced?	☐	☐	☐	
33g	Is waste and recycling being monitoring for both office and construction waste and recorded on at least a monthly basis?	☐	☐	☐	
33h	Is the TfNSW non-road diesel plant workbook being completed as required by the contract?	☐	☐	☐	
33i	Does the works and compound site have energy and water efficient fixtures, fittings and controls?	☐	☐	☐	
33j	Does all plug-in electrical equipment at the site compound has at least a five-star Energy Rating Label?	☐	☐	☐	
33k	Has the selection of materials used on site been undertaken to meet the SMP Materials Management Sub-Plan?	☐	☐	☐	
33l	Are there any construction and demolition waste/materials being reused or recycled on site? (provide details)	☐	☐	☐	
33m	Have any additional fuel/energy/water/material use reduction opportunities been identified?	☐	☐	☐	
34.	Document Checklist				

TfNSW Environment Sustainability Inspection Questions combined with Haslin Template					
Question		Y	N	N/A	Details
34a	Last revision of CEMP, CEMP sub-plans, SMP, and correspondent procedures	☒	☐	☐	
34b	Environment Control Map and Erosion and Sediment Control Plans	☒	☐	☐	
34c	Community Liaison Management Plan	☒	☐	☐	Community and communications strategy implemented.
	OTHER:				
		☐	☐	☐	

Inspection Criteria Ref:	Items of observation needing correction:	Actioned by:	Signature:	Date closed out:
Previous inspection 29e	Minor damage to door of the station building at Platform 0 was detected during the inspection. An incident report to be raised, refer to photos below.	Vitor Reis	Vitor Reis	The incident report was closed.
23a 16.02.2022	During the inspection rubbish (packaging from food) was observed on the ground across the MSB area. Waste bins provided must be used and subcontractors made aware of where to throw household waste.	Vitor Reis		
25a 16.02.2022	The stormwater pit, located next to the main entrance to the MSB area, needs protection. Maintenance of the stormwater pit protection is required.	Vitor Reis	Vitor Reis	The stormwater pit was covered by geofabric. 

Signature: _____ Date: 01/03/2022

HSE JV Environmental Manager

Subcontractor Sign-Off

A representative from a Sub Contractor company on site to sign off that they have completed and gone through the Weekly Inspection with Haslin Staff.

Name	Company	Position/Role	Signature	Date

Photo – site observation

1. Waste bins provided must be used and subcontractors made aware of where to throw household waste

Weekly Site Environmental & Sustainability Inspection

SEQ-CL-005 (1)

To be completed by Site Manager, Environmental/ Sustainability Manager or delegated person at least once a week. Possible more than one inspection per week may be required for high-risk sites.

Project / Site Inspected: Marrickville Site

Inspection undertaken by: Elena Ivanova – Environmental Advisor, Ryan O'Leary – Environment Manager, Brett McLennan – Environmental Representative, Candice Somerville – Sydney Metro Environmental Manager

Date: 19/01/2022 Time: 07:00-08:10 Signature: Elena Ivanova

Complete Relevant sections only:

TfNSW Environment Sustainability Inspection Questions combined with Haslin Template						
Question		Y	N	N/A	Details	
23.	General / Community (Applicable to works site and compound)					
**	Have the previous week's actions been addressed and actioned?	☒	☐	☐	No outstanding actions.	
23a	Is the site clean and free of waste and debris?	☒	☐	☐	Well maintained.	
23b	Is the site secured appropriately (e.g. fencing) with appropriate signage?	☒	☐	☐	ATF fencing in place.	
23c	Has appropriate provision been made for passage of pedestrians around the work site (including footpath protection)?	☒	☐	☐	Footpath and fenced access in place.	
23d	Does the equipment on site appear to be in appropriate working order (noise, exhaust fumes, leakage)?	☒	☐	☐	No issues observed.	
23e	Are construction elements (Plant, equipment, materials, etc) located in area to minimise visual impacts, ie within site compounds and behind fencing/hoarding?	☒	☐	☐	Within work site fence.	
23f	Have parking changes been communicated?	☒	☐	☐		
23g	Are all environmental no-go zones well delineated and protected?	☒	☐	☐	As per ECM.	
23h	Are hoardings clean of graffiti and bill posters?	☒	☐	☐	No graffiti.	
23i	Is the community signage up to date?	☒	☐	☐		
23j	Is the shade cloth up with legible contact details?	☒	☐	☐	In good condition.	
23k	Is the hoarding and fencing be maintained in a neat and tidy condition	☒	☐	☐	Fence well maintained.	
23l	Is fencing, walls, and hoarding designed and implemented to increase natural surveillance with straight runs	☒	☐	☐		
23m	Has the latest community notification been sent out on time?	☒	☐	☐		
23n	Has the next OOHW been communicated to relevant sensitive receivers?	☐	☐	☒	No OOHW scheduled this week.	
23o	Are night works planned to ensure light spill is minimised? Is this reflected in ECM and/or OOHW application?	☐	☐	☒		
23p	Is site lighting directed away from sensitive receivers and direct views minimised?	☐	☐	☒		
24.	Flora and Fauna (Applicable to works site and compound)					
24a	Are exclusion areas appropriately marked and isolated (e.g. heritage sites, flora/ fauna,	☒	☐	☐		

TfNSW Environment Sustainability Inspection Questions combined with Haslin Template					
	Question	Y	N	N/A	Details
	environment sensitive areas, wetlands, water courses)?				
24b	Do the trees have adequate protection around the TPZ (bunting, fencing or other delineating signs)? (No storage allowed under the TPZ)	☒	☐	☐	Tree protection in place.
24c	Has landscaping/offset commenced on site to stabilise exposed areas? Strive to minimise clearance of vegetation	☒	☐	☐	Landscaping not yet possible. Vegetation clearing only where required.
24d	Are the works area free of weeds? Are the controls adequate to prevent weeds?	☒	☐	☐	
24e	Is there any tree trimming or vegetation removal planned to minimise the tree remove? Are the required Pre-Clearing Checklist, Permit to Clear and approvals in place as per Flora and Fauna Management Procedure (SEQ-PR-035)?	☐	☐	☒	No clearing or pruning taking place this week.
24f	Local Wires numbers on emergency plan?	☒	☐	☐	
25.	Surface Water Quality/Soil Conservation (Applicable to works site and compound)				
25a	Sediment transport to stormwater drains and nearby water courses controlled by silt traps/ barriers? (check adequacy of controls after rain event)	☒	☐	☐	Drains protected. No discharge from the site was observed during rain.
25b	Silt traps/barriers effective and maintained? Are they compostable and/or reusable?	☒	☐	☐	In good condition. It was noted that sediment fence was installed incorrectly (gap between fence and ground). Sed fence needs to be dug in. Minor repair of the sed fence along the drainage channel in the MSB area is required.
25c	Are erosion and sediment controls in place in accordance with ECMS and/or ESCPs?	☒	☐	☐	As per ESCP.
25d	Is water discharged in accordance with conditions of approval / EPL? (Water Discharge Permit may be required) No construction water can leave site premises without being tested.	☐	☐	☒	No discharge was required from the site.
25e	No harmful discharges to nearby water course?	☒	☐	☐	NIL discharges to watercourses.
25f	Any Dewatering of trenches, water storage, or dams, discharged into local water ways? If so has SEQ-CL-44 been used? Or local authority's approvals been met?	☐	☐	☒	No discharges to waterways.
25g	Where necessary, wheel wash facility in place and effective?	☐	☐	☒	Not in place at this site.
25h	Stock piles adequately segregated, covered & protected with sediment controls (refer to CEMP)	☒	☐	☐	
25i	Vegetation maintained where possible	☒	☐	☐	
25j	Public Roads Clean with Entry/exit points stabilized / wheel cleaning available? Haul road integrity maintained?	☒	☐	☐	
25k	Is the Erosion and Sediment Control Plan being implemented and effective?	☒	☐	☐	Controls being effective.
26.	Waste & Spoil (Applicable to works site and compound)				
26a	Have adequate bins for waste and reusable/recyclable materials been provided?	☒	☐	☐	Bins available in compound area.
26b	Concrete Waste Area provided and disposed of at regular intervals	☒	☐	☐	In compound area when required.
26c	No waste stored or left in unauthorised areas?	☒	☐	☐	No issues sighted.
26d	Recyclable and reusable waste are segregated and stored in separate bins?	☒	☐	☐	Skip bin used for construction waste and recyclables bins available.

TfNSW Environment Sustainability Inspection Questions combined with Haslin Template					
Question		Y	N	N/A	Details
26e	Waste dockets kept for records?	☒	☐	☐	
26f	Waste removed from site at required intervals and disposed of in authorised manner?	☒	☐	☐	Disposed to licensed facilities.
26g	Is topsoil correctly segregated & stored for reuse or recycling?	☐	☐	☒	No topsoil being impacted.
26h	Is spoil (uncontaminated excavated material) correctly stored for reuse or recycling?	☒	☐	☐	Classified and managed in accordance with classification.
26i	Is green waste mulched, composted and stockpiled for reuse on site?	☐	☐	☒	NIL green waste on site.
26j	Is office waste being segregated and recycled?	☒	☐	☐	
27.	Traffic Management (Applicable to works site and compound)				
27a	Where required, a Traffic Management Plan is in place and effectively implemented?	☒	☐	☐	TMP approved and in place.
27b	Speed restriction and warning signs are in place?	☒	☐	☐	
27c	Where required, trained Traffic Controllers engaged for ensuring safe pedestrian movements?	☒	☐	☐	
27d	Vehicle parking facility for employees, sub-contractors and visitors established and adequate?	☒	☐	☐	
27e	Material loading and unloading areas have no interface with pedestrian and vehicular movement?	☒	☐	☐	Within the worksite and segregated from pedestrians.
28.	Contamination and Spills (Applicable to works site and compound)				
28a	No spillage of hydrocarbons or chemicals on site? Or potential for contamination (i.e. Asbestos Containing Materials (ACM) adequately managed)	☒	☐	☐	No spills sighted.
28b	Spill kits provided and where? Are personal trained in using it?	☒	☐	☐	
28c	No harmful discharges to nearby water course?	☒	☐	☐	NIL discharges.
28d	Has a concrete washout facility been established and maintained?	☒	☐	☐	
28e	Are materials, product and equipment appropriately stored on site?(e.g. hazardous chemical storage, bunding)	☒	☐	☐	The chemical storage bunds must be emptied and collected rainwater shall be disposed of as liquid waste due to potential hydrocarbons contamination. The chemical storage bunds capacity should be 110% of the volume of the largest container or 25% of the total volume. Please place the portable bund with chemicals undercover during the rainy weather.
28f	Is there an appropriate refuelling area?	☐	☐	☒	Refueling using bunds.
29.	Heritage (Applicable to works site and compound)				
29a	Heritage buildings or artefacts identified and delineated	☒	☐	☐	
29b	Are all current works covered by appropriate heritage approvals?	☒	☐	☐	
29c	Does the site induction cover heritage topic and on the ECM?	☒	☐	☐	
29d	Are heritage items being managed, fenced & signposted as per CEMP and is the unexpected finds protocol being implemented?	☒	☐	☐	
29e	Are temporary works on heritage fully reversible with no impacts to fabric?	☒	☐	☐	
30	Noise and Vibration (Applicable to works site and compound)				

TfNSW Environment Sustainability Inspection Questions combined with Haslin Template					
Question		Y	N	N/A	Details
30a	Construction activities kept within working hours and high noise and vibrating generating activities adhere to defined requirements	☒	☐	☐	Due to rainy weather, minimal work was carried out.
30b	Are standard noise and vibration mitigation measures working effectively and adequately maintained? (Any Non-tonal reversing alarm installed?)	☒	☐	☐	Non-tonal alarms in use.
30c	Dilapidation reports done for possible vibration close to other buildings	☒	☐	☐	
30d	Are out of hours works planned? Are the noise or vibration controls suitable?	☐	☐	☒	No OOHW scheduled this week.
30e	Is noise and vibration monitoring taking place as defined in the Project Monitoring Plan or as required for OOHW?	☒	☐	☐	
31.	Materials (Applicable to works site and compound)				
31a	Are deliveries of materials being tracked and recorded?	☐	☐	☒	Not checked during the inspection. Reported to sustainability team monthly.
31b	Are internal spoil / topsoil movements being tracked (for tracking onsite re-use)?	☐	☐	☒	As above.
32.	Air Quality (Applicable to works site and compound)				
32a	Dust suppression practices implemented as required in the Air Quality Procedure (SEQ-PR-033)? Minimal to no dust leaving site?	☒	☐	☐	No dust observed. Due to rainy weather, minimal work was carried out.
32b	Trucks are leaving site with loads adequately covered?	☐	☐	☒	No trucks observed leaving site. Due to rainy weather, all deliveries were cancelled for the day.
32c	No excessive fumes or smoke from plants / vehicles?	☒	☐	☐	
33.	Sustainability Reporting (Applicable to works site and compound)				
33a	Is water usage being monitored (e.g. water trucks) and recorded on at least a monthly basis?	☐	☐	☐	Sustainability aspects were not checked during the inspection.
33b	Is potable water use being minimised?	☐	☐	☐	
33c	Are rainwater tanks in place/to be set up on site?	☐	☐	☐	
33d	Is rain/recycled water being used for washdown/dust suppression/irrigation etc?	☐	☐	☐	
33e	Is energy usage being monitored and recorded on a monthly basis (e.g. office compound electricity, fuel use)?	☐	☐	☐	
33f	Do vehicles, plant and equipment meet the following requirements? - Operated for optimum energy efficiency. - Are not left idling when not in use. - fitted with catalytic converters, diesel particulate filters or equivalent devices. - Well maintained and serviced?	☐	☐	☐	
33g	Is waste and recycling being monitoring for both office and construction waste and recorded on at least a monthly basis?	☐	☐	☐	
33h	Is the TfNSW non-road diesel plant workbook being completed as required by the contract?	☐	☐	☐	
33i	Does the works and compound site have energy and water efficient fixtures, fittings and controls?	☐	☐	☐	
33j	Does all plug-in electrical equipment at the site compound has at least a five-star Energy Rating Label?	☐	☐	☐	
33k	Has the selection of materials used on site been undertaken to meet the SMP Materials Management Sub-Plan?	☐	☐	☐	

TfNSW Environment Sustainability Inspection Questions combined with Haslin Template					
Question		Y	N	N/A	Details
33l	Are there any construction and demolition waste/materials being reused or recycled on site? (provide details)	☐	☐	☐	
33m	Have any additional fuel/energy/water/material use reduction opportunities been identified?	☐	☐	☐	
34.	Document Checklist				
34a	Last revision of CEMP, CEMP sub-plans, SMP, and correspondent procedures	☒	☐	☐	Current version approved and being updated.
34b	Environment Control Map and Erosion and Sediment Control Plans	☒	☐	☐	Being implemented.
34c	Community Liaison Management Plan	☒	☐	☐	Community and communications strategy implemented.
	OTHER:				
		☐	☐	☐	

Inspection Criteria Ref:	Items of observation needing correction:	Actioned by:	Signature:	Date closed out:	Evidence
Previous inspection 24b	Construction materials were stacked too close to a tree outside of the project boundary. Materials must be moved from the dripline and placed onto the existing concrete pad at Wooley Ln.	JBlanch/ MBroughton			Heavy construction materials were moved, the remaining materials to be moved during the next possession.
28e 19.01.2022	During the inspection it was observed that the chemical storage bunds were filled with rainwater. There was no capacity left to capture any potential spills of chemicals. *The chemical storage bunds must be emptied and collected rainwater shall be disposed of as liquid waste due to potential hydrocarbons contamination.* *The chemical storage bunds capacity should be 110% of the volume of the largest container or 25% of the total volume.* *Please place the portable bund with chemicals under the cover during the rainy weather.*	JBlanch/ MBroughton			
Previous inspections	The status of groundwater disposal from groundwater investigations was discussed further with HSEJV. *Discuss disposal of stored groundwater with a company that will provide treatment for groundwater from ULX construction.*	JBlanch/ MBroughton			
Previous inspection 24a	*Replace the broken sandbag and conduct maintenance of the sediment controls (new core logs) the gate on Riverdale Ave.*	JBlanch/ MBroughton	MBroughton	19/01/2022	Complete, checked during the inspection
Previous inspection 28d	During the inspection, a small spill was discovered in the MSB area. *Remove contaminated aggregate materials and dispose them appropriately.* *Provide details of the spill incident.*	JBlanch/ MBroughton			The incident report was issued (INC-033 – Minor spill).
Previous inspection 28d	It was noted that un-bunded concrete washout had occurred adjacent to the MSB During the inspection, conducted on 12/01/2022, concrete spills were observed around the MSB that need to be removed. *Clean up the MSB area from spilled concrete.*	JBlanch/ MBroughton			The incident report was issued (INC-031 MAR Concrete washout).
25b 19.01.2022	It was noted that sediment fence was installed properly (gap between fence and ground). Minor repair of the sed fence along the drainage channel in the MSB area is required.	JBlanch/ MBroughton			

Signature: Date: 19/01/2022

HSE JV Environmental Manager

Subcontractor Sign-Off

A representative from a Sub Contractor company on site to sign off that they have completed and gone through the Weekly Inspection with Haslin Staff.

Name	Company	Position/Role	Signature	Date

1. Photos Construction materials were stacked too close to a tree outside of the project boundary. Materials must be moved from under the dripline and placed onto the existing concrete pad at Wooley Ln.

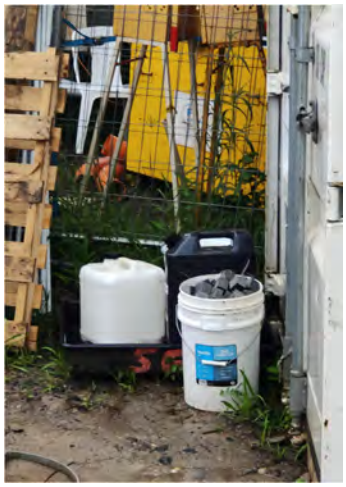
No materials stockpiling under the trees

The existing concrete pad

2. During the inspection, a small spill was discovered in the MSB area. Remove contaminated aggregate materials and dispose them appropriately. Provide details of the spill incident.

3. Clean up the MSB area from spilled concrete.

4. The chemical storage bunds must be emptied and collected rainwater shall be disposed of as liquid waste due to potential hydrocarbons contamination.
   The chemical storage bunds capacity should be 110% of the volume of the largest container or 25% of the total volume.
   Please place the portable bund with chemicals undercover during the rainy weather.



5. It was noted that sediment fence was installed incorrectly (gap between fence and ground). Sed fence needs to be dug in. Minor repair of the sed fence along the drainage channel in the MSB area is required.

Daily Site Safety & Environmental Inspection

SEQ-CL-004

Project: 226 - Canterbury - HSEJV

To be completed by Site Manager or delegated person daily

Project / Site Inspected: Platform 0/1/2/ MSB and Site Compound

Inspection is undertaken by: Bruno Belloff

Date: 28.02.2022 **Time:** 1030 **Signature:**

Item No.	Aspect	Compliance Yes	Compliance No	Compliance N/A	Comment
1.	Has all issues raised in previous inspection been addressed/closed out?	☐	☐	☒	Ongoing
1.a	Site clean and tidy?	☒	☐	☐	
2.	Safety and warning signs are in place and appropriate?	☒	☐	☐	
3.	Relevant personnel attended Daily Pre-start Briefing? All Workers complete a Task Specific JSEA?	☒	☐	☐	
4.	Licences and certificates of plant operators and other trade professionals verified (e.g. Crane Operator Licence)?	☒	☐	☐	
5.	Permit to Work issued by Authorised Person for the conduct of hazardous work activities (e.g. Confined Space Work, Excavations)?	☒	☐	☐	MSB – Excavation – PJOC Hot works
6.	SWMS received, reviewed and authorised for all on-going works?	☒	☐	☐	
7.	Sub-contractors complying with SWMS requirements?	☒	☐	☐	
8.	Are heritage controls in place (protection, signage, etc) and adequate? If any damage is identified report to enviro advisor ASAP.	☒	☐	☐	
9.	Plant & equipment used on site are fully functional & fit for the purpose?	☒	☐	☐	
10.	Plant and equipment inspected as per schedule? Defective plant or equipment tagged out and isolated?	☒	☐	☐	
11.	Rail infrastructure free from damage scratches, if so has Haslin Rep, PO &PPO been notified?	☐	☐	☒	
12.	Scaffolds & elevated work platforms inspected by a competent person?	☒	☐	☐	
13.	Formwork foundation & structure stable & with no deformity?	☐	☐	☒	
14.	Hazardous substances and dangerous goods are stored in appropriate location and manner?	☐	☒	☐	Ongoing, Raised Yesterday, Indigeco Paints at Plat Zero Building, need to be storage proper or removed from site – SDS Provide – Haslin Safety Container Not Available - Subbie Informed – Site Supervisors Informed
15.	Hazardous work areas barricaded and sign-posted to restrict entry of unauthorised persons?	☒	☐	☐	
16.	Excavation areas correctly shored, benched, battered/ supported?	☒	☐	☐	MSB Area
17.	Is there edge protection where there is potential for falls into any open pits, trenches or falls that can be hazardous.	☒	☐	☐	
18.	Sediment control devices are in place and effective?	☒	☐	☐	
19.	Dust control devices are in place and effective? Are Workers wearing correct Dust Mask and are Fit Tested.	☒	☐	☐	
20.	No excessive noise generated from site? Are Workers wearing the correct hearing equipment?	☒	☐	☐	

21.	All persons on site are wearing appropriate PPE, e.g. Gloves, Eye Protection, Hearing, Masks, Boots, & Reflective Garments	☒	☐	☐
22.	Visual inspection of waterways (clean from debris & construction turbidity)?	☒	☐	☐
23.	CoR: TCP, VMP, Truck movements, load restraints been monitored and correct paperwork used e.g. CL-035, FM-032	☐	☐	☒

Summary of Non-conformances and Unsafe Work Conditions / Work Practices Identified:

Person who conducted inspection must issue a Corrective Action Request for each identified non-conformance in accordance with relevant procedure

Item No.	Inspection Criteria Ref.	Non-conformances and Unsafe Work Conditions/Work Practices Identified	Actioned by	Signature	Date closed
1.		**Indigeco Paints at Plat Zero Building, need to be storage proper or removed from the site – SDS Provide – Haslin Safety Container Not Available - Subbie Informed – Site Supervisors Informed**	**Site Supervisors - Subbies**		**Ongoing**
2.		**MSB area, Due Inclement Weather, pits areas filled with a large amount of water, necessary implement actions related to Access and Egress, Barricade area and Prevent Objects to Potential Fall. Ongoing**	**Site Engineer / Site Supervisor**		**Ongoing**
3.		**RISI Free area – Items to be Comply before 07.03.2022**	**Site Engineer / Site Supervisor**		**Ongoing**
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Haslin Constructions Pty Ltd
Suit 2, 2-4 Merton Street
Sutherland NSW 2232
Phone: (02) 8522 3900

DAILY SITE REPORT

JOB: SWM Package 4 | **Wednesday** | **DATE: 23/02/2022**

LOCATION: Lakemba | **JOB NO: 225**

Weather: 19.3 Deg Rain: 25.6 mm. Showers and heavy pours through out the day

ACCIDENTS / INCIDENTS:

NO.	HASLIN PERSONNEL ON SITE
11	Mona, Terence, Mo, Cameron, Ryan Ross, Damien, Niki, Nathan, Gary & Tony

WORK CARRIED OUT ON SITE:

Indigico - Worksite Protection.

Haslin/Perfect/Flomar - Clean & sort out sediment controls. (2 Lab x 6hrs) Dewater MSB area (2 Lab x 2hrs) Move furniture from Gillies office to Railway Pde and Belmore. (LH x 7hrs Lab x 7hrs) Brushcutting to fence & works to Community Garden. (LH x 3hrs Lab x 3hrs)

PJ O'Connors - Containment install to inside the Platform Services Building roof space.

Abi Civil - Formwork & pour concrete to last section of Strip footing 2. Reinforcement to RW1.

Grand Eagle - Set up props & remove brickwork to brick up doorway between PER & switchroom. Set joints to gyprock walls & ceilings.

SUBCONTRACTORS	NO. PERS	PLANT	REMARKS (Performance, etc.)
Indigeco	2		Protection Officer
Perfect Contracting	2		Contract Labour
Flomar	1		Contract Labour
PJ O'Connors	4		Electrical Contractors
Abi Civil	6	1	Civil Contractors
ATS	1		Traffic Management
Geo Image	0		Site Survey
Cardino	0		Geotechnical Consultants
GHD	0		Structural Engineers
Grand Eagle	3		Building Contractors
Haslin	11		
Total personnel on site	30		

NOTES :

HIGH IMPACT NOISE WORKS
(Ex. Rock Hammer, Jack Hammer, Hydro-Blast, Saw Cutting - Confirm 3hours on, 1 hour off)

1st Period	2nd Period	3rd Period
Start Time:	**Start Time:**	**Start Time:**
Finish Time:	**Finish Time:**	**Finish Time:**

EXTERNAL PLANT OR EQUIPMENT HIRED / RECEIVED / RETURNED:

QTY	DESCRIPTION	HIRE COMPANY	O/N	EST. RETURN DATE

PROGRAM STATUS DELAYS:

VARIATIONS & EXTRA WORK ON SITE - BRIEF DESCRIPTION	UNIT	QUANTITY

POTENTIAL VARIATION CLAIMS:

DRAWINGS RECEIVED:

DIRECTONS RECEIVED / REQUESTED:

The above activities have been completed and all referenced forms including forms work-method statements and all quality assuranve documents have been followed and checked.

	Tony Schasser	**SIGNED:**

HASLIN

Daily Site Safety & Environmental Inspection

SEQ-CL-004

Project: LAKEMBA

To be completed by Site Manager or delegated person daily

Project / Site Inspected: LAKEMBA SITE COMPOUND

Inspection undertaken by: JEREMY WALLIS

Date: 29/12/21 **Time:** Afternoon **Signature:**

Item No.	Aspect	Compliance Yes	No	N/A	Comment
1.	Has all issues raised in previous inspection been addressed/closed out?	☑	☐	☐	Closed items
1.a	Site clean and tidy?	☐	☑	☐	Ongoing
2.	Safety and warning signs are in place and appropriate?	☑	☐	☐	
3.	Relevant personnel attended Daily Pre-start Briefing? All Workers complete a Task Specific JSEA?	☑	☐	☐	
4.	Licences and certificates of plant operators and other trade professionals verified (e.g. Crane Operator Licence)?	☑	☐	☐	RIW Check
5.	Permit to Work issued by Authorised Person for the conduct of hazardous work activities (e.g. Confined Space Work, Excavations)?	☑	☐	☐	All permits identified and signed
6.	SWMS received, reviewed and authorised for all on-going works?	☐	☐	☑	N/A today ~~not onsite~~
7.	Sub-contractors complying with SWMS requirements?	☐	☐	☑	N/A today not
8.	Are heritage controls in place (protection, signage etc) and adequate? If any damage is identified report to enviro advisor ASAP	☐	☐	☑	N/A today
9.	Plant & equipment used on site are fully functional & fit for the purpose?	☑	☐	☐	Signed Kobelco 15T & WB today
10.	Plant and equipment inspected as per schedule? Defective plant or equipment tagged out and isolated?	☑	☐	☐	
11.	Rail infrastructure free from damage scratches, if so has Haslin Rep, PO &PPO been notified?	☑	☐	☑	Ongoing inspections
12.	Scaffolds & elevated work platforms inspected by a competent person?	☐	☐	☑	N/A Today N:1 onsite
13.	Formwork foundation & structure stable & with no deformity?	☐	☐	☑	
14.	Hazardous substances and dangerous goods are stored in appropriate location and manner?	☑	☐	☐	Container Checked and good
15.	Hazardous work areas barricaded and sign-posted to restrict entry of unauthorised persons?	☐	☐	☑	
16.	Excavation areas correctly shored, benched, battered/ supported?	☑	☐	☐	Small excavations
17.	Is there edge protection where there is potential for falls into any open pits, trenches or falls that can be hazardous	☐	☐	☐	
18.	Sediment control devices are in place and effective?	☐	☑	☐	Sediment Controls need attention
19.	Dust control devices are in place and effective? Are Workers wearing correct Dust Mask and are Fit Tested.	☑	☐	☐	
20.	No excessive noise generated from site? Are Workers wearing the correct hearing equipment?	☑	☐	☐	All good PPE being worn
21.	All persons on site are wearing appropriate PPE, e.g. Gloves, Eye Protection, Hearing, Masks, Boots & Reflective Garments	☑	☐	☐	

22.	Visual inspection of waterways (clean from debris & construction turbidity)?	☑	☐	☐	Bottom Storm water cleared
23.	CoR, TCP, VMP, Truck movements, load restraints been monitored and correct paperwork used e.g. CL-035, FM-032	☑	☐	☐	Load out of steel check CL-35 used.

Summary of Non-conformances and Unsafe Work Conditions / Work Practices Identified:

Person who conducted inspection must issue a Corrective Action Request for each identified non-conformance in accordance with relevant procedure

Item No.	Inspection Criteria Ref.	Non-conformances and Unsafe Work Conditions/Work Practices Identified	Actioned by	Signature	Date closed
1.	Sediment Controls need cleaning		A. Croumbas	[signature]	29/12/2021
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Daily Site Safety & Environmental Inspection

HASLIN

SEQ-CL-004

Project: Sydney Metro Southwest

To be completed by Site Manager or delegated person daily

Project / Site Inspected: Lakemba Station

Inspection undertaken by: TONY SCHASSIR

Date: 12.11.2024. **Time:** 0900 **Signature:**

Item No.	Aspect	Compliance Yes	No	N/A	Comment
1.	Has all issues raised in previous inspection been addressed/closed out?	☑	☐	☐	
1.a	Site clean and tidy?	☑	☐	☐	
2.	Safety and warning signs are in place and appropriate?	☑	☐	☐	
3.	All persons on site attended Site Safety Induction?	☑	☐	☐	
4.	Licences and certificates of plant operators and other trade professionals verified (e.g. Crane Operator Licence)?	☑	☐	☐	
5.	Permit to Work issued by Authorised Person for the conduct of hazardous work activities (e.g. Confined Space Work, Excavations)?	☐	☐	☑	
6.	SWMS received, reviewed and authorised for all on-going works?	☑	☐	☐	
7.	Sub-contractors complying with SWMS requirements?	☑	☐	☐	
8.	Relevant personnel attended Daily Pre-start Briefing?	☑	☐	☐	
9.	Plant & equipment used on site are fully functional & fit for the purpose?	☑	☐	☐	
10.	Defective plant and equipment are tagged and isolated?	☐	☐	☑	
11.	Plant and equipment inspected as per schedule?	☑	☐	☐	
12.	Scaffolds & elevated work platforms inspected by a competent person?	☐	☐	☑	
13.	Formwork foundation & structure stable & with no deformity?	☑	☐	☐	
14.	Hazardous substances and dangerous goods are stored in appropriate location and manner?	☑	☐	☐	
15.	Hazardous work areas barricaded and sign-posted to restrict entry of unauthorised persons?	☐	☐	☑	
16.	Excavation areas correctly shored, benched, battered/ supported?	☐	☐	☑	
17.	Is there edge protection where there is potential for falls into any open pits, trenches or falls that can be hazardous.	☐	☐	☑	
18.	Sediment control devices are in place and effective?	☑	☐	☐	
19.	Dust control devices are in place and effective?	☐	☐	☑	
20.	No excessive noise generated from site?	☐	☐	☑	
21.	All persons on site are wearing appropriate PPE?	☑	☐	☐	
22.	Visual inspection of waterways (clean from debris & construction turbidity)?	☑	☐	☐	

23.	Are heritage controls in place (protection, signage, etc) and adequate? If any damage is identified report to enviro advisor ASAP.	☑	☐	☐

Summary of Non-conformances and Unsafe Work Conditions / Work Practices Identified:

Person who conducted inspection must issue a Corrective Action Request for each identified non-conformance in accordance with relevant procedure

Item No.	Inspection Criteria Ref.	Non-conformances and Unsafe Work Conditions/Work Practices Identified	Actioned by	Signature	Date closed
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HASLIN

Daily Site Safety & Environmental Inspection

SEQ-CL-004

Project: Sydney Metro Southwest

To be completed by Site Manager or delegated person daily

Project / Site Inspected: Lakemba Station

Inspection undertaken by: TONY SCHASSER

Date: 15.9.2021 **Time:** 10:30. **Signature:**

Item No.	Aspect	Compliance Yes	No	N/A	Comment
1.	Has all issues raised in previous inspection been addressed/closed out?	☑	☐	☐	SEDIMENT CONTROLS CHECKED & CLEANED
1.a	Site clean and tidy?	☑	☐	☐	
2.	Safety and warning signs are in place and appropriate?	☑	☐	☐	
3.	All persons on site attended Site Safety Induction?	☑	☐	☐	
4.	Licences and certificates of plant operators and other trade professionals verified (e.g. Crane Operator Licence)?	☑	☐	☐	
5.	Permit to Work issued by Authorised Person for the conduct of hazardous work activities (e.g. Confined Space Work, Excavations)?	☑	☐	☐	2x HOT WORKS, 0268 PERMIT 1x EXCAVATION.
6.	SWMS received, reviewed and authorised for all on-going works?	☑	☐	☐	
7.	Sub-contractors complying with SWMS requirements?	☑	☐	☐	
8.	Relevant personnel attended Daily Pre-start Briefing?	☑	☐	☐	2 BRIEFINGS HELD AS OF COVID SEPARATION
9.	Plant & equipment used on site are fully functional & fit for the purpose?	☑	☐	☐	
10.	Defective plant and equipment are tagged and isolated?	☐	☐	☑	
11.	Plant and equipment inspected as per schedule?	☑	☐	☐	
12.	Scaffolds & elevated work platforms inspected by a competent person?	☐	☐	☑	
13.	Formwork foundation & structure stable & with no deformity?	☐	☐	☑	
14.	Hazardous substances and dangerous goods are stored in appropriate location and manner?	☑	☐	☐	BUNDED & LOCKABLE CONTAINER
15.	Hazardous work areas barricaded and sign-posted to restrict entry of unauthorised persons?	☐	☐	☑	
16.	Excavation areas correctly shored, benched, battered/ supported?	☐	☐	☑	
17.	Is there edge protection where there is potential for falls into any open pits, trenches or falls that can be hazardous.	☐	☐	☑	
18.	Sediment control devices are in place and effective?	☑	☐	☐	
19.	Dust control devices are in place and effective?	☑	☐	☐	
20.	No excessive noise generated from site?	☑	☐	☐	
21.	All persons on site are wearing appropriate PPE?	☑	☐	☐	
22.	Visual inspection of waterways (clean from debris & construction turbidity)?	☑	☐	☐	

Summary of Non-conformances and Unsafe Work Conditions / Work Practices Identified:

Person who conducted inspection must issue a Corrective Action Request for each identified non-conformance in accordance with relevant procedure

Item No.	Inspection Criteria Ref.	Non-conformances and Unsafe Work Conditions/Work Practices Identified	Actioned by	Signature	Date closed
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Daily Site Safety & Environmental Inspection

SEQ-CL-004

Project: Sydney Metro Southwest

To be completed by Site Manager or delegated person daily

Project / Site Inspected: Lakemba Station

Inspection undertaken by:

Date: 29.11.2021. **Time:** **Signature:**

Item No.	Aspect	Compliance Yes	No	N/A	Comment
1.	Has all issues raised in previous inspection been addressed/closed out?	☐	☐	☑	
1.a	Site clean and tidy?	☑	☐	☐	
2.	Safety and warning signs are in place and appropriate?	☑	☐	☐	
3.	All persons on site attended Site Safety Induction?	☑	☐	☐	
4.	Licences and certificates of plant operators and other trade professionals verified (e.g. Crane Operator Licence)?	☑	☐	☐	
5.	Permit to Work issued by Authorised Person for the conduct of hazardous work activities (e.g. Confined Space Work, Excavations)?	☑	☐	☐	DISCHARGE WATER - MSB BUILDING. EXCAVATION - PLATFORM BUILDING.
6.	SWMS received, reviewed and authorised for all on-going works?	☑	☐	☐	
7.	Sub-contractors complying with SWMS requirements?	☑	☐	☐	
8.	Relevant personnel attended Daily Pre-start Briefing?	☑	☐	☐	
9.	Plant & equipment used on site are fully functional & fit for the purpose?	☑	☐	☐	
10.	Defective plant and equipment are tagged and isolated?	☐	☐	☑	
11.	Plant and equipment inspected as per schedule?	☑	☐	☐	
12.	Scaffolds & elevated work platforms inspected by a competent person?	☑	☐	☐	
13.	Formwork foundation & structure stable & with no deformity?	☐	☐	☑	
14.	Hazardous substances and dangerous goods are stored in appropriate location and manner?	☑	☐	☐	STORAGE CONTAINER.
15.	Hazardous work areas barricaded and sign-posted to restrict entry of unauthorised persons?	☐	☐	☑	
16.	Excavation areas correctly shored, benched, battered/ supported?	☑	☐	☐	
17.	Is there edge protection where there is potential for falls into any open pits, trenches or falls that can be hazardous.	☑	☐	☐	
18.	Sediment control devices are in place and effective?	☑	☐	☐	
19.	Dust control devices are in place and effective?	☐	☐	☑	
20.	No excessive noise generated from site?	☐	☐	☑	
21.	All persons on site are wearing appropriate PPE?	☑	☐	☐	
22.	Visual inspection of waterways (clean from debris & construction turbidity)?	☑	☐	☐	

23.	Are heritage controls in place (protection, signage, etc) and adequate? If any damage is identified report to enviro advisor ASAP.	☑	☐	☐

Summary of Non-conformances and Unsafe Work Conditions / Work Practices Identified:

Person who conducted inspection must issue a Corrective Action Request for each identified non-conformance in accordance with relevant procedure

Item No.	Inspection Criteria Ref.	Non-conformances and Unsafe Work Conditions/Work Practices Identified	Actioned by	Signature	Date closed
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HASLIN

Daily Site Safety & Environmental Inspection

SEQ-CL-004

Project: Sydney Metro Southwest

To be completed by Site Manager or delegated person daily

Project / Site Inspected: Lakemba Station

Inspection undertaken by: Ross

Date: 16/10/21 **Time:** [illegible] **Signature:** 0945

Item No.	Aspect	Compliance Yes	No	N/A	Comment
1.	Has all issues raised in previous inspection been addressed/closed out?	☑	☐	☐	
1.a	Site clean and tidy?	☑	☐	☐	
2.	Safety and warning signs are in place and appropriate?	☑	☐	☐	
3.	All persons on site attended Site Safety Induction?	☑	☐	☐	
4.	Licences and certificates of plant operators and other trade professionals verified (e.g. Crane Operator Licence)?	☑	☐	☐	
5.	Permit to Work issued by Authorised Person for the conduct of hazardous work activities (e.g. Confined Space Work, Excavations)?	☑	☐	☐	
6.	SWMS received, reviewed and authorised for all on-going works?	☐	☐	☐	
7.	Sub-contractors complying with SWMS requirements?	☑	☐	☐	
8.	Relevant personnel attended Daily Pre-start Briefing?	☐	☐	☐	
9.	Plant & equipment used on site are fully functional & fit for the purpose?	☑	☐	☐	
10.	Defective plant and equipment are tagged and isolated?	☑	☐	☐	
11.	Plant and equipment inspected as per schedule?	☑	☐	☐	
12.	Scaffolds & elevated work platforms inspected by a competent person?	☐	☐	☑	
13.	Formwork foundation & structure stable & with no deformity?	☑	☐	☐	
14.	Hazardous substances and dangerous goods are stored in appropriate location and manner?	☑	☐	☐	
15.	Hazardous work areas barricaded and sign-posted to restrict entry of unauthorised persons?	☑	☐	☐	
16.	Excavation areas correctly shored, benched, battered/ supported?	☑	☐	☐	
17.	Is there edge protection where there is potential for falls into any open pits, trenches or falls that can be hazardous.	☐	☐	☑	
18.	Sediment control devices are in place and effective?	☑	☐	☐	
19.	Dust control devices are in place and effective?	☑	☐	☐	
20.	No excessive noise generated from site?	☑	☐	☐	
21.	All persons on site are wearing appropriate PPE?	☑	☐	☐	
22.	Visual inspection of waterways (clean from debris & construction turbidity)?	☑	☐	☐	

HASLIN

Daily Site Safety & Environmental Inspection

SEQ-CL-004

Project: SWMP Marrickville Station

To be completed by Site Manager or delegated person daily

Project / Site Inspected: Marrickville MSB

Inspection undertaken by: George Giahoumatos

Date: 28/02/2022 Time: 09:00 Signature: GG

Item No.	Aspect	Compliance Yes	No	N/A	Comment
1.	Has all issues raised in previous inspection been addressed/closed out?	☑	☐	☐	
1.a	Site clean and tidy?	☑	☐	☐	
2.	Safety and warning signs are in place and appropriate?	☑	☐	☐	
3.	All persons on site attended Site Safety Induction?	☑	☐	☐	
4.	Licences and certificates of plant operators and other trade professionals verified (e.g. Crane Operator Licence)?	☑	☐	☐	
5.	Permit to Work issued by Authorised Person for the conduct of hazardous work activities (e.g. Confined Space Work, Excavations)?	☑	☐	☐	
6.	SWMS received, reviewed and authorised for all on-going works?	☑	☐	☐	
7.	Sub-contractors complying with SWMS requirements?	☑	☐	☐	
8.	Relevant personnel attended Daily Pre-start Briefing?	☑	☐	☐	
9.	Plant & equipment used on site are fully functional & fit for the purpose?	☑	☐	☐	
10.	Defective plant and equipment are tagged and isolated?	☐	☐	☑	
11.	Plant and equipment inspected as per schedule?	☑	☐	☐	
12.	Scaffolds & elevated work platforms inspected by a competent person?	☑	☐	☐	Kurt has inspected
13.	Formwork foundation & structure stable & with no deformity?	☐	☐	☑	
14.	Hazardous substances and dangerous goods are stored in appropriate location and manner?	☐	☐	☑	
15.	Hazardous work areas barricaded and sign-posted to restrict entry of unauthorised persons?	☐	☐	☑	
16.	Excavation areas correctly shored, benched, battered/ supported?	☑	☐	☐	VLX Shored
17.	Is there edge protection where there is potential for falls into any open pits, trenches or falls that can be hazardous.	☑	☐	☐	VLX is delineated and protected
18.	Sediment control devices are in place and effective?	☑	☐	☐	Sed control along Victoria Road restored
19.	Dust control devices are in place and effective?	☐	☐	☑	
20.	No excessive noise generated from site?	☐	☑	☐	Excavator operated for a 5min period noisy works and stopped
21.	All persons on site are wearing appropriate PPE?	☑	☐	☐	

Daily Site Safety & Environmental Inspection

HASLIN

SEQ-CL-004

Project: Marrickville Station Upgrade

To be completed by Site Manager or delegated person daily

Project / Site Inspected: Marrickville Station Concourse Area and Station Building (FIP Electrical)

Inspection undertaken by: Kurt Wormleaton

Date: 15.09.2021 Time: 12.40pm Signature:

Item No.	Aspect	Compliance Yes	No	N/A	Comment
1.	Has all issues raised in previous inspection been addressed/closed out?	☒	☐	☐	
1.a	Site clean and tidy? i.e. rubbish and debris being stored correctly and secured	☒	☐	☐	Contractors where Cleaning up there work area as they went.
2.	Safety and warning signs are in place and appropriate? Site security being maintained i.e. Gates and Doors closed	☒	☐	☐	Contractor had work area barricaded of to make area safe.
3.	All persons on site attended Site Safety Induction?	☒	☐	☐	All Personnel Site inducted
4.	Licences and certificates of plant operators and other trade professionals verified (e.g. Crane Operator Licence)?	☒	☐	☐	Electrical Trades Verified
5.	Permit to Work issued by Authorised Person for the conduct of hazardous work activities (e.g. Confined Space Work, Excavations)?	☒	☐	☐	Electrical works and confined space works
6.	SWMS received, reviewed and authorised for all on-going works?	☒	☐	☐	SWMS Signed by all workers onsite
7.	Sub-contractors complying with SWMS requirements?	☒	☐	☐	
8.	Relevant personnel attended Daily Pre-start Briefing?	☒	☐	☐	All FIP Staff attended prestart and Rapid Antigen Testing
9.	Plant & equipment used on site are fully functional & fit for the purpose? i.e. Plant cabs are closed when being operated, Air Conditioning operational	☒	☐	☐	All hand tools tested and tagged
10.	Defective plant and equipment are tagged and isolated? i.e. cab windows or doors don't close or AC is not operational.	☐	☐	☒	No Defect Plant onsite at the time
11.	Plant and equipment inspected as per schedule including daily Plant Prestart Inspections?	☐	☐	☒	
12.	Scaffolds & elevated work platforms inspected by a competent person?	☐	☐	☒	
13.	Formwork foundation & structure stable & with no deformity?	☐	☐	☒	
14.	Hazardous substances and dangerous goods are stored in appropriate location and manner?	☒	☐	☐	
15.	Hazardous work areas barricaded and sign-posted to restrict entry of unauthorised persons?	☒	☐	☐	
16.	Excavation areas correctly shored, benched, battered/ supported?	☐	☐	☒	
17.	Is there edge protection where there is potential for falls into any open pits, trenches or falls that can be hazardous.	☐	☐	☒	
18.	Sediment control devices are in place and effective?	☒	☐	☐	
19.	Dust control devices are in place and effective? i.e. Dust being suppressed, workers cleaned shaven when wearing RPE	☐	☐	☒	
20.	No excessive noise generated from site?	☐	☒	☐	
21.	All persons on site are wearing appropriate PPE? i.e. working with, near or adjacent to plant and equipment, Wearing Hearing protection and RPE including being cleaned Clean shaven when wearing RPE	☒	☐	☐	
22.	Visual inspection of waterways (clean from debris & construction turbidity)?	☐	☐	☒	

HASLIN

Daily Site Safety & Environmental Inspection

SEQ-CL-004

Project: Marrickville Station Upgrade

To be completed by Site Manager or delegated person daily

Project / Site Inspected: Marrickville Station Platform Zero (Brefini)

Inspection undertaken by: Kurt Wormleaton

Date: 15.09.2021 Time: 1.20pm Signature:

Item No.	Aspect	Compliance Yes	No	N/A	Comment
1.	Has all issues raised in previous inspection been addressed/closed out?	☒	☐	☐	
1.a	Site clean and tidy? i.e. rubbish and debris being stored correctly and secured	☒	☐	☐	Contractors where Cleaning up there work area as they went.
2.	Safety and warning signs are in place and appropriate? Site security being maintained i.e. Gates and Doors closed	☒	☐	☐	Contractor had work area barricaded of to make area safe.
3.	All persons on site attended Site Safety Induction?	☒	☐	☐	All Personnel Site inducted
4.	Licences and certificates of plant operators and other trade professionals verified (e.g. Crane Operator Licence)?	☒	☐	☐	VOC Verified
5.	Permit to Work issued by Authorised Person for the conduct of hazardous work activities (e.g. Confined Space Work, Excavations)?	☒	☐	☐	Excavation Permit inspected
6.	SWMS received, reviewed and authorised for all on-going works?	☒	☐	☐	SWMS Signed by all workers onsite
7.	Sub-contractors complying with SWMS requirements?	☒	☐	☐	
8.	Relevant personnel attended Daily Pre-start Briefing?	☒	☐	☐	All Brefini Staff attended prestart and Rapid Antigen Testing
9.	Plant & equipment used on site are fully functional & fit for the purpose? i.e. Plant cabs are closed when being operated, Air Conditioning operational	☒	☐	☐	Plant being operated appropriately
10.	Defective plant and equipment are tagged and isolated? I.e. cab windows or doors don't close or AC is not operational.	☐	☐	☒	No Defect Plant onsite at the time
11.	Plant and equipment inspected as per schedule including daily Plant Prestart Inspections?	☒	☐	☐	Prestart visually inspected
12.	Scaffolds & elevated work platforms inspected by a competent person?	☐	☐	☒	
13.	Formwork foundation & structure stable & with no deformity?	☐	☐	☒	
14.	Hazardous substances and dangerous goods are stored in appropriate location and manner?	☒	☐	☐	
15.	Hazardous work areas barricaded and sign-posted to restrict entry of unauthorised persons?	☒	☐	☐	Pile board walkway in place
16.	Excavation areas correctly shored, benched, battered/ supported?	☒	☐	☐	
17.	Is there edge protection where there is potential for falls into any open pits, trenches or falls that can be hazardous.	☒	☐	☐	
18.	Sediment control devices are in place and effective?	☒	☐	☐	
19.	Dust control devices are in place and effective? i.e. Dust being suppressed, workers cleaned shaven when wearing RPE	☐	☐	☒	
20.	No excessive noise generated from site?	☐	☒	☐	
21.	All persons on site are wearing appropriate PPE? i.e. working with, near or adjacent to plant and equipment, Wearing Hearing protection and RPE including being cleaned Clean shaven when wearing RPE	☒	☐	☐	
22.	Visual inspection of waterways (clean from debris & construction turbidity)?	☐	☐	☒	

HASLIN

Daily Site Safety & Environmental Inspection

SEQ-CL-004

Project: ~~SWMH~~ SYDNEY METRO MARRICKVILLE.

To be completed by Site Manager or delegated person daily

Project / Site Inspected: MARRICKVILLE STATION.

Inspection undertaken by: JOE RAPISARDA

Date: 16/10/21 Time: 2.36 p.m Signature:

Item No.	Aspect	Compliance Yes	No	N/A	Comment
1.	Has all issues raised in previous inspection been addressed/closed out?	☐	☐	☑	
1.a	Site clean and tidy?	☑	☐	☐	
2.	Safety and warning signs are in place and appropriate?	☑	☐	☐	WATER DAMPING SIGNAGE IN PLACE.
3.	All persons on site attended Site Safety Induction?	☑	☐	☐	
4.	Licences and certificates of plant operators and other trade professionals verified (e.g. Crane Operator Licence)?	☑	☐	☐	
5.	Permit to Work issued by Authorised Person for the conduct of hazardous work activities (e.g. Confined Space Work, Excavations)?	☑	☐	☐	ALL EXCAVATION PERMITS IN PLACE & PLANT OPERATORS SIGNED IN
6.	SWMS received, reviewed and authorised for all on-going works?	☑	☐	☐	
7.	Sub-contractors complying with SWMS requirements?	☑	☐	☐	HARD HAT, VEST & SAFETY GLASSES BEING WORN.
8.	Relevant personnel attended Daily Pre-start Briefing?	☑	☐	☐	
9.	Plant & equipment used on site are fully functional & fit for the purpose?	☑	☐	☐	
10.	Defective plant and equipment are tagged and isolated?	☐	☐	☑	
11.	Plant and equipment inspected as per schedule?	☑	☐	☐	
12.	Scaffolds & elevated work platforms inspected by a competent person?	☑	☐	☐	WATCHED DE DUST & THEY COMPLY.
13.	Formwork foundation & structure stable & with no deformity?	☐	☐	☑	
14.	Hazardous substances and dangerous goods are stored in appropriate location and manner?	☐	☐	☑	
15.	Hazardous work areas barricaded and sign-posted to restrict entry of unauthorised persons?	☐	☐	☑	
16.	Excavation areas correctly shored, benched, battered/ supported?	☐	☐	☑	
17.	Is there edge protection where there is potential for falls into any open pits, trenches or falls that can be hazardous.	☐	☐	☑	
18.	Sediment control devices are in place and effective?	☑	☐	☐	
19.	Dust control devices are in place and effective?	☑	☐	☐	DUST STILL WET FROM PREVIOUS RAIN.
20.	No excessive noise generated from site?	☑	☐	☐	
21.	All persons on site are wearing appropriate PPE?	☑	☐	☐	
22.	Visual inspection of waterways (clean from debris & construction turbidity)?	☑	☐	☐	

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Daily Site Safety & Environmental Inspection

SEQ-CL-004

Project: SWMG Marrickville Station

To be completed by Site Manager or delegated person daily

Project / Site Inspected: Marrickville Station

Inspection undertaken by:

Date: 13/11/2024 Time: 10:00 Signature:

Item No.	Aspect	Compliance Yes	No	N/A	Comment
1.	Has all issues raised in previous inspection been addressed/closed out?	☑	☐	☐	
1.a	Site clean and tidy?	☑	☐	☐	
2.	Safety and warning signs are in place and appropriate?	☑	☐	☐	Safety sign on platform 1 building instructed to be reinstated
3.	All persons on site attended Site Safety Induction?	☑	☐	☐	No new workers
4.	Licences and certificates of plant operators and other trade professionals verified (e.g. Crane Operator Licence)?	☑	☐	☐	
5.	Permit to Work issued by Authorised Person for the conduct of hazardous work activities (e.g. Confined Space Work, Excavations)?	☑	☐	☐	
6.	SWMS received, reviewed and authorised for all on-going works?	☑	☐	☐	
7.	Sub-contractors complying with SWMS requirements?	☑	☐	☐	PPE (safety glasses) enforced for 1 worker
8.	Relevant personnel attended Daily Pre-start Briefing?	☑	☐	☐	
9.	Plant & equipment used on site are fully functional & fit for the purpose?	☑	☐	☐	
10.	Defective plant and equipment are tagged and isolated?	☐	☐	☑	
11.	Plant and equipment inspected as per schedule?	☑	☐	☐	
12.	Scaffolds & elevated work platforms inspected by a competent person?	☑	☐	☐	Scaffold inspection conducted
13.	Formwork foundation & structure stable & with no deformity?	☑	☐	☐	
14.	Hazardous substances and dangerous goods are stored in appropriate location and manner?	☐	☐	☑	
15.	Hazardous work areas barricaded and sign-posted to restrict entry of unauthorised persons?	☐	☐	☑	
16.	Excavation areas correctly shored, benched, battered/ supported?	☑	☐	☐	
17.	Is there edge protection where there is potential for falls into any open pits, trenches or falls that can be hazardous.	☑	☐	☐	
18.	Sediment control devices are in place and effective?	☑	☐	☐	Sediment control at Riverdale and
19.	Dust control devices are in place and effective?	☐	☐	☑	
20.	No excessive noise generated from site?	☐	☐	☑	
21.	All persons on site are wearing appropriate PPE?	☑	☐	☐	PPE was enforced per above

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Daily Site Safety & Environmental Inspection

SEQ-CL-004

Project: SWM4 Marrickville

To be completed by Site Manager or delegated person daily

Project / Site Inspected: Marrickville MSB

Inspection undertaken by: Mitch Broughton

Date: 27/11/2016 Time: 12:00 Signature:

Item No.	Aspect	Compliance Yes	No	N/A	Comment
1.	Has all issues raised in previous inspection been addressed/closed out?	☐	☐	☑	
1.a	Site clean and tidy?	☑	☐	☐	MSB cleaned
2.	Safety and warning signs are in place and appropriate?	☑	☐	☐	
3.	All persons on site attended Site Safety Induction?	☑	☐	☐	
4.	Licences and certificates of plant operators and other trade professionals verified (e.g. Crane Operator Licence)?	☑	☐	☐	
5.	Permit to Work issued by Authorised Person for the conduct of hazardous work activities (e.g. Confined Space Work, Excavations)?	☑	☐	☐	Hot works issued
6.	SWMS received, reviewed and authorised for all on-going works?	☑	☐	☐	
7.	Sub-contractors complying with SWMS requirements?	☑	☐	☐	
8.	Relevant personnel attended Daily Pre-start Briefing?	☐	☑	☐	1 worker was instructed to go and get briefed
9.	Plant & equipment used on site are fully functional & fit for the purpose?	☑	☐	☐	
10.	Defective plant and equipment are tagged and isolated?	☐	☐	☑	
11.	Plant and equipment inspected as per schedule?	☑	☐	☑	
12.	Scaffolds & elevated work platforms inspected by a competent person?	☑	☐	☐	
13.	Formwork foundation & structure stable & with no deformity?	☑	☐	☐	MSB formwork solid and stable
14.	Hazardous substances and dangerous goods are stored in appropriate location and manner?	☑	☐	☐	
15.	Hazardous work areas barricaded and sign-posted to restrict entry of unauthorised persons?	☑	☐	☐	
16.	Excavation areas correctly shored, benched, battered/ supported?	☐	☐	☑	
17.	Is there edge protection where there is potential for falls into any open pits, trenches or falls that can be hazardous.	☑	☐	☐	
18.	Sediment control devices are in place and effective?	☑	☐	☐	Sediment control along Victoria Road
19.	Dust control devices are in place and effective?	☑	☐	☐	
20.	No excessive noise generated from site?	☐	☐	☑	
21.	All persons on site are wearing appropriate PPE?	☑	☐	☐	PPE enforced

Daily Site Safety & Environmental Inspection

HASLIN

SEQ-CL-004

Project: SWM4 - Marrickville Station

To be completed by Site Manager or delegated person daily

Project / Site Inspected: Marrickville MSB

Inspection undertaken by: George Giakoumatos

Date: 12/12/21 Time: 16:00 Signature: Giakoumatos

Item No.	Aspect	Compliance Yes	No	N/A	Comment
1.	Has all issues raised in previous inspection been addressed/closed out?	☐	☐	☑	
1.a	Site clean and tidy?	☑	☐	☐	
2.	Safety and warning signs are in place and appropriate?	☑	☐	☐	
3.	All persons on site attended Site Safety Induction?	☑	☐	☐	
4.	Licences and certificates of plant operators and other trade professionals verified (e.g. Crane Operator Licence)?	☑	☐	☐	
5.	Permit to Work issued by Authorised Person for the conduct of hazardous work activities (e.g. Confined Space Work, Excavations)?	☑	☐	☐	
6.	SWMS received, reviewed and authorised for all on-going works?	☑	☐	☐	
7.	Sub-contractors complying with SWMS requirements?	☑	☐	☐	
8.	Relevant personnel attended Daily Pre-start Briefing?	☑	☐	☐	
9.	Plant & equipment used on site are fully functional & fit for the purpose?	☑	☐	☐	
10.	Defective plant and equipment are tagged and isolated?	☐	☐	☑	
11.	Plant and equipment inspected as per schedule?	☑	☐	☐	
12.	Scaffolds & elevated work platforms inspected by a competent person?	☑	☐	☐	
13.	Formwork foundation & structure stable & with no deformity?	☑	☐	☐	MSB slab formwork verified by temp works engineer
14.	Hazardous substances and dangerous goods are stored in appropriate location and manner?	☐	☐	☑	
15.	Hazardous work areas barricaded and sign-posted to restrict entry of unauthorised persons?	☐	☐	☑	
16.	Excavation areas correctly shored, benched, battered/ supported?	☐	☐	☑	
17.	Is there edge protection where there is potential for falls into any open pits, trenches or falls that can be hazardous.	☑	☐	☐	
18.	Sediment control devices are in place and effective?	☑	☐	☐	Victoria Road drain sandbagged and cleaned earlier in day
19.	Dust control devices are in place and effective?	☑	☐	☐	
20.	No excessive noise generated from site?	☐	☐	☑	
21.	All persons on site are wearing appropriate PPE?	☑	☐	☐	

HASLIN

Daily Site Safety & Environmental Inspection

SEQ-CL-004

Project: SWMS Marrickville Station

To be completed by Site Manager or delegated person daily

Project / Site Inspected: Marrickville MSB

Inspection undertaken by: Lewis Gallowmakers

Date: 29/12 Time: 0815 Signature:

Item No.	Aspect	Compliance Yes	No	N/A	Comment
1.	Has all issues raised in previous inspection been addressed/closed out?	☐	☐	☑	
1.a	Site clean and tidy?	☑	☐	☐	
2.	Safety and warning signs are in place and appropriate?	☑	☐	☐	
3.	All persons on site attended Site Safety Induction?	☐	☐	☑	
4.	Licences and certificates of plant operators and other trade professionals verified (e.g. Crane Operator Licence)?	☐	☐	☑	
5.	Permit to Work issued by Authorised Person for the conduct of hazardous work activities (e.g. Confined Space Work, Excavations)?	☐	☐	☑	
6.	SWMS received, reviewed and authorised for all on-going works?	☐	☐	☑	
7.	Sub-contractors complying with SWMS requirements?	☐	☐	☑	
8.	Relevant personnel attended Daily Pre-start Briefing?	☑	☐	☐	
9.	Plant & equipment used on site are fully functional & fit for the purpose?	☐	☐	☑	
10.	Defective plant and equipment are tagged and isolated?	☐	☐	☑	
11.	Plant and equipment inspected as per schedule?	☐	☐	☑	
12.	Scaffolds & elevated work platforms inspected by a competent person?	☐	☐	☑	
13.	Formwork foundation & structure stable & with no deformity?	☐	☐	☑	
14.	Hazardous substances and dangerous goods are stored in appropriate location and manner?	☐	☐	☑	
15.	Hazardous work areas barricaded and sign-posted to restrict entry of unauthorised persons?	☐	☐	☑	
16.	Excavation areas correctly shored, benched, battered/ supported?	☐	☐	☑	
17.	Is there edge protection where there is potential for falls into any open pits, trenches or falls that can be hazardous.	☑	☐	☐	
18.	Sediment control devices are in place and effective?	☑	☐	☐	Victoria Road drain/ kerb does not seem dirty
19.	Dust control devices are in place and effective?	☐	☐	☑	
20.	No excessive noise generated from site?	☐	☐	☑	
21.	All persons on site are wearing appropriate PPE?	☑	☐	☐	

HASLIN

Daily Site Safety & Environmental Inspection

SEQ-CL-004

Project: SWMP Marrickville Station

To be completed by Site Manager or delegated person daily

Project / Site Inspected: Marrickville Platform 1+2 + Station Street

Inspection undertaken by: George Chakoumakos

Date: 29/12/21 Time: 0800 Signature:

Item No.	Aspect	Compliance Yes	No	N/A	Comment
1.	Has all issues raised in previous inspection been addressed/closed out?	☐	☐	☑	
1.a	Site clean and tidy?	☑	☐	☐	
2.	Safety and warning signs are in place and appropriate?	☑	☐	☐	
3.	All persons on site attended Site Safety Induction?	☑	☐	☐	
4.	Licences and certificates of plant operators and other trade professionals verified (e.g. Crane Operator Licence)?	☐	☐	☑	
5.	Permit to Work issued by Authorised Person for the conduct of hazardous work activities (e.g. Confined Space Work, Excavations)?	☐	☐	☑	
6.	SWMS received, reviewed and authorised for all on-going works?	☑	☐	☐	
7.	Sub-contractors complying with SWMS requirements?	☑	☐	☐	Only PO's and traffic control here
8.	Relevant personnel attended Daily Pre-start Briefing?	☑	☐	☐	
9.	Plant & equipment used on site are fully functional & fit for the purpose?	☑	☐	☐	
10.	Defective plant and equipment are tagged and isolated?	☐	☐	☑	
11.	Plant and equipment inspected as per schedule?	☑	☐	☐	
12.	Scaffolds & elevated work platforms inspected by a competent person?	☐	☐	☑	
13.	Formwork foundation & structure stable & with no deformity?	☐	☐	☑	
14.	Hazardous substances and dangerous goods are stored in appropriate location and manner?	☐	☐	☑	
15.	Hazardous work areas barricaded and sign-posted to restrict entry of unauthorised persons?	☐	☐	☑	
16.	Excavation areas correctly shored, benched, battered/ supported?	☐	☐	☑	
17.	Is there edge protection where there is potential for falls into any open pits, trenches or falls that can be hazardous.	☐	☐	☑	
18.	Sediment control devices are in place and effective?	☑	☐	☐	
19.	Dust control devices are in place and effective?	☑	☐	☐	
20.	No excessive noise generated from site?	☑	☐	☐	Noise blankets are installed but won't be needed
21.	All persons on site are wearing appropriate PPE?	☑	☐	☐	PO and traffic control

Appendix B: HSEJV Dewatering Register

HSE JV Dewatering Register

Reference No.	Date	Site / Station	Type of Water	Quantity (L)	Sample Method	Laboratory Report No.	Oil & grease visable (Y/N)	pH	TSS (<50mg/L)	Turbidity (NTU)	Discharge proposal / resuse	Authorised by:	Date Approved	Notes	Link
HSE-PTD-003	28/09/2021	Canterbury	Surface	1600	Probe	ES2133958	N	7	N/A	N/A	Discharge to Land	Amy Taylor	28/09/2021	Oil/grease visible on surface of water in IBC (1000L per IBC). Lab test confirms no presence of oil/grease in bottom water. Water to be discharged using tap at bottom of IBC, with approx. 200L remaining to avoid discharge of oil/grease on surface. Remainder of water to be treated as liquid waste.	
HSE-PTD-005	26/11/2021	Lakemba	Surface	1000	N/A	N/A	N	8	N/A	N/A	Discharge to Land (rail corridor)	Jo-Ann Poole	26/11/2021		
HSE-PTD-006	29/11/2021	Lakemba	Surface	1000	N/A	N/A	N	8	N/A	N/A	Discharge to Land (rail corridor)	Jo-Ann Poole	29/11/2021		
HSE-PTD-007	1/12/2021	Lakemba	Surface	1000	N/A	N/A	N	8.4	N/A	N/A	Discharge to Land (rail corridor)	Jo-Ann Poole	1/12/2021		
HSE-PTD-008	2/12/2021	Lakemba	Surface	1000	N/A	N/A	N	8.4	N/A	N/A	Discharge to Land (rail corridor)	Jo-Ann Poole	2/12/2021		
HSE-PTD-009	13/12/2021	Lakemba	Surface	8000	N/A	N/A	N	8.2	N/A	N/A	Discharge to Land (rail corridor)	Jo-Ann Poole	13/12/2021		
HSE-PTD-010	12/01/2022	Lakemba	Surface	2000	N/A	N/A	N	7	N/A	N/A	Reuse on site	Jo-Ann Poole	12/01/2022		
HSE-PTD-011	14/01/2022	Lakemba	Surface	5000	N/A	N/A	N	7	N/A	N/A	Reuse on site (water barriers)	Jo-Ann Poole	14/01/2022		
HSE-PTD-012	20/01/2022	Lakemba	Surface	2000	N/A	N/A	N	7	N/A	N/A	Reuse on site	Jo-Ann Poole	20/01/2022		
HSE-PTD-013	1/02/2022	Lakemba	Surface	4000	N/A	N/A	N	7.5	N/A	N/A	Reuse on site (water barriers)	Jo-Ann Poole	1/02/2022		
HSE-PTD-014	20/02/2022	Lakemba	Surface	5000	N/A	N/A	N	7	N/A	N/A	Discharge to Land (rail corridor)	Jo-Ann Poole	20/01/2022		
HSE-PTD-015	23/02/2022	Lakemba	Surface	10000	N/A	N/A	N	7	N/A	N/A	Reuse on site (water barriers)	Jo-Ann Poole	23/02/2022		
HSE-PTD-016	28/02/2022	Lakemba	Surface	unknown	N/A	N/A	N	7.5	N/A	N/A	Reuse on site (water barriers)	Jo-Ann Poole	28/02/2022		

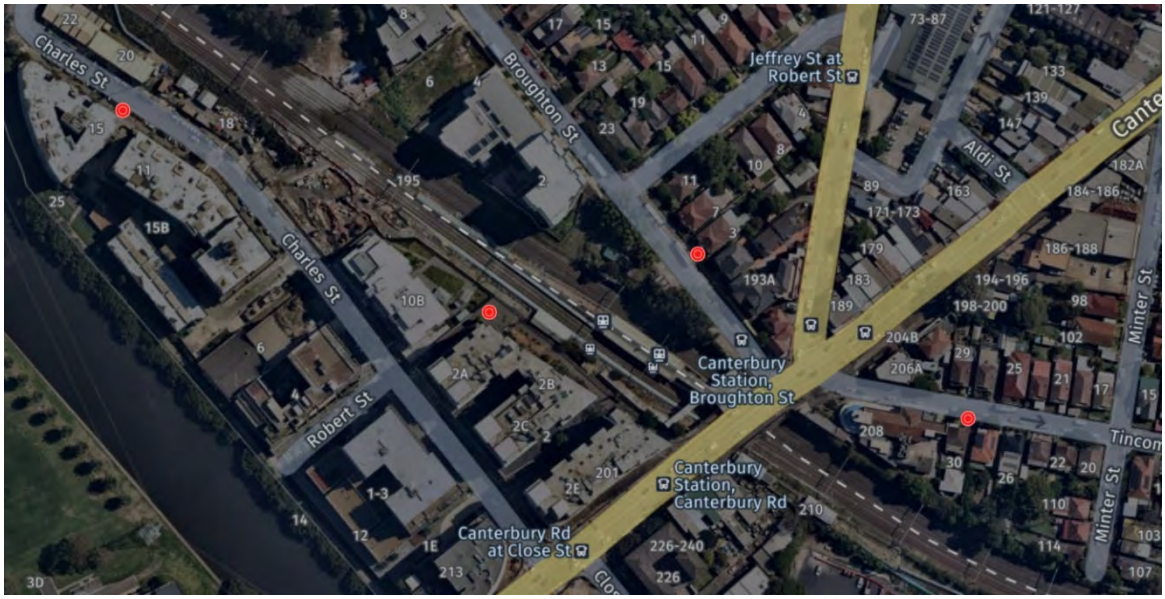
Appendix C: Noise Monitoring Locations

Lakemba:

- 15-19 Croydon Street, Lakemba
- 64 The Boulevarde, Lakemba
- 17 Railway Parade, Lakemba (near Quigg St North)
- 89 The Boulevarde, Lakemba

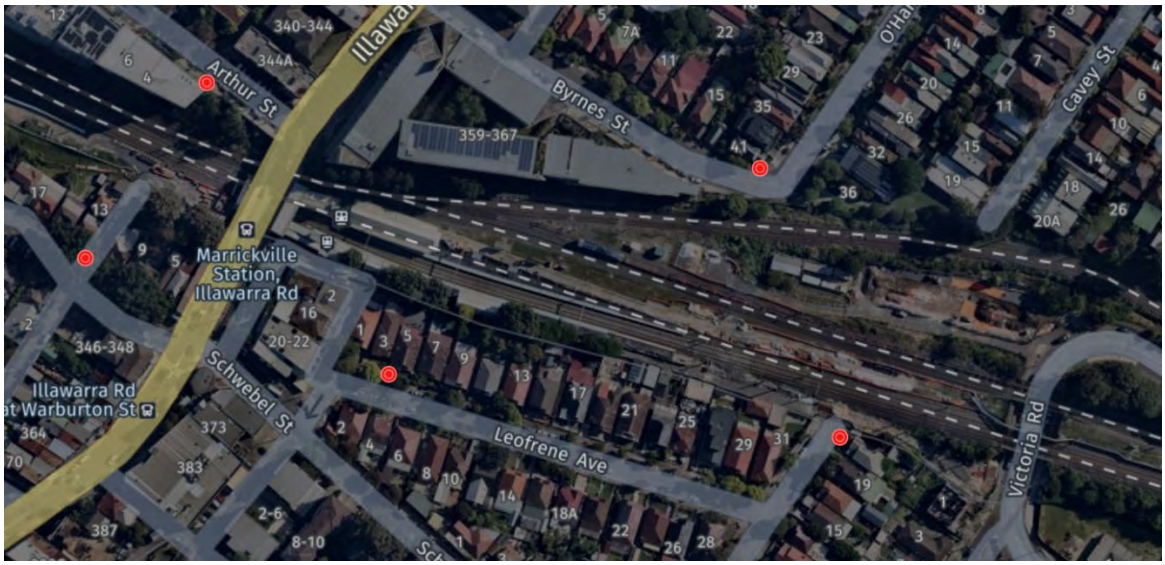
Canterbury:

- 3 Broughton Street, Canterbury
- 30 Tincombe Street, Canterbury
- 2 Charles Street, Canterbury
- 15 Charles Street Canterbury



Marrickville

- 13 Warburton Street, Marrickville
- 5 Leofrene Avenue, Marrickville
- 21 Riverdale Avenue, Marrickville
- 2 Arthur Street, Marrickville
- 41 O'Hara Street, Marrickville



Appendix D: HSEJV Noise Monitoring Register

Reporting Period	Type (Noise or Vibration)	Date	Time Started	Time Finished	Station	Description of Works	Monitorining Address	Predicted L_{Aeq}	Measured L_{Aeq}	Max L_{amax}	Measured Vibration PPV (mm/s)	Below Predicted Level Y/N	Was monitoring in response to a complaint?	Notes	Consultant	Link
WE16 - All Stations	Noise	16/10/2021	6:59:00 PM	19:14:00 PM	Lakemba	augering for pilling, 200t crane, dumpys, excavators and excavator with hammer audible on bridge	15 Croydon Street	78	64.5	78.7	N/A	Y	N		SIC	Lakemba 16.10.2021.pdf
	Noise	16/10/2021	7:31:00 PM	7:47:00 PM	Lakemba	**No audible/visable works from HSE JV**, Works were SSJ, moving ballast with 2x excavators, truck and lighting tower	15 Railway Parade	59	62.7	80.8	N/A	N, but works were another contractor. HSE JV was complient and inaudible from this location	N	Works were SSJ not HSE JV.		
	Noise	16/10/2021	8:11:00 PM	8:26:00 PM	Lakemba	pilling, excavating, platform ULX pit and crane	64 The Boulevarde	72	65.3	83.3	N/A	Y	N			
	Noise	16/10/2021	9:43:00 PM	9:58:00 PM	Canterbury	hydroblasting with pressure washer and compressor, power tools and excavator.	2 Charles Street	90	65.3	78.8	N/A	Y	N	less plant than modelled	SIC	WE16 Canterbury and Marrickville 16.10.2021.pdf
	Noise	16/10/2021	10:25:00 PM	10:40:00 PM	Canterbury	Plant movement between MSB and tracks, telehandler	15 Charles Street	80	57.8	79.7	N/A	Y	N			
	Noise	16/10/2021	10:59:00 PM	11:14:00 PM	Canterbury	Some hydro blasting and excavations on platform 01 and 2	2B Charles Street	90	64.6	76.8	N/A	Y	N	less plant than modelled		
	Noise	16/10/2021	11:28:00 PM	11:43:00 PM	Canterbury	platform excavations 0/1, excavators, generator.	2 Broughton Street	87	61.5	88.1	N/A	Y	N			
	Noise	17/10/2021	12:33:00 AM	12:48:00 AM	Marrickville	hydro demo	21 Riverdale Avenue	88	53.8	69.8	N/A	Y	N			
	Noise	17/10/2021	1:02:00 AM	1:17:00 AM	Marrickville	hydro demo	13 Warburton Street	77	55	67.1	N/A	Y	N			
	Noise	17/10/2021	1:27:00 AM	1:43:00 AM	Marrickville	hydro demo	2 Artur Street	81	56.9	69.2	N/A	Y	N			
	Noise	17/10/2021	2:30:00 AM	2:45:00 AM	Lakemba	spoil movements and piling, excavators, dumpys, roller, 200T crane	15 Croydon Street	78	64	85.4	N/A	Y	N			
	Noise	17/10/2021	3:01:00 AM	3:16:00 AM	Lakemba	lighting tower, crane, excavator	64 The Boulevarde ?	72	58.2	75.7	N/A	Y	N			
	Noise	17/10/2021	3:30:00 AM	3:45:00 AM	Lakemba	Concrete pour, agi, concrete truck, excavator	27 Denis Street (Railway Pde side)	70	63.2	84.9	N/A	Y	N	SSJ works nearby and most dominant noise source, HSE only used area for the concrete pour		
	Noise	17/10/2021	4:10:00 AM	4:25:00 AM	Marrickville	excavator in cess, hydro demo and dumpy	41 O'Hara Street	81	53.4	67.6	N/A	Y	N			
	Noise	17/10/2021	11:53:00 AM	12:08:00 PM	Canterbury	plant operation, material movement, quaker beeper alarms	2 Charles St	90	63.5	82.7	N/A	Y	N		SIC	WE16 Noise monitoring 17.10.2021
	Noise	17/10/2021	12:36:00 PM	12:51:00 PM	Canterbury	metal clanging. Plant operations and concrete truck	15 Chalres St	80	63.1	77	N/A	Y	N			
	Noise	17/10/2021	1:05:00 PM	1:20:00 PM	Canterbury	plant operation, material movement, quaker beeper alarms	30 Tincombe Street	70	50.8	74.2	N/A	Y	N	measurements heavily influenced by traffic noise		
	Noise	17/10/2021	1:40:00 PM	1:55:00 PM	Canterbury	plant operation, material movement, quaker beeper alarms	3 Broughton Street	81	64.5	83.5	N/A	Y	N	measurements heavily influenced by traffic noise		
	Noise	17/10/2021	3:35:00 PM	3:50:00 PM	Marrickville	plant operation, material movement, quaker beeper alarms, EWP relocating	13 Warburton Street	91	59.3	79..2	N/A	Y	N	2x aircrafts		
	Noise	17/10/2021	2:48:00 PM	3:03:00 PM	Marrickville	metal clanging, plant operation	5 Leofrene Avenue	84	59	87.4	N/A	Y	N	motorbike acceleration		
	Noise	17/10/2021	4:25:00 PM	4:40:00 PM	Marrickville	plant operation, material movement, quaker beeper alarms	41 O'Hara Street	78	63	95.8	N/A	Y	N	children screamed and laughed nearby		
	Noise	17/10/2021	3:55:00 PM	4:10:00 PM	Marrickville	hand tools	2 Arthur Street	88	58	81.5	N/A	Y	N	2x aircrafts		
	Noise	17/10/2021	2:26:00 PM	2:41:00 PM	Marrickville	Vac Truck	21 Riverdale Avenue	86	67.8	89.7	N/A	Y	N	birds loud near monitor		
	Noise	17/10/2021	5:36:00 PM	5:51:00 PM	Lakemba	plant operation, material movement, quaker beeper alarms, metal clamps	15 Croydon Street	79	59	74.2	N/A	Y	N	influenced by traffic		
	Noise	17/10/2021	5:55:00 PM	6:10:00 PM	Lakemba	metal clanging, saw cutting, concrete pump/truck	15 Railway Parade	67	59.2	77.9	N/A	Y	N	children screamed and laughed nearby, traffic controller near monitoring point		
	Noise	17/10/2021	6:30:00 PM	6:45:00 PM	Lakemba	plant operation, material movements, quaker beeper	The Boulevarde	73	64.7	88.3	N/A	Y	N	measurements heavily influenced by traffic (buses from train replacement)		
Week 16 Lakemba and Canterbury	Noise	18/10/2021	10:44:00 PM	10:59:00 PM	Lakemba	platform works with hand tools including drill, shovels, recipricsal saw	64 The Boulevarde	62	67.3	89.3	N/A	N, dominant noise was the traffic and street sweepers, busses were constant (every minute give or take) and 75-80dB, works were 49-57dB and works were compliant	N	Dominant noise was the traffic and street sweepers, busses were constant (every minute give or take) and 75-80dB, works were 49-57dB.		SIC	WK16_LAK and CAN\18.10.2021 LAK & CAN.pdf
	Noise	18/10/2021	11:08:00 PM	11:23:00 PM	Lakemba	platform works with hand tools including drill, shovels.	15 Croydon Street	71	66.5	96.6	N/A	Y	N			
	Noise	19/10/2021	1:04:00 AM	1:19:00 AM	Canterbury	material movement using hi-rail crane and trolly	3 Broughton Street	67	53.4	73	N/A	Y	N	abergeldie works happening concurently and most dominant for the first few minutes		
	Noise	19/10/2021	1:25:00 AM	1:40:00 AM	Canterbury	material movement using hi-rail crane and trolly	30 Tincombe Street	54	44.2	55.8	N/A	Y	N	dominant noise is Canterbury Rd traffic, HSE JV works almost inaudible		
	Noise	19/10/2021	1:56:00 AM	2:11:00 AM	Canterbury	material movement using hi-rail crane and trolly and pozzi track	15 Charles Street	84	57	83.8	N/A	Y	N	loudest noise was car exhust		
	Noise	19/10/2021	2:17:00 AM	2:32:00 AM	Canterbury	material movement using hi-rail crane and trolly	2 Charles Street	80	64.3	78.8	N/A	Y	N			

Reporting Period	Type (Noise or Vibration)	Date	Time Started	Time Finished	Station	Description of Works	Monitorining Address	Predicted L_{Aeq}	Measured L_{Aeq}	Max L_{amax}	Measured Vibration PPV (mm/s)	Below Predicted Level Y/N	Was monitoring in response to a complaint?	Notes	Consultant	Link
WE17 - All Stations	Noise	23/10/2021	9:55:00 PM	10:20:00 PM	Canterbury	3x lighting towers, 2x dumpers, sand blasting equipment, tele handler, EWP, generator, 13T excavotor	2 Charles Street	90	71.5	84.2	N/A	Y	N	some very light rainfall (2mm) picked up in minute 14.	SIC	WE17 Noise Monitoring 2310 CAN
	Noise	23/10/2021	10:20:00 PM	10:35:00 PM	Canterbury	excavator	15 Charles Street	80	63	79.6	N/A	Y	N	light rainfall (3mm), low thunder rumbles		
	Noise	23/10/2021	11:08:00 PM	11:23:00 PM	Canterbury	Sand Blasting, hand tools including sawing and drilling	2 Broughton Street	87	55.8	71.7	N/A	Y	N			
	Noise	23/10/2021	6:06:00 AM	6:21:00 AM	Marrickville	5t excavator	41 O'Hara Street	81	49	67	N/A	Y	N		RENZO TONIN & ASSOCIATES	WE17 Marrickville and Lakemba Station Noise Monitoring Report (r2).pdf
	Noise	23/10/2021	7:25:00 AM	7:40:00 AM	Lakemba	2T excavator, 5t excavator and tipper	15 Croydon Street	77	62	75	N/A	Y	N			
	Noise	23/10/2021	7:51:00 AM	8:06:00 AM	Lakemba	2T excavator with bucket attachment, 3T excavator, 5T excavator, tipper truck	64 The Boulevarde	71	65	85	N/A	Y	N			
	Noise	23/10/2021	11:01:00 PM	11:16:00 PM	Lakemba	13.5T Telehandler	15 Croydon Street	78	59	87	N/A	Y	N			
	Noise	23/10/2021	11:52:00 PM	12:07:00 AM	Lakemba	13T telehandler, 5T telehandler, 1.5T telehandler1	16 Railway Parade	59	49	69	N/A	Y	N			
	Noise	24/10/2021	12:23:00 AM	12:38:00 AM	Lakemba	13.5T telehandler, 8T telehandler, 4T telehandler	63 The Boulevarde	74	61	79	N/A	Y	N			
	Noise	24/10/2021	1:50:00 AM	2:05:00 AM	Marrickville	Lighting tower	3 Leofrene Avenue	85	46	65	N/A	Y	N	Works did not take place due to faulty equipment		
WE19 - All Stations	Noise	6/11/2021	10:52:00 AM	11:08:00 AM	Lakemba	5t excavator with hammer, hydrema	15 Croydon St	86	70.7	81.6	N/A	Y	N		SIC	211106 LAK (SH).pdf
	Noise	6/11/2021	11:17:00 AM	11:32:00 AM	Lakemba	5t excavator with hammer and dump truck	64 The Boulevarde	87	65.3	74	N/A	Y	N			
	Noise	7/11/2021	4:46:00 AM	5:01:00 AM	Marrickville	excavator + dumpy and hand/power tools	41 O'Hara Street	67	47.4	67.5	N/A	Y	N		SIC	211107_MAR (P2).pdf
	Noise	7/11/2021	5:11:00 AM	5:26:00 AM	Marrickville	no works in this area (cancelled)	2 Artur Street	91	52.3	74	N/A	Y	N	Noise measurements dominated by birds		
	Noise	7/11/2021	5:44:00 AM	5:59:00 AM	Marrickville	works in distance	21 Riverdale Avenue	91	52.3	74.1	N/A	Y	N	Max noise measured was a crow. Some plant entering but not during measurement, construction works near platform were dominant noise source.		
	Noise	7/11/2021	6:04:00 AM	6:19:00 AM	Marrickville	excavator and dumpy moving, hand tools and power tools audible	5 Leofrene Ave	67	56.1	70.4	N/A	Y	N			
	Noise	7/11/2021	10:04:00 AM	10:19:00 AM	Marrickville	asphalt delivery	21 Riverdale Avenue	91	96.5	98.8	N/A	N*	N	*Asphalt was delivered, truck was unloaded. It was approx. 1m away from the monitor. ARTC Train passed.	SIC	211107 Noise monitoring summary.xlsx
	Noise	7/11/2021	10:25:00 AM	10:40:00 AM	Marrickville	plant operation, material movements, quaker beeper alarm	5 Leofrene Avenue	69	62.6	68.9	N/A	Y	N			
	Noise	7/11/2021	11:30:00 AM	11:45:00 AM	Marrickville	no works in this area	13 Warburton Street	67	64.9	67.8	N/A	Y	N	Measurements influenced by people talking		
	Noise	7/11/2021	11:51:00 AM	12:06:00 PM	Marrickville		2 Arthur Street	-	-	-	N/A	-	N	Measurement invalid due to rain		
	Noise	7/11/2021	12:24:00 PM	12:39:00 PM	Marrickville	No construction noise audible	41 O'Hara Street	-	-	-	N/A	-	N	Measurement invalid due to rain		
	Noise	7/11/2021	1:08:00 PM	1:23:00 PM	Canterbury	plant operation and material movements	3 Broughton Street	-	-	-	N/A	-	N	Measurement invalid due to rain		
	Noise	7/11/2021	1:34:00 PM	1:49:00 PM	Canterbury	no construction works audible	30 Tincombe Street	72	61.7	68.8	N/A	Y	N	Dominant noise was traffic on Canterbury Road.		
	Noise	6/11/2021	10:38:00 PM	10:53:00 PM	Lakemba	2 excavators, hydremas, vacuum truck, hand tools	15 Croydon Street	78	61	74	N/A	Y	N		RENZO TONIN & ASSOCIATES	WE19 Noise and Vibration Monitoring Report (r1).pdf
	Noise	6/11/2021	11:05:00 PM	11:20:00 PM	Lakemba	2 excavators	15 Railway Parade	61	54	70	N/A	Y	N			
	Noise	6/11/2021	11:29:00 PM	11:44:00 PM	Lakemba	Vacuum Truck	64 The Boulevarde	74	75	82	N/A	Y	N	Heavily impacted by traffic noise		
	Noise	7/11/2021				Gerni high pressure washer, hand tools	2 Charles Street	85	62	73	N/A	Y	N			
	Noise	7/11/2021	11:00:00 AM	2:00:00 AM (7/11/2021)	Canterbury and Lakemba Stations	Gerni high pressure washer, hand tools	3 Broughton Street	75	56	68	N/A	Y	N	Awaiting RENZO tonin monitoring report		
WE25 - All Stations	Noise	18/12/2021	10:32:00 PM	10:47:00 PM	Lakemba	Excavators, Hydrema, bobcat, light vehicles, lighting towers and handtools	15 Croydon St, Lakemba	65	59.5	89.7	N/A	Y	N	Heavy wind and rain Saturday night, only one measurement was feasible	SIC	WE25-LAK 20211218
	Noise	19/12/2021	8:44:00 AM	8:59:00 AM	Lakemba	EXCAVATORS, CONCRETE TRUCKS AND PUMPS, DUMPERS, EXCAVATORS WITH HAMMER AND AUGER, POWER HAND TOOLS	15 Croydon Street, Lakemba	80	62.5	73.1	N/A	Y	N		SIC	WE25 20211219
	Noise	19/12/2021	9:10:00 AM	9:25:00 AM	Lakemba	EXCAVATORS, CONCRETE TRUCKS AND PUMPS, DUMPERS, EXCAVATORS WITH HAMMER AND AUGER, POWER HAND TOOLS	19 Railway Parade, Lakemba	64	55.9	74	N/A	Y	N	Influenced by traffic	SIC	
	Noise	19/12/2021	9:53:00 AM	10:08:00 AM	Lakemba	EXCAVATORS, CONCRETE TRUCKS AND PUMPS, DUMPERS, EXCAVATORS WITH HAMMER AND AUGER, POWER HAND TOOLS	64 The Boulevarde, Lakemba	75	65.2	85	N/A	Y	N	Influenced by traffic	SIC	
	Noise	19/12/2021	10:43:00 AM	10:58:00 AM	Canterbury	EXCAVATORS, VACK TRUCK, TELEHANDLERS, EXCAVATOR WITH HAMMER, POWER HAND TOOLS	3 Broughton Street, Cantebury	80	67.6	83	N/A	Y	N	Influenced by traffic	SIC	

Reporting Period	Type (Noise or Vibration)	Date	Time Started	Time Finished	Station	Description of Works	Monitorining Address	Predicted L_{Aeq}	Measured L_{Aeq}	Max L_{amax}	Measured Vibration PPV (mm/s)	Below Predicted Level Y/N	Was monitoring in response to a complaint?	Notes	Consultant	Link
	Noise	19/12/2021	11:31:00 AM	11:46:00 AM	Canterbury	EXCAVATORS, VACK TRUCK, TELEHANDLERS, EXCAVATOR WITH HAMMER, POWER HAND TOOLS	30 Tincombe Street, Canterbury	69	56.6	71.1	N/A	Y	N	Influenced by traffic	SIC	
	Noise	19/12/2021	11:56:00 AM	12:10:00 PM	Canterbury	EXCAVATORS, VACK TRUCK, TELEHANDLERS, EXCAVATOR WITH HAMMER, POWER HAND TOOLS	15 Charles Street, Canterbury	83	66.6	81.8	N/A	Y	N		SIC	
	Noise	19/12/2021	12:14:00 PM	12:29:00 PM	Canterbury	EXCAVATORS, VACK TRUCK, TELEHANDLERS, EXCAVATOR WITH HAMMER, POWER HAND TOOLS	2 Charles Street, Canterbury	85	65	78.4	N/A	Y	N	Works were not audible, influenced by traffic	SIC	
	Noise	26/12/2021	1:16:00 PM	1:31:00 PM	Lakemba	Moving/reversing truck, excavators, grinder	15-19 Croydon Street, Lakemba	80	59.7	59.7	N/A	Y	N		SIC	Noise monitoring lakemba 26_12_21.pdf
	Noise	26/12/2021	1:53:00 PM	2:08:00 PM	Lakemba	Construction works inaudible	19 Railway Parade, Lakemba	76	55.7	76.9	N/A	Y	N	Car noise, a scooter, pedestrians talking, birds and leaf blower	SIC	
	Noise	26/12/2021	2:28:00 PM	2:43:00 PM	Lakemba	grinder,	64 The Boulevarde, Lakemba	80	62.6	83.8	N/A	Y	N	Noise – non project related. Traffic (car, bus and motorbike), pedestrians talking, doors slamming.	SIC	
	Noise	26/12/2021	2:50:00 PM	3:05:00 PM	Lakemba	Construction works inaudible	89 The Boulevarde, Wiley Park	68	56.8	71.5	N/A	Y	N	Works inaudible. Noise from traffic (car and buses passing) and birds.	SIC	
	Noise	27/12/2021	12:25:00 AM	12:40:00 AM	Lakemba	saw cutting, excavator hammering, scraping, and loading bitumen. Hydrema on hi-rail reversing and power tools	15-19 Croydon Street, Lakemba	80	63.2	80	N/A	Y	N		SIC	Noise monitoring 20211226
	Noise	27/12/2021	1:00:00 AM	1:15:00 AM	Lakemba	No works in close vicinity, rock hammering in far distance	19 Railway Parade, Lakemba	79	69.1	100.1	N/A	Y	N	No works in immediate area between Quigg St N and Dennis St. Traffic noise on The Boulevarde, car driving by, insect noises and rock hammering in far distance at the station (works audible).	SIC	
	Noise	27/12/2021	1:17:00 AM	1:32:00 AM	Lakemba	Excavator moving, dump truck reversing, excavator hammering, car passing by and car idling	64 The Boulevarde, Lakemba	79	62.2	78.1	N/A	Y	N	Influenced by traffic	SIC	
	Noise	27/12/2021	1:51:00 AM	2:06:00 AM	Lakemba	Lighting tower	89 The Boulevarde, Wiley Park	71	65.3	94.8	N/A	Y	N	train replacement buses passing, car passing and in distance.	SIC	
	Noise	27/12/2021	8:59:00 AM	9:14:00 AM	Lakemba	vac truck/ reverse beeper form dumpy and hand / power tools	15-19 Croydon Street, Lakemba	82	64	85.8	N/A	Y	N	Monitoring was impacted by birds above the noise monitor	SIC	Noise monitoring 20211227_LAK_P1
	Noise	27/12/2021	9:21:00 AM	9:36:00 AM	Lakemba	excavator and dumpy moving / power tools	64 The Boulevarde, Lakemba	83.0	64.4	83.5	N/A	Y	N	Monitoring was affected by traffic (train replacement buses).	SIC	
	Noise	27/12/2021	9:48:00 AM	10:03:00 AM	Lakemba	A small excavator was operated on the tracks	89 The Boulevarde, Wiley Park	68	64.1	76	N/A	Y	N	Monitoring was affected by traffic (train replacement buses).	SIC	
	Noise	27/12/2021	11:27:00 PM	11:42:00 PM	Canterbury	water pump and excavator with bucket	2 Charles Street, Canterbury	87	66.2	79.6	N/A	Y	N	Works were descoped due to live HV. Rain affected monitoring at both CAN and LAK stations - only one reading was feasible	SIC	Noise monitoring 20211227
	Noise	28/12/2021	9:35:00 AM	9:50:00 AM	Lakemba	excavator, hydremas, saw, power tools, and bogie truck. Power tools/saw used on the country side of platform intermittently about 50-60m away	19 Railway Parade, Lakemba	82	66.8	74	N/A	Y	N		SIC	
	Noise	28/12/2021	9:55:00 AM	10:10:00 AM	Lakemba	excavator, hydremas, saw, power tools, and bogie truck. Power tools/saw used on the country side of platform intermittently about 50-60m away	15-19 Croydon Street, Lakemba	76	65.2	73.1	N/A	Y	N		SIC	Field Sheets 20211228 were lost
	Noise	28/12/2021	10:30:00 AM	10:45:00 AM	Lakemba	excavator, power tools and hydremas	64 The Boulevarde, Lakemba	83	64.6	85	N/A	Y	N	influenced by traffic	SIC	
	Noise	28/12/2021	10:55:00 AM	11:10:00 AM	Lakemba	excavator, power tools and hydremas	89 The Boulevarde, Wiley Park	68	63.7	83.5	N/A	Y	N	influenced by traffic	SIC	
	Noise	28/12/2021	10:15:00 PM	10:30:00 PM	Lakemba	lighting tower x4, excavator, saw, power tools and bogie truck	15-19 Croydon Street, Lakemba	80	61.9	75.4	N/A	Y	N	measured levels were lower than predicited due to major saw cutting works ahead of schedule/ prioritised for day periods	SIC	Noise monitoring 20211228
	Noise	28/12/2021	11:18:00 PM	11:33:00 PM	Lakemba	lighting tower x2, power tools, dump truck, excavator and hirail excavator x2	64 The Boulevarde, Lakemba	79	64.5	82.9	N/A	Y	N	measured levels were lower than predicited due to major saw cutting works ahead of schedule/ prioritised for day periods. Influenced by traffic	SIC	
	Noise	29/12/2021	2:49:00 PM	3:04:00 PM	Lakemba	saw cutting, power tools, Excavators, hydremas	15-19 Croydon Street, Lakemba	80	59	76.7	N/A	Y	N		SIC	LAK 29 Dec 21.xlsx
	Noise	29/12/2021	2:32:00 PM	2:47:00 PM	Lakemba	excavators and power tools	64 The Boulevarde, Lakemba	79	64.2	81	N/A	Y	N		SIC	
	Noise	29/12/2021	10:45:00 PM	11:00:00 PM	Lakemba	jackhammer, circular saw, lighting towers, power tools	15-19 Croydon Street, Lakemba	80	66.9	83.3	N/A	Y	N	measured levels were lower than predicited due to major saw cutting works ahead of schedule/ prioritised for day periods.	SIC	Noise monitoring 20211229
	Noise	29/12/2021	11:18:00 PM	11:32:00 PM	Lakemba	jackhammer, circular saw, lighting towers, power tools	64 The Boulevarde, Lakemba	79	65.3	84.5	N/A	Y	N	measured levels were lower than predicited due to major saw cutting works ahead of schedule/ prioritised for day periods. Influenced by traffic	SIC	
	Noise	30/12/2021	11:14:00 PM	11:29:00 PM	Lakemba	Concrete agi, boom pump and lighting towers	15-19 Croydon Street, Lakemba	82	64.6	96.7	N/A	Y	N	measured levels were lower than predicited due to major saw cutting works modelled as a contingency.	SIC	

Reporting Period	Type (Noise or Vibration)	Date	Time Started	Time Finished	Station	Description of Works	Monitorining Address	Predicted L_{Aeq}	Measured L_{Aeq}	Max L_{amax}	Measured Vibration PPV (mm/s)	Below Predicted Level Y/N	Was monitoring in response to a complaint?	Notes	Consultant	Link
Shutdown 2 - All Stations (Limitied night works)	Noise	30/12/2021	11:41:00 PM	11:56:00 PM	Lakemba	Concrete agi, boom pump and lighting towers	64 The Boulevarde, Lakemba	83	65.2	81.5	N/A	Y	N	measured levels were lower than predicited due to major saw cutting works modelled as a contingency. Influenced by traffic	SIC	Noise monitoring 20211230
	Noise	31/12/2021	5 minutes	equipment spot check	Lakemba	Hand concrete saw	1m away from equipment	Model: power hand tool(107)	92.9	98.4 (model predicted max: for power hand toool 118)	N/A	Y	N		SIC	Noise monitoring 20211231_LAK_spot check
	Noise	31/12/2021	5 minutes	equipment spot check	Lakemba	Concrete pump (HINO 400)	1m away from equipment	Model: Concrete pump (103)	84.9	92.1 (model predicted max: for concrete pump 107)	N/A	Y	N		SIC	
	Noise	2/01/2022	10:40:00 PM	10:45:00 PM	Lakemba	excavators, power tools and 2x lighting towers	15-19 Croydon Street, Lakemba	83	59	74.8	N/A	Y	N	influenced by traffic	SIC	Noise monitoring 20220102_LAK_P2
	Noise	2/01/2022	11:19:00 PM	11:34:00 PM	Lakemba	excavators, hydrema, power tools and 2x lighting towers	63 The Boulevarde, Lakemba	86	65.9	90.2	N/A	Y	N	influenced by traffic	SIC	
	Noise	3/01/2022	10:59:00 PM	11:15:00 PM	Lakemba	hand tools, excavator x3, hydrema, power tools, lighting towers	64 The Boulevarde, Lakemba	80	66.1	83.3	N/A	Y	N	not all plant in use	SIC	Noise monitoring 20220103
	Noise	3/01/2022	11:27:00 PM	11:42:00 PM	Lakemba	power tools, excavator x5, hydrema, , lighting towers	15-19 Croydon Street, Lakemba	80	61.8	80.7	N/A	Y	N	not all plant in use	SIC	
	Noise	4/01/2022	12:01:00 AM	12:16:00 AM	Lakemba	hydrema and 2x excavators	89 The Boulevarde, Wiley Park	68	66.2	92.5	N/A	Y	N	lighting was provided by plant light and street lightss, reading influenced by traffic	SIC	
	Noise	4/01/2022	10:40:00 PM	10:55:00 PM	Lakemba	Hi-rail hydrema, excavator with bucket attachment, hammering (hand tool) and blower	64 The Boulevarde, Lakemba	80	67	84	N/A	Y	N	The measured LAeq, 15min is lower than the predicted noise level. This can be attributed to lesser quantity of plant items operating during the measurement compared to the predicted noisier plant in the prediction assumptions. Furthermore, the platform works occurring were located approximately 40m away from the measurement location. In the prediction model, the distance between the closest work area and the most affected facade is approximately 20 metres. Note that platform works were intermittent during this measurement.	RENZO TONIN & ASSOCIATES	Shutdown 2_Noise and Vibration_Monitoring Report_
	Noise	4/01/2022	11:09:00 PM	11:24:00 PM	Lakemba	Lighting Tower	89 The Boulevarde, Wiley Park	68	67	92	N/A	Y	N	The measured LAeq, 15min is lower than the predicted noise level. Note that this monitoring location was heavily affected by the road traffic noise along The Boulevarde.	RENZO TONIN & ASSOCIATES	
	Noise	4/01/2022	11:34:00 PM	12:07:00 AM (5Jan)	Lakemba	Excavator with bucket attachment, hi-rail hydrema and plate compactor	15-19 Croydon Street, Lakemba	80	66	82	N/A	Y	N	The measured LAeq, 15min is lower than the predicted noise level. This can be attributed to lesser quantity of plant items operating during the measurement compared to the predicted noisier plant in the prediction assumptions. Furthermore, the platform works occurring were located approximately 50m away from the measurement location. In the prediction model, the distance between the closest work area and the most affected facade is approximately 20 metres. Note that platform work activities were intermittent during this measurement.	RENZO TONIN & ASSOCIATES	
	Noise	5/01/2022	12:51:00 AM	1:06:00 AM	Lakemba	No construction activity was audible at this monitoring location	19 Railway Parade, Lakemba	76	47	71	N/A	Y	N	The measured LAeq, 15min is lower than the predicted noise level. Note that there was no construction activity occurring on the worksite directly opposite to this monitoring location.	RENZO TONIN & ASSOCIATES	
	Noise	5/01/2022	3:34:00 PM	3:49:00 PM	Marrickville	grinder	41 O'Hara Street, Marrickville	73	53	70.3	N/A	Y	N		SIC	
	Noise	5/01/2022	4:28:00 PM	4:43:00 PM	Marrickville	grinder and drill	2 Arthur Street, Marrickville	73	60.5	80.5	N/A	Y	N		SIC	
	Noise	5/01/2022	4:50:00 PM	5:05:00 PM	Marrickville	truck	13 Warburton Street, Marrickville	68	63	85.3	N/A	Y	N		SIC	
	Noise	5/01/2022	5:18:00 PM	5:33:00 PM	Marrickville	light vehicles, tipper and trucks.	21 Riverdale Avenue, Marrickville	81	58.6	76.9	N/A	Y	N		SIC	
	Noise	5/01/2022	5:38:00 PM	5:53:00 PM	Marrickville	drill	5 Leofrene Avenue, Marrickville	80	50.7	71.8	N/A	Y	N		SIC	
	Noise	5/01/2022	9:46:00 AM	10:01:00 AM	Lakemba	Platform re-alignment: digger, grinder	15-19 Croydon Street, Lakemba	80	52.8	71.9	N/A	Y	N		SIC	
	Noise	5/01/2022	10:57:00 AM	11:12:00 AM	Lakemba	Platform re-alignment: no works in vicinity	19 Railway Parade, Lakemba	76	53	73.1	N/A	Y	N	no works in immediate area	SIC	Lakemba field sheets 05.01.22.pdf

Reporting Period	Type (Noise or Vibration)	Date	Time Started	Time Finished	Station	Description of Works	Monitorining Address	Predicted L_{Aeq}	Measured L_{Aeq}	Max L_{amax}	Measured Vibration PPV (mm/s)	Below Predicted Level Y/N	Was monitoring in response to a complaint?	Notes	Consultant	Link
	Noise	5/01/2022	11:25:00 AM	11:40:00 AM	Lakemba	Platform re-alignment: grinder, hand tools	64 The Boulevarde, Lakemba	80	63.7	91.2	N/A	Y	N	construction was audible but not the dominant noise source	SIC	[illegible]
	Noise	5/01/2022	11:47:00 AM	12:02:00 PM	Lakemba	Platform re-alignment: digger, grinder	89 The Boulevarde, Wiley Park	68	70.2	94.8	N/A	N, however it rained during measurement and SSJ were also working in the area	N	SSJ, rain and traffic influenced the measurement. A second reading couldn't be taken due to rainfall.	SIC	
	Noise	5/01/2022	12:37:00 PM	12:52:00 PM	Canterbury		3 Broughton Street, Cantebury	75	64	87.6	N/A	Y	N	reading influenced by traffic and birds	SIC	Canterbury field sheets 05.01.22
	Noise	5/01/2022	1:04:00 PM	1:19:00 PM	Canterbury		30 Tincombe Street, Canterbury	74	58.8	80.3	N/A	Y	N	reading influenced by traffic and residents	SIC	
	Noise	5/01/2022	1:28:00 PM	1:43:00 PM	Canterbury	power tools	15 Charles Street, Canterbury	86	60.3	83	N/A	Y	N	Influenced by traffic and freight train	SIC	
	Noise	5/01/2022	1:49:00 PM	2:04:00 PM	Canterbury	power tools	2 Charles Street, Canterbury	86	66.3	76.4	N/A	Y	N	Influenced by traffic and freight train	SIC	
	Noise	5/01/2022	11:35:00 PM	11:50:00 PM	Lakemba	2x excavators, hi-rail flatbed truck, compactor, power tools and 3x lighting towers	15 Croydon Street, Lakemba	80	66.2	96.3	N/A	Y	N	Commercial business operating, and intermittent traffic throughout reading.	SIC	Noise Monitoring 20220105
	Noise	6/01/2022	1:57:00 AM	2:12:00 AM	Lakemba	excavators, Hi-rail flatbed truck, power tools and 2x lighting towers	64 The Boulevarde, Lakemba	80	68.9	103.6	N/A	Y	N	Reading was influenced by intermittent traffic, light rain with some heavier patches, and workers talking.	SIC	
	Noise	6/01/2022	10:42:00 PM	10:58:00 PM	Lakemba	excavators, power tools and 2x lighting towers (noise blankets around)	64 The Boulevarde, Lakemba	80	66	84.3	N/A	Y	N	Reading was influence by constant traffic including bus replacements.	SIC	Noise Monitoring 20220106
	Noise	7/01/2022	1:00:00 AM	1:15:00 AM	Lakemba	Tipper truck and Hi-rail flatbed truck.	89 The Boulevard, Wiley Park	68	60.1	79	N/A	Y	N	Intermittent traffic, strong winds gusts, and replacement buses passing	SIC	
	Noise	7/01/2022	1:45:00 AM	2:00:00 AM	Lakemba	3x excavators, hi-rail flatbed truck, power tools and 3x lighting towers (noise blankets around all)	15 Croydon Street, Lakemba	80	62.5	85.8	N/A	Y	N	Intermittent traffic and strong winds gusts throughout reading.	SIC	
WE32	Noise	5/02/2022	11:58:00 PM	12:13:00 AM (6 Feb)	Lakemba	NDD and stockpiling: 3x excavators, vac truck and 3x lighting towers	15 Croydon Street, Lakmeba	81	67.2	77	N/A	Y	N		SIC (Lauren)	Noise monitoring 20210205
	Noise	6/02/2022	12:35:00 AM	12:51:00 AM	Lakemba	Stockpiling: 2x excavators, hydrema and lighting tower	89 The Bulevarde, Wiley Park	65	66.8	87.8	N/A	N, but within 2 dB	N	Traffic and train replacement buses were dominant noise sources. Works were mostly between 50- 63 dB.		
	Noise	6/02/2022	1:00:00 AM	1:15:00 AM	Lakemba	Stockpiling and NDD: excavators, vac truck, hand tools and lighting towers.	64 The Boulevarde, Lakemba	73	67.6	93.9	N/A	Y	N	Works were occuring on Railway Pde side, dominant noise source was traffic and train replacement buses.		
	Noise	6/02/2022	8:45:00 AM	9:00:00 AM	Lakemba	Plant included 2 excavators, 3 hydremas, power hand tools	15 Croydon Street, Lakmeba	81	47.9	63.1	N/A	Y	N		SIC (Elena)	20220206 Noise monitoring
	Noise	6/02/2022	9:15:00 AM	9:30:00 AM	Lakemba	Plant included 2 excavators, 3 hydremas, power hand tools	64 The Boulevarde, Lakemba	73	58.3	78.4	N/A	Y	N	Noise monitoring was affected by road traffic		
	Noise	6/02/2022	9:40:00 AM	9:45:00 AM	Lakemba	Plant included 1 excavator, 3 hydremas	89 The Bulevarde, Wiley Park	65	71.1	100.2	N/A	N*	N	*Noise monitoring was heavily influenced by road traffic.		
	Noise	6/02/2022	10:40:00 AM	10:55:00 AM	Canterbury	Plant included 1 excavators, 2 hydremas, power tools, telehandler	15 Charles Street, Canterbury	82	59.3	93.6	N/A	Y	N	Windy weather		
	Noise	6/02/2022	11:30:00 AM	11:45:00 AM	Marrickville	hand tools on platforms	5 Leofrene Avenue, Marrickville	74	51.5	78.1	N/A	Y	N	Windy weather		
	Noise	6/02/2022	12:24:00 PM	12:49:00 PM	Marrickville	3 excavators, 3 hydremas, delivery truck	21 Riverdale Avenue, Marrickville	78	60.4	82.8	N/A	Y	N	Windy weather		

Appendix E: Noise and Vibration Monitoring Equipment Details

Owner	Instrument	Make	Model	Serial Number	Date of Calibration	Place of Calibration
HSEJV	Sound Level Meter	Svantek	Svan-958	92326	13/10/2020	Acu-Vib Electronics
HSEJV	Sound Level Meter	Svantek	Svan-971	107409	29/04/2021	Acu-Vib Electronics
HSEJV	Sound Level Calibrator	Svantek	SV-33B	109918	04/05/2021	Acu-Vib Electronics
Renzo Tonin & Associates	Sound Level Meter	NTi	XL2	A2A-04105-D1	24/8/2021	NATacoustic
Renzo Tonin & Associates	Sound Level Meter	NTi	XL2	A2A-05312-E0	11/12/2020	NATacoustic
Renzo Tonin & Associates	Sound Level Calibrator	Bruel & Kjaer	Type 4231	2162834	08/02/2022	NATacoustic
Renzo Tonin & Associates	Type 1 Signal Analyser	Sinus	Soundbook-2	07039	28/04/2021	NATacoustic
Renzo Tonin & Associates	Accelerometer	Endevco	61C13	#21124	18/05/2021	NATacoustic
Renzo Tonin & Associates	Triaxial Transducers	Sigicom	C22	102477	13/05/2019	NATacoustic
Renzo Tonin & Associates	Triaxial Transducers	Sigicom	C22	102479	13/05/2019	NATacoustic

Appendix F: Noise Monitoring Record Sheet Samples

Noise Monitoring Record Sheet

DATE:	29-December-2021	**MAIN ACTIVITY**	Excavation works and MSB works	
CONDUCTED BY:	R. O'Leary	**LOCATION OF WORKS:**	Lakemba Station	
METEROLOGICAL CONDITIONS:				
Cloud cover (x/8)	**Wind speed (m/s) / Wind direction**	**Precipitation (mm)**	**Temp (°C)**	**RH (%) / Pressure (hPa)**
6	9 km/h / 2.5 m/s / SE	0	22	63%
INSTRUMENTATION				
SLM MAKE / MODEL:	Svantek SVAN 971	**SERIAL NUMBER:**	107409	
TIME WEIGHTING:	FAST / ~~SLOW~~	**FREQUENCY WEIGHTING:**		A / ~~C / FLAT~~
FIELD CALIBRATION CHECK:	114.1	**POST CALIBRATION CHECK:**		114.1

MONITORING DETAILS				
LOCATION No:	2	**ADDRESS:**	64 The Boulevarde, Lakemba	
ACTIVITIES ON SITE (if applicable, Gatewave scenario ID):	Excavation works and MSB works		**MITIGATION MEASURES INSTALLED:**	-
PLANT OPERATION:	Excavators, power tools		**DISTANCE FROM PLANT (m):**	80
DISTANCE FROM OBSTACLES OR REFLECTING SURFACES:	2		**MEASUREMENT NEAR BUILDING?**	Y
PHOTOGRAPH TAKEN (MONITORING LOC, WORKS and CLOSEST RECEIVERS):		Y	**IN RESPONSE TO COMPLAINT?**	N

START TIME	**END TIME**	**MEASUREMENT PERIOD (DS, DO, E, N)**	**NML (dBA)**	**PREDICTED LEVEL (dBA)**
2:32:00 PM	2:47:00 PM	DS	57	79

MEASUREMENT RESULTS (15 MIN PERIOD) from activity				
L_{aeq}	**L_{max}**	**L_{min}**	**L_{A10}**	**L_{A90}**
64.2	81.0	48.0	-	-

MONITORING OBSERVATIONS:				
XL2 file number:	L1738			
Time	**Source noise**	**Extraneous noise**	**L_{aeq}**	**Other comments**
14:33	Traffic on The Boulevarde	-	57.9	
14:34	Traffic in distance, birds squawking	-	56.5	
14:35	Bird squawking	-	51.7	
14:36	Cars passing on The Boulevarde	-	66.4	
14:37	Cars passing on The Boulevarde	-	68.1	
14:38	Grinding noise	Cars passing on The Boulevarde	64.7	
14:39	Grinding noise	Car in distance	59.1	
14:40	Hand tools	Cars passing on The Boulevarde	52.4	
14:41	Cars and bus passing on The Boulevarde	-	67.8	
14:42	Cars passing on The Boulevarde plus birds squawking	-	64.3	
14:43	Excavator scraping surface	Car passing by on The Boulevarde	61.3	
14:44	Pedestrians talking	-	55.6	
14:45	Excavator scraping surface	Car passing by on The Boulevarde	62	
14:46	Excavator scraping	Vaccum cleaner in house	61.7	
14:47	Cars passing on The Boulevarde plus birds squawking	-	63.1	

Further actions required to reduce noise?	
Additional comments	

DIAGRAMS AND PHOTOS
Insert: - Photo of works being monitored - Map showing monitoring location or Screenshot of GPS Location

Noise Monitoring Record Sheet

DATE:	19-December-2021	**MAIN ACTIVITY**		
CONDUCTED BY:	Elena Ivanova	**LOCATION OF WORKS:**	Canterbury	
METEROLOGICAL CONDITIONS:				
Cloud cover (x/8)	**Wind speed (m/s) / Wind direction**	**Precipitation (mm)**	**Temp (°C)**	**RH (%) / Pressure (hPa)**
cloudy	North West /19 km/hr	0	29.8	
INSTRUMENTATION				
SLM MAKE / MODEL:	SVAN971	**SERIAL NUMBER:**	107409	
TIME WEIGHTING:	FAST / ~~SLOW~~	**FREQUENCY WEIGHTING:**		A / ~~C / FLAT~~
FIELD CALIBRATION CHECK:	Yes	**POST CALIBRATION CHECK:**		No

MONITORING DETAILS				
LOCATION No:	1	**ADDRESS:**	3 Broughton Street, Cantebury	
ACTIVITIES ON SITE (if applicable, Gatewave scenario ID):			**MITIGATION MEASURES INSTALLED:**	
PLANT OPERATION:	EXCAVATORS, VACK TRUCK, TELEHANDLERS, EXCAVATOR WITH HUMMER, POWER HAND TOOLS		**DISTANCE FROM PLANT (m):**	
DISTANCE FROM OBSTACLES OR REFLECTING SURFACES:			**MEASUREMENT NEAR BUILDING?**	Y / ~~N~~
PHOTOGRAPH TAKEN (MONITORING LOC, WORKS and CLOSEST RECEIVERS):		Y / ~~N~~	**IN RESPONSE TO COMPLAINT?**	~~Y~~ / N

START TIME	END TIME	MEASUREMENT PERIOD (DS, DO, E, N)	NML (dBA)	PREDICTED LEVEL (dBA)
10:43	10:58	DO	45	80

MEASUREMENT RESULTS (15 MIN PERIOD) from activity				
L_{aeq}	L_{max}	L_{min}	L_{A10}	L_{A90}
67.6	83.0	49.1	-	-

MONITORING OBSERVATIONS:				
XL2 file number:				
Time	**Source noise**	**Extraneous noise**	**LAF**	**Other comments**
XX:01	bus started		70.1	
XX:02	car passed		82.0	
XX:03	car passed		72.5	
XX:04	car passed		68.3	
XX:05	car passed		69.7	
XX:06	car passed		72.6	
XX:07	car passed		74.6	
XX:08	car passed		71.3	
XX:09	car passed		72.0	
XX:10	hammering		61.8	
XX:11	car passed		68.1	
XX:12	car passed		69.1	
XX:13	bus started		78.0	
XX:14	bus acceleration		88.2	
XX:15	construction noise		62.9	
Further actions required to reduce noise?				

Additional comments	1. Works audible (plant operation, hammering, quaker beeper) 2. Bus stop next to monitoring point. Measurement heavily influenced by road traffic.

DIAGRAMS AND PHOTOS
Insert: - Photo of works being monitored - Map showing monitoring location or Screenshot of GPS Location

Noise Monitoring Record Sheet

DATE:	19-December-2021	**MAIN ACTIVITY**		
CONDUCTED BY:	Elena Ivanova	**LOCATION OF WORKS:**	Lakemba	
METEROLOGICAL CONDITIONS:				
Cloud cover (x/8)	**Wind speed (m/s) / Wind direction**	**Precipitation (mm)**	**Temp (°C)**	**RH (%) / Pressure (hPa)**
clear	North /19 km/hr	0	28.2	
INSTRUMENTATION				
SLM MAKE / MODEL:	SVAN971	**SERIAL NUMBER:**	107409	
TIME WEIGHTING:	FAST / ~~SLOW~~	**FREQUENCY WEIGHTING:**		A / ~~C / FLAT~~
FIELD CALIBRATION CHECK:	Yes	**POST CALIBRATION CHECK:**		No

MONITORING DETAILS				
LOCATION No:	2	**ADDRESS:**	64 The Boulevarde Parade, Lakemba	
ACTIVITIES ON SITE (if applicable, Gatewave scenario ID):			**MITIGATION MEASURES INSTALLED:**	
PLANT OPERATION:	EXCAVATORS, CONCRETE TRUCKS AND PUMPS, DUMPERS, EXCAVATORS WITH HUMMER AND AUGER, POWER HAND TOOLS		**DISTANCE FROM PLANT (m):**	
DISTANCE FROM OBSTACLES OR REFLECTING SURFACES:			**MEASUREMENT NEAR BUILDING?**	Y / ~~N~~
PHOTOGRAPH TAKEN (MONITORING LOC, WORKS and CLOSEST RECEIVERS):		Y / ~~N~~	**IN RESPONSE TO COMPLAINT?**	~~Y~~ / N
START TIME	**END TIME**	**MEASUREMENT PERIOD (DS, DO, E, N)**	**NML (dBA)**	**PREDICTED LEVEL (dBA)**
9:53	10:08	DO	52	75
MEASUREMENT RESULTS (15 MIN PERIOD) from activity				
L_{aeq}	**L_{max}**	**L_{min}**	**L_{A10}**	**L_{A90}**
65.2	85.0	53.2	-	-
MONITORING OBSERVATIONS:				
XL2 file number:				
Time	**Source noise**	**Extraneous noise**	**LAF**	**Other comments**
XX:01	car acceleration		73.3	
XX:02	bus passed		74.5	
XX:03	bus passed		76.9	
XX:04	birds		62.6	
XX:05	birds		63.2	
XX:06	car passed		68.1	
XX:07	bus passed		74.1	
XX:08	bus acceleration		80.2	
XX:09	car passed		69.0	
XX:10	car passed		70.6	
XX:11	car passed		71.4	
XX:12	car passed		72.2	
XX:13	car passed		71.3	
XX:14	waste truck		85.0	
XX:15	bus acceleration		80.8	
Further actions required to reduce noise?				

Additional comments	1. Measurement heavily influenced by road traffic.

DIAGRAMS AND PHOTOS
Insert: - Photo of works being monitored - Map showing monitoring location or Screenshot of GPS Location

Noise Monitoring Record Sheet

DATE:	19-December-2021	**MAIN ACTIVITY**		
CONDUCTED BY:	Elena Ivanova	**LOCATION OF WORKS:**	Lakemba	
METEROLOGICAL CONDITIONS:				
Cloud cover (x/8)	**Wind speed (m/s) / Wind direction**	**Precipitation (mm)**	**Temp (°C)**	**RH (%) / Pressure (hPa)**
clear	North /15 km/hr	0	25.4	
INSTRUMENTATION				
SLM MAKE / MODEL:	SVAN971	**SERIAL NUMBER:**	107409	
TIME WEIGHTING:	FAST / ~~SLOW~~	**FREQUENCY WEIGHTING:**		A / ~~C / FLAT~~
FIELD CALIBRATION CHECK:	Yes	**POST CALIBRATION CHECK:**		No

MONITORING DETAILS				
LOCATION No:	1	**ADDRESS:**	15 Croydon Street, Lakemba	
ACTIVITIES ON SITE (if applicable, Gatewave scenario ID):			**MITIGATION MEASURES INSTALLED:**	
PLANT OPERATION:	EXCAVATORS, CONCRETE TRUCKS AND PUMPS, DUMPERS, EXCAVATORS WITH HUMMER AND AUGER, POWER HAND TOOLS		**DISTANCE FROM PLANT (m):**	
DISTANCE FROM OBSTACLES OR REFLECTING SURFACES:			**MEASUREMENT NEAR BUILDING?**	Y / ~~N~~
PHOTOGRAPH TAKEN (MONITORING LOC, WORKS and CLOSEST RECEIVERS):		Y / ~~N~~	**IN RESPONSE TO COMPLAINT?**	~~Y~~ / N
START TIME	**END TIME**	**MEASUREMENT PERIOD (DS, DO, E, N)**	**NML (dBA)**	**PREDICTED LEVEL (dBA)**
8:44	8:59	DO	52	80
MEASUREMENT RESULTS (15 MIN PERIOD) from activity				
L_{aeq}	**L_{max}**	**L_{min}**	**L_{A10}**	**L_{A90}**
62.5	73.1	56	-	-
MONITORING OBSERVATIONS:				
XL2 file number:				
Time	**Source noise**	**Extraneous noise**	**LAF**	**Other comments**
XX:01	hand tool saw		60.1	
XX:02	car passed		63.3	
XX:03	concrete truck		59.3	
XX:04	people passed		63.8	
XX:05	concrete truck mixing		73.1	
XX:06	bike acceleration		66.0	
XX:07	squawker reverse alarm		65.5	
XX:08	car acceleration		63.8	
XX:09	noise from residents		68.1	
XX:10	birds		60.7	
XX:11	birds		63.3	
XX:12	birds		62.5	
XX:13	wind gust		64.2	
XX:14	cars acceleration		65.5	
XX:15	car acceleration		66.4	
Further actions required to reduce noise?				

Additional comments	1. Works audible (plant operation, concrete mixer, quaker beeper) 2. Measurement heavily influenced by road traffic.

DIAGRAMS AND PHOTOS
Insert: - Photo of works being monitored - Map showing monitoring location or Screenshot of GPS Location

Noise Monitoring Record Sheet

DATE:	18/12/2021	**MAIN ACTIVITY**	WWE25	
CONDUCTED BY:	Ivy Ou	**LOCATION OF WORKS:**	Lakemba	
METEROLOGICAL CONDITIONS:				
Cloud cover (x/8)	**Wind speed (m/s) / Wind direction**	**Precipitation (mm)**	**Temp (°C)**	**RH (%) / Pressure (hPa)**
	14km/h S	3	28	1011 ↑
INSTRUMENTATION				
SLM MAKE / MODEL:	SVAN 971	**SERIAL NUMBER:**	107409	
TIME WEIGHTING:	FAST / ~~SLOW~~	**FREQUENCY WEIGHTING:**		A / ~~C / FLAT~~
FIELD CALIBRATION CHECK:	114.1	**POST CALIBRATION CHECK:**		114

MONITORING DETAILS				
LOCATION No:	1	**ADDRESS:**	15 Croydon St	
ACTIVITIES ON SITE (if applicable, Gatewave scenario ID):	Excavation Work		**MITIGATION MEASURES INSTALLED:**	
PLANT OPERATION:	Excavators, hydrema, bobcat,		**DISTANCE FROM PLANT (m):**	
DISTANCE FROM OBSTACLES OR REFLECTING SURFACES:	light vehicles, lighting towers,		**MEASUREMENT NEAR BUILDING?**	Y / N
PHOTOGRAPH TAKEN (MONITORING LOC, WORKS and CLOSEST RECEIVERS):	hand tools		**IN RESPONSE TO COMPLAINT?**	Y / N
START TIME	**END TIME**	**MEASUREMENT PERIOD (DS, DO, E, N)**	**NML (dBA)**	**PREDICTED LEVEL (dBA)**
2232	2247	N	52	65
MEASUREMENT RESULTS (15 MIN PERIOD) from activity				
L_{aeq}	**L_{max}**	**L_{min}**	**Ltm3**	**Ltm5**
59.5	89.7	50.7	63.8	64.7

MONITORING OBSERVATIONS:

XL2 file number: 1701

Time	Source noise	Extraneous noise	LAF	Other comments
XX:01	engine hum from hydrema		62.4	(73.5) passing motorbike
XX:02	occasional driving with		61.8	
XX:03	hand tools (avg 56.6)		56.8	pedestrians walking pass
XX:04	constant hum from truck		58.3	
XX:05	& hum stops		54.1	chatter heard from nearby
XX:06		occasional shout	52.5	cafe
XX:07		from workers	51.8	
XX:08	truck driving off site and		53.7	(70.1) pedestrian talking
XX:09	pass residence (68.3)		59.7	
XX:10	truck reversing in distance		56.8	(65.2) car passing
XX:11	occasional banging from truck		57.2	(64.4) passing van
XX:12	drilling with handtools		52.9	(56.4) music from nearby cafe
XX:13	beep from hydrema		56.7	
XX:14	hum from site office		57.1	(81.8) car revving
XX:15	generators		59.8	
Further actions required to reduce noise?				
Additional comments				

Appendix G: HSEJV Vibration Monitoring Register

Reporting Period	Type (Noise or Vibration)	Date	Time Started	Time Finished	Station	Description of Works	Monitorining Address	Predicted L_{Aeq}	Measured L_{Aeq}	Max L_{amax}	Measured Vibration PPV (mm/s)	Below Predicted Level Y/N	Was monitoring in response to a complaint?	Notes	Consultant	Link
WE16 - All Stations	Vibration	16/10/2021	09:55am	11:40:00 AM	Marrickville	5T excavator with hammer	Station platform 15m from source	N/A	N/A	N/A	0.2	Y	N		RENZO TONIN & ASSOCIATES	WE16MAR Vibration monitoring Report
WE19 - All Stations	Vibration	6/11/2021	(06/11/2021) 7:40:00 AM	(7/11/2021) 3:30:00 PM	Lakemba	8t excavator with hammer removing footings adjacent to the platform	Country End of Lakemba Station Platform	N/A	N/A	N/A	36.5 (max mm/s)	Vibration levels produced from the nearby rockhammering works are below 25 mm/s. Isolated local events (>25.0mm/s) were likey impacts right next to reciever.	N	Vibration levels produced from the nearby rockhammering works are below 25 mm/s. Note that there were events that results in an instantaneous vibration level of above 25 mm/s, works were stoped and methodology was reviewed. Revised methodology was below the 25mm/s criterion.	RENZO TONIN & ASSOCIATES	WE19 Noise and Vibration Monitoring Report (r1).pdf
	Vibration	6/11/2021	13:30:00 AM	2:00:00 PM	Canterbury	Jackhammmer	11-15 Charles Street Canterbury	N/A	N/A	N/A	0.03 (95th percentile mm/s) or 0.6 (max mm/s)	no change to baseline data	N	The accelerometer was mounted on the foundation of 11-15 Charles Street structure. The measured results show that the baseline 95th percentile PPV did not change during the jackhammering works. Therefore, the vibration signals from the handheld jackhammer could not be detected at this measurement location. As a result, the handheld jackhammer was allowed to be operated.		
	Vibration	7/11/2021	9:30:00 AM	10:00:00 AM	Marrickville	Plate compactor	Concourse at Marrickville	N/A	N/A	N/A	0.24 (95th percentile mm/s) or 3.94 (max mm/s)	Y	N	The accelerometer was mounted on the concourse stairwell at Marrickville Station. During the compacting activity, the plate compactor produced vibration levels that were below the established vibration criterion for structurally sound heritage structures (7.5 mm/s). Note that the maximum PPV of 3.94 mm/s was recorded when the plate compactor made contact with the concrete surface. As a result, the plate compactor was allowed to be operated.		
	Vibration	7/11/2021	9:30:00 AM	10:00:00 AM	Marrickville	Jumping jack compactor	Concourse at Marrickville	N/A	N/A	N/A	0.34 (95th percentile mm/s) or 0.86 (max mm/s)	Y	N	The accelerometer was mounted on the concourse stairwell at Marrickville Station. During the compacting activity, the plate compactor produced vibration levels that were below the established vibration criterion for structurally sound heritage structures (7.5 mm/s). As a result, the jumping jack compactor was allowed to be operated.		
WE25 - All Stations	Vibration	18/12/2021	8:00:00 AM (18th)	3:30:00 PM (19th)	Canterbury	Excavator with hammer and bucket attachments and a jackhammer	Station building on Platform 2	N/A	N/A	N/A	10mm/s (max)	Vibration levels produced from the nearby rockhammering works are below 7.5 mm/s. Isolated local event (>7.5mm/s) was recorded as a bump to the vibration monitor by a construction worker	N		RENZO TONIN & ASSOCIATES	WE25 Vibration Monitoring Report
	Vibration	18/12/2021	9:20:00 AM (18th)	4:30:00 PM (19th)	Lakemba	Excavator with hammer and auger attachment	Haldon Street Bridge	N/A	N/A	N/A	2mm/s (max)	Y	N		RENZO TONIN & ASSOCIATES	
Shutdown 2 - All Stations (Limitied night works)	Vibration	26/12/2021	duration of shutdown 2		Lakemba	6T excavator with hammer attachment, jackhammer, 2.5T roller and compactor	Station Building	N/A	N/A	N/A	<7.5mm/s (excluding 04:55am 28/12/2021 to 04:09pm 29/12/2021)	Y, (excluding 04:55am 28/12/2021 to 04:09pm 29/12/2021)	N	The site engineer confirmed that construction workers bumped the vibration monitor causing the exceedence. Furthermore, the sporadic characteristic of the exceedances confirmed that it is unlikely related to the nearby construction activities. Note that the site engineer relocated the vibration monitor to the ambulant toilet at approximately 04:09pm. As a result, the exceedance was not caused by the nearby construction activities.	RENZO TONIN & ASSOCIATES	Shutdown 2 Noise and Vibration Monitoring Report
	Vibration	5/01/2022	duration of shutdown 2		Canterbury	Jackhammer	Station building on Platform 0/1	N/A	N/A	N/A	<7.5mm/s (excluding 5:43pm 5/01/2022 and 12:42pm 09/01/2022)	Y, (excluding 5:43pm 5/01/2022 and 12:42pm 09/01/2022)	N	The site confirmed that a construction worker bumped the vibration monitor causing the exceedences. The exceedances were not caused by the nearby construction activities.	RENZO TONIN & ASSOCIATES	
	Vibration	8/01/2022	8:52:00 AM	8:59:00 AM	Marrickville	14T excavator with vibratory sheet piling attachment	ARTC Track line	N/A	N/A	N/A	1.79 (95th percentile PPV) 2.93 (max PPV)	Y	N	At 7 metres away, the 14T excavator with vibratory sheet piling attachment produced vibration levels that are below the established vibration screening level for cosmetic damage.	RENZO TONIN & ASSOCIATES	
	Vibration	8/01/2022	9:35:00 AM	9:42:00 AM	Marrickville	14T excavator with vibratory sheet piling attachment	ARTC Track line	N/A	N/A	N/A	2.78 (95th percentile PPV) 3.12 (max PPV)	Y	N	At 6 metres away, the 14T excavator with vibratory sheet piling attachment produced vibration levels that are below the established vibration screening level for cosmetic damage	RENZO TONIN & ASSOCIATES	
	Vibration	8/01/2022	9:42:00 AM	9:44:00 AM	Marrickville	14T excavator with vibratory sheet piling attachment	ARTC Track line	N/A	N/A	N/A	4.17 (95th percentile PPV) 4.88 (max PPV)	Y	N	At 4 metres away, the 14T excavator with vibratory sheet piling attachment produced vibration levels that are below the established vibration screening level for cosmetic damage. Given that the minimum distance between the vibratory sheet piling works and the ARTC track line is approximately 4 metres, the vibratory sheet piling works were allowed to be undertaken without further mitigation measures.	RENZO TONIN & ASSOCIATES	

Appendix H: Vibration Monitoring Report Samples

22 December 2021
TM150-1-10F01 WE25 Vibration Monitoring Report (r1)

Smart Infrastructure Consulting
Level 1, 1301 Pacific Highway
Turramurra NSW 2074

Sydney Metro Southwest Station Upgrades - WE25 Canterbury and Lakemba Station Vibration Monitoring Report

1 Introduction

Renzo Tonin & Associates was engaged by Smart Infrastructure Consulting to conduct vibration monitoring during the Station Upgrades WE25 possession works for Sydney Metro Southwest. The vibration monitoring was undertaken to monitor potentially affected structures. This report provides a summary of the monitoring results.

2 Details of monitoring

One unattended vibration monitor was installed at Canterbury Station between 08:00am 18th December and 03:30pm 19th December 2021. One unattended vibration monitor was installed at Lakemba Station between 09:20am 18th December and 04:30pm 19th December 2021.

2.1 Measurement location

The measurement locations are listed in Table 2-1. Figures depicting the monitoring locations are included in APPENDIX A.

Table 2-1: Measurement locations

Measurement ID	Assessment Point	Date and time	Measured plant	Monitoring type	Approx. distance to measured plant	Temporary noise barrier between measured plant/receiver
M1	Canterbury station building on platform 2 (Appendix A.1)	18.12.2021 – 19.12.2021 08:00am – 03:30pm	Excavator with hammer attachment, jackhammer, excavator with bucket attachment	Vibration	2m – 10m	N/A

Measurement ID	Assessment Point	Date and time	Measured plant	Monitoring type	Approx. distance to measured plant	Temporary noise barrier between measured plant/receiver
M2	Haldon Street bridge (Appendix A.2)	18.12.2021 – 19.12.2021 09:20am – 04:30pm	Excavator with hammer attachment and excavator with auger attachment	Vibration	5m – 15m	N/A

2.2 Measurement equipment

The instrumentation used for the vibration measurement are summarised in Table 2-2. The accelerometers used in the measurements have current calibration certificates.

Table 2-2: Summary of vibration instrumentation

Type	Make / Model
Triaxial Transducers	Sigicom C22 (SN: 102477)
Triaxial Transducers	Sigicom C12 (SN: 102479)

3 Vibration Monitoring results

3.1 Unattended vibration monitoring

The established vibration criteria for cosmetic damage in the Southwest Metro – Marrickville, Canterbury and Lakemba Station Upgrades Noise and Vibration Management Plan (NVMP)[1] for the affected receiver type are given below:

- Unreinforced or light framed structures: 7.5 mm/s
- Heritage structures (structurally sound): 7.5 mm/s

The results of the unattended vibration measurements for the affected structures are presented in Figure 3-1 and Figure 3-2.

[1] Southwest Metro – Marrickville, Canterbury and Lakemba Station Upgrades NVMP, revision 3, dated 25 January 2021

Figure 3-1: Unattended vibration monitoring at Canterbury Station results (refer to Appendix A.1)

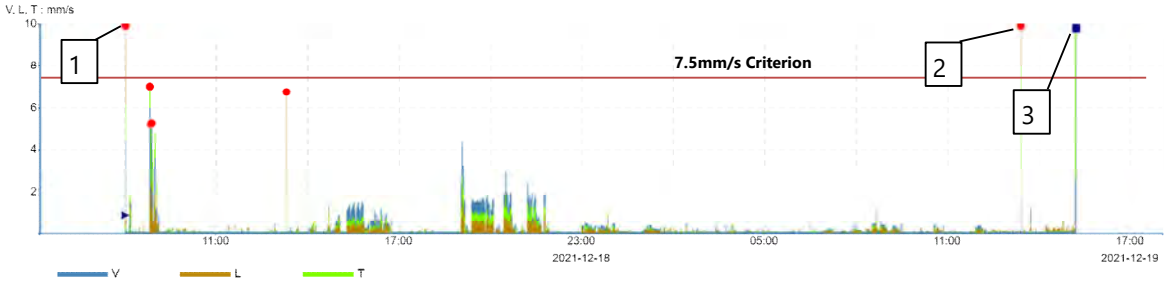
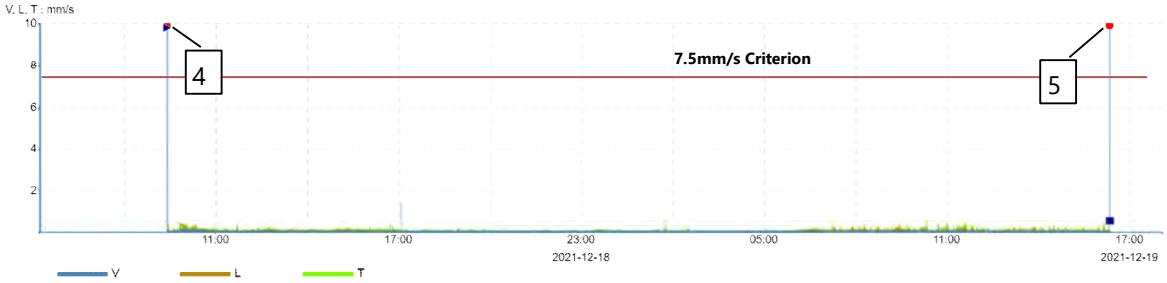


Figure 3-2: Unattended vibration monitoring at Lakemba Station results (refer to Appendix A.2)



The discussion of the unattended vibration measurements is summarised in Table 3-1 below.

Table 3-1: Unattended vibration monitoring summary

Exceedance ID	Date and Time	Cause of exceedance
1	18.12.2021 08:02am	At this time, the vibration monitor was mounted on the station building on platform 2 to commence monitoring. Exceedance was not caused by the nearby construction activities.
2	19.12.2021 01:25pm	At this time, the site engineer confirmed that a construction worker accidentally bumped the vibration monitor. Exceedance was not caused by the nearby construction activities.
3	19.12.2021 03:12pm	At this time, the vibration monitor was removed from the station building on platform 2 to complete the monitoring. Exceedance was not caused by the nearby construction activities.
4	18.12.2021 09:23am	At this time, the vibration monitor was mounted on the Haldon Street bridge footing to commence monitoring. Exceedance was not caused by the nearby construction activities.
5	19.12.2021 04:20pm	At this time, the vibration monitor was removed from the Haldon Street bridge footing to complete the monitoring. Exceedance was not caused by the nearby construction activities.

It can be seen in Figure 3-1 and Figure 3-2 that the vibration levels produced from the vibration intensive works in the vicinity of the affected structures is below 7.5 mm/s. Note that there were events that resulted in an instantaneous vibration level of above 7.5 mm/s, however these were not caused by the nearby construction activities, as justified in Table 3-1.

4 Conclusion

Renzo Tonin & Associates completed vibration monitoring for the WE25 Station Upgrades works. The results of the unattended vibration measurements were typically below the established vibration criteria presented in the Vibration Monitoring Plan prepared for the works. There were events that resulted in an instantaneous vibration level of above 7.5 mm/s. The cause of each event is outlined in Table 3-1.

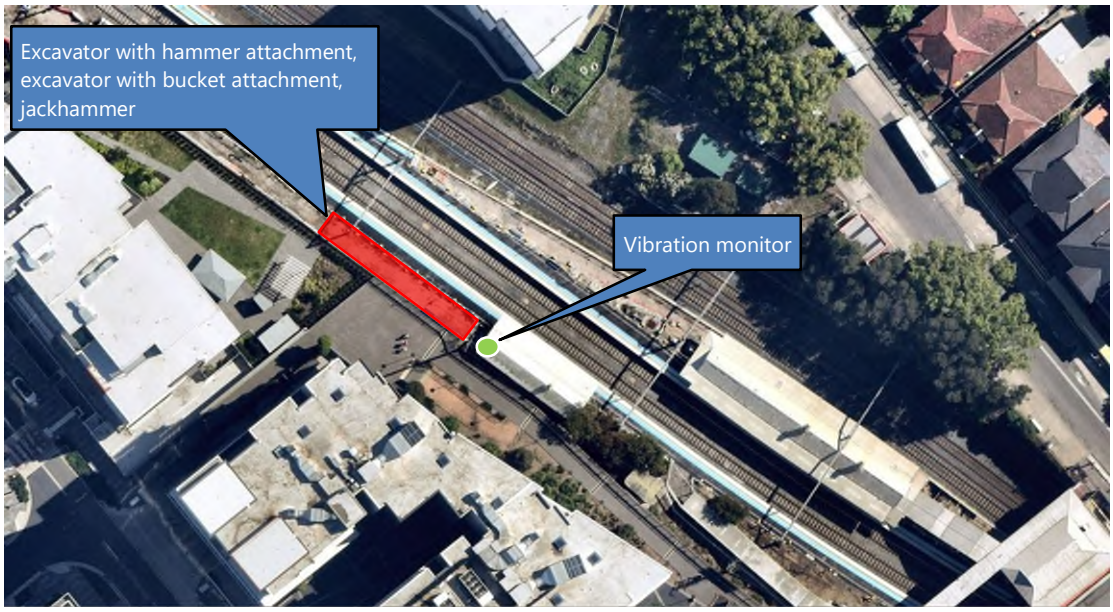
Document control

Date	Revision history	Non-issued revision	Issued revision	Prepared	Instructed	Reviewed / Authorised
22.12.2021	First Issue	0	1	R. Zhafranata	T. Gowen	T. Gowen

File Path: R:\AssocSydProjects\TM101-TM150\TM150 mt SMSW Lakemba, Marrickville and Canterbury\1 Docs\10 WE25 18.12.2021 Canterbury & Lakemba Station Vib mon\TM150-1-10F01 WE25 Vibration Monitoring Report (r1).docx

APPENDIX A Measurement locations

A.1 Canterbury Station (Vibration)



A.2 Lakemba Station (Vibration)

11 November 2021
TM150-1-08F01 WE19 Noise and Vibration Monitoring Report (r1)

Smart Infrastructure Consulting
Level 1, 1301 Pacific Highway
Turramurra NSW 2074

Sydney Metro Southwest Station Upgrades - WE19 Canterbury, Marrickville and Lakemba Station Noise and Vibration Monitoring Report

1 Introduction

Renzo Tonin & Associates was engaged by Smart Infrastructure Consulting to conduct noise and vibration monitoring during the Station Upgrades WE19 possession works for Sydney Metro Southwest. The noise monitoring was undertaken to verify predicted noise levels in the corresponding Gatewave models (Gatewave scenario ID: 3154 for Lakemba Station works and Gatewave scenario ID: 3297 for Canterbury Station works). The vibration monitoring was undertaken to monitor potentially affected structures. This report provides a summary of the monitoring results.

2 Details of monitoring

Noise monitoring was undertaken at Lakemba Station and Canterbury Station on 6th November 2021. Attended vibration monitoring was undertaken at Canterbury Station and Marrickville Station on 6th and 7th November 2021. One unattended vibration monitor was installed at Lakemba Station between 07:40am 6th November and 03:30pm 7th November 2021.

2.1 Measurement location

The noise measurements were conducted at the nominated verification monitoring locations specified in the corresponding Noise and Vibration Assessment Report[1][2]. The measurement locations are listed in Table 2-1. Figures depicting the monitoring locations are included in APPENDIX A.

[1] WE19 Lakemba Station Noise and Vibration Assessment Report, Table 11 (ref: CNVIS OOHW-024 LAK WE 19 (Sat am - Sun 10pm) - ID 3154 Rev B 23 LAKEMBA), received 5 November 2021

[2] WE19 Canterbury Station Noise and Vibration Assessment Report, Table 11 (ref: 2021-11-04_TM150 OOHW 023 - Cary WE19 Nov 21 - ID 3297 clean 28 CANTERBURY STATION), received 5 November 2021

Table 2-1: Measurement locations

Measurement ID	Assessment Point	Date and time	Measured plant	Monitoring type	Approx. distance to measured plant	Temporary noise barrier between measured plant/receiver
M1	15 Croydon Street, Lakemba (Appendix A.1)	06.11.2021 10:38pm – 10:53pm	2 excavators, hydremas, vacuum truck, hand tools	Noise	60m	No
M2	15 Railway Parade, Lakemba (Appendix A.2)	06.11.2021 11:05pm – 11:21pm	2 excavators	Noise	20m	No
M3	64 The Boulevarde, Lakemba (Appendix A.3)	06.11.2021 11:29pm – 11:44pm	Vacuum truck	Noise	30m	No
M4	2 Charles Street, Canterbury (Appendix A.4)	07.11.2021 12:33am – 12:48am	Gerni high pressure washer, hand tools	Noise	40m	No
M5	3 Broughton Street, Canterbury (Appendix A.4)	07.11.2021 12:55am – 01:10am	Gerni high pressure washer, hand tools	Noise	50m	No
M6	11-15 Charles Street, Canterbury (Appendix A.5)	06.11.2021 01:30pm – 02:00pm	Handheld jackhammering	Vibration	150m	N/A
M7	Marrickville Station (Appendix A.6)	07.11.2021 09:30am – 10:00am	Plate compactor, jumping jack compactor	Vibration	1m and 4m	N/A
M8	Lakemba Station (Appendix A.7)	06.11.2021 – 07.11.2021 07:40am – 03:30pm	8T excavator with hammer attachment	Vibration	1m	N/A

2.2 Measurement equipment

Noise measurement equipment consisted of one NTi Audio XL2 Type 1 sound level meter and microphone calibrator. The microphone was checked prior and after measurements using a Bruel & Kjaer Type 4231 calibrator. No significant drift in calibration was observed. All instrumentation complies with AS IEC 61672.1 2004 '*Electroacoustics - Sound Level Meters*' and carries current NATA certification (or if less than 2 years old, manufacturers certification).

Table 2-2 summarises the details of noise measurement equipment.

Table 2-2: Summary of noise measurement equipment

Instrument	Make	Model	Serial Number	Last Calibrated
Type 1 Sound Level Meter (RTA05-008)	NTi	XL2	A2A-04105-D1	24 August 2021
Type 1 Sound Level Meter Calibrator	B&K	Type 4231	2162834	08 March 2021

2.3 Environmental conditions

Environmental conditions recorded during the measurements are provided in Table 2-3. Environmental conditions did not have an adverse effect on the measured noise levels.

Table 2-3: Environmental conditions

Measurement ID	Assessment Point	Date and Start Time	Environmental Conditions
M1	15 Croydon Street, Lakemba	06.11.2021 10:38pm	Clear sky; air temperature 21°C, wind speed <5 m/s; relative humidity 57%
M2	15 Railway Parade, Lakemba	06.11.2021 11:05pm	Clear sky; air temperature 21°C, wind speed <5 m/s; relative humidity 58%
M3	64 The Boulevarde, Lakemba	06.11.2021 11:29pm	Clear sky; air temperature 20°C, wind speed <5 m/s; relative humidity 60%
M4	2 Charles Street, Canterbury	07.11.2021 12:33am	Overcast; air temperature 19°C, wind speed <5 m/s; relative humidity 62%.
M5	3 Broughton Street, Canterbury	07.11.2021 12:55am	Overcast; air temperature 19°C, wind speed <5 m/s; relative humidity 61%.

3 Noise monitoring results

The results of the noise monitoring are presented in Table 3-1 below.

Table 3-1: Measured noise levels $L_{Aeq(15min)}$

Measurement ID	Assessment Point	Measured plant	Predicted noise level dB(A)	Measured noise level dB(A)		Above predicted noise level?	Comments
				$L_{Aeq(15min)}$	L_{Amax}		
M1	15 Croydon Street, Lakemba	2 excavators, hydremas, vacuum truck, hand tools	78	61	74	No ($L_{Aeq, 15min}$)	The measured $L_{Aeq, 15min}$ is lower than the predicted noise level. Note that the measured noise level is significantly below the predicted noise level because the measured works were further away from the receiver than assumed for the predicted 'worst case scenario' in the model. Furthermore, there were fewer plant operating than the predicted model.
M2	15 Railway Parade, Lakemba	2 excavators	61	54	70	No ($L_{Aeq, 15min}$)	The measured $L_{Aeq, 15min}$ is lower than the predicted noise level. Note that the measured noise level is significantly below the predicted noise level because the measured works were further away from the receiver than assumed for the predicted 'worst case scenario' in the model. Furthermore, there were fewer plant operating than the predicted model.
M3	64 The Boulevarde, Lakemba	Vacuum truck	75	74	82	No ($L_{Aeq, 15min}$)	The measured $L_{Aeq, 15min}$ is lower than the predicted noise level. Note that this measurement was heavily affected by the road traffic noise from The Boulevarde.
M4	2 Charles Street, Canterbury	Gerni high pressure washer, hand tools	85	62	73	No ($L_{Aeq, 15min}$)	The measured $L_{Aeq, 15min}$ is lower than the predicted noise level. Note that the measured noise level is significantly below the predicted noise level because the measured works were further away from the receiver than assumed for the predicted 'worst case scenario' in the model. Furthermore, there were fewer plant operating than the predicted model.
M5	3 Broughton Street, Canterbury	Gerni high pressure washer, hand tools	75	56	68	No ($L_{Aeq, 15min}$)	The measured $L_{Aeq, 15min}$ is lower than the predicted noise level. Note that the measured noise level is significantly below the predicted noise level because the measured works were further away from the receiver than assumed for the predicted 'worst case scenario' in the model. Furthermore, there were fewer plant operating than the predicted model.

It can be seen from Table 3-1 that, the measured $L_{Aeq, 15min}$ noise levels were below the predicted noise levels. The mitigation and management measures implemented were therefore considered suitable for the measured activities.

4 Vibration monitoring results

4.1 Attended vibration monitoring

The established vibration criteria for cosmetic damage in the Southwest Metro – Marrickville, Canterbury and Lakemba Station Upgrades Noise and Vibration Management Plan (NVMP)[3] for the affected receiver type are given below:

- Unreinforced or light framed structures: 7.5 mm/s
- Heritage structures (structurally sound): 7.5 mm/s

The results of the attended vibration monitoring are presented in Table 4-1 below.

Table 4-1: Measured vibration levels

Measurement ID	Assessment point	Plant	Distance from source	Baseline 95th percentile PPV	95th percentile PPV (mm/s)	Maximum PPV (mm/s)	Comments
M6	11-15 Charles Street, Canterbury	Handheld jackhammer	150m	0.03	0.03	0.60	The accelerometer was mounted on the foundation of 11-15 Charles Street structure. The measured results show that the baseline 95th percentile PPV did not change during the jackhammering works. Therefore, the vibration signals from the handheld jackhammer could not be detected at this measurement location. As a result, the handheld jackhammer was allowed to be operated.

[3] Southwest Metro – Marrickville, Canterbury and Lakemba Station Upgrades NVMP, revision 3, dated 25 January 2021

Measurement ID	Assessment point	Plant	Distance from source	Baseline 95th percentile PPV	95th percentile PPV (mm/s)	Maximum PPV (mm/s)	Comments
M7	Marrickville Station	Plate compactor	1m	0.03	0.24	3.94	The accelerometer was mounted on the concourse stairwell at Marrickville Station. During the compacting activity, the plate compactor produced vibration levels that were below the established vibration criterion for structurally sound heritage structures (7.5 mm/s). Note that the maximum PPV of 3.94 mm/s was recorded when the plate compactor made contact with the concrete surface. As a result, the plate compactor was allowed to be operated.
		Jumping jack compactor	4m	0.03	0.34	0.86	The accelerometer was mounted on the concourse stairwell at Marrickville Station. During the compacting activity, the plate compactor produced vibration levels that were below the established vibration criterion for structurally sound heritage structures (7.5 mm/s). As a result, the jumping jack compactor was allowed to be operated.

It can be seen from Table 4-1 that the listed vibration intensive equipment produced vibration levels that are below the established vibration criteria. As a result, the risk of cosmetic damage from the listed vibration intensive equipment is confirmed to be negligible.

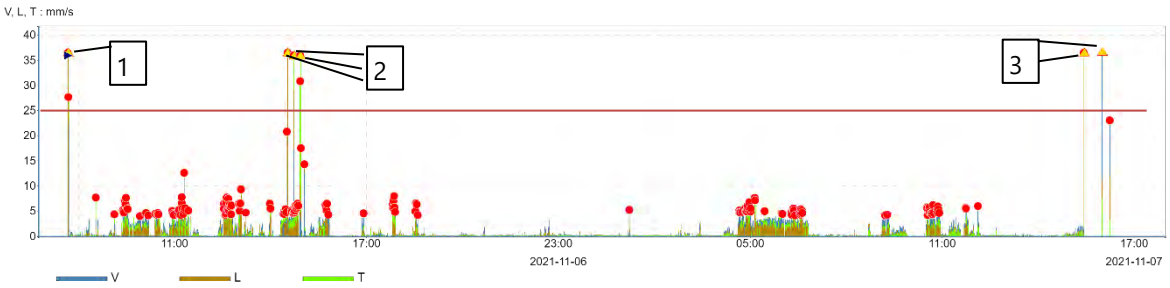
4.2 Unattended vibration monitoring

In accordance with the NVMP, the applicable vibration screening criterion for the affected Lakemba Station platform is shown below:

- Reinforced structures: 25.0 mm/s

The results of the unattended vibration measurements for the affected Lakemba Station platform are presented in Figure 4-1 below.

Figure 4-1: Unattended vibration monitoring results (refer to Appendix A.7)



The discussion of the unattended vibration measurements is summarised in Table 4-2 below.

Table 4-2: Unattended vibration monitoring summary

Exceedance ID	Date and Time	Cause of exceedance
1	06.10.2021 07:40am	At this time, the vibration monitor was mounted on the station platform to commence monitoring. Exceedance was not caused by the nearby rockhammering activities.
2	06.10.2021 02:44pm	At this time, the site engineer confirmed that the exceedances were caused by a rockhammering activity. The rockhammering works were stopped. The construction methodology was changed to reduce the vibration impact. The revised methodology rockhammering works were below the 25 mm/s criterion.
3	06.10.2021 03:26pm	At this time, the vibration monitor was removed from the station platform to complete the monitoring. Exceedance was not caused by the nearby rockhammering activities.

It can be seen in Figure 4-1 that the vibration levels produced from the nearby rockhammering works are below 25 mm/s. Note that there were events that results in an instantaneous vibration level of above 25 mm/s which are justified in Table 4-2.

5 Conclusion

Renzo Tonin & Associates has completed noise and vibration monitoring for the Station Upgrades WE19 possession works for Sydney Metro Southwest. The results of the noise measurements were below the predicted $L_{Aeq\ 15minute}$ levels presented in the Gatewave model prepared for the works. The mitigation and management measures implemented were therefore considered suitable for the measured activities. The results of the attended vibration measurements were below the established vibration criteria. The results of the unattended vibration monitoring at Lakemba Station were typically below the established vibration criterion. There were a few events that resulted in an instantaneous vibration level of above 25 mm/s. The cause of each event is outlined in Table 4-2. Where exceedance was found to be caused by the rockhammering works, the methodology was changed and subsequent vibration generated by the revised rockhammering methodology was below the 25 mm/s criterion.

Document control

Date	Revision history	Non-issued revision	Issued revision	Prepared	Instructed	Reviewed / Authorised
11.11.2021	First Issue	0	1	R. Zhafranata	T. Gowen	T. Gowen

File Path: R:\AssocSydProjects\TM101-TM150\TM150 mt SMSW Lakemba, Marrickville and Canterbury\1 Docs\08 WE19 06.10.2021 Canterbury, Lakemba and Marickville Station N&V mon\TM150-1-08F01 WE19 Noise and Vibration Monitoring Report (r1).docx

APPENDIX A Measurement locations

A.1 15 Croydon Street, Lakemba

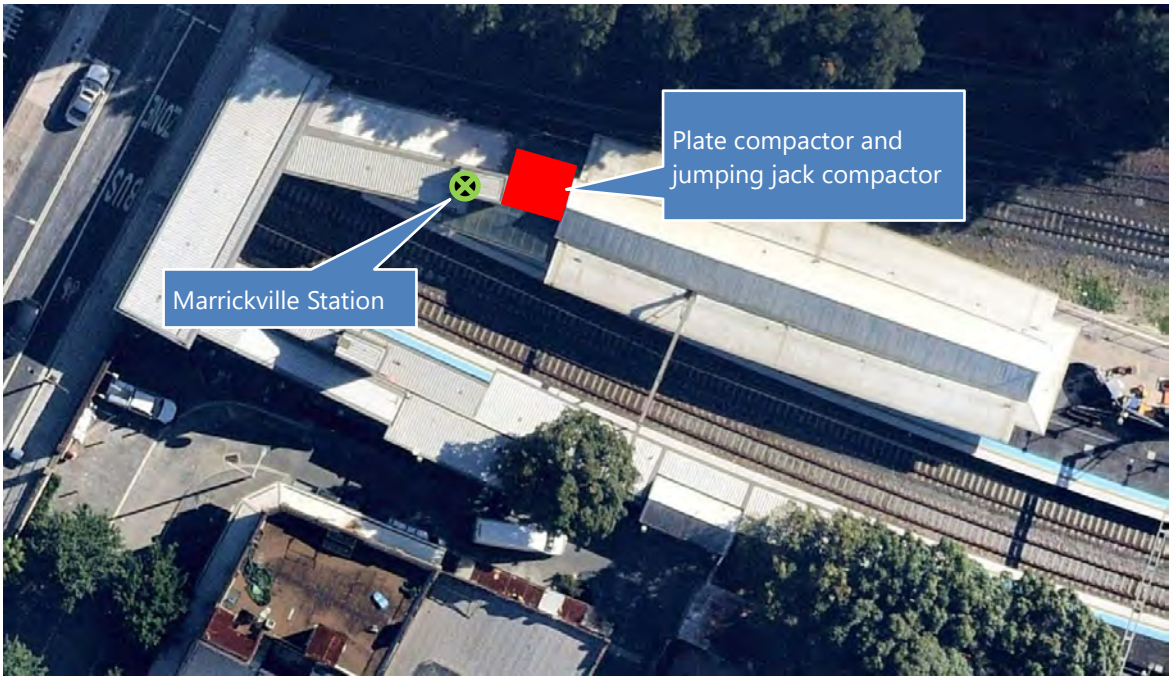
A.2 15 Railway Parade, Lakemba

A.3 64 The Boulevarde, Lakemba

A.4 2 Charles Street and 3 Broughton Street, Canterbury

A.5 11-15 Charles Street, Canterbury

A.6 Marrickville Station



A.7 Lakemba Station