Pre-Construction Minor Works Approval Form

Minor Works are defined as any low impact activities that are undertaken prior to the commencement of 'construction' as defined in the project's applicable planning approval. However if Minor Works affect or potentially affect heritage items, threatened species, populations or endangered ecological communities, these works are defined as 'construction' unless otherwise determined by the applicable planning authority.

Minor Works approvals do not remove any obligation to comply with the project's applicable planning approval conditions (including requirements prior to 'any works' commencing) or obtain any other applicable permits, licenses or approvals as necessary.

This application and all supporting information must be submitted to TfNSW/the Environmental Representative as one (1) PDF file at least 10 business days prior to the commencement of the proposed Minor Works.

Part 1: Application	
Contractor:	Nation Partners
Project:	Sydney Metro
Application Title: (e.g. Smith St trenching works)	Contamination Site Investigation Work At Sydenham and pipe repair works
Application Number:	NP_MWA_04
Application Date:	14 May 2024, updated 12 June 2024, updated again for pipe repair works 2 August 2024
Planning Approval:	SSI_7400. Planning approval pathway in accordance with the approved CSW Staging Report (SSI 7400) - Section 3.1.4 of the staging report - Works Outside of Stages requires the following: Preparation of a Low-Impact Works Application by the relevant contractor and approval by Sydney Metro to confirm that the works do not represent 'Construction' in accordance with the definition provided in the C2S CoA. This application must include (as a minimum): o A detailed description of the proposed works, o An environmental risk assessment (including identification of actual and potential environmental impacts), o Identification of mitigation measures to be implemented to address any actual or potential environmental risks and/or impacts (including details on community consultation relevant to the works), o An Environmental Control Map, and o Endorsement by the Environmental Representative as necessary in accordance with the definition of 'Construction' provided in the C2S CoA.
Minor Works Categories: • Highlight as applicable. • If Items 4, 8 or 11 are applicable, this form must be endorsed by an Environmental Representative.	1. Survey, survey facilitation and investigations works (including road and building dilapidation survey works, drilling and excavation). 2. Treatment of contaminated sites. 3. Establishment of ancillary facilities (excluding demolition), including construction of ancillary facility access roads and providing facility utilities. 4. Operation of ancillary facilities that have minimal impact on the environment and community. 5. Minor clearing and relocation of vegetation (including native). 6. Installation of mitigation measures, including erosion and sediment controls, temporary exclusion fencing for sensitive areas and acoustic treatments. 7. Property acquisition adjustment works, including installation of property fencing and utility relocation and adjustments to properties. 8. Utility relocation and connections. 9. Maintenance of existing buildings and structures.

	10. Archaeological testing under the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010) or archaeological monitoring undertaken in association with other Minor Works to ensure there is no impact on heritage items. 11. Any other activities that have minimal environmental impact, including construction of minor access roads, temporary relocation of pedestrian and cycle paths and the provision of property access.
Planning Authority Determination: Will the proposed works affect or have the potential to affect heritage items, threatened species, populations or endangered ecological communities?	*If 'Yes', this completed form must be endorsed by an Environmental Representative, approved by TfNSW and submitted to the applicable planning authority to determine that the works are not defined as 'construction'.* No

Part 2: Details

Describe the proposed Minor Works:
Including work methodologies, site location(s) and site description(s) (e.g. landscape type, waterways, etc.).
	Description
	• Preparation of a sampling analysis and quality plan (SAQP) to scope and guide the sampling works.
	• Prepare a Health, Safety and Environment Plan (HSEP) and Safe Work Method Statements (SWMS) for the fieldworks.
	• Undertake a site walkover prior to the fieldworks in order to inform the SAQP with respect to intrusive works and the active construction status of the site. In addition, the site visit will aim at confirming availability of the existing wells and suitability for sampling.
	• Completion of underground service clearance works, including Dial-Before-You-Dig search, using a professional service locator to identify and mark services, and non-destructive digging using a hand auger to 1.0 metres below ground level (mBGL).
	• Undertake a sampling program comprising:
	  ○ Drilling using a sonic drill rig at a total of 7 locations within site 3, and associated soil sampling during drilling.
	  ○ Soil bores will be advanced to maximum depth of 4 metres below ground level (mBGL), or 1 m into natural soils (whichever occurs first)
	  ○ Collection of groundwater samples from the existing well network across sites 2 and 3 using HydraSleeves.A total of seven samples are expected to be collected.
	• Laboratory analysis of selected soil and groundwater samples.
	• Preparation of DSI report for site 3 which address the data gaps and concludes on site contamination conditions and suitability for intended land use.
	• **Pipe repair works on the garden bed strip near site entrance on Murray Street. Work will involve using a vacuum truck to excavate and clear the area of soil, cutting and removal of a section of the pipe, installation and poly-welding of a new section and reinstatement of the area including backfilling and vegetation. This activity is planned to begin on Saturday 3 August and continue the following week (anticipated to be completed on 7 August 2024, TBC). No works on Sunday. All activity will take place inside standard construction hours of 7am to 6pm.**

Planned Commencement Date:	Commencing 20 May 2024, finishing 30 August 2024, dates are indicative and subject to change.
Local Sensitivities: Describe the presence (if any) of local sensitive environmental areas and community receptors	N/A

Part 3: Environmental Risk Assessment and Management

Prepare an Environmental Risk Assessment (in accordance with the Sydney Metro Risk Management Standard) and an Environmental Control Map for the proposed Minor Works and attach as Appendix 1.

If an Environmental Risk Assessment and/or an Environmental Control Map for the proposed Minor Works is/are already contained in existing documentation, attach the relevant section(s) as Appendix 1.	
Documentation: List any existing documents (including those referenced above) that the proposed Minor Works will be undertaken in accordance with and attach as Appendix 2 (e.g. plans, procedures, procedures, etc.).	*Appendix 2 – Nation Partners Sampling Analysis and Quality Plan, dated September 2022 and SAQP Addendum, dated 30 May 2024.* *Appendix 2 – Nation Partners Health, Safety, and Environment Plan, dated September 2022, updated May 2024, and updated again with pipe repair works in August 2024* *Appendix 2 – Southwest Excavation SWMS, dated 1 August 2024*

Part 4: Workforce Notification

How will the environmental and community risks and associated mitigation measures of the proposed Minor Works be communicated to the contractor's workforce?	Community notification Site induction Pre-start toolbox SWMS

Part 5: Community Consultation

What community consultation has been undertaken already?	Nil
What community consultation is planned to be undertaken?	Note to be included as part of weekly email update of geotechnical investigations occurring on site given impacts are minor and within the proposed LineWide activities on site. In addition, community notification email has been sent on 31 July 2024. The notification includes location and details of the pipe repair and rectification works to be undertaken, and timeframes for completion (refer to email provided in Appendix 3).
If drafted already, attach applicable Community Notification as Appendix 3.	

Part 6: Contact Details

Nominate contractor's project manager, environmental and communications contact(s).

Name:	Liam Gooley / Adeline Menet	**Position:**	Project Director	**Phone:**	0418 689 493 / 0418 949 219
	Adeline Menet		Project Manager		0418 949 219
	Aidan Smith		Field Manager		0401 313 351

Part 7: Signature

This signature acknowledges that the proposed Minor Works will be undertaken in accordance with this application, have minimal environmental impact and are not defined as 'construction' in accordance with the applicable planning approval.

Name:	Adeline Menet

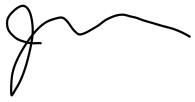
Signature:		**Date:**	2 August 2024

Determination Page

(TfNSW/Environmental Representative Use Only)

12. Endorsement/Approval

These signatures represent formal endorsement/approval for the proposed Minor Works to commence in accordance with this application and the applicable planning approval requirements (subject to any determination from the applicable planning authority as may be required by the planning approval conditions).

	TfNSW Principal Manager, Communication & Engagement – Endorsement (required for all applications)	**TfNSW Principal Manager, Sustainability, Environment & Planning** – Approval (required for all applications)	**Environmental Representative** – Endorsement (required as necessary in accordance with the applicable planning approval, optional for all other circumstances)
Signature:			
Name:	James Porter	Fil Cerone	Maulik Bapodara
Date:	2/8/24	2 August 2024	02/08/2024
Comments:			This ER endorsement is for minor works related to pipe repairs near Site entrance at Murray St. The ER understands that this activity is planned to commence on Saturday 3 August 2024 and continue the following week (anticipated to be completed on 7 August 2024, TBC), no works on Sunday and all activities will take place during standard construction hours of 7am to 6pm.
Conditions:			*All control measures to be implemented in accordance with the below Environmental Risk Assessment and ECM.*

☑	Approved (by Sydney Metro)
☐	Endorsed (by Environmental Representative)
☐	Rejected

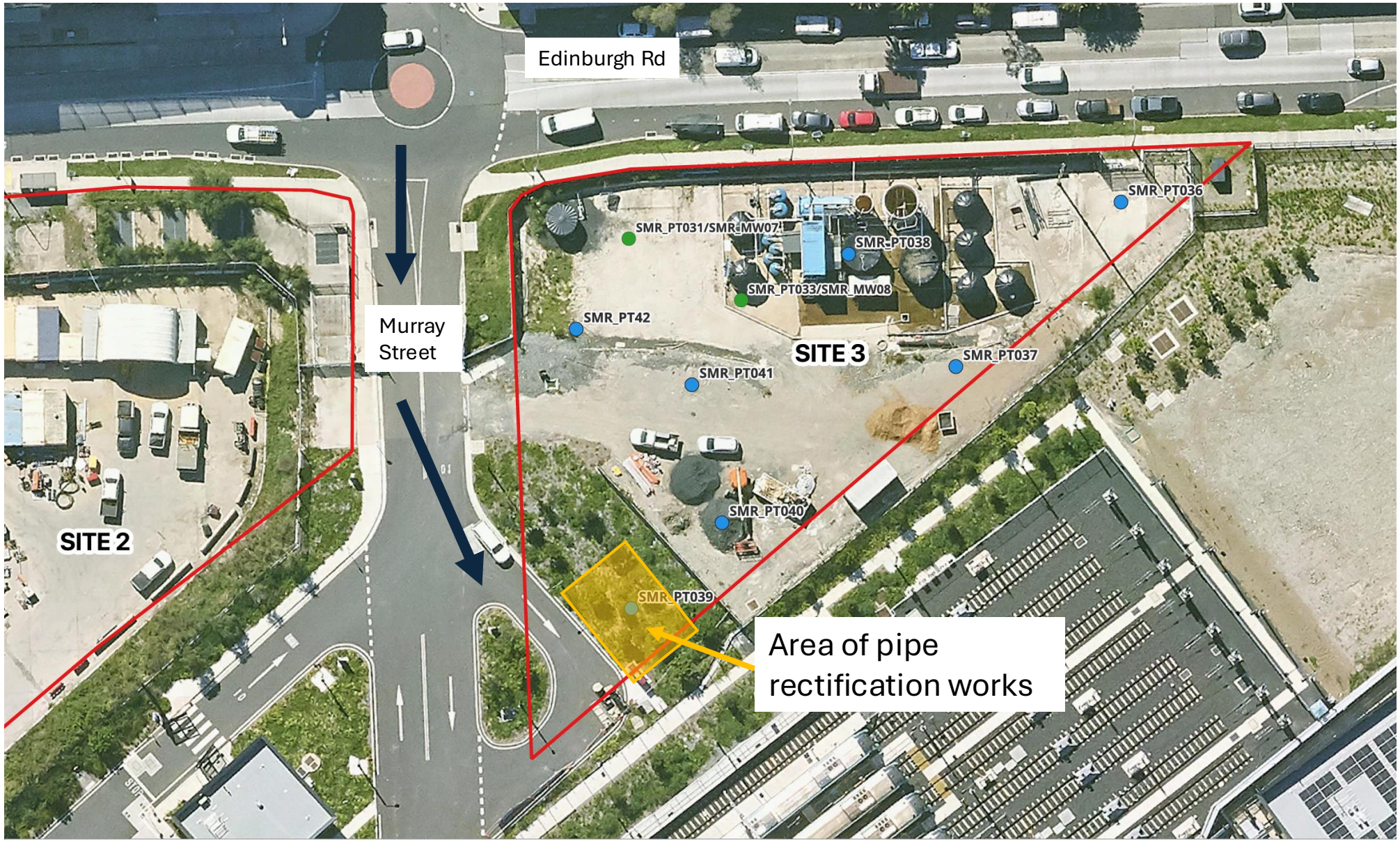
Appendix 1: Cover Page

Environmental Risk Assessment and Environmental Control Map.

Pipe rectification works are considered to be low impact works and do not represent 'Construction' in accordance with the definition provided in the C2S CoA.
Environmental Hazards and Controls: details are included in the SWMS and the safety documentation provided in Appendix 2.
A summary of the Environmental Risks and Controls is presented below.

Environment Hazards, Risks & Controls			
What are the tasks involved?	**What are the hazards and risks?**	**What are the control measures?**	**What is the residual risk rating?**
Site works cause pollution from waste	Contamination of environmental receptors Non-compliance with regulations	**Elimination –** Waste should be minimise during site works. Work area to be kept tidy and clean **Engineering Controls** - Contractor will implement vac truck to contain any waste generated during pipe repair works. No refuelling onsite. **Administrative** - Conduct a Take 5, toolbox talk, and an induction to communicate any potential risks and remind the avoid, reduce, reuse and recycle principles. Keep waste classification documentation for appropriate disposal.	Low
Coring, drilling works or excavation woks cause water pollution	Contamination of drains and the stormwater system Contamination of water bodies Non-compliance with legislation	**Engineering Controls** - Contractor to provide wet vac to control water and sediments. If required, water diversion controls, erosion and sediment controls will be placed accordingly. **Administrative** – Check weather and be prepared for unexpected weather events. Conduct a Take 5, toolbox talk, and an induction to communicate any potential risks **PPE –** Subcontractors will be required to have adequate spill and emergency response equipment on site	Low
Pipe repair works involving removal of ground cover	Pipe repair works cause erosion and sediments, or water release	**Engineering Controls** – Contractor to provide wet vac to control water, and implement ERSED controls. If required, water diversion controls, erosion and sediment controls will be placed accordingly. **Administrative –** Check weather and be prepared for unexpected weather events. Conduct a Take 5, toolbox talk, and an induction to communicate any potential risks. Ensure pipe is disconnected prior to conducting pipe repair works (no water released). **PPE** – Subcontractors will be required to have adequate spill and emergency response equipment on site.	Low
Operation of drill rig, plant or generators	Noise impact on surrounding community Noise pollution	**Elimination –** Plan work activities to avoid working in noisy locations and / or during specific periods of high noise wherever possible. Minimise the time spent, and the number of employees attending noisy locations.	Low

		Substitution – If using handheld equipment, select equipment with lower noise outputs where possible. Consult with construction contractors to encourage the selection of plant and equipment with low noise outputs (to the extent practicable). **Isolation –** Arrange work areas to facilitate separation (distance) between boundaries and noise sources or minimise the duration of noisy work near boundaries. **Engineering Controls –** Use modern, low noise driller. **Administrative –** Use inductions and toolbox talks to discuss the risks associated with noise. Implement community notification as required (to be undertaken by Sydney Metro).	
Works increase dust emissions	Impact on surrounding community Air quality contamination	**Elimination –** Implement dust suppression techniques if required (e.g. watering), avoid the formation of dust plumes from site works and stick to established access routes where possible. **Administrative** – Review weather forecast for potential high winds. Conduct a Take 5, toolbox talk, and an induction to communicate any potential risks. Observe for potential asbestos, if present manage appropriately.	Low
Works cause erosion and sediment runoff	Contamination of soil Impact on infrastructure Contamination of the stormwater system	**Engineering Controls – Implement ERSED controls.** Install 'if required' clean water diversion channels/drains and maintain them and drainage and erosion, sediment controls. Remove Erosion and sediment controls once area is stabilised. **Administrative** - Conduct a Take 5, toolbox talk, and an induction to communicate any erosion and sediment potential risks	Low



Environmental Control Map

- Site access/egress for trucks will be via Edinburgh Road and Murray Street, near the roundabout. All vehicles will be parked in dedicated areas and will not block traffic. (TBC during site induction).
- Spill kits will be located in each vehicle/truck onsite.
- Pipe rectification works will start Saturday 3 August 7 am and will continue the following week (anticipated to be completed by 7 August 2024, TBC). Hours of works will be 7 am to 6pm. No works Sunday.
- ERSED controls will be in place to limit water and sediment discharge. Dust is expected to be minimal. Wet vacum will be implemented, all waste will be contained. No mud or sediments to be tracked off the site, no waste to enter drains.
- Excavation will be barricaded with signage to prevent access, and the work area will be cordoned off.
- All waste to be collected and disposed in appropriate bins.
- Site Contact: Aidan Smith 0401 313 351

Environmental Control Map

Sydney Metro Sydenham Rail Corridor Development

Legend

- Site Boundary - Site 3
- Proposed borehole locations
- Monitoring Well

DATA SOURCES
Imagery: Nearmap, 2022

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Appendix 2: Cover Page

Environmental Management and Safety Documentation.

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SOLUTIONS
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PROJECTS

Sydney Metro Rail Corridor Development, Sydenham - Health Safety and Environment Plan (HSEP)

Sydney Metro

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With expertise in projects in the government, transport, water, property and urban development sectors, we provide a suite of services aptly tailored to each client and project at hand.

Document title
Sydney Metro Rail Corridor Development, Sydenham - Health Safety and Environment Plan (HSEP)

Version
4.0

Date
August 2024

Prepared by
Nelson Phillips and Adeline Menet

Approved by
Liam Gooley

File name
HSEP – Sydney Metro Sydenham V4.0

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Table of Contents

1. Introduction

1.1 Purpose and Scope

Nation Partners has been engaged by Sydney Metro to undertake a Detailed Site Investigation (DSI) of Sydney Metro's residual land adjacent to the Sydney Metro Train Facility South (SMTFS) and Marrickville Dive Sites. The residual land includes two land holdings, Site 1, and Sites 2 and 3 (as one land holding). The DSI includes Site 2 and Site 3 only. Site 2 and Site 3 (collectively referred to as 'the site') are both located on Sydney Steel Road (with frontage to Edinburgh Road), Marrickville and are separated by Murray Street. The location of the site is shown in Appendix A of this plan.

Site 2 and Site 3 are both currently being used for construction staging and are proposed to be sub leased as a bus depot. Upon completion of the Sydney Metro City & Southwest Project (SMCS), they are intended to be redeveloped and/or divested by Sydney Metro.

Investigations works have mostly been completed for Site 2, and additional works are required to be completed to close data gaps identified in Site 3. This HESP has been updated to reflect additional works proposed.

Nation Partners' DSI will support Sydney Metro to address data gaps (as identified in the Sampling, Analysis and Quality Plan [SAQP] prepared by Nation Partners), and inform remediation requirements and costs (if required) associated with proposed future land use.

The stages to be undertaken during the investigation comprise:

- ***Project Inception, Planning and Safety*** – Initial planning, scoping and access arrangements to meet Sydney Metro and Nation Partners safety and operational requirements for undertaking investigation works at the site.
- A site visit is proposed to assess the suitability of the previously installed monitoring well networks and condition of Site 3 for investigation.
- ***Mobilisation*** – Planning, safety and approvals, and initial site mobilisation to undertake site works that consist of completing direct push soil sampling bores and installing and sampling groundwater (GW) wells (already completed).
- Additional soil sampling – mobilisation to site with a sonic drill rig for the collection of representative soil samples for 6 locations over 2 days (Site 3).
- Groundwater – completion of a site wide groundwater monitoring event at up to 8 existing locations over one day. This is to be confirmed depending on site conditions.
- ***Reporting*** – Preparation of the DSI report and delivery to Sydney Metro and the Site Auditor (Completed for Site 2).
- Preparation of a DSI report for Site 3.

Nation Partners will undertake the investigation with the assistance of specialist drilling and testing subcontractors who have been assessed and approved based on their Health, Safety and Environment (HSE) procedures, practices and track record. Regarding health and safety matters all personnel and subcontractors engaged on this project and/or referenced in this document will be required to abide by the directions of the Site Investigation Supervisor.

- In addition, pipe rectification works will be undertaken by Southwest Excavations on a pipe within the garden bed area near the site entrance as requested by Sydney Metro. Nation partners will observe these works. A site representative from SMTF will be required to confirm adequacy of repair works prior to backfilling.

1.2 Objectives

This Health, Safety and Environment Plan (HSEP) has been developed as an overarching document for the management of HSE risks for the work to be undertaken by Nation Partners and sub-contractors at the site.

The objectives of HSEP are to:

- Ensure all activities comply with applicable legal requirements and guidelines;
- Ensure the management of HSE during the site investigation is consistent with Nation Partners, Sydney Metro and Systems Connect (as principal contractor) requirements;
- Ensure that foreseeable HSE risks are appropriately identified and managed through the hazard identification, risk assessment and control process
- Protect environment and heritage values; and
- Promote reduction and prevention of pollution, efficient use of resources and energy and biodiversity protection.

During works a hard copy of this HSEP will be always available on site and electronic copies will be shared via email. All parties involved in the works will conduct their operations in accordance with this HSEP, the project requirements and applicable legal and other requirements. The HSEP will be regularly monitored and reviewed to ensure currency and effectiveness. Opportunities will be sought for continuous improvement and amendments made to health and safety systems and documentation as appropriate. Additionally, Nation Partners will adhere to Systems Connect's Site Management Plans.

1.3 Approval

This HSEP is subject to the approval of Nation Partners and Sydney Metro.

1.4 Guidelines and Legislation

This HSEP has been developed in accordance with the management plans of the primary contractor currently operating the site, Systems Connect. These management plans include:

- Construction Environmental Management Plan – C2B
- Construction Noise and Vibration Management Plan – C2B
- Air Quality Management Sub-Plan -C2B
- Flora, Fauna and Biodiversity Management Sub-Plan – C2B
- Heritage Management Sub-Plan – C2B
- Soil, Water and Groundwater Management Sub-Plan C2B
- Visual Amenity Management Sub-Plan – C2B
- Waste, Spoil and Recycling Management Sub-Plan – C2B

Additionally, this HSEP has been developed in accordance with the following relevant guidelines and legislation:

- Work Health and Safety Act 2011;
- Work Health and Safety Regulations 2017;
- Code of Practice: How to Safely Remove Asbestos; and
- Protection of the Environment Operations Act 1997 (PEOE Act).

2. Site Investigation Details

Table 2.1 – Site Investigation Details

Site Investigation Details	
Activity description	Drive to/from Sydenham, site inspection, service locating, service clearances, direct push soil sampling bores, install and sample GW wells (completed) **Additional scope:** Drive to/from Sydenham, site inspection, service locating, service clearances, direct push soil sampling bores (6 location in Site 3), sample GW wells (8 existing well across Sites 2 and 3 TBC) – completed. Additional scope includes pipe repair works to be completed by Southwest Excavations. Nation Partners will observe these works.
Date and time	Between May 2024 and July 2024 (completed). Pipe repair works will start Saturday 3 August, 7am and will continue the following week (estimated completion of 7 August 2024). No works on Sunday. All works will be completed within standard construction hours 7:00am to 6:00pm.
Lead Contractor	Nation Partners
Subcontractors	Drilling – Legion Drilling (Completed) Service Locating and Concrete Coring – Durkin (Completed) Pipe repair –Southwest Excavations Pty Ltd (as per Sydney Metro request).
Site Investigation Supervisor	Nelson Phillips / Aidan Smith
Pipe Rectification Observer	Aidan Smith
Location/s	Sydenham RCD and SMTF near Murray street roundabout

Nation Partners travel requirements	Travel will be to and from site by car. Work will generally commence no earlier than 7:00am and be complete no later than 6:00pm.
Induction process	One initial site induction by Systems Connect. Then one project specific induction performed by Nation Partners for Nation Partners staff and sub-contractors. Induction from Sydney Metro Trains (SMT) to be completed for pipe repair works.
PPE	Hard hat, long sleeve shirt and pants, hi-vis vest or shirt, steel cap boots, safety glasses, gloves. P2 masks and hearing protection will be provided if required. Hearing protection only required when working within 10 m of operational plant. P2 masks will be made available for all site staff. Nitrile gloves to be used when collecting samples. Hardwearing gloves to be used for any manual tasks. PPE requirements for subcontractor works are detailed in subcontractor SWMS, to be provided. Where Nation Partners personnel approach or are otherwise involved in sub-contractor works, all PPE requirements of the sub-contractor SWMS will also be implemented.

Table 2.2 – Site Investigation Scope, Delivery Personnel, Location and Safety Documents

Scope	Delivery Personnel Details, Safety Documentation and Work Dates	Works Location
» Development of an SAQP, update for additional scope (SAQP Addendum). • Prepare a HSEP, update for additional scope. • Attend a meeting with Sydney Metro and the Site Auditor to discuss the SAQP and agree on required adjustments to the proposed scope prior to undertaking site works and discuss site access (completed). • Site visit to assess the suitability of the previously installed monitoring well network and condition of Site 3 for investigation. • Undertake site works to collect additional environmental data.	**Nation Partners** **See SWMS**: Appendix B **Days on site:** 0.5 days for site inspection (estimated **Dates**: June 2024 - Completed **Activities:** Site Inspection (assess site, existing sample locations [e.g. monitoring wells] and proposed sampling locations), site conditions (e.g. fill removal) **Plant / equipment:** Site vehicle **Contact Name and Number:** Nelson Phillips. 0400 734 125 Aidan Smith 0401 313 351 **Nation Partners and Subcontractors**	NP Office and Sydenham site

• Collate and interpret environmental data and prepare DSI report. • Attend a meeting with Sydney Metro and the Site Auditor to discuss the outcomes of the site investigation (completed), TBD for additional scope. • Finalise the site investigation report and deliver to Sydney Metro and the Site Auditor (completed). Prepare a DSI report for Site 3 to document findings of the investigation and additional scope. • Additional scope item: pipe repair works due to damage during drilling. Nation Partners will observe these works which will be conducted by Southwest Excavations.	**See SWMS**: Appendix B and C (TBC) **Days on site:** 2 days for drilling and soil sampling, 1 day for groundwater sampling with Hydrasleeves.15 (estimated) **Dates:** Between June and July 2024 (completed) **Activities**: Underground service clearance**,** drilling and soil sampling, sample GW wells. **Plant / equipment:** Drill rig, trucks, car, dip meter, water quality meter, hydrasleeves and hand tools **Contact Name and Number:** Nelson Phillips 0400 734 125 Aidan Smith 0401 313 351 Additional scope: Days on site and dates: Induction and site prep works start Saturday 3 August by Southwest Civil, Nation Partners will observe works from Monday 5 August until completion anticipated to be 7 August 2024, (TBC). Activities: pipe rectification and repair works by the subcontractor. Plant / equipment: vac truck, excavator, support truck, tools Contact Name and Number: Aidan Smith 0401 313 351 (Nation Partners) Daniel Millar 0424 122 408 (Southwest Excavations)	

3. Responsibilities

The site investigation works will be delivered by Nation Partners and their sub-contractors. Staff of both Nation Partners and sub-contractors will be responsible for the management and implementation of safe work practices on this project.

Table 3.1 - Roles and Accountabilities

Role	Name	Accountabilities
Project Director	Liam Gooley / Adeline Menet	Approval of safety documentation
Project Manager	Adeline Menet	Approval of safety documentation
Site Investigation Supervisor / Site Works Manager	Nelson Phillips Aidan Smith	Review of sub-contractor SWMS Supervision of subcontractors Toolbox talks
Sub-contractors	Drilling Contractor - Legion Drilling (Completed) Underground Service Locating Contractor – Durkin (completed) Pipe repair works - Southwest Excavations	Provision of SWMS Adherence of SWMS and HSEP Adherence of Site Investigation Supervisors safety directions

4. Training and competency

4.1 Site Induction

For the investigation works, it is understood that Sydney Metro contractor will induct Nation Partners and sub-contractors to the site. A Nation Partners site representative will induct all sub-contractors and visitors to Nation Partners' work area to this HSEP, ensure their understanding, and require sign on to the document. Nation Partners will ensure that one appropriately qualified environmental advisor supervises the investigation works conducted by all sub-contractors. All sub-contractors will be required to provide a SWMS prior to the site investigation works.

Pipe repair works are within a portion of the wider side controlled by SMT, who will induct Nation Partners and contractors undertaking the repair works.

4.2 Rail Industry Worker (RIW) requirements

Works are not within the rail corridor. If required, Nation Partners will ensure all team members undertaking field works and all sub-contractors have a valid RIW card. A register is provided in Appendix D which will document RIW card numbers of all personnel including sub-contractors.

4.3 Staff Competency

Nation Partners will ensure that an appropriately qualified environmental consultant conducts the site investigation works during the environmental site investigation.

4.4 Sub-contractor Competency

All sub-contractors will be required to provide a SWMS prior to the site investigation and pipe repair works, which will be reviewed by Nation Partners.

The competence of workers carrying out any work involving the operation of powered mobile plant (including drill rig) will be verified prior to the commencement of any works.

The competence of service locators has been confirmed via the BYDA process and will be verified on-site prior to the start of works (see SWMS in Appendix B).

Pipe repair works will be undertaken by the subcontractor Southwest Excavation, as requested by Sydney Metro. Nation Partners will observe these works only. Asset owner (SMT representative or other as appropriate) will confirm repairs are adequate prior to backfilling. The competency of Southwest Excavation workers will be verified by Sydney Metro.

4.5 Certifications and Insurances

Nation Partners will obtain relevant sub-contractor insurances and certifications prior to the commencement of site works.

4.6 Sub-contractor Plant and Machinery

It is the responsibility of the sub-contractor to ensure that all mobile plant operating on-site will be safe for use, fit for purpose and licensed or registered as required.

5. Consultation and Communication

The following forms of safety communication and consultation will be utilised throughout the site investigation works so that workers are aware of and understand safety requirements and procedures to be undertaken during the site investigation.

Community notifications for the pipe repair works will be undertaken by Sydney Metro.

5.1 Safe Work Method Statement

Nation Partners will provide Sydney Metro and Systems Connect with a SWMS specific to our tasks prior to the commencement of works, in addition to relevant sub-contractors' SWMS. All workers, including sub-contractors, will sign onto the relevant SWMS prior to the commencement of works.

Completed SWMS will be kept with the Project Manager for the duration of the work.

5.2 Take 5

Nation Partners will conduct a 'Take 5' form at the commencement of each workday, to identify any changes or additional hazards and notify colleagues of working arrangements.

Where the Take 5 identifies hazards that are substantially different to the SWMS, the SWMS will be revised and communicated.

5.3 Toolbox Talks

A pre-start toolbox talk will be conducted by the site investigation supervisor with all workers on the site, including sub-contractors, at the commencement of works each day, and as conditions change throughout the day (if necessary).

All workers will sign onto the Toolbox Talk prior to commencing work. Completed Toolbox Talks will be kept with the Project Manager for the duration of the work.

5.4 Sub-contractor Safety Documentation

All sub-contractors will communicate their SWMS prior to commencing work. Nation Partners will review sub-contractor SWMS and check for appropriateness. Once engaged, all sub-contractors SWMS will be attached to Appendix C, and will be provided to Sydney Metro and SMT prior to commencement of works.

6. Hazards Identification and Controls

Nation Partners has conducted a desktop risk assessment to inform identified safety and environment hazards and controls associated with the data gaps investigation works. The details of the assessment have been provided in the SWMS in **Appendix B**

The primary hazards and associated controls have been outlined in **Table 6.1**. and **Table 6.2.** These hazards along with less severe hazards are also addressed in the SWMS.

Table 6.1. Health and Safety Hazards and Controls

Primary Hazard	Controls
Contact with above or below ground services	**Elimination -** Obtain underground service plans prior to drilling works. Validate the presence of electrical infrastructure via a qualified service locator. Abide by safe working distances. Assume that all cables are live until proven otherwise. **Substitution -** If underground or above ground services exist, conduct drilling works in an alternative location. **Isolation & Engineering Controls** - Clearly mark underground services and where possible, use physical barriers or fences to isolate both above and below ground services. Use Non Destructive Drilling (NDD) methods for uppermost 1.5 m (or until natural, undisturbed ground is confirmed with minimum 1.0 m NDD). **Administrative -** Identify potential hazards, conduct a Take 5, toolbox talks, and inductions. Clearly mark and record location of services following service checks for future reference. Ensure accreditation of locator prior to start of works and record on SWMS. **PPE -** Wear appropriate PPE when conducting service checks and site work including steel cap boots, hard hat, high-vis long sleeve shirt and pants, and when necessary, gloves and safety glasses. A copy of the Nation Partners Service Clearances Standard Operating Procedure is provided in Appendix E. The pipe repair works will include exposure of the pipe via potholing.
Work near mobile plant or vehicle (operated by other sites users or sub-contractors)	**Elimination –** Minimise number of employees and time spent working near a mobile plant or vehicle. **Substitution –** Consult with construction contractors to encourage the selection of equipment with lower risk profiles. **Isolation –** Arrange working areas to facilitate separation (distance) between staff and use of mobile plant or vehicle, including minimising duration of work. Ensure work area of staff is >3 m beyond maximum reach of machinery. **Engineering Controls –** Where possible, use physical barriers / fencing to separate people from use of mobile plant or vehicle. Ensure required guarding is properly fitted and that emergency stops are operational (to be tested before use). Where practical place vehicle between work area and plant. **Administrative –** Identify potential hazards, conduct a Take 5, toolbox talk, and an induction to address safe work near mobile plant or vehicle. Establish clear communication and approach protocols with plant/vehicle operators, ensure they are appropriately trained, and hold required certificates of competency. Do not approach moving plant & ensure positive communication of intent before approaching to undertake sampling. **PPE –** Adopt minimum standards of PPE including steel capped boots, high visibility vest, hard hat, long pants and long sleeves to mitigate impacts associated with working around plant. Safety glasses and gloves are available for staff.
Work near drilling	**Elimination –** Do not access the areas around drilling unless it is necessary. Plan work tasks to minimise the time spent working near drilling. Ensure that all underground services are identified and isolated / protected prior to excavation.

Primary Hazard	Controls
	Isolation – Use bollards (or other temporary fencing) to physically separate workers and site traffic from drilling works. **Engineering Controls –** Drilling cage is to be in place while rotary augers are in use. All members of the field team are to be familiar with the location of the emergency cut off switch on the drill rig **Administrative –** Identify potential hazards, conduct a Take 5, toolbox talk, and an induction to communicate with other workers regarding excavations. **PPE –** Adopt the minimum PPE requirements for construction sites.
Work near moving plant and excavation during pipe repair works, resulting in crush injuries or collision	**Elimination –** Do not access the areas around excavation unless it is necessary. Plan work tasks to minimise the time spent working near excavation. Ensure that all underground services are identified and isolated / protected prior to excavation. Expose pipe needing repair via potholing. All personnel to remain outside the plant operating zone. **Isolation** – Use bollards (or other temporary fencing) to physically separate workers and site traffic from works. **Engineering Controls –** to be discussed during the pre-start briefing. Plant operating zone to be set up using barriers and signage, personnel to remain outside the plant operating zone, implement clear communication on plant movement. Open trenches to be barricaded off to prevent access. **Administrative –** Identify potential hazards, conduct a Take 5, toolbox talk, and an induction to communicate with other workers regarding excavations. **PPE –** Adopt the minimum PPE requirements for construction sites.
Working near open trenches, resulting of falls	**Elimination and isolation –** Do not approach open trench. Hard barricades and signage to be erected around open excavations. **Engineering controls -** All trenches will require edge protection, and area will be delineated at least 1 metre away from the edge of the trench. Trenches that are to be left open will be barricaded off with signage to prevent access. Safe and compliant access to be provided into trench if required for inspection of works. **Administrative –** Identify potential hazards, conduct a Take 5, toolbox talk, and an induction to communicate with other workers regarding excavations. **PPE –** Adopt the minimum PPE requirements for construction sites.
Contact with Contaminated soil, water or air	**Elimination –** Do not enter any contaminated site if risks associated with exposure to contaminated soil or water cannot be adequately controlled. **Isolation -** Avoid contact with all equipment that has been in contact with potentially contaminated materials. Where contact is necessary, ensure appropriate PPE is always worn. Decontaminate equipment at the earliest appropriate opportunity via the use of high-pressure washer and Decon 90 (or PFAS sampling friendly detergent). Decontamination washing will occur over a purpose-built decontamination unit or with purpose specific equipment. Do not touch face or exposed skin and wash down any exposed skin with soap/disinfectant immediately. **Administrative –** Identify potential hazards, conduct a Take 5, toolbox talk, and an induction to communicate any potential risks. **PPE –** Use appropriate PPE, as determined through the desktop review of contamination issues to protect workers from exposure to contamination. In this instance minimum PPE is nitrile gloves, long sleeve shirt and pants, safety boots, hi vis vest, helmet, sampling gloves and P2 masks when in proximity or when sampling (if deemed appropriate by field personnel).
Contact with airborne asbestos	**Elimination –** Removing non-friable asbestos if licensed, do not use high pressure water sprays, compressed air, brooms or anything else that might release asbestos into the air. Minimise dust during work activities. **Isolation** – Do not approach site while construction works are occurring and asbestos has been identified, enclose, encapsulate and/or seal asbestos if possible. Use fencing/barricades and/or

Primary Hazard	Controls
	labels or warning signs to stop public from approaching the area. Use machinery with enclosed cabins. **Engineering Controls –** Avoid work during dry or windy conditions, particularly if wind direction is towards public areas. Implement wet construction method if large amounts of dust are created on site. **Administrative –** Identify hazards and record them on register. Develop SWMS, conduct Take 5, Toolbox talk and induction work to communicate to other workers about asbestos and dust work methods and procedures to minimise exposure. Collect samples of ACM for the purpose of analysis. Position personnel away from dust generating activity by establishing exclusion zones. **PPE –** Personnel should be wearing respirators, eye protection, long sleeves, long pants and safety boots at all times. Tyvek coveralls should be worn during sampling works and when in contact with soils.
Sub-contractor works and services	**Elimination –** Non-critical investigation works will be avoided/eliminated wherever an increased safety risk arises. **Isolation** – Do not approach any specialist sub-contracting service provider (or the associated workspace) without positively communicating your intention to approach and receiving an unambiguous response that it is safe to do so. **Engineering Controls –** Ensure that contractors implement engineering controls in accordance with their SWMS and in accordance with safety controls outlined in Nation Partners SWMS. **Administrative** – Ensure all subcontractors are experienced and appropriately qualified to deliver the scope of works. Reassess risks regularly and at the toolbox talks. Review subcontractor SWMS and supervise regularly to ensure strict compliance with controls. **PPE** – Ensure all subcontractors utilise PPE in accordance with SWMS.
Heavy Vehicle National Law (HVNL) / Chain of Responsibility	**Substitution –** Use plant and machinery right for size, where possible do not use heavy vehicles. It is noted that long drives are unnecessary for this project reducing risks, particularly fatigue. **Administrative** – Ensure all subcontractors operating heavy vehicles have appropriate plans in place to manage compliance with HVNL, including: Speed; Fatigue; Mass; Dimensions; Load Restraint and Vehicle Standards/ Roadworthiness. Review, monitor and communicate potential risks and any required updates due to changes via a Take 5, toolbox talk, and an induction.

Table 6.2 Environmental Hazards and Controls

Primary Hazard	Controls
Dust	**Elimination –** Implement dust suppression techniques 'if required' (eg. Watercart), avoid the formation of dust plumes from site works and stick to established access routes where possible. **Administrative** – Review weather forecast for potential high winds. Conduct a Take 5, toolbox talk, and an induction to communicate any potential risks. 'If asbestos is present, manage these appropriately
Coring, drilling works or other excavation works cause water pollution	**Engineering Controls** – Contractor to provide wet vac to control water. If required, water diversion controls, erosion and sediment controls will be placed accordingly. **Administrative –** Check weather and be prepared for unexpected weather events. Conduct a Take 5, toolbox talk, and an induction to communicate any potential risks **PPE** – Subcontractors will be required to have adequate spill and emergency response equipment on site

Pipe repair works cause erosion and sediments, or water release	**Engineering Controls** – Contractor to provide wet vac to control water, and implement ERSED controls. If required, water diversion controls, erosion and sediment controls will be placed accordingly. **Administrative –** Check weather and be prepared for unexpected weather events. Conduct a Take 5, toolbox talk, and an induction to communicate any potential risks. Ensure pipe is disconnected prior to conducting pipe repair works (no water released). **PPE** – Subcontractors will be required to have adequate spill and emergency response equipment on site.
Waste Management	**Elimination –** Waste should be minimised during site works. Work area to be kept tidy and clean **Controls** – Contractor will implement vac truck to contain any waste generated during works. No refuelling onsite. **Administrative** – Conduct a Take 5, toolbox talk, and an induction to communicate any potential risks and remind the avoid, reduce, reuse and recycle principles.
Unexpected Heritage	**Controls –** Stop works immediately, restrict access and contact Systems Connect personnel **Engineering Controls –** Use appropriate fencing and signage to restrict access and minimise impacts to heritage values **Administrative** – Conduct a Take 5, toolbox talk, and an induction to communicate any potential risks

7. Incident Notification

7.1 Incident Report Procedure

The following steps outline the basic incident reporting procedure to be undertaken should an incident arise during the site investigation:

- Pre-brief / induction to contain information regarding incident notification at Site;
- Call Nation Partners Project Manager (inform cause of the incident) Adeline Menet 04 18 949 219 ;
- Inform the Systems Connect site representative of the incident (or SMT as relevant);
- Fill-out NP Incident Report;
- Fill out Systems Connect Incident Report (with Systems Connect site representative or MTS as relevant)
- NP WHS representative will investigate the incident including, root cause, analysis and implementation of corrective actions;
- Assist in the investigation of the incident with Systems Connect or SMT (if required); and
- Project Manager to inform Sydney Metro of the incident and assist with their internal investigations.

8. Emergency Plan

8.1 Emergency Response Procedure

The following steps outline the basic emergency response procedure to be undertaken should an emergency arise during the site investigation:

- Pre-brief / induction to contain information regarding emergency and /or evacuation plan at the Site;
- Follow instructions in case of emergency; and
- Call 000 for all emergencies.

Assembly Point

Ensure pre-brief / induction contains information about assembly point at site should an emergency arise.

Location of Vehicle

Ensure location of staff vehicle is always known.

8.2 Emergency Evacuation

Where any person becomes aware of an incident, occurrence or risk that requires an evacuation of the site, that person shall communicate the need directly to the Site Investigation Supervisor.

The Site Investigation Supervisor will communicate with all personnel present on-site as soon as practicable and if necessary, inform them directly of the need to evacuate (face to face or phone call).

The Site Investigation Supervisor will communicate directly with Sydney Metro representatives or other personnel on-site regarding the need to evacuate (face to face or phone call).

The Site Investigation Supervisor will be responsible for ensuring that all personnel associated with the environmental investigation works have evacuated from the site following Sydney Metro evacuation plan.

Once all persons are safe the Site Investigation Supervisor will contact the Project Manager (Bradley Coates).

This process will be communicated to all sub-contractors at the site induction and reiterated at the morning tool-box talks.

8.3 First Aid

All Nation Partners staff are first aid qualified. A fully stocked first aid kit will be kept on site with field staff during the site investigation

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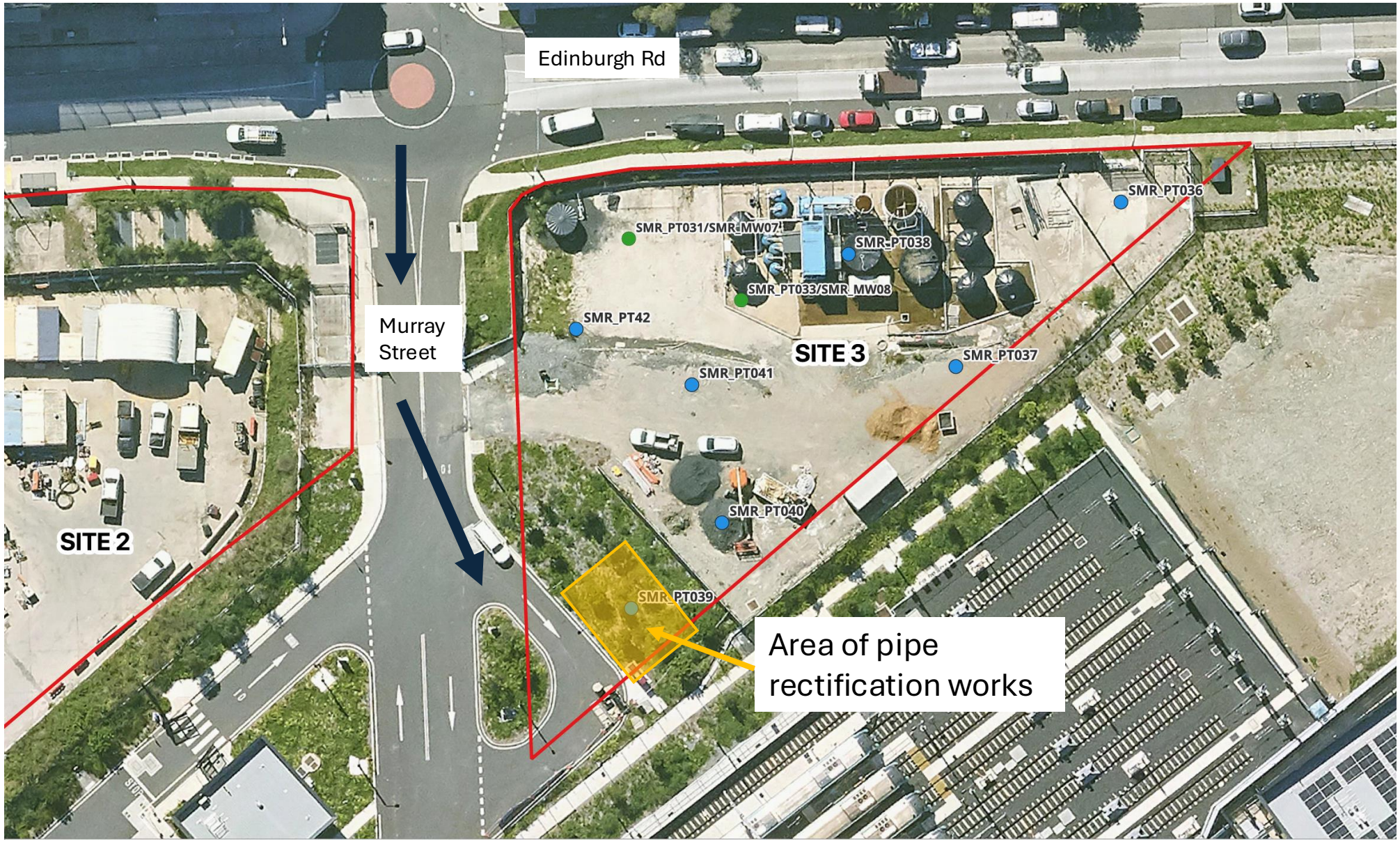
SOLUTIONS FOR
COMPLEX PROJECTS

Appendices

Appendix A - Figures



Environmental Control Map

- Site access/egress for trucks will be via Edinburg Road and Murray Street, near the roundabout. All vehicles will be parked in dedicated areas and will not block traffic. (TBC during site induction).
- Spill kits will be located in each vehicle/truck onsite.
- Pipe rectification works will start Saturday 3 August 7 am and will continue the following week (anticipated to be completed by 7 August 2024, TBC). Hours of works will be 7 am to 6pm. No works Sunday.
- ERSED controls will be in place to limit water and sediment discharge. Dust is expected to be minimal. Wet vacum will be implemented, all waste will be contained. No mud or sediments to be tracked off the site, no waste to enter drains.
- Excavation will be barricaded with signage to prevent access, and the work area will be cordoned off.
- All waste to be collected and disposed in appropriate bins.
- Site Contact: Aidan Smith 0401 313 351

Environmental Control Map

Sydney Metro Sydenham Rail Corridor Development

Legend

- Site Boundary - Site 3
- Proposed borehole locations
- Monitoring Well

DATA SOURCES
Imagery: Nearmap, 2022

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Appendix B – Site Investigation SWMS

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SOLUTIONS FOR COMPLEX PROJECTS

Safe Work Method Statement (SWMS)

Project Number:	NP22004
Project Name:	Sydney Metro – Sydenham RCD Environmental Advisory

NOTE: Work must be performed in accordance with this SWMS.
This SWMS must be kept and be available for inspection until the high risk construction work to which this SWMS relates is completed.
If the SWMS is revised, all versions should be kept.
If a notifiable incident occurs in relation to the high risk construction work in this SWMS, the SWMS must be kept for at least 2 years from the date of the notifiable incident.

Personnel		***Contact***	**Site Details**	
Project Manager:	Adeline Menet	0418949219	**Site Name:**	Sydenham Rail Corridor Development
Project Director:	Liam Gooley / Adeline Menet	0418 689 493 / 0418949219	**Site Address:**	Site access/egress for trucks will be via Edinburgh Road and Murray Street, near the roundabout (Marrickville)
Project Field Staff: Contact Number:	Nelson Phillips Aidan Smith	0400 734 125 0401 313 351	**Types of Facilities:**	Facilities such as toilets and water are available on site
Sub-Contractors:	**Sonic Drilling – Legion Drilling (completed)** **Service Locating – Durkin (Completed)** **Pipe repair –Southwest Excavations Pty Ltd (as per Sydney Metro request).**	TBC	**Nearest Hospital:**	Royal Prince Alfred Hospital
			Address:	50 Missenden Road, Camperdown NSW 2050. **Approx. travel time from site**: 11 minutes.
			Contact Number:	(02) 9515 6111

Project Details						
Project Services & Scope of Work:	Sydney Metro – Sydenham RCD Environmental Advisory Site inspection, Service locating, drilling, soil sampling (site 3) GW sampling (sites 2 and 3). Completed. Additional scope includes pipe repair works to be completed by Southwest Excavations. Nation Partners will observe these works.					
Plant / Equipment:	Nation Partners: Car; Hydrasleeves; Dip Meter; Water Quality Meter; Sample Bottles; Hand Tools. Subcontractors (TBC): Sonic drill rig; trucks; concrete corer; generator; wet/dry vac, waste drums, underground service locator. Barricades, excavator, wet vac truck.	**PPE Requirements:**	✓ Hard Hat	✓ Steel toe boots	✓ Eye protection	✓ Hi-Vis clothing
First Aid Trained Personnel:	Aidan Smith		✓ Hearing Protection	✓ P2 Masks, Tyvek (if required)	☐ Other:	
Site Induction	Sydney Metro TSE site-specific induction Sydney Metro Trains (SMT) induction Nation Partners HSEP induction					

Approval and Compliance				SWMS Review date:	1 May 2024, updated 2 August 2024
Persons responsible for ensuring documentation and compliance with SWMS:	Nelson Phillips Aidan Smith	**Measures to ensure compliance with the SWMS:**	Completion of Take 5	**Reviewers Name:**	Adeline Menet
				Signature:	

THE FOLLOWING PROCEDURE SHALL APPLY IN THE EVENT OF AN EMERGENCY:
a) Administer first aid and contact emergency services. b) Dial 000 for all emergencies c) Make the immediate area safe where practical to do so. d) Notify the Client representative and Project Manager. e) The discovery of any condition that would suggest the existence of a situation more hazardous than anticipated should result in the evacuation of the field team and re-evaluation of the hazard and the level of protection required.
Legal & Contractual Requirements
Work Health and Safety Act 2011 Work Health and Safety Regulation 2011 Code of practice: How to Safely Remove Asbestos Protection of the Environment Operations Act 1997 (PEOE Act) NSW Heritage Act 1977 (Heritage Act)
** I, the undersigned, understand the requirements of this SWMS and my responsibilities to be proactive in assessing the actual risks associated with my activities and adopt appropriate measures to manage all perceived risks, not just those documented in the SWMS.

Name	Date	Signature	Name	Date	Signature
Nelson Phillips					
Aidan Smith					
NOTE: Work must be performed in accordance with this SWMS. This SWMS must be kept and be available for inspection until the high risk construction work to which this SWMS relates is completed. If the SWMS is revised, all versions should be kept. If a notifiable incident occurs in relation to the high risk construction work in this SWMS, the SWMS must be kept for at least 2 years from the date of the notifiable incident.					

Safety Hazards, Risks & Controls			
What are the tasks involved?	**What are the hazards and risks?**	**What are the control measures?**	**What is the residual risk rating?**
Travel to / from site by car	Car accident Road rage	**Elimination –** As a minimum, abide by all road laws and traffic signals (including at pedestrian crossings) and be courteous to other road users. **Substitution –** Long drives are unnecessary for this project.	Moderate
Walking on site	Slips, trips and falls	**Elimination –** Avoid walking or working on uneven or slippery ground or performing work in wet conditions. Close all groundwater wells at the earliest opportunity. Do not walk near excavations. **Substitution –** Plan work to minimise the number of tasks and time spent on uneven or slippery ground. Do not perform work at height unless appropriately qualified with appropriately designed fall restraints. **Isolation & Engineering Controls –** Do not leave materials (including cables or sampling equipment) on the ground in trafficable areas. Where appropriate, improve the condition of ground surfaces to mitigate the risk e.g. removing moisture, closing wells, removing obstacles. **Administrative –** Use inductions and toolbox talks to discuss these risks. **PPE –** Wear footwear that is appropriate to the work location and provides sufficient protection and support.	Moderate
Extreme weather conditions	Working outdoor, exposure to wind, rain, sun etc.	**Elimination –** Minimise time spent working in outdoor environments and the number of staff performing the work when possible (subject to other relevant hazards). Consider ceasing works in the case of extreme weather conditions with potential to create unsafe working conditions, e.g. extreme wind, rain or heat. **Substitution –** Consider finding an alternative time to complete work if extreme weather conditions present. **Isolation & Engineering Controls –** Take regular breaks in shaded areas or within vehicles to minimise exposure to extreme conditions, and ensure appropriate training and awareness. **Administrative –** Identify potential hazards and check weather forecast, and complete a Take 5, inductions and toolbox talks to discuss the risks associated with weather exposure. **PPE –** When working in outdoor environments, cover skin with long clothing whenever possible, ensure adequate exposure protection, taking into consideration the PPE requirements for other site hazards.	Low
Fire or natural disaster	Explosion, natural fire	**Elimination –** Follow the advice of fire authorities in all cases, including requests for evacuation. Do not store excessive amounts of flammable materials in our offices or project sites, and consult with site owners to ensure appropriate management of vegetation to minimise the risk of fires. **Isolation –** Ensure emergency plans identify safe meeting points for staff during evacuations. **Engineering Controls** – Ensure our offices meet appropriate standards for fire protection. Maintain fire extinguishers on site. **Administrative –** Maintain emergency plans to assist in safe evacuation of offices in the case of fire, provide regular training updates, reminders, and signage to inform staff of safety and evacuation procedures. Check “FIRES NEAR ME” website on fieldworks day where there is a risk of fire (warm, windy, dry days). Plan work accordingly.	Moderate
Use of plant and equipment	Poorly designed or maintained equipment, or equipment used for wrong purpose	**Elimination** – Plan work activities to avoid working near items of construction plant where possible. Minimise time spent and number of employees working near construction plant. When using our own minor plant, consider if works can be performed using non-powered equipment. **Substitution –** Select equipment with a lower risk profile where possible, e.g. use of battery-operated tools rather than high voltage tools. Consult with construction contractors to encourage selection of plant and equipment with lower risk profiles.	Moderate

		Isolation – Arrange working areas to facilitate separation (distance) between staff and plant, and minimise the duration of work near the plant, with the remainder of work being performed at a greater distance. **Engineering Controls –** Consult with construction contractors regarding the use of physical barriers / fencing to separate people from plant. When using our own minor plant, ensure that guarding is properly fitted and that emergency stops are operational (to be tested before use). Perform pre-start tests; maintain testing and tagging of our electrical equipment (refer below); and use Residual Current Devices. **Administrative –** Identify potential hazards, develop SWMS, conduct a Take 5, toolbox talks, and inductions. Consult with contractors to establish clear communication and approach protocols for operation of plant. Ensure operators are appropriately trained and hold required certificates of competency. When using our own minor plant, review instruction manuals and ensure familiarity with proper methods of use and emergency shutdown procedures. Check equipment/cables/leads before use. **PPE** – Adopt minimum standards of PPE: steel cap boots, high vis vest, hard hat, long pants and long sleeves to mitigate impacts associated with working around plant. Safety glasses and gloves are available for staff.	
Work near mobile plant or vehicle (operated by site users and/or sub-contractors)	Work close to construction activities, lack of fencing, lack of awareness, distraction by mobile phone	**Elimination –** Minimise number of employees and time spent working near a mobile plant or vehicle. **Substitution –** Consult with construction contractors to encourage the selection of equipment with lower risk profiles. **Isolation –** Arrange working areas to facilitate separation (distance) between staff and use of mobile plant or vehicle, including minimising duration of work. Ensure work area of staff is >3 m beyond maximum reach of machinery. **Engineering Controls –** Where possible, use physical barriers / fencing to separate people from use of mobile plant or vehicle. Ensure required guarding is properly fitted and that emergency stops are operational (to be tested before use). Where practical place vehicle between work area and plant. **Administrative –** Identify potential hazards, conduct a Take 5, toolbox talk, and an induction to address safe work near mobile plant or vehicle. Establish clear communication and approach protocols with plant/vehicle operators, ensure they are appropriately trained, and hold required certificates of competency. Do not approach moving plant & ensure positive communication of intent before approaching to undertake sampling. **PPE –** Adopt minimum standards of PPE including steel capped boots, high visibility vest, hard hat, long pants and long sleeves to mitigate impacts associated with working around plant. Safety glasses and gloves are available for staff.	Moderate
Multiple sub-contractors on-site	Coordinating multiple contractors, poor communication between contractors/crew with scope of work,	**Elimination –** Pre-start with all personnel to designate tasks and work areas. **Isolation –** Arrange working areas to facilitate separation (distance) between staff and use of mobile plant or vehicle, including minimising duration of work. **Administrative –** Positive communication between work crews, designated Nation Partners personnel per subcontractor crew, toolbox talk and induction to address safe work with multiple contractors on-site. Establish clear communication and approach protocols with plant/vehicle operators, ensure they are appropriately trained, and hold required certificates of competency. **PPE –** Adopt the minimum PPE requirements for construction sites.	Moderate
Work near drilling	Work close to drilling, lack of fencing, lack of awareness, distraction by mobile phone	**Elimination –** Do not access the areas around drilling unless it is necessary. Plan work tasks to minimise the time spent working near drilling. Ensure that all underground services are identified and isolated / protected prior to excavation. **Isolation** – Use bollards (or other temporary fencing) to physically separate workers and site traffic from drilling works. **Engineering Controls –** Drilling cage is to be in place while rotary augers are in use. All members of the field team are to be familiar with the location of the emergency cut off switch on the drill rig **Administrative –** Identify potential hazards, conduct a Take 5, toolbox talk, and an induction to communicate with other workers regarding excavations. **PPE –** Adopt the minimum PPE requirements for construction sites.	Moderate

Work near moving plant and excavation during pipe repair works	Crush injuries or collision	**Elimination –** Do not access the areas around excavation unless it is necessary. Plan work tasks to minimise the time spent working near excavation. Ensure that all underground services are identified and isolated / protected prior to excavation. Expose pipe needing repair via potholing. All personnel to remain outside the plant operating zone. **Isolation** – Use bollards (or other temporary fencing) to physically separate workers and site traffic from works. **Engineering Controls –** to be discussed during the pre-start briefing. Plant operating zone to be set up using barriers and signage, personnel to remain outside the plant operating zone, implement clear communication on plant movement. Open trenches to be barricaded off to prevent access. **Administrative –** Identify potential hazards, conduct a Take 5, toolbox talk, and an induction to communicate with other workers regarding excavations. **PPE –** Adopt the minimum PPE requirements for construction sites.	Moderate
Working near open trenches	Falls and injury	**Elimination and isolation –** Do not approach open trench. Hard barricades and signage to be erected around open excavations. **Engineering controls -** All trenches will require edge protection, and area will be delineated at least 1 metre away from the edge of the trench. Trenches that are to be left open will be barricaded off with signage to prevent access. Safe and compliant access to be provided into trench if required for inspection of works. **Administrative –** Identify potential hazards, conduct a Take 5, toolbox talk, and an induction to communicate with other workers regarding excavations. **PPE –** Adopt the minimum PPE requirements for construction sites.	Low
Contact with above or below ground services	Poor understanding of utilities in the vicinity of the sample location.	**Elimination -** Obtain underground service plans prior to drilling works. Validate the presence of electrical infrastructure via a qualified service locator. Abide by safe working distances. Assume that all cables are live until proven otherwise. Pipe to be repaired to be disconnected prior and during works. **Substitution -** If underground or above ground services exist, conduct drilling works or excavation in an alternative location. **Isolation & Engineering Controls** - Clearly mark underground services and where possible, use physical barriers or fences to isolate both above and below ground services. **Administrative -** Identify potential hazards, conduct a Take 5, toolbox talks, and inductions. Clearly mark and record location of services following service checks for future reference. Ensure accreditation of locator prior to start of works and record on SWMS. **PPE -** Wear appropriate PPE when conducting service checks and site work including steel cap boots, hard hat, long sleeve shirt and pants, and when necessary, gloves and safety glasses.	Moderate
Contact with contaminated soil or water.	Poor decontamination procedures, inappropriate work methods, lack of PPE	**Elimination –** Do not enter any contaminated site if risks associated with exposure to contaminated soil cannot be adequately controlled. **Isolation –** Do not approach wells or dirty equipment unless absolutely necessary. Avoid contact with all equipment that has been in contact with potentially contaminated materials. Where contact is necessary, ensure appropriate PPE is worn at all times. Decontaminate equipment at the earliest appropriate opportunity via the use of water and detergent solution. Do not touch face or exposed skin and wash down any exposed skin with soap/disinfectant immediately. **Administrative –** Identify potential hazards, conduct a Take 5, toolbox talk, and an induction to communicate any potential risks. **PPE –** Use appropriate PPE, as determined through the desktop review of contamination issues to protect workers from exposure to contamination. In this instance minimum PPE is long sleeve shirt and pants, safety boots, hi vis vest and sampling gloves.	Low
Contact with airborne	Exposure to airborne asbestos and dust while	**Elimination –** Removing non-friable asbestos if licensed, do not use high pressure water sprays, compressed air, brooms or anything else that might release asbestos into the air. Minimise dust during work activities.	Moderate

asbestos and dust.	excavation works occurred	**Isolation** – Do not approach site while construction works are occurring and asbestos has been identified, enclose, encapsulate and/or seal asbestos if possible. Use fencing/barricades and/or labels or warning signs to stop public from approaching the area**.** Use machinery with enclose cabins. **Engineering Controls –** Avoid work during dry or windy conditions, particularly if wind direction is towards public areas. Implement wet construction method if large amounts of dust are created on site. **Administrative –** Identify hazards and record them on register. Develop SWMS, conduct Take 5, Toolbox talk and induction work to communicate to other workers about asbestos and dust work methods and procedures to minimise exposure. Collect samples of ACM for the purpose of analysis. Position personnel away from dust generating activity by establishing exclusion zones. **PPE –** Personnel should be wearing eye protection, long sleeves, long pants and safety boots at all times. Tyvek coveralls and respirators should if asbestos is identified, or if working within asbestos controlled environment.	
Exposure to noise	Work near noisy equipment, poor separation of people and plant, lack of PPE	**Elimination –** Plan work activities to avoid working in noisy locations and / or during specific periods of high noise wherever possible. Minimise the time spent, and the number of employees attending noisy locations. **Substitution –** If using handheld equipment, select equipment with lower noise outputs where possible. Consult with construction contractors to encourage the selection of plant and equipment with low noise outputs (to the extent practicable). **Isolation –** Arrange work areas to facilitate separation (distance) between staff and noise sources or minimise the duration of work near the noise source. **Engineering Controls –** Use modern, low noise driller. **Administrative –** Use inductions and toolbox talks to discuss the risks associated with noise. **PPE –** Ensure that staff attending noisy locations have compliant hearing protection suitable for the environment and the work tasks, including consideration of the need to communicate with others to work safely. Ear plugs will be on-site and available when necessary. The requirement will be addressed during the toolbox talk and assessed as required by the field work supervisor.	Low
Bites and stings	Work in bushland areas, poor vegetation management	**Elimination –** Do not approach or enter any properties with dogs that appear to be aggressive. Immediately depart any properties if an aggressive dog approaches. If inspections in bushland are required, minimise the time spent in that location. Do not reach into crevices, holes, or into dense vegetation where clear sight of the area cannot be achieved **Substitution –** Use vehicles (rather than walking) to travel through areas of dense vegetation, or areas where aggressive dogs may be present. Investigate the potential for clearing to be performed prior to entering areas of dense vegetation. **Isolation & Engineering Controls –** When working on project sites, close gates to prevent dogs from entering sites. **Administrative –** Consult with local people (where practical) to better understand the risks associated with snakes and spiders on project sites, particularly when they are remote. We will identify the location of local hospitals prior to commencing work on remote sites. We will use inductions and toolbox talks to discuss the risks associated with bites and stings. **PPE –** Wear gloves, long sleeves, long pants and safety boots when working in locations which may pose a significant risk of bites and stings.	Moderate
Attack on community	Individual or group attacking community members (eg, riot, terrorist attack, lone attacker)	**Isolation -** Notify a colleague (buddy system) of plans to work in alternative offices / locations. In the case of an attack on the community, staff must follow the direction of emergency services, including directions issued by building management of the Nation Partners' and client offices/site occupied at the time of the incident. Stay indoors unless directed otherwise and avoid travel. If staff are travelling between offices/meetings when the incident occurs, immediately find a safe location to await further instructions. **Administrative -** If a staff member becomes aware of an attack on the community, fill out the 'Public Emergency form' to notify all staff members of the incident. Each service lead will then make contact with all staff within their	Moderate

		service to confirm their whereabouts, indicate their level of safety, and give further direction to maintain safety. Community notification to be implemented by Sydney Metro.	
Work near building materials during construction / demolition	Struck by materials resulting in serious injury	**Elimination –** Minimise number of employees and time spent working near construction / demolition. Consider whether works can be performed remotely or at a distance from construction / demolition areas. **Substitution –** Consult with construction contractors to encourage the selection of equipment with lower risk profiles. **Isolation –** Arrange working areas to facilitate separation (distance) between staff and construction / demolition works, including minimising duration of work. **Engineering Controls –** Where possible, use physical barriers / fencing to separate people from use of construction / demolition works. Ensure guarding is properly fitted and that emergency stops are operational (to be tested before use). **Administrative –** Identify potential hazards, develop JSEAs, conduct a Take 5, toolbox talk, and an induction to address safe work near construction / demolition works. Establish clear communication and approach protocols with plant/vehicle operators, ensure they are appropriately trained, and hold required certificates of competency. **PPE –** Adopt minimum standards of PPE including safety boots (steel capped), high visibility vest, hard hat, long pants and long sleeves to mitigate impacts associated with working near construction and demolition works. Safety glasses and gloves are available for staff.	Moderate
Working / inspecting near rail lines	Hit by train resulting in serious injury	**Elimination –** Avoid performing work within rail corridors wherever possible. If we must perform work in rail corridors, seek to perform all work within Safe Places. The number of people and the duration spent in the corridor will be minimised. **Substitution –** Gain all approvals and follow all instructions of the infrastructure owner / operator and Worksite Protection Officers in relation to railway work. Also adopt zero tolerance on drugs and alcohol for all workers. **Isolation –** Seek to perform work within rail corridors only when formal protection requirements (if required) are in place to isolate the working area from rail traffic. **Engineering Controls –** Observe and work within the defined areas, often delineated by fencing or safety tape. Do not use tools or equipment that could come in contact with live railway services (aboveground and underground). **Administrative –** Identify potential hazards, develop JSEAs, conduct a Take 5, toolbox talks, and inductions into specific Worksite Protection Plans. Use inductions and toolbox talks to discuss the risks associated with railway work. Attend RIW training. **PPE –** Only use PPE as approved by the rail infrastructure owner / operator including orange reflective rail vests and orange hard hats (no red or green allowed).	Moderate
Working / inspecting near roads	Hit by vehicle resulting in serious injury	**Elimination –** Plan work tasks to avoid working near roadways if possible. Murray street has local traffic from SMT only. Avoid blocking traffic and delineate work area from traffic. **Substitution –** If work is required near roads, minimise the time spent in close proximity to the road. **Isolation & Engineering Controls –** Where appropriate, use physical barriers and/or accredited traffic controllers to separate workers from road traffic. **Administrative –** Identify potential hazards, develop JSEAs, conduct a Take 5, toolbox talks, and inductions. Discuss the risks associated with working near roadways. **PPE –** Wear high visibility vests and closed shoes (no high heels) when working near roadways.	Moderate

Environment Hazards, Risks & Controls			
What are the tasks involved?	**What are the hazards and risks?**	**What are the control measures?**	**What is the residual risk rating?**
Site works cause pollution from waste	Contamination of environmental receptors Non-compliance with regulations	**Elimination –** Waste should be minimise during site works. Work area to be kept tidy and clean **Engineering Controls** - Contractor will implement vac truck to contain any waste generated during pipe repair works. No refuelling onsite. **Administrative** - Conduct a Take 5, toolbox talk, and an induction to communicate any potential risks and remind the avoid, reduce, reuse and recycle principles. Keep waste classification documentation for appropriate disposal.	Low
Coring, drilling works or excavation woks cause water pollution	Contamination of drains and the stormwater system Contamination of water bodies Non-compliance with legislation	**Engineering Controls** - Contractor to provide wet vac to control water and sediments. If required, water diversion controls, erosion and sediment controls will be placed accordingly. **Administrative** – Check weather and be prepared for unexpected weather events. Conduct a Take 5, toolbox talk, and an induction to communicate any potential risks **PPE –** Subcontractors will be required to have adequate spill and emergency response equipment on site	Low
Pipe repair works involving removal of ground cover	Pipe repair works cause erosion and sediments, or water release	**Engineering Controls** – Contractor to provide wet vac to control water, and implement ERSED controls. If required, water diversion controls, erosion and sediment controls will be placed accordingly. **Administrative –** Check weather and be prepared for unexpected weather events. Conduct a Take 5, toolbox talk, and an induction to communicate any potential risks. Ensure pipe is disconnected prior to conducting pipe repair works (no water released). **PPE** – Subcontractors will be required to have adequate spill and emergency response equipment on site.	Low
Operation of drill rig, plant or generators	Noise impact on surrounding community Noise pollution	**Elimination –** Plan work activities to avoid working in noisy locations and / or during specific periods of high noise wherever possible. Minimise the time spent, and the number of employees attending noisy locations. **Substitution –** If using handheld equipment, select equipment with lower noise outputs where possible. Consult with construction contractors to encourage the selection of plant and equipment with low noise outputs (to the extent practicable). **Isolation –** Arrange work areas to facilitate separation (distance) between boundaries and noise sources or minimise the duration of noisy work near boundaries. **Engineering Controls –** Use modern, low noise driller. **Administrative –** Use inductions and toolbox talks to discuss the risks associated with noise. Implement community notification as required (to be undertaken by Sydney Metro).	Low
Works increase dust emissions	Impact on surrounding community Air quality contamination	**Elimination –** Implement dust suppression techniques if required (e.g. watering), avoid the formation of dust plumes from site works and stick to established access routes where possible. **Administrative** – Review weather forecast for potential high winds. Conduct a Take 5, toolbox talk, and an induction to communicate any potential risks. Observe for potential asbestos, if present manage appropriately.	Low
Works cause erosion and sediment runoff	Contamination of soil Impact on infrastructure Contamination of the stormwater system	**Engineering Controls – Implement ERSED controls.** Install 'if required' clean water diversion channels/drains and maintain them and drainage and erosion, sediment controls. Remove Erosion and sediment controls once area is stabilised. **Administrative** - Conduct a Take 5, toolbox talk, and an induction to communicate any erosion and sediment potential risks	Low

nation partners

Nation Partners Risk Matrix

Consequence							Likelihood				
							Occurs often	Likely to occur	Could occur but more than likely it wont	May occur only unusual circumstances	Would only occur under exceptional circumstances
Health & Safety	**Environment**	**Financial**	**Legal**	**Service Delivery**	**Stakeholder**		**Almost Certain**	**Likely**	**Possible**	**Unlikely**	**Rare**
Several deaths	Irreversible large-scale environmental damage	Direct cost or lost opportunity >$1M	Prosecution resulting in imprisonment	Complete and irrepairable loss in ability to deliver services	Stakeholder outrage, with widespread irrepairable damage to reputation	**Extreme**	**Very High**	**Very High**	**High**	**High**	**Moderate**
One death	Long term, moderate-scale environmental damage	Direct cost or lost opportunity $100k - $1M	Significant non-compliance resulting in litigation / substantial financial loss	Severe loss in ability to deliver services, but recoverable at high cost and substantial effort	Major stakeholder concern, with widespread, recoverable damage to reputation	**Major**	**Very High**	**High**	**High**	**Moderate**	**Moderate**
Serious injury requiring professional medical treatment	Medium term, small scale environmental damage	Direct cost or lost opportunity $10k - $100K	Significant non-compliance resulting in substantial financial loss	Moderate loss in ability to deliver services, with substantial effort to recover	Stakeholder concern with irrepairable impact on relationship	**Moderate**	**High**	**High**	**Moderate**	**Moderate**	**Low**
Injury requiring first aid treatment	Short-term, isolated environmental damage	Direct cost or lost opportunity $1k - $10k	Non-compliance resulting in a minor financial loss	Minor loss in ability to deliver services, with little effort to recover	Stakeholder disappointment, with reasonable impact on relationship	**Minor**	**High**	**High**	**Moderate**	**Low**	**Low**
Minor injury requiring no active treatment	Minor change from baseline environmental condition	Direct cost or lost opportunity <$1k	Minor non-compliance with a regulatory or contractual obligation with no impact	Minor change from normal operating conditions	Stakeholder unease, with minor impact on relationship	**Insignificant**	**Moderate**	**Moderate**	**Low**	**Low**	**Low**

Appendix C – Sub-Contractor SWMS

SAFE WORK METHOD STATEMENT (SWMS)

SWMS Title:	General Earthworks (Potholing, Drainage, FRP, Box Out)	**SWMS No:**	001	**Revision No:**	00

Work **must** be performed in accordance with this SWMS. The SWMS **must** be available for inspection where the task is being performed, at all times during the task. If the SWMS is revised, all versions should be kept.

Organisation Details:	Southwest Excavations Pty Ltd	**Supervisor on Project:**	Alan Kennedy 0439 402 035		
Project Manager:	Daniel Millar 0424122408	**Date:**	01/08/2024	**Work Pack Ref No:**	Various
Work Activity: (Description of the Job)	**Investigation –** Potholing **Drainage Installation –** Unloading, pipe exposure, excavation, removal of damaged pipes, repair/replacement pipes, backfill	**Site/Location:**	SMTF South Marrickville - Damaged Pipework		

PPE – Personal Protective Equipment

Foot Protection	Hearing Protection	High Visibility	Head Protection	Eye Protection	Hand Protection	Protective Clothing	Breathing Protection
							

Business Defined High Risk	☒	* **Work at Height where a worker or an object could fall more than 2 metres**	☐	Work in areas that may be contaminated or flammable atmosphere	☐ Work on a telecommunication tower

Construction Work Tasks **Note:** Those activities marked with an asterisk (*) are Safety Essential related.	☒	* Working in and around Mobile Plant	☒	Work in/near trench/shaft deeper than 1.5 m	☐	Work in a tunnel
	☒	* Work with Temporary Works	☒	Work in or near a confined space	☐	Work likely to involve disturbing asbestos
	☒	* Working with Live Services	☐	Demolition of load-bearing structure	☐	Use of explosives
	☒	* Working near Live Traffic (road or railway including light rail)	☐	Tilt-up or precast concrete elements	☐	Diving Work
	☐	* Electrical Work	☐	Work in artificial extremes of temperature	☐	Work on/ near chemical/fuel/refrigerant lines
	☒	* Work involving Mobile Cranes and Lifting Operations			☐	A task that is not a Business defined High Risk Construction Work task. **Nominate**: Click or tap here to enter text.

Who will ensure compliance	**Name:** Alan Kennedy, Daniel Millar	**How compliance be measured**	Supervisor to check daily that the work being undertaken is in compliance with the SWMS. Supervisor to note in daily diary. Regular task observations & site safety inspections to be carried out to monitor and track compliance.
How will the control measures be reviewed?	Controls to be measured prior to work starting each day utilising start cards and consultation between work crews.	**Who will review control measures**	**Name:** Alan Kennedy, Daniel Millar

Risk Matrix

Class 1 Red Risks (High 13 to 25)

Created by hazards that are highly likely to or frequency occur and/or have the potential to cause death or permanent disability. For any risk assessed at 20 or above, not work can comment until a safer way can be found and it is assessed and approved in accordance with this procedures. For any risk that is assessed between 13 and 16 or for any defined high risk activity, then written approval by the Project Manager must be obtained before any work can commence.

Call 2 Yellow Risks (Medium 6 to 12)

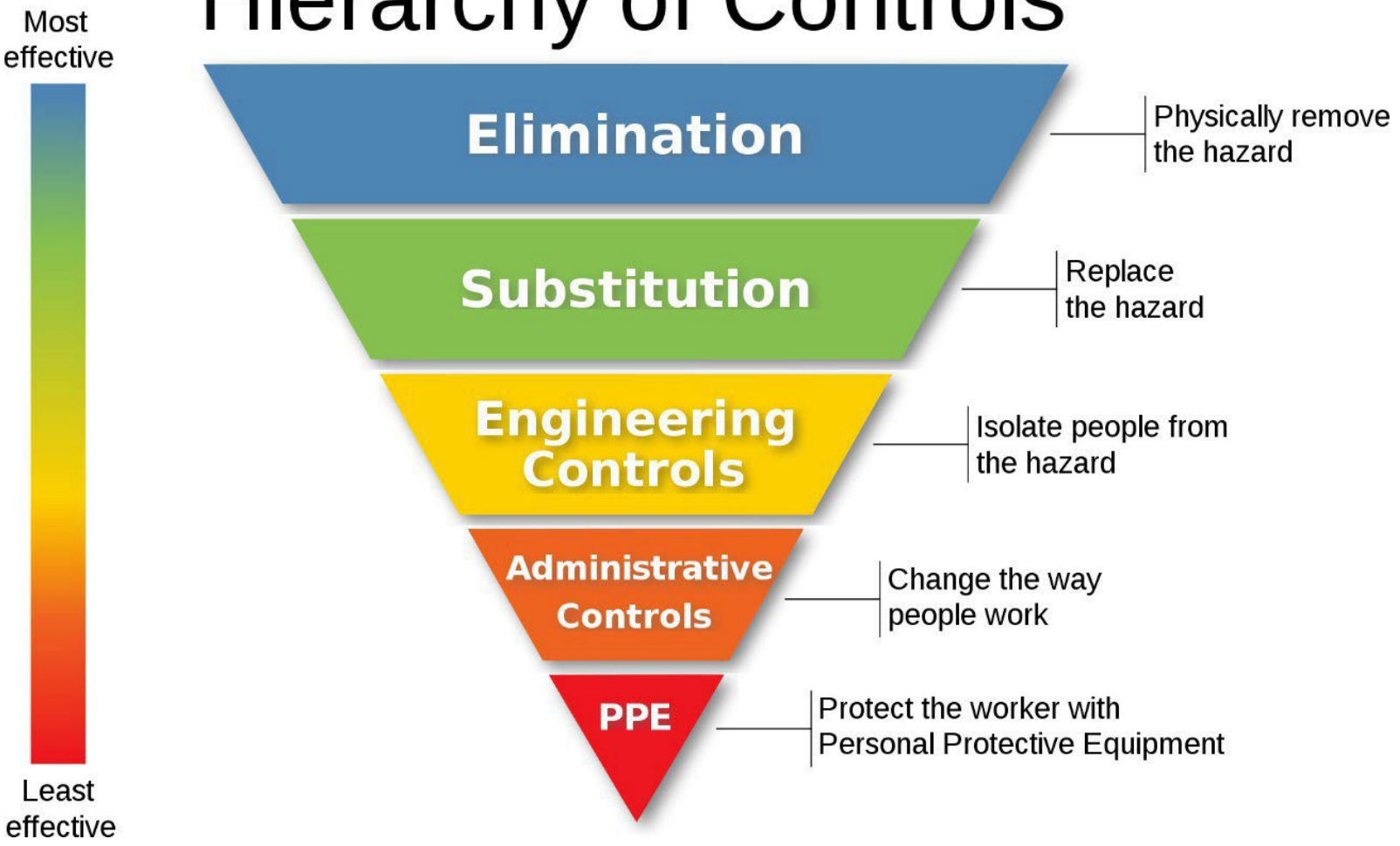
Created by hazards that are moderately likely to or frequently occur and/or have the potential to cause a major injury or temporarily disable. For any risk that is assessed at 6 to 12, then the written approval of the Superintendent/General Superintendent/Site Manager must be obtained before any work can commence.

Class 3 Green Risks (Low 1 to 5)

Created by hazards that are unlikely to or infrequently occur and/or has the potential to cause minor injury. For any risk that is assessed at 1 to 5, then the approval of the supervisor responsible for the work, must be obtained before any work can commence.

Risk Analysis R = C x L		**LIKELIHOOD**				
		5	**4**	**3**	**2**	**1**
		Extremely Likely	**Very Likely**	**Likely**	**Unlikely**	**Rarely**
		Almost certain to happen i.e. could occur daily or more frequently	Could happen any time i.e. could occur weekly or longer	Could happen sometime i.e. could occur monthly or longer	Could happen i.e. could occur yearly or longer	Could happen but probably never will i.e. occur once each 10 years or longer
CONSEQUENCE	**5 Catastrophic** Kill or cause permanent disability or ill health	**25 Class 1/H**	**20 Class 1/H**	**15 Class 1/H**	**10 Class 2/M**	5 Class 3/L
	4 Serious Serious injury or long term illness also includes a Lost Time Injury	**20 Class 1/H**	**16 Class 1/H**	**12 Class 2/M**	**8 Class 2/M**	4 Class 3/L
	3 Moderate Medical Treatment injury or illness	**15 Class 1/H**	**12 Class 2/M**	**9 Class 2/M**	**6 Class 2/M**	3 Class 3/L
	2 Minor First aid needed	**10 Class 2/M**	**8 Class 2/M**	**6 Class 2/M**	4 Class 3/L	2 Class 3/L
	1 Insignificant No injury	5 Class 3/L	4 Class 3/L	3 Class 3/L	2 Class 3/L	1 Class 3/L

Hierarchy of Controls



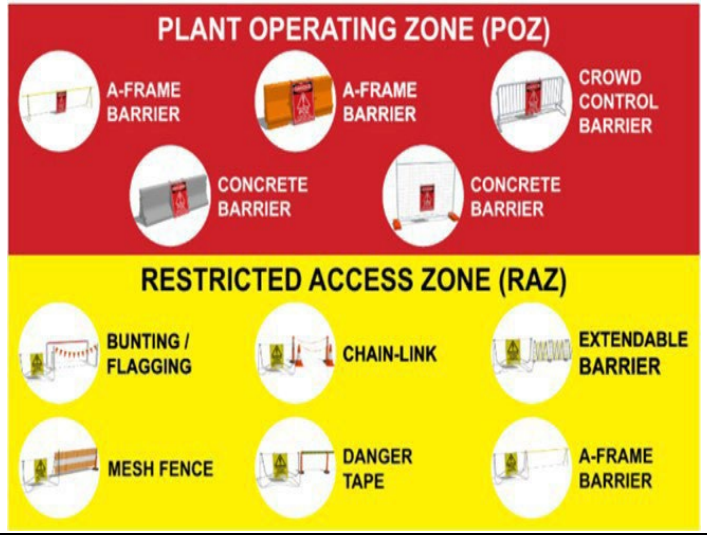
What are the tasks involved?	What are the hazards and risks? Identify the hazards that cause the risks	Risk Rating	What are the control measures? Describe what will be done to control the risk. What will you do to make the activity as safe as possible?	Who is responsible for ensuring compliance?	Residual Risk
Fall from Heights					

Working near open trenches
• Excavating, trenching and backfilling
• Installation of services
	• Workers falling into trenches
	• Workers falling off embankments
		9	• All trenches require edge protection or delineation into the area.
			  ○ Edge protection must create a solid barrier between the works area and open excavations. Install either crowd barriers or ATF fencing as per supervisor direction depending on depth and location of trench.
			  ○ Delineation of the area must be minimum 1m away from the edge of trench.
			• Safe and compliant access to be provided into trenches and must be maintained.
			• Trenches that are to be left open are to be completely barricaded off with signage to prevent access.
			• Ensure work area has adequate delineation and warning signs – hard barricades and signage to be erected around open excavations.
				Supervisor & All Workers	4

Working in and around Mobile Plant					

Operatives working near moving plant.
• Delivery of materials (sand, spoil, conduits, and fittings)
• Excavating, trenching and backfilling Refuelling (generators, compactors, concreate vibrators)
	• Collision with other plant or ground personnel, including light vehicle and heavy vehicle (LV & HV)
	• Plant movements — crush injuries
	• Loss of control of lifted load
		12	• All plant to be inspected and approved for use on the project by the Principal Contractors
			• Plant pre-start inspection to be completed prior to daily works
			• All plant operators to be qualified, competent, and Verified as Competent (VOC).
			• Vehicle/Plant Movement Plans (VMPs) discussed, developed and communicated, during the Daily Pre-Start meeting and implemented.
			• Establish positive communications protocols during Daily Pre-Start meeting, for radio, and in view positions between workers and plant operators.
			• Plant Operating Zone (**POZ**) to be set up using soft barriers and signage – as agreed with site supervisor dependent on works area available:
			• All personnel to remain outside the Restricted Access Zone (**RAZ**) and Plant Operating Zone (**POZ**) at all times.
			• A dedicated spotter is to be in place with positive communication (visual, verbal or UHF) with operator at all times.
			• If personnel access is necessary:
			  • Worker to notify spotter / operator
			  • Operator to place put bucket on ground
			  • Operator to remove hands from controls
			• Worker to get positive confirmation from spotter / operator that it is safe to enter the RAZ.
				Supervisor & All Workers	4

ZONE	Definition	Set-up/Controls	When you can enter
POZ Plant Operating Zone	The POZ is an hazardous area where a normal or uncontrolled movement of the plant has the potential to struck a worker	1. Physical POZ barrier 2. POZ sign on barrier 3. Barrier located between worker and poz zone	1. Plant isolated and confirmed via positive communciation with operator 2. Dogman when completing final stage of lift
RAZ Restricted Access Zone	The RAZ is an area where only authorised workers may enter	1. Physical demarcation around work site 2. RAZ sign on a swinger board 3. RAZ supervisor at gate	1. Only Authorised workers can enter 2. To become an authorised worker • Sign onto task card at RAZ gate • Get approval from RAZ supervisor • Sign onto relevant SWMS at workfront

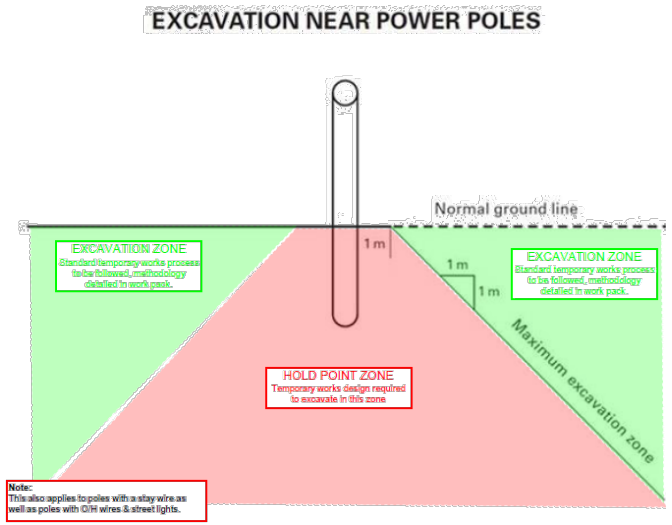


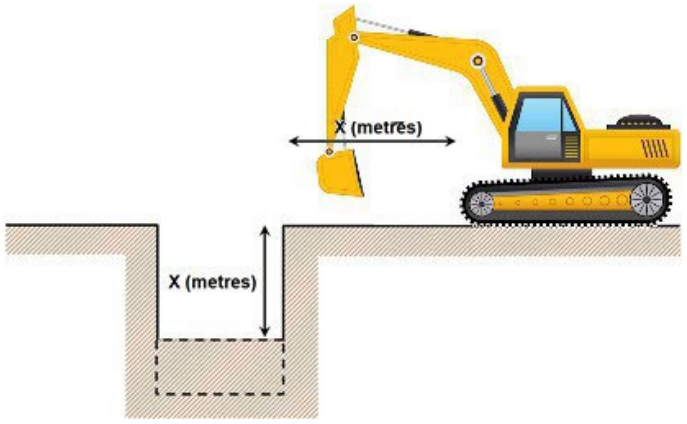
What are the tasks involved?	What are the hazards and risks? Identify the hazards that cause the risks	Risk Rating	What are the control measures? Describe what will be done to control the risk. What will you do to make the activity as safe as possible?	Who is responsible for ensuring compliance?	Residual Risk
	• Plant movements — crush injuries • Fuel Fire		○ Refuelling must not be carried out in a POZ, unless a VMP and a SWMS is in place. Workers not actually involved in the refuelling operation must enter a safe zone, be protected by appropriate pedestrian or vehicle barrier and remain in the safe zone at all times while the refuelling is taking place. Where refuelling operations are conducted, the requirements listed for each type of location, (semi-permanent, temporary or in-field) must be complied with, including the following controls: ○ The operator of the mobile plant has shut down and isolated the mobile plant; ○ The keys (if the mobile plant has keys) are handed to the refuelling plant operator; ○ The operator has moved into the safe zone behind an appropriate pedestrian or vehicle barrier. ○ The mobile plant or vehicle that is being refuelled must not be re-started until the refuelling operator is either behind a barrier or in the cabin of their service truck and the operator has returned to their cabin and positive confirmation (e.g. two-way radio) of starting ○ and moving away, has been made and acknowledged.		

What are the tasks involved?	What are the hazards and risks? Identify the hazards that cause the risks	Risk Rating	What are the control measures? Describe what will be done to control the risk. What will you do to make the activity as safe as possible?	Who is responsible for ensuring compliance?	Residual Risk
Working in and around Mobile Plant Continued					
• Concrete cutting • Excavator saw. • Breaking of slabs • Jackhammering • Hammering with excavator	• Worker injured during breaking or cutting of hard surfaces. • Flying debris - Personal injuries • Damage to property • Noise - hearing damage and community impact • Dust generation • Damage to existing services • Damage to existing structures • Personal Injury • Repetitive activity strain	9	• For any ground penetrating works such as saw cutting or hammering, refer to the 'Working with live services' section of this SWMS. • Jackhammer operators to have relevant VOC and SOA, with supervisor approval onsite prior to works • Excavator saw operators to have relevant VOC and SOA, with supervisor approval onsite prior to works • Excavator Saw to be operated in tandem with Vacuum Truck to control dust, if adequate dust control cannot be achieved with the use of the Vacc-Truck – additional dust suppression techniques (water) must be implemented. • Ensure POZ and RAZ zones are setup 15m surrounding any Rock (Tungsten) Saws. • Metatarsal protect to be worn by operator of jackhammer • Ensure all correct completed project documentation is available on site — DBYDs, as-built drawings (showing other infrastructure) and the Principal Contractors issued Permit to Excavate, is signed off	Supervisor & All Workers	2

What are the tasks involved?	What are the hazards and risks? Identify the hazards that cause the risks	Risk Rating	What are the control measures? Describe what will be done to control the risk. What will you do to make the activity as safe as possible?	Who is responsible for ensuring compliance?	Residual Risk
			by the issuers and acceptor, is present at the work zone, in date and communicated to the workers. • Wear hearing protection • Ensure that dust is suppressed using water to stop any potential exposure to silica dust • Double eye protection (impact resistant safety glasses and faceshield) must be worn for all grinding • Respiratory protection (P2 Mask) Where a handheld demo saw is required, kickback protection to be in working order on plant, including use of a cradle • For cutting of concrete pipes, job rotation to be implemented, with utilization of a wheeled cradle		
Work in/near trench/shaft deeper than 1.5 m					
Working in Deep Trenches • Excavating, trenching and backfilling • Installation of services	• Collapse of trench • Trenching/Excavation subsidence • Zone of influence Plant/Vehicles • Fall or dislodgement of earth or rock (Zone of influence Plant/Vehicles)	8	• Excavations >1.5m in depth must be benched, battered, or shored to prevent trench/excavation collapse where not certified by a geotechnical engineer • Batters/benching must be cut shallower than 45 degrees (1:1). • If benching or batters cannot be completed, shoring to be implemented. • Shoring systems to be installed as per the temporary works design. • All excavated material to be removed from the zone of influence, • A buffer zone must be provided around all deep excavations and trenches to eliminate zone of influence impacts using crowd barriers or similar	Supervisor & All Workers	5

What are the tasks involved?	What are the hazards and risks? Identify the hazards that cause the risks	Risk Rating	What are the control measures? Describe what will be done to control the risk. What will you do to make the activity as safe as possible?	Who is responsible for ensuring compliance?	Residual Risk
			barricades. • When delivering to an area when excavations are present: ○ Confirm with supervisor or engineer if there are any excavations/trenches to be considered on arrival to site • Do not drive near excavations without confirming the above controls		
• Excavating, trenching and backfilling near structures • Installation of services	• Collapse to structure or pole resulting in serious injury or death • Zone of influence Plant/Vehicles	10	• Excavation within existing structures to be assessed for stability by supervisor or engineer prior. • Shoring to be installed adjacent to structures / poles. • Pole holder to be used as per the approved temporary works design. • Excavation without shoring can only occur minimum 1m away to a depth of the 1:1 as shown below. • The Zone of influence from the excavator to the pole is to be clearly defined, and must have temporary protection.	Supervisor & All Workers	5

What are the tasks involved?	What are the hazards and risks? Identify the hazards that cause the risks	Risk Rating	What are the control measures? Describe what will be done to control the risk. What will you do to make the activity as safe as possible?	Who is responsible for ensuring compliance?	Residual Risk
					

What are the tasks involved?	What are the hazards and risks? Identify the hazards that cause the risks	Risk Rating	What are the control measures? Describe what will be done to control the risk. What will you do to make the activity as safe as possible?	Who is responsible for ensuring compliance?	Residual Risk
Working with Temporary Works					
Work with Temporary Works • Shoring • Road plate • Temporary fencing	• Trench or excavation collapse • Road plate failure/unsecured • Temporary Fencing blow overs	12	• Shoring system to be approved and certified through Temporary Works Design Approval. • Ensure shoring system product highlighted in the temp works design is being used. • Shoring system to be installed as per temporary works design • Once installed, shoring system to be verified by either Designer or Certifier. • Shoring to be monitored to for any faults, wear, or damage. • Where possible, plant to maintain distance away from trench equal to the depth of trench. 	Supervisor & All Workers	3

What are the tasks involved?	What are the hazards and risks? Identify the hazards that cause the risks	Risk Rating	What are the control measures? Describe what will be done to control the risk. What will you do to make the activity as safe as possible?	Who is responsible for ensuring compliance?	Residual Risk
			• Formwork to be monitored to for any faults, wear, or damage during the operations of concrete pour. • Onsite Geotechnical approval that benching/shoring is not required • Batter/bench excavation at 1:1 or 45 degrees • Use of Road Plate as per TfNSW M209 must be approved and certified through a Temporary Works Design prior to use where backfilling and reinstatement is not feasible. • Fencing must be installed to manufacturer's instructions and standards. • Bracing, counterweights and wind load capacities must be assessed to determine requirements against adverse weather.		
Working near Live Traffic					
• Excavating, trenching and backfilling • Installation of services • FRP of minor structures • Working behind barriers within deflection zone	• Worker or pedestrian struck by live traffic • Traffic incident involving workers, member of public, vehicles, or traffic control devices • Insufficient buffer zone • Unauthorised access • Site traffic incident collision	15	• Plant cannot slew outside of secured compounds at any time without necessary controls in-place. • Plant to slew in opposing direction away from public direction. • Slew restrictor to be engaged when operating in close vicinity of public/pedestrian. • If the above controls are not possible, traffic control to be provided to prevent the ingress of pedestrians or vehicles. • The zone behind road safety barriers must be identified by delineation (in active work areas) and signage	Supervisor & All Workers	5

What are the tasks involved?	What are the hazards and risks? Identify the hazards that cause the risks	Risk Rating	What are the control measures? Describe what will be done to control the risk. What will you do to make the activity as safe as possible?	Who is responsible for ensuring compliance?	Residual Risk
			(where possible) by project teams to prevent workers from entering and/or plant and materials being stored inside the dynamic deflection zone in the instance the barrier is impacted and rapidly deflects		
Working within traffic set up (ROL closure) • Excavating, trenching and backfilling • Installation of services • FRP of minor structures	• Worker or pedestrian struck by live traffic • Traffic incident involving workers, member of public, vehicles, or traffic control devices • Insufficient buffer zone • Unauthorised access • Site traffic incident collision	15	• Civil works to be completed only within works area of implemented TGS • Works to be completed in accordance with CPB Traffic Safety Essentials, including working behind barriers, or with sufficient buffer zone to live traffic • Entry and egress of site to be in accordance with project VMP • Workers must stay outside the line of fire of live traffic, behind physical barriers • Work crews must establish positive communications and contact traffic controllers, by radio, to notify of their intent to enter or exit site. • Isolated pedestrian accessways must be established via use of approved barricades (where buffer zones cannot be established) • Inspect traffic guidance and delineation devices regularly • For all works in and around project areas the following will apply (60km/hr): ○ No work within Dynamic Deflection Zone (DDZ) inside safety barrier, ○ Start card to outline DDZ within works area	Supervisor & All Workers	5

What are the tasks involved?	What are the hazards and risks? Identify the hazards that cause the risks	Risk Rating	What are the control measures? Describe what will be done to control the risk. What will you do to make the activity as safe as possible?	Who is responsible for ensuring compliance?	Residual Risk
			○ Deflection zone barriers to comply with barrier specification • Do Not stand / walk or sit on barriers		
Lifting Operations					
• Lifting and unloading of pits, pipes, barriers and various other objects	• Workers/pedestrians/vehicle being struck during lifting operations • Loss of suspended loads (Falling objects) • Mechanical failure of plant and lifting equipment • Failure of slings / lifting equipment • Rollover/collapse of excavator	10	• Task cards to be used to highlight the risk and the interaction with plant and personnel. • Rigging Gear to be regularly checked (RGBY) • Refer to pre lift matrix extract below. ○ Gross Load under 15t and under 75% of crane capacity = **Pre-Lift Card** ○ Gross Load between 15t – 50t and under 90% of the rated crane capacity = **Lift Plan** ○ Gross Load over 50t or 90% or greater of the rated crane capacity = **Lift Study** • Ensure the lift card/lift plan is followed. • Plant Daily Pre-start to be completed ○ Any noticeable fatigue, failure, or damage to be notified immediately. ○ Plant / Equipment to have an 'Out of Service' Tag placed until repaired and verified by WFU Supervisor on site. • Ticketed dogman to rig / sling all loads. • All designated lifting points on loads to be lifted, suspended and/or carried and lowered must be marked with the SWL or relevant certification provided which clearly identifies lifting points and SWL. Those lift points must be inspected and certified	Supervisor & All Workers	4

What are the tasks involved?	What are the hazards and risks? Identify the hazards that cause the risks	Risk Rating	What are the control measures? Describe what will be done to control the risk. What will you do to make the activity as safe as possible?	Who is responsible for ensuring compliance?	Residual Risk
			for use by a Competent Person (Rigger or Dogger) prior to use. • Competent Person (Rigger or Dogger) to determine appropriate slinging methods for loads with no designated lift points. • Competent Person (Rigger or Dogger) must always provide clear instructions and signals to the lifting operator. Two-way communication always required (Radio, Verbal, Signals). • For plant with outriggers, outriggers to have legs fully extended, on level, firm ground, and padded with timbers, plastic pads, or similar, • Under no circumstance can any person stand underneath suspended loads, • Under no circumstances personnel/plant/vehicles should encroach exclusion zone during lifting operations • Lifting exclusion zone to be set up with soft barriers and flagging. Under no circumstances personnel/plant/vehicles should encroach exclusion zone during lifting operations • Tag Line to be always used when lifting or unloading materials. • Use the barrier grabs or forks while lifting/moving barriers in place. • All excavators used to lift loads of more than 1t are required to be fitted with the following. ○ A warning device (machine horn) fitted		

What are the tasks involved?	What are the hazards and risks? Identify the hazards that cause the risks	Risk Rating	What are the control measures? Describe what will be done to control the risk. What will you do to make the activity as safe as possible?	Who is responsible for ensuring compliance?	Residual Risk
			○ The rated capacity (SWL) displayed ○ A load chart displayed in the cab • Synthetic Fibre Slings can only be used in either of the following circumstances: 1. As part of a properly approved Lift Plan or Lift Study; or 2. Where an approved Lift Plan or Lift Study is not required, then Synthetic Fibre Slings can only be used by a worker who holds a High-Risk Work Licence as an Intermediate or Advanced Rigger, in consultation with the Lift Supervisor. 3. If you are **not** an Intermediate or Advanced Rigger you ***cannot*** use a sling unless it is part of a Lift Plan or Lift Study, *and* the Lift Supervisor must ok the use of the sling(s)		
Working with Live Services					
• Pot\Holing by Non-Destructive Digging (NDD) • Saw cutting of pavement • Hammering • Excavator sawing • Excavating, trenching and backfilling • Cutting of electrical conduits	• Striking underground services • Unintentional strike of underground asset • Damage to existing underground services • Contact or arcing • Electrocution of worker • Fire • Damage to plant and equipment/ property	12	• Permit to Excavate (PTE) to be approved and in place prior to the commencement of work. ○ PTE to be issued by WFU Permit Issuer • Permit to Excavate (PTE) Shift checklist to be completed by Permit Acceptor and will be reviewed by Permit Issuer. • Ensure all controls are in place as per service provider ▪ All DBYD drawings permits must be current. ▪ All services within the area must be located and marked on the ground prior to the commencement of any shift.	Supervisor & All Workers	4

What are the tasks involved?	What are the hazards and risks? Identify the hazards that cause the risks	Risk Rating	What are the control measures? Describe what will be done to control the risk. What will you do to make the activity as safe as possible?	Who is responsible for ensuring compliance?	Residual Risk
			▪ At any time no mechanical excavation to be undertaken, See section K with the PTE. ▪ Use hydro excavation, compressed air, vacuum methods or hand excavation to locate and expose assets within 2m of the excavation location prior to mechanical excavation commencement as part of PTE process, ▪ Comply with SAD and controls set by asset owner and permit to excavate. Utility representatives must be present when working in the following proximities to live services: • When working within 3m of high-pressure gas (Jemena) a utility provided spotter must be in place. • When working within 2m of electrical transmission (Ausgrid) a utility provided spotter must be in place. • When working within 5m of sensitive optic fibre assets (Optus Southern Cross) utility provided spotter must be in place. • Walk through with operator, spotter and engineer/foreman to be completed daily. • Complete a PTE shift checklist and draw a mud map showing all the known services • Walk through and inspect prior to commencing work to ensure nothing has changed and continue work as per the permit condition.		

What are the tasks involved?	What are the hazards and risks? Identify the hazards that cause the risks	Risk Rating	What are the control measures? Describe what will be done to control the risk. What will you do to make the activity as safe as possible?	Who is responsible for ensuring compliance?	Residual Risk
			• Saw cutting only permitted in the pink marked locations with a maximum saw cut depth of 100mm for footpaths and 300mm for roadways as specified in the PTE. • Saw cuts must only be completed with the saw fitted inside a trolley / cradle to allow for depth gauge application and to eliminate the risk of manual handling injuries		
• Excavator sawing • Excavating, trenching and backfilling • Loading/unloading	• Striking overhead services • Unintentional strike of overhead asset • Damage to existing overhead services • Contact or arcing • Electrocution of worker • Fire • Damage to plant and equipment/ property		• Prior to commencing work, complete a walk through with the work crew to identify all risks. • Implement controls to ensure works to not encroach the “NO GO ZONE” • The plant/excavator to be equipped with restrictors. • Install visual warning (tiger tails or similar) - Signage with height distance, including communication, on each power pole • Where overhead services SADs to be encroached, non-conductive fibreglass rods to be used to maintain distance as close to SAD as practicable	Supervisor & All Workers	4
Confined Spaces					
• Working in confined space • FRP of minor structures • Rendering /Patching	• Working alone • Worker becoming unconscious	8	• Confined Space Permit to be in place prior to entering. • Retrieval system to be installed (such as davit arm) • Rescue plan to be developed and in place. • Stand by spotter to be in place with UHF communication with worker.	Supervisor & All Workers	2

What are the tasks involved?	What are the hazards and risks? Identify the hazards that cause the risks	Risk Rating	What are the control measures? Describe what will be done to control the risk. What will you do to make the activity as safe as possible?	Who is responsible for ensuring compliance?	Residual Risk
			• Workers to have gas monitors operating to test for oxygen content and for hazardous gases.		
Low-Risk					
• Use of demo saw	• Hand and facial laceration • Kickback from the use of demo saw without breaks.	9	• Handheld demolition saws must be fitted with a device to prevent blade rotation if the blade jams, thus reducing the likelihood of a kick back toward the operator. One of the following devices must be fitted: ○ Immediate blade stop mechanism; such as a quick stop wheel brake found on the STIHL TS440 demolition saw; Or ○ Blade pressure sensor; that indicates the blade pressure during cutting. The Active Feedback Sensing Technology found on the Makita DCE090 battery powered demolition saw is an example. • If a Project is required to use a handheld demolition saw which is not fitted with a device as specified above, a Safety Essential Exception Request (SEER) must be submitted to and approved by the Business Unit General Manager. • For cutting any embedded items; fulfil the following requirements: ○ Develop Risk Assessment (Kerbs, asphalt, concrete is acceptable to cut without risk assessment)	Supervisor & All Workers	2

What are the tasks involved?	What are the hazards and risks? Identify the hazards that cause the risks	Risk Rating	What are the control measures? Describe what will be done to control the risk. What will you do to make the activity as safe as possible?	Who is responsible for ensuring compliance?	Residual Risk
			○ Attempt to modify the task to avoid/limit use on in-situ services - chock services to avoid pinch points, remove soil to provide more room etc ○ Task specific SWMS is developed and approved for the task • VOC Requirements: ○ Verification of competency issued by RTO (uploaded on Damstra profile) ○ Worker Competence evaluation employer declaration (uploaded on Damstra profile) ○ Worker Competence Evaluation Supervisor Observation (uploaded on Damstra profile		
• Pipe and pit installation • Loading / unloading • Temporary works installation	Hand Injuries & crushing	8	• Rubber rings to be installed outside of the POZ to eliminate plant/person interaction. • All pipe to be appropriately chocked when being placed in storage area • Gloves to worn whilst completing manual handling. • Dogman to be positioned away from Spigot and sockets ends of pipe whilst landing • No dogman to stand between pipe and fixed object (pit, laid pipe) • Pinch bars to be used where required to land pipe home	Supervisor & All Workers	3
• Cutting pipes and pits • Hot works	Sparks and debris into eye resulting in eye injury as a result of no eye protection.	12	• Double eye protection must be always worn • Pipe cradle to be used for all pipe cutting activities	Supervisor & All Workers	3

What are the tasks involved?	What are the hazards and risks? Identify the hazards that cause the risks	Risk Rating	What are the control measures? Describe what will be done to control the risk. What will you do to make the activity as safe as possible?	Who is responsible for ensuring compliance?	Residual Risk
			• A clear zone shall be identified and marked out prior to commencing activity • Any grinding or cutting works will be require a hot works permit. • Dust suppression and P2 Mask required.		
• Use of grinder or quick cut	Sparks causing ignition to surrounding materials as a result of surrounding materials	8	• Hot Works Permit to be completed • Refuelling to be undertaken at a safe distance in a bunded area • Any Ignition sources to be kept clear of the work area	Supervisor & All Workers	2
• FRP works	Concrete Burns and dust inhalation as a result of no protection	12	• Dust mask to be worn whilst mixing bagged grout. • Gloves to be work whilst applying grout. Hands to be washed immediately after completion of works. • Steel plate/secured cover to be installed on pit • SDS to be available	Supervisor & All Workers	2
• FRP works • Glue pipes	Chemical burns from Inadequate Knowledge of SDS and misuse.	8	Work crew to be trained in the SDS for all chemical products used, handled & stored. SDS to be at the work site. The PPE listed in the product SDS is to be worn by all work crew involved in the gluing & priming of pipes.	Supervisor & All Workers	3

Workers Consulted in the development of this SWMS				
Name	**Position**	**Company**	**Signature**	**Date**
Alan Kennedy	**Director**	**SWE**		
Sean Fox	**Project Engineer**	**SWE**		
Daniel Millar	**Supervisor**	**SWE**		

Additions or Alterations **Note:** All alterations must be authorised by the Project Manager *(or authorised delegate).*	**Date of Addition or Alteration**	**Project Manager Review** *(or authorised delegate)*				
		Date of Review	Authorised			
			☐	Yes	☐	No
			☐	Yes	☐	No
			☐	Yes	☐	No
			☐	Yes	☐	No
			☐	Yes	☐	No

Site/ Location	SMTF South Marrickville - Damaged Pipework	Work Pack Reference	

1	I understand the requirements of this SWMS	3	I understand what the hazards of the work is and what the risks are
2	I have been given an opportunity to comment on the method of work	4	I understand what controls must be in place before starting work

Name of Worker	Signature	Date		Name of Worker	Signature	Date
Sean Fox						
Alan Kennedy						
David Lorrigan						
Noel Denneny						
Daniel Millar						
Kieran Kennedy						
Joseph O'Driscoll						
Christopher Reilly						
Jon Connolly						

Appendix D – Competency Register

Name	Company	White Card No. (Construction Induction)	RIW Card No	Completed Site Induction?	Signature (HSEP sign on)	Date
Nelson Phillips	Nation Partners					
Aidan Smith	Nation Partners					

Name	Company	White Card No. (Construction Induction)	RIW Card No	Completed Site Induction?	Signature (HSEP sign on)	Date

Appendix E – Nation Partners Service Clearances Standard Operating Procedure

Nation Partners SOP-SC-02 – Service Clearance.

Aspect	Details
What is the purpose of this procedure?	To describe the methods by which site service clearance should be undertaken prior to intrusive investigations to minimise the risks and hazards associated with above and underground services.
What type of data will this procedure generate?	Implementing this procedure will assist in locating intrusive investigation locations in consideration of above and underground services.
What are the key points and lessons learned?	Whilst investigation locations are planned to provide adequate spatial coverage across a site, or target potentially contaminating activities, safety during sampling is paramount. The use of this SOP will assist in avoiding potential risks and hazards presented by above and underground services during fieldworks, in particular: - Electricity. - Water and sewer. - Gas. - Telecommunications. - Oil/fuel.
Equipment Details	» Field notebook and/or tablet » Pens and permanent markers » Charged camera/mobile phone » Sampling plan/proposal and JSEA/SWMS » PPE » Line marking spray paint, ideally pink, or stakes/pins with pink surveyors tape » Dial Before You Dig (DBYD) service maps » Client service diagrams/maps » Tape measure » Suitably qualified underground cable locating contractor

Aspect	Details
Procedure Details	**At Least 5 Days Before Attending Site** » Submit a DBYD enquiry for the site. If you have not used DBYD online tool before you will need to create a new account. Once the confirmation email has been received you can make an enquiry. » Save the respective emails and plans from each asset owner in clearly labelled folders in Box. » If required by the DBYD response, contact the respective asset owner regarding a high risk underground service, or re-locate positions at the asset owner required minimum off-set from the service. » Engage a suitably qualified underground service locator for the works. » Request any service plans, diagrams, or as-builts from the Client. » Review the proposed sampling locations against the asset plans with your PM and/or PD, and re-locate sample locations in the immediate vicinity of high-voltage electricity, high-pressure gas/fuel/oil, or major Sydney Water assets. » Email the asset plans to the underground service locator. » Ensure the underground service locator has the appropriate equipment and training to deliver the services (e.g. has ground penetrating radar if needed). **The Day Before Attending Site:** » Check the field tablet (if using one) is charged, clean, and functional. » Assess the safety requirements to perform the works and that the JSEA/SWMS and/or HSEP is appropriate. » Add project to Fulcrum app, Onenote or any other field monitoring app to be used. » Check the sampling locations are in a mapping tool (e.g. QGIS). » Print all relevant documentation or save to tablet/phone (sampling location figure, JSEA/SWMS, and DBYD (including asset plans)). » Plan on how locations are to be marked (i.e. line marking paint for hardstand, stake/pins with surveyors tape for grass/exposed soil, contingency for line marking paint if raining). **Underground Services Location** » Prior to clearing individual sampling locations, the underground service locator is required to identify all services and either mark each service on the ground, or mark on an accurate to scale survey plan. » Service locating is to be undertaken by an electronic pipe or cable locator at a minimum, ground penetrating radar is also to be used when non-magnetic services (i.e. PVC) are potentially present.

Aspect	Details
	» Whilst the locator is marking services, mark your proposed sample locations across the site, including the respective sample location number (i.e. in line marking paint or written on the surveyors tape). » Whilst marking proposed locations, inspect the surrounds for indicators of services and mark locations at a minimum 2 metre off-set from: – Service pits and lids. – Service trenches. – Newly patched concrete or bitumen. – Kerb markings. – Breather pipes adjacent to buildings. – Downpipes. – Taps, hydrants, valves, or other water features. – Lights or powerpoints. » For locations within 2 m of a known service (i.e. targeting a potentially contaminating activity), the location of the service is to be confirmed by potholing. » After the service locator has identified and marked out all known services, the service locator is to assess each of the proposed sampling locations. » An area around each proposed sampling location will be cleared and marked using line marking paint as a contingency for if the location is required to be moved (i.e. due to refusal). To allow for inaccuracies of plans and the possibility of unknown or hidden services undetectable by the service locator (i.e. PVC), the area cleared should be a minimum 2 m radius (i.e. 4 m diameter) around the proposed sampling locations. – For larger excavations (i.e. test pits), the entire excavated area is to be cleared, incuding a 2 m buffer around the entire excavation. » The location of all identified services are to be marked by the locator, even if they are not in the vicinity of proposed sampling locations. » Take photographs of each sample location for upload to Box as a record of service clearance. The context of the sample location should be visible in the photo, including the proposed location number, surrounding services (if present), cleared radius, and distinguishing site features (take multiple photos if necessary). » Request a copy of the service clearance report from the underground service clearance contractor. **Underground Services Borehole Clearance** » Soil sampling and groundwater monitoring well installation locations are to be cleared to 1.2 m below ground level by non-destructive digging (i.e. hand

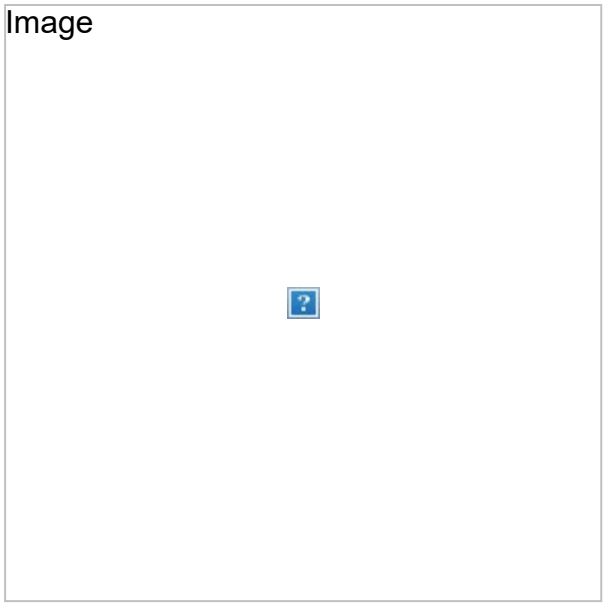
Aspect	Details
	auger or potholing). This distance has been determined by the common depths of underground services per Appendix C of SafeWork NSW (2007) *Work Near Underground Assets – Guide*. NDD may be required to extend to depths greater than 1.2m if services of concern are identified to be present at depths greater than 1.2m or if the asset owner has specific requirements. » During NDD clearance, observe the cuttings for evidence of marker layers, backfill sands or aggregate indicating a potential service. If observed, stop works, backfill the location and reinstate. Move the proposed sample location off-set with the indicative service within the previously cleared radius. » During NDD clearance, if an underground service is exposed, stop works, attempt to identify the type of service and orientation. Report as a near-miss. Photograph the service (if possible). Backfill and reinstate the location. » During NDD clearance, if an underground service is struck and damaged, stop works and report as an incident. The incident is to be reported immediately to the Nation Partners PM or PD and subsequent reporting is to be undertaken in accordance with the JSEA and the requirements of the asset owners (as set out in the DBYD documentation). Subsequent rectification works are subject to the type of service and the incident notification process. » Once the location is cleared to 1.2 mbgl (or site specific depth), continue sampling/drilling per the respective SOP. **Overhead Services (when using mobile plant)** » Thoroughly examine the approaches and surrounds of the site to establish safe access paths to proposed sample locations. » All plant is not to come within 8 m of overhead powerlines. This distance takes into account: – The sag of cables. – The swing of the plant load during handling. – The effect of wind. – The height of the drill rig/excavator. However a site specific risk assessment should be undertaken with the respective sub-contractor. » If a risk assessment indicates that this distance may not be maintained during the work, then consideration to alternative methods which eliminate the risk of contact should be undertaken (i.e. use smaller plant, or move the sampling location). **NOTES:** *Some clients/sites require their own internal procedure for the clearance of underground services is undertaken. Client/site procedures take precedence over this SOP.

Aspect	Details
	*For work in footpaths, public roads, or road reserves, refer to Appendix C in SafeWork NSW (2007) *Work Near Underground Assets – Guide* for drawings showing typical underground service horizontal and vertical locations. *For work in footpaths or public roads, traffic control is required in accordance with RTA *Traffic Control at Work Sites Manual*.
Reference Material	SafeWork NSW (2007) Work Near Underground Assets – Guide https://www.safework.nsw.gov.au/__data/assets/pdf_file/0009/54378/SW08773-Work-near-underground-assets-guide.pdf

Appendix 3: Cover Page

Community Notification.

From: Sydney Metro
To: Julia Diamond
Subject: Marrickville Dive Site and Sydney Metro Trains Facility (SMTF) South update
Date: Wednesday, 31 July 2024 2:48:56 PM



Good afternoon,

During August at Sydney Metro Trains Facility South, Sydney Metro will be carrying out rectification work on a water pipe near the Murray Street and Edinburgh Road roundabout.

This activity is planned to begin on Saturday 3 August and continue until mid-next week. Work will involve using a vacuum truck to excavate and clear the area of soil, cutting and removal of a section of the pipe, installation and poly-welding of a new section and reinstatement of the area including vegetation.

All activity will take place inside standard construction hours of 7am to 6pm.

If you have any questions about the project, please call **1800 171 386** or email sydneymetro@transport.nsw.gov.au

Kind regards,
Sydney Metro Community Team