

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:	METRON T2M
Project:	Southwest Metro Design Services (SMDS)
Application Title: (e.g. Smith St trenching works)	Canterbury Road Overbridge Bridge De-vegetation and Pipeline Assessment
Application Number:	SMDS-PCMWW-011
Application Date:	Rev00:08.07.2020 Rev01:30.07.2020 Rev02:31.07.2020 Rev03:04.08.2020
Planning Approval:	<ul style="list-style-type: none"> Sydney Metro City and Southwest – Sydenham to Bankstown – Environmental Impact Statement (EIS) Sydney Metro City and Southwest – Sydenham to Bankstown – Submissions and Preferred Infrastructure Report (SPIR) Sydney Metro City and Southwest Infrastructure Approval SSI-8256
Minor Works Categories: <ul style="list-style-type: none"> Highlight as applicable. If Items 4, 8 or 11 are applicable, this form must be endorsed by an Environmental Representative. 	<ol style="list-style-type: none"> Survey, survey facilitation and investigation works (including road and building dilapidation survey works, drilling and excavation). Treatment of contaminated sites. Establishment of ancillary facilities (excluding demolition), including construction of ancillary facility access roads and providing facility utilities. Operation of ancillary facilities that have minimal impact on the environment and community. Minor clearing and relocation of vegetation (including native). Installation of mitigation measures, including erosion and sediment controls, temporary exclusion fencing for sensitive areas and acoustic treatments. Property acquisition adjustment works, including installation of property fencing and utility relocation and adjustments to properties. Utility relocation and connections. Maintenance of existing buildings and structures. 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. 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:	<i>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’.</i>

(Uncontrolled when printed)

<p>Will the proposed works affect or have the potential to affect heritage items, threatened species, populations or endangered ecological communities?</p>	<p>Heritage</p> <p>The proposed works would include minor de-vegetation using hand-held non-power tools, followed by non-intrusive pipe assessment via methods described below. Access would be obtained via the rail corridor (See Appendix 1, Environmental Control Map).</p> <p>The overbridge forms part of the Canterbury Railway Station Group, which is listed on the State Heritage Register (SHI 4801909). Any intrusive works proposed to occur within the heritage curtilage of Canterbury Station requires detailed assessment and consultation with Heritage NSW. Specialist assessment of the overbridge and proposed works was undertaken to determine the curtilage boundary and determine a risk averse approach to de-vegetation activities, thereby ensuring preservation of significant heritage fabric and no impact to heritage items as a result of these works.</p> <p>The assessment findings, included within Appendix 5, identifies the exposed original brick structure of the overbridge (including the brick walls and abutments) as significant heritage fabric, while the pipework affixed to the eastern face of the bridge is <i>not</i> significant fabric and is outside the heritage curtilage of the item. A figure depicting areas of significance is provided at Figure 1.</p> <p>Based on this advice, de-vegetation activities are restricted to careful removal (using hand cutting non-power tools) to areas outside of the SHR boundary, as depicted in Figure 1. Any vegetation that is located within the SHR curtilage boundary or affixed to/growing out of the brickwork of the bridge structure would not be removed.</p> <p>Mitigation measures to ensure that all heritage fabric is protected during the duration of works are stipulated in Appendix A of this document.</p> <p>Biodiversity</p> <p>The proposed works are not located in areas of threatened species, populations or endangered ecological communities as shown in the Environmental Sensitive Receivers Map in Appendix 1.</p> <p>In order to undertake the non-intrusive condition survey of the two pipes, removal of vegetation in discrete areas (i.e. where presence of vegetation obscures placement of survey equipment) along the span of pipeline, including the areas at either end where the bridge meets the corridor embankment, would be required. Vegetation would only be removed to allow a clear view of the pipeline in areas required for assessment. Any vegetation growing directly from the original brickwork or the bridge structure that may generate a risk of structural impact if removed, would be trimmed such that the root systems would not be disturbed. Areas of potential vegetation removal are shown in Figure 3.</p> <p>Prior to any de-vegetation works commencing, a qualified ecologist will conduct a pre-clearance survey and inspection for threatened flora and fauna species, as well as monitor vegetation removal activities in accordance with Conditions B2 and B6 of the Revised Environmental Mitigation Measures (REMM)- Appendix C – Preferred Infrastructure Report (SPIR).</p> <p>Following pre-clearance assessment, de-vegetation will commence in accordance with mitigation measures outlined in Appendix 1 of this document. Following vegetation removal, the Pipe Condition Assessment crew will commence the assessment for the subject pipes.</p> <p>All vegetative matter would be collected, bagged and disposed of appropriately (offsite). Any Priority Weeds within vicinity of the works area would be identified during the pre-clearance survey and managed in accordance with REMM B7. If any threatened species or habitat for threatened species are identified, a “no-go” boundary around the significant find would be established by the on-site ecologist, de-vegetation works within this boundary would not commence and the survey would be undertaken around the areas identified, under the supervision of the on-site ecologist.</p>
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Part 2: Details

<p>Describe the proposed Minor Works:</p> <p>Including work methodologies, site location(s) and site description(s) (e.g. landscape type, waterways, etc.).</p>	<p>Site Description Overview:</p> <p>The proposed works include access enabling and condition assessment of two Sydney Water pipes, located on the eastern side of the Canterbury Road overbridge located immediately east of Canterbury Station concourse (refer to figures provided in Appendix 1). The condition assessment of the two pipes entails three discrete tests which are described in more detail below.</p> <p>The pipes subject to assessment are supported between the bridge structure and a Rolled Steel Joist beam (refer to figure in Appendix 1).</p> <p>Access to the pipelines is not possible from bridge level. Therefore, a hi-rail mobile elevated working platform (MEWP) and telehandler would be deployed at corridor</p>
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level, separated by the rail corridor pier in the middle, to gain access to specific locations to generate survey data.

Removal of vegetation in discrete areas (i.e. where presence of vegetation obscures placement of survey equipment) along the span of pipeline, including the areas at either end where the bridge meets the corridor embankment, would be required.

Hi-rail corridor access would be provided via use of an existing ballast ramp, already built by SSJ contractors at the SSJ compound (refer to Figure 4 in Appendix 1). Access to the ballast ramp would be via 18 Charles Street, Canterbury.

Description of Works

Investigations will be carried out within the rail corridor, in proximity to Canterbury Station as shown in Appendix 1. The fundamental objective of the proposed works is to inspect the two Sydney Water pipes attached to the side of Canterbury Rd overbridge using three non-invasive separate testing methods. The proposed works methodologies are outlined in greater detail below.

- Pulsed Eddy Current (PEC) scanning. This method involves running a probe over the pipe surface for a length of 1m at proximal ends of the pipes, either sides of the embankment (4 locations). This method is non-invasive.
- Leak detection testing. This method would involve magnetic attachment of an accelerometer. Connected to a transmitter via a cable. Signals are transmitted wirelessly to a receiver to a laptop at ground level. This method is non-invasive
- Visual inspection using camera/drones of visible areas along the full length of both pipelines. The visual inspection would be conducted from two directions (road level looking down and from track level looking up). This method is non-invasive.

None of the three condition testing methods are considered invasive or intrusive. The works proposed would be undertaken across two full day shifts during a rail possession period (refer below for details on works timing).

Works Procedure

The following works procedure is proposed.

- At least 24 hours prior to works, the Environmental Minor Works Approval Team will engage and undertake a pre-works briefing with PC Representative and Site Supervisor by phone, to ensure that site team is correctly prepared to carry out works in accordance with approval. Briefing will include, as a minimum:
 - Confirm site approval boundaries
 - Works scope
 - Key environmental constraints and mitigation measures for each aspect
 - Roles and responsibilities of all site members
- A pre-start works induction, including the items presented in Appendix 1, would be conducted in an area designated as suitable by the Principal Contractors Representative (likely the SSJ compound). Site vehicles would be parked in a safe, legal area for the duration of the works near the assembly point that will be identified by the PO.
- Access to the site for working personnel and hi-rail plant would be achieved via use of an existing ballast ramp at the SSJ compound (refer to Environmental Control Map in Appendix 1). Access to the ballast ramp would be via 18 Charles Street, Canterbury and permission from SSJ to use the ramp has been attained.
- A hi-rail MEWP and telehandler would be used to access the overbridge, via the ramp outlined above. Hi-rail access to the corridor and overbridge site would be via the up/down Bankstown line and up/down ARTC Goods Line.
- Prior to any testing works being undertaken, the ecologist will undertake a pre-clearance survey to classify any areas of vegetation nominated for removal.
- Following confirmation that no significant ecological finds exist within areas nominated, de-vegetation works would commence using hand-held landscaping tools. The ecologist will monitor clearing activities and document (in a separate report) demonstration of compliance with Conditions B2, B6 and B7. All wastes, including vegetation removed as part of the de-vegetation works, will be managed in accordance with the EPA Waste Classification Guidelines (2014). Priority weeds would be managed in accordance with the *Biosecurity Act 2015*.
- Following de-vegetation works in an area, pipeline condition assessment via aforementioned methods would be undertaken across the two pipes as described on the previous page.

	<ul style="list-style-type: none"> Following the completion of condition assessment testing, the EWP would be demobilised from the site via the same access route as previously outlined in reverse. <p>Plant and Equipment</p> <p>The following equipment would likely be used:</p> <ul style="list-style-type: none"> Hi-rail mobile elevated work platform (MEWP) Telehandler Hand tools for de-vegetation (landscaping hand tools) Survey testing devices, including: <ul style="list-style-type: none"> Accelerometer Camera/drone PEC scanning unit <p>Working Hours</p> <p>The proposed works will be undertaken across two shifts during the following time periods across the possession period on 8-9 August 2020:</p> <p><u>Shift 1</u></p> <ul style="list-style-type: none"> 0800 – 1800 hrs, Saturday 8 August (Standard daytime hours) <p><u>Shift 2</u></p> <ul style="list-style-type: none"> 0800 – 1800 hrs, Sunday 9 August (Daytime OOH) <p>All work periods outside of standard working hours will be managed under the Out of Hours Works Approval and in accordance with the Sydney Metro City & Southwest Out of Hours Work Protocol (refer to OOH-011 document accompanying this approval).</p>
<p>Planned Commencement Date</p>	<p>The proposed works are scheduled for commencement on 8 August 2020</p>
<p>Local Sensitivities: Describe the presence (if any) of local sensitive environmental areas and community receptors</p>	<p>T3 Line between Sydenham Station and Bankstown Station</p> <ul style="list-style-type: none"> Local environmental areas and sensitive receivers, in the context of the proposed works area and hi-ramp access are presented in Appendix 1. There are a number of residential properties located within close proximity to the corridor as identified in Appendix 1. Given the only noise generating plant involved is Hi-rail MEWP and telehandler units, noise and air quality impacts from survey works are expected to be minor. Metron T2M prepared a high-level review summary of previous ground contamination, potential acid, sulphate soils and hazardous material investigative works that have been undertaken and reported on by others and made available to Metron T2M by Sydney Metro (Metron T2M, SMCSWSWM-MTM-WEC-EM-REP-000001). The information relevant to the proposed works are provided in greater detail in Appendix 1. <p>The Unexpected Finds procedure (Appendix 2) will be followed should unexpected contaminated land or asbestos be encountered during the proposed works. If any accidental spill occurs this will be managed in accordance with the contractor spill response procedure. All site vehicles will be checked for spill kits prior to the commencement of the proposed works.</p> <p>As no intrusive works are planned that would affect the heritage curtilage associated with the 1917 overbridge (including the original brick, concrete decking, girders or parapet walls), no consultation with Office of Environment and Heritage (now Department of Premier and Cabinet - Heritage) is considered necessary to approve the proposed works. Mitigation measures to ensure that all heritage fabric is protected during the duration of works are stipulated in Appendix A of this document.</p> <ul style="list-style-type: none"> A number of areas of threatened ecological communities and threatened plant species (<i>Acacia pubescens</i>) have been identified along the rail corridor. No invasive works are anticipated to occur within these areas. An ecologist would be present to supervise that all de-vegetation works are carried out in accordance with mitigation measures outlined in Appendix A. Investigative works may occur in the vicinity of local stormwater systems. Removal of vegetation would not include removal of root systems, thereby minimising erosion and sedimentation risk. Mitigation measures to minimise this risk are outlined in Appendix 1.

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, etc.).

A map showing the local sensitivities discussed in Part 2 will be provided to the survey teams to ensure impacts are avoided. The map is provided in Appendix 1. The mitigation measures developed as part of the environmental risk assessment (provided in Appendix 1) will be provided to survey teams as part of the pre-survey induction.

Works will also be undertaken in accordance with the:

- *The Unexpected Finds Procedure, provided in Appendix 2.*
- *The Sydney Metro Sydenham to Campsie monthly notifications for August 2020, provided in Appendix 3.*

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?

A site induction will be provided to all personnel working on the project site. The induction will include relevant environmental aspects and risks associated with works on the project site. A copy of all induction records will be provided to Sydney Metro upon request.

Part 5: Community Consultation

What community consultation has been undertaken already?

The Sydney Metro notification for August 2020 for Sydenham to Campsie, and Sydney Trains WE6 possession notification include reference to the activities proposed (included in Appendix 3).

What community consultation is planned to be undertaken?

All further works beyond August 2020 will be included within subsequent monthly notifications and additional targeted notifications, as required by the Sydney Metro OCCS. In accordance with the Sydney Metro OCCS, 7 days notification will be given to the community prior to works starting.

If drafted already, attach applicable Community Notification as Appendix 3.

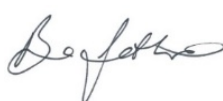
Part 6: Contact Details

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

Name:	Luke Palmer	Position:	Project Manager	Phone:	██████████
	Ben Fethers		Environmental Manager		██████████
	Sushane Perera		Communications Manager		██████████

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:	Ben Fethers		
Signature:		Date:	04/08/2020

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:	May Li Foong	Fil Cerone	
Date:	5/8/20	6 August 2020	
Comments:			<i>Supporting letter attached as Appendix 4 if necessary.</i>
Conditions:	As stated in Part 5		<i>Supporting letter attached as Appendix 4 if necessary.</i>
<input checked="" type="checkbox"/>	Approved (by TfNSW)		
<input type="checkbox"/>	Endorsed (by Environmental Representative)		
<input type="checkbox"/>	Rejected		

Appendix 1: Environmental Risk Assessment, Figures and Environmental Control Maps

Aspect	Potential environmental impact	Initial risk rating			Control measures	Residual risk rating		
		Consequence	Likelihood	Risk		Consequence	Likelihood	Risk
Lighting of work areas	Uncontrolled light spill associated with work areas and compounds impacting nearby sensitive receivers.	5	5	Low	<ul style="list-style-type: none"> Any lighting used would be oriented at an angle to minimise light spill impact and glare on adjacent and nearby sensitive receivers. 	5	6	Low
Air quality and noise emissions	Noise and air quality impacts on nearby sensitive receivers.	5	4	Low	<ul style="list-style-type: none"> Site equipment is to be turned off when not in use Induction and pre-start briefing to include noise mitigation and "good neighbour" approach Follow the appropriate approval process and submit OOHW applications for Environmental Representative approval. Mitigation measures to be implemented in accordance with the Sydney Metro City & Southwest Construction Noise and Vibration Strategy (CNVS), including appropriate notification. 	5	5	Low
Mobilisation of contamination	Local contamination and health risk to surveyors	4	4	Low	<ul style="list-style-type: none"> Surveyors will be vigilant for hazardous materials (e.g. asbestos, hydrocarbons, lead, benzo(a)pyrene, acid sulphate 	4	5	Low

Aspect	Potential environmental impact	Initial risk rating			Control measures	Residual risk rating		
		Consequence	Likelihood	Risk		Consequence	Likelihood	Risk
					soils) that may be uncovered during investigations <ul style="list-style-type: none"> • Unexpected finds procedure (Appendix 2) will be followed. Reference to this procedure will be included within the contractor induction material • No refueling will occur in the work area • Spill kits will be kept near to work areas at all times and trained staff present in case of a spill 			
Work in heritage areas	Potential impacts to heritage may occur as a result of devegetation or pipe condition assessment works	3	4	Moderate	<ul style="list-style-type: none"> • Environmental sensitivities maps will be provided to condition assessment team and included within the induction to ensure all workers are aware that the bridge is a significant heritage item and no intrusive impact to any part of the structure is to be undertaken. • Works will be undertaken in accordance with the Sydney Metro City and Southwest Unexpected Finds Procedure V2.0 for heritage. • All works are to be undertaken strictly outside of SHR Curtilage boundaries, as depicted in Figure 1 of this document. • De-vegetation works are strictly limited to vegetation affixed to the pipeline only. Any vegetation that is affixed to original brickwork is not to be impacted in any way. 	4	5	Low

Aspect	Potential environmental impact	Initial risk rating			Control measures	Residual risk rating		
		Consequence	Likelihood	Risk		Consequence	Likelihood	Risk
					<ul style="list-style-type: none"> Vegetation removal is to be undertaken using hand-held, non-power tools only. 			
Work in biodiversity areas	Removal of threatened ecological community, threatened species or habitat.	4	5	Low	<ul style="list-style-type: none"> Environmental sensitivities maps will be provided to surveyors as part of the site induction process to ensure biodiversity areas are avoided Prior to commencing any de-vegetation works, an ecologist will undertake a pre-clearance survey in accordance with REMM B2 of the SPIR. If any threatened flora or fauna community of species is found, the significant area is to be demarcated by the on site ecologist and treated as a no-go zone. The condition survey is to be undertaken around this area. Any vegetation removal will be undertaken through the use of hand cutting tools only. The ecologist is to monitor vegetation removal activities in accordance with REMM B6 of the SPIR. All removed vegetation would be collected and disposed of at a licensed site in accordance with the EPA Waste Classification (as green waste). 	4	6	Low

Aspect	Potential environmental impact	Initial risk rating			Control measures	Residual risk rating		
		Consequence	Likelihood	Risk		Consequence	Likelihood	Risk
Erosion and sedimentation control	Runoff of excavated materials into the local stormwater system.	5	5	Low	<ul style="list-style-type: none"> The removal of shrubs and low lying vegetation (as part of de-vegetation works) is to be undertaken through use of cutting tools only such that no soil disturbance would result. 	5	6	Low
Transport and access	Negative impact to local roads, parking and footpaths from closures or obstructions during survey work.	5	5	Low	<ul style="list-style-type: none"> Personnel will park within the rail corridor where possible. Personnel will minimise the number of vehicles used to travel to the site and avoid impeding pedestrian and vehicular traffic at all times. Personnel will park legally and observe restrictions at all times. 	5	6	Low
Weeds	Contact and induced proliferation of priority weeds as listed under the Biosecurity Act 2015	4	4	Moderate	<ul style="list-style-type: none"> Any priority weeds identified within the works area would be managed in accordance with the <i>Biosecurity Act 2015</i>. Weeds of national environmental significance would be managed in accordance with the Weeds of National Significance Weed Management Guide. 	5	5	Low
Waste	Improper management of waste could result in an environmental incident	4	4	Moderate	<ul style="list-style-type: none"> Induction of staff will include waste management practices, including the requirement to capture and dispose of all vegetative waste (as green waste under the EPA Waste Classification Guidelines, 2014). 	4	5	Low



Aspect	Potential environmental impact	Initial risk rating			Control measures	Residual risk rating		
		Consequence	Likelihood	Risk		Consequence	Likelihood	Risk
					<ul style="list-style-type: none"> Wastes (e.g. food scrap, empty fuel canisters) will be lawfully transported and disposed of. 			

Sydney Metro Risk Matrix

A1 Consequence Table

Consequence Table						
Rating	C6	C5	C4	C3	C2	C1
Descriptor/ Impact Area	Insignificant	Minor	Moderate	Major	Severe	Catastrophic
Health and Safety (Injury and Disease)	Illness, first aid or injury not requiring medical treatment.	Illness or minor injuries requiring medical treatment.	Single recoverable lost time injury or illness, alternate/restricted duties injury, or short-term occupational illness.	1-10 major injuries requiring hospitalisation and numerous days lost, or medium-term occupational illness.	Single fatality and/or 10-20 major injuries/permanent disabilities/chronic diseases.	Multiple fatalities and/or >20 major injuries/permanent disabilities/chronic diseases.
Environment	No appreciable changes to environment and/or highly localised event.	Change from normal conditions within environmental regulatory limits and environmental effects are within site boundaries.	Short-term and/or well-contained environmental effects. Minor remedial actions probably required.	Impacts external ecosystem and considerable remediation is required.	Long-term environmental impairment in neighbouring or valued eco . Extensive remediation required.	Irreversible large-scale environmental impact with loss of valued eco .
Customer Experience/ Operational Reliability	Short duration disruptions affecting part of one transport mode.	Minor disruptions affecting several parts of one transport mode.	Serious disruptions affecting operation of one complete transport mode.	Major disruptions affecting operations of one transport mode with network-wide effects on one or more other modes of transport.	Short duration shutdowns or substantial disruptions affecting multiple transport modes with sector-wide cascading effects.	Extensive shutdowns or extended disruptions with economy-wide effects.
Government/ Stakeholder / Public Trust/ Confidence	Negative article in local media. No discernible reaction/apprehension. Goodwill, confidence and trust retained.	Unease – Series of negative articles in local/state media. Confidence remains with some minor loss of goodwill or trust. Recoverable with little effort or cost. Some continuing scrutiny/attention.	Disappointment – Extended negative local/state media coverage. Confidence and trust dented but are quickly recoverable at modest cost within existing budget and resources.	Concern – Short-term negative state/national media coverage. Confidence and trust are diminished but are recoverable with time, staff effort and additional funding.	Displeasure – Extended negative state/national media coverage. Confidence and trust are damaged but recoverable at considerable cost, time and staff effort.	Outrage – Material change in the public perception of the organisation. Confidence and trust are severely damaged, possibly irreparably, and full recovery both questionable and costly.
Regulatory or Legal Breach	Low-level non-compliance with legal and/or regulatory requirement or duty by individuals or TfNSW.	Minor non-compliance with legal and/or regulatory requirement or duty. Investigation and/or report to authority.	Moderate non-compliance. Subject to comment and monitoring from applicable regulator. Small fine and no disruption to services.	Major breach resulting in enforcement action and/or prohibition notices. Substantial fine and no disruption to services.	Substantial breach resulting in prosecution, fines and/or litigation. Licence or accreditation restricted or conditional affecting ability to operate.	Prosecution leading to imprisonment of TfNSW executive. Loss of operating licence.
Management Effort/ Organisational Fatigue	An event, the impact of which can be absorbed as part of normal activity.	An event, the impact of which can be absorbed but some additional management effort is required.	An event, the impact of which can be absorbed but much broader management effort is required.	Major event which can be absorbed, but substantial management effort is required.	Severe event which requires extensive management effort but can be survived.	Catastrophic event with the clear potential to lead to the collapse of the organisation.
Benefit Realisation of Initiative, Program or Project	No time delay with initiative or project but it will incur a slight decrease in the benefits realised.	Minor delay with the initiative and/or a minor decrease in the benefits realised; or minor delay on the project or another project, with no public implications.	Several delays with the initiative and/or moderate decrease in benefits realised; or completion date missed for non-critical path project.	Major delays with the initiative and/or major decrease in benefits realised; or publicly announced portion/milestone missed or final completion date missed with demonstrable mitigating external circumstances.	Severe delays with initiative, which impacts across divisions and/or significant decrease in benefits realised; or publicly announced portion/milestone missed or final completion date missed on critical path project.	Failure to realise benefits of the initiative which adversely affects the enterprise-wide operations of TfNSW; or publicly announced portion/ milestone significantly missed or final completion date significantly missed on critical path project.
Budget, Costs or Revenue	< \$100k	\$100k – \$1m	\$1m – \$10m	\$10m – \$50m	\$50m – \$100m	> \$100m

A2 Likelihood Criteria

Likelihood						
Rating	L6	L5	L4	L3	L2	L1
Descriptor/ Definition	Almost Unprecedented	Very Unlikely	Unlikely	Likely	Very Likely	Almost Certain
Qualitative Expectation	Not expected to ever occur during time of activity or project	Not expected to occur during the time of activity or project	More likely not to occur than occur during time of activity or project	More likely to occur than not occur during time of activity or project	Expected to occur occasionally during time of activity or project	Expected to occur frequently during time of activity or project
Sydney Metro Probability Analysis	<10%	10-25%	25-50%	50-75%	75-90%	>90%
Quantitative Frequency	Less than once every 100 years	Once every 10 to 100 years	Once every 1 to 10 years	Once each year	1-10 times every year	10 times or more every year

A3 Risk Matrix

Risk Rating: Very High – A – 31-36 High – B – 22-30 Medium – C – 11-21 Low – D – 1-10			CONSEQUENCE					
			Insignificant	Minor	Moderate	Major	Severe	Catastrophic
			C6	C5	C4	C3	C2	C1
LIKELIHOOD	Almost certain	L1	20	22	29	32	34	36
	Very likely	L2	14	18	23	28	31	35
	likely	L3	9	12	16	24	27	33
	Unlikely	L4	6	7	11	17	25	30
	Very unlikely	L5	3	4	8	13	19	26
	Almost unprecedented	L6	1	2	5	10	15	21

Figures and Environmental Sensitivities Maps



Figure 1: Canterbury Overbridge view of eastern side of bridge from northern aspect street level. Yellow highlighting depicts areas identified by Heritage Specialist to be within the SHR curtilage to be avoided during the works.













Figure 2: Canterbury Overbridge eastern side facing north at street view.





Figure 3: Canterbury Overbridge eastern side facing north, with both pipes, SJJ beam and vegetation surrounding pipes, proposed for removal within view



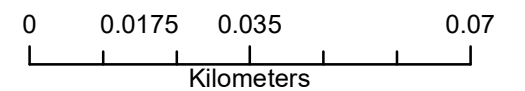
Southwest Metro Design Services
Environmental Sensitivities Map

-  Stations
-  Corridor Boundary
-  Pipe condition assessment and de-vegetation works area
-  SSJ Hi-Rail ballast ramp access
- Threatened Species Sightings**
-  Grey-Headed Flying-Fox
-  Ibis
-  Acacia Pubescens
-  Acacia Pubescens Patches
-  State Heritage
- Native Vegetation**
-  Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest (ME004, Moderate/good)

-  Degraded Turpentine - Grey Ironbark open forest on shale (ME041, Moderate/good-poor)
-  Turpentine - Grey Ironbark open forest on shale (ME041, Moderate/good-medium)



1 cm = 12 meters
 GDA 1994 MGA Zone 56
 10/07/2020



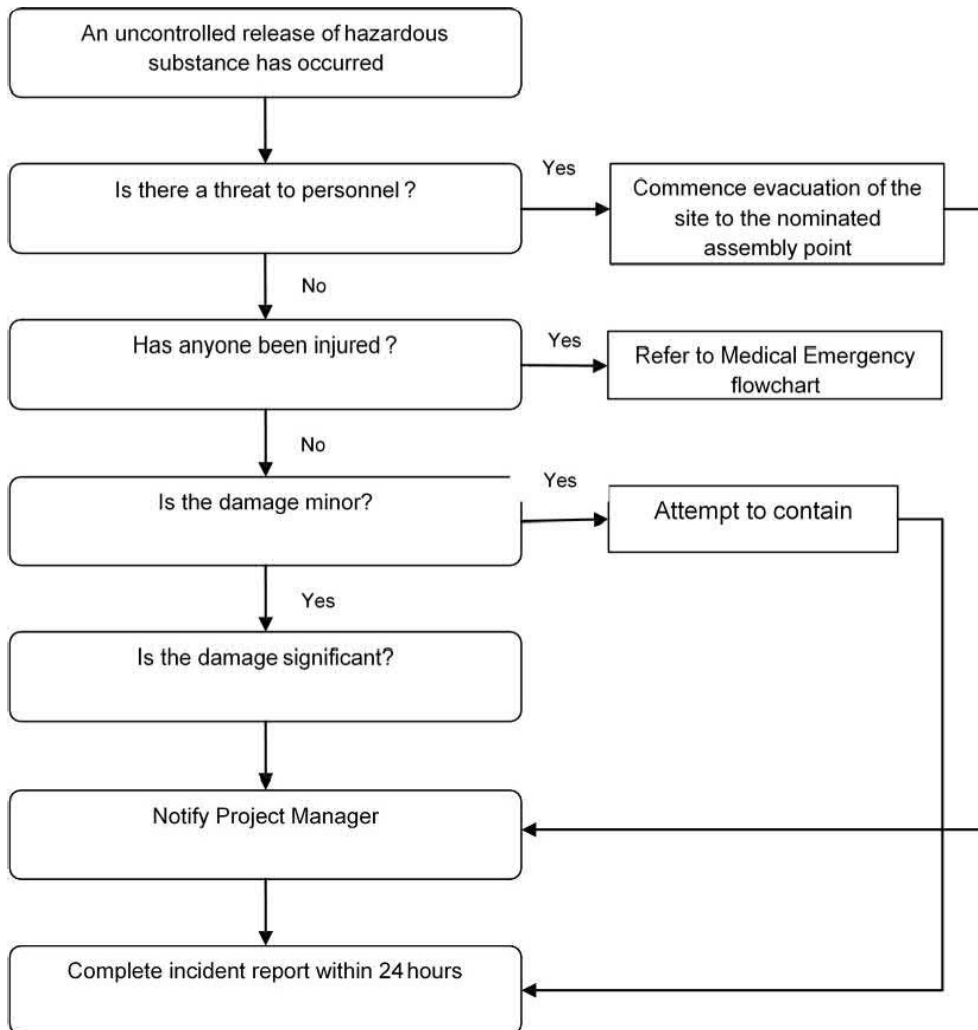
Appendix 2: Environmental Management Documentation

Unexpected Finds

In the case that an environmental consultant is not available for oversight, workers will be vigilant for hazardous materials that may be uncovered during investigations. Unexpected finds include, but are not limited to, odour, visual contamination, acid sulfate soils, deleterious material inclusions, asbestos containing material, Underground Storage Tanks (USTs) or any other suspect materials. Any unexpected finds will be reported to the Contractor's on-site manager immediately. Additionally, the site owner/occupier should be informed as soon as practical following an unexpected find.

If hazardous materials are uncovered / discovered during excavations the Contractor shall:

- Cease all work in that vicinity (and fence the area if appropriate)
- Remove workers from the vicinity
- An experienced environmental consultant / occupational hygienist should be contacted to assess the potential risks associated with the Unexpected Finds and provide appropriate management options
- Investigate the nature of the risk of the materials, determine the appropriate response and document the actions in accordance with contractual obligations.
- In the event of a serious unexpected find, which could cause harm to human health and/or the environment, TfNSW and the NSW EPA may need to be informed.



Appendix 3: Community Notification

Notification – Bankstown Line metro upgrade

August 2020

Sydney Metro is Australia's biggest public transport project.

Services started in May 2019 in the city's North West with a train every four minutes in the peak. Metro rail will be extended into the CBD and beyond to Bankstown in 2024. There will be new CBD metro railway stations underground at Martin Place, Pitt Street and Barangaroo and new metro platforms at Central.

In 2024, Sydney will have 31 metro railway stations and a 66 km standalone metro railway system – the biggest urban rail project in Australian history. There will be ultimate capacity for a metro train every two minutes in each direction under the Sydney city centre. The upgrade of the T3 Bankstown Line to metro standards between Sydenham and Bankstown received planning approval on 19 December 2018.

Sydney Metro will continue to undertake work across its projects in accordance with current Government advice, and will continue to implement physical distancing and travel and hygiene measures to protect employees and members of the community. Continuing with these works is critical to ensuring project continuity, and the project team will continue to review and assess activities in line with any further updates.

Bankstown Line metro upgrade

In August, early work will continue along the T3 Bankstown Line between Sydenham and Campsie stations (weather and site conditions permitting). Access to the rail corridor will be via existing corridor/pedestrian access gates. **Day work will be during project standard construction hours Monday to Friday 7am-6pm and Saturday 8am-6pm.**

Detail of day work (along rail corridor from Sydenham to Campsie)

Activities will include:

- Locating underground services using hand held equipment and non-destructive digging close to and in the rail corridor
- Geotechnical/site investigations, tree and soil assessments
- Topographic/ scanning surveys inside the rail corridor and in nearby public areas
- Site establishment work including installation of haul roads and temporary fencing throughout the rail corridor
- Minor devegetation and clearing throughout the rail corridor where required
- Installation of cable service routes and galvanised steel troughing throughout the corridor, including use of a mobile crane in the rail corridor adjacent to Hurlstone Avenue
- Contamination testing at the new substation site south of the rail corridor near the end of Randall Street, Marrickville. Site staff are required to wear personal protective equipment during this activity.
- Piling works and piling removal adjacent to Terrace Road / Ness Avenue rail underbridge, Dulwich Hill
- Transportation of earth works work material via the rail access gates near Ewart Street (Dulwich Hill), Randall Street and Kays Avenue (Marrickville), Charles, Wairoa, Broughton Street (Canterbury) and South Parade (Campsie)
- Storage of materials adjacent to Broughton Street, Canterbury
- Concrete piling, earthworks, retaining wall and rail embankment work between Campsie and Canterbury
- Retaining wall installation in the rail corridor adjacent to Wairoa Street, Canterbury
- Site establishment at 18 Charles Street Canterbury and at the footpath behind Canterbury Olympic Ice Rink
- Installation of fencing between Hurlstone Park and Campsie

sydnymetro.info



Contact us

-  1800 171 386 Community information line open 24 hours
-  Southwestmetro@transport.nsw.gov.au
-  Sydney Metro City & Southwest, PO Box K659, Haymarket NSW 1240
-  If you need an interpreter, contact TIS National on 131 450 and ask them to call 1800 171 386

Out-of-hours work

Due to the nature of some activities and for the safety of workers, some work will occur outside standard construction hours when trains are not running. Some equipment will also be delivered outside standard construction hours in line with Transport for NSW requirements for transporting oversized vehicles.

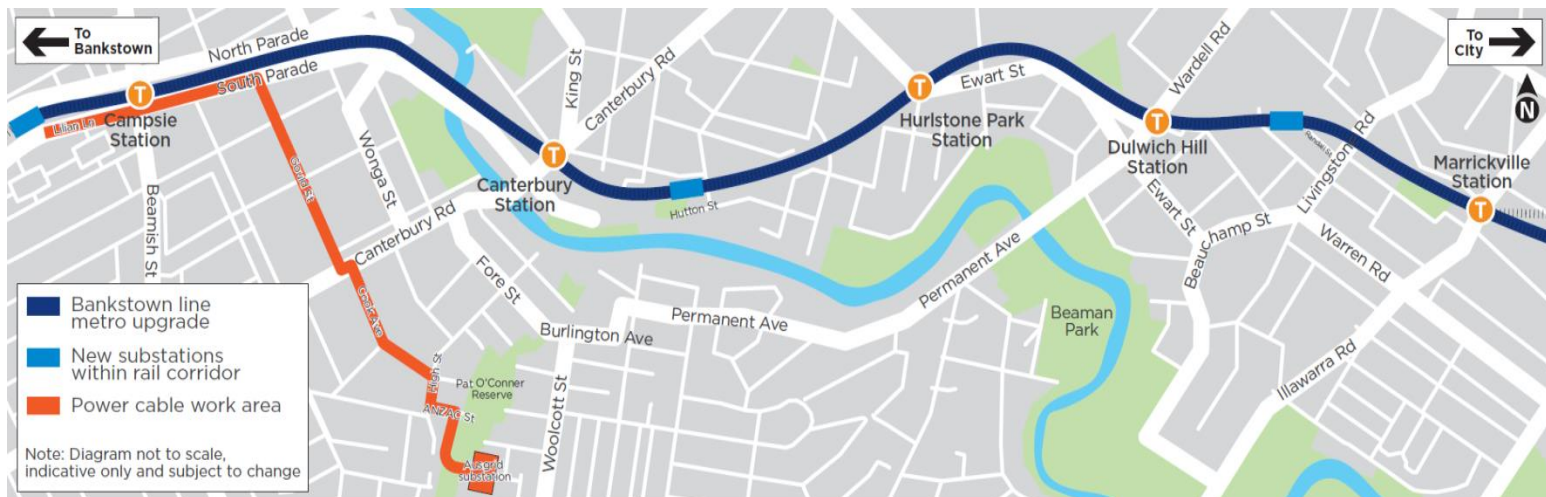
Date / time	Detail of work (along the rail corridor from Sydenham to Campsie)
Weeknights	<ul style="list-style-type: none"> • Site/geotechnical investigations and surveys inside the rail corridor, on station platforms and in nearby public areas • Locating and confirming underground services close to the rail corridor and in nearby public areas • Rail embankment work between Campsie and Canterbury for no more than three nights in a row between the hours of 6pm and 9pm
During the scheduled rail maintenance shutdown weekend from 10pm Friday 7 August to 2am Monday 10 August 2020	<ul style="list-style-type: none"> • Cabling, galvanised steel trough (GST) installation works will take place on rail bridges at: <ul style="list-style-type: none"> ○ Terrace Road / Ness Avenue, Dulwich Hill (including GST support structure installation) ○ Wairoa Street, Canterbury ○ Foord Avenue, Hurlstone Park This will include full road closures at the above locations for the duration of the works. Separate notifications will be issued for the road closures • Piling, retaining wall activities and installation of GST at Cooks River Bridge and Broughton Street, Canterbury. This will include a full road closure on Broughton Street for the duration of the works (a separate notification will be issued) • Pipeline condition assessment at Canterbury Road rail bridge (works to be undertaken from track level)

Equipment used for all the above work will include hand held equipment, light vehicles, vacuum suction trucks, mulcher, piling rig, dump trucks, excavators, crane trucks, drilling rig, lifting machinery, elevated work platform, concrete trucks, concrete pumps, rollers, forklift, water cart and power tools. Some of this work may be noisy, however we will take every possible step to minimise noise.

Where footpath or lane closures are required for works, pedestrian detours and signage will be in place to assist the community. Access to buildings and driveways will be maintained at all times.

Keeping you informed

Properties close to the rail corridor will receive notifications when construction work is scheduled to occur. If you have any questions about the **bulk power supply route/ substations** please contact us and ask for **Grace**. For all other works please ask for **Melanie**. You can contact us on **1800 171 386** (24 hour community information line) or e-mail SouthwestMetro@transport.nsw.gov.au. **Thank you for your cooperation while we complete this essential work.**



Sydney Trains

Central to Sefton track maintenance

From Friday 7 August to Monday 10 August

What we're doing

Sydney Trains is undertaking maintenance between Central and Sefton via Bankstown from Friday 7 August to Monday 10 August.

At Central Station, Sydney Metro is installing sections of the new Northern Concourse roof, working on platforms 16-23, the Eastern Suburbs Railway Concourse and the upper and lower Northern Concourse, installing services throughout the station and excavating and constructing a concrete slab for the metro platforms (underground former Platforms 13, 14-15).

At Sydenham Station, Sydney Metro will be installing bridge planks, girders and parapets between platforms 2/3 and 4/5, cladding, glazing and roof sheeting on platforms 4 and 5 on the new concourse, undertaking track reconditioning, installing anti-throw screens on Bedwin Road bridge and new cable routes and drainage pits inside the rail corridor.

Between Sydenham and Bankstown, Sydney Metro is conducting corridor inspections, pipeline assessment at Canterbury Rd bridge, piling works at Charles St near Cooks River, and cabling works on rail over/underbridges between Dulwich Hill and Canterbury.

Sydney Trains is working on:

- bridge refurbishment works at Illawarra Road Overbridge, Marrickville
- bridge refurbishment works at Liverpool Road Overbridge, Yagoona
- plain track and turnout resurfacing
- priority defect removal at various locations
- rail and turnout grinding
- station upgrade works at Birrong
- routine civil, signal, and electrical maintenance
- vegetation maintenance, litter and graffiti removal.

How this affects you

Noise

- These works may create additional noise at night and over the weekend.
- **Work will take place around the clock from 10.30pm Friday 7 August until 2am Monday 10 August.**
- Equipment may be delivered to the worksite outside the above. Some deliveries may occur at night due to travel restrictions on large vehicles.
- Diesel work trains will be kept on site and may be idling for extended periods.
- Finishing works may take place following this period, including the removal of equipment.

Traffic and Parking

- Heavy vehicles will be using local streets to access the rail corridor.
- While we will park our vehicles inside the rail corridor where possible, please be aware that on-street parking may be limited near worksites.
- **We apologise for any inconvenience and thank you for your cooperation during these essential works.**

Contact us

For upcoming work

transport.nsw.gov.au/sydtraincommunity

To report environmental concerns (24hours) **1300 656 999**



Visit transportnsw.info

Appendix 4: Environmental Representative Supporting Letter

