management plan

Pollution Incident Response Management Plan – M8 Tunnel

A Transurban Group plan

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Head of Operations NSW

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Revision history

Date	Version*	Author	Nature of change (including review history)
13-Jul-20	1.0	Kris Hincks	Internal Development
08-May-21	2.0	Kris Hincks	Review
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3-Jun-24	4.0	Kris Hincks, Operational Environmental Specialist **Ashley Parnell, Maintenance Operations Manager** **Tassos Plakogiannis, Asset Operations Manager**	Reviewed and updated with no changes. **Reviewed and approved for publishing.**
1-Apr-25	5.0	Kris Hincks, Operational Environmental Specialist Ryan Wells, Head of Environment **Nadir Hashmi, Senior Manager Maintenance Performance WCX** **Tassos Plakogiannis, Asset Operations Manager**	Reviewed with updates to Sections 3.3, 3.4, 4.0 and 5.3 to align with NSW PIRMP. **Reviewed and approved for publishing.**
8-Jun-25	6.0	Scott Tinsley, NSW Environment Manager **Jill Collins, Head of Operations NSW**	Reviewed with updates to Sections 1.0, 2.1, 2.2, 2.4, 3.2, 3.3, 4.0, 5.0, 5.1, 5.2, 5.3, 6.0 and Appendix A. **Reviewed and approved for publishing.**

Review Frequency: Annual

* An automatic version of this document will be stored upon modifying. Before printing please insert the current version number into the table above and into the footer.

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1. Abbreviations, acronyms and definitions

Term or acronym	Description
EPA	Environment Protection Authority (EPA)
DPHI	Department of Planning, Housing and Infrastructure
FHEOM	Fulton Hogan Egis Operations & Maintenance - Maintenance Service Provider
HSE	Health, Safety and Environment
HSEMS	Health Safety and Environment Management System
MCoA	Minister's Conditions of Approval
M8	The M8 Motorway between the existing M5 East corridor at Beverly Hills via tunnel to St Peters.
O&M	Operations and Maintenance
OEMP	Operational Environmental Management Plan
OMCS	Operations Motorway Control System
PMCS	Plant Management Control Systems
POEO Act	Protection of the Environment Operations Act 1997
SNO	Senior Network Operator
SWMS	Safe Work Method Statement
TCRO	Traffic Control Room Officer
TMCS	Traffic Management Control System
TUWCX	Transurban WestConnex

2. Introduction

2.1 Background

WestConnex (WCX M5 PT Pty Ltd) holds an Environment Protection Licence (Licence # 21351) issued by the NSW Environment Protection Authority (EPA) for the Treatment of Contaminated Groundwater at the Water Treatment Plant (WTP) located at the Arncliffe Motorway Operations Centre. As per the *Protection of the Environment Operations Act 1997* (the POEO Act), WCX TU as holder has prepared this Pollution Incident Response Management Plan (PIRMP) that complies with Part 5.7A of the POEO Act and in-line with *Protection of the Environment Operations (General) Regulation 2009* 95A (1) that restricts this plan to only cover pollution events from contaminated groundwater treatment.

If a pollution incident occurs in the course of an activity so that material harm to the environment (within the meaning of Section 147 of the POEO Act) is caused or threatened, WCX TU will immediately implement this plan in relation to the activity required by Part 5.7A of the POEO Act. A written copy of this plan is kept at the St Peters Motorway Control Centre (33 Burrow Road, St Peters, NSW, 2044) and is made available on request by an authorised NSW EPA Officer and publicly at (https://www.linkt.com.au).

2.2 Objectives

The objectives of this PIRMP are to:

- Minimise and control the risk of a pollution incident at the project by requiring identification of risks through the approved risk management process (Active Risk Manager) and the development of planned actions to minimise those risks.
- Ensure comprehensive and timely communication about an incident to the Environment Protection Authority (EPA) and other relevant government authorities and the community who may be affected by the impacts of an emission pollution incident.
- Ensure that the plan is properly implemented by trained staff, identifying persons responsible for implementing it, and ensuring that the plan is regularly tested for accuracy, currency and suitability.

2.3 Scope

This PIRMP for the M8 WTP covers pollution incidents that cause actual or potential material harm to the environment and/or human health. This PIRMP applies to the 'scheduled activity' (contaminated groundwater treatment) to which the EPL relates and identified in Section 2.4 below.

2.4 Description

During operation of the Asset, there will be an ongoing inflow of groundwater into the tunnels. Some of this groundwater is contaminated as the tunnels pass under old landfill sites. The tunnel drainage system has been designed to accommodate the capture, removal, treatment, storage and discharge of groundwater. Groundwater inflows are collected in the low point sump. During normal operation, the WTP will treat and discharge approximately 2ML of groundwater per day. The WTP consists of the following steps:

2.4.1 Pre-treatment

Water from the low point sump is pumped to the surface. Screening removes large solids, plastics and debris which may have collected in the sump to protects the downstream processing equipment. After the initial screening, water is pumped into the surface balance tank which provides constant flow to the Dissolved Air Floatation (DAF) from the tunnel drainage system to buffer the on/off nature of pump operations. The water is agitated via aeration and mixing systems, which keeps solids suspended but also provides oxidation of heavy metals. Before being mixed with chemicals, pH and turbidity are measured.

2.4.2 Pre-conditioning

The water is conditioned through chemical dosing. Poly Aluminium Chloride is used to aid coagulation, to remove solids collected. As the groundwater is acidic, Sodium hydroxide is used to correct the pH so it meets discharge criteria. It also assists in precipitating dissolved heavy metals from the groundwater. A polymer is also be used to aid flocculation in the sludge dewatering process. Before entering the DAF, pH and turbidity are measured.

2.4.3 Solids Removal

Chemically conditioned flows will continue into a solids removal unit. The DAF unit will remove solids from the conditioned waste water through flotation. The conditioned waste water enters via an inlet manifold and is mixed with an air stream, which allows the flocculated solids to rise to the surface. The sludge produced from this process is collected in a sludge holding tank, which provides a buffer storage before the sludge is dewatered. The thickened sludge from the holding tanks is dosed with Polyelectrolyte before being dewatered through a Screen Press. The solids will be discharged directly from the outlet of the press into a skip bin which is removed offsite to waste facility. The water from this process is then directed back into the Balance Tank. Treated water from the DAF is then treated through Multi Media Filters, where traces of polymer and fine sediments are captured. The filters are back flushed periodically with water which has been treated through the media filters. The backflush water is directed back into the Balance Tank for treatment.

2.4.4 Break Point Chlorination

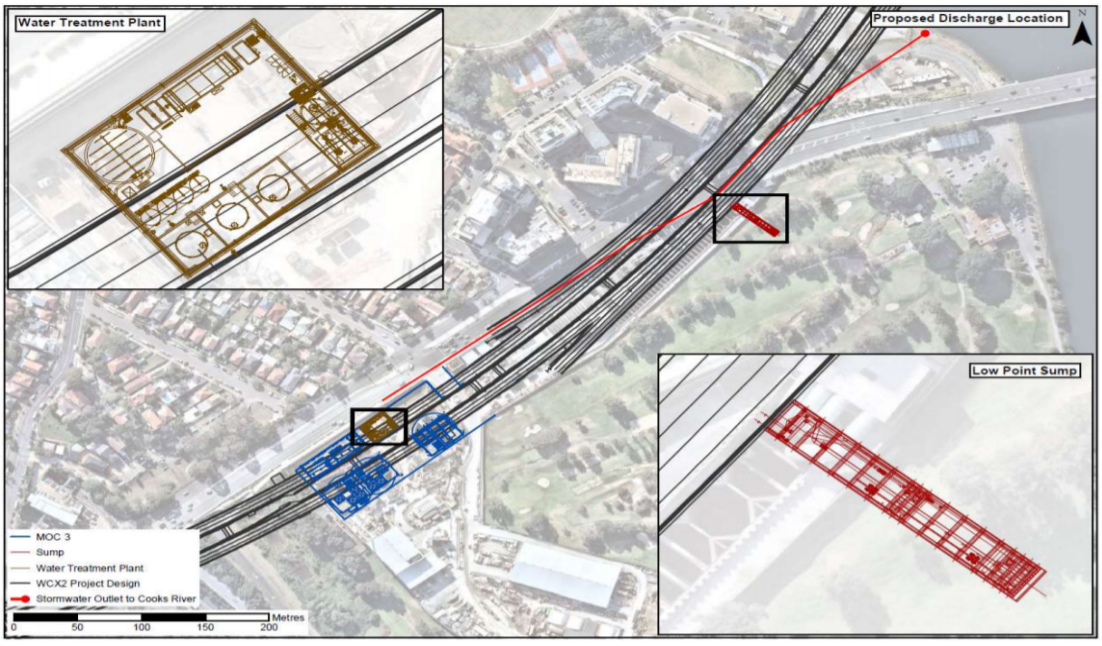
The Break Point Chlorination (BPC) system addresses incoming ammonia levels It is located outside WTP building adjacent to tidal storage basin.

2.4.5 Activated Carbon Filtration

Activated Carbon Filter (ACF) system to polish out hydrocarbons is located outside WTP building adjacent to tidal basin storage.

2.4.6 Discharge to the Cooks River

Before the treated water is discharged into the tidal basin, turbidity, pH, temperature and flow are measured. Once within the tidal basin, water is released during the outgoing (ebb) tide into the stormwater drain before entering the Cooks River. The WTP is controlled and monitored via an external control room with control functionality. At the control room the Traffic Control Room Officers (TCRO) are able to monitor the overall status of the water treatment plant system.. The broader location is shown in Appendix D – Broader Location Map:



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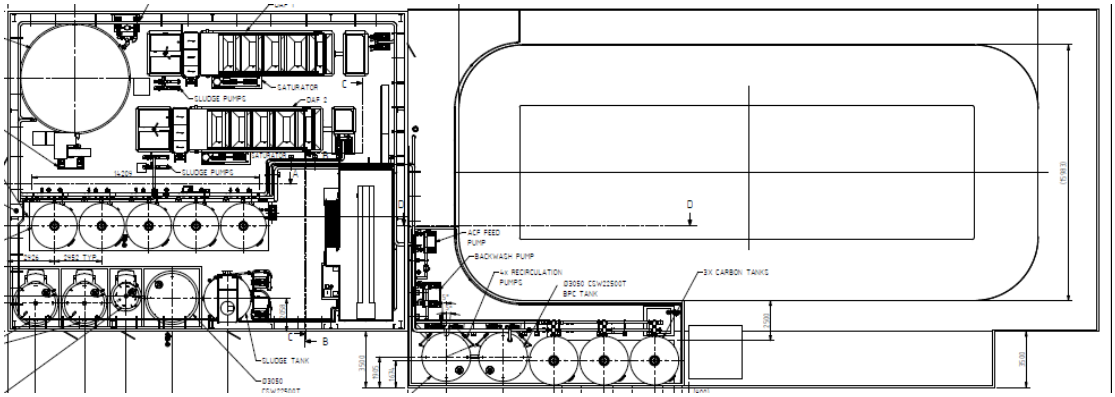

Figure 1: Water Treatment Plant, Arncliffe

3. What is a 'pollution incident'?

A 'pollution incident' is defined by the POEO Act as 'an incident or set of circumstances during or as a consequence of which there is likely to be a leak, spill or other escape of a substance, as a result of which pollution has occurred, or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise'.

A pollution incident at the M8 WTP that would be relevant to this PRIMP, may include a discharge from the WTP that is above the limits of the EPL. Such incidents would also require notification to relevant authorities as outlined below.

3.1 Pollution Incident Notification

Pollution incidents causing or threatening material harm to the environment must be notified to EPA.

An incident is required to be notified if there is a risk of 'material harm to the environment', which is defined in Section 147 of the POEO Act as: (a) harm to the environment is material if: (i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or (ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (or such other amount as is prescribed by the regulations), and (b) loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment. It is a requirement to report pollution incidents immediately to the EPA, NSW Health, Fire and Rescue NSW, WorkCover NSW and the local council (details in section 1.7). 'Immediately' has its ordinary dictionary meaning of promptly and without delay. This will ensure that pollution incidents are reported directly to the relevant response agencies and they will have direct access to the information they need to manage and deal with the incident in a faster time.

3.2 Incident Notification Information

Following a pollution incident, it must be reported immediately as outlined above. The Transurban Regulatory Notification guideline (TU-HSE-MN-02) should also be consulted prior to notification. The relevant information about a pollution incident required under Section 150 of the POEO Act consists of the following:

(1)
- a) time, date, nature, duration and location of the incident,
- b) location of the place where pollution is occurring or is likely to occur,
- c) nature, the estimated quantity or volume and the concentration of any pollutants involved, if known,
- d) circumstances in which the incident occurred (including the cause of the incident, if known,
- e) action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known,
- f) other information prescribed by the regulations.

(2) The information required by this section is the information known to the person notifying the incident when the notification is required to be given.

(3) If the information required to be included in a notice of a pollution incident by subsection (1) (c), (d) or (e) is not known to that person when the initial notification is made but becomes known afterwards, that information must be notified in accordance with Section 148 immediately after it becomes known.

3.3 Testing, Review and Amendment

The PIRMP will be tested in accordance with the requirements set out in the *Protection of the Environment Operations (General) Regulation* 2009 as follows:

- To ensure that the information included in the plan is accurate and up to date, and the plan is capable of being implemented in a workable and effective manner.
- Any such test is to be carried out:
  - At least once every 12 months, and
  - Within 1 month of any pollution incident occurring.

The M8 as a whole has a number of potential scenarios that may impact the environment; detailed in the *Operational Environmental Management Plan; Appendix D Environmental Risk Register*. PIRMP testing will be limited to WTP discharge exceedance scenarios.

In the PIRMP, the following details will be recorded on a continuous basis:

- *Review:* Date, version, author and nature of change (Page 2).
- *Test:* Date (tested), description of test, conducted by, date (update) (Appendix A).

4. Inventory of Pollutants

Quantities of potential pollutants will be kept on the premises for use during operation and maintenance. Appendix D details the maximum quantity and location of the potential pollutants kept at the WTP. The three main chemicals stored at the WTP are as follows.

- Sodium hydroxide (also called caustic) or acid to correct the pH of the raw water; 3000L.
- Coagulant and polymer to aid the solids settling process within the DAF; 3000L.
- Sodium hypochlorite to convert ammonia into dichloramine; 10 000L.
- Sodium metabisulphite (SMBS) to neutralise the free chlorine; 3000L.
- Polymer added after the sludge settling tank to assist sludge dewatering; 25kg bag.

All potential pollutants related to this PIRMP are stored within the Hazardous Materials Storage area of the WTP in self-bunded tanks and in a bunded and secured area. Safety Data Sheets (SDS) are available on site for all chemicals to aid in clean-up of any spills.

5. Roles and Responsibilities

As required by the POEO Act; the roles and responsibilities are described below of those key individuals who are responsible for activating the plan, managing the response and notifying relevant authorities:

Role	Responsibility	Contact Details (24hr)
Motorway Control Centre	• Responsible for managing the immediate response to a pollution incident if within the control room's purview. • • Responsible for advising the Duty Manager.	(02) 9595 9600
Duty Manager	• Notify relevant stakeholders to notify relevant managers in Transurban and the NSW Environment Manager and Head of Sustainability and Environment.	(02) 9595 9627
NSW Environment Manager and Head of Sustainability and Environment	• Support the managing of the response to the incident. • Notify relevant authorities under Section 148 of the POEO Act.	
Senior Manager Network Maintenance - WCX TU	• Responsible for coordinating the Incident response and maintenance of WestConnex M8 Motorway with FHEOM • Ensuring FHEOM meet the below obligations and assisting anyway possible •	

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Role	Responsibility	Contact Details (24hr)
FHEOM	• Responsible for managing the immediate response to a pollution incident if within FHE's purview. • Responsible for the Incident response and maintenance of WestConnex M8 Motorway • Responsible for incident notification, incident management and liaison as required with WCX TU.	
Incident Response &Maintenance (IR&M) Manager - FHEOM	• Ensures plans and systems are in place to cover envisaged emergency and incident situations that may occur on the WestConnex Motorway Maintenance Site • Ensure systems are in place for the identification, classification, management and recovery from all incidents that may occur on the WestConnex Motorway or as a result of the actions of the IR&M Activities	
QSE Manager - FHEOM	• Management of response and control of pollution incidents • Assessing how any clean up actions will be undertaken following an environmental incident • Advise SMC in event of any actual or potential pollution incident and provide regular updates where required • Immediately upon the cessation of the emergency situation, assist all affected parties to commence recovery from that emergency situation and commence any investigative processes required	
Maintenance Manager - FHEOM	• Takes direct control of any environmental pollution incident within the work of that area until relieved from that position by the QSE Manager or an officer from the Responding Agency • Gives all authority and provide such resources to ensure swift containment and control from any environmental incident situation • Immediately notifies the Environment and Community Manager of any environmental incidents	
Maintenance Superintendent and Supervisors - FHEOM	• Take all necessary steps and assume all necessary responsibility required to contain and control any environmental situation until the QSE Manager is available.	

6. Hazards to the Environment and Human Health

Due to the licence relating to the scheduled activity 'contaminated groundwater treatment' the following hazards related to the environment and human health are exclusively:

- Release of contaminated substances into surface waters.
- Release of contaminated substances onto land.
- Waste generated from the WTP disposed at an unlicensed facility.
- Ground disturbance resulting in dirty water runoff into surface waters.

As required under the POEO Act; the likelihood of the abovementioned environmental hazards are detailed in the *Operational Environmental Management Plan.* The Plan is publicly available on the WestConnex Website.

6.1 Controlling Hazards to the Environment

In order to mitigate the abovementioned hazards, WCX TU implements constant water monitoring throughout the WTP and at the outlet point in accordance with the conditions of the EPL and the approved Water Quality Management Plan. Further physical controls are detailed in *5.3 Environmental Pollution Control Equipment.* Site personnel are also trained in, and implement the following related management plans to control factors that may influence an exceedance of the WTP limits:

Document #	Description
M8-EV-PL-003	*Operational Environmental Management Plan*
	Water Quality Monitoring Program

Specifically, in the OEMP Annexure D: Environmental Risk Register describes the environmental impact and the mitigation, management and monitoring strategies that are being employed to manage hazards.

6.2 Controlling Hazards to Human Health

To minimise the risk of harm to people at the premises the following measures will be implemented:

- Restricted access to the Maintenance Site (authorised personnel access only).
- All personnel are inducted into the risks and hazards (including the Work Health and Safey Management Plan and Safe Work Method Statement) of the worksite as required.
- All person(s) accessing site are required to wear the appropriate Personal Protective Equipment (PPE) as specified in TU PPE Procedure TU-HSE-PE-18.
- All person(s) to be made aware of the PIRMP including notification/response procedures during site induction.
- All personnel are made aware of all site exits and emergency evacuation points. Emergency assembly points are advised by supervisors on the day prior to works at each location and when entering the work site due to the changing nature of the works Environmental Pollution Control Equipment.

As per WQMP and the OEMP, the WTP is managed by the use of a computerised control system. The WTP is monitored continuously from the Control Room for any major or minor faults.

Technicians and Maintenance Supervisors are on site continuously to respond to any faults.

6.3 Process to be taken following a Pollution Incident

In the event of an environmental pollution incident occurring on site the following procedure will be followed by the TCRO's or relevant employee that identifies the incident:

- The TCRO or equivalent notifies the Duty Manager who will escalate as outlined in the 'Incident Escalation and Notification' (WOM-OP-PR-030) procedure to the appropriate staff including the NSW Environment Manager and Head of Sustainability and Environment.
- The TCRO would contact Emergency Services if required and coordinate with TfNSW, Traffic Management Centre (TMC) and other motorway control centres as required while the incident is being managed.
- If the incident does not require an initial emergency services agency, or once the 000 call has been made, the NSW Environment Manager or delegate is responsible for notifying the relevant authorities in the following order:
  - NSW EPA – Regulatory Authority under the POEO Act
  - The Ministry of Health via the local Public Health Unit
  - SafeWork
  - The local councils
  - NSW Fire and Rescue NSW
- The NSW Environment Manager would coordinate the notification of regulatory agencies such as DPHI, EPA, NSW Health, Councils and SafeWork. The information outlined in section 2.2 needs to be recorded and reported immediately to the regulatory authorities via email or phone. Contact details are outlined in section 2.3.

6.3.1 Information to be provided

The following information about a pollution incident must be presented to the relevant authorities upon notification:

- The time, date, nature, duration and location of the incident
- The location of the place where pollution is occurring or likely to occur
- The circumstances in which the incident occurred, including the cause of the incident, if known
- The action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known
- Any other information prescribed by the Regulations.

6.4 Regulatory Authorities

As above, the Environmental Team or equivalent is responsible for notifying relevant authorities. The current contact details of the relevant authorities under Section 148 of the POEO Act include:

Authority	Email	Phone
EPA (NSW)	info@epa.nsw.gov.au	131 555

Health (NSW)	MOH-EHB@health.nsw.gov.au	(02) 9424 5817
DPHI	infrastructure.notifications@planning.nsw.gov.au compliance@planning.nsw.gov.au	1300 420 596
SafeWork NSW	contact@safework.nsw.gov.au	131 050
Fire and Rescue	contact@frnsw.nsw.gov.au	1800 679 737

6.5 Community Stakeholders

The requirements surrounding community consultation and involvement are detailed within the OEMP which was required as part of the conditions of approval.

In order to ensure consultation with each community stakeholder is effective, different stakeholders will be notified depending on the severity of the incident and in terms of whether they would be directly affected by the incident.

6.6 Staff Training

All relevant personal receive training during the induction process to ensure they can effectively implement the PIRMP. Ongoing training ensures they are able to prevent and respond to exceedances should they occur. Training includes, but is not limited to:

- Employee responsibilities and legal obligations in relation to exceedances and reporting requirements.
- Identification of site issues that may lead to a WTP exceedance.
- Appropriate immediate action to control and contain an incident including provision of contact details of relevant personnel for notification.
- Staff must be provided with information to reflect the following hierarchy in their response to an environmental incident.

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Appendix A: Testing Register

Date (Tested)	Description of Test	Conducted By	Date (Updated)
14/6/2021	Desktop exercise	TP	14/6/2021
20/12/2923	Desktop exercise	TH	3/6/2024
24/9/2024	Incident review	KH	1/4/2025

Appendix B: Compliance Register

Below describes how the above PIRMP complies with the requirements under Section 3 General requirements for preparing pollution incident response management plans the EPA Guideline (2012): Preparation of pollution incident response plans:

Requirement	Section of PIRMP
3.3.1 Description and likelihood of hazards [clause 98C (1)(a) and (b)]	4.1 Hazards to the Environment and Human Health
3.3.2 Pre-emptive actions to be taken [clause 98C(1)(c)]	5.2 Controlling Hazards to the Environment 5.3 Controlling Hazards to Human Health
3.3.3 Inventory of pollutants [clause 98C(1)(d) and (e)]	4.0 Inventory of Pollutants
3.3.4 Safety equipment [clause 98C(1)(f)]	4.3 Environmental Pollution Control Equipment
3.3.5 Contact details [clause 98C(1)(g) and (h)]	3.0 Roles and Responsibilities 2.3 Regulatory Authorities
3.3.6 Communicating with neighbours and the local community [clause 98C(1)(i)]	2.5 Community Stakeholders
3.3.7 Minimising harm to persons on the premises [clause 98C(1)(j)]	4.3 Controlling Hazards to Human Health
3.3.8 Maps [clause 98C(1)(k)]	2.3 Description Appendix D: Broader Location Map
3.3.9 Actions to be taken during or immediately after a pollution incident [clause 98C(1)(l)]	2.4 Process to be taken following a Pollution Incident
3.3.10 Staff training [clause 98C(1)(m)]	7 Staff Training

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Appendix C: Broader Location Map

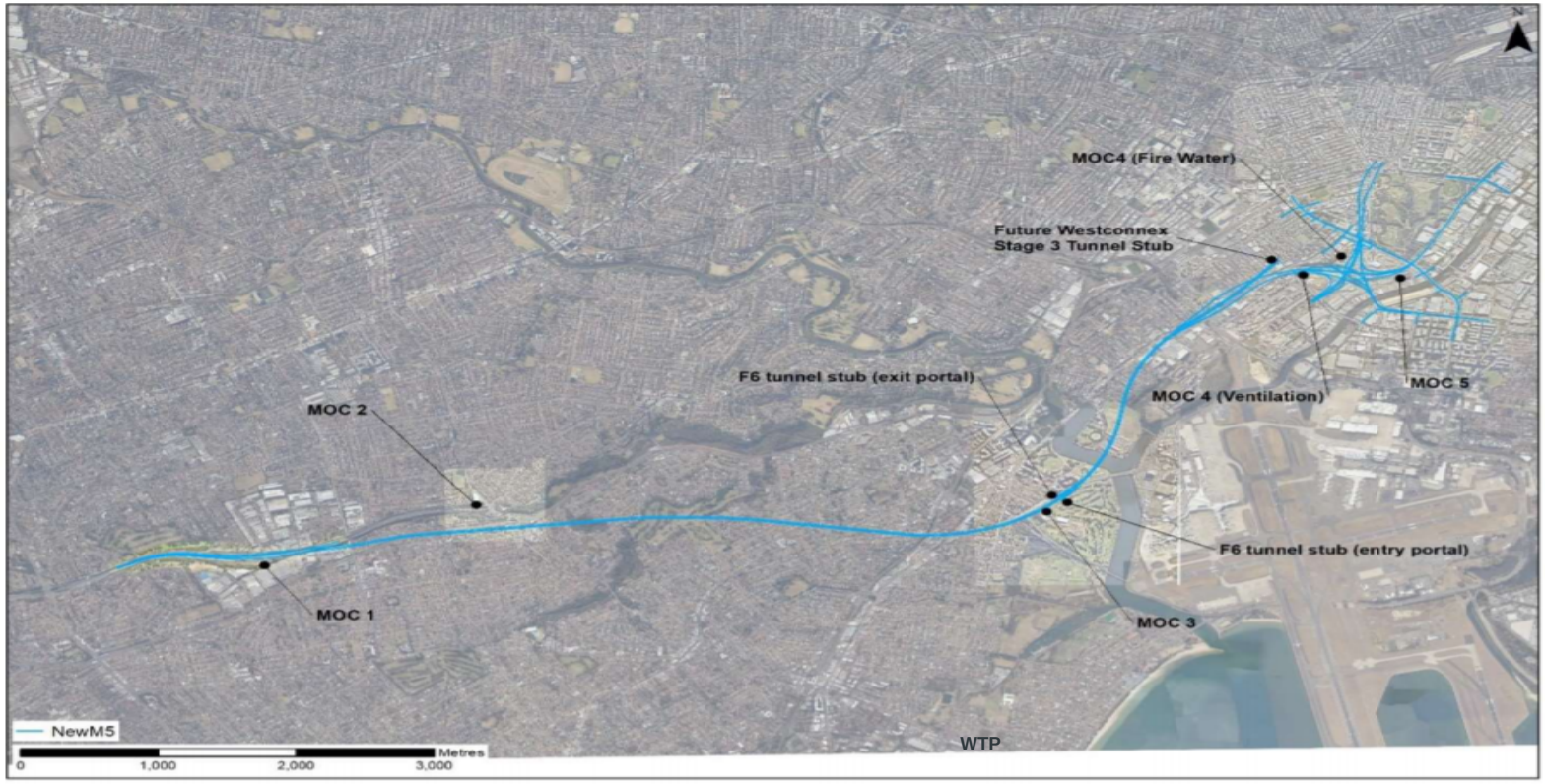

Figure 2 Broader Location Map