Management Plan

PIRMP – M8 Tunnel

A Transurban Group plan

Document code
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Approval authority

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Revision history

Date	Version*	Author	Nature of change (including review history)
13/07/2020	1	Kris Hincks	Internal Development

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Contents

1. Abbreviations, acronyms and definitions

Term or acronym	Description
ACT	Protection of the Environment Operations Act 1997
EPA	Environment Protection Authority (EPA)
DPIE	Department of Planning Industry and Environment
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
M4 East	The M4 Motorway between Homebush Bay Drive at Homebush to Parramatta Road and City West Link (Wattle Street) at Haberfield
O&M	Operations and Maintenance
OEMP	Operational Environmental Management Plan
OMCS	Operations Motorway Control System
PMCS	Plant Management Control Systems
SWMS	Safe Work Method Statement
TMCS	Traffic Management Control System
TUWCX	Transurban WestConnex

2. Introduction

2.1 Background

WestConnex Transurban Pty Ltd (WCX TU) holds an Environment Protection Licence (Licence # 21351) with the NSW Environment Protection Authority (EPA) for 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 PT as holder has prepared the following Pollution Incident Response Management Plan (PIRMP) that complies with Part 5.7A of the Protection of the Environment Operations Act 1997 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 an pollution incident at the project by requiring identification of risks 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;

2.3 Description

During operation of the Asset, there will be an ongoing inflow of groundwater into the tunnels. The tunnel drainage system has been designed to accommodate the capture, removal, treatment, storage and discharge of groundwater. Groundwater inflows would flow to the low point sump. During normal operation, the water treatment plant will treat and discharge approximately 2ML of groundwater per day. The water treatment plant will consist of the following steps:

2.3.1 4.3.1 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 and 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.

2.3.2 4.3.2 Pre-conditioning

The water is conditioned through chemical dosing. Poly Aluminium Chloride is used to aid coagulation, to remove solids collected from the wash-down activities and surface run-off from the portals. 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 will also be used to aid flocculation in the sludge dewatering process. Before entering the DAF, pH and turbidity are measured.

2.3.3 4.3.3 Solids Removal

Chemically conditioned flows will continue into a solids removal unit. The DAF unit will remove solids from the conditioned waste water through floatation. 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 Rotary Screw Press. The solids will be discharged directly from the outlet of the screw press into a skip bin which can then be 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 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.

2.3.4 4.3.4 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 water treatment plant is controlled and monitored via an external control room with full control functionality. At the control room the operator is able to monitor the quality of water at various stages in the treatment process, along with the status of all water treatment plant system alarms and plant. The broader location is shown in Appendix D – Broader Location Map:

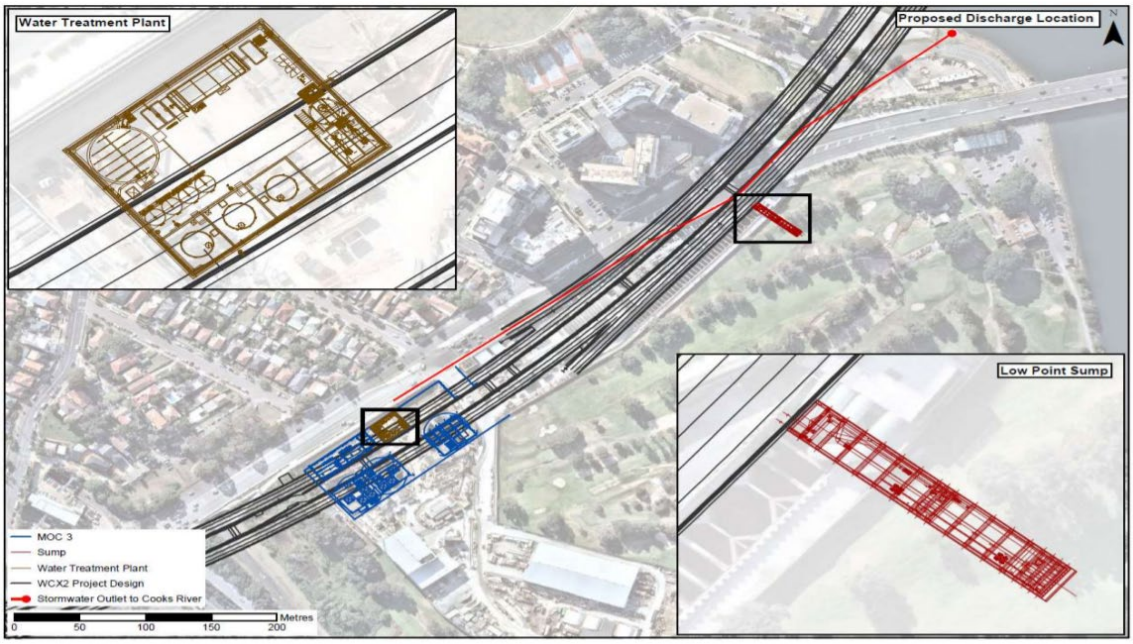

Figure 1: Water Treatment Plant, Arncliffe

2.4 Incident Notification Information

The relevant information about a pollution incident required under S150 of the Protection of the Environment Operations Act 1997 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.

2.5 Testing, Review and Amendment

The PIRMP will be tested in accordance with the requirements set out in the Protection of the Environment Operations (General) 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; and
- 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) and;
- *Test:* Date (tested), description of test, conducted by, date (update) (Appendix A).

3. 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 on the Maintenance Site. The three main chemicals stored at the WTP are as follows.

- Sodium Hydroxide; 8000L
- Sodium Sulphide; 8000L
- Poly Aluminium Chloride; 8000L

All potential pollutants related to this PIRMP are stored within the Hazardous Materials Storage area of the WTP 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.

4. Roles and Responsibilities

As required by the 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:

PIRMP – M4 East

Role	Responsibility	Contact Details (24hr)
M8 Incident Control Room – TCRO - WCX TU	• Responsible for managing the response to a pollution incident. • Responsible for activating the PIRMP. • Authorised to notify relevant authorities under section 148 of the POEO Act.	(02) 8746 0045
O&M Manager - WCX TU	• Responsible for coordinating the Incident response and maintenance of WestConnex M4 Motorway with FHEOM • Ensuring FHEOM meet the below obligations and assisting anyway possible • Assisting the TCRO in contacting the relevant agencies	
FHEOM	• Responsible for the Incident response and maintenance of WestConnex M4 Motorway • Responsible for incident notification, incident management and liaison as required with WCX TU.	
I&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 I&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.	

5. Hazards to the Environment and Human Health

Due to the licence relating to the scheduled activity 'Road Tunnel Emissions' 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 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.

5.1 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 WQMP. 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
M5N-ES-PLN-PWD-0047	*Operational Environmental Management Plan*
M5N-ES-PLN-PWD-0049	*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.

5.2 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 WHSMP and SWMS) of the worksite as required
- All person(s) accessing site are required to wear the appropriate PPE including:
    - Long pants
    - Long sleeved shirt
    - Hard hat
    - High visibility vest
    - Steel capped boots

    - Safety glasses.
- 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 at the Control room with alarms sounding if any pump failure is detected or if any water quality parameter is out of its specified set point.

Technicians and Maintenance Supervisors are on site continuously to respond to any faults or direction from the TCRO's

5.3 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:

- Call the O&M Manager if the incident presents an immediate threat to human health or property and then proceed to call 000, NSW Fire and Rescue, NSW Police and NSW Ambulance Service are the first responders responsible for controlling and containing incidents;
- If the incident does not require an initial emergency services agency, or once the 000 call has been made, the TCRO or delegate is responsible for notifying the relevant authorities in the following order: - The NSW EPA – Regulatory Authority under the POEO Act
    - The Ministry of Health via the local Public Health Unit
    - WorkCover
    - The local councils
    - NSW Fire and Rescue NSW
- The O&M Manager will also be responsible for notifying the Community and Stakeholder Manager who will inform the community, in such instances where the community is affected. Notify the DPI&E, EPA and DoH immediately in the event of an exceedance of EPL conditions or when there is a potential for material harm to occur or is occurring.

5.3.1 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.

5.4 Regulatory Authorities

As above, the TCRO 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
DPIE	infrastructure.notifications@planning.nsw.gov.au compliance@planning.nsw.gov.au	
WorkCover NSW	contact@safework.nsw.gov.au	131 050
Fire and Rescue	contact@frnsw.nsw.gov.au	1800 679 737

5.5 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.

5.6 Staff Training

All TCROs 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 ventilation outlet 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; and
- Staff must be provided with information to reflect the following hierarchy in their response to an environmental incident.

Appendix A: Testing Register

Date (Tested)	Description of Test	Conducted By	Date (Updated)

PIRMP – M4 East

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)]	5.0 Hazards to the Environment and Human Health
3.3.2 Pre-emptive actions to be taken [clause 98C(1)(c)]	5.1 Controlling Hazards to the Environment 5.2 Controlling Hazards to Human Health
3.3.3 Inventory of pollutants [clause 98C(1)(d) and (e)]	3.0 Inventory of Pollutants
3.3.4 Safety equipment [clause 98C(1)(f)]	5.3 Environmental Pollution Control Equipment
3.3.5 Contact details [clause 98C(1)(g) and (h)]	4.0 Roles and Responsibilities 6.2 Regulatory Authorities
3.3.6 Communicating with neighbours and the local community [clause 98C(1)(i)]	7.0 Community Stakeholders
3.3.7 Minimising harm to persons on the premises [clause 98C(1)(j)]	5.2 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)]	5.4 Process to be taken following a Pollution Incident
3.3.10 Staff training [clause 98C(1)(m)]	7.4 Staff Training

Appendix C: Broader Location Map

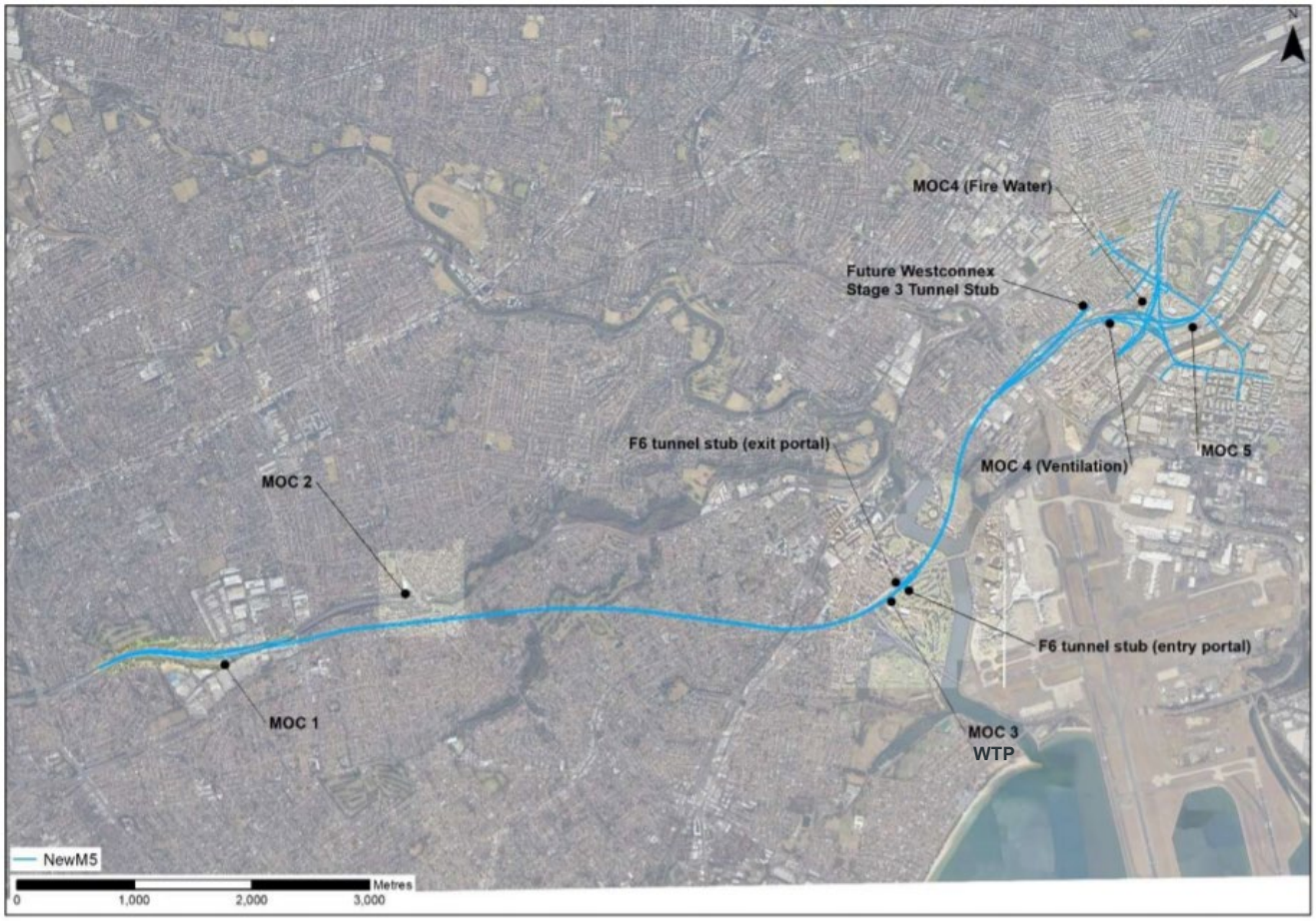

Figure 2 Broader Location Map