# Annual Environmental Management Report

*Banksmeadow Transfer Terminal*

*June 2017*

# QUALITY INFORMATION

**Prepared by:**

Sara Maddison
Environmental Engineer
*BE(Civ), BE(Env)*

**Reviewed by:**

Jason Common
Environment Coordinator
*B.Sc, MEEM*

**Authorised by:**

Ramona Bachu
NSW Environment Officer
*BSc, GradDip, MEEM, DipPM*

**Address:**

Veolia Australia and New Zealand
Cnr Unwin and Shirley Streets
Rosehill, NSW 2142

**Status:** **FINAL**

**Document Revision Register**

| Rev | Revision Details | Issued to | Date |
|---|---|---|---|
| 0 | Draft for internal review | • Veolia NSW Resource Recovery Team<br>• Veolia NSW SHEQ Team | 20 May 2016 |
| 1 | Final | • NSW Department of Planning and Environment<br>• NSW Environmental Protection Authority<br>• NSW Department of Primary Industries<br>• Veolia NSW Resource Recovery Team (Internal Copy)<br>• Veolia NSW SHEQ Team (Internal Copy) | 30 June 2016 |

# Contents

# DEFINITIONS/ABBREVIATIONS

| | |
|---|---|
| **AEMR** | Annual Environmental Management Report |
| **ALS** | Australian Laboratory Services Pty Ltd |
| **AQMP** | Air Quality Management Plan |
| **BoM** | Bureau of Meteorology |
| **BTT** | Banksmeadow Transfer Terminal |
| **CEMP** | Construction Environmental Management Plan |
| **DA** | Development Application |
| **DPE** | Department of Planning and Environment |
| **DPI** | Department of Primary Industries |
| **EIS** | Environmental Impact Statement |
| **EMP** | Environment Management Plan |
| **EP&A** | Environmental Planning and Assessment (Act and Regulations) |
| **EPA** | NSW Environment Protection Authority |
| **EPL** | Environment Protection Licence |
| **E2W** | Earth2Water Pty Ltd |
| **IEA** | Independent Environmental Audit |
| **NIMS** | National Integrated Management System |
| **NMP** | Noise Management Plan |
| **OEMP** | Operational Environmental Management Plan |
| **PIN** | Penalty Infringement Notice |
| **RAP** | Remediation Action Plan |
| **SWLMP** | Soil Water and Leachate Management Plan |
| **The Consent** | Development Consent SSD 5585 |
| **TMP** | Traffic Management Plan |
| **TOU** | The Odour Unit Pty Ltd |
| **The Terminal** | Banksmeadow Transfer Terminal |
| **The Vault** | Veolia's Incident and Compliance Management System |
| **TPA** | Tonnes per annum |
| **Veolia** | Veolia Australia and New Zealand |
| **WHS** | Work Health and Safety (Act and Regulation) |
| **WMP** | Waste Management Plan |

# EXECUTIVE SUMMARY

This Annual Environmental Management Report (AEMR) 2016-2017 is the 2nd report prepared to detail the environmental performance of the Banksmeadow Transfer Terminal (the Terminal), owned and operated by Veolia Australia and New Zealand (Veolia). This AEMR covers the period of 29 April 2016 to 28 April 2017 (2016-2017 reporting period).

Veolia has prepared this AEMR in accordance with Schedule 4, Condition 8 of Development Consent SSD 5585 (the Consent), as well as relevant legislative requirements and industry best practices.

This AEMR provides a summary of environmental monitoring conducted at the Terminal, non-conformances against the Consent identified during the 2016-2017 reporting period, as well as the corrective actions, where implemented to address such non-conformances.

In total, there were 2 non-conformances identified against the Conditions of the Consent (hereby referred to as the Consent Conditions) during this reporting period, as follows:

- **Schedule 3, Condition 1 –** A Penalty Infringement Notice (PIN) was issued to Veolia from the NSW Department of Planning and Environment (DPE) who deemed that the site of Terminal had not been remediated in accordance with the approved Remediation Action Plan (RAP). This matter is currently under review and outside the scope of this AEMR.

- **Schedule 3, Condition 12** – Stormwater discharge quality exceeded the pollutant limits stipulated in the Environmental Protection Licence (EPL) 20581. As a corrective action, a review of the stormwater and leachate management system was undertaken to identify potential improvements to the controls. The implementation of the corrective action for this non-conformance will occur in the next reporting period. Monitoring results have been presented in Section 3.3 of this AEMR.

In addition to the above, a number of onsite operational adjustments have been undertaken at the Terminal to improve the environmental performance. These adjustments were corrective actions from findings that were the results of an independent environment audit that were undertaken in the previous reporting period, regulatory inspections and feedback, as well as Veolia's internal assurance program. These are summarised as follows. Further details are provided in Section 4.1 of this AEMR.

| Finding | Consent Condition | Recommendation | Corrective Action | Status |
|---|---|---|---|---|
| Potential pollution of stormwater | Schedule 3, Condition 12, | Install additional containment infrastructure and spill controls. | A fully covered and bunded area was installed for the above ground diesel tank used for the refuelling of plant. | Completed |
| | | | Four stormwater valves were installed at strategic locations throughout the Terminal to control and improve stormwater management at the Terminal. | Completed |

| | | | | |
|---|---|---|---|---|
| | | Conduct monitoring of stormwater quality prior to discharge off-site. | An in-line auto-sampler was commissioned to collect stormwater discharge samples. | Completed |
| | | Upgrade current stormwater system | Veolia commissioned a review of the current leachate and stormwater management system. | Completed |
| The Independent Environmental Audit for the previous reporting period was delayed by two months. | Schedule 4, Conditions 6 & 7, | Ensure audit dates are recorded within a compliance tracking program. | SHEQ governance program and environmental management tools have been developed to track audit dates.<br><br>Email notifications have also been set up to alert relevant personnel of upcoming audit dates. | Completed |
| Potential offensive odour emissions | Schedule 3, Conditions 33 & 34 | Conduct odour intensity tests along the site boundary on a weekly basis | The BTT Weekly Site Inspection Checklist has been amended to include weekly odour detection along site boundaries | Completed |
| | | Improve control of fan extraction system | The settings of the odour control fans were modified to a variable speed drive (VSD). A VSD is a device, which allows for minor adjustments of the fan air flow rate to achieve optimal fan settings to reduce odour emissions. | Completed |
| Prevention of pollution of groundwater | Schedule 3, Condition 7 | Conduct groundwater monitoring to ensure that no further contamination occurs. | Installation and baseline monitoring of three groundwater monitoring wells | Completed |

# Section 1

*Introduction*

# SECTION 1 INTRODUCTION

## 1.1 Site Background

The Terminal is located at 14 Beauchamp Road and 34-36 McPherson Street, Banksmeadow and is identified as: Lots A & B, DP 366725 and Lot 1, DP 435497 owned by Keith Engineering (34-36 McPherson Street); and part of Lot 2 DP 100686 (14 Beauchamp Road) owned by Asciano (Pacific National). A site layout and location plan is provided in **Appendix A**.

The Terminal was granted approval under Section 89E of the *Environmental Planning and Assessment Act 1979* (EP&A Act) on 28 April 2015 as a State Significant Development, and is approved under the Consent to receive up to 500,000 tonnes per annum (TPA) of waste from the Sydney Metropolitan Area, in accordance with the EPL. Waste received at the Terminal is containerised and loaded onto rail wagons for transportation to the Woodlawn Bioreactor, also owned and operated by Veolia.

## 1.2 Legislative Requirements

The main legislative instruments governing the environmental performance and activities undertaken at the Terminal include the EP&A Act regulated by the DPE, and the *Protection of the Environment Operations Act 1997* (POEO Act) regulated by the EPA, as well as their respective associated regulations.

In addition to the Consent, an EPL has been issued by the EPA, under the POEO Act, to regulate the operational activities conducted at the Terminal.

Consent Conditions stipulate the requirements that need to be addressed to maintain compliance at the Terminal, and those relevant to the preparation of this AEMR are provided in **Table 1-1**.

**Table 1-1 - Consent Conditions for the preparation of this AEMR**

| Relevant Condition | Requirement |
|---|---|
| ***SCHEDULE 4 – ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING*** | |
| ***Annual Review*** | |
| **8** | Within one (1) year of the date of this consent, and every year thereafter, the Applicant shall review the environmental performance of the development to the satisfaction of the Secretary. This review must:<br><br>(a) describe the development that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year;<br><br>(b) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, which includes a comparison of these results against:<br>• the relevant statutory requirements, limits or performance measures/criteria;<br>• the monitoring results of previous years; and<br>• the relevant predictions in the EIS;<br><br>(c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;<br><br>(d) identify any trends in the monitoring data over the life of the development;<br><br>(e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and<br><br>(f) describe what measures will be implemented over the current calendar year to improve the environmental performance of the development. |

## 1.3 Responsibilities

Environmental monitoring was undertaken and/or supervised by Lipman Pty Ltd (Principal Contractor) during the Terminal's construction stage. Environmental monitoring during the operational stage of the Terminal was undertaken and/or supervised by NSW Resource Recovery technical support personnel – Sara Maddison (Environmental Engineer – Resource Recovery) and Stephen Bernhart (Project Manager – Resource Recovery). Analyses of samples were performed at Australian Laboratory Services Pty Ltd (ALS), which is a NATA accredited laboratory. The Odour Unit Pty Ltd (TOU) was appointed in February 2017 to conduct odour audits for the Terminal.

An Independent Environmental Audit (IEA) was conducted by Ramboll Environ Australia Pty Ltd on 28 July 2016. The audit team associated with this IEA included Victoria Sedwick (Lead Auditor), Shaun Taylor (Auditor) and Ronan Kellaghan (Auditor). The audit team was approved by the DPE, in accordance with Schedule 4, Condition 8 of the Consent.

# Section 2

*Facility Overview*

# SECTION 2 FACILITY OVERVIEW

## 2.1 Construction Stage

Lipman Pty Ltd (Lipman) was engaged as the Principal Contractor for the construction phase of the Terminal between September 2015 and July 2016, and were responsible for implementing the management system for environmental performance during construction activities at the Terminal.

Veolia prepared the Construction Environmental Management Plan (CEMP) and supplementary Environmental Management Plans (EMPs), which were approved by the DPE in August 2015. The CEMP and supplementary EMPs detail the management and control measures to be implemented by Lipman. These documents focus on key environmental issues associated with the construction of the Terminal, including water quality, waste, traffic, air quality, greenhouse gas, noise, landscape and vegetation and site contamination management. In addition these documents were prepared to satisfy the requirements of the Consent Conditions, provide management and control measures and monitoring criteria to manage the environmental performance of the Terminal site during construction.

In the previous AEMR, the final Validation Report for site remediation had not been finalised. This report was issued in July 2016 and described the remediation works undertaken at the Terminal site prior to commencement of construction.

In accordance with Condition 8 of Schedule 4 of the Consent Conditions, this AEMR includes a review of the monitoring results and complaint records, discussion on trends in monitoring data in relation to the environmental performance of the Terminal against performance criteria and statutory requirements, which are provided in Section 3.

No non-conformances with the Consent Conditions occurred during the construction stage of this report period.

## 2.2 Operations

Approval to commence Terminal operations was granted by the DPE on 7 September 2016, following preparation, assessment and approval of the Operational Environmental Management Plan (OEMP) and supplementary EMPs.

The OEMP and supplementary EMPs are the working environmental management tool for the operation of the Terminal BTT, concentrating on key environmental issues, including supporting detailed plans for the management of water quality, waste, traffic, air quality, greenhouse gas, noise, landscape and vegetation and emergency response. These documents were prepared to satisfy the requirements of the Consent Conditions and the EPL and provide detailed controls and monitoring criteria to manage the environmental performance of the Terminal during the operational stage.

The operational stage EPL was also issued by the EPA in September 2016, following a site inspection and direction to implement additional controls. These included the installation of a roof and bunded refuelling area, as well as strategic placement stormwater valves to manage the flow and discharge of stormwater. The staged installation and implementation of these controls was undertaken in consultation with the EPA, further details of which are presented in Section 4.

# Section 3

*Environmental Monitoring and Management*

# SECTION 3 ENVIRONMENTAL MONITORING AND MANAGEMENT

## 3.1 Terminal Monitoring Requirements

The following sections detail the monitoring undertaken throughout the reporting period in accordance with the Environmental Monitoring Schedules/Programs as proposed within the CEMP and OEMP respectively.

Environmental Monitoring Schedules/Programs provide details on all monitoring requirements of the Consent and other appropriate regulations to measure and assess the continuing suitability, adequacy and effectiveness of on-site environmental management measures.

**Table 3-1** and **Table 3-2** summarises the environmental monitoring conducted at the Terminal during its construction and operation as per the Environmental Monitoring Schedule/Program.

**Table 3-1 Construction Monitoring Requirements**

| Condition Ref | Type of Monitoring | Frequency | Commentary |
|---|---|---|---|
| Schedule 3 Condition 36, 38, 40, 41 | Meteorological monitoring - Wind | As required or if offsite air pollution is visible | Ongoing, transitioned into operational phase as part of site housekeeping (refer Table 3.2) |
| Schedule 3 Condition 36 | Visual Dust Monitoring | Daily or as required | Ongoing, transitioned into operational phase as part of site housekeeping (refer Table 3.2) |
| Schedule 3 Condition 4 | Asbestos Monitoring | As required | For construction period only; condition satisfied in previous reporting period |
| Schedule 3 Condition 7 | Groundwater Monitoring | As required | Condition satisfied in previous reporting period<br>Ongoing, transitioned into operational phase as part of site housekeeping (refer Table 3.2) |
| Schedule 3 Condition 10 | Erosion and sediment control | As required | For construction period only; condition satisfied in previous reporting period |
| Schedule 3 Condition 10 | Surface Water Monitoring | As required | Ongoing, transitioned into operational phase as part of site housekeeping (refer Table 3.2) |
| Schedule 3 Condition 10 | Leachate Monitoring | As required | Not relevant for construction period |

| | | | |
|---|---|---|---|
| Schedule 3 Condition 41 | Noise monitoring | As required | Ongoing, transitioned into operational phase as part of site housekeeping (refer Table 3.2) |
| Schedule 3 Condition 41 | Vibration monitoring | As required | For construction period only; condition satisfied in previous reporting period |
| Schedule 3 Condition 29 | Traffic spot monitoring | Fortnightly | Ongoing, transitioned into operational phase as part of site housekeeping (refer Table 3.2) |

**Table 3-2 Operational Monitoring Requirements**

| Condition Ref | Type of Monitoring | Frequency | Commentary |
|---|---|---|---|
| Schedule 3 Conditions 36, 38, 40, 41 | Meteorological monitoring | As required | Ongoing basis |
| Air Quality Management Plan (AQMP) | Meteorological monitoring - Wind | As required | Ongoing basis |
| Schedule 3 Condition 36 | Visual Dust Monitoring | Daily or as required | Ongoing basis |
| AQMP | Odour – Site inspections | Daily or as required | Ongoing basis |
| Schedule 3 Condition 34 | Odour Audits | Six monthly | Condition satisfied, monitoring conducted on:<br>15 February 2017<br>20 March 2017<br>3 April 2017 |
| Soil, Water and Leachate Management Plan (SWLMP)/ EPL | Stormwater Discharge Monitoring | Daily during any discharge | Condition satisfied, monitoring conducted on:<br>29 Sep 2016<br>23 Nov 2016<br>1 Dec 2016<br>27 Feb 2017<br>15 Mar 2017<br>13 Apr 2017 |
| Schedule 3 Condition 10 | Groundwater Monitoring | Six monthly | Condition satisfied, monitoring conducted on:<br>13 Apr 2017 |
| Schedule 3 Condition 10 | Leachate Monitoring | As required | None/Not triggered |

| | | | |
|---|---|---|---|
| Schedule 3 Condition 27 | Waste volume monitoring | Daily | Ongoing basis |
| Schedule 3 Condition 27 | Traffic monitoring | Daily | Ongoing basis |
| Schedule 3 Condition 27 | Traffic spot monitoring | As required | Ongoing basis |
| Noise & Vibration Management Plan (NVMP) | Operational noise monitoring | Six months from commencement of operations | This was not completed in this reporting period but a contractor has been engaged to undertake in next reporting period |
| Schedule 3 Condition 38 | Site Inspection and Housekeeping | Weekly | Ongoing basis |
| Schedule 3 Condition 21 | Pest and Vermin Checks | Quarterly | Ongoing basis |

### 3.1.1 Meteorology

Monitoring meteorological data during this reporting period provided an understanding of the ambient air (such as dust and odour) and rainfall conditions at the Terminal, which was utilised to manage environmental performance, as well as investigate potential impact to nearby sensitive receivers.

Construction Phase

Meteorological conditions were measured using a weather station (Digitech Weather Station XC0410) to provide information on the potential for dust to mobilise off-site, as a result of construction activities. Wind speed was monitored and recorded at the Terminal, as per the Construction Air Quality and Greenhouse Gas Management Plan. Alerts were sent to onsite personnel if the wind speed criterion was exceeded, as outlined in **Table 3-3** to implement additional air quality control measures. Section 3.3.1 provides further details of dust monitoring and results.

**Table 3-3 Response plan for Wind Management**

| Criteria | Response |
|---|---|
| If the measured wind-speed is <25km/h | Site Activities continued as planned with dust control measure maintained. |
| If the measured wind-speed is >25km/h | Site Assessments to be carried out to make sure that dust control measures are adequate, further dust creating activities investigated and existing control measures to be determined if sufficient. |

Odour was not monitored for during the construction period, as no waste was received on site.

Operational Phase

Meteorological data is downloaded from the public weather station situated at the Bureau of Meteorology (BoM) Sydney Airport site (Station ID: 066037), provided in recorded at 15 minute intervals.

Since the commencement of Terminal operations, meteorological conditions such as wind speed, wind direction and rainfall have been monitored.

Wind speed and direction monitoring was used to investigate and respond to odour complaints in this reporting period (refer Section 4.3). This data was used to determine the source and spread of potential odours travelling offsite.

A summary of daily wind speeds at 9am and 9pm at the nearby BoM weather station is presented in **Figure 3-1**. Overall the wind speeds during the warmer months have a greater spread between 9am and 3pm compared to the colder months. Wind directions during the reporting period were in a general north-east and north-western direction.

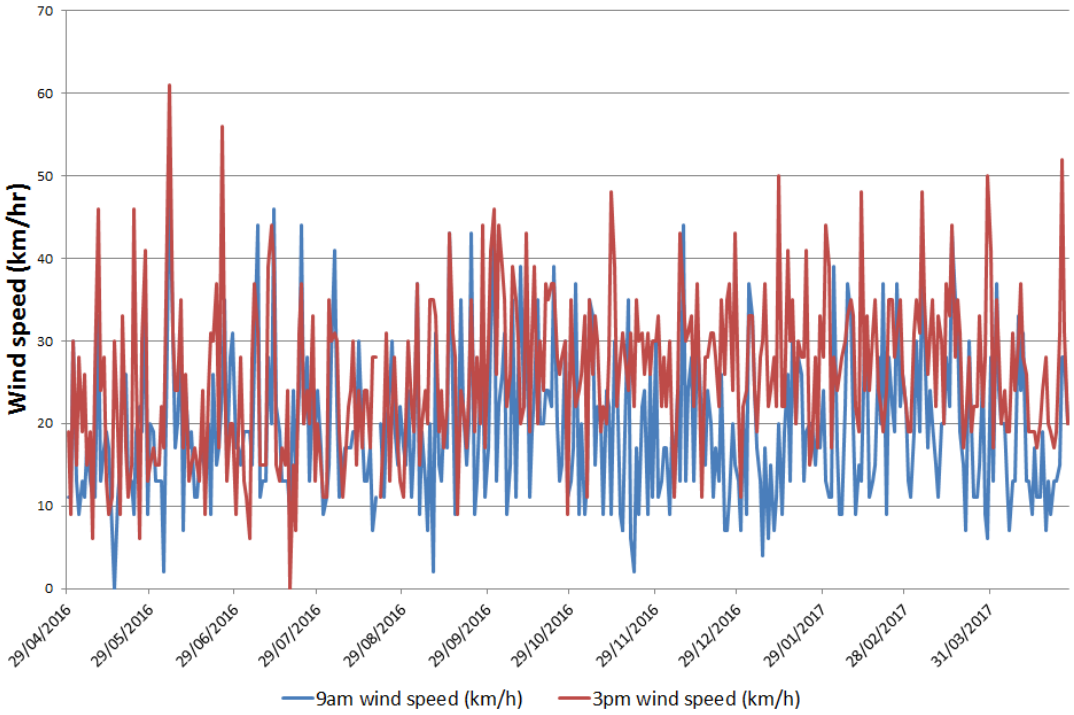



**Figure 3-1 9AM and 3PM wind speed data at the closest BoM weather station**

Ongoing rainfall data was monitored to supplement stormwater system operation and discharge, as well as for general housekeeping management such as inspection and maintenance of stormwater pits.

A summary of rainfall data at the Terminal during the reporting period is presented in **Figure 3-2**. Overall, the average rainfall for the Terminal during the reporting period was approximately 104.72mm per month.

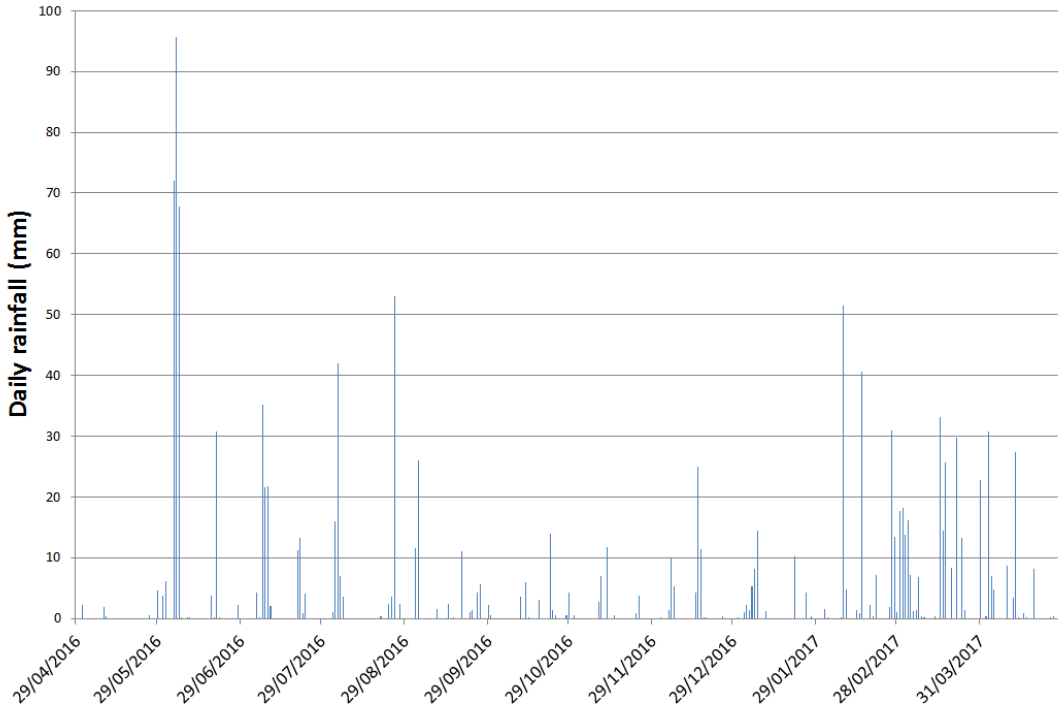



**Figure 3-2 Rainfall data at the closest BoM weather station**

## 3.2 Air Quality

Air quality monitoring, pertaining to odour and dust emissions, was undertaken in accordance with the Consent to determine whether activities conducted at the Terminal impacted on ambient air quality. Further details regarding air quality monitoring and management practices during the construction and operation of the Terminal are provided in the following sections.

### 3.2.1 Dust

Construction Phase

Visual dust monitoring was conducted during the construction phase on site to ensure compliance with relevant conditions including the trigger for adverse weather conditions. The wind speed was managed as per the Wind Speed Management Plan prepared by Lipman. The relevant criteria and the response plan for any adverse conditions is outlined in **Table 3-3** as per the Construction Air Quality and Greenhouse Gas Management Plan.

The Wind Speed Recording Log was maintained on site and available on request. During this reporting period no dust complaints were received at the site.

Operational Phase

Potential dust impacts arising from operations at the Terminal were assessed against the EPA air quality dust emissions criteria which were identified in the *Banksmeadow Transfer Terminal Environmental Impact Statement* (EIS) prepared by Hyder Consulting Environmental (Hyder, 2004).

This EIS concluded that the key potential impact from dust associated with operations at the Terminal would likely be due to the emissions of small diameter particulate matter ($PM_{10}$). Despite this, the EIS found that there would be negligible impact of $PM_{10}$ particulates (i.e. dust) at any off-site receivers, provided that reasonable dust controls are implemented.

To facilitate this, the Terminal operates a dust suppression system within the transfer building to minimize the emissions of dust. In addition, visual inspections of dust generating activities at the Terminal are also carried out on a regular basis, augmented by monitoring of weather conditions.

### 3.2.2 Odour

Operational Phase

Odour emissions from the Terminal were also assessed in the EIS in accordance with the EPA's Air Quality Guidelines. Results of the EIS indicated that odour emissions from the Terminal's operational stage would be below the odour emission criteria presented in **Table 3-4**. It was also found that odour impacts are not predicted to exceed these levels at any residential receptor.

**Table 3-4 Odour Emission Criteria**

| Pollutant | Criterion |
|---|---|
| Odour | 2 Odour Units |

To achieve this, the Terminal operates an air extraction system within the terminal building which was designed to both ventilate the building, and capture and disperse odour emissions from within the building. In addition, containers used for the transportation of waste are fitted with activated carbon filtration systems on air exhaust vents.

The performance of the odour control and ventilation equipment is to be assessed by six-monthly Odour Audits which are to be conducted by the Odour Unit Pty Ltd. The Odour Unit conducted an odour audit in February 2017.

This audit was commissioned in response to a number of odour complaints received by the Terminal (discussed in a later section). The purpose of this audit was to determine the effectiveness of the forced air extraction system, as well as the extent to which the Terminal has been sealed to prevent the emissions of odour. The final report associated with this audit is expected to be received in the next reporting period.

Additional odour monitoring is also carried out in the form of weekly odour assessments along the Terminal's site boundaries which are conducted by on-site personnel, the results of which are recorded on weekly housekeeping checklists.

24 odour complaints are received in this reporting period and are further detailed in Section 4.3, along with the mitigation measures implemented.

### 3.2.3 Asbestos Monitoring

Construction Phase

All demolition and excavation works undertaken within the contaminated areas at the Terminal were completed prior to this reporting period and is discussed in the previous reporting period AEMR. With the construction of a permanent hardstand at the Terminal site, exposure to asbestos contaminated soil has been eliminated. Monitoring of airborne asbestos fibres was therefore not required to be conducted during this reporting period.

## 3.3 Water Monitoring

### 3.3.1 Groundwater Monitoring

Construction Phase

Groundwater monitoring during the construction phase was only required while groundwater dewatering activities were conducted at the Terminal. All dewatering activities undertaken at the Terminal were completed prior to this reporting period.

Operational Phase

Schedule 3, condition 7 requires a groundwater treatment program prior to the commencement of construction, however based on the recommendation of the Department of Primary Industries (DPI), Veolia commissioned Earth2Water Pty Ltd (E2W) to install three groundwater monitoring wells at the Terminal for ongoing monitoring during operations.

DPI counselled that the data provided by the groundwater sampling could be used to measure the performance of the Terminal's hardstand and stormwater system and monitoring for any potential groundwater impacts from leachate migration.

The wells were installed and commissioned in February 2017. An installation report prepared by E2W is provided in **Appendix B**, which details well locations as well as well bore logs.

A groundwater monitoring program was prepared to target site specific pollution indicators, as per E2W's recommendations, and is provided in **Table 3-5**.

**Table 3-5 Groundwater Monitoring Program**

| Monitoring Locations | Parameters | Unit | Frequency | Sampling Method |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| GW1,GW2 & GW3 | EC | µS/cm | Six monthly | Grab sample |
| | pH | pH | | |
| | Total Dissolved Solids, TDS | mg/L | | |
| | Ammonia | mg/L | | |
| | BOD | mg/L | | |
| | Water Level | m | | |

Baseline groundwater monitoring was carried out on the 13 April 2017 to understand the general characteristics of groundwater encountered at the site. As per E2W's recommendations, focus was placed on specific chemicals of concern including ammonia, nitrate and biological oxygen demand (BOD) as key indicators for leachate migration. Monitoring results of these analytes are provided in **Table 3-6**, further results of the baseline groundwater monitoring are provided in **Appendix C**.

**Table 3-6 Baseline Groundwater Monitoring Results (Nitrate, Ammonia and BOD)**

| Parameter | Units | BTT – GW1 | BTT – GW2 | BTT – GW3 |
|---|---|---|---|---|
| | | Apr-17 | Apr-17 | Apr-17 |
| Nitrate | mg/L | 0.13 | <0.01 | 0.03 |
| Ammonia | mg/L | 0.33 | 1.37 | 0.50 |
| BOD | mg/L | 3 | 8 | <2 |

Groundwater levels were between 1.1 m and 2.33 m (depth to water in metres) indicative of the shallow water table at the site. Ammonia and BOD concentrations were relatively low and ranged between 0.33 - 1.37 mg/L and <2 – 8 mg/L respectively. Groundwater quality results were consistent with expected regional background concentrations associated with the Botany aquifer as described in the Baseline Environmental Site Assessment (DLA, 2016). These results will be used to assess potential impacts of site operations on groundwater quality.

### 3.3.2 Surface Water Monitoring

Construction Phase

The following controls were implemented at the Terminal during the construction stage as per the Erosion and Sedimentation Control Plan;

- Stabilised entry/exit point;
- Temporary Sediment Basins;
- Sediment filter fences;
- Straw Bale Filter;
- Stockpiles; and
- Other site controls (as needed).

Visual monitoring and/or inspection of silt fencing/sumps was conducted during events of heavy rainfall to assess the quality of stormwater for potential contamination.

Operational Phase

Stormwater discharge monitoring is conducted at the Terminal to determine whether stormwater flowing offsite could be contaminated as a result of operations at the Terminal. Stormwater monitoring is also undertaken to assess the performance of the onsite stormwater treatment system.

The results of stormwater monitoring are assessed against discharge limits stipulated within the Consent and EPL 20581 which are described in **Table 3-7**.

**Table 3-7 Stormwater Discharge Limits**

| Parameter | Concentration Limit (100 percentile limit) | Frequency | Standards | Statutory Requirements |
|---|---|---|---|---|
| BOD | 10 mg/L | As required following a heavy rainfall event | The Australian Water Quality Guidelines<br><br>Guidelines for Fresh and Marine Waters (ANZECC,2000) | Schedule 3, Condition 10 of the Consent<br><br>EPL Condition M2.2 |
| Nitrogen (Ammonia) | 1 mg/L | | | |
| Oil & Grease | 10 mg/L | | | |
| pH | 6 – 8.5 pH units | | | |
| Total Suspended Solids | 50 mg/L | | | |

There were a number of heavy rainfall events during the operation stage of the Terminal, which triggered the requirement to conduct stormwater monitoring, the results of which are summarised in **Table 3-8.**

**Table 3-8 Stormwater Discharge Limits**

| Parameter | Units | EPL Concentration Limit | Sep-16 | Nov-16 | Dec-16 | Feb-17 | Mar-17 | Apr-17 |
|---|---|---|---|---|---|---|---|---|
| **BOD** | mg/L | 10 | **793** | 8 | **29** | <2 | 5 | **117** |
| **Nitrogen (Ammonia)** | mg/L | 1 | **48** | 0.65 | 0.12 | 0.15 | 0.13 | 0.44 |
| **Oil & Grease** | mg/L | 10 | **536** | <5 | <5 | <5 | <5 | **19** |
| **pH** | pH | 6 – 8.5 | **8.23** | 7.74 | 7.49 | 7.43 | 7.71 | 6.74 |
| **Total Suspended Solids (TSS)** | mg/L | 50 | **61900** | **74** | 29 | **61** | **169** | **66** |

*Note – **bold** values indicate those which exceeded concentration limits as described in **Table 3.4***

The results of the first stormwater sampling event conducted on the 29 September 2016 have not been deemed representative as it was identified that the samples had been obtained using incorrect manual sampling techniques, which were corrected for subsequent monitoring rounds and awareness training provided to operators.

Stormwater quality results were generally consistent throughout the reporting period, however a number of exceedances of concentration limits were identified. BOD, TSS and oils and grease all exceeded respective limits. TSS continued to exceed the concentration limit of 50mg/L throughout the reporting period, with exception to the December 2016 monitoring round.

Ammonia concentrations remained below the concentration limit and ranged from 0.12 – 0.65mg/L. Similarly, pH levels were within the trigger range of 6-8.5 pH units

A number of corrective actions were implemented to improve the management and maintenance of stormwater infrastructure at the Terminal in order to mitigate the potential pollution of stormwater. These corrective actions are discussed in Section 4.1 of this AEMR.

### 3.3.3 Leachate Monitoring

Operational Phase

Leachate is defined as any water which comes into contact with waste or waste processing areas and was generated through the management of waste delivered at the Terminal. All generated leachate from the tipping floor and compactor areas, as well as wash-down water was collected into two 32 kilolitre (kL) leachate storage tanks for off-site disposal.

Leachate levels within the storage tanks were monitored on a weekly basis.

## 3.4 Noise and Vibration

### 3.4.1 Noise Monitoring

Construction Phase

Noise monitoring was conducted to ensure that construction activities undertaken at the Terminal were managed in a way which minimized noise emissions.

The Environmental Monitoring Program and associated management measures were followed as outlined in the Construction Noise and Vibration Management Plan, which included regular site inspections by onsite contractors. Spot checks of noise intensive plant and equipment were also undertaken throughout the construction phase.

Construction activities at the Terminal were also restricted within the approved operating/construction hours described in **Table 3-9** as per Schedule 3, Condition 49 of the Consent.

**Table 3-9 Approved Hours of Construction & Operation**

| Activity | Day | Hours |
|---|---|---|
| Construction | Monday- Friday | 7:00am-6:00pm |
| | Saturday | 8:00am-1:00pm |
| | Sunday & Public Holidays | Nil |
| Operation | 24 Hours | |

A noise monitoring log was maintained by Lipman and is provided in Appendix D. No noise complaints were received from either industrial or residential neighbours during the construction of the Terminal

Operational Phase

Operational activities at the Terminal act as potential sources of noise emissions which may impact nearby receivers. Noise modelling was undertaken as part of the EIS which found that majority of the existing background noise levels at the Terminal are generated by the operation of the nearby Orica Botany Bay site.

Despite this, a number of operational noise goals were adopted for the Terminal which are provided in **Table 3-10**.

**Table 3-10 Operational Amenity Noise Goals**

| **Receptor Location** | **Amenity Criterion (LAeq, 15min, dB(A)** | | |
|---|---|---|---|
| | **Day** | **Evening** | **Night** |
| Residential Receivers | 50 | 40 | 37 |
| Industrial Receivers | 65 | 65 | 65 |
| Commercial Receivers | 70 | 70 | 70 |

Operational noise monitoring was not able to be conducted in this reporting period as per the proposed schedule in the NVMP. A consultant has been engaged to conduct operational noise monitoring at the Terminal, to determine if any impact of operational activities on nearby receivers occurs in regards to the emission of nuisance noise. This monitoring will be conducted in the 2017-2018 reporting period.

In addition to the above, the performance of the Terminal in managing potential noise emissions was also assessed on the receipt of any noise complaints. No noise complaints were received in this reporting period.

### 3.4.2 Vibration Monitoring

Construction Phase

The Consent required that vibration trials be undertaken for construction equipment in consultation with surrounding landowners. Vibration trials were conducted in the previous reporting period, as detailed in the 2015-2016 AEMR.

Additional vibration trials were not required during this reporting period on the basis that all equipment with the potential to act as a source of excessive vibrations were eliminated.

No complaints were received during the construction reporting period relating to vibration due to activities on site.

Operational Phase

Vibration impacts during operation of the Terminal were assessed in the EIS to be negligible and to pose no potential impact on sensitive receivers, buildings or the environment.

Nevertheless, vibration monitoring is carried out on as needed basis for the investigation of any vibration complaints issued to the Terminal.

No vibration complaints were received for the Terminal during its operation, therefore no vibration monitoring was carried out during this reporting period.

## 3.5 Traffic

Construction Phase

A number of preventative and responsive management measures were implemented to monitor and manage traffic at Terminal during the time of construction. These control measures were conducted in accordance with the Construction Traffic Management Plan and were as follows;

- Placement of accredited traffic controllers equipped with high visibility clothing and traffic management signs as required;
- Preparation of a Site Vehicle Movement Plan to manage and control the safe movement of all mobile plant operating within site boundaries;
- Provision of site inductions to all drivers accessing the site, including details of permitted access routes to and from the site, and proper on-site vehicle management

Fortnightly spot monitoring of vehicle movements was also conducted to ensure that heavy vehicles did not use local road networks, other than McPherson St. Results of these spot checks are provided in **Appendix E**.

No non-conformances related to traffic movements were observed in all sixteen spot checks conducted during this reporting period. In addition, no complaints were received during the construction reporting period in relation to improper traffic management at the Terminal.

Operational Phase

A traffic impact statement (TIS) was undertaken as part of the EIS to assess the potential impact of the Terminal on traffic and transport during its operation.

The TIS found that the Terminal would see up to 355 trucks per day for the delivery of mixed waste, and that there was a potential for nearby roads to be affected due to these truck movements. A number of mitigation measures were implemented at the Terminal to manage these potential impacts as detailed in the Traffic Management Plan, including;

- **Truck Haulage and Turn Restrictions** – which impose access restrictions for the Terminal
- **Onsite Traffic Routes** – to prevent the likelihood of collisions or accidents and minimise the tracking of waste offsite.
- **Traffic Congestion Procedures** – which detail the measures to be followed to manage and/or clear traffic congestion on nearby roads as a result of operations at the Terminal; and
- **Driver Management** – training programs used to determine and/or enhance driver competency in professional conduct, workplace safety, risk and emergency response as well as drug and alcohol policies.

Monitoring activities conducted at the Terminal assist in measuring the effectiveness of these traffic control measures. No vehicles were observed using any unauthorised roads as stipulated within Schedule 3, Condition 29 of the Consent.

A total of 21,975 vehicle (truck) movements occurred during the operation reporting period, which is in line with the predicted truck movements described by the EIS. A breakdown of truck movements per month is provided in **Table 3-11**.

**Table 3-11 Operational Truck Movements during the 2016-2017 reporting period**

| Monitoring Period | 2016/2017 Truck Movements |
|---|---|
| September | 1071 |
| October | 1936 |
| November | 2298 |
| December | 3208 |
| January | 3209 |
| February | 3116 |
| March | 3667 |
| 1 to 28 April | 3467 |
| Total | **21,975** |

## 3.6 Waste

A Waste Management Plan (WMP) was prepared which details the control strategies and mechanisms for the effective monitoring and recording of waste at the Terminal as per **Table 3-12**.

**Table 3-12 Waste Monitoring Schedule**

| Condition Ref | Type of Monitoring | Frequency |
|---|---|---|
| Waste volume monitoring | | |
| • Storage on site | Waste on floor | Daily |
| • Annual limit | Tonnage data review | Ongoing |
| Waste Recording | Incoming waste recording | Ongoing |

### 3.6.1 Waste Volume Monitoring

Schedule 2, Condition 5 of the Consent stipulates that the Terminal must not receive or process more than 400,000 tonnes per annum (TPA) of putrescible waste and 100,000 TPA of non-putrescible waste. Veolia utilises the data provided by SAP to track and monitor the amount of incoming waste in accordance with the limits of the Consent.

Provided that the Terminal became operational in late 2016, it was highly unlikely that the annual incoming waste tonnages during the reporting period would exceed this total limit of 500,000 TPA of mixed waste. **Table 3-12** indicates that the Terminal has remained within the annual waste limit stipulated within the Consent.

Veolia shall continue to monitor incoming waste tonnages at the Terminal for the following operational year.

**Table 3-12 Incoming waste tonnage per month during operation**

| Monitoring Period | Incoming Waste Volumes 2016 (tonnes) |
|---|---|
| September | 6,410.35 |
| October | 11,146.38 |
| November | 13,047.18 |
| December | 17,734.64 |
| TOTAL | **48,338.55** |

### 3.6.2 Waste Recording

All waste received at the Terminal was recorded in the Systems, Applications and Products in Data Processing (SAP) software. SAP records vehicle registrations, the date and time of delivery, the gross and tare weight of the vehicle, as well as the nature and origin of the waste delivered by each contractor.

Visual assessments of incoming waste was conducted by weighbridge operators and assisted by close circuit television. These visual assessments were conducted to identify, reject and/or separate non-conforming waste upon its arrival to the Terminal. Waste was also inspected as it was tipped/unloaded onto the tipping floor.

No records of non-conforming waste were recorded during this reporting period.
Incoming waste

## 3.7 Pests and Vermin

Construction Phase

No formal pest and vermin inspections were undertaken during the construction of the Terminal as there was no waste accepted on site.

Operational Phase

The management of pest and vermin at the Terminal was maintained through preventative and responsive mitigation measures as per the Landscaping Management Plan. Such measures included;

- Inspection of the site by a registered pest controller every three months.
- Weekly Site inspections to record site conditions such as evidence of vermin and pests
- Placement of rodent bait stations at various locations around the site

No pest and/or vermin complaints or management issues were reported during the operation of the Terminal during the reporting period

# Section 4

*Environmental Performance*

# SECTION 4 ENVIRONMENTAL PERFORMANCE

The environmental performance of the Terminal is assessed through the results of environmental monitoring, internal inspections, as well as external environmental audits.

An Independent Environmental Audit (IEA) of the Terminal's environmental performance was carried out on 28 July 2016 by Ramboll Environ Australia Pty Ltd. The objective of this IEA was to assess the environmental performance of the Terminal and identify any non-conformances against environmental approvals issued to the Terminal, as required by Schedule 4, Condition 6 of the Consent.

A discussion of the non-conformances identified by the IEA, as well as the corrective actions, where implemented, is provided within this section. A comparison is also made to the non-conformances/regulatory actions and corrective actions implemented in the previous reporting period to present the changes to the environmental performance of the Terminal.

## 4.1 Previous Non-Conformances and Findings

Non-conformances and findings identified during the 2015-2016 reporting period are detailed in **Table 4-1** below to show that corrective actions to resolve/manage these non-conformances were implemented and completed by this reporting period.

**Table 4-1 Non-Conformances and Findings reported in the 2015/2016 reporting period**

| Finding | Consent Condition | Recommendation | Corrective Action | Status |
|---|---|---|---|---|
| Potential pollution of stormwater | Schedule 3, Condition 12, | Install improved containment and spill controls. | A fully covered and bunded area was installed for the above ground diesel tank used for the refuelling of plant. | Completed |
| | | | Four stormwater valves were installed at strategic locations throughout the Terminal to control and improve stormwater management at the Terminal. | Completed |
| | | Conduct monitoring of stormwater quality prior to discharge off-site. | An in-line auto-sampler was commissioned to collect stormwater discharge samples. | Completed |
| | | Upgrade current stormwater system | Veolia commissioned a review of the current leachate and stormwater management system. | Completed |
| The Independent Environmental Audit for the previous | Schedule 4, Conditions 6 & 7, | Ensure audit dates are recorded within a compliance tracking program. | SHEQ governance program and environmental management tools have been developed to track audit dates. | Completed |

| | | | | |
|---|---|---|---|---|
| reporting period was delayed by two months. | | | Email notifications have also been set up to alert relevant personnel of upcoming audit dates. | |
| Potential offensive odour emissions | Schedule 3, Conditions 33 & 34 | Conduct odour intensity tests along the site boundary on a weekly basis | The BTT Weekly Site Inspection Checklist has been amended to include weekly odour detection along site boundaries | Completed |
| | | Improve control of fan extraction system | The settings of the odour control fans were modified to a variable speed drive (VSD). A VSD is a device, which allows for minor adjustments of the fan air flow rate to achieve optimal fan settings to reduce odour emissions. | Completed |
| Prevention of pollution of groundwater | Schedule 3, Condition 7 | Conduct groundwater monitoring to ensure that no further contamination occurs. | Installation and baseline monitoring of three groundwater monitoring wells | Completed |

## 4.2 Current Non-Conformances and Corrective Actions

The non-conformances identified during the 2016-2017 reporting period are detailed in **Table 4-2** below and the status of corrective actions to resolve/manage these non-conformances are also provided.

**Table 4-2 Non-Conformances against the Consent reported in the 2016/2017 reporting period**

| Relevant Condition | Non-Conformance/Regulatory Action | Corrective Actions |
|---|---|---|
| **Schedule 3, Condition 1** | A PIN was issued to Veolia from the DPE who deemed that the site of Terminal had not been remediated in accordance with the approved Remediation Action Plan (RAP) | This matter is currently under review and outside the scope of this AEMR. |
| **Schedule 3 Condition 12** | Stormwater management at the Terminal does not fully meet the minimum levels of treatment as stipulated by Consent Condition 12. | Inclusion of stormwater valves in strategical places in the stormwater infrastructure.<br><br>Installation and commissioning of an in-line autosampler was commissioned by Endres and Hauser in to monitor stormwater discharge quality at the Terminal which is used to sample stormwater discharge following rain events. |

| | | |
|---|---|---|
| | In particular, stormwater discharge quality has exceeded pollutant limits in TSS, BOD and oils and grease. | Stormwater infrastructure is also monitored and on a weekly basis to ensure that each component is properly operated and maintained including cleaning of silt and debris in stormwater pits.<br><br>Installation of roof cover and bunding around fuel tank.<br><br>Veolia commissioned a stormwater and leachate management system review of the Terminal and a proposed design is to be carried out by Consult.In. Veolia is currently in consultation with Consult In to construct the proposed designed in the near future. |

## 4.3 Complaints

### 4.3.1 Construction Complaints

Any complaint, query and/or issue received regarding noise, dust or other general community disturbances during the construction of the Terminal was managed as per Lipman's corrective and preventative action procedure and documented.

All complaints were investigated, with the details recorded and actioned through RIVO, which forms part of Veolia's National Integrated Management System for logging incidents and managing governance.

No complaints were received during the construction of the Terminal of this reporting period.

### 4.3.2 Operational Complaints

A total of 24 complaints were issued to the Terminal during the operation of the Terminal within this reporting period, all of which related to odour emissions. The odour complaints were received from IXOM who are located north-east from the Terminal.

Complaints were generally received between the hours of 5:45 – 9:00 am when wind directions originated from a south to south-western direction.

Following the receipt of each odour complaint;

1. The Terminal implements corrective actions to reduce odour emissions such as adjustment of fan extraction system speed settings;
2. The Site Manager communicates any corrective actions taken on the site with the complainant which may be followed by a site visit to investigate the extent of the issue;

3. Meteorological wind data is downloaded from the BoM website;
4. Details of the complaint and wind data are logged in the BTT Complaints Register (**Appendix G**)

## 4.4 Conclusion

A number of improvements to the environmental management of the Terminal have been implemented during this reporting period. These improvements were implemented as a result of the recommendations and findings identified by independent environmental audits, regulatory inspections as well as Veolia's internal assurance program.

Examples of these improvements include;

- Installation of improvement stormwater containment and spill controls
- Stormwater and groundwater monitoring programs; and,
- Modification of the odour control system to manage odour emissions more effectively

Despite this, based on the results of the monitoring undertaken and the non-conformances identified during this reporting period, it was determined that further review to improve environmental performance of the Terminal is required.

Veolia note that the site was in operations for approximately 5 months when this AEMR was prepared and believe that as operational practices mature and corrective actions, as proposed, are implemented, these improvements will be demonstrated.

# REFERENCES

1. DEC (2006). *Technical framework: assessment and management of odour from stationary sources in NSW*, Department of Environment and Conservation. November 2006

2. DLA (2015) Remediation Action Plan, DLA Environmental. October 2015

3. DLA (2016) Baseline Environmental Site Assessment: 34-36 McPherson Street Banksmeadow, DLA Environmental. February 2016

4. DLA (2016) Validation Report 34-36 McPherson Street Banksmeadow, DLA Environmental. July 2016

5. EPA (2014). NSW Waste Classification Guidelines, NSW Environmental Protection Agency. January 1996.

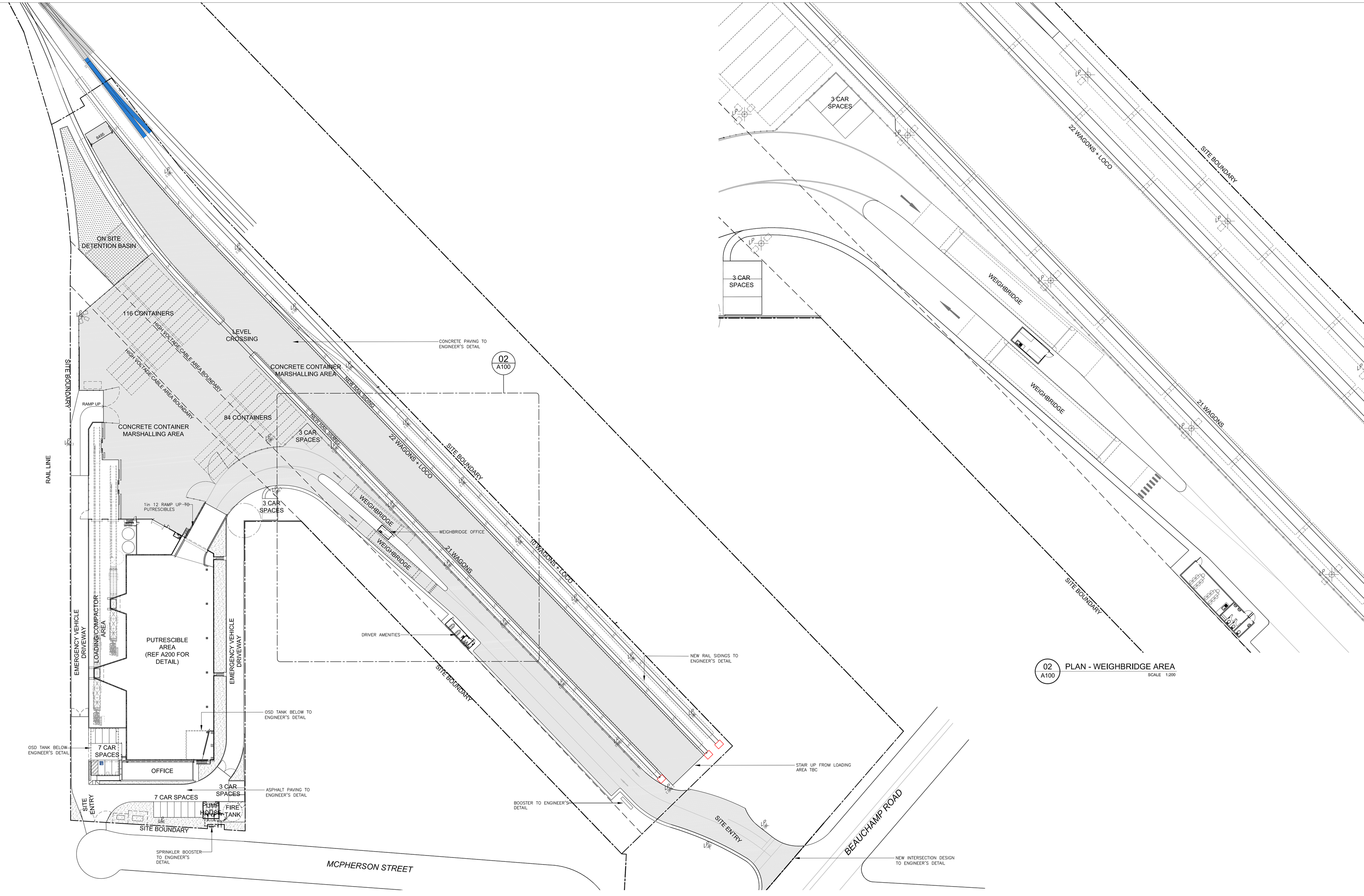
6. Hyder (2014) Banksmeadow Transfer Terminal Environmental Impact Statement, Hyder Consulting. April 2014

7. Ramboll Environ (2016). Banksmeadow Transfer Terminal Independent Environmental Audit 2016, Ramboll Environ. July 2016

8. VES (2016). Banksmeadow Transfer Terminal Annual Environmental Monitoring Report. Veolia. July 2016.

# APPENDICES

## Appendix A - Site Layout Plan




01 A100 PLAN
SCALE 1:500

02 A100 PLAN - WEIGHBRIDGE AREA
SCALE 1:200

| REV: | DETAILS: | DATE: | BY: |
|---|---|---|---|
| P1 | PRELIMINARY CLIENT REVIEW | 10/6/15 | AD |
| P2 | REVISIONS AS CLOUDED | 11/6/15 | AD |
| P3 | REVISIONS AS CLOUDED | 17/6/15 | AD |
| P4 | COMPACTOR LOCATIONS, RAMP REVISED | 23/6/15 | AD |
| P5 | MAIN RAMP REVISED | 26/6/15 | AD |
| P6 | CONSTRUCTION CERTIFICATE ISSUE | 3/8/15 | AD |
| P7 | PARKING REVISED | 6/8/15 | AD |
| P8 | PUMP HOUSE, PARKING, EAST DRIVEWAY STAIRS NR RAMP, EAST STAIRS DEL | 7/08/15 | AD |
| C1 | CONSTRUCTION ISSUE | 2/12/15 | MC |

GENERAL NOTES:

1. DO NOT SCALE DRAWINGS, FOLLOW WRITTEN DIMENSIONS ONLY
2. ALL WORKS TO BE IN ACCORDANCE WITH BUILDING CODE OF AUSTRALIA (2015)
3. ALL DOORS IN THE PATH OF TRAVEL TO AN EXIT TO BE FITTED WITH LOCKS WHICH CAN BE OPENED AT ALL TIMES BY PERSON SEEKING EGRESS BY USE OF DOWNWARD ACTION ON LEVER LOCATED BETWEEN 900mm AND 1100mm ABOVE FLOOR
4. WALKWAY AND LANDING HANDRAILS/GUARDRAILS TO BE 1050 MIN ABOVE FFL.
5. ALL STAIR TREADS TO BE WEBFORGE HOT DIP GALVANISED GRATED STEEL STAIR TREADS. TREAD TYPE TO BE T5 OR T6, GRATING PATTERN TO BE TYPE A. SIZES TO BE AS MARKED ON DRAWINGS. NO SITE WELDS PERMITTED. NO WELDS PERMITTED AFTER HOT DIP GALVANISING TAKES PLACE.
6. ALL INTERNAL AND EXTERNAL STEEL TO BE HOT DIP GALVANISED. AFTER HOT DIP GALVANISING PROCESS, STEEL MUST NOT BE WELDED, GROUND, CUT, OR SUBJECT TO ANY OTHER PROCESS WHICH MAY COMPROMISE THE GALVANISING LAYER. IF THE GALVANISING LAYER IS COMPROMISED, THEN THE ELEMENT(S) MUST BE HOT DIP GALVANISED AGAIN BEFORE INSTALLATION.
7. ALL GLAZING TO BE TO AS1288
8. REFER TO DRAWING A800 FOR LEGEND OF ALL DRAWING TAGS AND ABBREVIATIONS

LIPMAN the obvious choice

VEOLIA

PROJECT NORTH

TRUE NORTH

PROJECT: BANKSMEADOW TERMINAL
PROJECT NUMBER: 1414
DRAWING NUMBER: A100
REVISION: C1
CLIENT: LIPMAN PTY LTD
DRAWING NAME: SITE PLAN
DRAWING STATUS: CONSTRUCTION ISSUE
SCALE: 1:500 @B1 1:1250 @A3
DATE: 6/15
DRAWN: AD



davidson architecture
2/70 Kerr Street Fitzroy 3065
0415 12 57 56
abn 186 626 099 374

# Appendix B – Earth2Water Groundwater Wells Installation Report

earth2water Pty Ltd
Environmental & Groundwater Consulting
ABN 64 100 859 238
175 Fern Street Gerringong NSW 2534
Phone: (02) 4234 0829 Fax: (02) 4236 1824

*Ref: E2W-255 L01*
*24 February 2017*

Pablo Gonzalez
Project Manager - Resource Recovery
Veolia Australia and New Zealand
Cnr Unwin & Shirley Streets
Rosehill, NSW, 2142

Re: Banksmeadow Site- Well Installation Results (GW-1,2,3)

Earth2Water Pty Ltd (E2W) was engaged by Veolia to install three monitoring wells (GW-1,2,3) at 34-36 McPherson Street, Banksmeadow (site) on 22/23 February 2017 (Figure 1, & Appendix A). The well installation program follows E2W (Dino Parisotto) site inspection in consultation with Veolia (Pablo Gonzalez) on 2 February 2017 and cable locating service check (Geotrace Pty Ltd) on 22 February 2017.

The groundwater well installation undertaken on 22/23 February 2017 was aimed to meet DPI request (i.e. reference OUT16/392435, Appendix B). The well locations are identified by a yellow monument (GW-1; garden/car park area), and heavy duty gatic covers with white lids (GW-2; access road between building and rail siding. GW-3; visitor car park). The well locations were based on; access with drill rig, buried services, groundwater gradient, and site coverage.

The borelogs and well construction logs for the three wells are presented in Appendix C, and illustrated in Figure 1. The 3 wells (approx 3m depth) were installed by E2W custom trailor mounted auger rig, equipped with solid flight augers (SFA 100mm diam). Drilling and well installation works were completed by a hydrogeologist/licensed driller (Dino Parisotto; Class 3 DL1977). The wells were constructed using Class 18, 50mm uPVC screw coupling casing/ screen, with the bore annulus inserted with gravel packing (2mm) and bentonite chips. The water levels, field chemistry (PH, EC) are also noted on the borelogs. Each new well was developed by bailing approximately 20 L from the well (i.e. rapid water level recovery) to improve the sampling capacity and water clarity.

The 3 wells intersected the Botany Sands aquifer comprising permeable sediments (sand) and shallow water table (<2 m). Groundwater pollution from the neighbouring industrial properties may affect the onsite water quality. E2W recommend that a baseline water monitoring program includes water quality parameters which targets site specific pollution (i.e. preliminary chemicals of concern potentially include; ammonia, nitrate, and BOD).

Should you have any queries or comments regarding this letter, please feel free to contact the undersigned.

Yours sincerely,

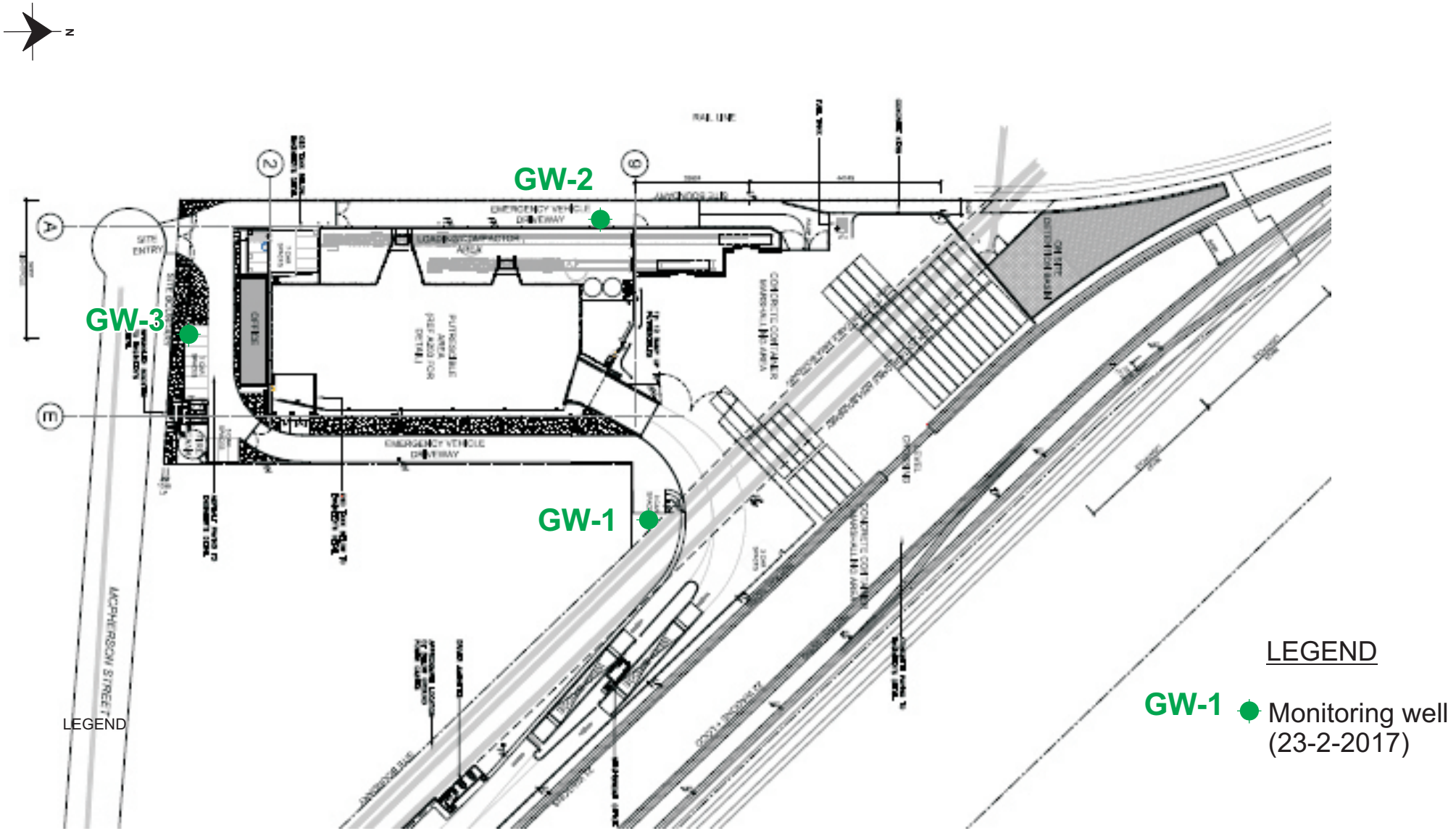
**Earth2Water** Pty Ltd
ABN: 64100 859 238

Dino Parisotto (Director)
BAppSc - Geology (Hons); MAppSc - Groundwater , Class 3 Driller (DL1977)
Mobile 0422 334102

***Attached***

Figure 1: Site Layout & Well Locations (February 2017)
Appendix A: Veolia site map (& well locations)
Appendix B: DPI letter dated 25 October 2016
Appendix C: Borelogs & Well Construction Records

earth2water Pty Ltd
Environmental & Groundwater Consulting




## Site Layout & Well Network (Feb 2017)

***Date:*** *24 Feb 2017*

***Reference:*** *E2W_0255. Well Installation Program (Ref DPI, 2016)- As Built*

Veolia- McPherson St, Banksmeadow

***Figure 1***

Department of Primary Industries
Water

Mr Pablo Gonzalez
Project Manager – Resource
Veolia Environmental Services (Australia) Pty Ltd
Cnr Unwin and Shirley Streets
ROSEHILLl, NSW, 2142

Via email: Pablo.gonzalez@veolia.com
CC: ramona.bachu@veolia.com
CC: Department of Planning & Environment

Our Ref. OUT16/392435

Dear Mr Gonzalez

**Banksmeadow Transfer Terminal – SSD 5855**
**Meeting between DPI Water and Veolia re Operational Soil, Water and Leachate Management Plan (SWLMP)**

I refer to the meeting held between officers from DPI Water and representatives from Veolia Environmental Services on 21 October 2016.

DPI Water restated its previous advice that ongoing monitoring of groundwater is required to ensure that no further contamination of the groundwater source occurs due to the activities being undertaken on the site. This is a requirement of the Conditions of Approval as issued by the Department of Planning & Environment.

DPI Water understands that Veolia requires time to undertake the work involved and it is suggested that Veolia may require up to six months to install the required monitoring bores and to develop a monitoring and trigger response plan.

DPI Water would expect that Veolia contact the Department to inform that the monitoring bores are in place and to confirm that the monitoring programme is being developed to the satisfaction of the Department.

For further information please contact John Galea, Water Regulation Officer, Parramatta Officer, telephone 8838 7520 or email john.galea@dpi.nsw.gov.au.

Yours sincerely

Irene Zinger
Acting Regional Manager - Metro
Water Regulation

25 October 2016

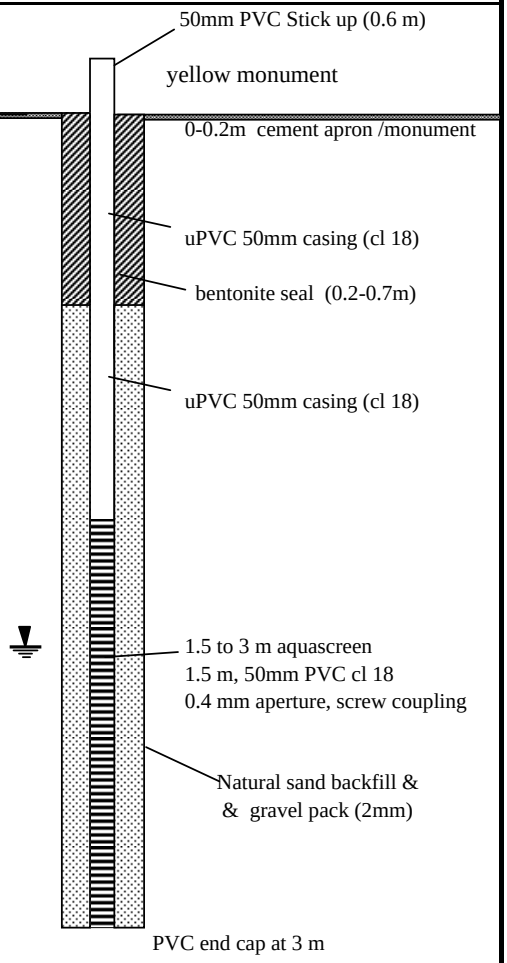
# BORELOG & GROUNDWATER MONITORING WELL CONSTRUCTION

| | | | |
|---|---|---|---|
| **PROJECT :** | Banksmeadow - McPherson Street (3 wells) | **JOB NO:** | **E2W-255 Earth2Water PL** |
| **LOCATION:** | Upgradient Car Park (garden) | **DATE STARTED:** | 23/02/2017 |
| **DRILLER:** | Dino Parisotto (DL1977) | **DATE COMPLETED:** | 23/02/2017 |

| | | | | | |
|---|---|---|---|---|---|
| Contractor: Earth2Water Pty Ltd | | Method: | 100 mmSFA | | |
| Rig: | custom 40 hp trailor | Depth: | 3.5 m | R.L. Ground (m): | ~ approx 5 |
| Datum: | Ground level | Water Level: | 2 m | R.L. WL (m): | |

**Earth2Water Pty Ltd** **Well ID: GW-1**

| Lithological Log | Sample | Depth (m) | Bore Construction Details |
|---|---|---|---|
| Upgradient car park area/boundary fence. Mulched garden | | | 50mm PVC Stick up (0.6 m); yellow monument |
| 0- 0.4 m Garden Soil & Mulch (wood chips) | | | 0-0.2m cement apron /monument |
| 0.4-1.4m Fill (Gravelly Clay): med brown, gravel/rock some brick/tile fragments, some blue metal gravel, firm-stiff, moist | | 0.5 | uPVC 50mm casing (cl 18); bentonite seal (0.2-0.7m) |
| | | 1.0 | uPVC 50mm casing (cl 18) |
| 1.4-2.3m Sandy Silt: dark brown/grey, some peat semi-cohesive, very moist, firm | | 1.5 | |
| borehole collapse- saturated sand | | 2.0 | 1.5 to 3 m aquascreen; 1.5 m, 50mm PVC cl 18; 0.4 mm aperture, screw coupling |
| 2.3-3.1m SAND: light-medium brown, quartz rich, firm, fine-course, saturated. | | 2.5 | Natural sand backfill & & gravel pack (2mm) |
| | borehole collapse | 3.0 | PVC end cap at 3 m |
| 3.1m depth - end of borehole (sand collapse) | | 3.5 | Field Chemistry EC=1160 uS/cm PH =6.1 |
| | | 4.0 | |
| | | 4.5 | |





Prepared By: DP
Checked By: DP

# BORELOG & GROUNDWATER MONITORING WELL CONSTRUCTION

| | | | |
|---|---|---|---|
| **PROJECT :** | Banksmeadow - McPherson Street (3 wells) | **JOB NO:** | **E2W-255 Earth2Water PL** |
| **LOCATION:** | Upgradient Car Park (garden) | **DATE STARTED:** | 23/02/2017 |
| **DRILLER:** | Dino Parisotto (DL1977) | **DATE COMPLETED:** | 23/02/2017 |

| | | | | | |
|---|---|---|---|---|---|
| Contractor: Earth2Water Pty Ltd | | Method: | 100 mmSFA | | |
| Rig: | custom 40 hp trailor | Depth: | 3.1 m | R.L. Ground (m): | ~ approx 5 |
| Datum: | Ground level | Water Level: | 1.3 mbgl | R.L. WL (m): | |

**Earth2Water Pty Ltd** **Well ID: GW-2**

| Lithological Log | Sample | Depth (m) | Bore Construction Details |
|---|---|---|---|
| Access Road & Boundary/rail line, asphalt surface | | | Gatic cover (bolt down) |
| 0- 0.3m Fill (Gravelly Clay): medium brown, ~20% gravel; slight moisture, hard, hard, slight moisture<br>0.3-1m Fill (Sandy Silt): dark brown/grey, some ash, minor rock fragments, semi-cohesive, firm, moist | | 0.5 | 0-0.2m cement apron /gatic<br>uPVC 50mm casing (cl 18)<br>bentonite seal (0.2-0.7m) |
| 1 -2 m Sandy Silt: dark brown/grey, some peat semi-cohesive, very moist, firm | | 1.0<br>1.5 | uPVC 50mm casing (cl 18) |
| 2- 3.1m SAND: light to medium brown, qtz rich firm, saturated | | 2.0<br>2.5 | 1.2 to 2.7 m aquascreen<br>1.5 m, 50mm PVC cl 18<br>0.4 mm aperture, screw coupling<br>Natural sand backfill & & gravel pack (2mm) |
| | borehole collapse | 3.0 | PVC end cap at 2.7 m |
| 3.1m depth - end of borehole (sand collapse) | | 3.5<br>4.0<br>4.5 | Field Chemistry<br>EC=1540 uS/cm<br>PH=6.45 |



Prepared By: DP
Checked By: DP

# BORELOG & GROUNDWATER MONITORING WELL CONSTRUCTION

| | | | |
|---|---|---|---|
| **PROJECT :** | Banksmeadow - McPherson Street (3 wells) | **JOB NO:** | **E2W-255 Earth2Water PL** |
| **LOCATION:** | Upgradient Car Park (garden) | **DATE STARTED:** | 23/02/2017 |
| **DRILLER:** | Dino Parisotto (DL1977) | **DATE COMPLETED:** | 23/02/2017 |

| | | | | | |
|---|---|---|---|---|---|
| Contractor: Earth2Water Pty Ltd | | Method: | 100 mmSFA | | |
| Rig: | custom 40 hp trailor | Depth: | 4.2 m | R.L. Ground (m): | ~ approx 5 |
| Datum: | Ground level | Water Level: | 1.7 mbgl | R.L. WL (m): | |

**Earth2Water Pty Ltd** **Well ID: GW-3**

| Lithological Log | Sample | Depth (m) | Bore Construction Details |
|---|---|---|---|
| Downgradient car park, asphalt surface | | | Gatic cover (bolt down) |
| 0- 0.6m Fill (Gravelly Clay): medium brown, ~20% gravel; blue metal, rock fragments hard, slight moisture | | | 0-0.2m cement apron /monument |
| | | 0.5 | uPVC 50mm casing (cl 18) |
| 0.6-1m Fill (Sandy Silt): dark brown/grey, some ash, some rock fragments/tile/brick, semi-cohesive, firm, moist | | | bentonite seal (0.2-0.8m) |
| | | 1.0 | uPVC 50mm casing (cl 18) |
| 1 -1.3m Sandy Silt: dark brown/grey, some peat semi-cohesive, very moist, firm | | | |
| 1.3- 4m SAND: light to medium brown, qtz rich firm, saturated | | 1.5 | |
| borehole collapse- saturated sand | | 2.0 | 1.7 to 3.2 m aquascreen<br>1.5 m, 50mm PVC cl 18<br>0.4 mm aperture, screw coupling |
| | | 2.5 | Natural sand backfill &<br>& gravel pack (2mm) |
| | | 3.0 | |
| | borehole collapse | | PVC end cap at 3.2 m |
| | | 3.5 | |
| | | | Field Chemistry<br>EC=1203 uS/cm<br>PH =6.3 |
| | | 4.0 | |
| 4.1m depth - end of borehole (sand collapse) | | 4.5 | |



Prepared By: DP
Checked By: DP

# Appendix C – Groundwater Quality Results

**BANKSMEADOW TRANSFER TERMINAL - GROUNDWATER MONITORING RESULTS**

| Sample | Unit | LOR | BTTGW1 | BTTGW2 | BTTGW3 |
|---|---|---|---|---|---|
| Sample Date | | | 13/04/2017 | 13/04/2017 | 13/04/2017 |
| Sampling Period | | | Baseline | Baseline | Baseline |
| | | | | | |
| Standing Water Level | m | N/A | 2.33 | 1.10 | 1.40 |
| Water Level (Reduced Level) | m AHD | N/A | | | |
| pH | pH | 0.01 | 7.28 | 7.31 | 7.27 |
| Electrical Conductivity, EC | µS/cm | 1 | 578 | 1150 | 1040 |
| Total Dissolved Solids, TDS | mg/L | 1 | 424 | 800 | 611 |
| Total Suspended Solids, TSS | mg/L | 1 | | | |
| Alkalinity as CaCO3 | mg/L | 1 | 181 | 186 | 108 |
| Sulphate | mg/L | 1 | 55 | 82 | 175 |
| Chloride | mg/L | 1 | 28 | 170 | 117 |
| Calcium | mg/L | 1 | 61 | 51 | 73 |
| Magnesium | mg/L | 1 | 4 | 6 | 6 |
| Sodium | mg/L | 1 | 37 | 156 | 105 |
| Potassium | mg/L | 1 | 31 | 7 | 21 |
| Iron | mg/L | 0.1 | | | |
| Aluminium | mg/L | 0.01 | 5.03 | 0.06 | 0.6 |
| Arsenic | mg/L | 0.001 | 0.022 | 0.044 | 0.008 |
| Barium | mg/L | 0.001 | 0.102 | 0.043 | 0.041 |
| Cadmium | mg/L | 0.0001 | 0.0002 | <0.0001 | <0.0001 |
| Chromium, total | mg/L | 0.001 | 0.005 | 0.002 | <0.001 |
| Cobalt | mg/L | 0.001 | 0.001 | 0.002 | <0.001 |
| Copper | mg/L | 0.001 | 0.02 | 0.001 | <0.001 |
| Lead | mg/L | 0.001 | 0.056 | <0.001 | 0.002 |
| Manganese | mg/L | 0.001 | 0.086 | 0.17 | 0.037 |
| Zinc | mg/L | 0.005 | 0.21 | 0.346 | 0.013 |
| Mercury | mg/L | 0.0001 | <0.0001 | <0.0001 | <0.0001 |
| Chromium, hexavalent | mg/L | 0.01 | <0.01 | <0.01 | <0.01 |
| Fluoride | mg/L | 0.1 | | | |
| Ammonia as N | mg/L | 0.01 | 0.33 | 1.37 | 0.5 |
| Nitrite as N | mg/L | 0.01 | <0.01 | <0.01 | <0.01 |
| Nitrate as N | mg/L | 0.01 | 0.13 | <0.01 | 0.03 |
| Nitrite and Nitrate as N | mg/L | 0.01 | 0.13 | <0.01 | 0.03 |
| Total Phosphorus as P | mg/L | 0.01 | 0.03 | 0.03 | 0.01 |
| Total Phenolics | mg/L | 0.05 | <0.05 | <0.05 | <0.05 |
| Total Organic Carbon | mg/L | 1 | 27 | 17 | 24 |
| Biochemical Oxygen Demand | mg/L | 2 | 3 | 8 | <2 |
| | | | | | |
| PCBs (Polychlorinated biphenyls) | µg/L | 1 | <1 | <1 | <1 |
| OCP (Organochlorine Pesticides) | µg/L | 0.5 - 2 | <2 | <2 | <2 |
| OPP (Organophosphate Pesticides) | µg/L | 0.5 - 2 | <2 | <2 | <2 |
| MAH (Monocyclic Aromatic Hydrocarbor | µg/L | 5 | | | |
| Oxygenated Compounds | µg/L | 50 | | | |
| Sulfonated Compounds | µg/L | 5 | | | |
| Napthalene | µg/L | 7 | | | |
| PAH (Polynuclear Aromatic Hydrocarbo | µg/L | 0.5 - 1 | <1 | <1 | <1 |
| Phenolic Compounds | µg/L | 2 - 4 | <4 | <4 | <4 |
| Phthalate Esters | µg/L | 2 - 20 | <10 | <10 | <10 |
| Nitrosamines | µg/L | 2 - 4 | <4 | <4 | <4 |
| Nitroaromatics and Ketones | µg/L | 2 - 4 | <4 | <4 | <4 |
| Haloethers | µg/L | 2 | <2 | <2 | <2 |
| Anilines and Benzidines | µg/L | 2 - 4 | <4 | <4 | <4 |
| Miscellaneous Compounds | µg/L | 2 | | | |
| **CVCs (Chlorinated Hydrocarbons)** | | | | | |
| Fumigants | µg/L | 5 | <5 | <5 | <5 |
| Halogenated Aliphatic Compounds | µg/L | 5 - 50 | <50 | <50 | <50 |
| Halogenated Aromatic Compounds | µg/L | 5 | <5 | <5 | <5 |
| Trihalomethanes | µg/L | 5 | <5 | <5 | <5 |
| **TPH (Total Petroleum Hydrocarbons)** | | | | | |
| C6 – C9 Fraction | µg/L | 20 | <20 | <20 | <20 |
| C10 – C14 Fraction | µg/L | 50 | <50 | <50 | <50 |
| C15 – C28 Fraction | µg/L | 100 | <100 | <100 | <100 |
| C29 – C36 Fraction | µg/L | 50 | <50 | <50 | <50 |
| **BTEX** | | | | | |
| Benzene | µg/L | 1 | <1 | <1 | <1 |
| Toluene | µg/L | 2 | <2 | <2 | <2 |
| Ethylbenzene | µg/L | 2 | <2 | <2 | <2 |
| meta- & para Xylene | µg/L | 2 | <2 | <2 | <2 |
| ortho - Xylene | µg/L | 2 | <2 | <2 | <2 |

# Appendix D – Noise Monitoring Results

LIPMAN
the obvious choice

# Noise Recording Log

## Project: Veolia Banksmeadow WTT

| Date | Location | Time: | Noise (Db) | Action Taken |
|---|---|---|---|---|
| Thursday, 8 October 2015 | B | b | 61 | None required |
| Thursday, 15 October 2015 | B | 10:30:00 AM | 68 | None required |
| Friday, 23 October 2015 | A | 12:50:00 PM | 69 | None required |
| Wednesday, 28 October 2015 | B | 11:10:00 AM | 75 | None required |
| Wednesday, 4 November 2015 | B | 7:40:00 AM | 68 | None required |
| Tuesday, 10 November 2015 | A | 1:10:00 PM | 67 | None required |
| Thursday, 19 November 2015 | A | 10:30:00 AM | 70 | None required |
| Friday, 27 November 2015 | B | 3:10:00 PM | 69 | None required |
| Friday, 4 December 2015 | B | 8:45:00 AM | 68 | None required |
| Saturday, 12 December 2015 | B | 9:10:00 AM | 65 | None required |
| Thursday, 17 December 2015 | A | 11:30:00 AM | 66 | None required |
| Wednesday, 23 December 2015 | B | 2:50:00 PM | 68 | None required |
| Friday, 8 January 2016 | B | 7:40:00 AM | 70 | None required |
| Saturday, 16 January 2016 | A | 1:10:00 PM | 69 | None required |
| Thursday, 21 January 2016 | B | 10:30:00 AM | 60 | None required |
| Friday, 29 January 2016 | A | 3:10:00 PM | 69 | None required |
| Wednesday, 3 February 2016 | B | 8:45:00 AM | 74 | None required |
| Wednesday, 10 February 2016 | B | 10:10:00 AM | 68 | None required |
| Tuesday, 16 February 2016 | A | 9:30:00 AM | 67 | None required |
| Thursday, 25 February 2016 | B | 12:50:00 PM | 70 | None required |
| Friday, 4 March 2016 | B | 11:10:00 AM | 69 | None required |
| Wednesday, 9 March 2016 | B | 7:40:00 AM | 66 | None required |
| Thursday, 17 March 2016 | B | 1:10:00 PM | 69 | None required |
| Wednesday, 23 March 2016 | A | 10:30:00 AM | 66 | None required |
| Tuesday, 29 March 2016 | B | 4:10:00 PM | 68 | None required |
| Monday, 4 April 2016 | B | 8:45:00 AM | 67 | None required |
| Wednesday, 13 April 2016 | A | 8:10:00 AM | 73 | None required |
| Thursday, 21 April 2016 | B | 10:30:00 AM | 69 | None required |
| Wednesday, 27 April 2016 | B | 12:50:00 PM | 66 | None required |
| Wednesday, 4 May 2016 | B | 11:10:00 AM | 69 | None required |
| Monday, 9 May 2016 | B | 7:40:00 AM | 63 | None required |
| Monday, 16 May 2016 | A | 1:10:00 PM | 68 | None required |
| Thursday, 26 May 2016 | B | 10:20:00 AM | 71 | None required |
| Saturday, 4 June 2016 | A | 3:10:00 PM | 70 | None required |
| Thursday, 9 June 2016 | B | 8:45:00 AM | 60 | None required |
| Thursday, 16 June 2016 | B | 11:45:00 AM | 66 | None required |
| Tuesday, 21 June 2016 | B | 7:40:00 AM | 68 | None required |
| Friday, 1 July 2016 | B | 1:10:00 PM | 72 | None required |
| Wednesday, 6 July 2016 | B | 10:40:00 AM | 66 | None required |
| Wednesday, 13 July 2016 | B | 9.10 AM | 58 | None required |
| Wednesday, 20 July 2016 | B | 10.30 AM | 52 | None required |
| Monday, 25 July 2016 | B | 9.15 AM | 57 | None required |

# Appendix E – Traffic Spot Checks Log Sheet

# Traffic Monitoring

14 Beauchamp Road, Banksmeadow

| | Dates of Traffic Monitoring | | | | |
|---|---|---|---|---|---|
| Date | 12/11/2015 | | 26/11/2015 | | 10/12/2015 |
| Observer | Matthew White | | Matthew White | | Matthew White |
| Period of observation | 7:30am - 9:00am<br>2:00pm - 3:30pm | | 8:00am - 9:30am<br>1:30pm - 3:00pm | | 8:30am - 10:00am<br>1:30pm - 3:00pm |
| NON - COMFORMANCES: | | | | | |
| Construction vehicles turning right from Beauchamp Road into site | 0 | | 0 | | 0 |
| Construction vehicles using Perry Street (entry or exit): | 0 | | 0 | | 0 |
| Construction vehicles not turning left onto Denision when leaving site travelling North Bound | 0 | | 0 | | 0 |
| Compliants received | 0 | | 0 | | 0 |
| **Total** | 0 | | 0 | | 0 |
| **Notes:** | General Site Deliveries | | General Site Deliveries | | Over 60 concrete trucks |

**Actions taken if necesssary:**

| | Dates of Traffic Monitoring | | | | |
|---|---|---|---|---|---|
| Date | 23/12/2015 | | 13/01/2016 | | 28/01/2016 |
| Observer | Matthew White | | Matthew White | | Matthew White |
| Period of observation | 7:30am - 9:00am<br>2:00pm - 3:30pm | | 8:00am - 9:30am<br>1:30pm - 3:00pm | | 8:30am - 10:00am<br>1:30pm - 3:00pm |
| NON - COMFORMANCES: | | | | | |
| Construction vehicles turning right from Beauchamp Road into site | 0 | | 0 | | 0 |
| Construction vehicles using Perry Street (entry or exit): | 0 | | 0 | | 0 |
| Construction vehicles not turning left onto Denision when leaving site travelling North Bound | 0 | | 0 | | 0 |
| Compliants received | 0 | | 0 | | 0 |
| **Total** | | | | | |
| **Notes:** | Concrete delivery | | General Site Deliveries | | General Site Deliveries |

**Actions taken if necesssary:**

# Traffic Monitoring

14 Beauchamp Road, Banksmeadow

| | Dates of Traffic Monitoring | | | | |
|---|---|---|---|---|---|
| Date | 10/02/2016 | | 24/02/2016 | | 9/03/2016 |
| Observer | Matthew White | | Matthew White | | Matthew White |
| Period of observation | 7:30am - 9:00am<br>2:00pm - 3:30pm | | 8:00am - 9:30am<br>1:30pm - 3:00pm | | 8:30am - 10:00am<br>1:30pm - 3:00pm |
| NON - COMFORMANCES: | | | | | |
| Construction vehicles turning right from Beauchamp Road into site | 0 | | 0 | | 0 |
| Construction vehicles using Perry Street (entry or exit): | 0 | | 0 | | 0 |

| | | | | | |
|---|---|---|---|---|---|
| Construction vehicles not turning left onto Denision when leaving site travelling North Bound | 0 | | 0 | | 0 |
| Compliants received | 0 | | 0 | | 0 |
| **Total** | 0 | | 0 | | 0 |
| **Notes:** | General Site Deliveries | | General Site Deliveries | | General Site Deliveries |

**Actions taken if necesssary:**

| | Dates of Traffic Monitoring | | | | |
|---|---|---|---|---|---|
| Date | 23/03/2016 | | 6/04/2016 | | 20/04/2016 |
| Observer | Matthew White | | Matthew White | | Matthew White |
| Period of observation | 7:30am - 9:00am<br>2:00pm - 3:30pm | | 8:00am - 9:30am<br>1:30pm - 3:00pm | | 8:30am - 10:00am<br>1:30pm - 3:00pm |
| NON - COMFORMANCES: | | | | | |
| Construction vehicles turning right from Beauchamp Road into site | 0 | | 0 | | 0 |
| Construction vehicles using Perry Street (entry or exit): | 0 | | 0 | | 0 |
| Construction vehicles not turning left onto Denision when leaving site travelling North Bound | 0 | | 0 | | 0 |
| Compliants received | 0 | | 0 | | 0 |
| **Total** | | | | | |
| **Notes:** | General Site Deliveries | | General Site Deliveries | | General Site Deliveries |

**Actions taken if necesssary:**

# Traffic Monitoring

14 Beauchamp Road, Banksmeadow

| | Dates of Traffic Monitoring | | | | |
|---|---|---|---|---|---|
| Date | 11/05/2016 | 15/06/2016 | 6/07/2016 | 20/07/2016 | 27/07/2016 |
| Observer | Matthew White | Matthew White | Matthew White | Matthew White | Matthew White |
| Period of observation | 7:30am - 9:00am<br>2:00pm - 3:30pm | 8:00am - 9:30am<br>1:30pm - 3:00pm | 8:00am - 9:30am<br>1:30pm - 3:00pm | 7:00am - 8:30am<br>2:30pm - 3:30pm | 8:30am - 9:30am<br>2:00pm - 3:00pm |
| NON - COMFORMANCES: | | | | | |
| Construction vehicles turning right from Beauchamp Road into site | 0 | | 0 | 0 | 0 |
| Construction vehicles using Perry Street (entry or exit): | 0 | | 0 | 0 | 0 |
| Construction vehicles not turning left onto Denision when leaving site travelling North Bound | 0 | | 0 | 0 | 0 |
| Compliants received | 0 | | 0 | 0 | 0 |
| **Total** | 0 | | 0 | 0 | 0 |
| **Notes:** | General Site Deliveries | | General Site Deliveries | General Site Deliveries | General Site Deliveries |

**Actions taken if necesssary:**

# Appendix F – DPE Show Cause Letter

NSW GOVERNMENT | Planning & Environment

Contact: Julia Pope
Phone: 02 8217 2068
Email: Julia.pope@planning.nsw.gov.au

Veolia Environmental Services (Australia) Pty Ltd
Level 4 Bay Centre
65 Pirrama Road
Pyrmont NSW 2009

Attention: Mr Pablo Gonzalez
Project Manager, Resource Recovery
Banksmeadow Waste Transfer Terminal

Dear Mr Gonzalez

**Banksmeadow Waste Transfer Terminal SSD 5855**

I refer to the Show Cause letter of 30 January 2017 from the Department and Veolia's response on 28 February 2017 relating to the remediation works at the Banksmeadow Waste Transfer Terminal under SSD 5855 (Consent).

Having finalised our investigation, I have formed the view that there are reasonable grounds to believe that Veolia Environmental Services (Australia) Pty Ltd has failed to comply with Condition 1 of Schedule 3 of the Consent.

Condition 1 of Schedule 3 states:

*" 1. The Applicant shall remediate the site in accordance with the approved RAP prior to the commencement of operation. Amendments to the approved RAP required as a result of further site investigations must be prepared by a suitably qualified and experienced expert and approved by the site auditor."*

The Department's position is that the "approved RAP" referred to in the condition consists of the Remediation Action Plan prepared by Douglas Partners dated February 2014 as amended by DLA Environmental Services dated October 2015 and approved by the Site Auditor, Graeme Nyland.

The Department notes that the Site Audit Report prepared by the Site Auditor, Graeme Nyland of Ramboll Environ Australia Pty Ltd dated August 2016, includes the Auditor's Statement that the site is suitable for its intended use which was accepted by the Secretary on 12 December 2016.

Regardless, the Site Auditor identified three deviations from the approved RAP in the Site Audit Report as follows:

1. An area of zinc impacted soil was not removed as proposed by the RAP. The soil remains beneath the cap. The Auditor has concluded that contaminants in groundwater (including zinc) were unlikely to be migrating offsite at regionally significant concentrations. The Auditor considered this deviation acceptable.
2. Services were placed in trenches below the capping layer in asbestos impacted fill
3. For areas of soft landscaping where less than 1m of soil was placed during development, a marker layer and a minimum depth of approximately 300mm of clean

sand, topsoil and mulch were applied. This was a deviation from the RAP which stated 500mm was to be placed. This was considered a minor deviation by the Auditor.

The condition was imposed to ensure the potential impacts from the development are managed appropriately.

It is noted that an Environmental Management Plan (EMP) has been prepared and contains control measures to maintain the integrity of the cap and manage risks posed by asbestos should intrusive works, including in services and in soft landscaping areas, be undertaken at the site. Also that the EMP has been appended to the Soil, Water and Leachate Management Plan which forms part of the Operational Environmental Management Plan (OEMP) which was approved by the Department on 28 June 2016.

The Department requests Veolia to confirm **by 7 April 2017** that it has addressed the following:

- registered the service plans and the EMP with the Dial before You Dig data base to notify service contractors of the potential for asbestos impacted fill in service conduits; and
- sent a copy of Site Audit Statement and EMP to Bayside Council for the appropriate public notification of restrictions applying to the site through a notification of the Site Audit Statement and EMP on the section 149 Certificates for the site.

It is an offence under sections 76A and 125 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for a person not to comply with the conditions of a development consent.

The Department has assessed the breach in accordance with the Department's Compliance Policy and determined to issue Veolia with the enclosed penalty notice in the amount of $15,000 for a breach of Condition 1 of Schedule 3.

The reason for the penalty notice is the breach has the potential to impact on public safety and the surrounding environment.

Any further breaches of this nature may attract stronger compliance action in accordance with the Department's Compliance Policy.

Should you need to discuss the above, please contact Julia Pope, Senior Compliance Officer on 02 8217 2068 or email to julia.pope@planning.nsw.gov.au.

Yours sincerely

Kirsty Ruddock 29/3/17
**Director - Compliance and Investigations**

Attachment: Penalty notice

# GENERAL PENALTY NOTICE

PART C
CCP 007

Rego. No.

PENALTY NUMBER
**3121152284**

DATE POSTED

☐ 1. PARKING ☒ 2. GENERAL ☐ 3. TRAFFIC

SURNAME/COMPANY NAME (block letters) VEOLIA ENVIRONMENTAL SERVICES SEX

GIVEN NAMES (block letters) (AUSTRALIA) PTY LTD ACN 051 316 504

who furnished place of residence/ business as LVL 4 BAY CENTRE

165 PARRAMATTA RD PUTNEY Postcode

D.O.B. Licence No. Class State of Issue

It is alleged that at : hrs to : hrs on ..... (day) date

at ..... (street) between ..... and

..... suburb .....

the following offence was committed

(1) you drove/stood motor ..... bearing plates

State of Registration Registration Plate Type: Motorcycle ☐ Other ☐

(2) in relation to FAILURE TO COMPLY WITH AUTHORISED REMEDIAL ACTION PLAN UNDER DEC

| OFFENCE CODE | SHORT TITLE OF OFFENCE |
|---|---|
| | DESIGNATED ETC DEVELOPMENT |
| | NOT ACCORD CONSENT - PENALTY |
| PENALTY AMOUNT $ 15,000 | NOTICE SERVED BY OTHER |

Issuing authority ..... Demerit offence? YES / NO

## HOW TO FINALISE THIS PENALTY NOTICE:

**(Further action will be taken if this notice is not finalised within 21 days of the date of service).**

A. **Choose from the payment options below** OR

B. **See additional information on the reverse side of this notice.**

PLEASE TEAR ALONG DOTTED LINE

## PAYMENT OPTIONS

PAYMENT SLIP

1. **Website** www.sdro.nsw.gov.au
   (Mastercard and Visa card accepted.
   A card payment fee applies.)
2. **Phone** 1300 130 112
3. **Post** the payment slip with cheque or money order made payable to the State Debt Recovery Office, PO Box 4444, Parramatta NSW 2124
   (write penalty notice number clearly on back of cheque or money order)
4. **In person** Go to any Post Office

*2033 3121152284

**3121152284**

BOX 1 Date of Offence
22 08 16

BOX 2 Offence Code
36166

BOX 3 Amount due
$ 15,000

BOX 4 Amount paid
$

If making part-payment, retain payment slip.

# Appendix G – BTT Complaints Register

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | ben.lim@orica.com<br>nimesh.desai@ixom.com | Wind noted to be coming from the West overnight | Wind speed at time of complaint (7:00): 33 km/hr<br>Wind direction at time of complaint: **West** | | |
| 14/12/2016 | 13:30 | Phone | Nimesh Desai/Ben Lim - Orica (IXOM) control room<br><br>ben.lim@orica.com<br>nimesh.desai@ixom.com | Odour Complaint<br><br>Wind noted to have changed to coming from the West | Odour control system fan settings are currently being adjusted following odour complaints to determine the effectiveness of the odour control system. Fans were operating at the time of the complaint and were turned off on the 14th of December.<br><br>Wind speed at time of complaint (13:30): 41 km/hr<br>Wind direction at time of complaint: **West** | | No further issues at this point in time. Veolia BTT will continue to monitor and communicate with stakeholders. |
| 2/01/2017 | 10:15 | Email | Peter Englert - Huntsman Corporation Australia Pty Ltd<br><br>Peter_Englert@huntsman.com<br>+ 61 2 8304 4120 | Odour Complaint<br>Wind noted to be coming from the south-south east | Wind speed at time of complaint (10:00): 18 km/hr<br>Wind direction at time of complaint: **South-South West** | Complaint was received the following day where follow up contact was implemented. | |
| 3/01/2017 | 8:55 | Email | Peter Englert - Huntsman Corporation Australia Pty Ltd<br><br>Peter_Englert@huntsman.com<br>+ 61 2 8304 4120 | Odour Complaint | Fans were operating at the time of the complaint and were turned off at 11:10am on the 3rd of January.<br><br>Wind speed at time of complaint (9:00): 18 km/hr<br>Wind direction at time of complaint: **South-South West** | BTT Site Manager visited the Huntsman Corporation site at 11:30am on the day the complaint was received as part of the recent odour<br><br>Following the site visit, Peter Englert (Huntsman Corporation) provided email correspondence to Huntsman Corporation on the existing odour control system at BTT and provided BTT Site Manager's contact details to assist Veolia in fine-tuning the plant and optimising parameters. | The Odour Unit confirmed to be completing an odour audit of the site. |
| 4/01/2017 | 12:00 | Email | Roger Taylor - Huntsman Corporation Australia Pty Ltd<br><br>roger_taylor@huntsman.com<br>(02) 8304 4125 | Odour Complaint<br>Strong odour detected which was described as sewerage smell | BTT Site Manager contacted the complainant at 14:00 on the day of the complaint and was informed the odour had stopped.<br><br>Wind speed at time of complaint (12:00): 11 km/hr<br>Wind direction at time of complaint: **South-South East** | The phone call at 14:00pm indicated the odour had stopped so no follow up contact was required. | The complaint was added to the Complaints Register to assist with the upcoming Odour Audit. |
| 10/02/2017 & 12/2/2017 | 10:24 | Phone | Nimesh Desai/Ben Lim - Orica (IXOM) control room<br><br>ben.lim@orica.com<br>nimesh.desai@ixom.com | Odour Complaint | BTT Site Manager missed calls on 10 Feb and 12 Feb regarding odour complaints and contacted the complaint on 12 Feb at 10:24 where the complaint confirmed the odour was no longer present.<br><br>Wind speed at time of complaint (10:00): 11 km/hr<br>Wind direction at time of complaint: **North-West** | The phone call at 10:24 on the 12 Feb indicated the odour had stopped so no follow up contact was required. | The complaint was added to the Complaints Register to assist with the upcoming Odour Audit. |
| 13/02/2017 | 7:19 | Phone | Nimesh Desai/Ben Lim - Orica (IXOM) control room<br><br>ben.lim@orica.com<br>nimesh.desai@ixom.com | Odour Complaint | Odour control system fan settings are currently being adjusted following odour complaints to determine the effectiveness of the odour control system. Fans were operating at the time of the complaint and were turned down on the 13 February.<br><br>Wind speed at time of complaint (7:00): 11 km/hr<br>Wind direction at time of complaint: **West-South-West** | The complainant was requested to callback if the odour was still present after 10 minutes. No return call was made indicating the odour had stopped so no further follow up contact was required. | No further issues at this point in time. Veolia BTT will continue to monitor and communicate with stakeholders. |
| 18/02/2017 | 7:49 | Phone | Nimesh Desai/Ben Lim - Orica (IXOM) control room<br><br>ben.lim@orica.com<br>nimesh.desai@ixom.com | Odour Complaint | Odour control system fan settings are currently being adjusted following odour complaints to determine the effectiveness of the odour control system. Fans were operating at the time of the complaint and were turned off on the 18 February at 7:49am.<br><br>Wind speed at time of complaint (7:30): 9 km/hr<br>Wind direction at time of complaint: **North-North-West** | Follow-up contact with the complainant at 8:15am providing information on the status of actions being undertaken on site | The complaint was added to the Complaints Register to assist with the upcoming Odour Audit. |
| 19/02/2017 | 6:47 | Phone | Nimesh Desai/Ben Lim - Orica (IXOM) control room<br><br>ben.lim@orica.com<br>nimesh.desai@ixom.com | Odour Complaint | The odour control system fan were not operating at the time of the complaint, and remained off on the 19 February.<br><br>Wind speed at time of complaint (6:30): 33 km/hr<br>Wind direction at time of complaint: **South-South-West** | Follow-up contact with the complainant indicating the current fan settings. | The complaint was added to the Complaints Register to assist with the upcoming Odour Audit. |
| 20/02/2017 | 6:23 | Phone | Nimesh Desai/Ben Lim - Orica (IXOM) control room<br><br>ben.lim@orica.com<br>nimesh.desai@ixom.com | Odour Complaint | The odour control system fan were not operating at the time of the complaint, and were turned on the 55Hz on the 20 February.<br><br>Wind speed at time of complaint (6:00): 17 km/hr<br>Wind direction at time of complaint: **West-South-West** | Follow-up contact with the complainant indicating the current fan settings. IXOM confirmed the odour was still quite strong and entering via A/C system<br><br>Likely odour coming from full containers. There was 30 full containers onsite on the day of the complaint. | The complaint was added to the Complaints Register to assist with the upcoming Odour Audit. |
| 23/03/2017 | 11:20 | Phone | Nimesh Desai/Ben Lim - Orica (IXOM) control room | Odour Complaint | The odour control system fan were operating at the time of the complaint, and were turned off on 23 March. | Follow-up contact with the complainant provided information on the status of actions being undertaken on site | The fans remained turned off during 24/3/17 where the wind direction was southerly.<br>The complaint was added to the Complaints Register to assist with the upcoming Odour Audit. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | ben.lim@orica.com<br>nimesh.desai@ixom.com | | Wind speed at time of complaint (11:30): 26 km/hr<br>Wind direction at time of complaint: **South-South-West** | | |
| 31/03/2017 | 8:05 | Phone | Nimesh Desai/Ben Lim - Orica (IXOM) control room<br><br>ben.lim@orica.com<br>nimesh.desai@ixom.com | Odour Complaint | Complainant called Banksmeadow Transfer Terminal staff and requested the odour control system fans to be turned down. Veolia called back the complainant and indicated the fans had already been turned off.<br><br>Wind speed at time of site walk over (8:00): 34 km/hr<br>Wind direction at time of complaint: **South-South-West** | Veolia conducted a site walk around and noticed a significant odour coming from the adjacent Bingo facility. | The complaint was added to the Complaints Register to assist in fine-tuning the plant and optimising parameters. |
| 3/04/2017 | 8:25 | Phone | Nimesh Desai/Ben Lim - Orica (IXOM) control room<br><br>ben.lim@orica.com<br>nimesh.desai@ixom.com | Odour Complaint | The odour control system fan were not operating at the time of the complaint, and remained off on the 3 April 2017.<br><br>Wind speed at time of complaint (8:21): 28 km/hr<br>Wind direction at time of complaint: **South-West** | Follow-up contact with the complainant indicating the current fan settings. | The complaint was added to the Complaints Register to assist in fine-tuning the plant and optimising parameters. |
| 27/04/2017 | 7:56 | Phone | Nimesh Desai/Ben Lim - Orica (IXOM) control room<br><br>ben.lim@orica.com<br>nimesh.desai@ixom.com | Odour Complaint | The odour control system fan was operating at the time of the complaint. The complainant requested operators turn down the fan speed, which was actioned by Veolia on 27 April.<br><br>Wind speed at time of complaint (7:30): 30 km/hr<br>Wind direction at time of complaint: **West-South-West** | Follow-up contact with the complainant indicating the fan speed settings were turned down. | The complaint was added to the Complaints Register to assist in fine-tuning the plant and optimising parameters. |
| 28/04/2017 | 6:02 | Phone | Nimesh Desai/Ben Lim - Orica (IXOM) control room<br><br>ben.lim@orica.com<br>nimesh.desai@ixom.com | Odour Complaint<br><br>Winds were SW 30-40 km/hr overnight with temperature 10-15°C | The odour control system fan were operating at low speed (1m/s) at the time of the complaint.<br>Gary Pettitt and Alex Kanaar walked around railway siding and boundary with IXOM and noticed very low to no odour.<br><br>Wind speed at time of complaint (6:00): 26 km/hr<br>Wind direction at time of complaint: **West** | Veolia conducted a site walkover with the complainant to assess the odour levels. | Odour was noticed to build up in Waste Shed / Compactor Pit and at 8:30am fans were turned back on.<br>The complaint was added to the Complaints Register to assist in fine-tuning the plant and optimising parameters. |