

## ASSESSMENT REPORT

### WOODLAWN WASTE BIOREACTOR PROJECT MP 10\_0012 MOD 1; DA 31-02-99 MOD 2

#### 1. INTRODUCTION

This report is an assessment of a request to modify the Project Approval (MP 10\_0012) and Development Consent (DA 31-02-99) for the Woodlawn Waste Bioreactor Project. The Woodlawn Waste Bioreactor is a putrescible waste landfill located in a former mine void at Woodlawn. The site is known as the Woodlawn Eco-Precinct (WEP) and it sits within the Goulburn Mulwaree Local Government Area (LGA) and it borders the Palerang LGA.

The modification request was lodged by Veolia Environmental Services (Australia) Pty Ltd (Veolia), pursuant to section 75W of the *Environmental Planning and Assessment Act 1979* (EP&A Act). It seeks approval to provide additional leachate and stormwater storage capacity at the site within existing storage dams.

#### 2. SUBJECT SITE

The site is located at Woodlawn which is approximately 40 km south of Goulburn and approximately 50 km north east of Canberra. The township of Tarago is approximately 15 km to the east of the site and Lake George is located approximately 10 km to the west (see **Figure 1**).



**Figure 1:** Site Location (Source: Veolia, 2010 – Proponent's EA to DA 31-02-99 MOD1)

The site has an area of 6,000 hectares and is surrounded by rural grazing land. The closest sensitive receptor to the site is located approximately 1.6 km away at 'Woodlawn Farm' which is owned and occupied by Veolia. The nearest privately owned residence is located approximately 3.7 km away. The Proponent has operated the waste management facility on the site since September 2004.

### 3. APPROVAL HISTORY

The Bioreactor operates under a Development Consent (DA 31-02-99) and Project Approval (MP 10\_0012).

On 30 November 2000, the then Minister granted Development Consent (DA 31-02-99) to Veolia for the construction and operation of the Woodlawn Waste Management Facility (WWMF). The consent was granted following a Commission of Inquiry and includes the Crisps Creek Intermodal Facility (Crisps Creek IMF) and the Woodlawn Bioreactor (the Bioreactor). The consent allows for the receipt of up to 500,000 tonnes per annum (tpa) of putrescible waste, solely from Sydney.

The Development Consent has been modified on one occasion (11 August 2010) by the Executive Director, as Delegate of the Minister for Planning (DA 31-02-99 MOD 1) to receive up to 50,000 tpa of waste by road from LGAs within the vicinity of the facility.

On 16 March 2012, the Planning Assessment Commission, as Delegate of the Minister for Planning and Infrastructure, granted Project Approval (MP10\_0012) under Part 3A of the EP&A Act for the Woodlawn Waste Expansion Project, to allow an increase in the maximum input rate for the bioreactor from 500,000 tpa to 1.13 Million tpa.

The Proponent also holds separate approvals for an alternative waste treatment (AWT) facility and a wind farm within the Woodlawn Eco-Precinct. The location and boundary of the Woodlawn Eco-Precinct and surrounding land uses are outlined in **Figure 2**.

### 4. PROPOSED MODIFICATION

On 18 December 2015, the Proponent lodged a section 75W modification application (MP 10\_0012 MOD 1 and DA 31-02-99 MOD 2) seeking approval to increase the storage capacity of leachate and mine void stormwater within existing dams on the site.

The additional storage volume would be achieved by:

- transferring stormwater currently stored in Evaporation Dam 3 South (EDS3) to Evaporation Dam (ED2); and
- using ED3S (once emptied of stormwater) to store treated leachate collected from the mine void.

Following the Proponent's Response to Submissions, the Proponent advised that it would initially only use the southern portion off ED3S known as ED3S-S to store leachate. The remainder of ED3S would only be used to store leachate if in the event ED3S-S fills faster than expected and additional short-term leachate storage is required. **Figure 3** illustrates the locations of the key site features and proposed changes.

The proposal would utilise existing dams and piping infrastructure at the site to gain additional storage volume for treated leachate and mine void stormwater. The proposed modification would enable the facility to store up to 111 MegaLitres (ML) of additional treated leachate in ED3S-S. ED2 has capacity to store 846 ML of additional mine void stormwater.

A detailed description of the modification is provided in **Table 1**.

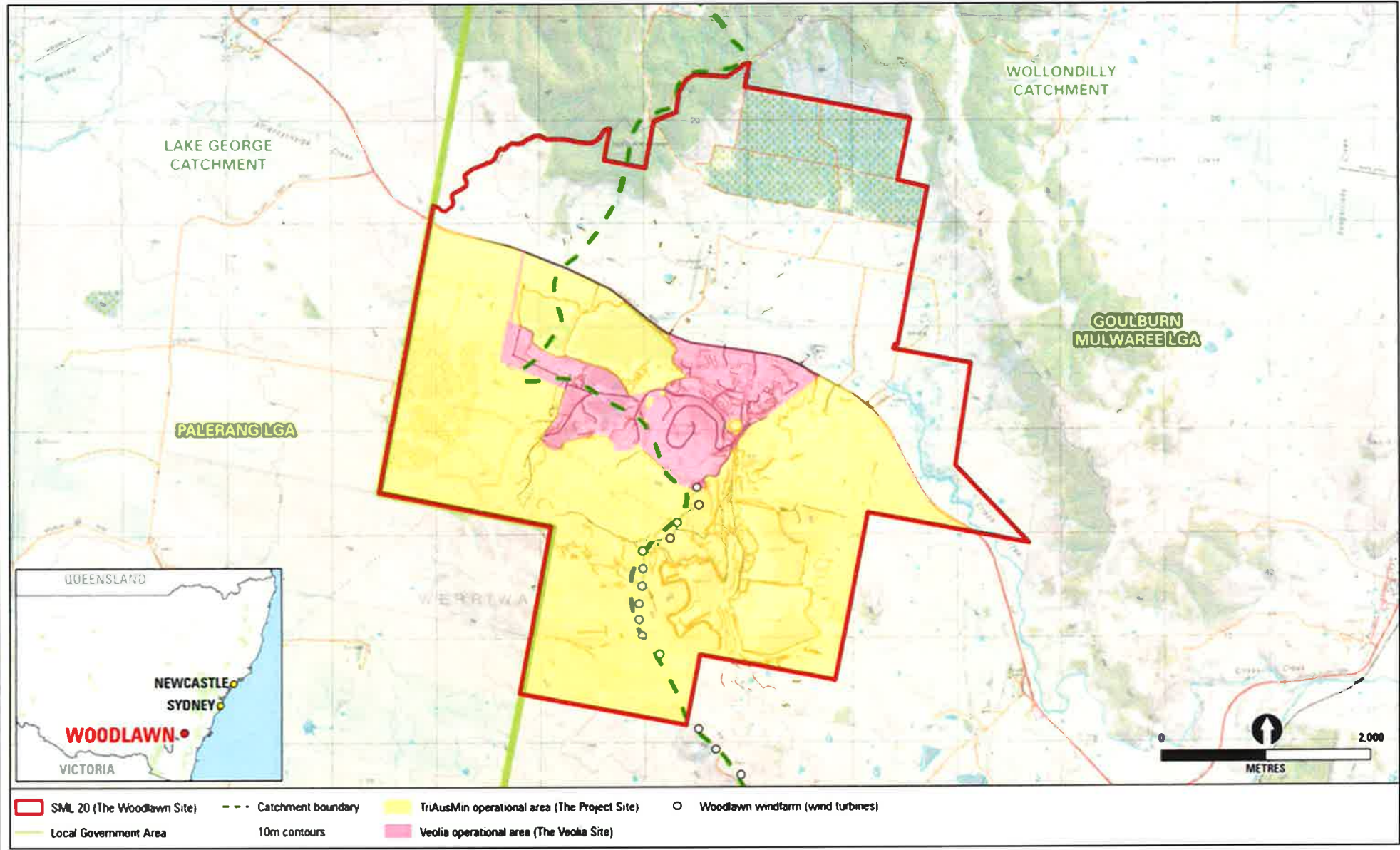
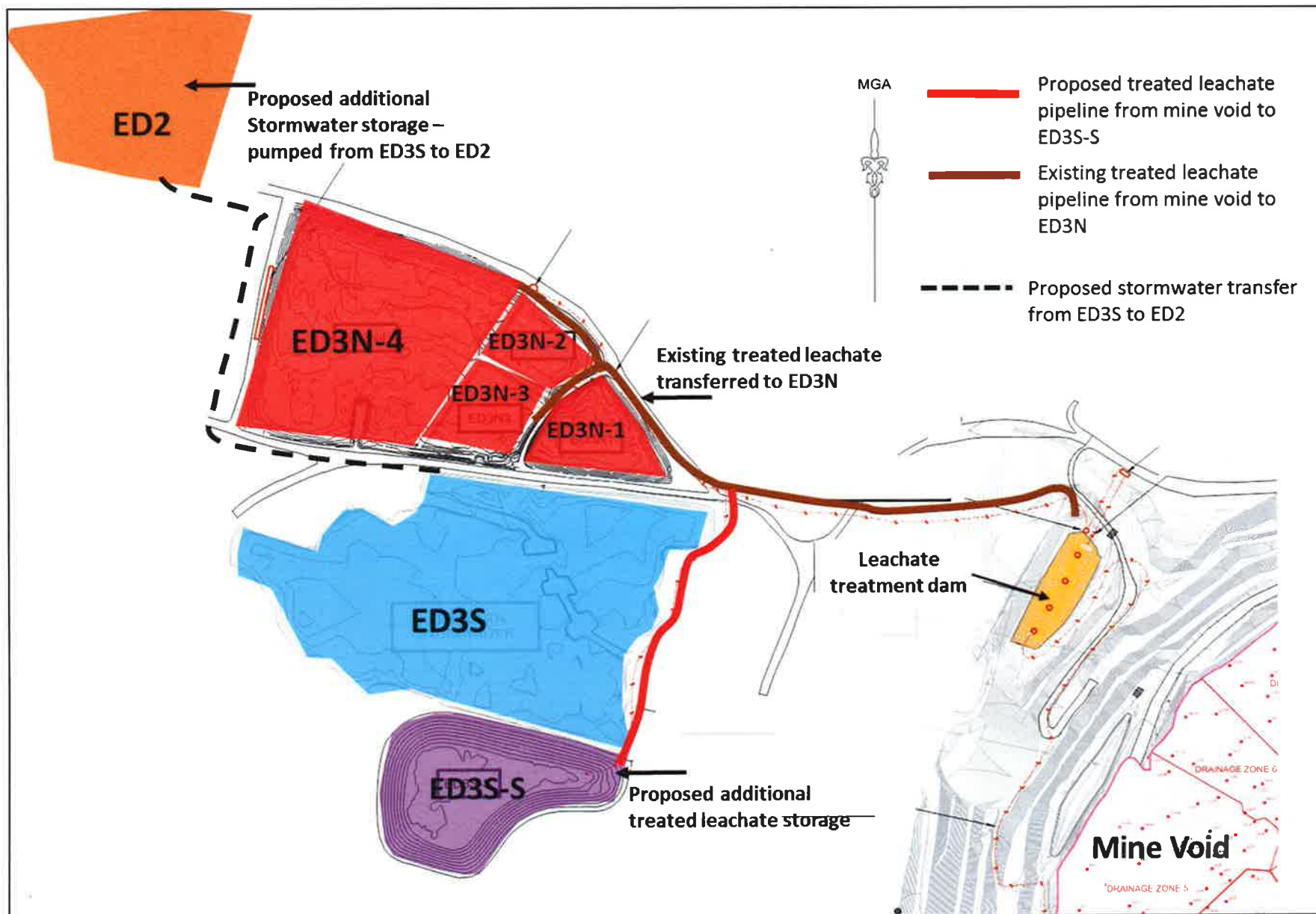


Figure 2: Site Layout (Source: Proponent).





**Figure 3:** Detail of Evaporation Dam 3 (Source: Proponent).  
**Note.** Pipelines and location of dams are show for illustration purposes only

**Table 1: Modification Description**

Proposed Aspect	Description
Evaporation Dam 2 (ED2) (shown in orange on Figure 3)	<ul style="list-style-type: none"> <li>ED2 currently does not receive any runoff from external sources. The dam stores rainfall and runoff generated only within its footprint.</li> <li>ED2 is proposed to be used to store and evaporate stormwater from the mine void which is currently being achieved in the southern half of ED3S.</li> </ul>
Southern half of Evaporation Dam 3 (ED3S, shown in blue and purple in Figure 3)	<ul style="list-style-type: none"> <li>ED3S currently receives stormwater that is pumped out from the mine void. This dam also has 2 lagoons separated by a break wall.</li> <li>It is proposed to store treated leachate from the bioreactor in ED3S-S, in addition to the ED3N lagoons.</li> <li>ED3S-S is currently empty, lined and ready for use as storage for treated leachate.</li> <li>It is proposed that water currently stored within ED3S would be transferred to ED2, and then it would be lined and used to store leachate, should ED3S-S be full.</li> <li>Approximately 10% of the storage area within the northern lagoon of ED3S is proposed to be used as a sump to facilitate stormwater transfer from the mine void to ED2.</li> </ul>
Above ground pipes	<ul style="list-style-type: none"> <li>A pump and pipe system is proposed to be installed to regulate and handle the leachate flow and stormwater transfer between the mine voids, ED3S, ED3S-S, ED3N and ED2.</li> </ul>

The modification is requested on the basis that leachate storage within the existing Evaporation Dam ED3N is nearing capacity at the site and additional storage volume is required. There is also concern about the long-term ability of the site to control leachate levels within the waste mass. If leachate levels build up within the landfill, the site's environmental performance would be compromised, potentially leading to increased odour emissions, discharge of contaminated water and reduced capture of biogas from the landfill.

## 5. STATUTORY CONSIDERATION

### 5.1 Section 75W

The Bioreactor Development Consent (DA 31-02-99) was originally approved under Part 4 of the EP&A Act, as State Significant Development under the Act. Under Clause 8J(8) of the *Environmental Planning and Assessment Regulation 2000*, a development consent granted by the Minister for Planning under Part 4 of the EP&A Act relating to State Significant Development is to be modified under section 75W of the Act.

The expansion project (MP10\_0012) was originally approved under Part 3A of the EP&A Act. Although Part 3A was repealed on 1 October 2011, the projects remains 'transitional Part 3A projects' under Schedule 6A of the EP&A Act, and hence any modification to the approvals must be made under the former section 75W of the EP&A Act.

The Department is satisfied the proposed changes are within the scope of section 75W of the EP&A Act and do not constitute a new application.

### 5.2 Approval Authority

The Minister for Planning is the approval authority for the application. However, the Acting Executive Director Key Sites and Industry Assessments may determine the application under delegation as:

- the relevant local council has not made an objection; and
- a political disclosure statement has been made but only in respect of a previous related application; and
- there are less than 10 public submissions in the nature of objections.

## 6. CONSULTATION

The Department made the modification application publicly available on its website, and consulted with Goulburn Mulwaree Council, Palerang Council and State agencies on the proposed modification. The Department also notified adjoining landholders and the Tarago and District Progress Association Incorporated (TADPAI).

### 6.1 Submissions

**The EPA** raised concerns about the proposal and requested additional information relating to:

- odour and air quality impacts; and
- the long-term operation of the facility (as the proposal is only a short-term solution).

**The OEH** raised no objection and noted:

- impacts on threatened species have been adequately considered; and
- the OEH does not have a copy of Veolia's Environment Management Plans and therefore cannot comment on the adequacy of proposed measures for any unexpected Aboriginal objects.

**DPI-Water** raised no objection to the proposed modification and noted:

- a Works and Land Use Approval is not required under the Water Management Act 2000;
- the ED3S evaporation dam is to be lined appropriately to limit the potential for contamination of groundwater or surface water sources; and
- the proposed use of the existing ED2 and ED3S evaporation dams is unlikely to cause further significant impact to surrounding surface or groundwater sources.

**DPI-Resources and Energy** raised no objection and noted:

- a Special (Crown and Private Lands) Lease 20, held by Heron Resources Ltd for the Woodlawn Zinc-Copper Project exists over the site; and
- discussions are ongoing between the Proponent for the Woodlawn Zinc-Copper Project and the Proponent and recommends ongoing consultation between the parties.

**WaterNSW** raised no objection and noted:

- the modification is a short-term solution and major changes to the leachate management of the bioreactor are required in the near future, which may include appropriate treatment and discharge to the environment;
- it wishes to be consulted regarding any further changes to stormwater or leachate management to the site; and
- it requests changes to conditions of the existing consent to include WaterNSW as an agency to be consulted on soil, water, leachate management, landfill closure and rehabilitation aspects.

**Goulburn-Mulwaree Council** raised no objection and made no comments on the proposal.

**Palerang Council** raised no objection to the proposed modification and advised it does not wish to make a submission provided conditions regarding operations on roads within Palerang are not affected.

**DPI-Fisheries and Agriculture** advised there were no issues regarding the proposal.

There was **one public submission** from the **TADPAI**, which objected to the proposal. The TADPAI raised a number of concerns about the proposed modification including:

- the reason for the increase in odour emissions over the last two years (2014-2015) has not been clearly identified;
- odour predictions based on the original Environmental Assessment are incorrect;
- lack of stakeholder consultation with the local community regarding the proposed modification;

- the proposal does not provide a long-term solution, as the leachate evaporation dam has the potential to fill up within two years;
- the Tarago township has experienced a large number of odour escape incidents of high intensity, although it is six kilometres from the site.

## 6.2 Response to Submissions

On 22 June 2016, the Proponent submitted a Response to Submissions (RTS). The RTS provided additional information to address the issues raised in submissions including the need for a long-term leachate management solution and additional odour modelling. The RTS was renotified to the EPA, Water NSW and TADPAI.

On 18 August 2016 and 2 September 2016 the Proponent submitted additional information, clarifying it would initially only use the southern portion off ED3S known as ED3S-S to store leachate. The remainder of ED3S would only be used to store leachate if in the event ED3S-S fills faster than expected and additional short-term leachate storage is required.

Following the RTS and the additional information submitted by the Proponent, the **EPA** advised it supports the proposal, noting:

- the Proponent has developed treatment criteria to ensure treated leachate transferred to ED3S-S does not become more odorous than predicted; and
- a condition should be included requiring the Proponent to submit a proposal outlining the long-term leachate management solution for the site.

**TADPAI** advised it provisionally supports the proposal provided:

- a permanent leachate treatment facility is constructed before the end of 2017;
- the Proponent meets with TADPAI on a regular basis (no less than every three months) to review reported odour incidents, incident resolution, gas capture and changes in bioreactor operations; and
- a review process is established to ensure adequate resolution of all odour incidents with the support of the EPA.

These issues have been discussed in the assessment below, and where appropriate recommended conditions have been included to address TADPAI's concerns.

## 7. ASSESSMENT

The Department considers the key issues associated with the proposed modification are:

- surface water and leachate management, and
- odour.

All other issues are considered in **Table 1** below.

### 7.1 Surface water and leachate management

The Woodlawn waste bioreactor is approaching its capacity to appropriately manage leachate levels in the waste mass. Currently, leachate is extracted from the waste mass then treated to reduce odour and then pumped to ED3N for storage and evaporation. However, ED3N is running out of storage capacity. The Proponent therefore seeks approval to provide additional storage capacity of leachate in ED3S-S and mine void stormwater in ED2.

The Department considers there are a number of key elements to consider in determining the proposal, including:

- the time it would take for the storage dams to reach capacity;
- the integrity of the dams to store leachate and stormwater from the mine void; and
- ensuring key environmental objectives are achieved including minimising odour impacts and maintaining the site as a zero contaminated water discharge site.

### Leachate Storage

The Proponent advises the proposed use of ED3S-S is expected to provide sufficient capacity to store leachate for approximately 16 months or until December 2017. However, the Department acknowledges there is potential for ED3S-S to fill more quickly depending on leachate extraction rates and weather conditions.

Should additional storage capacity be required, the Department notes ED3S is proposed to be used as an overflow to meet any shortfall. The Proponent estimates ED3S would become full under the worst case scenario within 8 months to 3.5 years.

The current proposal would therefore not solve the problem of providing a long-term leachate management solution for the site. The EPA also raised concerns about the short-term nature of the proposal and suggested a condition requiring the Proponent to prepare a long-term leachate management concept proposal.

While the Department considers a long-term leachate management solution is required, the Department supports the proposed modification as a short-term measure to alleviate the immediate lack of storage capacity for treated leachate. The Department notes if additional leachate storage is not brought on-line soon, leachate extraction rates from the waste pit would decrease, potentially compromising the environmental performance of the site by increasing odour emissions and reducing biogas extraction rates. Further, the Department notes the receipt of additional waste at the site is dependent on the Proponent implementing a long-term leachate management solution for the site.

The Department also considers using ED3S-S for leachate storage would provide sufficient time for the Proponent to develop and implement a long-term leachate management solution for the site. In this regard, the Department notes the Proponent has committed to preparing a long-term leachate management solution and has commenced discussions about potential options with the EPA. The Department has therefore recommended conditions requiring the Proponent to prepare and implement a long-term leachate management solution for the site before the end of 2017.

The Department has also recommended conditions requiring: ED3S-S to be lined prior to storing leachate (to minimise the risk of leakage); and the Proponent to undertake quarterly monitoring of the capacity of ED3S-S to ensure sufficient volume is available until the long-term management solution comes on line. If in the event ED3S-S fills more quickly, the Department is satisfied ED3S could potentially be used for additional leachate storage provided it was appropriately lined and the Proponent has approval for a long-term leachate management solution in place. The Department has recommended appropriate conditions accordingly.

### Stormwater Storage

The proposal seeks approval to use ED2 to store stormwater runoff captured from the dams and sumps within and around the mine void. The water management system is designed to keep the stormwater runoff separate from the waste and leachate. Managing the site's stormwater effectively is important to ensure stormwater and leachate are separated and the site remains a zero contaminated water discharge site.

The Proponent's assessment predicts ED2 would have sufficient capacity to store stormwater from the mine void without exceeding its maximum water level. During the wettest annual rainfall scenario the assessment predicts ED2 would fill up but not spill. During drier conditions, the dam would not fill up.

Based on the Proponent's modelling, the Department is satisfied ED2 has sufficient capacity to store mine void stormwater. However, the Department notes the Proponent's assessment identifies seepage is likely to occur from ED2. To ensure the integrity of ED2 is sufficient, the Department has recommended conditions requiring ED2 to be lined to minimise the risks of leaking acid mine drainage.



The Department has also recommended conditions requiring:

- no leachate to be discharged into ED2;
- a surface water monitoring program to be prepared and implemented, to monitor the quality and quantity of water stored in ED2; and
- a management plan for ED2 to be prepared and included in the site's Landfill Environmental Management Plan.

### Conclusion

Overall, the Department supports the modification and considers it to be an appropriate step in adaptively managing the current shortfall in treated leachate and mine void stormwater storage capacity at the site. While the proposal would only provide a short-term solution, the Department is satisfied the proposal would provide sufficient time for the Proponent to implement a long-term sustainable leachate storage solution for the site.

The Department has recommended conditions requiring a long-term leachate management plan to be implemented by 2017 (subject to necessary approvals) and a suite of conditions to appropriately manage any potential residual impacts associated with the proposal. Subject to the recommended conditions the Department is satisfied this aspect of the proposal is acceptable.

## **7.2 Odour**

The key odour issue associated with the proposal relates to the potential for increased odour emissions to be generated from the additional leachate storage in ED3S-S. Additionally, if the leachate storage capacity is not increased at the site, leachate extraction levels would be significantly reduced which would potentially increase odour emissions from the mine void.

The Department notes the most recent Odour Audit (Independent Odour Audit number 4) includes 68 odour complaints for the preceding period, which is an increase of 57% since the 2013/2014 period.

The Proponent's Environmental Assessment notes odour audits found elevated odour emissions due to insufficient treatment in the leachate aeration dam system, which is a critical process within the leachate management system. The assessment estimated the potential increase in odour emissions would be insignificant given the distance to the closest receptor is approximately 1.6 km from the site. The assessment predicted the additional leachate storage would increase overall odour emissions by 17%, but it would not cause adverse off-site odour impacts provided the site's leachate aeration dam system continues to be operated and managed effectively.

The EPA advised it continues to receive complaints about odour from the premises, including complaints further than 1.6 km away from the site. The EPA recommended the Proponent undertake odour dispersion modelling to demonstrate the additional leachate storage would not cause adverse off-site odour impacts.

In response, the Proponent submitted odour dispersion modelling which confirmed there would be no off-site odour impact from the additional leachate storage. The Proponent also suggests the increase in odour from the additional leachate storage would be offset by the ability to increase landfill biogas capture rates (due to the decrease of leachate within the waste mass). The EPA is satisfied with the findings of the odour dispersion modelling and notes odour from the proposed modification would not impact offsite receivers. The EPA also acknowledged the Proponent has developed criteria to ensure treated leachate transferred to ED3S-S does not become more odorous than predicted.

The Department notes the existing Project Approval includes several conditions which requires the Proponent to audit and report on odour emissions, including requirements to:

- undertake annual odour audits, including a review of odour complaints;
- publicly report on action it proposes to take regarding the findings of odour audits;
- report to the Department with a response to any recommendations contained in the audit report; and
- implement the recommendations of the first independent odour audit prior to the commencement of the expanded operations.

Given the number of odour complaints made by the local community and the issues raised by TADPAI, the Department has also recommended conditions requiring:

- the recommendations of all the preceding odour audits be implemented prior to receiving additional waste associated with the Expansion Project (MP 10\_0012);
- the Proponent to consult with TADPAI regarding the operations and progress towards improving the leachate management, gas extraction and odour issues at the site; and
- only leachate that has been treated sufficiently to be discharged into the storage ponds, thereby potentially reducing a potential odour source.

The Department also notes Environmental Protection License No 11436 (issued by the EPA) manages the facility which includes monitoring requirements for a range of air quality pollutants. The Department is satisfied that any potential odour and air quality impacts associated with the proposed modification would be appropriately managed through the EPL, existing conditions of approval and proposed amendments to the conditions, which set strict operational limits and comprehensive monitoring, management and audit procedures.

Overall, the Department is satisfied the proposed modification would not lead to any significant air quality impacts beyond those already assessed and approved, provided the sites' operations are managed appropriately to minimise odour generating sources and to maximise gas extraction.

### 7.3 Other Issues

Other issues are discussed in **Table 1** below.

**Table 1: Assessment of Issues**

<b>Issue</b>	<b>Consideration</b>	<b>Recommendation</b>
<i>Complaints Mechanism</i>	<ul style="list-style-type: none"> <li>• The Department notes the existing Consent includes Complaints Procedures (Condition 160 and 161). The Department has recommended additional conditions for complaints handling, to ensure the Consent is consistent with the Approval for the Expanded Operation.</li> <li>• The Project Approval includes a condition (Schedule 7, Condition 7) for the handling of complaints and for the public reporting of the response or action taken to resolve the complaint. To strengthen these requirements the Department has recommended an additional condition for each instrument, requiring the Proponent to submit an annual report to the Department of the complaints for that year and the action taken.</li> </ul>	The Department has recommended a condition requiring annual reporting on complaints and the action taken, to be submitted to the Department.
<i>Stormwater Quality Criteria</i>	<ul style="list-style-type: none"> <li>• The Proponent sought to increase the stormwater quality discharge limits imposed on the approval (Condition 65B). The limits were imposed to ensure the stormwater is kept free of leachate.</li> <li>• The Department notes the limits imposed are very low. For example, the original approval sets an ammonia limit of 0.03 mg/L which is lower than the Australian Drinking Water Guideline (0.5 mg/L).</li> <li>• The EPA does not support increasing the limit, but instead has suggested the limits be removed given the modification instruments contain a number of other conditions requiring the Proponent to ensure stormwater is kept free of leachate and to monitor compliance with that objective.</li> <li>• The EPA advised that it would enforce compliance with this requirement through the EPL by way of licence conditions and discharge limits that could be reviewed / refined as required.</li> <li>• Based on the EPA's advice and the existing conditions which require the Proponent to keep the stormwater free of leachate, the Department is</li> </ul>	The Department has recommended the condition be amended to remove the discharge limits.

<i>Issue</i>	<i>Consideration</i>	<i>Recommendation</i>
	satisfied that the discharge limits can be removed from the approval.	
<i>Construction Management</i>	<ul style="list-style-type: none"> <li>The Department is satisfied potential construction impacts associated with the proposal would be minor and temporary in nature.</li> <li>The Department also notes existing conditions of approval would appropriately manage and mitigate potential dust, noise, soil, water and traffic issues during the construction phase.</li> </ul>	The Department considers the existing conditions appropriately address potential construction impacts.

## 8. CONCLUSION

The Department has assessed the modification application and supporting information in accordance with the relevant requirements of the EP&A Act. The proposed modification is considered appropriate on the basis that it would:

- appropriately manage the current shortfall in treated leachate and mine void stormwater storage capacity at the site;
- allow leachate levels within the waste mass to be appropriately managed which would in-turn minimise odour emissions and increase biogas extraction rates; and
- provide sufficient time for the Proponent to implement a long-term sustainable leachate storage solution for the site.

The Department has recommended conditions requiring a long-term leachate management solution to be implemented by 2017 (subject to necessary approvals) and a suite of conditions to appropriately manage any potential residual impacts associated with the proposal.

Consequently, it is recommended the modification be approved subject to the recommended conditions.

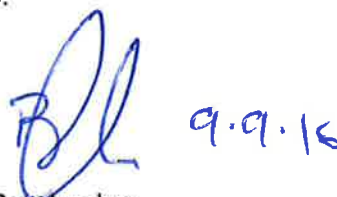
## 9. RECOMMENDATION

It is **RECOMMENDED** the Acting Executive Director, Key Sites and Industry Assessments, as delegate of the Minister for Planning:

- considers** the findings and recommendations of this report;
- approves** the application under section 75W, subject to conditions; and
- signs** each notice of modification (Appendix A).



Anthony Witherdin  
**Acting Director**  
**Modification Assessments**



Ben Lusher  
**Acting Executive Director**  
**Key Sites and Industry Assessments**

## **APPENDIX A: NOTICE OF MODIFICATION**

---

The Notice of Modification can be found on the Department of Planning and Environment's website at the following address:

[http://majorprojects.planning.nsw.gov.au/index.pl?action=view\\_job&job\\_id=7447](http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7447)

## **APPENDIX B: SUPPORTING INFORMATION**

---

The following supporting documents and supporting information to this assessment report can be found on the Department of Planning and Environment's website as follows:

1. Modification request

[http://majorprojects.planning.nsw.gov.au/index.pl?action=view\\_job&job\\_id=7447](http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7447)

2. Submissions

[http://majorprojects.planning.nsw.gov.au/index.pl?action=view\\_job&job\\_id=7447](http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7447)

3. Response to Submissions

[http://majorprojects.planning.nsw.gov.au/index.pl?action=view\\_job&job\\_id=7447](http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7447)