



Decision Document

Environmental Protection Act 1986, Part V

Proponent: Shire of Dardanup

Licence: L8888/2015/1

Registered office: 1 Council Drive
EATON WA 6232

Premises address: Shire of Dardanup Transfer Station
Lot 81 Banksia Road
CROOKED BROOK WA 6232
Being part of Lot 82 on Plan 403943 and bound by the coordinates:

GPS point	Longitude	Latitude
1	115.787055	-33.420536
2	115.787057	-33.420715
3	115.786692	-33.420711
4	115.786793	-33.423069
5	115.783068	-33.422324
6	115.780960	-33.426141
7	115.789621	-33.426256
8	115.798923	-33.425658
9	115.798910	-33.420517

Issue date: Thursday, 21 May 2015

Commencement date: Monday, 25 May 2015

Expiry date: Tuesday, 24 May 2030

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER), has decided to issue an amended Licence. DER considers that in reaching this decision, it has taken into account all relevant considerations and legal requirements and that the Licence and its conditions will ensure that an appropriate level of environmental protection is provided.

Decision Document prepared by: Chris Slavin
Licensing Officer

Decision Document authorised by: Caron Goodbourn
Delegated Officer



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1 Purpose of this Document

This decision document explains how DER has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.



2 Administrative summary

Administrative details		
Application type	Works Approval <input type="checkbox"/>	
	New Licence <input type="checkbox"/>	
	Licence amendment <input checked="" type="checkbox"/>	
	Works Approval amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	Category number(s)	Assessed design capacity
	62	5,000 tonnes per annual period
Application verified	Date: N/A	
Application fee paid	Date: N/A	
Works Approval has been complied with	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Compliance Certificate received	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Commercial-in-confidence claim	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Commercial-in-confidence claim outcome	N/A	
Is the proposal a Major Resource Project?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i>)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the Premises within an Environmental Protection Policy (EPP) Area	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>



3 Executive summary of proposal and assessment

The Shire of Dardanup (the Shire) operates the Dardanup Waste Transfer Station (WTS) under Licence L8888/2015/1. The WTS accepts mainly domestic household wastes, such as general putrescible waste (greenwaste food scraps), white goods, hazardous waste such as car batteries, gas bottles, DrumMuster products and waste oil and inert wastes such as glass, aluminium cans, and scrap metal. The WTS does not accept biomedical waste, asbestos containing material, contaminated waste, animal carcasses or commercial and industrial waste. Wastes not accepted at WTS are referred to Cleanaway Waste Management's (Cleanaway) Class III landfill site adjacent to the WTS.

The construction and operation of the transfer station was not formally assessed through a Works Approval or Licence amendment application.

All putrescible waste is relocated to Cleanaway's Class landfill III site for disposal. Greenwaste is processed through the Bunbury Harvey Regional Council Organic Processing Facility. Waste Oil is removed offsite by Wren Oil as part of a state wide used oil collection program. Used oil containers are also separated from the general waste stream and collected for separate processing. Scrap metal and aluminium are collected by a private metal merchant for processing. Car battery's, light globes and other household items are logged in on arrival and stored in purpose built containers. The WTS operates from 08:30 – 16:00 on Monday, Wednesday, Friday, Saturday and Sunday. The site is closed on Tuesdays and Thursdays.

The Shire had operated the site under Licence L7188/1997/9 since 1999, which was licensed as a Category 64: Class II or III putrescible landfill only. The Shire of Dardanup acquired Lot 1 Banksia Road, Dardanup in 1994. The land was acquired for the specific purpose of establishing a waste landfill site to meet the waste needs of the community. In 1998, the first landfill cell was constructed within naturally low permeable sandy clays and clayey sands. However as sandy layers were encountered additional clay lining was required. The Dardanup putrescible landfill was the first landfill in the region at the time to have a dedicated clay lining and underdrainage system to a leachate pond. Surface drainage from upslope areas was diverted around the landfill by a diversion drain. The cells were active for over six years between January 1999 and November 2006.

Since November 2006, the Dardanup putrescible landfill site has ceased to operate as a landfill site. The Shire has instead operated a transfer facility only.

This Licence amendment has been initiated by the Shire to remove Category 64 from the Licence and all associated conditions, and to formally assess the premises as a Category 62: solid waste depot only. The main potential emissions from the premises are odour from the acceptance and storage of putrescible waste and potentially asbestos contaminated waste through the acceptance of Construction and Demolition (C&D) waste. Other potential emissions are emissions to land from accidental spills and discharges of waste oil and battery acids.



4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
General conditions	L1.2.1	<p><u>Emission Description</u> <i>Emission:</i> Stormwater contaminated with sediment and residue from storage of putrescible waste and potential contamination with hazardous liquid waste such as used oil and battery acid. <i>Impact:</i> Contamination of surrounding land and surface water drainage systems. Potential impacts on ecology of surface water from the addition of nutrients, hydrocarbons and heavy metals. <i>Controls:</i> Cut-off drain sales are located throughout the site to ensure stormwater does not become contaminated with waste stored onsite. There is also a wedge pit area near the greenwaste storage area which acts as a sump for any stormwater that is potentially contaminated. Putrescible waste is stored in industrial skip bins. Used oil is stored in a double banded holding tank. Vehicle batteries are stored in designated impervious pallets.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Insignificant <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Low</p> <p><u>Regulatory Controls</u> Condition 1.2.1(a) has been added to the Licence, which replaces condition 17 on the previous Licence which requires the Shire to divert contaminated stormwater to a sump. Condition 1.2.1 (b) has been added to the Licence which replaces condition 16</p>	<p>General provisions of the <i>Environmental Protection Act 1986</i></p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations, 2004</i></p> <p>Application supporting documentation</p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>of the previous licence requires the Shire to ensure that stormwater drains are kept clear for their integrity and functionality.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Insignificant <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Low</p>	
Premises operation	L1.3.2 L1.3.4 - L1.3.9	<p>Licence condition 1.3.2 has been added to the Licence to ensure that non confirming waste is stored appropriately and removed to an appropriately authorised facility as soon as practicable.</p> <p>Licence condition 1.3.4 has been added to the Licence, which replaces part of condition 5 of the previous Licence to ensure that the Shire maintain suitable security measures at the premises to restrict unauthorised access.</p> <p>Licence condition 1.3.5 has been added to the site which replaces condition 8 of the previous Licence to ensure the WTS contains contact information for the general public and outlines the waste types are accepted at the WTS.</p> <p>Licence condition 1.3.6 has been added to the Licence to ensure measures in place to prevent the infestation of pests and vermin at the premises.</p> <p>Licence condition 1.3.7 has been added to the Licence, which replaces condition part of conditions 6 & 7 of the previous Licence, which requires the Shire to ensure measures are in place to prevent windblown waste escapes from the WTS and that windblown waste is collected on a weekly basis at the WTS.</p> <p>Condition 1.3.8 has been added to the Licence, which replaces condition 10 of the previous Licence to ensure no waste is burnt at the WTS</p>	N/A



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Fugitive emissions	L 1.3.1, L1.3.3 L4.1.1 – L4.1.2	<p><u>Emission Description</u> <i>Emission:</i> Dust from static sources such as roadways or via vehicle or machinery movements on the Premises and asbestos dust from the acceptance of C&D waste. There is a potential that asbestos waste may be inadvertently accepted within loads of C&D waste. <i>Impact:</i> Asbestos fibres can have severe health impacts including asbestosis and mesothelioma. Reduced local air quality. The nearest residential receptor is 1km away Cleanaway's landfill facility is located immediately south of the premises. <i>Controls:</i> The WTS does not accept Asbestos Containing Materials (ACM). All ACM are redirected to the Cleanaway landfill facility.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Moderate <i>Likelihood:</i> Rare <i>Risk Rating:</i> Low</p> <p><u>Regulatory Controls</u> Licence condition 1.3.1 has been added to the Licence to ensure the Shire only accepts waste as specified in the condition and combines, is less than 5,000 tonnes per year and outlines that no ACM shall be accepted.</p> <p>Licence condition 1.3.3 has been added to the Licence, which replaces part of condition 3 of the previous Licence to ensure waste is stored and processed as specified in the condition to reduce the risks to public health and environmental harm. This condition outlines that C&D waste may not be crushed</p> <p>An improvement condition has been added to the Licence for the Shire to develop, and operate in accordance with, an Asbestos Management Plan (AMP). An AMP is required by all licensees who operate a Category 62; solid waste depot, which accepts</p>	<p>Guidelines for managing asbestos at construction and demolition waste recycling facilities, Department of Environment Conservation</p> <p>S.49 of the <i>Environmental Protection Act 1986</i></p>



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Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>C&D waste, as asbestos containing materials (ACM) may be present in this waste stream. The AMP is to be written in accordance with DER's asbestos guidelines. The AMP will assist with reducing potential ACM at the WTS.</p> <p>The previous Licence contained conditions relating to fugitive emissions (condition 13 and 14) Reference to fugitive dust conditions from construction works has been omitted in accordance with Departmental reform as published on DER's website under "Administrative changes implemented within the Department of Environment Regulation" www.der.wa.gov.au. Dust emissions can be sufficiently regulated under section 49 of the <i>Environmental Protection Act 1986</i> therefore no conditions for fugitive duct conditions have been included on this licence.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Moderate <i>Likelihood:</i> Rare <i>Risk Rating:</i> Low</p>	
Odour		<p><u>Emission Description</u> <i>Emission:</i> Odour generated from storage and handling of putrescible wastes. <i>Impact:</i> Reduced local air quality. Amenity nuisance for person's offsite. The nearest residential receptor is 1km away. <i>Controls:</i> Putrescible waste bins are regularly collected and emptied by Cleanaway at least once every two days or sooner if requested by Shire employees.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Insignificant <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Low</p> <p><u>Regulatory Controls</u></p>	S.49 of the Environmental Protection Act 1986



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>The previous Licence contained a condition relating to odour. Reference to fugitive odour conditions has been omitted in accordance with Departmental reform as published on DER's website under "Administrative changes implemented within the Department of Environment Regulation" www.der.wa.gov.au. Odour emissions can be sufficiently regulated under section 49 of the <i>Environmental Protection Act 1986</i> therefore no conditions for fugitive duct conditions have been included on this licence.</p> <p><u>Residual Risk</u> <i>Consequence</i>: Insignificant <i>Likelihood</i>: Rare <i>Risk Rating</i>: Low</p>	
General Monitoring	L2.1.1 – L2.1.4	<p>Condition 2.1.1 has been added to the Licence, which replaces condition part of 21 and all of condition 24 to ensure the Shire collects groundwater samples in line with the relevant Australian Standards.</p> <p>Condition 2.1.2 has been added to the Licence, which replaces part of condition 22 to ensure the Shire conducts bi-annual monitoring at least 5 months apart.</p> <p>Condition 2.1.3 has been added to the Licence to ensure all monitoring equipment used at the WTS complies with the conditions of the licence and calibrated in accordance with the manufacturer's specifications.</p> <p>Condition 2.1.4 has been added to the Licence to ensure the Shire notifies DER if there is a discrepancy with calibration of monitoring equipment used at the premises</p>	N/A
Monitoring of inputs and outputs	L2.2.1	<p>Condition 2.2.1 has been added to the Licence to ensure the Shire accurately monitors the tonnages of wastes coming into the premises and waste leaving the premises.</p>	N/A



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Ambient Environmental Quality Monitoring	L2.3.1	<p>Condition 2.3.1 has been added to the Licence, which replaces part of previous condition 22 for the Shire to conduct six monthly groundwater monitoring at the location of where the previous landfill cells were active. In 1999, groundwater seepage into the active cell was identified during an inspection. This was considered to have been caused by sub-surface water flow creating a head on the liner that compromised its integrity and highlighted a possible connectivity to the groundwater table. A cut-off drain was installed immediately up-hydraulic gradient of the cell to determine whether it was due to sub-surface water flow or groundwater. The cause was never determined; however leakage into the cell appeared to have later ceased.</p> <p>Groundwater monitoring results in 2001 and 2002 identified low pH and elevated nitrate levels in bores located downslope of the landfill, compared to those located upslope. This suggested leachate entering the groundwater from the landfill. At the time, DER requested the Shire investigate the integrity of the cell liner, with particular attention to the integration with the leachate collection system. An inspection in 2003 raised concerns over the small volume of leachate in the leachate collection dam, which suggested leakage from the system. The Shire were advised to monitor and track the water analysis trends from the groundwater bores located down hydraulic gradient from the landfill. Groundwater monitoring results in 2011 showed low pH and levels.</p> <p>The site is located in a known groundwater recharge area for the Leederville formation, which serves as a domestic water supply for the Dardanup area.</p> <p>The subsurface conditions comprise inter-layered sands, sandy clays and clayey sands. The soils at the base level have low permeability; however there is the occasional presence of more permeable sandy lenses. This was encountered during construction of the first stage in 1998, where suitable clay material was not found within the excavated material. The Shire was subsequently instructed to clay line the cell to meet a permeability index of 1×10^{-9} m/s. Surface flow from areas upslope of the landfill needed to be controlled by the provision of a surface drain to collect and divert it away</p>	



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Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		from the cells. Following seepage into the active cell in 1999, a cut-off drain was constructed immediately up-gradient from the cell; however this has been progressively back-filled with inert waste and is now no longer functional.	
Information	L4.1.1 – L4.1.3 L4.2.1 L4.3.1	<p>Condition 4.1.2 has been added to the Licence, which replaces condition 29 of the previous Licence for the Shire to submit an Annual Audit Compliance Report (AACR) outlining compliance with the conditions of the licence for the annual period.</p> <p>Condition 4.1.3 has been added to the Licence to ensure the Shire maintains a complaint register.</p> <p>Condition 4.2.1 has been added to the Licence, which replaces part of condition 27 that requires the Shire of provide an Annual Environmental Report.</p> <p>Condition 4.3.1 has been added to the Licence to ensure the Shire notifies DER when there is breach of a limit in the Licence and to submit calibration reports, when required.</p>	N/A
Licence Duration	N/A	The Licence was issued on 24 May 2015 for a period of 1 year. In accordance with DER's new Guidance Statement: <i>Licence Duration</i> DER will amend the expiry date of the Licence to 24 May 2030. DER has considered the environmental risk of the premises, including current activities.	Guidance Statement: <i>Licence Duration</i>



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
11/04/2016	Proponent sent a copy of draft instrument	Signed waiver form received on 18 April 2016 requesting the Licence be amended as soon as possible	N/A



6 Risk Assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High



Appendix A

Premises History and Background

A study commissioned in 1988 by the South West Development Authority (Binnie & Partners, 1989) into the long-term disposal strategy for the Preston Statistical Division recommended the Shire, along with the Shires of Harvey, Capel and the City of Bunbury, form a regional council to formulate a waste strategy plan for the region. The current site at Stanley Road, Wellesley was recommended as the regional site for domestic waste (as it had recently been approved for gazettal as a refuse site in December 1988).

Further recommendations of the study indicated the preferred site for the disposal of regional industrial waste was in the scarp foothills to the south-east of Dardanup. The strategy for the Shire was therefore to consider joining the regional council at Stanley Road, or develop its own regional domestic waste facility at the yet-to-be identified industrial waste site, to reduce duplication of facilities.

The Shire later considered the conditions of entry into the regional council too restrictive and expensive, and commenced investigations into constructing its own facility. The City of Bunbury and Shire of Harvey would go on to form the Bunbury Harvey Regional Council in 1990, and established the current regional facility for domestic waste at Stanley Road.

Investigations into potential sites in the scarp foothills were undertaken over the following years, culminating in the 1992 proposal to establish a new landfill at Lot 1 on Diagram 65861 (formerly Lot 1, Wellington Location 3003) Banksia Road which, is now the Shire's WTS premises. The site was privately owned and preliminary investigations identified extensive areas of clay-rich sediments of low permeability (5.9×10^{-10} m/s), indicating its suitability as a refuse disposal facility. A major complicating factor though, was the presence of mineral sands deposits running across the site in a north-south direction.

The initial proposal and management plan was for excavated (*in situ* clay-lined) cells with an internal gravity-fed leachate collection system. This was the first of its kind at the time in the South West region. The proposal mainly focused on management; no information on cell design and specifications was provided; however later reports indicated the plan was for a series of relatively narrow parallel trenches, using cut-and-cover techniques. The site was formally gazetted as a refuse disposal site by the Health Department on 15 December 1992.

Following the commencement of licensing landfills under the EP Act in 1997 the Shire, as with all other Shires, were requested to apply for a licence for all landfill sites that had previously been approved by the Health Department. In September 1997, the Shire submitted an application, along with the original management plan from 1992. Draft licence conditions were prepared; however the licence was not issued as the Shire had not yet constructed the facility, and had entered into discussions with a local waste contractor into the potential for establishing a regional facility.

In early 1998 the Shire, who at the time was rapidly running out of landfill space commenced their own investigations into the geotechnical suitability of Lot 1 for the disposal of a higher category of waste (Golder and Associates, 1998). The Shire later resolved to operate a class II facility.

Development and early licensing

Previously in February 1998, it was determined by then Department of Environmental Protection that given Lot 1 had earlier been assessed and gazetted as a refuse disposal site, works approval would not be required for construction of the new facility under the EP Act. The Shire however, was requested to submit a compliance document upon completion of works, certifying construction in accordance with the 1992 plans.



Construction officially commenced in August 1998 and works were completed in early January 1999. Following the submission of the compliance document, draft licence conditions were sent to the Shire, advising a licence is required prior to disposal commencing.

An inspection on 2 March 1999 in response to public concerns identified the Shire commenced disposing waste at the premises several weeks prior. Several concerns were raised; one being that disposal had commenced prior to the licence being issued, along with concerns over construction of the cell liner, groundwater inflow and *ad hoc* management of waste. The Shire advised it commenced disposal due to extreme circumstances. L7188/1997/1 was issued on 29 March 1999. The site was officially opened by the then Minister for Environment in May 2000.

Construction of Cell 2

The Shire commenced construction of the second cell at the premises in late 2004. The bund wall was formed with clay sourced from development sites around the Eaton townsite. This time, the cell was constructed with a synthetic liner (Bentofix) and was completed by the end of 2004. It was noted at the time that construction was not verified by an engineer, given the use of a composite liner.

An inspection in late 2005 identified a large volume of leachate pooling in the active cell, and as such, was causing access issues to the cell for the landfill loader. In addition, leachate was expressing itself at the front end of the cell, indicating the collection system was not functioning properly.

In 2006 the Shire ceased all landfilling activities at Lot 1, diverting all waste to the now Cleanaway landfill at Lot 2. Category 64 was kept on the licence to allow the Shire time to rectify the issues with the cell wall and leachate collection system, although DER never received any formal detailed information on the completed works. The premises has operated predominately as a transfer station for municipal waste generated from the Dardanup area since the Shire's decision to cease landfilling in 2006.