



Licence

Environmental Protection Act 1986, Part V

Licensee: Downer EDI Works Pty Ltd

Licence: L8853/2014/1

Registered office: 39 Delhi road
NORTH RYDE NSW 2113

ACN: 008 709 608

Premises address: Downer EDI Works Pty Ltd
Lot 1046 Hoyle Road
HOPE VALLEY WA 6165

As depicted in Schedule 1 and being the area bound within coordinates:

Point Number	Easting	Northing	Point Number	Easting	Northing
1460	385811.089	6436,497.184	2901	385775.411	6436,401.030
2818	385769.474	6436,403.672	2902	385777.443	6436,405.597
2819	385837.609	6436,373.350	2903	385774.246	6436,407.020
2894	385912.744	6436,393.718	2918	385936.844	6436,393.725
2895	385772.214	6436,402.453	2919	385936.815	6436,497.219

Issue date: 18 June 2015

Commencement date: 22 June 2015

Expiry date: 21 June 2022

Transfer date: 12 January 2017

Prescribed premises category

Schedule 1 of the *Environmental Protection Regulations 1987*

Category number	Category description	Category production or design capacity	Approved premises production or design capacity
35	Asphalt manufacturing - premises on which hot or cold mix asphalt is produced using crushed or ground rock aggregates mixed with bituminous or asphaltic materials for use at a place or premises other than those premises.	Not Applicable	350,000 tonnes per annual period
61A	Solid Waste Facility: premises (other than premises within category 67A) on which solid waste produced on other premises is stored, reprocessed, treated or discharged onto land.	1,000 or more tonnes per year	120,000 tonnes per annual period

Conditions

This Licence is subject to the conditions set out in the attached pages.

Date signed: 12 January 2017

.....
*Officer delegated under section 20
of the Environmental Protection Act 1986*



Contents

Licence	1
Contents	2
Introduction	2
Licence conditions	6
1 General	6
2 Emissions	9
3 Monitoring	11
4 Improvements	12
5 Information	12
Schedule 1: Maps	14
Schedule 2: Reporting & notification forms	16

Introduction

This Introduction is not part of the Licence conditions.

DER's industry licensing role

The Department of Environment Regulation (DER) is a government department for the state of Western Australia in the portfolio of the Minister for Environment. DER's purpose is to advise on and implement strategies for a healthy environment for the benefit of all current and future Western Australians.

DER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DER works with the business owners, community, consultants, industry and other representatives to prevent, control and abate pollution and environmental harm to conserve and protect the environment. DER also monitors and audits compliance with works approvals and licence conditions, takes enforcement action as appropriate and develops and implements licensing and industry regulation policy.

Licence requirements

This Licence is issued under Part V of the Act. Conditions contained within the Licence relate to the prevention, reduction or control of emissions and discharges to the environment and to the monitoring and reporting of them.

Where other statutory instruments impose obligations on the Premises/Licensee the intention is not to replicate them in the Licence conditions. You should therefore ensure that you are aware of all your statutory obligations under the Act and any other statutory instrument. Legislation can be accessed through the State Law Publisher website using the following link: <http://www.slp.wa.gov.au/legislation/statutes.nsf/default.html>

For your Premises relevant statutory instruments include but are not limited to obligations under the:

- *Environmental Protection (Unauthorised Discharges) Regulations 2004* – these Regulations make it an offence to discharge certain materials such as contaminated stormwater into the environment other than in the circumstances set out in the Regulations.
- *Environmental Protection (Controlled Waste) Regulations 2004* - these Regulations place obligations on you if you produce, accept, transport or dispose of controlled waste.
- *Environmental Protection (Noise) Regulations 1997* – these Regulations require noise emissions from the Premises to comply with the assigned noise levels set out in the Regulations.

You must comply with your Licence. Non-compliance with your Licence is an offence and strict penalties exist for those who do not comply.



Licence holders are also reminded of the requirements of section 53 of the Act which places restrictions on making certain changes to prescribed premises unless the changes are in accordance with a works approval, licence, closure notice or environmental protection notice.

Licence fees

If you have a licence that is issued for more than one year, you are required to pay an annual licence fee prior to the anniversary date of issue of your licence. Non payment of annual licence fees will result in your licence ceasing to have effect meaning that it will no longer be valid and you will need to apply for a new licence for your Premises.

Ministerial conditions

If your Premises has been assessed under Part IV of the Act you may have had conditions imposed by the Minister for Environment. You are required to comply with any conditions imposed by the Minister.

Premises description and Licence summary

Asphalt Surfaces Pty Ltd (Asphalt Surfaces) constructed a Benninghoven "TBA 4000 U C" hot mix batch production type asphalt manufacturing plant in Hope Valley. The design capacity of the plant is 320 tonnes per hour, which under proposed operating hours is 350,000 tonnes per year. Actual throughput is expected to be around 150,000 tonnes per year. The site has been assessed at, and licence issued for 350,000 tonnes per annual period to allow for future increase in production. The site was purchased by Downer EDI Works Pty Ltd in December 2016.

The plant is located at Lot 1046 Hoyle Rd (corner of Conway Road) Hope Valley, approximately 28km south of Perth. The land immediately surrounding the site has been cleared and is planned for industrial development. Lot 1046 is in the Latitude 32 Development Area 1 – Flinders Precinct. *The Hope Valley Wattleup Redevelopment Project Master Plan* (Landcorp 2008) provisions specify that for Development Area 1, no residential development will be approved in the Precinct. The area to the west is not included in the Precinct but is zoned General Industry under the Town of Kwinana Town Planning Scheme Number 2. Hence there is a high level of security against residential encroachment towards the proposed asphalt plant site. Notwithstanding that, the proponent is required to demonstrate that potential impacts on neighbouring industrial premises are minimal.

Potential impacts from asphalt plants are odour, gaseous emissions, dust and noise.

The Environmental Protection Authority in Guidance Note No 3 recommends a 1,000m separation distance between asphalt plants and sensitive land uses. The nearest sensitive receptors are two residences that remain in the area zoned "general industrial" and are around 350 – 500m from the site. The next closest resident is 1.9km to the north-north-east in an area zoned "urban".

Process

A process flow diagram for the proposed facility is shown in Figure 1 below.

Raw aggregate is stored in three sided, rooved storage bins. Fine filler is stored in a storage silo. Heated bitumen is stored in four heated tanks (150 °C to 160 °C) with 15m gas displacement vents (3 x 80,000L tanks and 1 x 15,000L tank).

A front end loader transfers aggregate from storage bins into cold feed bins. Aggregates are then fed into a gas fired counter flow rotary drum dryer for heating and drying. Drum temperatures for hot mix are 160-180°C.

Exhaust air from the rotary drum dryer is directed to a coarse dust separator and then to a baghouse for the removal of fine dust.

The heated dry aggregates are conveyed from the drum dryer to the top of a mixing tower and separated into hot aggregate storage bins, dropped into a weigh hopper and then into a pug mill (mixer). Bitumen is pumped from a heated storage tank and injected into the pug mill mixer followed by filler. An extraction duct sucks steam, fumes and fine dust to the dryer drum. Other emissions from the mixing tower are also ducted to the baghouse. Filtered air from the baghouse is exhausted via a 32m stack.



All silos, mixers, conveyors and other transfer storage points within the tower are enclosed and operate under negative pressure to minimise dust and odour emissions. All potential waste products from the process (such as bag house dust, unused asphalt, waste bitumen etc.) are recycled in the process.

Newly mixed asphalt is transferred to insulated and sealed overhead storage bins for storage for up to 48 hours before loading into trucks for transportation to the paving site.

Computerized controls and monitors provide responsive control over the process, and alarms and responses can be set for when set parameters, such as the temperature in the dryer drum are exceeded.

A process flow diagram for the proposed facility is shown in Figure 1 below.

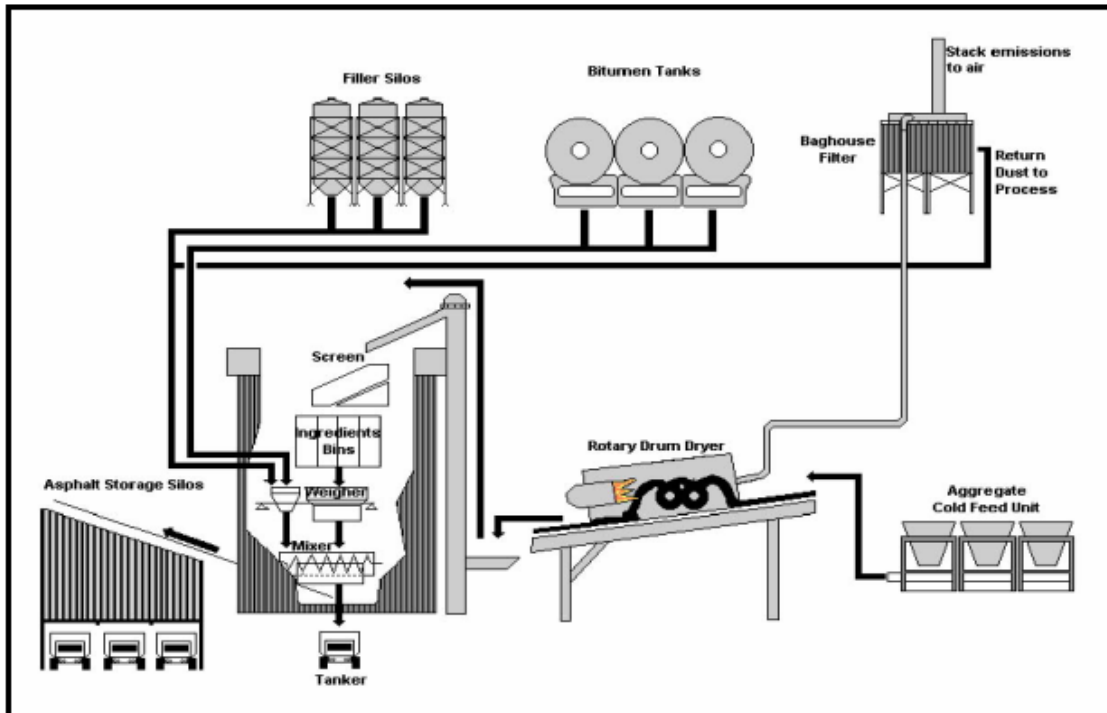


Figure 1: Process flow diagram for proposed asphalt plant.

Warm Mix asphalt

The facility will also be able to produce “warm mix” asphalt which uses a lower drum dryer temperature of 130 °C (instead of 180 °C) and adds a water foam mix at end of the dryer. This requires less energy than traditional hot mix, reduces risk of excess fume and odour from over-heating in the drum, and reduces fume and odour during truck loading.

Reclaimed Asphalt Pavement (RAP)

RAP will be crushed and screened off site and will be stored onsite in accordance with the storage requirements outlined in Main Roads WA Specification 511: Materials for Bituminous Treatments.

The facility will be able to process RAP which will not be pre-heated or dried directly by the burner in this plant. RAP will be released cold from a dedicated hopper into the pug mill mixer with heated and dried aggregate and bitumen. RAP will not be used in the process if it contains coal tar.

Emissions

Potential emission points from a hot mix asphalt facility include dust from storage bins and transfer of raw materials; odour from the transfer and storage of bitumen; dust from the drum dryer; fuming (volatile organic compounds), gases, odour and dust from the pugmill and mixing tower and stack; and odour from asphalt storage tanks and transfer. The proposal documents included an assessment of the facility against the *Environmental Guidelines on Best Available Techniques (BAT) for the Production of Asphalt Paving Mixes*,



European Asphalt Pavement Association, 2007. The assessment showed that the proposed plant meets the relevant minimum requirements.

The premises is located within Area B of the Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999. The site is not listed as a significant industrial source and therefore does not have a relevant determination for discharge of atmospheric wastes.

This Licence is for the operation of a new facility established under works approval W5481/2014/1.

The licences and works approvals issued for the Premises since 26/09/2014 are:

Instrument log		
Instrument	Issued	Description
W5481/2014/1	26/09/2014	Original Works Approval to construct plant
L8853/2014/1	18/06/2015	New application
L8853/2014/1	29/04/2016	Amendment to extend the licence period to 21 June 2022
L8853/2014/1	12/01/2017	Transfer of licence holder from Asphalt Surfaces Pty Ltd to Downer EDI Works Pty Ltd.

Severance

It is the intent of these Licence conditions that they shall operate so that, if a condition or a part of a condition is beyond the power of this Licence to impose, or is otherwise *ultra vires* or invalid, that condition or part of a condition shall be severed and the remainder of these conditions shall nevertheless be valid to the extent that they are within the power of this Licence to impose and are not otherwise *ultra vires* or invalid.

END OF INTRODUCTION



Licence conditions

1 General

1.1 Interpretation

1.1.1 In the Licence, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 For the purposes of this Licence, unless the contrary intention appears:

'Act' means the *Environmental Protection Act 1986*;

'annual period' means the inclusive period from 1 January until 31 December in a calendar year;

'AS 4323.1' means the Australian Standard AS4323.1 *Stationary Source Emissions Method 1: Selection of sampling positions*;

'averaging period' means the time over which a limit or target is measured or a monitoring result is obtained;

'CEO' means Chief Executive Officer of the Department of Environment Regulation;

'CEO' for the purpose of correspondence means;

Manager - Licensing (Process Industries)
Department of Environment Regulation
Locked Bag 33
CLOISTERS SQUARE WA 6850
Telephone: (08) 9333 7510
Facsimile: (08) 9333 7550
Email: industry.regulation@der.wa.gov.au;

'code of practice for the storage and handling of dangerous goods' means document titled "Storage and handling of dangerous goods: Code of Practice" published by the Department of Mines and Petroleum, as amended from time to time;

'dangerous goods' has the meaning defined in the *Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007*;

'environmentally hazardous material' means material (either solid or liquid raw materials, materials in the process of manufacture, manufactured products, products used in the manufacturing process, by-products and waste) which if discharged into the environment from or within the premises may cause pollution or environmental harm. Note: Environmentally hazardous materials include dangerous goods where they are stored in quantities below placard quantities. The storage of dangerous goods above placard quantities is regulated by the Department of Mines and Petroleum;

'fugitive emissions' means all emissions not arising from point sources identified in Section 2.2.

'Licence' means this Licence numbered L8853/2014/1 and issued under the Act;

'Licensee' means the person or organisation named as Licensee on page 1 of the Licence;

'NATA' means the National Association of Testing Authorities, Australia;

'NATA accredited' means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis;



'normal operating conditions' means any operation of a particular process (including abatement equipment) excluding start-up, shut-down and upset conditions, in relation to stack sampling or monitoring;

'PM' means total particulate matter including both solid fragments of material and miniscule droplets of liquid;

'Premises' means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Licence;

'Processed RAP' means RAP which has been crushed and/or screened to size for recycling into new asphalt;

'RAP' means Reclaimed Asphalt Pavement which consists of surplus plant mix or the material reclaimed from an asphalt wearing or intermediate course by cold planning;

'Schedule 1' means Schedule 1 of this Licence unless otherwise stated;

'Schedule 2' means Schedule 2 of this Licence unless otherwise stated;

'six monthly' means the 2 inclusive periods from 1 January to 30 June and 1 July to 31 December;

'Specification 511' means the document from Main Roads Western Australia titled Specification 511 Materials For Bituminous Treatments;

'stack test' means a discrete set of samples taken over a representative period at normal operating conditions;

'start-up' means the period when plant or equipment is brought from inactivity to normal operating conditions;

'STP dry' means standard temperature and pressure (0°Celsius and 101.325 kilopascals respectively), dry;

'USEPA' means United States (of America) Environmental Protection Agency;

'USEPA Method 2' means the USEPA Method 2 – Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube);

'USEPA Method 5' means the USEPA Method 5 - Determination of Particulate Matter Emissions From Stationary Sources;

'USEPA Method 7E' means the USEPA Method 7E - Determination of Nitrogen Oxides Emissions From Stationary Sources (Instrumental Analyzer Procedure);

'USEPA Method 10' means the USEPA Method 10 - Determination of Carbon Monoxide Emissions From Stationary Sources (Instrumental Analyzer Procedure);

'USEPA Method 17' means the USEPA Method 17 - Determination of Particulate Matter Emissions From Stationary Sources;

'USEPA Method 18' means the USEPA Method 18 - Measurement of Gaseous Organic Compound Emissions By Gas Chromatography;

'usual working day' means 0800 – 1700 hours, Monday to Friday excluding public holidays in Western Australia;

1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the standard in force from time to time during the term of this Licence;

1.1.4 Any reference to a guideline or code of practice in the Licence means the current version of the guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guideline or code of practice made during the term of this Licence.



1.2 General conditions

- 1.2.1 Nothing in the Licence shall be taken to authorise any emission that is not mentioned in the Licence, where the emission amounts to:
- (a) pollution;
 - (b) unreasonable emission;
 - (c) discharge of waste in circumstances likely to cause pollution; or
 - (d) being contrary to any written law.
- 1.2.2 The Licensee shall operate and maintain all pollution control and monitoring equipment to the manufacturer's specification or any relevant and effective internal management system.
- 1.2.3 The Licensee, except where storage is prescribed in section 1.3, shall ensure that environmentally hazardous materials are stored in accordance with the code of practice for the storage and handling of dangerous goods.
- 1.2.4 The Licensee shall immediately recover, or remove and dispose of spills of environmentally hazardous materials outside an engineered containment system.
- 1.2.5 The Licensee shall:
- (a) implement all practical measures to prevent stormwater run-off becoming contaminated by the activities on the Premises; and
 - (b) treat contaminated or potentially contaminated stormwater as necessary prior to being discharged from the Premises.¹

Note1: The *Environmental Protection (Unauthorised Discharges) Regulations 2004* make it an offence to discharge certain materials into the environment.

1.3 Premises operation

- 1.3.1 The Licensee shall ensure that automatic safeguards are incorporated within the process to prevent the ignition of bitumen within the drum.
- 1.3.2 The Licensee shall ensure that:
- (a) the baghouse is operational prior to start-up of the drier and operated continuously whilst the drier is operating;
 - (b) the baghouse filters are regularly inspected; and
 - (c) when detected, blocked, frayed or leaking, baghouse filters are immediately replaced.
- 1.3.3 No raw materials, materials or fuels, listed in Table 1.3.1 shall be subjected to the process in that table unless they comply with the relevant specifications in that table.



Table 1.3.1: Processing of materials

Material	Process	Specification
Granular Raw Materials (except for Processed RAP)	Storage and transport around the premises	<p>The licensee shall ensure that:</p> <ol style="list-style-type: none">granular raw materials are stored only in ground bins or cold feed bins;all bins comprise of at least three sides and be of sufficient capacity to contain the stored materials;cold feed bins are roofed; andat no time shall stored materials in the bins extend beyond the sides or height of the bin walls. <p>The Licensee shall ensure that all conveyors are enclosed with windshields, or otherwise appropriately designed to minimise the generation of airborne dust.</p>
Processed RAP	Storage on the premises and use in the asphalt manufacturing process	<p>The Licensee shall ensure that Processed RAP does not contain any of the following materials:</p> <ul style="list-style-type: none">granular pavement materials, clay, soil or organic matter;bricks, concrete, glass or building materials; orlaterite asphalt, tar based products, geotextile fabrics, raised pavement markers or surface treatments such as high friction surfacings or green or red pavement markings. <p>The licensee shall ensure that Processed RAP is stored in accordance with Specification 511.</p>

2 Emissions

2.1 General

2.1.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit or target specified in any part of section 2 of this Licence.

2.2 Point source emissions to air

2.2.1 The Licensee shall ensure that where waste is emitted to air from the emission points in Table 2.2.1 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this Licence.



Table 2.2.1: Emission points to air

Emission point reference	Emission Point	Emission point height (m)	Source, including any abatement
A1	Stack	32	Drum dryer via baghouse

2.2.2 The Licensee shall target point source emissions to air at or below the levels specified in Table 2.2.2.

Table 2.2.2: Point source emission targets to air

Emission point Reference	Parameter	Target (including units) ^{1,2}	Averaging period
A1	PM	30 mg/m ³	Minimum 60 minute average (Stack Test)

Note 1: All units are referenced to STP dry

Note 2: Concentration units for A1 are referenced to 17% O₂.

2.2.3 The Licensee shall take all practical measures to ensure that the process control parameters in Table 2.2.3 comply with the requirements specified in that table.

Table 2.2.3: Process controls for emissions to air

Parameter	Requirement	Averaging period
Exit velocity of gases from stack	>9m/s	Minimum 60 minute average (Stack Test)

2.2.4 The Licensee shall take the management action specified in Table 2.2.4 in the case of an event specified in that table.

Table 2.2.4: Management actions

Emission point reference	Event/ action reference	Event	Management action
A1	EA2	Exceedance of particulates emission target.	The Licensee shall complete a review of the operation of the pollution control equipment within 48 hours of the event.

2.3 Emissions to land

There are no specified conditions relating to emissions to land in this section.

2.4 Fugitive emissions

2.4.1 The Licensee shall use all reasonable and practical measures to prevent and where that is not practicable to minimise dust emissions from the Premises.

2.5 Odour

2.5.1 The Licensee shall ensure that odour emitted from the Premises does not unreasonably interfere with the health, welfare, convenience, comfort or amenity of any person who is not on the Premises.

2.6 Noise

There are no specified conditions relating to noise in this section.



3 Monitoring

3.1 General monitoring

- 3.1.1 The Licensee shall ensure that all samples are submitted to a laboratory with current NATA accreditation for the parameters to be measured.
- 3.1.2 The Licensee shall ensure that annual monitoring is undertaken at least 9 months apart.
- 3.1.3 The Licensee shall record production or throughput data and any other process parameters relevant to any non-continuous undertaken.

3.2 Monitoring of point source emissions to air

- 3.2.1 The Licensee shall undertake the monitoring in Table 3.2.1 according to the specifications in that table.

Table 3.2.1: Monitoring of point source emissions to air				
Emission point reference	Parameter	Units^{1,3}	Frequency²	Method
A1	Volumetric flow rate	m ³ /s	Annually	USEPA Method 2
	PM	mg/m ³ and g/s		USEPA Method 5 or USEPA Method 17
	Oxides of Nitrogen (NOx)			USEPA Method 7E
	Total Volatile Organic Compounds			USEPA Method 18
	Carbon monoxide (CO)			USEPA Method 10

Note 1: All units are referenced to STP dry

Note 2: Monitoring shall be undertaken to reflect normal operating conditions and any limits or conditions on inputs or production.

Note 3: Concentration units are referenced to 17% O₂.

- 3.2.2 The Licensee shall ensure that sampling required under condition 3.2.1 of the Licence is undertaken at sampling locations in accordance with the AS 4323.1.
- 3.2.3 The Licensee shall ensure that all non-continuous sampling and analysis undertaken pursuant to condition 3.2.1 is undertaken by a holder of NATA accreditation for the relevant methods of sampling and analysis.

3.3-3.4 Monitoring of point source emissions to surface water and groundwater

There are no specified conditions relating to monitoring of point source emissions to surface water or groundwater in this section.

3.3 Monitoring of emissions to land

There are no specified conditions relating to monitoring of emissions to land in this section.

3.6-3.7 Monitoring of inputs, outputs and process monitoring

There are no specified conditions relating to monitoring of inputs, outputs or process monitoring in this section.



3.8-3.9 Ambient environmental quality and meteorological monitoring

There are no specified conditions relating to ambient environmental quality or meteorological monitoring in this section.

4 Improvements

There are no specified improvement conditions in this section.

5 Information

5.1 Records

5.1.1 All information and records required by the Licence shall:

- (a) be legible;
- (b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
- (c) except for records listed in 5.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and
- (d) for those following records, be retained until the expiry of the Licence and any subsequent licence:
 - (i) off-site environmental effects; or
 - (ii) matters which affect the condition of the land or waters.

5.1.2 The Licensee shall ensure that:

- (a) any person left in charge of the Premises is aware of the conditions of the Licence and has access at all times to the Licence or copies thereof; and
- (b) any person who performs tasks on the Premises is informed of all of the conditions of the Licence that relate to the tasks which that person is performing.

5.1.3 The Licensee shall complete an Annual Audit Compliance Report indicating the extent to which the Licensee has complied with the conditions of the Licence, and any previous licence issued under Part V of the Act for the Premises for the previous annual period.

5.1.4 The Licensee shall implement a complaints management system that as a minimum records the number and details of complaints received concerning the environmental impact of the activities undertaken at the Premises and any action taken in response to the complaint.



5.2 Reporting

5.2.1 The Licensee shall submit to the CEO an Annual Environmental Report within 28 calendar days after the end of the annual period. The report shall contain the information listed in Table 5.2.1 in the format or form specified in that table.

Table 5.2.1: Annual Environmental Report

Condition or table (if relevant)	Parameter	Format or form ¹
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken	None specified
3.2.1	Point source air emission monitoring results	AR1
5.1.3	Compliance	Annual Audit Compliance Report (AACR)
5.1.4	Complaints summary	None specified

Note 1: Forms are in Schedule 2

5.2.2 The Licensee shall ensure that the Annual Environmental Report also contains an assessment of the information contained within the report against previous monitoring results and Licence limits and/or targets.

5.3 Notification

5.3.1 The Licensee shall ensure that the parameters listed in Table 5.3.1 are notified to the CEO in accordance with the notification requirements of the table.

Table 5.3.1: Notification requirements

Condition or table (if relevant)	Parameter	Notification requirement ¹	Format or form ²
-	Any failure or malfunction of any pollution control equipment or any incident, which has caused, is causing or may cause pollution	Part A: As soon as practicable but no later than 5pm of the next usual working day. Part B: As soon as practicable	N1
2.2.2 2.5.1	Exceedance of any descriptive or numerical target	Within 7 working days of becoming aware of the exceedance.	

Note 1: Notification requirements in the Licence shall not negate the requirement to comply with s72 of the Act

Note 2: Forms are in Schedule 2



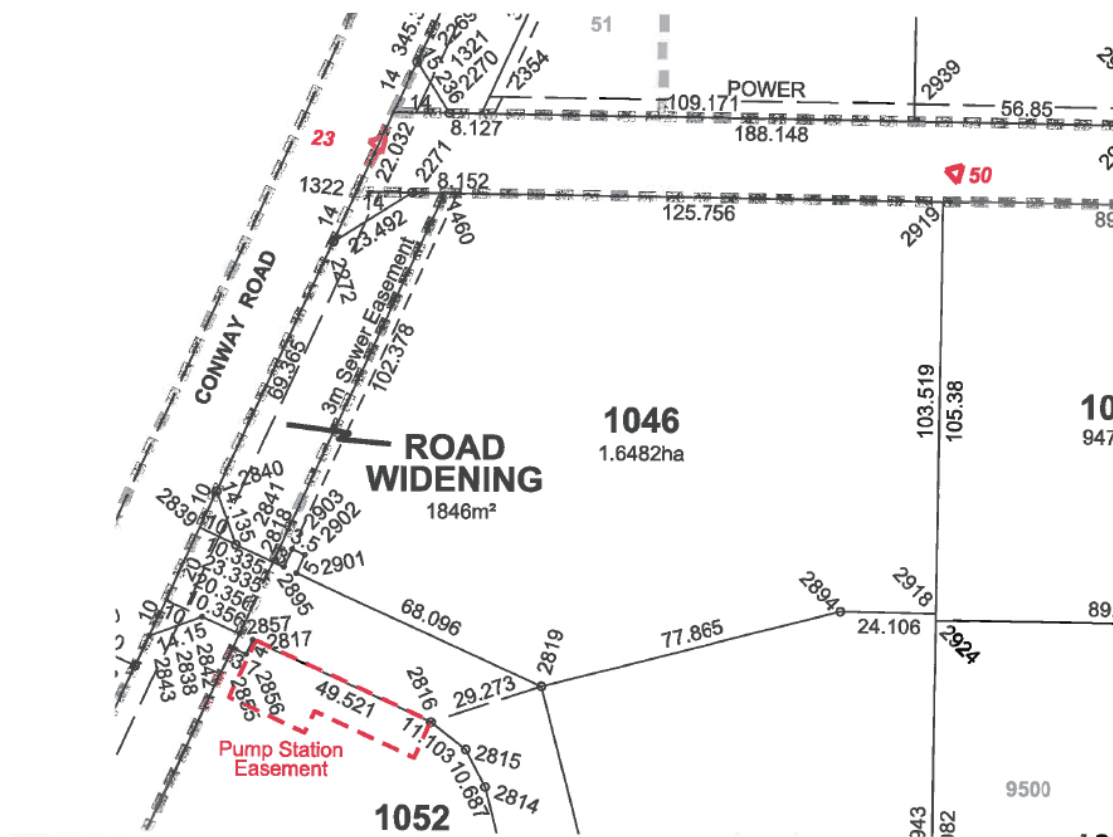
Schedule 1: Maps

Premises map

The proposed Lot 1046 is shown in the map below, being the area bound by the coordinates:

Point

Number	Easting	Northing
1460	385811.089	6436,497.184
2818	385769.474	6436,403.672
2819	385837.609	6436,373.350
2894	385912.744	6436,393.718
2895	385772.214	6436,402.453
2901	385775.411	6436,401.030
2902	385777.443	6436,405.597
2903	385774.246	6436,407.020
2918	385936.844	6436,393.725
2919	385936.815	6436,497.219





Map of emission points

The locations of the emission points defined in Tables 2.2.1, 2.2.2 and 3.2.1 are shown below.





Schedule 2: Reporting & notification forms

These forms are provided for the proponent to report monitoring and other data required by the Licence. They can be requested in an electronic format.

ANNUAL AUDIT COMPLIANCE REPORT PROFORMA

SECTION A LICENCE DETAILS

Licence Number:	Licence File Number:
Company Name:	ABN:
Trading as:	
Reporting period: _____ to _____	

STATEMENT OF COMPLIANCE WITH LICENCE CONDITIONS

1. Were all conditions of the Licence complied with within the reporting period? (please tick the appropriate box)

Yes Please proceed to Section C

No Please proceed to Section B

Each page must be initialled by the person(s) who signs Section C of this Annual Audit Compliance Report (AACR).

Initial:



SECTION B DETAILS OF NON-COMPLIANCE WITH LICENCE CONDITION.

Please use a separate page for each licence condition that was not complied with.

a) Licence condition not complied with:	
b) Date(s) when the non compliance occurred, if applicable:	
c) Was this non compliance reported to DER?:	
<input type="checkbox"/> Yes	<input type="checkbox"/> Reported to DER verbally Date _____ <input type="checkbox"/> Reported to DER in writing Date _____
<input type="checkbox"/> No	
d) Has DER taken, or finalised any action in relation to the non compliance?:	
e) Summary of particulars of the non compliance, and what was the environmental impact:	
f) If relevant, the precise location where the non compliance occurred (attach map or diagram):	
g) Cause of non compliance:	
h) Action taken, or that will be taken to mitigate any adverse effects of the non compliance:	
i) Action taken or that will be taken to prevent recurrence of the non compliance:	

Each page must be initialled by the person(s) who signs Section C of this AACR

Initial:



SECTION C

SIGNATURE AND CERTIFICATION

This Annual Audit Compliance Report (AACR) may only be signed by a person(s) with legal authority to sign it. The ways in which the AACR must be signed and certified, and the people who may sign the statement, are set out below.

Please tick the box next to the category that describes how this AACR is being signed. If you are uncertain about who is entitled to sign or which category to tick, please contact the licensing officer for your premises.

If the licence holder is		The Annual Audit Compliance Report must be signed and certified:
An individual	<input type="checkbox"/> <input type="checkbox"/>	by the individual licence holder, or by a person approved in writing by the Chief Executive Officer of the Department of Environment Regulation to sign on the licensee's behalf.
A firm or other unincorporated company	<input type="checkbox"/> <input type="checkbox"/>	by the principal executive officer of the licensee; or by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
A corporation	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	by affixing the common seal of the licensee in accordance with the <i>Corporations Act 2001</i> ; or by two directors of the licensee; or by a director and a company secretary of the licensee, or if the licensee is a proprietary company that has a sole director who is also the sole company secretary – by that director, or by the principal executive officer of the licensee; or by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
A public authority (other than a local government)	<input type="checkbox"/> <input type="checkbox"/>	by the principal executive officer of the licensee; or by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
a local government	<input type="checkbox"/> <input type="checkbox"/>	by the chief executive officer of the licensee; or by affixing the seal of the local government.

It is an offence under section 112 of the *Environmental Protection Act 1986* for a person to give information on this form that to their knowledge is false or misleading in a material particular. There is a maximum penalty of \$50,000 for an individual or body corporate.

I/We declare that the information in this annual audit compliance report is correct and not false or misleading in a material particular.

SIGNATURE: _____

SIGNATURE: _____

NAME:
(printed) _____

NAME:
(printed) _____

POSITION: _____

POSITION: _____

DATE: ____/____/____

DATE: ____/____/____

SEAL (if signing under seal)



Licence: L8853/2014/1
Form: AR1
Name: Monitoring of point source emissions to air

Licensee: Downer EDI Works Pty Ltd
Period :

Form AR1: Monitoring of point source emissions to air							
Emission point	Parameter	Target	Result ¹	Result ¹	Averaging period	Method	Sample date & times
A1	Velocity	>9m/sec	m/s		60 minutes	USEPA Method 2	
	Volumetric flow rate	N/A	m ³ /s				
	Particulates	20mg/m ³	mg/m ³	g/s		USEPA Method 5 or USEPA Method 17	
	CO	N/A				USEPA Method 10	
	Total VOC	N/A				USEPA Method 8	
	NOx	N/A				USEPA Method 7E	

Note 1: All units are referenced to STP dry and relevant Oxygen Correction in Table 2.2.2

Signed on behalf of Downer EDI Works Pty Ltd: Date:

Licence: L8853/2014/1
Form: RATA1

Licensee: Downer EDI Works Pty Ltd
Period :



Licence: L8853/2014/1
 Form: N1

Licensee: Downer EDI Works Pty Ltd
 Date of breach:

Notification of detection of the breach of a limit or any failure or malfunction of any pollution control equipment or any incident which has caused, is causing or may cause pollution.

These pages outline the information that the operator must provide.
 Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

Part A

Licence Number	
Name of operator	
Location of Premises	
Time and date of the detection	

Notification requirements for the breach of a limit	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Notification requirements for any failure or malfunction of any pollution control equipment or any incident which has caused, is causing or may cause pollution	
Date and time of event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken , or intended to be taken, to stop any emission	
Description of the failure or accident	



Part B

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident.	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission.	
The dates of any previous N1 notifications for the Premises in the preceding 24 months.	

Name	
Post	
Signature on behalf of Downer EDI Works Pty Ltd	
Date	



Decision Document

Environmental Protection Act 1986, Part V

Licence Holder: Downer EDI Works Pty Ltd¹

Licence: L8853/2014/1

Registered office: Suite 13, 8 Welshpool Road
EAST VICTORIA PARK
WA 6101

ACN: 146 658 059

Premises address: Downer EDI Works Pty Ltd
Lot 1046 Hoyle Road
HOPE VALLEY WA 6165
Being the area bound within coordinates:

Point

Number	Easting	Northing
1460	385811.089	6436,497.184
2818	385769.474	6436,403.672
2819	385837.609	6436,373.350
2894	385912.744	6436,393.718
2895	385772.214	6436,402.453
2901	385775.411	6436,401.030
2902	385777.443	6436,405.597
2903	385774.246	6436,407.020
2918	385936.844	6436,393.725
2919	385936.815	6436,497.219

Issue date: Thursday, 18 June 2015

Commencement date: Monday, 22 June 2015

Expiry date: Sunday, 21 January 2022

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER), has decided to issue a 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.

Note: The licence was transferred to Downer EDI Works Pty Ltd on 12 January 2017.

Decision Document prepared by:

Richard Wilson



Licensing Officer

Decision Document authorised by:

Ed Schuller
Senior Manager – Licensing (Process Industries)
18 June 2015



Contents

Contents	3
1 Purpose of this Document	3
2 Administrative summary	4
3 Executive summary of proposal and assessment	5
4 Decision table	7
5 Advertisement and consultation table	17
6 Risk Assessment	18

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.

Works approval and licence conditions

DER has three types of conditions that may be imposed on works approvals and licences. They are as follows;

Standard conditions (SC)

DER has standard conditions that are imposed on all works approvals and licences regardless of the activities undertaken on the Premises and the information provided in the application. These are included as the following conditions on works approvals and licences:

Works approval conditions: 1.1.1-1.1.4, 1.2.1, 1.2.2, 5.1.1 and 5.1.2.

Licence conditions: 1.1.1-1.1.4, 1.2.1-1.2.4, 5.1.1-5.1.4 and 5.2.1.

For such conditions, justification within the Decision Document is not provided.

Optional standard conditions (OSC)

In the interests of regulatory consistency DER has a set of optional standard conditions that can be imposed on works approvals and licences. DER will include optional standard conditions as necessary, and are likely to constitute the majority of conditions in any licence. The inclusion of any optional standard conditions is justified in Section 4 of this document.

Non standard conditions (NSC)

Where the proposed activities require conditions outside the standard conditions suite DER will impose one or more non-standard conditions. These include both premises and sector specific conditions, and are likely to occur within few licences. Where used, justification for the application of these conditions will be included in Section 4.



2 Administrative summary

Administrative details		
Application type	Works Approval <input type="checkbox"/>	New Licence <input checked="" type="checkbox"/>
	Licence amendment <input type="checkbox"/>	Works Approval amendment <input type="checkbox"/>
Activities that cause the premises to become prescribed premises	Category number(s)	Assessed design capacity
	35	350,000
	61A	120,000
Application verified	Date: 16 October 2014	
Application fee paid	Date: 21 October 2014	
Works Approval has been complied with	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Compliance Certificate received	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Commercial-in-confidence claim	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Commercial-in-confidence claim outcome		
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 checked="" type="checkbox"/>	No <input type="checkbox"/>
If Yes include details of which EPP(s) here. Kwinana Atmospheric Waste Policy Area B		
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
If Yes, include details here, eg Site is subject to SO ₂ requirements of Kwinana EPP.		



3 Executive summary of proposal and assessment

Asphalt Surfaces Pty Ltd (Asphalt Surfaces) have constructed a Benninghoven “TBA 4000 U C” hot mix batch production type asphalt manufacturing plant in Hope Valley. The design capacity of the plant is 320 tonnes per hour, which under proposed operating hours is 350,000 tonnes per year. Actual throughput is expected to be around 150,000 tonnes per year. The site has been assessed at, and licence issued for, 350,000 tonnes per annual period to allow for future increase in production.

The plant is located at Lot 1046 Hoyle Rd (corner of Conway Road) Hope Valley, approximately 28km south of Perth. The land immediately surrounding the site has been cleared and is planned for industrial development. Lot 1046 is in the Latitude 32 Development Area 1 – Flinders Precinct. *The Hope Valley Wattleup Redevelopment Project Master Plan* (Landcorp 2008) provisions specify that for Development Area 1, no residential development will be approved in the Precinct. The area to the west is not included in the Precinct but is zoned General Industry under the Town of Kwinana Town Planning Scheme Number 2. Hence there is a high level of security against residential encroachment towards the proposed asphalt plant site. Notwithstanding that, the proponent is required to demonstrate that potential impacts on neighbouring industrial premises are minimal.

Potential impacts from asphalt plants are odour, gaseous emissions, dust and noise. The Environmental Protection Authority in Guidance Note No 3 recommends a 1,000m separation distance between asphalt plants and sensitive land uses. The nearest sensitive receptors are two residences that remain in the area zoned “general industrial” and are around 350 – 500m from the site. The next closest resident is 1.9km to the north-north-east in an area zoned “urban”.

Process

A process flow diagram for the facility is shown in Figure 1 below.

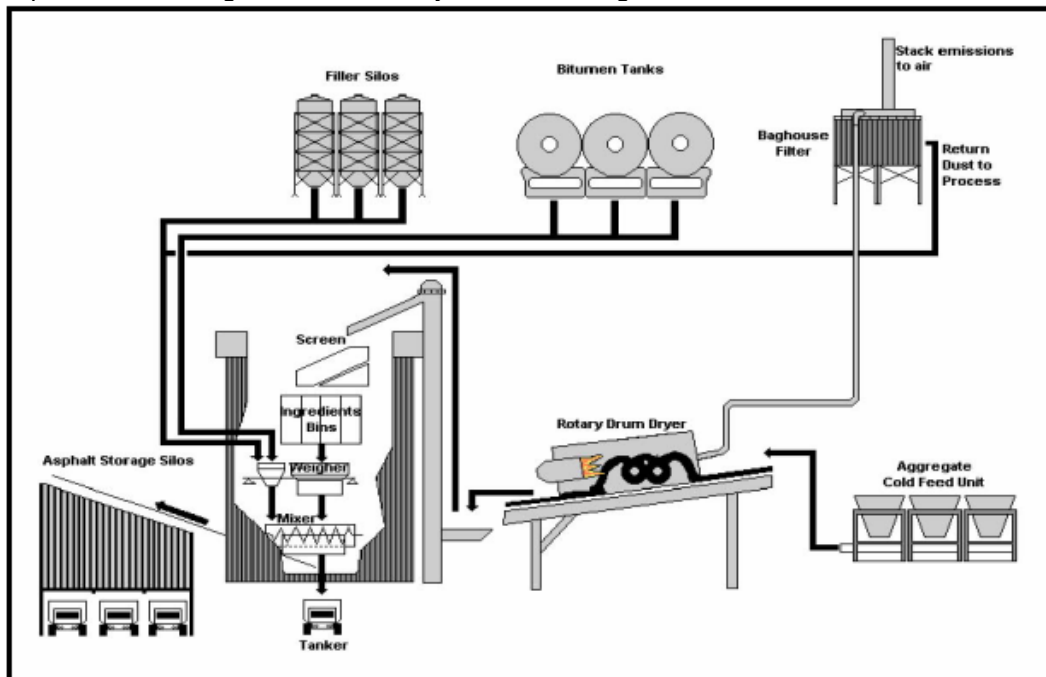


Figure 1: Process flow diagram for proposed asphalt plant.

Raw aggregate is stored in three sided, rooved storage bins. Fine filler is stored in a storage silo. Heated bitumen is stored in four heated tanks (150 °C to 160 °C) with 15m gas displacement vents (3 x 80,000L tanks and 1 x 15,000L tank).



A front end loader transfers aggregate from storage bins into cold feed bins. Aggregates are then fed into a gas fired counter flow rotary drum dryer for heating and drying. Drum temperatures for hot mix are 160-180°C. Exhaust air from the rotary drum dryer is directed to a coarse dust separator and then to a baghouse for the removal of fine dust.

The heated dry aggregates are conveyed from the drum dryer to the top of a mixing tower and separated into hot aggregate storage bins, dropped into a weigh hopper and then into a pug mill (mixer). Bitumen is pumped from a heated storage tank and injected into the pug mill mixer followed by filler. An extraction duct sucks steam, fumes and fine dust to the dryer drum. Other emissions from the mixing tower are also ducted to the baghouse. Filtered air from the baghouse is exhausted via a 32m stack.

All silos, mixers, conveyors and other transfer storage points within the tower are enclosed and operate under negative pressure to minimise dust and odour emissions. All potential waste products from the process (such as baghouse dust, unused asphalt, waste bitumen etc.) are recycled in the process.

Newly mixed asphalt is transferred to insulated and sealed overhead storage bins for storage for up to 48 hours before loading into trucks for transportation to the paving site.

Computerized controls and monitors provide responsive control over the process, and alarms and responses can be set for when set parameters, such as the temperature in the dryer drum are exceeded.

Warm Mix asphalt

The facility will also be able to produce “warm mix” asphalt which uses a lower drum dryer temperature of 130 °C (instead of 180 °C) and adds a water foam mix at end of the dryer. This requires less energy than traditional hot mix, reduces risk of excess fume and odour from over-heating in the drum, and reduces fume and odour during truck loading.

Reclaimed Asphalt Pavement (RAP)

RAP will be crushed and screened off site and will be stored onsite in accordance with the storage requirements outlined in Main Roads WA Specification 511: Materials for Bituminous Treatments.

The facility will be able to process RAP which will not be pre-heated or dried directly by the burner in this plant. RAP will be released cold from a dedicated hopper into the pug mill mixer with heated and dried aggregate and bitumen. RAP will not be processed if it contains coal tar.

Emissions

Potential emission points from a hot mix asphalt facility include dust from storage bins and transfer of raw materials; odour from the transfer and storage of bitumen; dust from the drum dryer; fuming (volatile organic compounds), gases, odour and dust from the pugmill and mixing tower and stack; and odour from asphalt storage tanks and transfer. The proposal documents included an assessment of the facility against the *Environmental Guidelines on Best Available Techniques (BAT) for the Production of Asphalt Paving Mixes*, European Asphalt Pavement Association, 2007. The assessment showed that the proposed plant meets the relevant minimum requirements. *BAT) for the Production of Asphalt Paving Mixes*, European Asphalt Pavement Association, 2007.

The premises is located within Area B of the Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999. The site is not listed as a significant industrial source and therefore does not have a relevant determination for discharge of atmospheric wastes.



4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987*, DEC's Policy Statement - Limits and targets for prescribed premises (2006), 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	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
General conditions	L1.2.5	OSC	<p>Normal operation</p> <p><u>Emission Description</u> <i>Emission:</i> Stormwater contaminated with environmentally hazardous materials including hydrocarbons, bitumen, reclaimed asphalt pavement (RAP) or rock aggregates. <i>Impact:</i> Potential contamination of surrounding land and surface water drainage systems. Hydrocarbons or fine silt from the aggregate can smother flora and fauna, and pollute soil or water systems. Hydrocarbons have varying rates of degradation and may persist in the environment for many years. Groundwater is over 10m below ground level and there are no surface water bodies within 1km of the site.</p> <p><i>Controls:</i> The plant is entirely on a hardstand asphalted area that drains to containment pits. The pits are soak wells that have a sealed base and drain sideways. Only clean stormwater from the hardstand area is designed to drain to these soakwells. Bunded areas drain to a plate separator which separates clean water and hydrocarbons. The plate separator discharges clean water to the sewerage system.</p> <p>All bulk and drum storages to be within sealed, bunded areas constructed to 110% containment capacity.</p> <p>Areas underlying storage of liquid dangerous goods to be sealed and bunded to 110% of storage capacity and will be stored in compliance with licence condition</p>	Application supporting documentation



DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L= Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
			<p>1.2.3.</p> <p>All transfers of bulk hydrocarbons to be made within bunded areas. Contents of hoses/couplings to bulk hydrocarbons storage are drained to containers after filling/decoupling.</p> <p>All stormwater run-off from sealed areas to be retained on-site via stormwater soakwells across the site.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u> The OSC L1.2.5 ensures stormwater is diverted so it is not contaminated by the activities on site and that potentially contaminated stormwater is treated as necessary.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Moderate</p>	
Premises Operation	L1.3.1-L1.3.3		These conditions relate to point source emissions to air and as such have been assessed in the appropriate section below.	Application supporting documentation



DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L= Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
Emissions general	L2.1.1 L2.4.1 and L2.5.1	OSC	Condition 2.1.1 requires the licensee to investigate the exceedances of any descriptive or numerical limit set in section 2. Descriptive limits will be set in condition 2.2 of the licence and therefore OSC 2.1.1 regarding recording and investigation of exceedances of limits or targets has been included. Conditions 2.4.1 and 2.5.1 set descriptive limits for dust and odour respectively.	N/A
Point source emissions to air including monitoring	L2.2.1-2.2.3 and L3.2.1-3.2.3	OSC	Normal operation <u>Emission Description</u> <i>Emission:</i> Combustion gases (NOx and CO), and particulates from the plant stack A1 (normal operation) <i>Impact:</i> Reduced local air quality and impacts on plants, soils, lakes and streams can occur from these emissions. NOx can damage the leaves of plants, decrease their ability to photosynthesise and decrease their growth. In addition to directly affecting plants, NOx when deposited on land and in estuaries, lakes and streams can acidify and over-fertilize sensitive ecosystems resulting in a range of harmful indirect effects on flora and fauna including changes in biodiversity, loss of habitat, reduced tree growth and algal blooms. NOx and particulate matter can also contribute to adverse human health effects on the respiratory system. The nearest residence is 1.9 km north-north-east of the premises. The nearest bushforever sites are 1.6km North of the site and 2.5km south of the site. <i>Controls:</i> The baghouse filter is designed to reduce particulate emissions to below 20mg/m ³ with the opacity meter alarm being set at 30mg/m ³ . Differential pressure sensors will be set to alarm if a differential pressure indicates a leak and production will cease until the cause of the alarm has been rectified. The stack height is 32m which will reduce the likelihood of emissions impacting receptors due to increased dispersion.	Ambient Air Assessment Criteria, National Environmental Protection Measure (Ambient Air Quality) Application supporting documentation Environmental Guidelines on Best Available Techniques (BAT) for the Production of Asphalt Paving Mixes, European Asphalt Pavement Association.



DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L= Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
			<p><u>Risk Assessment</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u> The asphalt plant has been designed with emission abatement. Condition 1.2.2 requires the equipment, including emissions control measures, to be maintained on a regular basis. Limits based on the Environmental Guidelines on Best Available Techniques (BAT) for the Production of Asphalt Paving Mixes have been applied to section 2.2 of the Licence to ensure emissions remain acceptable. Condition 2.2.2 sets the target for particulate emissions from the stack at 30mg/Nm³. The plant manufacturer guarantees particulate emissions performance below 20mg/Nm³ at 17%O₂. Stack emissions will be verified by annual stack testing.</p> <p>Condition 3.2.1 requires annually Stack testing to measure particulate matter (PM), NOx, total VOCs and CO. This will allow the efficiency of the plant to be tracked over time to and ensure the emissions are acceptable.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Unlikely <i>Residual Risk Rating:</i> Moderate</p>	
Point source emissions to surface water including monitoring		N/A	There are no point source emissions to land from the Premises.	Application supporting documentation



DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L= Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
Point source emissions to groundwater including monitoring		N/A	There are no point source emissions to groundwater from the Premises.	Application supporting documentation
Emissions to land including monitoring		N/A	There are no point source emissions to land from the Premises.	Application supporting documentation
Fugitive emissions	L2.4.1	OSC	<p>Normal operation <u>Emission Description</u> <i>Emission:</i> Fugitive dust is generated from movement of vehicles, materials handling and lift off from stockpiles. <i>Impact:</i> Dust emissions can be harmful to human health and the environment. Elevated total suspended particulates (TSP) impacts ambient environmental quality which can result in amenity impacts and can smother vegetation. Particulate matter that is less than 10 (PM₁₀) or 2.5 (PM_{2.5}) micrometres in diameter can be drawn deep into the lungs creating health impacts. The chemical and physical properties of the particles, the size of the particles and the duration of exposure are all factors which may affect human health. Potential staff on site and neighbouring businesses or nearby residents may be affected.</p> <p><i>Controls:</i> All silos, mixers, conveyors and other transfer storage points within the tower operate under negative pressure to minimise dust and odour emissions.</p> <p>Raw aggregate is stored in three sided, rooved storage bunkers. These bunkers will be fitted with water sprays that will be operated on an as needs basis to control potential dust emissions.</p> <p>Fine filler is stored in a storage silos. These silos are fitted with filters and are</p>	Application supporting documentation



DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L= Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
			<p>fully insulated to prevent any dust emission.</p> <p>The site is entirely hardstand which will ensure there is limited dust emissions from traffic movement on site. There is also a street sweeper on site that will be used on an as needed basis to ensure there is no build-up of dust on trafficable areas.</p> <p><u>Risk Assessment</u> <i>Consequence: Minor</i> <i>Likelihood: Possible</i> <i>Risk Rating: Moderate</i></p> <p><u>Regulatory Controls</u> OSC 2.4.1 has been included in the Licence to ensure adequate management of fugitive dust emissions on site.</p> <p><u>Residual Risk</u> <i>Consequence: Minor</i> <i>Likelihood: Possible</i> <i>Risk Rating: Moderate</i></p>	
Odour	L2.5.1	NSC	<p>Normal operation</p> <p><u>Emission Description</u> <i>Emission:</i> In the process of mixing hot bitumen with hot aggregate, bitumen is partially volatilised and creates a characteristic odour due to VOCs. The mixing of RAP in the pug mill with super-heated virgin material may produce odour. <i>Impacts:</i> Negative impacts on health, welfare, comfort or amenity of nearby residents or persons. The nearest residence is roughly 1.9km North-north-east of the premises. <i>Controls:</i> All silos, mixers, conveyors and other transfer storage points within the tower operate under negative pressure to minimise dust and odour emissions.</p>	Application supporting documentation



DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L= Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
			<p>An extraction system in the pug mill directs vapours back through the drum dryer and baghouse and is emitted through the 32m stack.</p> <p>Newly mixed asphalt is transferred to insulated and sealed overhead storage bins for storage for up to 48 hours before loading into trucks for transportation to the paving site.</p> <p>Computerized controls and monitors provide responsive control over the process, and alarms and responses can be set for when set parameters are exceeded.</p> <p>Drum temperature for hot mix is set to 160°C - 180°C.</p> <p>Exhaust air from the rotary drum dryer is directed to a coarse dust separator and then to a baghouse for the removal of fine dust. The heated dry aggregates are conveyed from the drum dryer to the top of a mixing tower and separated into hot aggregate storage bins, dropped into a weigh hopper and then into a pug mill (mixer). Bitumen is pumped from a heated storage tank and injected into the pug mill mixer followed by filler. An extraction duct sucks steam, fumes and fine dust to the dryer drum from the pug mill. Other emissions from the mixing tower are also ducted to the baghouse. Filtered air from the baghouse is exhausted via a 32m stack.</p> <p>The Licensee has advised Ecosorb can be used as a temporary measure if odour becomes an issue from the bitumen tanks. Ecosorb is a natural substance that neutralises odourous gases and was trialed at the Licensee's Bibra Lake facility.</p> <p><u>Risk Assessment</u> <i>Consequence: Minor</i> <i>Likelihood: Unlikely</i> <i>Risk Rating: Moderate</i></p>	



DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L= Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
			<p><u>Regulatory Controls</u> OSC 2.5.1 has been included in the Licence to ensure adequate management of odour emissions so as not to unreasonably interfere with the health, welfare, comfort or amenity of any person who is not on the Premises.</p> <p><u>Residual Risk</u> <i>Consequence: Minor</i> <i>Likelihood: Unlikely</i> <i>Risk Rating: Moderate</i></p>	
Noise	L2.6	N/A	<p>Normal operation <u>Emission Description</u></p> <p><i>Emission:</i> Noise emissions from the operation of the plant, site vehicle movements such as movement of trucks and the front end loader <i>Impacts:</i> Nuisance noise impacts on neighbouring businesses and residences. Neighbouring businesses are located on adjacent properties and residences are approximately 1.9km away.</p> <p><i>Controls:</i> The site complies with the <i>Guidance for the Assessment of Environmental Factors – Separation distances between Industrial and Sensitive Land Uses.</i> (EPA 2005) recommended buffer of 1000m to any residence with the nearest residence being 1.9km from the premises.</p> <p>The site is low lying and within in the Latitude 32 Flinders Precinct.</p> <p>The plant is designed to have indicative sound levels of 68.0 dB(A) L_{eq} and 72.3 dB(A) maximum which corresponds to 60.2 dB(A) at 100m (approximate site boundary) and 40.2 dB (A) at 1000m (conservative residences).</p>	<p>Application supporting documentation</p> <p><i>Environmental Protection (Noise) Regulations 1997</i></p> <p><i>Guidance for the Assessment of Environmental Factors – Separation distances between Industrial and Sensitive Land Uses.</i> (EPA 2005)</p>



DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L= Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
			<p>These levels comply with the L_{max} criteria for commercial /industrial (80-90 dB(A)) and residential (55dB(A)) premises in the <i>Environmental Protection (Noise) Regulations 1997</i> (Noise Regulations).</p> <p>The licensee has committed to conducting a noise assessment against the Noise Regulations once the plant has been commissioned to verify emission levels.</p> <p><u>Risk Assessment</u> <i>Consequence: Minor</i> <i>Likelihood: Rare</i> <i>Risk Rating: Low</i></p> <p><u>Regulatory Controls</u> The site is required to comply with the <i>Environmental Protection (Noise) Regulations 1997</i>.</p> <p><u>Residual Risk</u> <i>Consequence: Minor</i> <i>Likelihood: Rare</i> <i>Risk Rating: Low</i></p> <p>There are no noise conditions required for this Premises. The site is expected to comply with the <i>Environmental Protection (Noise) Regulations 1997</i>.</p>	
Monitoring general	L3.1.1-3.1.2 L3.2.1-3.2.3	OSC	<p>General monitoring conditions have been included on the Licence to support the monitoring relating to point source emissions to air. OSCs L3.1.1 and L3.1.2 have been included to ensure monitoring is carried out at least 9 months apart and in accordance with appropriate standards.</p> <p>Condition 3.2.1 requires the licensee to conduct stack testing every 12 months to ensure the efficient operation of the baghouse filter under normal operations.</p>	Application supporting documentation



DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L= Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
			<p>Condition 3.2.2 ensures the stack test is undertaken at a location that is consistent with the relevant Australian Standard.</p> <p>Condition 3.2.3 ensures that the stack test is undertaken by a NATA accredited professional.</p>	
Monitoring of inputs and outputs	N/A	N/A	There are no monitoring of input and outputs required for this Premises.	
Process monitoring	N/A	N/A	There are no process monitoring conditions required for this Premises.	
Ambient quality monitoring	N/A	N/A	There are no ambient quality monitoring conditions required for this Premises.	
Meteorological monitoring	N/A	N/A	There are no meteorological quality monitoring conditions required for this Premises.	
Improvements	N/A	N/A	There are no improvements required for this Premises.	
Information	L5.2.1	OSC	Condition 5.21 requires the licensee to submit results from stack tests conducted annually.	
Licence Duration	N/A	N/A	This Licence will be issued for 5 years as the regulatory controls imposed by the licence ensure risks to the environment are adequately managed.	



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
27/10/2015	Application advertised in West Australian	No comments received.	NA
17/06/2015	Proponent sent a copy of draft instrument	Minor comments received	Comments addressed in document



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