Government of Western Australia
Department of Water and Environmental Regulation

Works Approval

Works approval number	W6564/2021/1
Works approval holder	Downer EDI Works Pty Ltd
ACN	008709608
Registered business address	Business Campus Level 2, 39 Delhi Road NORTH RYDE NSW 2113
DWER file number	DER2021/000352
Duration	17/01/2022 to 16/01/2025
Date of issue	17/01/2022
Premises details	Albany Asphalt Plant Lot 2 Rocky Crossing Road WILLYUNG WA 6330 Legal description - Part of Lot 6 on Diagram 69555 Certificate of Title Volume 2011 Folio 646 As defined by the premises boundary map in Schedule 1 and coordinates in Schedule 2

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	**Assessed production capacity**
Category 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 places or premises other than those premises.	15,000 tonnes per annual period
Category 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	6,000 tonnes per annual period

This works approval is granted to the works approval holder, subject to the attached conditions, on 17 January 2022, by:

Caron Goodbourn
Digitally signed by Caron Goodbourn
Date: 2022.01.17 09:38:26 +08'00'

Manager, Process Industries
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Works approval history

Date	Reference number	Summary of changes
17/01/2022	W6564/2021/1	Works approval granted.

Interpretation

In this works approval:

(a) the words 'including', 'includes' and 'include' in conditions mean "including but not limited to", and similar, as appropriate;

(b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;

(c) where tables are used in a condition, each row in a table constitutes a separate condition;

(d) any reference to an Australian or other standard, guideline, or code of practice in this works approval:

(i) if dated, refers to that particular version; and

(ii) if not dated, refers to the latest version and therefore may be subject to change over time;

(e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and

(f) unless specified otherwise, all definitions are in accordance with the EP Act.

NOTE: This works approval requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this works approval.

Works approval conditions

The works approval holder must ensure that the following conditions are complied with:

Construction phase

Infrastructure and equipment

1. The works approval holder must:

(a) construct and/or install the infrastructure and/or equipment;

(b) in accordance with the corresponding design and construction / installation requirements; and

(c) at the corresponding infrastructure location

as set out in Table 1.

Table 1: Design and construction/installation requirements

	Infrastructure	Design and construction / installation requirements	Infrastructure location (as depicted in Schedule 1: Figure 2)
1.	Feeders/ hoppers	• All feeders/hoppers must have four sides and be fitted with wind shields. • All feeders/hoppers must be located on a bitumised area.	Mineral cold feeders RAP feeder Granular additive hopper
2.	Asphalt plant comprising • Rotary dryer; • Burner unit; and • Pugmill mixer	• The asphalt plant must have a design capacity of not more than 80 t/hr. • The rotary dryer must be run by a low sulfur diesel fired burner unit. • The burner unit must be connected to the Process Control System which is programmed to monitor and manage temperature. • All exhaust gases from the rotary dryer and pugmill mixer must be directed to the baghouse. • The pugmill mixer must be capable of being operated under a negative pressure which draws gases to the rotary dryer burner unit for destruction. • The rotary dryer and pugmill mixer must be fitted with temperature probes which are connected to the Process Control System which is programmed to alarm at temperatures >180ºC. • The asphalt plant must be located on a bitumised area.	Rotary dryer Burner unit Pugmill mixer
3.	Drag slat conveyor and asphalt load-out hopper	• The drag slat conveyor must be enclosed. • The load-out hopper must be connected to the Process Control System, which must be programmed for loading.	Asphalt load-out hopper

	Infrastructure	Design and construction / installation requirements	Infrastructure location (as depicted in Schedule 1: Figure 2)
4.	1x Baghouse	• The baghouse must have two treatment chambers comprising a coarse knock out box and a fine filter. • The baghouse fine filter must; – be capable of reducing particulate emissions to less than 20 mg/m^3; – have a design capacity of not less than 22,000 m^3/hr; and – be fitted with high temperature filter bags with an effective filter area not less than 228 m^2. • The baghouse must: – be fitted with an automatic reverse air pulse jet cleaning system; – be connected to the Process Control System which must be programmed to monitor for baghouse faults or malfunctions; – be installed with enclosed auger screws for the return of collected dust from the treatment chambers to the pugmill mixer; and – be installed with an exhaust fan which directs exhaust gases from the fine filter to the stack to be discharged.	Baghouse filter
5.	1x Baghouse stack	• The stack must; – have a minimum stack height of 12 m above ground level; – be fitted with a sampling port that meets requirements of AS 4323.1 for the purpose of emission monitoring; and – be designed and constructed to achieve an exhaust velocity not less than 12 m/s.	Stack (A1 Discharge Point)
6.	1x 30 tonne imported filler silo	• The imported filler silo must; – be fully enclosed; – have an enclosed delivery system; – have rotating level indicators installed; and – have a vent connected to a venting filter. • The imported filler silo venting filter must; – be capable of reducing particulate emissions to less than 20 mg/m^3; and – have a filter area of no less than 24 m^2.	Imported filler silo
7.	Conveyors	• All conveyors must be installed with covers on three sides.	Conveyors
8.	Auger screws	• All transfer auger screws must be enclosed.	Auger screws

	Infrastructure	Design and construction / installation requirements	Infrastructure location (as depicted in Schedule 1: Figure 2)
9.	1x Storage bund	• The storage bund must – be constructed from concrete with approximate dimensions of 8 m wide by 15 m long by 1.5 m high and storage capacity of at least 166 m^3; – not to have any penetrations, cast in conduits or items that penetrate the bund walls or slab; – be constructed to meet the requirements of AS 1940-2017; and – be constructed with an internal collection sump and graded to direct all runoff and drainage toward the sump.	Storage bund
10.	2x 60 m^3 bitumen storage tanks	• The bitumen storage tanks must: – be enclosed, vertical and electrically heated; – be installed with a minimum 200 mm of rockwool insulation; – be fitted with a temperature probe which is connected to the Process Control System, programmed to alarm at temperatures >180ºC; – have breather vents and vapours from the vents must be directed to a water bath; and – be located within the storage bund.	60 m^3 Bitumen tank
11.	1x 8,000 L emulsion tank (existing)	• The existing emulsion tank must be relocated to within the storage bund.	8,000 L Emulsion tank
12.	1x 30,000 L diesel storage tank	• The diesel storage tank must: – be a self-bunded tank that meets the requirements of AS 1940-2017; – have an inner storage tank that meets the requirements of AS 1692; and – be located on a bitumised surface.	Self bunded 30,000 L diesel tank
13.	6x Raw material and RAP storage bays (includes two new and four existing bays to be relocated)	• Each storage bay must be constructed with three concrete walls and a bitumen or concrete base. • Storage bays dimensions shall be approximately 12 m wide by 12 m long and 2.2 m high.	Material bins

Compliance reporting

2. The works approval holder must within 30 calendar days of all the infrastructure or equipment required by condition 1 being constructed and/or installed:

(a) undertake an audit of their compliance with the requirements of condition 1; and

(b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.

3. The Environmental Compliance Report required by condition 2, must include as a minimum the following:

(a) certification that the infrastructure or component(s) thereof, as specified in condition 1, have been constructed in accordance with the relevant requirements specified in condition 1;

(b) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 1; and

(c) be signed by a person authorised to represent the works approval holder and contains the printed name and position of that person.

Time limited operations phase

Commencement and duration

4. The works approval holder may only commence time limited operations of the infrastructure identified in condition 1 where the Environmental Compliance Report as required by condition 1 has been submitted by the works approval holder for all the infrastructure.

5. The works approval holder may conduct time limited operations of the infrastructure specified in condition 1:

(a) for a period not exceeding 180 calendar days from the day the works approval holder meets the requirements of condition 4 for the infrastructure; or

(b) until such time as a licence for the infrastructure is granted in accordance with Part V of the *Environmental Protection Act 1986*, if one is granted before the end of the period specified in condition 5(a)

Time limited operations requirements and emission limits

6. During time limited operations, the works approval holder must ensure that the premises infrastructure and equipment listed in Table 2 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 2.

Table 2: Infrastructure and equipment requirements during time limited operations

Site infrastructure and equipment	Operational requirement	Infrastructure location
Feeders/ hoppers	• A water cart shall be used as required to wet material in the feeders/hoppers to prevent visible dust discharging from them.	Mineral cold feeders RAP feeder Granular additive hopper
Conveyors and auger screws	• Material transfers within the asphalt plant shall be via enclosed auger screws or covered conveyors.	Conveyors Auger screws

Site infrastructure and equipment	Operational requirement	Infrastructure location
Asphalt plant comprising • Rotary dryer; • Burner unit; and • Pugmill mixer	• The bitumen product used in the plant for asphalt production must be Class 320 bitumen. • The rotary dryer burner unit must be operated with low sulfur diesel. • The rotary dryer burner unit temperature must be monitored and controlled by the Process Control System. • Rotary dryer and pugmill mixer must only be operated when the baghouse is operational • Exhaust gases from the rotary dryer and pugmill mixer must be directed to the baghouse for treatment and discharged via the baghouse stack. • The temperature of the dried raw material and mixed asphalt must be monitored via the Process Control System which must be programmed to alarm at temperatures >180ºC. • Temperature of the rotary dryer and pugmill mixer must be reduced in the event of a temperature alarm of blue smoke being detected. • The plant shall only be operated between the hours of 7am to 7pm Monday to Saturday, and 9am to 7pm Sundays and public holidays. • Weekly downwind boundary odour screening must be undertaken when the plant is in operation	Rotary dryer Burner unit Pugmill mixer
Drag slat conveyor and asphalt load-out hopper	• Asphalt shall be transferred into trucks via the drag slat conveyor and asphalt load out hopper. • Asphalt load-out will be monitored via the Process Control System. • All vehicles leaving the loadout hopper must have trays tarped.	Asphalt load-out hopper
Bag house and stack	• Exhaust gases from the baghouse must be discharged to the atmosphere via a 12 m high stack. • Baghouse filters must be inspected no less than once per month. • Blocked, broken or leaking baghouse filters must be immediately replaced when detected • The Process Control System must monitor the baghouse and cease operation of the asphalt plant if a baghouse fault or malfunction is detected. • If blue smoke is detected from the baghouse or stack the temperature of the rotary dryer and pugmill mixer shall be reduced. • The baghouse shall be operated with an automatic reverse air pulse jet cleaning system; • Collected dust shall be transferred back into the pugmill mixer via auger screws.	Baghouse filter Stack (A1 Discharge Point)

Site infrastructure and equipment	Operational requirement	Infrastructure location
1x 30 tonne imported filler silo	• Filler must be delivered into the silo via an enclosed delivery system. • The silo vent filter shall be inspected no less than once per month. • The silo vent filter cartridge must be replaced if it is found to be blocked, damaged or leaking when inspected.	Imported filler silo
2x 60m^3 bitumen storage tanks	• Only Class 320 bitumen is to be stored in the tanks • The bitumen temperature shall be monitored via the Process Control System, which must be programmed to alarm at temperatures >180ºC. • Temperature of the tanks must be reduced in the event of a temperature alarm. • Vapours from the tank breather vents must be directed to a water bath.	60 m^3 Bitumen tank
6x Raw material and RAP storage bays	• Sand, aggregate and RAP must be stored within the bays. • Material stored in storage bays shall not exceed the height of the bay walls. • A water cart shall be used as required to wet material stockpiles to prevent visible dust generation from the storage bays. • Raw material delivery trucks must have covered loads.	Material bins
Bitumised area	• A road sweeper will be used to sweep roads and bitumised operational areas to prevent dust build up.	NA

7. The works approval holder must ensure that the emissions specified in Table 3, are discharged only from the corresponding discharge point and only at the corresponding discharge point location.

Table 3: Authorised discharge points

Emission	Discharge point	Discharge point height	Discharge point location
Particulate matter	Baghouse Exhaust Stack – A1	12 metres above ground level	As depicted in Schedule 1: Figure 2 Stack (A1 Discharge Point)
Oxides of nitrogen			
Carbon monoxide			
Volatile organic compounds			
Sulfur dioxide			
Metals			
Formaldehyde			

8. During time limited operations, the works approval holder must ensure that the emissions from the discharge point listed in Table 4 do not exceed the corresponding limit(s) when monitored in accordance with condition 9.

Table 4: Emission and discharge limits during time limited operations

Discharge point	Parameter	Limit[1, 2]
Baghouse Exhaust Stack – A1	Particulate matter	20 mg/m^3
	Exit velocity of exhaust gases	>12 m/s

Note 1: All units are referenced to STP dry
Note 2: Concentration units are referenced to 17% O_2

Monitoring during time limited operations

9. The works approval holder must monitor emissions during time limited operations in accordance with Table 5.

Table 5: Emissions and discharge monitoring during time limited operations

Discharge point	Parameter	Frequency	Averaging period	Units[1, 2]	Method of sampling and analysis
Baghouse Exhaust Stack – A1 As depicted in Schedule 1 Figure 2	Particulate matter	Once, within six weeks of commencing time limited operations	minimum 30 mins	mg/m^3 and g/s	USEPA Method 5 or 17
	Oxides of nitrogen				USEPA Method 7E
	Carbon monoxide				USEPA Method 10
	Total volatile organic compounds				USEPA Method 18
	Volumetric flow rate			m^3/s	USEPA Method 2
	Exit velocity			m/s	

Note 1: All units are referenced to STP dry
Note 2: Concentration units are referenced to 17% O_2

10. The works approval holder must record the results of all monitoring activity required by condition 9.

11. The works approval holder must ensure that sampling required under condition 9 of this works approval is undertaken at a sampling location in compliance with the AS 4323.1.

12. The works approval holder must ensure that all non-continuous sampling and analysis undertaken pursuant to condition 9 is undertaken by a holder of a current accreditation from the National Association of Testing Authorities (NATA) for the methods of sampling and analysis relevant to the corresponding relevant parameter.

Noise verification

13. Within 14 days of the commencement date of time limited operations, the works approval holder must retain the services of a person qualified and experienced in the area of environmental noise assessment and who by their qualifications and experience is eligible to hold membership of the Australian Acoustical Society or the Australian Association of Acoustical Consultants to:

(a) investigate the nature and extent of noise emissions from the premises, including measurement of sound power levels for all noise sources associated with operation of the asphalt plant;

(b) assess in accordance with the methodology required in the *Environmental Protection (Noise) Regulations 1997*, the compliance of the noise emissions from the primary activities, against the relevant assigned levels specified in those Regulations; with a particular focus on compliance with night-time assigned levels; and

(c) compile and submit to the works approval holder within 90 days of the commencement date of time limited operations a report in accordance with condition 14.

14. A report prepared pursuant to condition13(c) is to include:

(a) a description of the methods used for monitoring and modelling of noise emissions from the premises;

(b) details and the results of the investigation undertaken pursuant to condition 13(a), and

(c) details and results of the assessment of the noise emissions from the premises, against the relevant assigned levels in the *Environmental Protection (Noise) Regulations 1997* undertaken pursuant to condition 13(b).

15. The works approval holder must submit to the CEO a copy of the report prepared pursuant to 13(c) within 100 days of the commencement date of time limited operations.

Compliance reporting

16. The works approval holder must submit to the CEO a report on the time limited operations within 30 calendar days of the completion date of time limited operations or 30 calendar days before the expiration date of the works approval, whichever is the earliest.

17. The works approval holder must ensure the report required by condition 16 includes the following:

(a) a summary of the time limited operations, including timeframes, amount of asphalt produced and number of hours operated;

(b) a summary of monitoring results obtained during time limited operations under condition 9.

(c) a summary of the environmental performance of all infrastructure as constructed or installed (as applicable);

(d) a review of performance and compliance against the conditions of the works approval; and

(e) where conditions of this works approval have not been met, what measures will the works approval holder take to meet them, and what timeframes will be required to implement those measures.

Records and reporting (general)

18. The works approval holder must record the following information in relation to complaints received by the works approval holder (whether received directly from a complainant or forwarded to them by the Department or another party) about any alleged emissions from the premises:

(a) the name and contact details of the complainant, (if provided);

(b) the time and date of the complaint;

(c) the complete details of the complaint and any other concerns or other issues raised; and

(d) the complete details and dates of any action taken by the works approval holder to investigate or respond to any complaint.

19. The works approval holder must maintain accurate and auditable books including the following records, information, reports, and data required by this works approval:

(a) the works conducted in accordance with condition 1;

(b) any maintenance of infrastructure that is performed in the course of complying with condition 6;

(c) monitoring programmes undertaken in accordance with condition 9; and

(d) complaints received under condition 18.

20. The books specified under condition 19 must:

(a) be legible;

(b) if amended, be amended in such a way that the original version(s) and any subsequent amendments remain legible and are capable of retrieval;

(c) be retained by the works approval holder for the duration of the works approval; and

(d) be available to be produced to an inspector or the CEO as required.

Definitions

In this works approval, the terms in Table 6 have the meanings defined.

Table 6: Definitions

Term	Definition
AS 1692	means the *Australian Standard 1692 Steel Tanks for Flammable and Combustible Liquids*
AS 1940-2017	means the *Australian Standard 1940:2017 The storage and handling of flammable and combustible liquids*
AS 4323.1	means the *Australian Standard AS4323.1 Stationary Source Emissions Method 1: Selection of sampling positions*
books	has the same meaning given to that term under the EP Act.
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department administering the *Environmental Protection Act 1986* Locked Bag 10 Joondalup DC WA 6919 info@dwer.wa.gov.au
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V Division 3 of the EP Act.
Discharge	has the same meaning given to that term under the EP Act.
Emission	has the same meaning given to that term under the EP Act.
Environmental Compliance Report	means a report to satisfy the CEO that the conditioned infrastructure and/or equipment has been constructed and/or installed in accordance with the works approval.
EP Act	*Environmental Protection Act 1986* (WA).
EP Regulations	*Environmental Protection Regulations 1987* (WA).
mg/m^3	means milligrams per cubic metre
m/s	means metres per second
m^3/s	means cubic metres per second
premises	the premises to which this licence applies, as specified at the front of this licence and as shown on the premises map (Figure 1) in Schedule 1 to this works approval.
Prescribed premises	has the same meaning given to that term under the EP Act.
RAP	means reclaimed asphalt pavement
STP dry	means standard temperature and pressure (0ºCelcius and 101.3 kilopascals) dry
time limited operations	refers to the operation of the infrastructure and equipment identified under this works approval that is authorised for that purpose, subject to the relevant conditions.
t/hr	means tonnes per hour
USEPA Method 2	means United States Environmental Protection Authority *Method 2 – Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S*

Term	Definition
	Pitot Tube)
USEPA Method 5	means United States Environmental Protection Authority *Method 5 – Determination of particulate matter emissions from stationary sources*
USEPA Method 7E	means United States Environmental Protection Authority *Method 7E – Determination of nitrogen oxides emissions from stationary sources*
USEPA Method 10	means United States Environmental Protection Authority *Method 10 – Determination of carbon monoxide from stationary sources*
USEPA Method 17	means United States Environmental Protection Authority *Method 17 – Determination of particulate matter emissions from stationary sources*
USEPA Method 18	means United States Environmental Protection Authority *Method 18 Measurement of gaseous organic compounds by gas chromatography*
works approval	refers to this document, which evidences the grant of the works approval by the CEO under section 54 of the EP Act, subject to the conditions.
works approval holder	refers to the occupier of the premises being the person to whom this works approval has been granted, as specified at the front of this works approval.

END OF CONDITIONS

Schedule 1: Maps

Premises map

The boundary of the prescribed premises is depicted by the green line in the map below (Figure 1).

Figure 1: Map of the boundary of the prescribed premises

The layout of the prescribed premises infrastructure and the authorised discharge points to air and monitoring locations is depicted in Figure 2

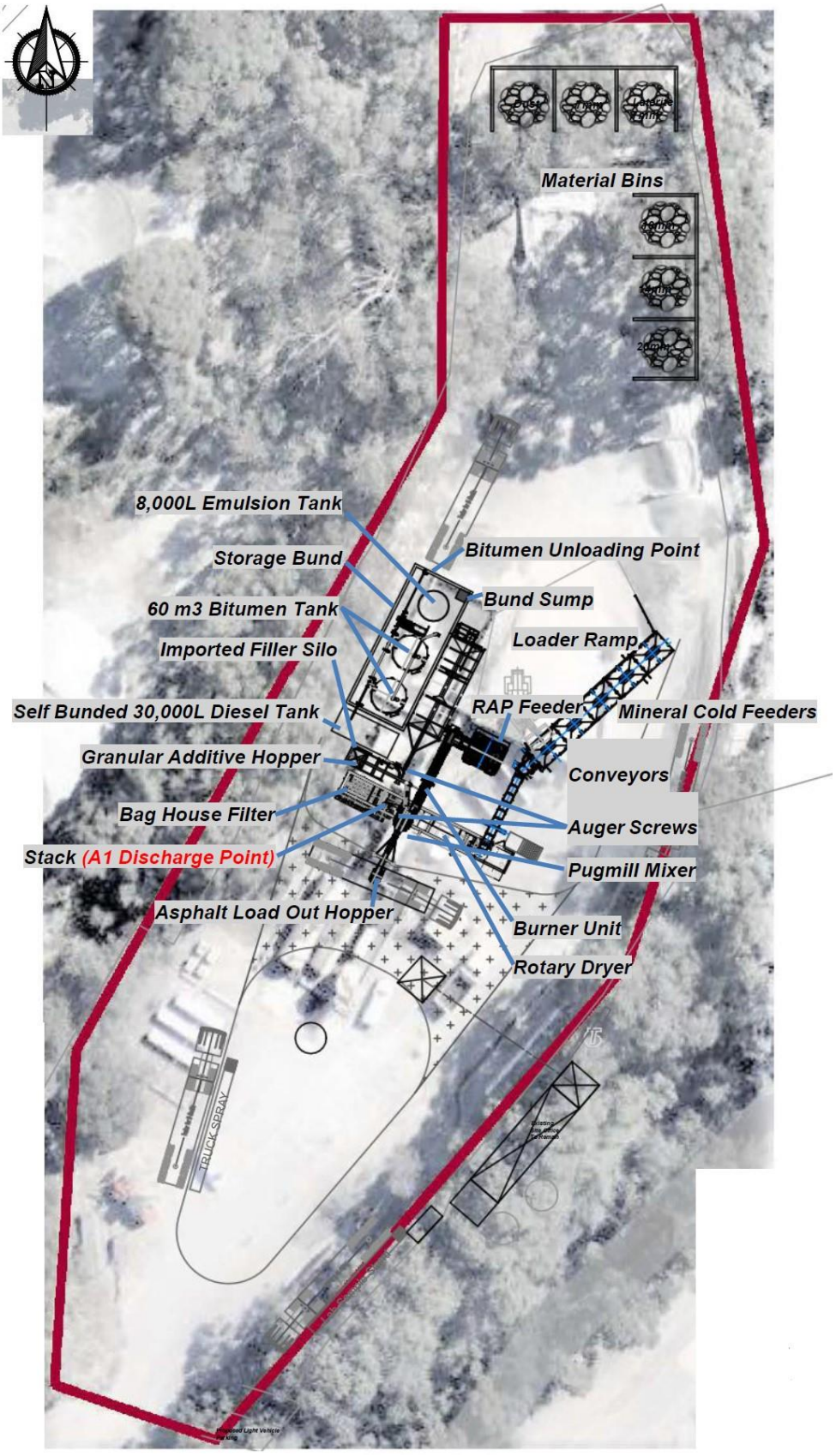

Figure 2: Map of the premises infrastructure layout

Schedule 2: Premises boundary

The premises boundary is defined by the coordinates in Table 7.

Table 7: Premises boundary coordinates

Easting	Northing
578106	6132096
578133	6132097
578141	6132038
578126	6131993
578079	6131941
578061	6131947
578065	6131983
578081	6132011
578105	6132053