



## Application for licence

### Part V Division 3 of the *Environmental Protection Act 1986*

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<b>Licence number</b>	L9206/2019/1
<b>Applicant</b>	AAA Metal Recycling Australia Pty Ltd
<b>ACN</b>	199 775 727
<b>DWER file number</b>	DER2019/000208
<b>Premises</b>	AAA Metal Recycling 10 Ocean Street KWINANA BEACH WA 6167  Legal description - Lot 9 on Diagram 94578 Certificate of Title Volume 2122 Folio 447 (as depicted in Figure 3)
<b>Date of report</b>	<b>30 April 2020</b>
<b>Decision / Proposed decision</b>	<b>Licence Granted</b>

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# 1. Definitions

Key terms relevant to this decision report and their associated definitions are listed in **Table 1**.

**Table 1: Definitions**

Term	Definition
Applicant	AAA Metal Recycling Australia Pty Ltd
Bio Tubes	means an oil absorbing biologically active tube containing oil specific bacteria capable of digesting oil.
Category / categories	Categories of prescribed premises as set out in Schedule 1 of the EP Regulations.
Condition	means a condition to which this Licence is subject under s.62 of the EP Act.
Decision Report	refers to this document.
Delegated Officer	An officer delegated under section 20 of the EP Act.
Department	The department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation As of 1 July 2017, the Department of Environment Regulation (DER), the Office of the Environmental Protection Authority (OEPA) and the Department of Water (DoW) amalgamated to form the Department of Water and Environmental Regulation (DWER). DWER was established under section 35 of the <i>Public Sector Management Act 1994</i> and is responsible for the administration of the <i>Environmental Protection Act 1986</i> along with other legislation.
Emission	has the same meaning given to that term under the EP Act.
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</i>
Fire wash-water	means water that, in the event of a fire, has been used to extinguish a fire and all materials and combustion products dissolved or suspended within such water and includes other fire suppressant substances such as foams.
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 analysis.
Noise Regulations	<i>Environmental Protection (Noise) Regulations 1997 (WA)</i>

Term	Definition
Occupier	has the same meaning given to that term under the EP Act.
Prescribed premises	This has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report
Risk Event	As described in <i>Guidance Statement: Risk Assessment</i>
Scrap metal	means ferrous and non-ferrous metal that is unwanted, discarded or recovered for recycling and/or reprocessing.

## 2. Purpose and scope of assessment

AAA Metal Recycling Australia Pty Ltd (the Applicant) operate a scrap metal recycling facility located at 10 Ocean Street, Kwinana Beach (the Premises). Accepted scrap metal is primarily sourced from scrap metal bin services, dis-used car bodies, the dismantling and demolition of steel structures, and general commercial, industrial and agricultural site clean-up. Waste materials that do not have a market available for re-use and non-conforming wastes are transported off-site for disposal at an appropriately licenced facility.

Following a site visit by DWER (Compliance) on 13 February 2019, the Applicant was advised that existing site operations are likely to meet the scope of Category 47 - Scrap metal recovery as defined in Schedule 1 of the EP Regulations (see Table 3). This means the Applicant must hold a Part V EP Act licence to authorise emissions or discharges to occur, and must comply with the conditions of that licence (sections 53 and 56 of the EP Act).

## 3. Background

### 3.1 Application details

The Application was submitted on 11 March 2019 for a Prescribed Premises Category 47 (Table 3) for current operations at the recycling facility.

The Delegated Officer determined that aspects of the application were lacking and additional information was required to validate the application. The Applicant was formally requested to provide additional information on 29 March 2019. The Applicant provided the additional information in full, in response to this request on 4 June 2019.

A site visit was conducted by DWER on 18 June 2019 to clarify aspects of site operation procedures and infrastructure. A second formal request for additional information was also provided to the Applicant on 28 June 2019, with the information being provided in full to DWER on 6 August 2019. The Applicant was then sent a draft instrument and decision report on 27 August 2019 to provide comment on and clarify further outstanding items of information.

DWER received a complaint on 28 August 2019 regarding acoustic and vibration emissions generated from the fragmentising of metal at the Premises. Subsequently, a formal request for the submission of an acoustic and vibration assessment was sent to the Applicant on 6 September 2019. Details surrounding compliance action taken prior to the issuing of the Licence are further detailed in Section 3.2 below.

The Applicant submitted the acoustic assessment on 3 October 2019, along with the outstanding items of information outlined in the draft documents. A separate vibration assessment was subsequently submitted to DWER on 4 March 2020, with a technical review of these assessments and collected field data being completed by DWER's Environmental Noise Branch (ENB) on 30 March 2020.

The application was placed on hold pending the submission of the acoustic and vibration assessment by the Applicant.

Table 2 lists the documents submitted during the assessment process.

**Table 2: Documents and information submitted during the assessment process**

Document/information description	Date received
Application form and attachments.	11 March 2019
<i>Ocean Street Stage 1 Report</i> (AAA Metal Recycling Australia Pty Ltd, un-dated).	10 May 2019

Updated site map (Norman Brooks Architectural Draughting & Design, 10 May 2019).	
<i>Ocean Street Stage 2 Report</i> (AAA Metal Recycling Australia Pty Ltd, un-dated).	4 June 2019
<i>Surface Water Drainage Layout</i> (schematic) <i>Lot 9 Ocean Street, Kwinana Beach</i> (Norman Brooks Architectural Draughting & Design, 3 June 2019).	
<i>Hydrocarbon Digester System</i> (schematic) <i>Lot 9 Ocean Street, Kwinana Beach</i> (Norman Brooks Architectural Draughting & Design, 3 June 2019).	
Ocean Street Stage 3 Report (AAA Metal Recycling Australia Pty Ltd, 27 June 2019)	2 August 2019
<i>Premises Layout</i> (updated schematic) (Norman Brooks Architectural Draughting & Design, 5 August 2019).	6 August 2019
Additional information regarding Fire Management and Fuel Storage (AAA Metal Recycling Australia Pty Ltd, un-dated).	
Shredder Commissioning Acoustic Assessment (Herring Storer Acoustics, October 2019)	3 October 2019
Response to Request for Comments and Confirmations – Decision Report Draft (Norman Brooks Architectural Draughting & Design, 27 August 2019)	
Shredder Commissioning Vibration Assessment (Herring Storer Acoustics, March 2020)	4 March 2020

### 3.2 Compliance action – noise and vibration complaint

On 28 August 2019, DWER received a complaint regarding noise and vibration emissions generated from the use of the fragmentiser at the Premises. To ensure that the operation of the fragmentiser would be compliant with specifications outlined in the *Environmental Protection (Noise) Regulations 1997* (Noise Regulations), DWER requested that the applicant submit an acoustic and vibration assessment of Premises operations. This request was sent to the Applicant on 6 September 2019 and the application was placed on hold pending the submission of the assessments.

In response to the complaint, DWER (Compliance) advised the Applicant that the fragmentiser should not be operated without a Part V EP Act Licence having been issued. The Applicant was also informed by DWER (Compliance) that the Licence could not be issued until the acoustic and vibration assessments were submitted to verify that ongoing operations would comply with the Noise Regulations.

A site inspection of the complainant's property (which lies adjacent to the Premises) was conducted on 7 October 2019 to further investigate the impact of acoustic and vibration emissions. The inspection was conducted with DWER Compliance, Licensing and Environmental Noise officers in attendance. On arrival at the complainant's property, vibration from the operation of the fragmentiser was felt within the second floor offices. DWER collected acoustic and vibration measurements from inside and outside of the complainants building. The review of these measurements and how they have been incorporated to inform DWER's risk

assessment relating to emissions resulting from Premises operation and are further detailed in Section 7.4.1 below.

To demonstrate compliance with the Noise Regulations, the Applicant informed DWER that they would be trialling several measures to prevent vibration emissions reaching adjacent industrial premises. The solution involved the proposed construction of a 3m deep vibration trench along the southern boundary of the Premises.

The requested acoustic assessment was submitted to DWER on 3 October 2019, with the vibration assessment being submitted on 4 March 2020 to reflect the decrease in vibration emissions as a result of the completed installation of the vibration trench. The assessments were subsequently referred to DWER's ENB to provide advice on the Applicants monitoring results. Further detail surrounding the ENB's feedback and how this has informed the Premises risk assessment is included in Section 7.4.1 below.

The findings of ENB's measurements and the measurements included within the Applicant's submitted assessments indicate that the operation of the fragmentiser is expected to be in compliance with the Noise Regulations, as further detailed in Section 7.4.1. In the event that further noise or vibration complaints are received, DWER (Compliance) will continue investigations into Premises operations to ensure ongoing compliance with Licence conditions under the EP Act, and the specifications of the Noise Regulations.

## 4. Overview of existing Premises

The Premises is located in an area zoned as 'general industry' under the City of Kwinana Town Planning Scheme No. 2 and as such is surrounded by other commercial and industrial premises. The site is approximately 12,000 m<sup>2</sup> and is covered with concrete hardstand, which is currently being upgraded by the Applicant so as to provide an impermeable base for the processing and stockpiling of metal wastes and machinery storage. The site contains an existing storage shed which is utilised for the processing of non-ferrous materials, and a site office with a 16 bay car park located at the north of the Premises.

The Premises accepts ferrous and non-ferrous metals for recycling purposes. The metals are sheared and fragmented within the Premises prior to being loaded for export. The majority of scrap metal received for processing includes scrap machinery, cast iron, steel mesh, rail tracks, white goods, roofing iron and water tanks. Cars bodies are also accepted, with all non-metallic material removed from vehicles being disposed off-site. The Premises will accept and process 100,000 tonnes of ferrous material and 10,000 tonnes of non-ferrous material per annual period.

The recycling of scrap metal at the Premises for commercial purposes will cause the Premises to become prescribed under Part V of EP Act for Category 47 as detailed in Table 3 below.

**Table 3: Classification of premises and assessed design capacity**

Category	Description	Assessed production or design capacity or throughput
Category 47	Scrap metal recovery: premises (other than premises within category 45) on which metal scrap is fragmented or melted, including premises on which lead acid batteries are reprocessed.	110,000 tonnes per annual period

## 5. Description of operations

### 5.1 Waste acceptance

The majority of metal wastes arrive at the Premises having been pre-sorted at collection by AAA Metal Recycling staff, making the percentage of non-conforming waste types arriving at the Premises in this manner generally low. Waste is also accepted from external customers. Prior to the load being accepted it is registered at the weighbridge and visually inspected for hazardous waste, which is specified on signage at the entrance to the facility. If hazardous waste is not identified the load is then weighed and declaration paperwork is completed by the driver of the truck to confirm that material is non-hazardous. Vehicles which are not able to pass over the weighbridge will contain materials which have been both pre-sorted and pre-weighed in Applicant owned collection bins or skips.

Asbestos or asbestos containing materials (ACM) is not accepted at the site and any loads with identifiable asbestos are immediately rejected. If ACM is inadvertently received at the facility the suspected contaminated material will be isolated and ACM will be manually picked from the load, bagged and removed for disposal to an appropriate facility. There will be no storage of ACM on site.

No liquid wastes are accepted at the Premises and when waste is identified as potentially containing liquids, it is visually inspected to confirm the absence of liquids. In the event that liquids are found, the items are rejected. If items are accepted and are found to contain residual liquid wastes at a later stage of processing, the liquids are drained into 1000 L Intermediate Bulk Containers (IBC's) or storage tanks and moved to the depollution plant area of the Premises, as defined in Figure 1. These containers and tanks are stored within a covered bunded containment area and when a sufficient amount is accumulated, it is removed off-site for disposal at an appropriately authorised facility.

The applicant does not intend to accept tyres on-site. Tyres which are inadvertently received at the site on car bodies are stored within hook bins and skip bins prior to disposal off-site. The Applicant has indicated that any temporary storage will comply with the guidance outlined in *DFES Guidance Note: GN02 – Bulk Storage of Rubber Tyres including Shredded and Crumbed Tyres* (as amended from time to time).

Lead acid batteries accepted at the Premises are stored in self bunded containment bins within the non-ferrous shed prior to collection by a specialist recycled battery processor.

### 5.2 Metal Recycling Process

Accepted loads are tipped onto a general stockpile and pre-sorted to separate ferrous and non-ferrous items. Any non-conforming wastes identified during the sorting or processing of accepted materials from the general stockpile are collected in waste bins and transported off site for disposal at an appropriately licenced facility. There is no long term storage of non-conforming waste, as bins are removed on a weekly bases or as required by the quantity of non-conforming wastes received.

#### 5.2.1 Processing of ferrous metal

Large or heavy ferrous materials are placed into the Lefort 1000 baler/shearer to reduce items to approximately 1 m in length. These items are then then steadily fed into the steel fragmentiser/shredder, which is enclosed in 8 m high acoustic screen fencing. Items are shredded into fist-sized uniform pieces. The shredder contains inbuilt magnetic drums to separate the ferrous items from any non-ferrous items which may have been placed into the shredders hopper by mistake. The non-ferrous items, along with any floc or waste products, are directed away from the ferrous stream, where a second magnetic drum removes any ferrous



items that may have been missed. These items then pass through an eddy-current separator to isolate the non-ferrous material from floc and waste products.

The resulting stockpiles of ferrous and non-ferrous material are loaded into sea containers for removal off site as soon as the sea container is full. These stockpiles have a separation distance of 25 m to prevent contamination of the waste streams. There is no long term storage of processed material at the Premises, with all processed metal wastes being removed from site within 24 hrs of entering the final product stockpiles. All stockpiles of materials on site will not exceed 3 m in height and will be a minimum of 6 metres apart to allow for suitable passage of fire equipment.

### 5.2.2 Processing of non-ferrous metal

Large non-ferrous items are placed into the Lefort 900 baler to reduce items in size to approximately 1m in length. These items are loaded into a specified non-ferrous material sea container, along with any non-ferrous metal recovered from shredding activities. Smaller received waste items which are mainly copper and brass are placed in pre-tared collection bins, which are then taken to the non-ferrous storage shed to be weighed. These items are transferred to skips before also being loaded for removal off-site.

### 5.2.3 Processing of car bodies

Car bodies accepted at the Premises are taken to the depollutant plant as located in Figure 1 (as required – when residual liquids are identified). They are then attached to hydraulic hoists. Tyres still fitted to the cars are removed, with the metal rims placed into their appropriate stockpiles for further processing. Removed tyres are then stored in small skip bins located next to the depollutant plant and are removed from site in batches of approximately fifty.

Where required, depolluting hoses are connected to relevant fluid containers within the car body's engine, which removes any remnant residual liquid waste which may have been missed during initial inspection. If any car engines have mistakenly been accepted containing larger amounts of liquid wastes these will also be removed at this stage, to ensure that all car bodies are completely free of liquid prior to further processing. The residual liquid waste is extracted to drums which are located on purpose built drum bunds on top of a concrete hardstand. Once full, these drums are removed from site by licenced contractors for disposal. The entire depollutant area is graded to two sealed concrete tanks which are able to be pumped out in the event of a spill of hydrocarbons. Spill kits are also located nearby to contain and clean any hydrocarbon spills as soon as they occur.

### 5.2.4 Management of shredder floc

Shredder Floc and waste products are initially directed onto the concrete hardstand where they are visually inspected for any combustible items. This stockpile is then loaded into container trucks and taken off site for disposal at an appropriately licenced facility. There is no long term storage of floc or other waste products on the Premises.

The proposed infrastructure and equipment for the Premises are outlined in Table 4 below and the site layout is shown in Figure 1.

**Table 4: Site infrastructure and equipment**

Infrastructure	Site Plan Reference
Concrete hardstand	Located across the entire operational footprint of the site.
Steel fragmentiser/shredder	Site Layout Plan in Figure 1.

Infrastructure	Site Plan Reference
Acoustic screen fencing	
Lefort 1000 shearer/baler	Located either side of main stockpile as located in the Site Layout Plan in Figure 1.
Lefort 900 shearer/baler	
Weighbridge and weighbridge office	Site Layout Plan in Figure 1.
Water catchment and treatment system	
Hydrocarbon digester systems	Site Layout Plan in Figure 1. Specifications detailed in Figure 4 of Appendix 1.
Omega 540 DCM sea container lifter	Mobile equipment.
Excavators (Leibherr 934, Sumito SH 330, Kobelco SK 135)	
Clark Forklifts	



## 6. Legislative context and other approvals

The Applicant has obtained local government planning approvals as required for site operations so as to be compliant with the City of Kwinana Town Planning Scheme No. 2. Details on planning approvals are listed in Table 5 below.

**Table 5: Summary of emissions and applicant controls**

Legislation	Number	Approval
<i>Planning and Development Act 2005</i>	DA 7671	Planning Approval was issued by the City of Kwinana on 6 February 2013 for General Industry – Scrap metal recycling yard. A subsequent Development Application was submitted under this approval allowing for the construction of a kiosk, storage bunkers and concrete pad at the Premises, which was approved on 3 December 2013.
	DA 7904	Planning Approval was issued by the City of Kwinana on 2 January 2014 for General Industry, permitting the construction of a covered shelter for the shredder.

## 7. Emission sources, receptors and pathways

### 7.1 Emissions

The potential for emissions to impact on sensitive receptors has been assessed in accordance with the Department's Risk Framework.

The Applicant has proposed measures to assist in controlling these emissions, where necessary. The control measures are outlined in Section 6.4 below and have been considered when undertaking the risk assessment detailed in Section 7.

Following completion and compliance with this works approval, a prescribed premises category 47 licence under Part V of the EP Act will be required to authorise emissions associated with the operation of the premises i.e. scrap metal recovery activities. A risk assessment for the operational phase has been included in this Decision Report. The key emissions considered during premises operation are **noise, vibration, potentially contaminated stormwater, dust and fire risk.**

### 7.2 Environmental Receptors and Aspects

The Premises is located within the Kwinana Strategic Industrial Area which is zoned as 'general industry' under the City of Kwinana Town Planning Scheme No. 2. DWER has previously issued licences within this area with 10 Prescribed Premises' being within a 500 m radius of the Premises boundary.

Risk is assessed as a combination of emission sources, the proximity and sensitivity of receptors to those emission sources and any pathways that can allow the emission to reach and potentially harm the receptor. Table 7 below provides a summary of human and environmental receptors in proximity to the premises which have a potential to be impacted from site activities, and the risk assessment in Section 7 considers these receptors in the context of emissions and potential pathways. Figure 2 provides a general overview of the premises siting.

**Table 7: Distance to receptors**

<b>Human receptors</b>	<b>Distance from activity or prescribed premises</b>
Residential properties	1200 m east of Premises
Potential down-hydraulic gradient groundwater users (non-potable users within industrial precinct).	Multiple present to the west and north-west of the premises (Water Information Reporting (WIR) System, DWER).
Kwinana Golf Course	1800 m east of Premises
<b>Environmental receptors</b>	<b>Distance from activity / prescribed premises</b>
Bushforever site 349 <ul style="list-style-type: none"> <li>Quindalup, Cottesloe Central and South vegetation complex</li> </ul>	1300 m east of Premises
Threatened Ecological Communities <ul style="list-style-type: none"> <li>Woodlands over sedgeland in Holocene dune swales of the southern Swan Coastal Plain</li> </ul>	Premises mapped within area
Green Growth Vegetation complexes <ul style="list-style-type: none"> <li>Quindalup complex</li> </ul>	170 m south of Premises
Geomorphic Wetlands <ul style="list-style-type: none"> <li>Unspecified sumpland</li> </ul>	1300 m east of Premises
<i>Rights in Water and Irrigation Act 1914 (RIWI)</i> <ul style="list-style-type: none"> <li>Cockburn Groundwater Area</li> </ul>	Premises mapped within proclaimed groundwater area





**Figure 2: Premises siting – general aerial overview**

## 7.3 Pathways

### 7.3.1 Stormwater and surface water runoff

As potentially contaminated stormwater is considered as a potential emission, average yearly rainfall and site topography have been considered.

Using information available on the Bureau of Meteorology's website, the closest available recently active weather station for climate data is the Medina Research weather station (No. 9194), located 5.49 km from Kwinana Beach. Based on the climate data for the Medina Research weather station (1983 to 2018), the average total annual rainfall is 746.0 mm.

Topographic contours of the WA Groundwater Atlas indicate that the Premises topography is flat. The surface geology consists of Safety Bay Sand.

### 7.3.2 Groundwater

As potentially contaminated stormwater has the capacity to infiltrate groundwater, groundwater parameters for the Premises have been considered.

Groundwater is considered to flow in a north westerly direction throughout the Kwinana Beach area, and will drain into the Indian Ocean which is 1.4 km from the Premises. The depth from the Premises ground level to the water table is 3.2 m, with the water table being found at 1.0 m relative to the AHD. Groundwater is considered to be brackish with a salinity of 1000-15000 mg/L. The Premises does not fall into a Public Drinking Water Source Area. Groundwater parameters are defined in information available in the Perth Groundwater Atlas (Department of Water, 2004; as updated from time to time).

### 7.3.3 Air

As dust and noise are considered potential emissions, the prevailing wind speeds and direction have been considered.

The Wattleup weather station is located 10.5 km north-east of the Premises. The station measures wind speed and direction at a height of 3 m above ground level. Using the Wattleup station's information for the 2018-2019 period, available through the Department of Primary Industries and Regional Development, the area has an average wind speed of 3 km/h with an average maximum wind speed of 45 km/hr. Primary wind direction in the area is NE – E (9 am) and SE (afternoon).

These pathways have been considered in the risk assessment table in Section 8.

## 7.4 Applicant controls

The Applicant has proposed the following management controls as part of the application:

**Table 7: Summary of emissions and applicant controls**

Emission (as identified above)	Source	Proposed controls
Noise and Vibration	Use of fragmentiser/shredding of metal wastes Unloading and stockpiling of metal wastes using excavators Truck movements	Fragmentiser is enclosed with 8 m high acoustic screen fencing as indicated in Figure 1. 8 m Acoustic screen fencing installed along the Premises boundary in strategic locations as indicated in Figure 1. Speed restrictions of 10 km/hr apply on-site. The Applicant has submitted acoustic and

Emission (as identified above)	Source	Proposed controls
		vibration assessments to demonstrate ongoing operational compliance with the <i>Environmental Protection (Noise) Regulations 1997</i> – Please refer to Section 7.4.1
Potentially contaminated stormwater	Interaction of stormwater with hydrocarbon spills. Interaction of stormwater with residual contaminants on stockpiled material and metal fines.	<p>No liquid wastes are accepted to the Premises.</p> <p>Waste is visually inspected prior to acceptance to confirm absence of liquid wastes.</p> <p>Any identified residual liquid wastes are recovered and contained prior to further processing; drained into 1000 L IBC's or tanks for disposal at an appropriately authorised facility.</p> <p>Car bodies are drained of any residual liquid within the depollutant plant.</p> <p>Depollutant plant is located on a bunded hardstand draining to lined tanks.</p> <p>All fueling and movement of vehicles occurs on a concrete hardstand.</p> <p>Fuel is kept on-site in a bunded storage tank.</p> <p>Spills of hydrocarbons are to be immediately contained and cleaned using on-site spill kits.</p> <p>Concrete hardstand located across the entire operational footprint of the site.</p> <p>Stormwater collected from across the premises is directed (via graded surfaces and channels) into lined tanks and subsequent treatment via the hydrocarbon digester system – Please refer to Section 7.4.2</p> <p>Water quality is tested six monthly to ensure zero hydrocarbon contamination is present prior to discharge to environment.</p>
Dust	Truck movements Unloading and stockpiling of metal wastes Shredding of metal wastes	<p>All vehicle movements and unloading occurs on a concrete hardstand.</p> <p>Twice weekly sweeping of hardstand and internal access ways to remove dirt, metal fines and sediment.</p> <p>Speed restrictions of 10 km/hr apply on-site.</p> <p>Fragmentiser contains in built dust suppression system.</p>
Fire incident risk	Scrap metal stockpiles Shredding of metal wastes	<p>Network of fire hydrants and fire hoses at the Premises in locations that ensure ease of access to key infrastructure and equipment in the event of a fire.</p> <p>A fire management plan for the Premises has also been submitted to DFES awaiting comment.</p> <p>All fire-fighting effluent will be contained on site as</p>



Emission (as identified above)	Source	Proposed controls
		far as practicable.  Any Contained fire wash-water generated from fire suppression will be captured in the stormwater drainage network and pass through the hydrocarbon digester system.

#### 7.4.1 Noise and vibration assessment review

DWER received a complaint on 28 August 2019 regarding acoustic and vibration emissions generated from the fragmentising of metal at the Premises. Subsequently, a formal request for the submission of an acoustic and vibration assessment was sent to the Applicant on 6 September 2019 to confirm that Premises operations would be in compliance with the Noise Regulations. These assessments were submitted to DWER on 3 October 2019 and 4 March 2020 respectively. The assessments were referred internally to DWER's ENB for review. Field monitoring data obtained by ENB during an inspection of the Premises conducted on 7 October 2019 was also reviewed alongside data provided in the submitted assessments by the Applicant.

It was concluded by ENB that the Applicant's noise measurement results indicate that noise from the operation of the fragmentiser complied with the assigned noise level on the boundaries of the neighbouring industrial premises, including the complainant's premises boundary. This finding was also consistent with the field monitoring data that ENB had obtained on 7 October 2019.

In the course of monitoring conducted by ENB on 7 October 2019 field measurements were also taken from inside the complainants building, in a vacant office at the north western end of the building. This data indicated that the noise inside the office might not meet the indoor assigned noise level due to regenerated noise, likely caused by the vibration of light weight building components in the ceiling such as loose ceiling panels and suspenders. The source of this vibration at the time of ENB's indoor noise measurement was the operation of the fragmentiser. However, ENB anticipated that the regenerated noise inside the office could be reduced when the vibration level transmitted from the fragmentiser to the office building was reduced.

To reduce vibration emitted from the fragmentiser, the Applicant constructed a 3 m deep vibration trench running along the southern boundary of the Premises, which was designed to reduce vibration transmission from the fragmentiser to the neighbouring office building. The vibration assessment measurement results demonstrate that the maximum vibration level generated from the full operation of the fragmentiser is within the acceptable criteria recommended for an office space as defined in the *Australian Standard AS 2670.2-1990 – Evaluation of human exposure to whole-body vibration, Continuous and shock-induced vibration in buildings*. The vibration impact is considered to be acceptable and is unlikely to cause a high level of regenerated noise inside an office of a typical building structure.

It is noted, however, that whilst ENB considers it likely that the vibration regenerated noise level inside the office will be reduced to below the indoor assigned noise level by the installed vibration trench, the Applicant did not measure the noise level inside the office for inclusion in their submitted vibration assessment and hence this has not been verified. Feedback from DWER (Compliance) has also indicated that there is still some uncertainty regarding whether noise and vibration will be an ongoing concern for the complainant, and that this cannot be substantiated at this point in time. As such conditions will be included in the Licence to ensure

that Premises operations must comply at all times with the Noise regulations. Any potential non-compliances will be investigated by DWER (Compliance).

DWER notes that it may review the appropriateness and adequacy of controls at any time and that, following a review, DWER may initiate amendments to the approval under the EP Act.

#### 7.4.2 Hydrocarbon digester system

All sorting, processing and storage of metal wastes will occur across the concrete hardstand, which is being upgraded by the Applicant to suit operational needs. The hardstand areas are graded to the Premises' water catchment and treatment systems, which consist of a combination of lined concrete tanks and soakwells. These tanks in turn drain to an in-ground hydrocarbon digester system, which acts to remove hydrocarbons and other liquid contaminants from the stormwater prior to discharge into the environment through a network of infiltration soakwells. Three water catchment and treatment systems draining to three associated hydrocarbon digester systems are in place on the Premises, which at the time of the issuing of this Licence are undergoing upgrade works and final construction. When complete, the three networks will be located as indicated in Figure 1.

The hydrocarbon digester system consists of three lined tanks. The first tank (T1) contains a surface oil separator. Water then passes to the second tank (T2) containing two Oil Technics Bio Tubes, which are biologically active and act to remove oil from stormwater through digestion. Water then passes to the third tank (ST) where water quality is tested, before entering a network of infiltration soakwells. The Applicant has received advice from the manufacturer of the hydrocarbon digester system indicating that hydrocarbon concentration will be reduced to below 10ppm within T1 and to zero within T2. The testing of the water in ST by a NATA accredited laboratory will occur on a six-monthly basis to confirm that there is no hydrocarbon contamination present prior to discharge through the infiltration soakwells to the environment, with the Bio Tubes replaced, alternatively, on a three month cycle. If hydrocarbon contamination is present within T2, more Bio Tubes will be added to T1. The specifications of the hydrocarbon digester system are outlined in Figure 4 of Appendix 1.

The upgrade works to the existing water catchment and treatment system involves the conversion of existing soakwells to lined tanks and the construction of the final hydrocarbon digester system located along the southern boundary of the Premises, as indicated in Figure 1. As a result of this, conditions have been included in the Licence to ensure that all remaining water catchment and treatment infrastructure is constructed as per the specifications outlined in Figure 1, and to ensure that all construction works on the Premises will be completed by 31 May 2020.

## 8. Risk assessment

The identification of the sources, pathways and receptors to determine Risk Events are set out in Table 8 below, consistent with the *Guidance Statement: Risk Assessments*. Risk ratings have been assessed for each key emission source and take into account potential source-pathway-receptor linkages. The mitigation measures / controls proposed by the Applicant have been considered in determining the risk rating.

The conditions in the issued Licence, as outlined in Table 8, have been determined in accordance with the *Guidance Statement: Setting Conditions*.

## 8.1 Risk assessment – operation

**Table 8: Identification of emissions, pathway and receptors**

Risk Event					Consequence rating	Likelihood rating	Risk	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities	Potential emissions	Potential receptors	Potential pathway & receptor (impact)	Applicant controls					
All outside uncovered operations (storage and processing areas)	<p><b>Potentially contaminated stormwater:</b></p> <p>Contamination of stormwater with hydrocarbons and other potential contaminants due to interaction with residual matter on stockpiled material and hydrocarbon spills.</p> <p>Potential for stormwater to be impacted with metal fines from storage and processing areas.</p>	<p>Cockburn Groundwater Area – Premises mapped within area.</p> <p>Potential down-hydraulic gradient groundwater users, where present (likely non-potable users within industrial precinct).</p> <p>Green Growth Vegetation complexes – 170 m south of Premises.</p> <p>Threatened Ecological Communities – Premises mapped within area.</p>	<p><b>Soil and vegetation:</b> impacts to soil and vegetation via direct discharge and overland flows resulting in a reduction in soil quality, impacts to vegetation health and potential plant deaths.</p>	As outlined in Section 7.4.	Moderate	Possible	Medium	<p>The Applicant does not intend to accept or process materials containing liquid wastes. Notwithstanding, the potential for certain scrap metal wastes to contain residual grease, lubricants and oil remains elevated.</p> <p>Car bodies present the highest risk of containing residual liquid contaminants. In the event residual liquids are found within engines the vehicle will be processed within the depollutant plant, which is located on a bunded concrete hardstand graded towards two lined in-ground tanks. The tanks have the capacity to be pumped out in the event of a spill.</p> <p>The immediate response to spills across the Premises is to control, contain and clean-up using hydrocarbon absorbent materials, ensuring that hydrocarbons are removed from the concrete hardstand prior to major rainfall events.</p> <p>The Applicant also proposes to sweep the concrete hardstand and internal access ways twice weekly to remove dirt, metal fines and sediment.</p>	Conditions 2, 3, 4, 5, 6, 7, 10, 13, 14, and 15
			<p><b>Groundwater:</b> potentially contaminated stormwater may enter infiltration soakwells, and impact underlying groundwater and potentially affect down-hydraulic gradient groundwater users (non-potable users within industrial precinct) – multiple present to the west and north-west of the premises.</p> <p>Seepage through infrastructure and underlying soils to groundwater causing deterioration of local water quality and potential impacts to down-gradient non-potable groundwater users – multiple present to the west and north-west of the premises.</p>	As outlined in Section 7.4.	Moderate	Possible	Medium	<p>In the event stormwater becomes contaminated, it will pass through one of three hydrocarbon digester systems on the Premises, which will act to reduce hydrocarbon concentration to zero prior to discharge to the environment through infiltration soakwells.</p> <p>Bio tubes within the system will be replaced every 3 months and water quality will be monitored on a six-monthly basis to ensure the system is functioning correctly. In the event hydrocarbon contamination is detected, more Bio Tubes will be added to the system.</p> <p>Regulatory controls (licence conditions) will include the requirement to monitor the effectiveness of the on-site stormwater management treatment system on a quarterly basis.</p>	Condition 10, 13, 14, 15, 18, 19 and 20

Risk Event					Consequence rating	Likelihood rating	Risk	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities	Potential emissions	Potential receptors	Potential pathway & receptor (impact)	Applicant controls					
Operation of equipment involved in metal recycling process	<p><b>Noise and vibration:</b> shredding, baling, handling and shearing of metal wastes.</p> <p>Unloading of metal wastes onto hardstand.</p> <p>Truck movements on site.</p>	<p>Adjacent industrial Premises</p> <p>Residential properties – 1200 m east of premises.</p> <p>Kwinana Golf Course - 1800 m east of Premises.</p>	<b>Air:</b> health and amenity impacts.	As outlined in Section 7.4	Moderate	Unlikely	Medium	<p>Nearest residential property is 1200 m away and unlikely to be impacted by noise generated by site operations.</p> <p>Acoustic bunding around fragmentiser and Premises operational areas appears adequate to mitigate noise emissions generated from site activities.</p> <p>The installation of a vibration trench appears to have suppressed vibration emissions arising from the operation of the fragmentiser.</p> <p>The Applicants submitted acoustic and vibration assessments confirm that Premises operations are in compliance with the Noise Regulations and relevant Australian Standards. A review by DWER's Environmental Noise branch has confirmed the findings of the Applicants assessments.</p> <p>Noise arising from site operations will be subject to the EP Noise Regulations. Non-compliances arising from site operations will be investigated by DWER (Compliance).</p>	<p>Condition 10</p> <p>Noise emissions must comply with the EP Noise Regulations.</p>
	<p><b>Dust:</b> Unloading and loading of metal wastes onto hardstand.</p> <p>Truck movements on site.</p>	<p>Adjacent industrial Premises.</p> <p>Threatened Ecological Communities – Premises mapped within area.</p>	<b>Air:</b> health and amenity impacts.	As outlined in Section 7.4.	Minor	Unlikely	Low	<p>Slow vehicle movements on a concrete hardstand that is regularly swept will not produce large quantities of dust.</p> <p>Metal wastes do not generally produce large amounts of dust and a water tank will be brought on-site to manage any dust lift-off from stockpiles if required.</p> <p>Dust generated from the shredding of metal wastes should be contained by the inbuilt dust suppression system of the fragmentiser</p>	Condition 9 and 10
Storage of metal waste materials on the Premises	<p><b>Fire incident risk:</b> smoke, including particulates and air emissions containing hydrocarbons and other toxic elements released in the event of a fire.</p>	<p>Cockburn Groundwater Area – Premises mapped within area</p> <p>Green Growth Vegetation complexes – 170 m south of Premises</p>	<b>Air:</b> health and amenity impacts	As outlined in Section 7.4.	Major	Unlikely	Medium	<p>The Applicant has installed a network of fire hydrants and fire hoses at the Premises in locations that ensure ease of access to key infrastructure and equipment in the event of a fire. A fire management plan for the Premises has also been submitted to DFES.</p>	<p>Condition 10, 16 and 17</p> <p>General provisions of the EP Act and CS Act may also apply in the event of a fire incident.</p>
	<p><b>Fire washwater:</b> Firefighting washwater may contain hazardous material including surfactants, heavy metals, hydrocarbons, emulsifiers and modifiers.</p>	<p>Bushforever site 349 – 1300 m east of Premises</p> <p>Threatened Ecological Communities – Premises mapped within area</p>	<b>Surface water run-off and groundwater impacts:</b> Contamination with hazardous materials generated from extinguishing a potential fire.	Limited details have been provided in relation to the management of fire wash-water following a fire incident – refer to Section 7.4.	Major	Unlikely	Medium	<p>DWER considered that the use of Bio Tubes and the hydrocarbon digester system will only provide limited control for potentially impacted washwaters entering into the infiltration soakwells (and subsequently infiltrating into ground) in the event of a fire.</p>	<p>Conditions 10, 16 and 17</p> <p>General provisions of the EP Act and CS Act may also apply in the event of a fire incident.</p>

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the Department's Guidance Statement: Risk Assessments (February 2017)

## 9. Consultation

**Table 9: Summary of consultation**

Method	Comments received	DWER response
Draft Licence and Decision report provided to Applicant 8 April 2020	<p>The Applicant has advised that they are able to achieve all of the licence requirements.</p> <p>In response to DWER's request to provide an update on outstanding construction works for the stormwater management system, the Applicant has provided an updated Premises layout for the stormwater drainage.</p> <p>The Applicant has advised that the only outstanding matter is the purchase and insertion of bio-digesters to the hydrocarbon digester system and has requested that a 21 day timeframe be incorporated into licence conditions to ensure compliance with the licence requirements.</p>	<p>Updated Premises layout incorporated into Decision report and Licence.</p> <p>Condition 11 amended to allow the Applicant until 31 May 2020 to complete the outstanding works for the stormwater management infrastructure.</p>

## 10. Conclusion

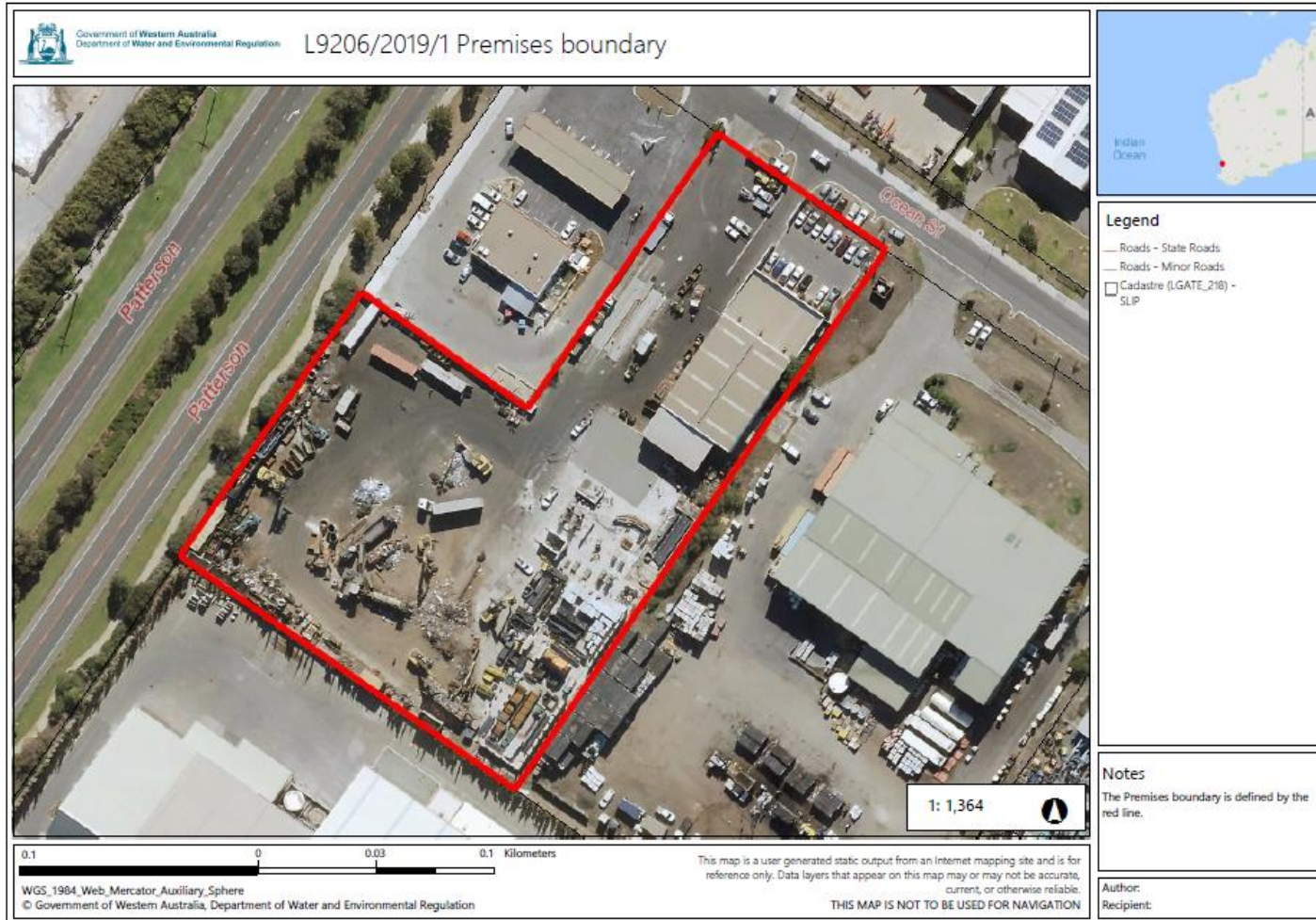
Based on the assessment in this decision report, the Delegated Officer has determined that a licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

**Melissa Chamberlain**  
**A/MANAGER WASTE INDUSTRIES**  
**REGULATORY SERVICES**  
INDUSTRY REGULATION

*An officer delegated by the CEO under section 20 of the EP Act*



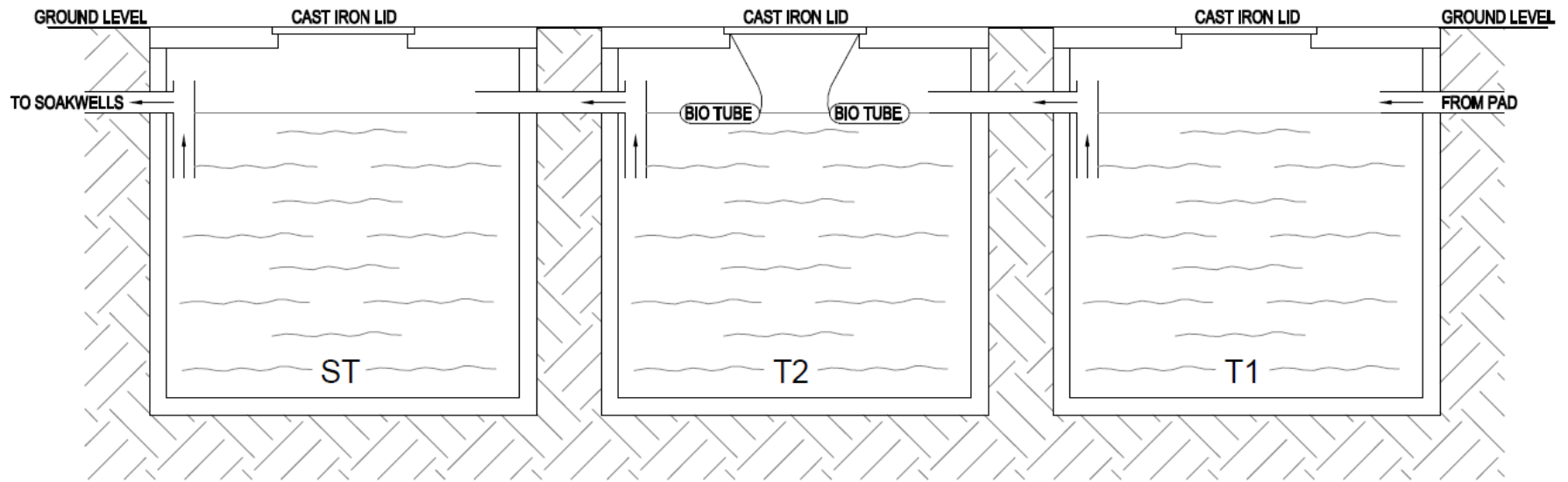
# Appendix 1: Key documents



**Figure 3:** Premises boundary

Licence: L9206/2019/1

Decision report template (short-form) (May 2019)



## HYDROCARBON DIGESTER SYSTEM

REFER TO SITE PLAN

**Figure 4:** Hydrocarbon digester system

## Appendix 2: Key documents

Document title	Availability
DES, July 2019, <i>Best practice environmental management guideline for scrap metal recycling facilities operating fragmentisers</i> , Department of Environment and Science, Queensland.	accessed at <a href="http://www.environment.des.qld.gov.au">www.environment.des.qld.gov.au</a>
EPA, June 2017, <i>Proposal for minimum environmental standards in the scrap metal industry</i> , Environmental Protection Authority, NSW.	accessed at <a href="http://www.epa.wa.gov.au">www.epa.wa.gov.au</a>
VACC, November 2014, <i>Automotive Environmental Guide</i> , Victorian Automotive Chamber of Commerce, VIC.	accessed at <a href="http://www.vacc.com.au">www.vacc.com.au</a>
DER, July 2015. <i>Guidance Statement: Regulatory principles</i> . Department of Environment Regulation, Perth.	accessed at <a href="http://www.dwer.wa.gov.au">www.dwer.wa.gov.au</a>
DER, October 2015. <i>Guidance Statement: Setting conditions</i> . Department of Environment Regulation, Perth.	
DER, August 2016. <i>Guidance Statement: Licence duration</i> . Department of Environment Regulation, Perth.	
DER, February 2017 <i>Guidance Statement: Risk Assessments</i> . Department of Environment Regulation, Perth.	
DWER, June 2019. <i>Guideline: Decision Making</i> . Department of Water and Environmental Regulation, Perth.	