



# Amendment Report

**Licence Number** L8974/2016/1

**Licence Holder** Eclipse Soils Pty Ltd

**ACN** L8974/2016/1

**File Number:** DER2016/000832-1

**Premises** Abercrombie Road Resource Recovery Centre  
Lot 115 on Plan 48295 (Volume 2602, Folio 976) and  
Lot 2 on Plan 29392 (Volume 2219, Folio 775)  
Abercrombie Road  
POSTANS WA 6167

**Date of Report** 10 June 2020

# 1. Definitions and interpretation

## Definitions

In this Amendment Report, the terms in Table 1 have the meanings defined.

**Table 1: Definitions**

Term	Definition
ACM	means asbestos containing material and has the meaning defined in the <i>Guidelines for Assessment, Remediation and Management of Asbestos Contaminated Sites, Western Australia</i> , (DOH, 2009).
Asbestos	means the asbestiform variety of mineral silicates belonging to the serpentine or amphibole groups of rock-forming minerals and includes actinolite, amosite, anthophyllite, chrysotile, crocidolite, tremolite and any mixture containing 2 or more of those
Asbestos fines	has the meaning defined in the <i>Guidelines for Assessment, Remediation and Management of Asbestos Contaminated Sites, Western Australia</i> , (DOH, 2009).
Amendment Report	refers to this document
Category/ Categories/ Cat.	categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CEO	means Chief Executive Officer. CEO for the purposes of notification means:  Director General Department Administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 JOONDALUP DC WA 6027 <a href="mailto:info@dwer.wa.gov.au">info@dwer.wa.gov.au</a>
Delegated Officer	an officer under section 20 of the EP Act
Department	means 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
EP Act	<i>Environmental Protection Act 1986</i> (WA)
EP Regulations	<i>Environmental Protection Regulations 1987</i> (WA)
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of and during this Review

<b>Term</b>	<b>Definition</b>
Licence Holder	Eclipse Soils Pty Ltd
Noise Regulations	<i>Environmental Protection (Noise) Regulations 1997 (WA)</i>
Occupier	has the same meaning given to that term under the EP Act.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Amendment Report applies, as specified at the front of this Amendment Report.
Revised Licence	the amended Licence issued under Part V, Division 3 of the EP Act, with changes that correspond to the assessment outlined in this Amendment Report.
Risk Event	as described in <i>Guidance Statement: Risk Assessment</i>

## 2. Amendment Description

The following guidance statements have informed the assessment and decision outlined in this Amendment Report.

- *Guidance Statement: Regulatory Principles (July 2015)*
- *Guidance Statement: Setting Conditions (October 2015)*
- *Guidance Statement: Decision Making (June 2019)*
- *Guidance Statement: Risk Assessment (February 2017)*
- *Guidance Statement: Environmental Siting (November 2016)*

### 2.1. Purpose and scope of assessment

Eclipse Soils Pty Ltd (the Licence Holder) submitted a licence amendment application to the Department of Water and Environmental Regulation (DWER) on 30 January 2020. This application is to amend Licence L8974/2016/1 to allow the acceptance and screening of soils containing low levels of asbestos chips on the Premises.

The Licence Holder currently operates the Abercrombie Road Resource Recovery Centre (ARRRC) on Lot 115 and Lot 2 Abercrombie Road in Postans WA. The facility remediates a range of contaminated materials, which are then sold as soils, fill material and other associated products. The premises is licenced for category 61A (solid waste facility) and category 67A (compost manufacturing and soil blending facility) (see Table 2 below). The Premises accepts the following waste materials for further processing, treatment and/or storage:

- clean fill for soil blending and offsite sales,
- green waste for processing into composted products,
- contaminated soils (including hydrocarbon, acid sulfate soils (ASS) and certain pesticide contaminated soils) for treatment (bioremediation) and soil blending; and
- acid sulfate soils for treatment and soil blending.

The Existing Licence currently has a condition that prevents the Licence Holder accepting waste containing visible asbestos or asbestos containing material (ACM).

The premises also mines and sells limestone and sand however these activities are not regulated under Part V of the *Environmental Protection Act 1986* (EP Act). Screening of this excavated material is not covered under this licence as the throughput screened does not exceed 50 000 tonnes per year (trigger for Category 12).

**Table 2: Current and proposed throughput capacity**

Category	Current throughput capacity	Proposed throughput capacity	Description of proposed amendment
61A	200,000 tonnes per annual period	No change	Maximum production capacity for the site to remain at 200,000 tpa. Licence Holder would like to process up to 100,000 tpa (within the maximum production capacity) of asbestos contaminated soil.
67A	50,000 tonnes per annual period	No change	N/A

## 2.2 Amendment Summary

The Licence Holder is seeking an amendment to Licence L8974/2016/1 to allow them to receive and remediate soil containing asbestos chips. The Licence Holder proposes to only accept soil containing visible asbestos in the form of small fibro cement matrix pieces from broken or fragmented fibro sheeting at levels less than or equal to 0.05% asbestos weight for weight (w/w). Soil containing fibrous asbestos or asbestos fines above 0.001% w/w will not be accepted.

It is proposed that a mechanical screen will be used to remove asbestos chips from the soil to create a fit for purpose deep fill product. There are currently 4 mobile screening plants onsite that are used for production of soil products. The production rate when using 10mm screens is a maximum of 75 tonnes per hour. The Licence Holder is seeking an approved throughput for asbestos or ACM contaminated soil of 100,000 tonnes per annum. Asbestos pieces or ACM removed from the soil during the screening process will be disposed of to an appropriately licensed landfill as soon as practicable.

The Licence Holder has developed a management plan for the acceptance and remediation of soils containing asbestos chips (Management Plan, 2019) in accordance with the Department of Health (DoH) guidelines; *Guidelines for the Assessment, Remediation and Management of Asbestos – Contaminated Sites in Western Australia*, May 2019 (DoH guidelines). Waste acceptance and waste processing activities from this plan are outlined below.

### Waste acceptance

The management plan states that in accordance with the DoH guidelines the Premises will not accept asbestos contaminated soil with an asbestos chip level greater than 0.05% asbestos w/w. The Licence Holder plans to calculate the acceptable volume of asbestos chips in each load as shown in the extract below;

$$\begin{aligned} \% \text{ soil asbestos} &= \frac{\% \text{ asbestos content X ACM (kg)}}{\text{Soil volume (L) X Soil density (kg/L)}} \end{aligned}$$

For Perth, the Health Department takes the % asbestos content in ACM as 15% and soil density is taken as 1.65 kg/L. 1,000L = 1m<sup>3</sup>

The calculation for 1m<sup>3</sup> of soil at 0.05% asbestos is:

$$\frac{0.05}{100} = \frac{0.15 \text{ X amount of chips in kg}}{1000 \text{ X } 1.65}$$

So the amount of chips in 1m<sup>3</sup> would be 5.5 kg or 5500 grams.

(source: Licence Holder's Management Plan, 2019).

The Licence Holder has proposed a two-stage assessment process for each asbestos contaminated soil load prior to acceptance at the Premises.

**Step 1 - visual inspection :** involves a visual assessment of the material to determine if the asbestos chip volume is likely to exceed the target of 5.5 kg/m<sup>3</sup>, and/or whether surface asbestos chips can be 'emu-picked and/ or whether detailed testing needs to be done.

**Step 2 – detailed testing:** which can be carried out in three ways;

- (i) Statistically robust, analytical data provided by the generator / consultant confirming the concentration of asbestos chips within the soil;
- (ii) The Licence Holder sampling and analyzing the materials in accordance with the DoH guidelines; and
- (iii) The Licence Holder making a quantitative assessment based on recovery of chips (> 7mm) from a known volume of soil and weighing them.

Following assessment of the material and demonstration that the material meets the acceptance criteria, details of the project will be sent to the Premises site manager prior to receiving any material.

Upon receiving the material the following procedure will be followed;

1. All vehicles transporting soils containing asbestos or ACM will report to the site office when entering the premises;
2. The site manager or quality representative will view the load to ensure the material matches the project description;
3. Receival dockets will record project name/site address, client name, job number, material grade, load volume, license number of the delivery truck, date received and driver signature;
4. The dust suppression system must be operating prior to and during tipping, with sprinkler banks appropriately located to adequately suppress any dust emissions;
5. Material must be tipped in designated tipping and stockpiling area;
6. Truck drivers and load operators to remain inside vehicle during tipping unless wearing a P2 mask; and
7. Material to be kept damp and handled minimally during stockpiling with the loader.

## Waste processing

The Licence Holder holds an extractive industry licence for quarrying activities for sand and limestone on the premises. The pit created by this activity is where visible asbestos or ACM containing soil will be stockpiled and screened most of the time. The pit is bordered by a 35 m high pit wall directly to the south and surrounded by batters and pit walls on all other sides. The southern pit wall may help to minimise dust lift off from the prevailing south-westerly winds.

In cases where other contamination is present, such as acid sulfate soils (ASS) or hydrocarbons or pesticides soil, these will be stockpiled and screened within demarcated areas within the biocell and ASS pad according to the type of contamination present. Mixed contamination loads will be screened to remove asbestos chips prior to further remediation within the biocell or ASS pad. Figure 1 outlines the location of the areas where asbestos contaminated soil will be screened and stockpiled.

Stockpiled materials will be signposted with job number and kept damp to minimize dust emissions. Screening will be commenced as soon as practicable. Screening will be carried out following the below procedure;

1. Mechanical screen will be fitted with mesh with a 10 mm aperture;
2. Dust suppression system using water must be operating during screening to adequately suppress dust;
3. Only loader operators feeding screen will be present. Loader operators to remain inside the vehicle during tipping unless they are wearing P2 masks;
4. Source stockpile, oversized stockpile (containing ACM) and remediated stockpile must be kept damp at all times;
5. Where practicable remediated material will be kept in discreet 70 m<sup>3</sup> stockpiles to minimize the impact of non-compliant material;
6. Oversized material containing ACM must be removed and disposed to an appropriately

- licenced waste disposal facility as soon as practicable;
7. Remediated soil will be relocated to edge of treatment area away from screening operation pending sampling and validation.



**Figure 1: Screening areas overview.**

### **Dust suppression**

Visual monitoring of dust is carried out by site staff during operations. An existing irrigation dust suppression system is already in place at the site to provide dust suppression for stockpiles. Conditions exist on the licence that requires water sprinklers to be capable of wetting down the entire surface of all stockpiles on the premises to prevent dust lift off. This would include any stockpiles of screened product and asbestos waste. A water cart is also utilized when additional dust suppression is required.

The dust suppression system at the Premises operates off two bores which deliver 97 m<sup>3</sup> of water per hour. A series of both manual and automated knocker sprinklers are fed off 63 mm poly pipe to provide dust suppression where required. Not all screening and storage areas will be utilized at once and therefore the Licence Holder is unlikely to have knocker sprinklers at all locations at once. It is proposed that portable knocker sprinklers will be used and relocated to operational areas according to dust suppression requirements.

The dust suppression system within the main screening area (pit area) consists of 5 individual Nann 280 knocker sprinklers, each has a coverage radius of 34 m and delivers 23.9 m<sup>3</sup> of water per hour. The knocker sprinklers (S1 to S5) will be positioned according to Figure 2 - Main Screening Area Detailed Plan. The coverage of each knocker sprinkler is demonstrated

within the detailed plan by the light blue ellipses surrounding each sprinkler number. The water cart will be used in addition to the knocker sprinklers if required.



**Figure 2 - Main Screening Area Detailed Plan**

The dust suppression system within the supplementary screening areas will consist of 2 individual Nann 280 knocker sprinklers for each area (i.e. 2 knocker sprinklers for the ACM in Hydrocarbon Impacted Soil area and 2 knocker sprinklers for the ACM in Acid Sulfate Soils). Each knocker sprinkler has a coverage radius of 34 m and delivers 23.9 m<sup>3</sup> of water per hour. The knocker sprinklers (S6 to S8) will be positioned according to Figure 3 - Supplementary Screening Areas Detailed Plan. The coverage of each knocker sprinkler is demonstrated within the detailed plan by the light blue ellipses surrounding each sprinkler number. The water cart will be used in addition to the knocker sprinklers if required.



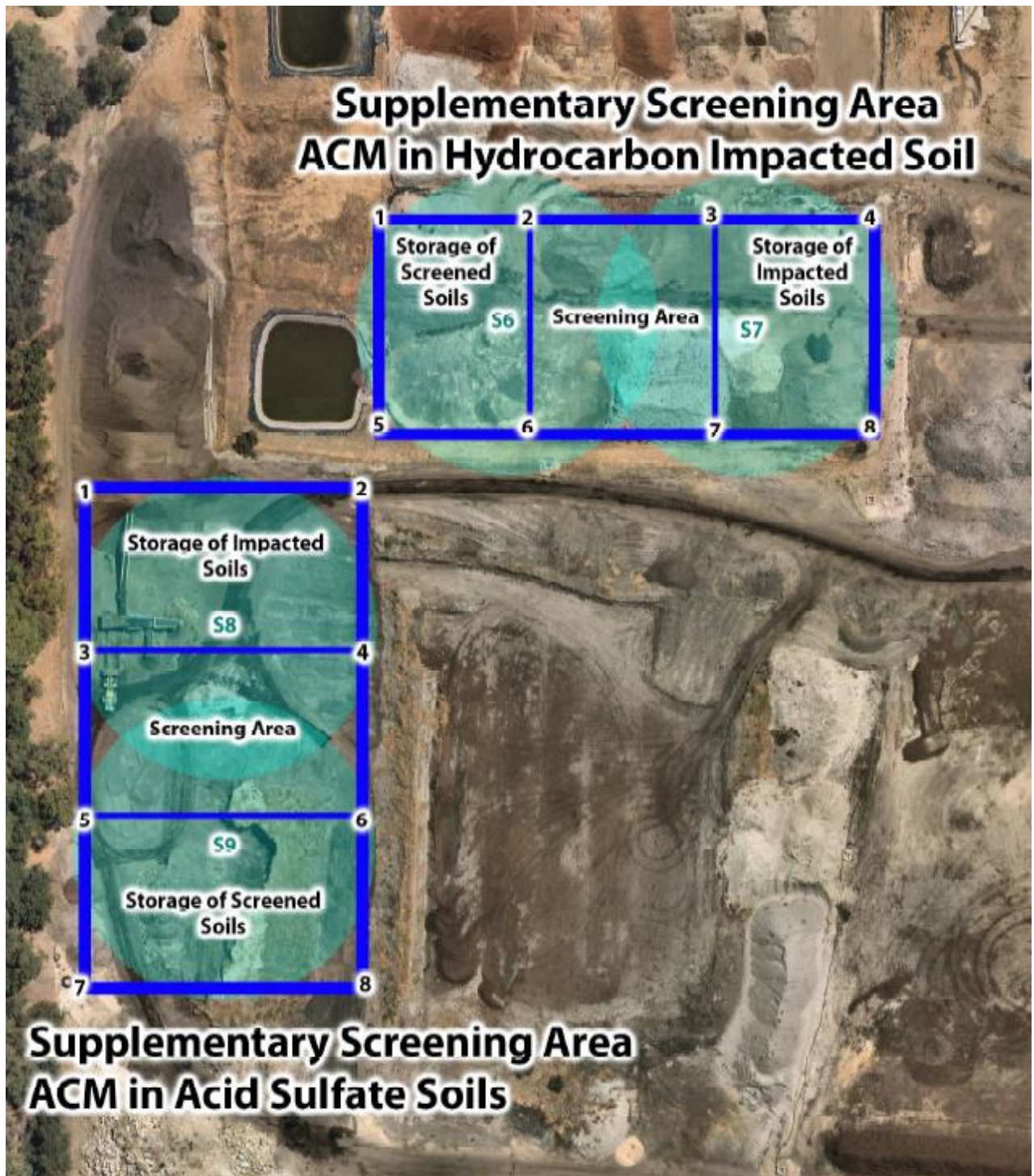


Figure 3 – Supplementary Screening Areas Detailed Plan

### Asbestos fibre monitoring

The Licence Holder has proposed an asbestos fibre monitoring regime based on the following approach;

- 1) During the first 4 week period when ACM soil is being handled, 3 static airborne asbestos fibre monitors will be deployed during working hours to establish that handling practices are not contributing to the release of fibres. The samples will be assessed in a NATA approved laboratory and a technical memorandum prepared by the independent consultant undertaking the monitoring will be submitted to DWER;

- 2) If results from the first 4 weeks indicate that relevant control levels for airborne asbestos fibres are not exceeded, it is proposed that the monitoring frequency be reduced to monitor in the same manner on one day each week for a further period of 11 months. The day of monitoring will change each week to ensure that monitoring occurs under a variety of work conditions. An additional technical memorandum will then be prepared and submitted to DWER;
- 3) If following this 12 months of monitoring, there is no evidence that relevant control levels for airborne asbestos fibre monitoring has been exceeded then the Licence Holder proposes to discontinue routine monitoring and only monitor if there are concerns that a particular material or process is contributing to release of excess dust.

DWER has sought advice from DoH who advises that asbestos fibre monitoring should continue on an ongoing basis continuously and not just one day a week or ceasing after 12 month period.

### **Key Finding**

The Delegated Officer has reviewed the air monitoring proposed by the Licence Holder and DoH advice and considers that initially it is appropriate to require continual monitoring while screening of asbestos contaminated soils. Data collected during operations of the facility may inform the appropriateness of this monitoring in the future.

### **Product testing**

Once material has been screened it will be sampled in accordance with DoH guidelines as follows;

1. Sampling and visual inspection will be carried out by a suitable qualified and experienced environmental practitioner;
2. Material is not to be sampled when treated soil is being tipped, screened or handled with machinery;
3. Material is to be kept damp during sampling;
4. Personnel must wear P2 masks during sampling;
5. Stockpile is to be visually inspected for asbestos chips prior to sampling. Suspected asbestos material must be targeted for sampling;
6. If no suspected asbestos is identified, 1 sample will be taken per 70 m<sup>3</sup>. For stockpiles larger than 70 m<sup>3</sup>, it must be ensured samples are taken across the whole area and thickness of the stockpile to obtain representative samples;
7. Each sample collected must be at least 10 litres in volume and divided into two size fractions through a 7 mm sieve.

The following analysis will be carried out on each sample;

1. The >7mm fraction will be inspected for visual asbestos. The acceptable level is no visual asbestos;
2. The <7mm fraction must be a minimum of 500 ml, kept wet and submitted for laboratory analysis to a NATA accredited laboratory in correctly labelled asbestos sample bags;
3. Each <7mm sample must be analysed for fibrous asbestos and asbestos fines for presence/absence at detection level of 0.001% asbestos w/w;
4. Fibrous asbestos and asbestos fines results will be reported by a NATA accredited laboratory; and
5. Acceptable level is no detection of fibrous asbestos or asbestos fines.

The following actions will occur if asbestos is detected in a stockpile of screened material;

1. If >7 mm asbestos chips are detected from visual inspections the material will be rescreened through a 7mm screen and re-subjected to sampling and validation

- procedures;
- If <7 mm or asbestos fines are detected then material will be disposed of to an appropriately licensed facility.

Material that has been validated to meet the remediation criteria will be assessed for its best end use based on its geotechnical and chemical properties. The end use for the material will likely be as fill sand for industrial or commercial developments.

**Key Finding:**

The Delegated Officer considers that product testing in accordance with DoH guidelines is appropriate to determining acceptable levels of asbestos or ACM within the final product.

### 3. Other approvals

The Licence Holder has provided the following information relating to other approvals as outlined in Table 3.

**Table 3: Relevant approvals**

Legislation	Number	Approval
<i>Rights in Water and Irrigation Act 1914</i>	GWL 109942(7)	Groundwater licence to extract 150,000 kL per annum of water.  Water used for processing of waste and dust suppression.
<i>Planning and Development Act 2005</i>	Developmental approvals - 7194 (Lot 2) issued 2/5/2016; and 7195-02 (Lot 115) issued 02/05/2016.	The land on which the Premises is located is zoned 'Rural B' under the City of Kwinana Town Planning Scheme No. 2 and 'Rural' under the Metropolitan Region Scheme. The premises has been granted planning approval until 27 July 2020.  It has been confirmed with the City of Kwinana that the proposed activities (covered under this amendment) are not covered under the sites current planning approval.  A developmental approval application was submitted to the City of Kwinana on 8 April 2020 which includes details regarding the screening of ACM contaminated soils.

### 4. Licensing history

Table 4 provides the licence and amendment history for the Premises.

**Table 4: Licences issued and amendments for the Premises.**

Instrument	Issued	Licence Holder	Description
L7766/2001/1	17/04/2002	Eclipse Resources Pty Ltd	New application
L7766/2001/2	05/05/2003	Eclipse Resources Pty Ltd	Licence re-issue

L7766/2001/3	28/04/2004	Eclipse Resources Pty Ltd	Licence re-issue
L7766/2001/4	28/04/2005	Eclipse Resources Pty Ltd	Licence re-issue
L7766/2001/5	28/04/2010	Eclipse Resources Pty Ltd	Licence re-issue
L7766/2001/5	07/07/2011	Eclipse Resources Pty Ltd	Amendment
L7766/2001/5	11/08/2011	Eclipse Resources Pty Ltd	Amendment
L8974/2016/1	28/03/2017	Eclipse Soils Pty Ltd	New Licence
L8974/2016/1	13/11/2018	Eclipse Soils Pty Ltd	Amendment following Appeal
L8974/2016/1	13/05/2019	Eclipse Soils Pty Ltd	Amendment to increase Cat 61A throughput and include the acceptance of hydrocarbon and pesticide contaminated soils meeting Class IV contaminant criteria, and soil material meeting Class I contaminant criteria.
L8974/2016/1	This amendment	Eclipse Soils Pty Ltd	Amendment to include the acceptance of soil contaminated with asbestos containing material (ACM) chips and the screening of this soil.

## 5. Location and potential receptors

The Premises is located on an industrial area. Table 5 below lists the relevant sensitive land uses in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment. Figure 4 shown below outlines the surrounding land users.

**Table 5: Receptors and distance from activity boundary**

Residential and sensitive premises	Distance from Prescribed Premises
Agricultural research station owned and operated by the Department of Primary Industries and Regional Development (includes a caretaker residence) at Lot 115, Abercrombie road.	Residence located approximately 360 m from southern boundary of Lot 115 and 595 m from the western boundary of Lot 2.  The station has been closed and the caretaker's residence unoccupied for over 5 years.
Residential area – Suburb of Orelia	Located approximately 735 m from the southernmost extent of the premises.
Areas zoned for parks and recreation	Located 455m south-west and 690m west of the Premises.

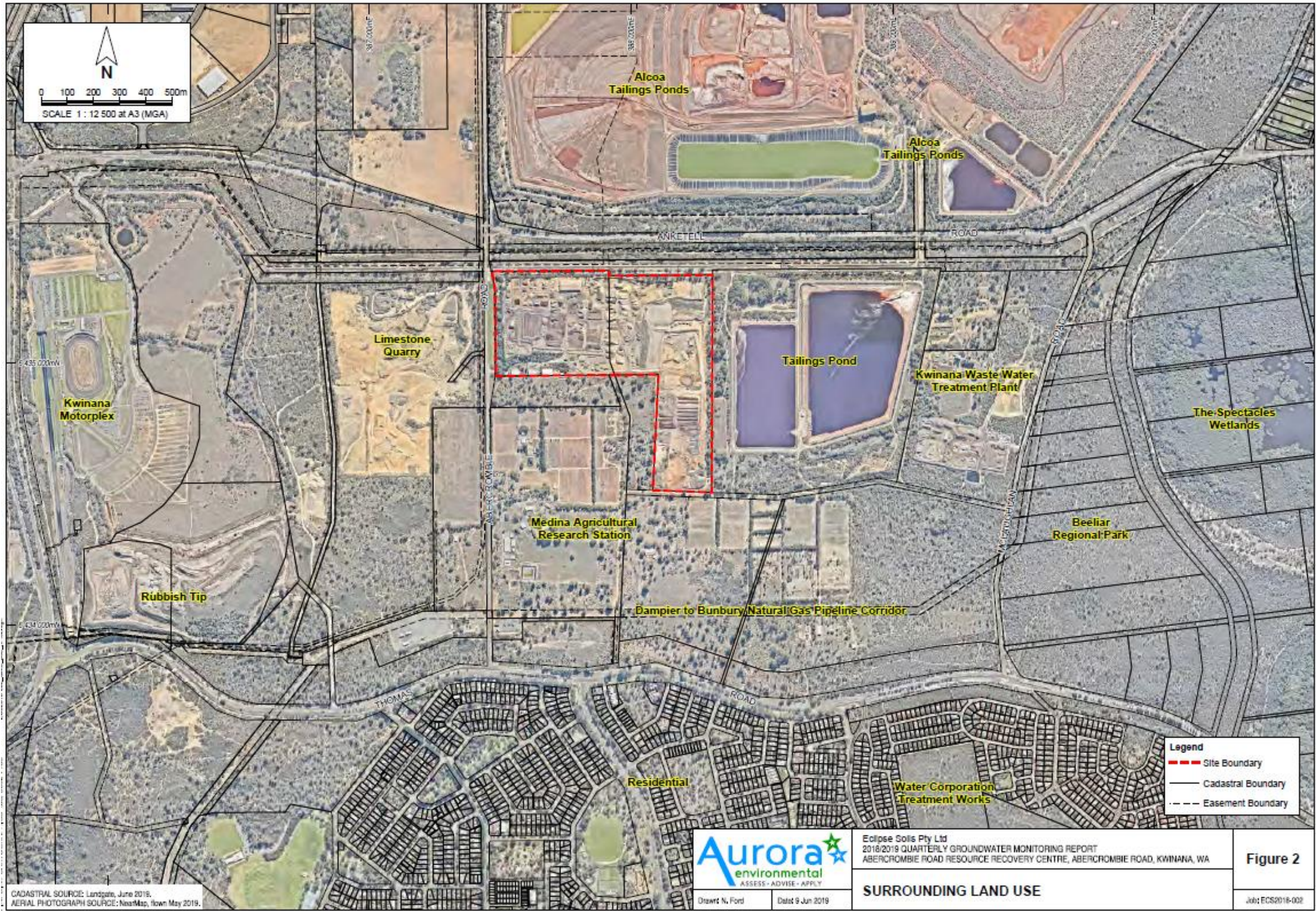


Figure 4: Surrounding land users of the Premises.

Table 6 below lists the relevant environmental receptors in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

**Table 6: Potential environmental receptors**

Environmental receptors	Distance from Prescribed Premises
Threatened Ecological Community (TEC) 1.79 ha of endangered <i>Melaleuca huegeli</i> – <i>Melaleuca acerosa</i> shrublands	Located 190m north of the premises boundary. A large portion of the premises (Lot 115 and part of Lot 2) are located within the buffer area to this TEC.
Surface water	The nearest surface water body is an unnamed lake approximately 785 m north/northwest of the premises.  Spectacles wetland located approximately 1.8 km east of the premises.
Groundwater	As identified through DWER's Perth Groundwater Atlas (PGA), groundwater below the premises ranges from 11.5 to 20.5 metres below ground level (mbgl) in Lot 115 and from 20.5 to 26.5 mbgl on Lot 2, with these differences attributed to the varying contours of the premises topography. PGA also states that groundwater is considered marginal (total dissolved solids between 500 – 1000 mg/L).

## 6. Potential pathways

Air dispersion and surface runoff has been considered as the main potential pathways for emissions to impact receptors during this assessment. The meteorological and topography conditions at the Premises have been presented in Table 7 below and this information has been considered in the risk assessment table in Section 7.

**Table 7: Potential pathways**

Environmental aspect	Description
Prevailing wind direction and strength	The closest Bureau of Meteorology (BoM) station for the site is the Medina Research Centre (Site number: 009194) approximately 600 m from the site. Annual wind roses for the Medina Research Centre provide an indication of likely wind direction and strength for the site. 9 am observations indicate prevailing winds are predominantly from an easterly direction while the 3 pm observations indicate prevailing wind direction predominantly from a south-westerly direction.
Topography	The elevation of the site ranges from 20 m AHD in the north west corner of Lot 2, to 33 meters AHD on the north eastern boundary and 30 meters AHD in the south eastern corner of Lot 2. A ridge descends from north east on Lot 2 to the southern portion of Lot 115 down to a height of

approximately 13 m AHD in the south west of Lot 115.

## 7. Applicant controls

The Applicant has proposed the following management measures/controls as part of the application (Table 8):

**Table 8: Licence Holder's proposed controls**

Emission (as identified above)	Source	Proposed controls
Dust	Tipping, screening and loading activities	<ul style="list-style-type: none"> <li>Main location of screener will be within quarry pit floor (bordered by a 35 m high pit wall directly to the south and surrounded by batters and pit walls on all other sides);</li> <li>Irrigation sprinkler system onsite consisting of a large ring main with interconnecting knocker sprinklers will be used to keep stockpiles in a damp state at all times;</li> <li>Irrigation system will be operating prior to and during tipping, with sprinkler banks appropriately located to adequately suppress dust;</li> <li>Material will be kept damp and handled minimally during stockpiling with the loader;</li> <li>Water cart will be utilised as required;</li> <li>Visual dust monitoring carried out by staff during operations, activities cease if dust lift-off is above acceptable levels or poses a risk of leaving the site boundary</li> </ul>
Asbestos fibres	Tipping, screening and loading activities	<ul style="list-style-type: none"> <li>Dust controls as outlined in the above row;</li> <li>Only accept soil containing asbestos chips with a concentration greater than 0.05% w/w of asbestos;</li> <li>Will not accept soil containing fibrous asbestos or asbestos fines above 0.001% w/w;</li> <li>Key staff members will undergo asbestos handling training;</li> <li>Airborne asbestos fibre monitoring regime to be carried out.</li> </ul>
Noise	Tipping, screening and loading activities. Truck movements.	<ul style="list-style-type: none"> <li>Main location of screener will be within quarry pit floor (bordered by a 35 m high pit wall directly to the south and surrounded by batters and pit walls on all other sides);</li> <li>Licence Holder has stated that the Premises will meet the requirements of the <i>Environmental Protection (Noise) Regulations 1987</i> will be met.</li> </ul>
Contaminated storm water	Storm water run-off from stockpiles containing asbestos material and sediment.	<ul style="list-style-type: none"> <li>Stockpiles within the ASS pad and biocell areas will be on bunded pads with water directed to onsite sumps;</li> <li>Storm water run-off within the pit area will remain in the pit which is bunded by pit walls and batters;</li> </ul>

		<ul style="list-style-type: none"> <li>All vehicles engaged in the screening of material containing asbestos will undergo daily wash down in a designated wash down bay.</li> </ul>
--	--	---

## 8. Risk assessment

Table 9 below describe the Risk Events associated with the amendment consistent with the *Guidance Statement: Risk Assessments*. The table identify whether the emissions present a material risk to public health or the environment, requiring regulatory controls.



**Table 9: Risk assessment for proposed amendments during operation**

Risk Event				Consequence rating <sup>1</sup>	Likelihood rating <sup>1</sup>	Risk <sup>1</sup>	Reasoning	Regulatory controls
Source/ Activities	Potential emissions	Potential receptors, pathway and impact	Applicant controls					
Handling (i.e. tipping and loading) and mechanical screening of soils containing solid asbestos pieces	Dust	<p>Air/windborne pathway causing health and amenity impacts to human receptors; Residential houses located approximately 750 m south of the Premises.</p> <p>Air/widborne pathway causing impacts (blocking of photosynthesis) to the <i>Melaleuca huegeli</i> – <i>Melaleuca acerosa</i> shrublands Threatened Ecological Community (TEC) 190 m north of the premises.</p>	See section 7, Table 8	Minor	Unlikely	Medium	<p>Handling and screening of soils may produce dust emissions. Low level onsite and minimal off site impacts from dust emissions may occur.</p> <p>The prevailing wind direction for this site is towards the east in the morning changing towards the south-west in the afternoon. It is noted that the closest sensitive receptors to this premises are located 750 m south of the Premises. The closest sensitive ecosystem is the TEC 190 m north of the Premises. None of these receptors are in the direction of the prevailing winds. The location of the receptors being away from the direction of the prevailing winds will assist in limiting impacts of dust emissions on the receptors.</p> <p>The Licence Holder's proposed controls for dust emissions, as outlined within section 7, Table 8, are likely to be effective in controlling dust emissions and therefore it is unlikely that an impact to receptors will occur.</p> <p>The Licence Holder's proposed controls are already conditioned within the licence (Conditions 1.2.5, 1.2.6 and 1.2.7). Additional conditions relating to dust management specifically in regards to asbestos fibre release have also been added to the licence. See Asbestos fiber row below for detail.</p>	Existing conditions relating to dust management 1.2.5, 1.2.6 and 1.2.7
	Asbestos fibres	<p>Air/windborne pathway causing health and amenity impacts to human receptors; Residential houses located approximately 750 m south of the Premises.</p>	See section 7, Table 8	Severe	Rare	High	<p>The acceptance and treatment of asbestos waste is a high risk activity. This is due to the severe consequence criteria associated with the event (high-level or ongoing medical treatment may be required if exposed).</p> <p>The prevailing wind direction for this site is towards the east in the morning changing towards the south-west in the afternoon. It is noted that the closest sensitive receptors to this premises are located 750 m south of the Premises. None of these receptors are in the direction of the prevailing winds. The location of the receptors being away from the direction of the prevailing winds will assist in limiting impacts of Asbestos fibre emissions on the receptors.</p> <p>The Licence Holder has outlined a number of measures to reduce the likelihood of asbestos fibres being emitted (see section 7, Table 8). Due to these proposed control measures (and the prevailing wind direction) the likelihood of asbestos fibres impacting residential receptors is rare.</p> <p>The Delegated Officer has considered advice received from the DoH in determining regulatory controls to be placed on the licence (see Table 10). The Licence Holders proposed controls (where appropriate) have also been conditioned within the licence.</p> <p>Monitoring conditions for asbestos fibre monitoring will be added to the licence. In situations where asbestos is actively being disturbed dust concentrations may vary widely both within a single day and from day to day. This is why monitoring on just one day a week may not be effective in determining the asbestos fibre levels being produced by the screening activity. Therefore the Delegated Officer considers the proposed ongoing monitoring frequency of one day a week to be inadequate. Continuous daily monitoring of asbestos fibres will be required on an ongoing basis as recommended by DoH. In the future there may be some scope to reduce the frequency of monitoring but only once a body of evidence has been collected (monitoring data) that demonstrate that the risk from asbestos was low and acceptable.</p> <p>A limit of 0.01 fibre/mL has been added. This limit is in accordance with the DoH asbestos air-quality limit for protecting the public around contaminated sites (DoH guidelines).</p> <p>The Delegated Officer considers that the effective removal of asbestos from the final product is essential in minimising risk of asbestos fibres impacting receptors. Product testing results will be required to be submitted to DWER on a six monthly basis for review to allow DWER to monitor the efficiency of the process to remove asbestos material.</p>	<p>Condition 1.2.1 (Table 1.2..1) – asbestos waste acceptance</p> <p>Condition 1.2.2 (Table 1.2..2) –asbestos waste processing</p> <p>Condition 1.2.4 – containment infrastructure.</p> <p>Conditions 1.29 to 1.2.13 – product testing requirements</p> <p>Conditions 2.4.2 - 2.4.4 – asbestos fiber monitoring</p> <p>Condition 4.2.3 – Product testing results to be provided to DWER on a 6 monthly basis</p>
			Air/Windborne pathway leading to Asbestos fibre contamination of the soil within the Premises.		Severe	Unlikely	High	<p>The acceptance and treatment of asbestos waste is a high risk activity. This is due to the severe consequence criteria associated with the event (permanent loss of amenity / contamination of land).</p>

Risk Event				Consequence rating <sup>1</sup>	Likelihood rating <sup>1</sup>	Risk <sup>1</sup>	Reasoning	Regulatory controls
Source/ Activities	Potential emissions	Potential receptors, pathway and impact	Applicant controls					
		Site is classified as 'possible contaminated – investigation required' under the <i>Contaminated Sites Act 2003</i> .					Screening of asbestos pieces within soil may result in asbestos fibre release into the air leading to contamination of the Premises. The risk rating for this event is deemed to be high.  Therefore, asbestos fibre monitoring is essential in determining the effectiveness of the dust suppression controls proposed by the Licence Holder. Monitoring conditions for asbestos fibre monitoring will be added to the licence.	Condition 4.2.3 – Asbestos fibre monitoring results to be provided to DWER on a frequent basis
	Noise	Air/windborne pathway causing health and amenity impacts to human receptors; Residential houses located approximately 750m south of the Premises.	See section 7, Table 8	Minor	Unlikely	Medium	There is the potential that noise emissions may cause low level amenity impacts on sensitive noise receptors located 750 meters from the boundary. Any noise emissions are anticipated to be short-term and localised.  Screening operations already occur on site as part of an extractive industry that is not included on the licence (due to being under the throughput threshold). The maximum sound power level of the screening equipment on site is 95(dB(A)). This maximum figure applies to screening aggregates, as the Licence Holder is proposing to only screen soils the sound power level output is expected to be less than 90(dB(A)).  The Licence Holder's current planning approval authorises operational hours to be between 0600 to 1800 Monday to Saturday however trucks are not authorised to leave the Premises prior to 0630. DWER records indicate that no noise related complaints have been received. No specific noise controls have been provided with this licence amendment application.  The risk rating for this event has been deemed to be Medium.  The Delegated Officer considers that the medium risk of noise emissions can sufficiently be managed by the occupier adhering to the hours of operation specified on the planning approval. Hours of operation have not been included as regulatory controls on the licence to avoid duplication with the planning approval.  The occupier is required to comply with the <i>Environmental Protection (Noise) Regulations 1997</i> at all times which provides an adequate method for regulating noise emissions from the Premises. No specific regulatory controls for noise emissions have been included on the licence.	Compliance with the <i>Environmental Protection (Noise) Regulations 1986</i> applies
	Contaminated storm water	Transportation of contaminated stormwater from stockpiles (some containing asbestos material and sedimentation) to surrounding soil and offsite soil/ surface water features.  <i>Melaleuca huegeli</i> – <i>Melaleuca acerosa</i> shrublands Threatened Ecological Community (TEC) 190m north of the premises.	See section 7, Table 8	Minor	Unlikely	Medium	Minimal off-site impacts may occur if contaminated stormwater from stockpiles were to escape the Premises.  Due to the Licence Holder's proposed controls it is unlikely that contaminated storm water will impact sensitive receptors.  The risk rating for this event has been deemed to be Medium. The Delegated Officer considers that the controls proposed by the applicant are sufficient in managing this risk and these have been conditioned on the licence.	Condition 1.2.2 (Table 1.2.2) – asbestos waste processing to occur only within the Main screening area and supplementary screening areas.  Condition 1.2.4 – containment infrastructure

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

## 9. Consultation

Consultation was undertaken by DWER with key stakeholders and the Licence Holder. A summary of the consultation and how comments made by stakeholders were addressed by DWER are outlined below in Table 10.

**Table 10: Summary of consultation**

Method	Comments received	DWER response
Local Government Authority (City of Kwinana) advised of proposal 19/02/2020	<p>The City of Kwinana's planning approvals for this site expires on the 27 July and a new development application seeking planning approvals will be required.</p> <p>The proposed activities are not covered under the sites current planning approval.</p> <p>A developmental approval application was submitted to the City of Kwinana on 8 April 2020.</p>	<p>At the time of issuing this amendment a developmental approval was still undergoing assessment with the City of Kwinana.</p> <p>DWER will progress with issuing the licence amendment, however this does not negate the need to seek planning approval (or any other necessary approvals) prior to undertaking these activities.</p>
Department of Health (DoH) advised of proposal 20/02/2020. Advice received 18/3/2020.	<p>DOH has previously commented on a Draft version of this AMP (FAA65610) dated 4 December 2020 and the latest submission seeks to address many of the data gaps and deficiencies identified at that time as outlined below.</p> <p>Section 6 indicates that relevant operators and supervisors (unnamed) will have completed a WorkSafe 'Restricted Asbestos' training course. DOH also requires that those relevant persons hold significant relevant professional experience in the assessment and management of asbestos wastes (see Section 5.2 of the <i>Guidelines for managing asbestos at construction and demolition waste recycling facilities</i>, Department of Water and Environmental Regulation 2012 (DWER, 2012)).</p>	<p>Noted. Attachment 3 of the Licence requires the Licence Holder to have trained and experienced staff undertake sampling in accordance with <i>Guidelines for managing asbestos at construction and demolition waste recycling facilities</i>, Department of Water and Environmental Regulation 2012.</p>
	<p>Section 7 indicates the nearest residential property is 1.5km south of the proposed development. The proponent contends that a single dwelling within the recommended separation distance (i.e. approximately 700m to the south) is unoccupied and likely to remain unoccupied into the future. DOH would require further assurance that this will be the case, and you may wish to contact the Local Government for further advice in this regard.</p>	<p>The nearest residential area is Orelia located approximately 750m away from the Premises.</p> <p>The Licence Holder has confirmed that the caretaker's residence located approximately 375m from the Premises boundary is unoccupied and has been for over 5 years.</p> <p>This has been unable to be verified by the local government authority.</p> <p>DWER has determined that as part of this assessment this residence will not be considered a receptor. Should this information change, the risk assessment may be revised.</p>
	<p>The current submission does not provide any information about any community or stakeholder engagement carried out. This is an essential component of any proposal of this type and helps to understand and address community concerns. A targeted and timely program of community engagement should be carried out prior to final approval.</p>	<p>Noted. DWER does not require stakeholder consultation is not required for amendments.</p>
	<p>Section 8 DOH welcomes the proponent's new commitment to undertake air quality (dust/fibre) monitoring at the site. This should be conducted</p>	<p>Noted. Asbestos fibre monitoring (condition 2.4.2 – 2.4.4) will be required to be undertaken on an ongoing basis in line with DoH advice.</p>

	<p>and reported in accordance with Section 4 of the <i>Guidelines for managing asbestos at construction and demolition waste recycling facilities</i>, DWER, 2012 with further information available in Section 4.2 of <i>Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites in WA</i> (DOH, May 2009).</p> <p>Air quality monitoring should be undertaken under the supervision of a suitably qualified and experienced environmental health professional and continue through-out the operational life of the licensed activity. This should be an enforceable condition of the operating license.</p>	
	<p>Section 12 clarifies that product validation sampling will be from 70 m<sup>3</sup> mini-stockpiles in accordance with DWER, 2012 and DOH, 2009 guidelines and analysed for &gt;7mm (ACM/FA) and &lt;7mm (AF) fractions. DOH would require that all sampling of waste material (including by third party suppliers) should be undertaken by someone with training and experience in sampling asbestos within recycled waste materials and laboratory analysis is undertaken by a National Association of Testing Authorities (NATA) accredited laboratory.</p> <p>DOH welcomes the commitment that mini-stockpiled material will be separated and retained on site until analytical results are known. In the event of non-compliance individual mini-stockpiles can be either re-screened, reassessed and/or disposed of to landfill site without cross-contaminating larger volumes of product material.</p>	<p>Noted.</p> <p>Attachment 3 of the Licence requires the Licence Holder to have trained and experienced staff undertake sampling in accordance with <i>Guidelines for managing asbestos at construction and demolition waste recycling facilities</i>, Department of Water and Environmental Regulation 2012.</p> <p>Attachment 3 also requires the Licence Holder to have laboratory analysis undertaken by a NATA accredited laboratory.</p>
	<p>Material achieving compliance will be deemed to be "suitable for reuse" as general fill sand for industrial-commercial development projects. Compliant material should not be used for any more sensitive reuses (i.e. at residential, schools, public open spaces) without further treatment and validation testing. Any material failing the compliance test(s) will be disposed of to landfill and should NOT be allowed to accumulate at the site. Maximum stockpile quantity limits should be an enforceable condition of the operating licence.</p>	<p>Noted and addressed through conditions 1.2.3 (Table 1.2.2) and 1.2.11.</p>
	<p>Assurance that the proponent will be able to visually identify and remove all non-compliant waste prior to entry onto the site is not possible. Therefore, DOH emphasises the importance of ensuring that all hazardous materials, including asbestos, are removed from the waste stream prior to the demolition of impacted buildings and structures. Hazardous materials/asbestos clearance certification should be provided to support waste acceptance at the proposed facility. In addition, observation of suspect materials is expected to occur through all stages of the recycling process.</p>	<p>Noted however actions outside of the Prescribed Premises are outside scope of DWER licences. Condition 1.2.1 requires the licence holder to ensure waste meets a certain criteria for asbestos content prior to acceptance.</p>

	Based on the assurances provided in the latest version of the Management Plan, and subject to the above comments, DOH is satisfied that the risk to public health from the proposed licensed activity is 'low' but requires on-going auditing and management through the rigorous enforcement of conditions attached to any DWER operating licensed.	Noted.
Department of Health advice received 26/05/2020	<p>Initial advice recommended that air-dust-fibre monitoring should be conducted throughout the operational life of the facility, in accordance with DWER 2012 and DOH, 2009 guidelines and by a suitably qualified and experienced environmental health professional.</p> <p>The Membrane Filter methodology set out in NOHSC: 3003 (Membrane Filter Method for Estimating Airborne Asbestos Fibres) is appropriate. This provides detailed guidance on the siting, duration and frequency of monitoring for occupational and para-occupational monitoring.  <a href="https://www.safeworkaustralia.gov.au/system/files/documents/1702/guidancenote_membranefiltermethodforestimatingairborneasbestosfibres_2ndedition_nohsc3003-2005_pdf.pdf">https://www.safeworkaustralia.gov.au/system/files/documents/1702/guidancenote_membranefiltermethodforestimatingairborneasbestosfibres_2ndedition_nohsc3003-2005_pdf.pdf</a></p> <p>The proposed location of monitoring devices around the high impact work area is reasonable for occupational monitoring, but we would also recommend site perimeter monitoring is carried out for para-occupational purposes, so that any community complaints can be quickly identified, addressed and communicated.</p> <p>As per NOHSC 3003, '<i>The total sample duration should aim at collecting a sample that is representative of the period in question, usually an entire shift</i>' (s.6.2). DOH recommend that in order to safeguard workers, visitors and neighbours, air-dust-fibre monitoring should be conducted for <u>over the shift period each day</u> over the <u>whole operational life</u> of the facility.</p> <p>Although there may be scope to reduce the frequency of monitoring into the future, this would only be possible once there was a body of evidence that demonstrated that the risk from asbestos was low and acceptable. In this regard, DOH emphasises the importance of ensuring that all hazardous materials, including asbestos, are removed from the waste stream prior to the demolition of impacted buildings and structures. Hazardous materials/asbestos clearance certification should be provided to support waste acceptance at the proposed facility.</p>	Noted. NOHSC:3003 method has been adopted in condition 2.4.2 Frequency of monitoring has also been adopted.
Licence Holder referred draft documents on 3/6/2020. Comments received 5/6/2020.	<p>Please note Eclipse wishes to waive the consultation period and have the licence issued as soon as possible. The conditions laid out by DWER in the proposed amendment are pragmatic and are accepted by Eclipse.</p> <p>Eclipse seeks the following clarification on the frequency of asbestos fibre monitoring contained in <i>Table 2.4.2 Monitoring of ambient air quality</i> of the draft licence:</p>	Asbestos fibre monitoring will be required during handling and screening of asbestos containing material. The licence has been updated to reflect this.

	<ul style="list-style-type: none"> <li>Is asbestos fibre monitoring required continually during operational hours of the Abercrombie Road Resources Recovery Centre as a whole, or only during operation of the asbestos processing areas themselves (i.e. when soils containing asbestos are being unloaded, screened or handled in anyway)?</li> </ul> <p>Eclipse considers the most appropriate time to conduct asbestos fibre monitoring is when soils containing asbestos are being processed. If no asbestos fibres are detected during times when soils containing asbestos are being disturbed, it is extremely unlikely asbestos fibres will be liberated from static stockpiles that are under dust suppression.</p>	
	<p>Regarding DWER's requirement for additional information on asbestos fibre monitoring, Eclipse can offer the following response:</p> <p>Trained and competent Eclipse personnel will assess the locations of the static fibre monitoring pump locations in general accordance with Australian/New Zealand Standard 3580.1.1:2016 and National 2</p> <p>Occupational Health and Safety Commission (NOHSC) 'Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres' (NOHSC, 2005). As such a minimum of three static air fibre monitoring pumps will be strategically located to assess the effectiveness of controls during the processing of the material. To ensure the pumps are strategically located the following factors will be considered and incorporated:</p> <ul style="list-style-type: none"> <li>the location of the works (i.e. screening area);</li> <li>the expected duration of screening/works;</li> <li>the expected wind directions for that day; and</li> <li>observed dust patterns (i.e. the extent based on the material, such that heavy moist clay material may have pumps closer whilst dry sand may have pumps positioned further away).</li> </ul> <p>It is envisioned that the pumps will be positioned approximately 20-50m away from the immediate work area such that dust does not overload the filters and allows for analysis of the filters to be undertaken, but not so far away that it does not allow for assessment of representative conditions. The pumps will be positioned at a height of approximately 1.5 to 2m above the ground level such they are within the expected breathing zone.</p> <p>Based on review of the annual Bureau of Meteorology (BOM) wind rose from the Jandakot weather station (ID 009172), the typical wind patterns to be expected encountered are easterly and/or south westerly. Eclipse have presented a typical setup under each of these typical wind scenarios (Appendix A), such that one static asbestos fibre monitoring pump will be</p>	<p>The location of monitors will be required to be determined bases on professional judgment taking into account daily wind directions and with regard to nearby sensitive receptors.</p> <p>Maps showing indicative locations of monitors have been added to the licence.</p>

	situated up gradient of the observed wind direction with two down gradient pumps.	
--	---	--

## 10. Conclusion

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

### 10.1. Summary of amendments

Table 11 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the Revised Licence as part of the amendment process.

**Table 11: Licence amendments**

Condition No.	Proposed amendments
Definitions	New definitions have been added to the licence for 'asbestos fines', fibrous asbestos', 'Main screening area', NOHSC 3003', 'suitably qualified', 'Supplementary Screening Area ACM in Acid Sulfate Soils)' and 'Supplementary Screening Area ACM in hydrocarbon impacted Soils)'
1.2.1 (Table 1.2.1)	The words 'waste containing visible asbestos or ACM shall not be accepted' has been deleted from row three, four and five of Table 1.2.1.  A row has been added to Table 1.2.1 allowing up to 100 000 tonnes of soil contaminated with visible asbestos or ACM to be accepted at the premises. Acceptance criteria in accordance with the Licence Holder's asbestos management plan has been conditioned within Table 1.2.1.
1.2.3 (Table 1.2.2)	A row has been added to Table 1.2.2 outlining the process requirements for the processing of soil contaminated with visible asbestos or ACM to occur on the Premises. The process requirements have been taken from the Licence Holder's asbestos management plan.
1.2.4 (Table 1.2.3)	The words 'within 3 months from the date of issue of this licence' have been removed from the infrastructure specification column of Table 1.2.3 under the Green waste Area row as this time frame has now past and the Licence Holder is now required to comply with the green waste area specifications.  Three new rows for 'Main Screening Area', and the 'Supplementary Screening Areas' have been added to Table 1.2.3 as they are new containment infrastructure on site.  Infrastructure requirements for the supplementary screening areas have been copied from the specifications for the ASS/PASS area and bioremediation area as these areas overlap.
New conditions 1.2.9 – 1.2.13	New conditions have been added to the licence requiring products derived from asbestos or ACM contaminated soils to be tested in accordance with the product testing procedures specified in a new attachment to the licence (Attachment 3) and to meet certain product specifications as in accordance with <i>Guidelines for managing asbestos at construction and demolition waste recycling facilities</i> , Department of Water and Environmental Regulation 2012
2.2.1 (Table 2.2.1)	Asbestos or ACM contaminated soils have been added to the 'waste inputs' row of Table 2.2.1.
New conditions	New conditions have been added to the licence requiring the Licence Holder to undertake asbestos fibre monitoring.

2.4.2 -2.4.3	<p>This requirement was proposed in the Licence Holder's asbestos management plan but has been expanded based on DoH advice that asbestos fibre monitoring should continue on an ongoing basis.</p> <p>A limit for asbestos fibres of 0.01 fiber/mL has also been added to the licence. This limit is in accordance with the DoH asbestos air-quality limit for protecting the public around contaminated sites (DoH guidelines).</p>
New condition 4.1.4	A new condition has been added to the licence requiring the Licence Holder to maintain a record of the details of each asbestos or ACM contaminated soil load received at the premises.
4.2.2	<p>This conditions has been undated to require the Licence Holder to submit the asbestos fibre monitoring results as part of the annual environmental report.</p> <p>The requirement for groundwater monitoring results to be in the form of the GR1 form has been deleted as this is no longer required.</p> <p>Product testing results derived from asbestos or ACM contaminated soil has also been added to this condition to require this data to be submitted as part of the annual environmental report.</p>
4.2.3	<p>Three new rows have been added to Table 4.2.2. Additional non-annual reporting requirements have been added for;</p> <ul style="list-style-type: none"> <li>- Records demonstrating compliance with waste acceptance limits for concentrations of asbestos in asbestos contaminated soil accepted on the premises (condition 4.1.4).</li> <li>- Asbestos fibre monitoring results to be provided to DWER after the first 4 weeks and on an on-going 6 monthly basis; and</li> <li>- Product testing results to be provided to DWER on a 6 monthly basis.</li> </ul>
4.3.1	This condition has been updated to refer to condition 2.4.2 in the first row of table 4.3.1 as a limit has been added to this condition.
Map of screening Areas in Schedule 1	Three new maps have been added to schedule 1 depicting an overview of the three Asbestos or ACM contaminated soil screening areas and detailed views of each area.
New Attachment 3	Attachment 3 has been added to the licence. It outlines the product testing procedure for products derived from asbestos contaminated soils.
GR1 form	Form has been deleted.

**Melissa Chamberlain**  
A/MANAGER – WASTE INDUSTRIES  
REGULATORY SERVICES

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



## Appendix 1: Key documents

	Document title	Availability
1	Licence amendment application and supporting documents (30 January 2020)	DWER records (A1863042)
2.	Email correspondence – Response to request for further information (including attachments), Eclipse Soils Pty Ltd, received 9/4/2020 at 9.25AM.	DWER records (A1883523)
3.	Advice from Department of Health, received 18/3/2020 via email.	DWER records (A1877559)
4.	Advice from Department of Health, received 26/05/2020 via email.	DWER records (A1897469)
5.	Advice from Air Quality Branch, DWER, available on 24/05/2020	DWER records (A1897256)
6.	Advice from Contaminated Sites branch, DWER, available on 5/5/2020	DWER records (A1890453)
7.	Department of Health, May 2009. <i>Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia</i>	accessed at <a href="http://ww2.health.wa.gov.au">ww2.health.wa.gov.au</a>
8.	Guidelines for managing asbestos at construction and demolition waste recycling facilities, Department of Environment and Conservation, 18 December 2012	accessed at <a href="http://www.dwer.wa.gov.au">www.dwer.wa.gov.au</a>
9.	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>
10.	DER, October 2015. <i>Guidance Statement: Setting conditions</i> . Department of Environment Regulation, Perth.	
11.	DER, August 2016. <i>Guidance Statement: Licence duration</i> . Department of Environment Regulation, Perth.	
12.	DER, February 2017. <i>Guidance Statement: Risk Assessments</i> . Department of Environment Regulation, Perth.	
13.	DWER, June 2019. <i>Guideline: Decision Making</i> . Department of Water and Environmental Regulation, Perth.	
14.	DWER, June 2019. <i>Guideline: Industry Regulation Guide to Licensing</i> . Department of Water and Environmental Regulation, Perth.	