



Application for Licence Amendment

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

Licence Number	L9003/2016/1
Licence Holder	Eastern Metropolitan Regional Council
File Number	DER2016/002031-1
Premises	Hazelmere Resource Recovery Park 77 Lakes Road HAZELMERE WA 6104 Legal description - Being Lot 100 on Plan 4553, Lot 301 on Plan 405273 and Lot 814 on Plan 410889 and defined by the premises map attached to the revised licence
Date of Report	25 July 2024
Decision	Revised licence granted

A/MANAGER WASTE INDUSTRIES REGULATORY SERVICES

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

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1. Decision summary

Licence L9003/2016/1 is held by Eastern Metropolitan Regional Council (licence holder) for the Hazelmere Resource Recovery Park (the premises), located at 77 Lakes Road, Hazelmere.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the operation of the premises. As a result of this assessment, revised licence L9003/2016/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Amendment Report, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

2.2 Amendment summary

On 13 November 2023, the licence holder submitted an application to the department to amend licence L9003/2016/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). This licence amendment application included the ongoing operation of the waste transfer station assessed and constructed under W6360/2020/1 (Stage 2).

The following amendments are being sought:

- Addition of the newly built Waste Transfer Station (WTS) and associated infrastructure approved under works approval W6360/2020/1 onto the licence.
- Increase in the Category 62: Solid Waste Depot licensed production capacity from 50,000 tonnes per annual period (tpa) to 215,000 tpa reflecting the new waste transfer stations operations which includes acceptance of the following waste streams:
 - 125,000 tonnes of municipal Solid Waste (MSW) per annual period from kerbside collection and public open space bins provided by EMRC member councils and other Local Governments.
 - 40,000 tonnes of Food Organics and Garden organics (FOGO) per annual period from kerbside collections.
- Removal of the requirement for a 300mm freeboard on the stormwater basins.
- Increase in the maximum number of used mattresses able to be stored onsite from 500 to 750.
- Increase in water cart capacity from 7,000L to 15,000L for dust suppression management.
- Amendment to the definition of 'commissioning period' to increase the period from 6 months to 12 months to allow Stage 3 to be completed to satisfy multiple external stakeholders including Western Power, which has advised of protracted timeframes.
- Other administrative changes to the licence to accommodate the new waste transfer station infrastructure.

Table 1 below outlines the proposed throughput changes to the existing licence.

Table 1: Proposed throughput capacity changes

Category	Current assessed throughput capacity	Proposed design capacity	Description of proposed amendment
62	50,000 tonnes per annual period - Inert waste type 1 - Paper and cardboard	215,000 tonnes per annual period - Inert waste type 1 (50,000 tpa) - Paper and cardboard, Putrescible waste (125,000 tpa) - FOGO (40,000 tpa)	The applicant is currently operating the newly constructed waste transfer station under works approval W6360/2020/1 time-limited operations. This licence amendment assessment is to include this infrastructure and operations onto existing licence L9003/2016/1.

2.3 Works approval W6360/2020/1 Environmental Compliance Report

The applicant submitted an Environmental Compliance Report (ECR) on 8 August 2023 (DWERDT818356) and commenced time-limited operations. The ECR noted departures from the works approval requirements which was reviewed by DWER with a ECR compliance notification sent to the works approval holder on 26/09/2023 (DWERDT839792).

Table 2 below outlines the changes that were made to the original design and construction requirements specified in works approval W6360/2020/1 and the Department’s response to the changes.

Table 2: Changes to works approval W6360/2020/1 design and construction requirements

Condition no.	Department response to variation
1 - Stage 2 Unloading area and waste storage bunker hardstand (b) Constructed from reinforced concrete of at least 200 mm thickness	The department notes and accepts that the minor reduction of slab thickness to 180 mm is approved by a suitably qualified structural engineer, will not affect the function of the building, is designed to withstand vehicle/stockpile loading and poses no environmental risk due to the reduction.
1 - Stage 2 Unloading area and waste storage bunker hardstand (c) Graded to fall at 1% towards a leachate collection sump 1 - Stage 2 Bulk load out area hardstands (c) Graded to fall at 1% towards a leachate collection sump.	As per Guideline: Better practice organics recycling the department recommends to achieve a grading that prevents pooling of leachate, provides sufficient fall towards the leachate storage infrastructure, minimises erosion of the hardstand surface or material stored on the hardstand and allows safe and effective use of vehicles and machinery (an average grading of at least 2 per cent across the hardstand may be suitable; however, the grading required to achieve these outcomes depends on the site-specific conditions). The department accepts the graded to fall at 0.5%, deemed sufficient by a suitably qualified structural engineer, however notes that should the fall not be sufficient to manage leachate collection future upgrades may be necessary.

Condition no.	Department response to variation
<p>1 - Stage 2 Leachate Collection System.</p> <p>(b) The leachate collection sumps must be fitted with drainage pipelines to divert leachate to the below ground leachate tank</p>	<p>The department notes the secondary leachate system does not divert leachate to the below ground leachate tank and instead diverts leachate from four drains to their own individual 1000L storage sumps.</p> <p>The department notes and accepts this variation was required due to the limited fall available between the four drains and their corresponding 1000L sumps located at each end of the bulk load out area hardstands, and the height on the inlet pipe of the below ground 23,000 L leachate tank.</p>
<p>1 - Stage 2 Leachate Collection System.</p> <p>(c) The below ground leachate tank must be fitted with a high-level sensor connected to a monitored alarm system</p>	<p>The department notes a variation was submitted stating the secondary leachate system is not fitted with a high-level sensor. This condition specifically relates to the below ground leachate tank (23,000 L) and does not apply to the secondary leachate system.</p> <p>The department notes that secondary leachate system sumps will be pumped clean regularly by a licensed controlled waste vacuum truck at a frequency determined on commencement of the operations of the facility.</p>

2.4 Waste transfer station infrastructure

The WTS occupies an area of approximately 18,400 m², containing a 60 m x 73 m (4,438 m²) fully enclosed warehouse, ranging from 10m - 14m in height. The WTS roof contains four extraction stacks, set at 2 m high, to allow air flow through the facility. The stacks achieve a minimum of four air changes per hour. The WTS floor is formed from 180 mm thick reinforced concrete at a slope of 0.5%. The facility has been designed to a maximum capacity of 232,000 tpa with two days storage capacity after five days of operation. The WTS consists of the following areas;

- An unloading area and tipping floor;
- A waste storage bunker area; and
- A bulk load out area.

Unloading area (incl. primary leachate collection system)

The 1,388 m² unloading area is located in the northern portion of the facility adjacent to a reversing apron external to the building. The reversing apron is sloped to fall northward away from the WTS. Entrance to the area is through seven sound insulated fast action roller doors, with a 15 second close time, to reduce fugitive odour emissions. The unloading area floor will fall towards a spoon drain at the rear (south) of the facility. The spoon drain will contain collection points that divert leachate to a 23,000L below ground containment tank located outside the WTS.

Waste storage bunker

The 1,830 m² waste storage bunker area will be located in the southern portion of the facility. Designated storage bunkers will be formed from 5 m high reinforced concrete walls. Moveable bunker walls will also be present to further delineate bunker areas for particular waste streams.

Bulk load out areas (incl. secondary leachate collection system)

The bulk load out areas will be located on the western and eastern sides of the facility. Both areas will be comprised of a 305 m² loading area and a one-way vehicle lane, sunken 1 m below the level of the main WTS floor. The north and south sections of the lanes will be graded with a

0.5% slope to four drainage points which connect to their own (4x) 1000L self-contained leachate storage sump. Entry and exit to the vehicle lane will be through two large sound insulated fast action roller doors located on the northern and southern ends of the facility.

The entry and exit points will be fitted with an intercept drain to prevent stormwater ingress.

Sewer pump station/sump

A wastewater sewer line has been installed connecting the leachate collection system to a wastewater sewer pump sump that contains a 20,460L wastewater sump which then discharges to the Water Corporation sewer offsite. Trade Waste Permit 69032 has been issued by the Water Corporation permitting this discharge, subject to sampling, analysis and reporting requirements to the Water Corporation. The sewer sump operates automatically, discharging when the level sensor within the sump is activated. The Water Corporation monitors the sewer sump's outfall using a flow meter.

There is no longer a need to empty the WTS's 23,000L wastewater/leachate tank via tankering offsite as the wastewater will discharge direct to sewer in accordance with a trade waste permit. Should the licence holder not be permitted to discharge the WTS wastewater to sewer for any reason, wastewater will then be tankered offsite as a contingency to a suitably licensed disposal facility until such a time that the wastewater discharge to sewer can resume.

Stormwater containment

A stormwater infiltration pond is located on the eastern margin of the WTS area. The pond is connected through underground pipework to transport stormwater away from the external areas of the WTS. The circumference of the pond contains a 1m high ring of gabion baskets to allow for more storage capacity.

The key infrastructure and equipment proposed for the WTS are outlined in Table 3 below and the WTS layout is shown in Figure 1.

Table 3: Proposed WTS infrastructure and equipment

Infrastructure or Equipment	Site Layout Plan reference
Steel framework enclosed warehouse	Transfer station warehouse as shown in Figure 1 and Figure 2
4 x 2 m high air extraction stacks capable of: <ul style="list-style-type: none"> • Achieving 4 air exchanges per hour at an exit velocity of 15 m/s 	As shown in Figure 2
Unloading area and waste storage bunker floor: <ul style="list-style-type: none"> • Reinforced concrete hardstand of 180 mm thickness • Constructed with a southward fall of 0.5% towards a primary leachate collection system: 	Unloading area and Waste storage bunker as shown in Figure 1
Vehicle lane reinforced concrete hardstand (bulk load out areas): <ul style="list-style-type: none"> • 150 mm thick • Entry and exit points fitted with stormwater intercept drains • Constructed with a fall of 0.5% towards the secondary leachate collection system: <ul style="list-style-type: none"> ○ 4x 1000L self-contained leachate storage sumps. 	Western and eastern perimeter of the Transfer station warehouse as shown in Figure 1.
Leachate spoon drain comprised of: <ul style="list-style-type: none"> • Collection points draining to the primary leachate collection system. 	Southern perimeter of the Transfer station warehouse as shown in Figure 1.
11 x sound insulated fast action roller doors with a: <ul style="list-style-type: none"> • 15 second open and shut cycle 	N/A
23,000L below ground leachate containment tank <ul style="list-style-type: none"> • Fitted with a level sensor and high-level alarm system 	Containment tank as shown in Figure 1 and Figure 2.
External reversing apron: <ul style="list-style-type: none"> • Constructed with a northward fall away from the WTS 	Reversing apron as shown in Figure 1
Bunded vehicle access points	N/A
5 m high reinforced concrete push walls and moveable bunker walls	N/A
Stormwater infiltration pond and associated drainage pipelines	Stormwater area as shown in Figure 1 and Figure 2.
2 x fire suppression water storage tanks	N/A
2 x front end loader	N/A
1 x long reach excavator with compaction attachment	N/A
Sewer pump sump including 20,460L wastewater storage sump and associated sewer line.	Sewer pump station/sump and sewer line as shown in Figure 2

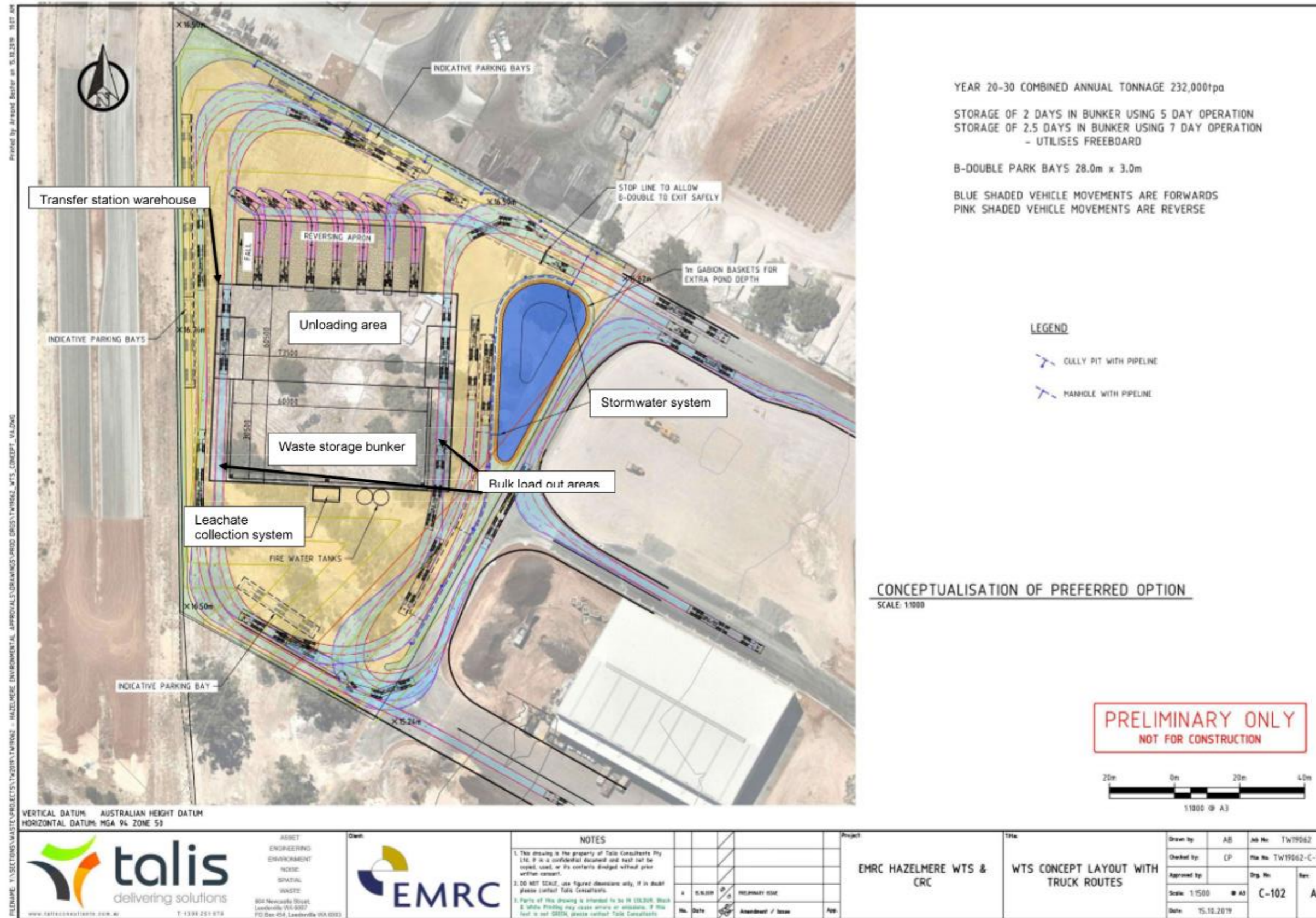


Figure 1: WTS layout



Figure 2: Wastewater sewer line and pump station/sump

2.5 Waste transfer station operations

The WTS will be open Monday to Friday 7am to 5pm and Saturday 7am to 2pm. The facility accepts the following waste streams:

- Municipal solid waste (MSW) from the kerbside collection and public open space bins provided by EMRC member councils and other local governments.
- FOGO from kerbside collections.
- Commercial waste from private industry, operations on the premises and non-recyclables from the CRC (once operational).

MSW from the kerbside collections and non-recyclable general waste is consolidated and transported off-site for final disposal. Non-recyclable waste is currently disposed of at the Red Hill Waste Management Facility operated by EMRC; in future, MSW kerbside waste may be transported south of Perth to a Waste to Energy Facility for incineration. FOGO waste is consolidated and transported to either the Red Hill Waste Management Facility for or another contracted licenced composting facility.

The yearly quantities shown in Table 4 below are proposed to be accepted at the facility. The proposed daily waste vehicle movements and tonnages are shown in Table 5.

Table 4: Waste type and quantities proposed for acceptance at the WTS

Waste type	Maximum design tonnage per year	Initial tonnage per year	Estimated tonnage in 15 years
MSW	95,000	70,000	82,500
FOGO	105,000	75,000	90,000
Commercial	30,000	30,000	30,000
Total	230,000	175,000	202,500

Table 5: Proposed daily waste vehicle movements and tonnages

Haulage vehicle type	Waste type	Total vehicle movements (in-bound)		
		Year 1	Year 15	Year 30
RCVs (9 tonnes)	MSW	33	39	45
	FOGO	36	43	50
	Commercial	14	14	14
	Total	83	96	109 (981 tonnes daily)
Haulage vehicle type	Waste type	Total vehicle movements (out-bound)		
		Year 1	Year 15	Year 30
Transfer trailers (30 tonnes)	MSW	10	12	14
	FOGO	11	13	15
	Commercial	4	4	4
	Total	25	29	33 (981 tonnes daily)

On arrival, trucks entering the premises will be directed to the weighbridge where load details will be recorded and inspections will take place. Staff operating the weighbridge will direct the driver to a specific entry on the northern side of the WTS. The collection vehicle will then reverse into the WTS through one of the fast action doors, which will close once the truck has entered. Wastes will be deposited by the delivery vehicles directly onto the floor of the WTS and the vehicle may be cleaned if required. The fast action doors will then re-open and the collection vehicle will exit the facility to the weighbridge.

A front-end loader will further consolidate the waste on the tipping floor and transport it either to the waste storage bunker or the bulk load out area if quantities are suitable. Waste will typically be stored for no longer than 24 hours prior to offsite removal.

Once enough material has been consolidated, the waste will be loaded by a front-end loader into a haulage vehicle at the bulk load out area. A material handler with a rotating grab arm is used to load and compact the waste within the haulage vehicle. The vehicle will then exit the premises through the weighbridge and transport the waste to the relevant disposal site or composting facility.

The waste storage bunker area will be periodically washed down with a high-pressure hose. Wash down water will be directed to the primary leachate collection system through the grade of the facility.

The two bulk waste loadout areas are periodically cleaned with a street sweeper and, if required, they are washed down with a high-pressure hose or water cart. Wash down water is drained via the graded concrete hardstand to drains located at each of the entry and exit points of the two areas. Each drain is connected to its own self-contained leachate sump.

The 23,000L leachate storage tank will automatically pump to the sewer pump sump when the high-level sensor in the tank is triggered. The wastewater will then be pumped offsite via Water Corporation sewer in accordance with a Water Corporation Trade Waste Permit. The four self-contained 1,000L leachate sumps will be pumped out, as required, by a licenced controlled waste contractor. This liquid will be disposed of at a licenced disposal facility.

3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk assessments* (DWER 2020).

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises operation which have been considered in this Amendment Report are detailed in Table 6 below. Table 6 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

Table 6: Licence Holder controls

Emission	Sources	Potential pathways	Proposed controls
Dust	Waste acceptance, sorting and storage. Vehicle movements.	Air/windborne pathway	<ul style="list-style-type: none"> • Storage of waste in an enclosed building. • One 15 kL capacity watercart is kept at the premises for dust control as needed. • Internal road sweeping is carried out at least twice weekly. • All waste loads are covered during transport to and from the WTS. • All operational areas of the WTS are sealed.
Noise	Mechanical sorting of waste. Vehicle and machinery movements. Waste receptacle lifts and placements. Operation of the air extraction system.	Air/windborne pathway	<ul style="list-style-type: none"> • The following acoustic boundary walls are maintained: <ul style="list-style-type: none"> ○ 3m high wall on the north and east boundary. ○ 2.2m high wall on the west boundary and a portion of the southern boundary. • An internal speed limit of 10-30 km/hr is set on all roads. • Waste handling activities take place in the fully enclosed WTS building • The following are maintained on the WTS building: <ul style="list-style-type: none"> ○ Sound insulated fast action doors. ○ Fabric insulation installed under roof sheeting. • Broadband reversing alarms are used on vehicles. • Operational hours are Monday to Friday 07:00-17:00 and Saturday 07:00-14:00. • Unloading drop-heights are minimised where possible. • Vehicles and equipment are regularly maintained.
Leachate	Decomposition of putrescible material. Washdown of waste collection vehicles, tipping floor and storage bunkers.	Overland runoff, infiltration through soil to groundwater	<ul style="list-style-type: none"> • Waste storage occurs on sealed concrete hardstand in an enclosed building. • The premises is not connected to the local stormwater drainage network. • The leachate collection system diverts leachate from the unloading area to a 23,000 L capacity below ground tank and from the two bulk loadout areas to four 1,000 L capacity sumps. • The integrity of the leachate collection tanks and sumps is maintained.

Emission	Sources	Potential pathways	Proposed controls
			<ul style="list-style-type: none"> • Drainage pipelines are maintained free from blockages. • Leachate levels in the leachate collection tank and sumps are monitored and leachate is regularly removed off-site via Water Corporation sewer connection or tankering to prevent overflow. • A high-level leachate sensor connected to a monitored alarm system is maintained within the leachate tank. • Discharge of wastewater via Water Corporation sewer in accordance with a Water Corporation Trade Waste Permit or tankered offsite to a suitably licensed disposal facility where required.
Contaminated stormwater	Stormwater interaction with temporary stored waste.	Overland runoff, infiltration through soil to groundwater	<ul style="list-style-type: none"> • The premises is not connected to the local stormwater drainage network. • Uncontaminated stormwater is directed away from the WTS to a stormwater drainage system. • The stormwater drainage system and containment infrastructure are regularly inspected.
Odour	Acceptance, sorting and temporary storage of putrescible waste material	Air/windborne pathway	<ul style="list-style-type: none"> • All waste is stored in a fully enclosed building. • Vehicle access doors have a fast action open and shut cycle. • The building extraction system changes the air in the building approximately four times per hour. • Extracted air is emitted through four extraction stacks with ceiling mounted axial flow fans with: <ul style="list-style-type: none"> ○ A constant stack exit velocity of at least 15 m/s ○ Automated rain louvres. • Storage time of FOGO and putrescible waste is limited to 48 hours from the time of receipt. • All waste loads are covered during transport to and from the WTS. • A complaints management system is maintained.

Emission	Sources	Potential pathways	Proposed controls
<p>Noxious fumes and Fire-fighting washwater</p>	<p>Waste storage fire</p>	<p>Air/windborne pathway and Overland runoff, infiltration through soil to groundwater</p>	<ul style="list-style-type: none"> • Implementation of the premises Fire and Emergency Management Plan. • The WTS is fitted with a fire suppression sprinkler system and water supply tank (effective capacity 89,000 L). • The WTS is fitted with a fire detection and alarm system incorporated into the building management system to detect smoke, fire and carbon monoxide levels and activate the building's fire suppression sprinkler system. • Fire-fighting equipment is located throughout the WTS, including fire hydrants, hose reels, extinguishers and a fire sprinkler suppression system. • Additional fire-fighting water can be sourced from the 15 kL capacity watercart kept at the premises and the stormwater pond. • Staff are trained to respond to fire incidents. • The stormwater system storage ponds and open drains are easily accessed by a vacuum tanker truck via adjacent hardstand. • Discharge of contaminated firefighting water via Water Corporation sewer in accordance with a Water Corporation Trade Waste Permit or tankered offsite to a suitably licensed disposal facility.
<p>Vermin and pests</p>	<p>Temporary storage of putrescible waste material</p>	<p>Disease vectors</p>	<ul style="list-style-type: none"> • All waste loads are covered during transport to and from the WTS. • Storage of FOGO and putrescible waste is limited to 48 hours from the time of receipt. • Perimeter fencing is regularly inspected and maintained. • Suspected or known vermin and pest shelters and breeding locations are exterminated. • Baits are in place and are monitored by a licenced pest controller.
<p>Windblown waste</p>	<p>Acceptance, sorting and temporary storage of waste</p>	<p>Air/windborne pathway</p>	<ul style="list-style-type: none"> • All waste is stored in fully enclosed building. • Vehicle access doors have a fast action open and shut cycle. • All waste loads are covered during transport to and from the WTS. • Regular litter inspections and collections are carried out. • Perimeter fencing is regularly inspected and maintained.

3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the Delegated Officer has excluded employees, visitors and contractors of the licence holder's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies and is provided for under other state legislation.

Table 7 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises (*Guideline: Environmental siting* (DWER 2020)).

Table 7: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Description	Distance from activity or prescribed premises
Sensitive receptors	Residential property at Lot 121 Vale Rd	Approximately 360 m west of the Premises boundary
	Residential property at 18 Lakes Rd	Approximately 370 m west of the Premises boundary
Industrial receptors	BGC Hazelmere Industrial Complex	Immediately adjacent to the north and east of the Premises boundary.
	Processing Site Asphalt Recyclers Australia Pty Ltd	Immediately adjacent to the north of the Premises boundary.
	Talloman Rendering Facility	Opposite the southern Premises boundary across Lakes Rd.

Environmental receptors	Description	Distance from activity / prescribed premises
Surface water	Hazelmere Lake South	Approximately 475 m west and down topographic gradient of the Premises boundary
	Hazelmere Lake North	Approximately 705 m west of the Premises boundary
	Helena River	Approximately 1.2 km northeast of the Premises boundary
Groundwater	<p>Perth superficial aquifer.</p> <p>Local groundwater flow direction is inferred to be west to southwesterly, based on groundwater monitoring conducted by the Applicant.</p> <p>There are 5 registered bores downgradient of the Premises. 3 are associated with the Talloman Rendering plant monitoring network and two are located on residential properties and potentially used for non-potable purposes.</p>	Approximately 2 to 4 m BGL
Bush Forever	Site 386: Perth Airport	Approximately 1.5 km southwest of the Premises boundary
	Site 481: Stirling Crescent Bushland	Approximately 410 m southeast of the Premises boundary
Threatened and Priority Ecological Communities (TEC)	<i>Banksia</i> dominated woodlands of the Swan Coastal Plain IBRA region (BC Act Priority 3) (EPBC Act Endangered)	Approximately 285 m west of the Premises boundary
	<i>Banksia</i> dominated woodlands of the Swan Coastal Plain IBRA region (BC Act Priority 3) (EPBC Act Endangered)	The TEC buffer area is immediately adjacent to the southeast of the Premises boundary
	Shrublands and woodlands of the eastern side of the Swan Coastal Plain (BC Act Critically Endangered) (EPBC Act Endangered)	The TEC buffer area is immediately adjacent to the southeast of the Premises boundary
	<i>Banksia attenuata</i> woodlands over species rich dense shrublands (BC Act Endangered) (EPBC Act Endangered)	The TEC buffer area extends into the southeast of the Premises

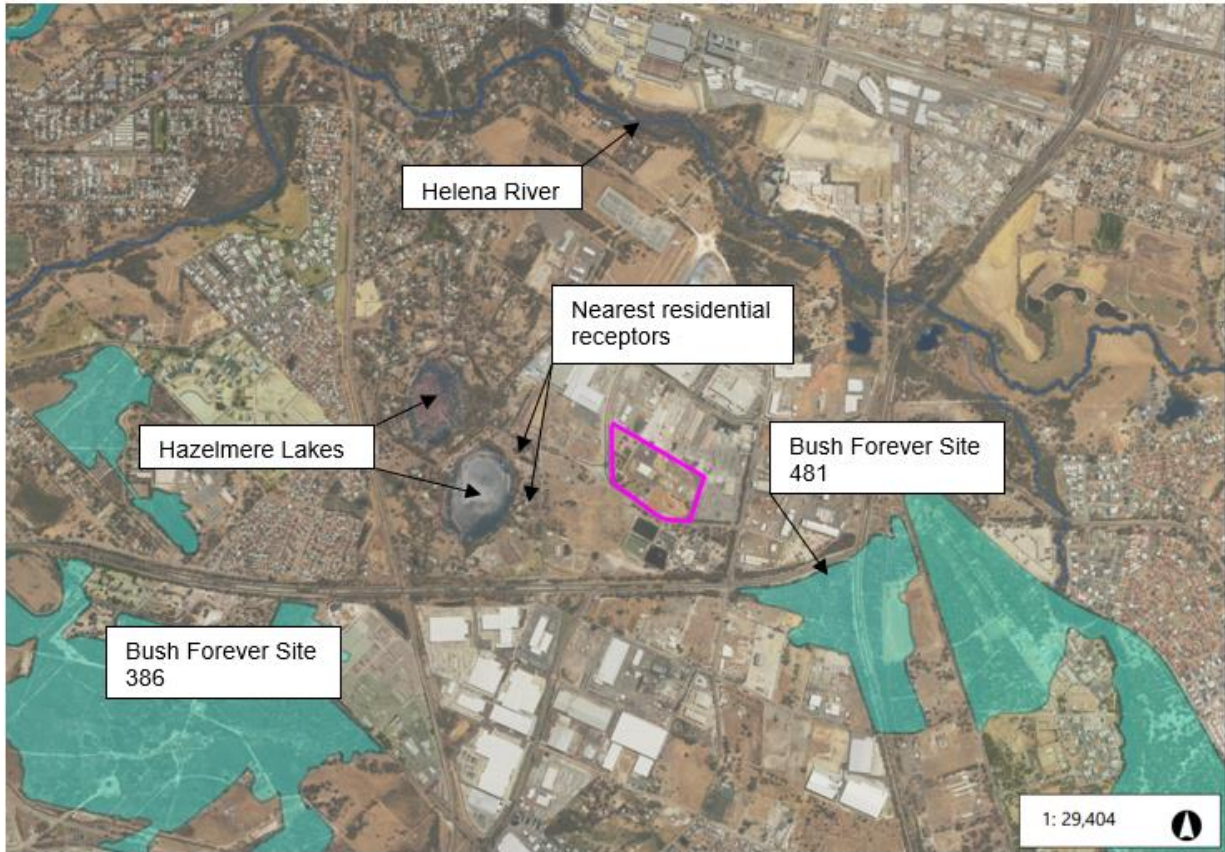


Figure 3: Distance to sensitive receptors

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are incomplete they have not been considered further in the risk assessment.

Where the licence holder has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the licence holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the licence holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 8.

The revised licence that accompanies this Amendment Report authorises emissions associated with the operation of the premises i.e. operation of the waste transfer station.

The conditions in the revised licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 8. Risk assessment of potential emissions and discharges from the premises operation

Risk Event				Risk rating ¹	Reasoning	Regulatory controls (refer to conditions of the granted instrument) ²
Source/Activities	Potential emissions	Potential receptors pathways and impact	Applicant controls	C = consequence L = likelihood		
Waste acceptance, sorting and storage. Vehicle movements.	Dust	Air/windborne pathway causing impacts to health and amenity of closest human receptors: <ul style="list-style-type: none"> Residential property (360m west). Industrial receptors surrounding premises. 		C = Minor L = Rare Low Risk	The Premises activities are not likely to generate substantial volumes of dust due to the type of waste, storage within an enclosed facility and presence of sealed vehicle access ways. The Delegated Officer considers that the Applicant's proposed dust controls are likely to be sufficient at mitigating dust emissions. Further regulatory control is not required.	N/A
	Noise			C = Minor L = Unlikely Medium Risk	The proposed operational hours for the premises are mainly within the 'daytime' hours of the Noise Regulations where a higher assigned decibel level is afforded to potential receptors. The applicant has provided modelling information to demonstrate that operation of the works, in conjunction with the proposed controls, is likely to comply with the EP Noise Regulations. Accordingly, the Delegated Officer considers that the applicant's proposed controls are likely to be sufficient at mitigating potential noise impact on receptors surrounding the premises. It is noted that the applicant has reported no noise complaints regarding the WTS have been received since time limited operations commenced. Whilst noise validation requirements have not been included on this occasion, the Delegated Officer notes that inclusion of noise validation requirements for both the WTS and community recycling stage may be required once the community recycling centre is constructed and is operational. Should noise complaints be received by the applicant relating to operations of the WTS, it is expected the applicant will investigate and action the complaint accordingly and advise DWER through reporting conditions required by the licence. In the event of significant complaints received by DWER or the applicant, noise controls may be reassessed.	<ul style="list-style-type: none"> Environmental Protection (Noise) Regulations. Fast action open and shut doors on the WTS warehouse and closure of doors when not in use. Complaints recording and management system
Decomposition of putrescible material Washdown of waste collection vehicles, tipping floor and storage bunkers Stormwater interaction with temporary stored waste	Leachate/Contaminated stormwater	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality: <ul style="list-style-type: none"> Hazelmere Lake South (475m west). 	Refer to Section 3.1	C = Minor L = Rare Low Risk	The premises is not connected to the local stormwater drainage network, stormwater falling within the premises is drained to the stormwater drainage system connected to the stormwater infiltration pond. The applicant has proposed controls which both exclude stormwater runoff from contacting stored wastes and isolates leachate from mixing with stormwater. Due to the receptor's distance and absence of a connecting drainage network, overland flow of leachate or contaminated stormwater towards the identified receptor is expected to occur only in exceptional circumstances. The Delegated Officer considers that the proposed applicant controls sufficiently mitigate the potential for overland flow of leachate from the premises. Related applicant controls will be specified in the Issued licence as regulatory controls.	<ul style="list-style-type: none"> Prevention of uncontaminated stormwater from entering the WTS warehouse. Containment of leachate within the WTS and falls towards the primary and secondary leachate collection systems. Maintenance of leachate tank, sumps, sewer pump station/sump and pipework to prevent leaks and blockages Regular removal of leachate from tank via a high-level alarm which triggers a pump to activate, moving wastewater to the sewer pump station/sump to prevent overflow. Maintain functioning of high-level alarm on the leachate collection tank. Discharge of WTS wastewater to Water Corporation sewer in accordance with a Water Corporation trade waste permit via a sewer pump station/sump connected to the leachate collection tank.
		Infiltration through soil to groundwater causing deterioration of water quality and potential impacts to down-gradient non-potable groundwater users and Hazelmere Lake South.		C = Moderate L = Unlikely Medium Risk	The premises will be predominately comprised of sealed hardstand that limits the opportunity for leachates or contaminated stormwater to seep through soil. Acceptance and storage of putrescible material likely to produce a leachate takes place mostly in the WTS where an impermeable hardstand and leachate containment system prevents seepage through soil to groundwater. Vehicle and equipment wash down take place above this same hardstand. With the proposed applicant controls in place, seepage of leachate to groundwater is most likely to occur due to defects or overflowing in the leachate holding tank, leachate sumps and sewer pump station/sump associated pipework. Integrity of the holding tank, pipelines and sumps has been confirmed through compliance reporting and conditions requiring maintenance of the infrastructure and high sensor alarm on the tank to prevent leaks, blockages and overflow have been specified in licence conditions. The Delegated Officer considers that seepage of leachate to groundwater will probably not occur in most circumstances.	

Risk Event				Risk rating ¹	Reasoning	Regulatory controls (refer to conditions of the granted instrument) ²
Source/Activities	Potential emissions	Potential receptors pathways and impact	Applicant controls	C = consequence L = likelihood		
Acceptance, sorting and temporary storage of putrescible material	Odour	Air/windborne pathway causing impacts to health and amenity of closest human receptors: <ul style="list-style-type: none"> Residential property (360m west). Industrial receptors surrounding premises. 	Refer to Section 3.1	C = Moderate L = Possible Medium Risk	<p>Sufficient uncertainty still exists in the applicant's assessment of potential odour impacts. This uncertainty is due to the reliance on modelling combined with a lack of comparable FOGO receiving facilities at this scale within the State. Notwithstanding these uncertainties, the Delegated Officer recognises that further infrastructure controls for odour emissions may not be needed. It is noted that the applicant has not reported any odour complaints since time-limited operations of the WTS commenced and that continued monitoring of odour and complaints will continue.</p> <p>This licence amendment does not request an increase in FOGO waste acceptance at the premises above the 40,000 tonnes per year authorised by the works approval. Should the applicant request an increase in FOGO waste volumes at the site, a program of odour field assessments will likely be required in accordance with DWER Guideline: Odour emissions.</p>	<ul style="list-style-type: none"> 40,000 tpa limit of FOGO waste. Unloading of putrescible waste and FOGO only to occur in the WTS warehouse. Storage of putrescible waste and FOGO limited to 48 hours from time of receipt. Fast action open and shut doors on the WTS warehouse and closure of doors when not in use. Air extraction system (four extraction stacks with ceiling mounted axial flow fans) which maintains: <ul style="list-style-type: none"> Negative pressure maintained within the WTS warehouse. Four complete air exchanges of the WTS warehouse per hour Constant stack exit velocity of 15m/s. Complaints recording and management system.
Abnormal operations (waste storage fire)	Particulates and noxious gases from waste combustion	Air/windborne pathway causing impacts to health and amenity of closest human receptors: <ul style="list-style-type: none"> Residential property (360m west). Industrial receptors surrounding premises. 		C = Major L = Rare Medium Risk	<p>Although impacts to receptors are considered major, the likelihood of an adverse event occurring would only be in exceptional circumstances.</p> <p>The Delegated Officer considers that the applicant's proposed infrastructure controls are suitable for mitigating fire incident risks. The WTS is fitted with a thermal detection system and alarm linked to security, site contact and DFES, fire suppression system – sprinklers, fire extinguishers and fire hydrants.</p> <p>The applicant has supplied their current Fire and Emergency Management Plan for the premises which is a live document in the operation of the WTS and other activities on the premises. The Delegated Officer considers the Fire and Emergency Management Plan should be updated on completion of the community recycling centre and provided with the licence amendment application for that stage. Applicant controls have been included on the licence as per the Fire and Emergency Management Plan.</p>	<ul style="list-style-type: none"> All on site fire management and prevention equipment must be kept unobstructed and maintained in working order at all times. Availability of a 15,000L water cart on site. Rejection of all non-conforming waste arriving at the site. Security measures ensuring site fencing is maintained to prevent unauthorised access and entrance gates are locked when site is unattended. Ensuring any fire is extinguished as soon as possible.
	Contaminated firewater and leachate generation from extinguishing a fire	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality: <ul style="list-style-type: none"> Hazelmere Lake South (475m west). 		C = Moderate L = Rare Medium Risk	<p>Overland flow of fire wash-water towards the identified receptor following a fire event is expected to occur only in exceptional circumstances. This is due to the receptor's distance and absence of a connecting drainage network.</p> <p>The Delegated Officer considers that the proposed applicant controls sufficiently mitigate the potential for overland flow of firewater from the premises.</p>	
Abnormal operations (waste storage fire)	Contaminated firewater and leachate generation from extinguishing a fire	Infiltration through soil to groundwater causing deterioration of water quality and potential impacts to down-gradient non-potable groundwater users and Hazelmere Lake South.	Refer to Section 3.1	C = Moderate L = Possible Medium Risk	<p>Firewater generated at the facility when extinguishing a fire would be directed to three places; the primary leachate collection system (23 kL tank), secondary leachate system (4x 1000L leachate sumps) for fires within the WTS warehouse and the stormwater network for wash-water outside the warehouse. Due to the inherent design of the stormwater network the Delegated Officer considers that infiltration of fire wash-water could occur during a fire event.</p> <p>The works approval required infiltration cells to be fitted with tankering points and the stormwater pond to be provided with access points for the removal of firewater during a fire event. Access to a vacuum tanker may be required to ensure these areas can be pumped out in a timely manner. Firewater can then be either tankered offsite by a carrier licensed under the Environmental Protection (Controlled Waste) Regulations 2004 or discharged to Water Corporation sewer in accordance with the licence holder's trade waste permit issued by the Water Corporation.</p>	<ul style="list-style-type: none"> Firefighting wash-water not to be discharged beyond the boundary of the premises. Containment and collection of firewater. Contaminated firewater removed by a suitably licensed carrier to a suitably licensed disposal facility for disposal or discharged to Water Corporation sewer in accordance with a valid Water Corporation trade waste permit.

Risk Event				Risk rating ¹	Reasoning	Regulatory controls (refer to conditions of the granted instrument) ²
Source/Activities	Potential emissions	Potential receptors pathways and impact	Applicant controls	C = consequence L = likelihood		
Temporary storage of putrescible waste material	Vermin and pests	<p>Disease vectors potentially causing impacts to health and amenity:</p> <ul style="list-style-type: none"> Residential property (360m west) Industrial receptors surrounding premises Banksia dominated woodlands of the Swan Coastal Plain TEC Shrublands of Woodlands of the eastern side of the Swan Coastal Plain 		<p>C = Minor L = Unlikely Medium Risk</p>	<p>Putrescible waste acceptance, sorting and storage will take place predominately using an enclosed warehouse, covered waste delivery vehicles and enclosed waste receptacles.</p> <p>The Delegated Officer considers that the applicant's proposed controls are likely to be sufficient at mitigating emissions of potential disease vectors from the premises.</p>	<ul style="list-style-type: none"> Fast action open and shut doors on the WTS warehouse and closure of doors when not in use. Unloading of putrescible waste and FOGO only to occur in the WTS warehouse. Storage of putrescible waste and FOGO limited to 48 hours from time of receipt.
Acceptance, sorting and temporary storage of waste	Windblown waste	<p>Air/windborne pathway causing impacts to amenity of closest human receptors:</p> <ul style="list-style-type: none"> Residential property (360 m west) Industrial receptors surrounding premises 		<p>C = Minor L = Unlikely Medium Risk</p>	<p>Waste acceptance, sorting and storage will take place predominately using the enclosed warehouse and covered waste delivery vehicles. The enclosed warehouse and vehicle coverings will preclude waste from becoming windblown or reaching the identified receptors.</p> <p>The Delegated Officer considers that the applicant's proposed controls sufficiently mitigate the potential for windblown waste to impact receptors surrounding the premises. Related applicant controls have been specified in the issued licence as regulatory controls.</p>	<ul style="list-style-type: none"> Fast action open and shut doors on the WTS warehouse and closure of doors when not in use. Unloading of putrescible waste and FOGO only to occur in the WTS warehouse. Reasonable and practicable measures are taken to contain windblown waste within the WTS warehouse. Windblown waste to be collected on a weekly basis and returned to the WTS or otherwise contained.
		<p>Air/windborne pathway potentially causing ecosystem disturbance:</p> <ul style="list-style-type: none"> Banksia dominated woodlands of the Swan Coastal Plain TEC Shrublands of Woodlands of the eastern side of the Swan Coastal Plain 				

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2020).

Note 2: Proposed Licence Holder's controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

4. Consultation

Table 9 provides a summary of the consultation undertaken by the department.

Table 9: Consultation

Consultation method	Comments received	Department response
Licence Holder was provided with draft amendment on 3 May 2024	Refer to Appendix 1.	Refer to Appendix 1.

5. Conclusion

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

5.1 Summary of amendments

Table 10 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 10: Summary of licence amendments

Condition no.	Proposed amendments
1, Table 1	<ol style="list-style-type: none"> 1. Removal of 300mm freeboard requirement as requested by the applicant as it is not a requirement for stormwater storage basins and not foreseen to alter the risk profile of the premises. 2. Inclusion of the infrastructure locations for infrastructure and equipment. 3. Inclusion of WTS infrastructure and equipment and associated operational conditions. 4. Inclusion of the wood waste to energy plant wastewater storage tank and associated maintenance condition. 5. Inclusion of the sewer pump station/sump and associated operational conditions. 6. Inclusion of fire management and prevention requirements.
3	Removal of 300mm freeboard requirement as requested by the applicant as it is not a requirement for stormwater storage basins and not foreseen to alter the risk profile of the premises.
4, Table 2	Inclusion of putrescible waste, FOGO and the associated quantity limits.
6	Additional standard record keeping requirements added for the rejection of non-conforming waste at the premises.
8, Table 3	<ol style="list-style-type: none"> 1. Inclusion of waste processing process limits for inert waste type 1, putrescible waste and FOGO. 2. Increase in mattress stockpile limit from 500 to 750 items as requested by the licence holder as this additional storage is not foreseen to alter the risk profile of the premises.
11	Maintenance of fire prevention equipment moved to Table 1 and addition of fire prevention and containment/disposal of firewater conditions.

Condition no.	Proposed amendments
12	Standard condition added for the prevention of stormwater contamination by premises operations.
13	Windblown waste management condition added as per applicant controls.
14, Table 4	Increase in water cart capacity from 7,000 to 15,000L
17, Table 9 18, Table 10	Standard conditioning added to require monitoring of incoming and outgoing waste at the premises. These conditions appear to have been removed from the licence during a previous amendment without reason.
34, Table 15	Standard conditioning for the submission of an Annual Environmental Report. These conditions appear to have been removed from the licence during a previous amendment without reason.
Table 16	<p>Standard definitions added.</p> <p>Amendment to the definition of 'commissioning period' to increase the period from 6 months to 12 months to allow Stage 3 to be completed to satisfy multiple external stakeholders including Western Power, which has advised of protracted timeframes. The Delegated Officer does not foresee this change to alter the risk profile of the premises. The applicant has advised:</p> <p>The Stage 1 (biochar production) and Stage 2 (syngas production) phases of commissioning will be completed within six months of the start of the Commissioning Period, including all relevant emissions monitoring, excluding the noise assessment. The EMRC will provide an interim Commissioning Report to DWER within 90 days of the completion of Stage 2, providing the available information as required by the licence. Stage 3 (supply power to HRRP) will be completed within 12 months of the start of the Commissioning Period and will include all remaining emissions monitoring and noise assessment. EMRC will provide the final Commissioning Report to DWER within 90 days of the completion of Stage 3 and the end of the Commissioning Period, which will include all information required by the licence.</p>
Schedule 1, Figures 1, 2 and 3	Updated premises maps with new infrastructure and the fire and emergency equipment layout.

References

1. Department of Environmental Regulation (DER), July 2015. *Guidance Statement: Regulatory principles*. Perth, Western Australia. Accessed at: www.wa.gov.au
2. DER, October 2015. *Guidance Statement: Setting conditions*. Perth, Western Australia. Accessed at: www.wa.gov.au
3. DWER, June 2019. *Guideline: Decision Making*. Perth, Western Australia. Accessed at www.wa.gov.au
4. DWER, June 2019. *Guideline: Industry Regulation Guide to Licensing*. Perth, Western Australia. Accessed at www.wa.gov.au
5. DWER, August 2020. Works Approval W6360/2020/1. Perth, Western Australia. Accessed at www.wa.gov.au (A1926357)
6. DWER, December 2020, *Guideline: Environmental Siting*, Perth, Western Australia. Accessed at: www.wa.gov.au
7. DWER, December 2020, *Guideline: Risk Assessments*, Perth, Western Australia. Accessed at: www.wa.gov.au

Appendix 1: Summary of licence holder's comments on risk assessment and draft conditions

Condition/Table/Figure	Summary of Licence Holder's comment	Department's response
Condition 12	Request to remove reference to a firefighting wastewater containment and collection procedure. The licence holder has connected the WTS to a sewer line and obtained a trade waste permit (69032) with the Water Corporation. The licence holder has advised they will be permitted to discharge all liquid, including fire-wash water, to sewer, dependent on ongoing Water Corporation water quality checks.	The Delegated Officer notes that in the unlikely event of a fire, where contaminated firefighting wastewater is present, the licence holder is required to contain it, ensure it does not discharge beyond the boundary of the premises and dispose of it via sewer if permitted by a valid Water Corporation trade waste permit or have it removed by a carrier licensed under the <i>Environmental Protection (Controlled Waste) Regulations 2004</i> . A collection procedure is not considered necessary and it will be the licence holder's responsibility to ensure the associated licence conditions are adhered to.
Conditions 19 and 20	The premises uses a weighbridge and therefore would normally report waste acceptance and removal in tonnes and not m ³ .	The Delegated Officer has altered the wording to default reporting in tonnes with a note that if it is reported in m ³ (e.g. due to weighbridge malfunction/maintenance) that it be converted in accordance with the 'Approved procedure for estimation/calculation of annual return information methods by recycling and reprocessing facilities' required under the <i>Waste Avoidance and Resource Recovery Regulations 2008 (as amended)</i> .