



Application for Works Approval

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

Works Approval Number W6914/2024/1

Applicant Western Resource Recovery Pty Ltd

ACN 099 144 180

File number DER2024/000138

Premises Western Resource Recovery
113 Ewing Street
WELSHPOOL WA 6106

Legal description -
Lot 278 on Plan 3033
As defined by the premises maps in Schedule 1

Date of report 6 June 2024

Decision Works approval granted

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

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1. Decision summary

This decision report documents the assessment of potential risks to the environment and public health from emissions and discharges during the construction and operation of the premises. As a result of this assessment, works approval W6914/2024/1 (W6914) has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this decision report, the Department of Water and Environmental Regulation (the department; DWER) 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 Application summary and overview of premises

On 7 March 2024, the applicant submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act). The site is currently used for the receipt, treatment and off-site transfer of a wide range of liquid waste materials. The site is currently a Prescribed Premises and is operated under licence L7639/2000/8 (L7639) as a Category 61 - Liquid Waste Facility and Category 62 - Solid Waste Depot as defined by the *Environmental Protection Regulations 1987* (EP Regulations). The site is licenced to receive a combined total of 100,000 tonnes of liquid waste and 550 tonnes of solid waste annually.

The premises relates to the category / categories and assessed production / design capacity under Schedule 1 of the EP Regulations which are defined in works approval W6914. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in works approval W6914.

The application is to undertake construction works relating to Category 61 and Category 62 Liquid and Solid waste activities at the premises:

- New Fixation Pit (5.5m x 5.5m x 1.4m – 400mm freeboard).
- Extending the existing Drainage Trench.
- Perfluoroalkyl and polyfluoroalkyl substances (PFAS) Processing Facility - treatment using a prefabricated containerised facility within an existing bunded area and conversion of existing 35kL storage tanks to PFAS storage tanks and piping.
- New Dangerous Goods (DG) Storage Area. Seven freestanding containerised, self-bunded DG storage containers will be installed. There will be 2 x 6 m³, 1 x 8 m³ and 4 x 10 m³ containers making up a total storage volume of 60 m³.

2.2.1 Fixation Pit including the extension of the Drainage Trench.

The Fixation Pit (FP) will be used to convert selected liquid, sludge and viscous waste materials into a spadable product able to be disposed to landfill. An absorbent material, typically sawdust, fibrous fines from other waste processing facilities, soil conditioner, green waste or soil will be placed into the FP pit by an excavator parked adjacent and external to the FP. The liquid/sludge/viscous waste material is then added to the FP and the excavator mixes the two material types to achieve a spadable consistency in the blended product. The proportion of dry and wet materials will be adjusted until the appropriate spadable consistency is achieved. When the mixing process has been completed, the blended, spadable mix will be removed from the FP and placed in large volume waste bins for offsite removal.

A 5.5 m x 5.5 m x 1.4 m deep concrete FP will be constructed in the north-eastern corner of the existing Controlled/Packaged Waste Bunded Area. Construction activities include the installation of concrete formwork and casting concrete floor and walls.

The FP will include a hose connection cast through the pit wall to enable liquid tankers to connect to the hose fitting and discharge directly into the FP. An additional component of the construction will be to increase the length of an existing trench drain to the north of the Controlled/Packaged Waste Bunded Area to increase the drain catchment area to include the full width of the Controlled/Packaged Waste Bunded Area. This infrastructure change is not necessary for the proposed FP; however, has been included in the Application to improve the spill containment around the loading area associated with the Controlled/Packaged Waste Bunded Area. Construction activities for the trench drain relates to the cutting of the existing concrete slab, possible drilling and installation of reinforced steel starter bars, installing a trench drain extension and casting concrete between the new drain and the cut concrete slab.

Liquid, sludge and viscous waste materials will be received on site specifically for the purposes of fixation. The material will be received in liquid tanker or smaller individual containers. In addition, some liquid, sludge and viscous waste material will be generated on site via the existing liquid waste processing activities. Depending on the quantity of material needing fixation and the availability of the FP, the material will either be immediately fixated, or stored on site for subsequent fixation. If there are small quantities of compatible materials, these will be consolidated into larger volume containers and fixated once there is sufficient quantity of compatible material.

Due to the lack of available space on site, there will only be limited quantities of dry fixation media stored on site. This material will be stored in covered bins to prevent wetting the dry fixation media and to prevent any possible dust generation. Additional fixation media will be brought to site as required, specifically for large volume fixation processes. During the fixation process, the fixation media will be in bins immediately adjacent to the FP, readily available for the excavator to load the fixation media into the base of the FP. Any spillage of this solid material will be immediately swept up. The liquid waste will either be pumped directly from the liquid waste delivery vehicle into the FP or from an open-ended container on a forklift with a tipping or swivel attachment. The FP design includes a fixed liquid tanker hose connection point for liquid waste discharge. All liquid/sludge/viscous material input will occur within the existing bunded area, with any spillage being cleaned up immediately. On completion of the fixation mixing process, all blended spadable material will be removed from the FP by the excavator and placed in adjacent, large volume waste bins. The filled bins will then be moved to a storage area on site, where they will be sampled, covered and stored until the sample analysis results are available.

The liquid/sludge/material will be assessed by the premises Chemist to determine contamination levels and compatibility with others similar materials, to determine what materials can be fixated in a single exercise. The FP has a maximum capacity to overflow of 42 m³; however, has been designed with an operational capacity of 30 m³, which allows for a 400 mm freeboard to prevent spillage of the spadable material. In the event of any spillage during the mixing process. On completion of the fixation processes, the blended material is sampled and analysed in accordance with the DWER Landfill Waste Classification and Waste Definitions 1996 (as amended). Once the results are known, the material will be removed from site and disposed of at the appropriate class of landfill. The Chemist will be responsible for all input and output material analysis, processing and recording.

Key Findings: The Delegated Officer has reviewed the information regarding Fixation and has found:

1. The Licence Holder advises in the Application Form Supporting Documents that the proposal does not include any increase in the type or quantity of waste material being accepted to the Premises under the Existing Licence.

2. DWER does not consider the mixing of liquid waste with sawdust or other absorbent organic material to be 'fixation' but the absorption of liquid waste to allow it to be landfilled. It is unclear how this process meets the waste minimisation objectives of the EP Act given that waste will be diluted to achieve landfill acceptance criteria.
3. Post construction of the Fixation Pit and submission of the Environmental Compliance Report for the Works Approval, the Licence should be amended to capture Waste acceptance and disposal (off-site Landfill) verification for all types of waste destined for Fixation.
4. Waste acceptance verification conditions will require verification testing from a Suitably Qualified Chemist upon arrival of each load to confirm it meets the waste acceptance criteria for the premises and that the liquid waste stream is suitable for the proposed treatment and solidification.
5. As disposal of Fixated material will be off-site at a downstream licensed Landfill it is imperative to determine the relevant concentration and leachate acceptance criteria for contaminants of concerns as required by the *Landfill Waste Classification and Waste Definitions 1996 (as amended 2019)* to ensure that waste sent to the correct landfill. Licence conditions should require this testing to ensure there is no downstream impacts from the Fixated material disposed to landfill.

2.2.2 PFAS Processing Facility

The Existing license L7639 allows for the receipt of up to 100,000 kL (combined Premises total) of PFAS contaminated liquids (Controlled Waste Code M270). This material is currently received and then transferred offsite to downstream PFAS processing facilities. The Licence Holder proposes to install a prefabricated PFAS processing facility on site to process the contaminated material to remove the PFAS to a level to enable discharge of the processed water to the Water Corporation sewer. The PFAS processing facility is a prefabricated containerised facility which will be delivered to the Premises and the only construction activity is to locate and place the PFAS facility within an existing bunded area and install piping to the three existing storage tanks which will store the treated PFAS waste.

The Premises has an existing Water Corporation Trade Waste Permit (Number 18431) that enables the discharge of processed liquid waste with an upper PFAS contamination level of 0.1 parts per billion (0.1 ppb). The Trade Waste Permit does not specifically reference the proposed PFAS process; however, the Licence Holder is in the process of addressing this with Water Corporation but had not commenced formal discussions at the time of granting the works approval. In the event that the incoming liquid waste is too highly contaminated to be processed on site, it will simply be stored, tested (to confirm that it is non-processable) and then removed from site to a suitable downstream PFAS processing facility.

The incoming bulk liquid waste and processed filtrate will be stored in existing 35 kL tanks. There is no requirement to install any additional tank storage; however, there will be a requirement to install some additional pipework to transfer the liquid to and from the new PFAS treatment unit. Packaged liquid waste will be stored in the existing Controlled/Packaged Waste Bunded Area.

The proposed PFAS processing facility will be a containerised specialised PFAS process. The unit throughput will typically be 5 kL/hr (1.4 L/s). The PFAS contaminated water will pass through filters of granulated activated carbon and ion exchange resin that removes the vast majority of PFAS contaminants. When saturated with contaminants, the filters are then removed and replaced, with the contaminated filters being disposed of offsite, at a suitable downstream landfill or processing facility.

The PFAS contaminated liquid waste is received on site in either bulk liquid tankers or smaller, volume containers (IBC's/drums). On arrival to site, the bulk liquid will be pumped into a 35 kL

PFAS receival tank. The smaller containers will be stored in the Controlled/Packaged Waste Bunded Area (as currently occurs). Once stored on site, the liquid waste will be sampled and analysed to assess the PFAS contamination level and hence whether it can be processed on site or needs to be removed from the Premises.

If the material is able to be processed on site, liquid waste in the smaller containers will be pumped into the 35 kL PFAS receival tank. Accumulated PFAS contaminated liquid waste will then be processed through the PFAS processing facility. The processed liquid (filtrate) will then be stored in one of the 35 kL PFAS processed water tanks while it is sampled and analysed to assess the filtrate contamination levels. If the filtrate contamination level is lower than the Trade Waste Permit allowable contamination levels, it will be discharged to sewer. If the PFAS contamination level of the process water is still too high, the liquid waste will either be re-processed or removed from site, via liquid tanker, to a downstream processing facility. Although the PFAS processing facility is a continuous process (5 kL/h), the sampling and analysis of the processed product requires up to a week's storage of the liquid waste prior to being able to discharge the liquid to sewer; consequently, the system is effectively a batch process, with the maximum 35 kL batch volume.

2.2.3 Dangerous Goods Storage Area

The proposal is to provide 60 kL of contained storage in a number of freestanding, specialised Class 3 containerised packaged DG stores. The vast majority of the storage capacity will be used for the storage of oily water and up to 8 kL of storage capacity used for the storage of mixed DG materials. Oily water is not defined as a DG material; however, will be stored in the containerised DG stores, as these have the appropriate self-contained bunding for the storage of this liquid waste. Seven (7) freestanding containerised, self-bunded DG storage containers will be installed. There will be:

- 2 x 6 m³;
- 1 x 8 m³; and
- 4 x 10 m³ containers.

making up a total storage volume of 60 m³. Construction activities relate to the installation of concrete formwork and casting concrete foundations to provide a level base for the DG storage containers.

The containers will be located along the northern boundary of the Premises, on an existing concrete hardstand and positioned so as not to block any existing site infrastructure such as fire hydrants, sewer manholes, stormwater inlets and stormwater treatment systems. Each prefabricated container will be installed on a concrete foundation. There is no need to establish a new hardstand area, as the DG storage containers and the associated vehicle unloading and loading areas are all on an existing concrete hardstand area.

Mixed DG materials will be stored in the containers, in a configuration that complies with the relevant DG storage separation distance requirements, with oily water being stored in all other containerised storage capacity. Due to the separation distance and fire protection requirements within AS 1940 (Flammable and Combustible Liquids) and AS 3833 (Mixed Class DG), there will be a maximum of 2 kL of compatible mixed DG material that can be stored in every second container (total of four mixed DG storage containers), with oily water only stored in the in-between containers. There will be one 9 kg powder and one 9 kg foam fire extinguishers provided for each of the four mixed DG storage containers. With the maximum stored quantity being limited to 2 kL/container, there is no requirement for fire hydrants or other firefighting infrastructure.

On delivery of the mixed DG material, the Chemist will assess the types of mixed DG material received, and based on material compatibility, determine which of the four mixed DG stores will be used to store the incoming DG material. The DG material will then be stored accordingly.

Once stored, the site DG store register will be completed, identifying the DG material type, quantity, customer/location, date, DG storage container used and any other relevant information. The register will then be signed off by the Chemist. In addition, the DWER Controlled Waste Tracking documentation will be completed.

Once the DG material has been received and logged into the DG store register, depending on the type and condition of the mixed DG material, compatible materials may be consolidated into larger quantities for storage and subsequent disposal. DG consolidation will occur within the existing bunded area and under the supervision of the site chemist. Once sufficiently mixed DG material has been accumulated on site, it will be removed from the Premises by a licensed Controlled Waste Carrier to a suitable downstream processing facility.

Figure 1 provides an overview of the proposed works and locations of the new infrastructure at the Premises.

The Existing Licence L7639 sets out the type and quantity of materials that can be accepted at the Premises under Appendix A. This works approval application does not include any increase to the type or quantity of material being delivered to the Premises. Consequently, the current waste material types and quantities do not need to change – or be amended post construction activities to allow operations at the Premises.



Figure 1 Premises overview

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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 construction / operation which have been considered in this decision report are detailed in Table 1 below. Table 1 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 1: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Placement of prefabricated PFAS container. Extension of drainage trench	Air / windborne pathway	Complaints Management System. Location is existing concrete hardstand. The diamond circular saw used to cut concrete at the trench will use water to control dust emissions.
Noise	New Fixation Pit and Dangerous Good area including vehicle movements (reversing beepers)		All onsite machinery fitted with mufflers. Noise from hammering concrete formwork and cutting concrete will be intermittent and not expected to be above background noise. Compliance with the <i>Environmental Protection (Noise Regulations) 1997</i> (Noise Regs). Premises is only open 7.00am to 5.00pm Monday to Saturday. Complaints Management System.
Operation			
Dust	Operation of prefabricated PFAS container.	Air / windborne pathway	Complaints Management System. Cease operations if wind generates dust.
Noise	Extension Drain New Fixation Pit and Dangerous Good Area including vehicle movements		The Premises is only open for waste delivery and handling activities between 7.00 am and 5.00 pm Monday to Saturday; hence, these activities will not be impacted by the reduced allowable noise levels.

Emission	Sources	Potential pathways	Proposed controls
Odour	(reversing beepers)		<p>Complaints Management System.</p> <p>Small volumes of liquid being handled (a few litres up to 100 litres).</p> <p>Low discharge flow rate into larger volume container.</p> <p>Operate further away from neighbouring properties.</p> <p>Function of liquid waste type.</p> <p>Slow, careful mixing of odourous materials.</p> <p>Rejection of excessively odourous materials,</p> <p>Undertake activity when wind is blowing away from concerned receptor.</p> <p>Physical separation distance between premises and the nearest receptors.</p>
Fire / smoke (uncontrolled)			<p>Management Measures include:</p> <ul style="list-style-type: none"> ▪ During operating hours operations staff are to immediately take action to extinguish any fires; ▪ The site has existing firefighting capacity, including fire hydrants, hose reels and fire extinguishers; ▪ Provision of an additional four 9 kg powder and four additional 9 kg foam fire extinguishers for the DG storage area; ▪ Remove flammable material from site as soon as possible after sorting. <p>Adequate separation of DG materials.</p> <p>Multiple DG storage containers.</p> <p>Existing site firefighting infrastructure and capability.</p> <p>Eight additional fire extinguishers provided at the DG store.</p>
Liquid waste spills		Overland flow and seepage to soils, groundwater and compensation basin	<p>Concrete Hardstand constructed to meet not less than 1 x 10⁻⁸ m/s permeability with bunds.</p> <p>The PFAS treatment occurs in sealed storage tanks and containerised processing facility, both of which are located within bunded concrete hardstand areas. In the event of a spill, the liquid will be contained within the bunded areas and will either be cleaned up (small spill) or pumped back into one of the storage tanks (larger volume spill).</p> <p>DG Store – Due to the nature of packaged</p>

Emission	Sources	Potential pathways	Proposed controls
			<p>waste (oily water or DG material), the largest spill would be the volume of a full Intermediate Bulk Container (IBC), which is a maximum of 1,000L. If there was a spill during the unloading or loading of a waste delivery of collection vehicle the spilt liquid will flow towards the site stormwater collection system. The forklift operator will immediately place a heavy rubber mat over the stormwater inlet to prevent/limit the amount of spilt liquid waste from entering the stormwater system. The spill will then immediately be cleaned up using granular absorbent material and/or absorbent booms. If necessary, available fixation media can also be used to absorb the spilt liquid waste. The stormwater collection system has an existing triple interceptor at the site discharge point, which will intercept all non-soluble liquid waste that may enter the stormwater system. If there is a spill within any of the DG storage container unlit, the spilt liquid will flow into the container self-bunded sump tank. The spilt liquid will then be pumped out and put into another IBC.</p> <p>FP – The fixation process occurs within an existing bunded area; hence, in the event of a spill, the liquid will be contained within the bunded areas and will either be cleaned up (small spill) or pumped back into one of the storage tanks (larger volume spill). Any spillage of the fixation media or fixated blended product will simply be swept up and the area cleaned.</p> <p>Existing stores of spill absorbent granules and booms that will be used for cleanup purposes.</p>
Contaminated stormwater and Firewater			<p>Concrete Hardstand constructed to meet not less than 1 x 10⁻⁸ m/s permeability with bunds.</p> <p>All stormwater is captured by the surrounding concrete hardstand and is directed to the site stormwater system. The site stormwater system incorporates interconnected stormwater inlets that all flow towards the north-eastern corner of the Premises where there is a triple interceptor to remove solids and oils before the stormwater is discharged to the adjacent stormwater retention basin.</p> <p>Sealing of stormwater inlets to prevent/limit fire foam/waste ingress into the stormwater system.</p> <p>Pumping accumulated firefighting water into on-site containment tanks, pits and bunded areas to prevent ingress into the stormwater</p>

Emission	Sources	Potential pathways	Proposed controls
			system.

3.1.2 Receptors

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

Table 2 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 2: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Light industrial premises (Ewing and Radium Streets, Welshpool)	Immediately adjacent to northern (industrial units,) eastern (industrial units) and southern (Horizon West Bus Charters) premises boundaries
Radium Street Lunch Bar, 2/126-128 Radium Street, Welshpool	Approximately 140m southeast of eastern premises boundary
Bentley Residential Area (Merian Close, Bentley)	Approximately 420 m south-west of the southern premises boundary
Queens Park Residential Area (Mills Street, Queens Park)	Approximately 500m southeast of the southern premises boundary - down hydraulic gradient
Environmental receptors	Distance from prescribed activity
Water Corp Storm Water Catchment, to the rear of 133 Welshpool Rd, Welshpool	Immediately abutting northern premises boundary
Water Corporation compensating basin between Radium Street and Mills Road, Queens Park	Approximately 300m east of premises boundary-down hydraulic gradient

3.2 Risk ratings

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

Where the applicant 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 applicant's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the works approval as regulatory controls.

Additional regulatory controls may be imposed where the applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 3.

Works approval W6914 that accompanies this decision report authorises construction. The conditions in the issued works approval, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence amendment is required following the completion of construction activities (and submission of the Environmental Compliance Report) authorised under the works approval to authorise emissions associated with the operation of the premises. A risk assessment for the operational phase has been included in this decision report, however licence conditions will not be finalised until the department assesses the licence application.

Table3: Risk assessment of potential emissions and discharges from the premises during construction, and operation

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval / licence	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Construction								
Placement of prefabricated PFAS container.	Dust	Air / windborne pathway causing impacts to health and amenity	420 m south-west of the southern premises boundary	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	N/A	N/A
Extension of drainage trench New Fixation Pit and Dangerous Good Area including vehicle movements (reversing beepers)					Noise	C = Slight L = Unlikely Low Risk	Y	N/A
Operation								
Operation of prefabricated PFAS container. Extension of drainage trench New Fixation Pit and Dangerous Good Area Vehicle movements Receipt, handling, consolidation, and temporary storage of PFAS contaminated Liquid & Solid wastes	Dust	Air / windborne pathway causing impacts to health and amenity	420 m south-west of the southern premises boundary	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Condition 17 of the licence	N/A
	Noise	Air / windborne pathway causing impacts to health and amenity	420 m south-west of the southern premises boundary	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Condition 17 of the licence	N/A
	Odour	Air / windborne pathway causing impacts to health and amenity	420 m south-west of the southern premises boundary	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Condition 17 of the licence	N/A
	Liquid waste spills	Overland flow, stormwater network and infiltration to soil resulting in potential impacts to groundwater	Compensation basins and groundwater users	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 1, 2, 3, 4, 5, 7, 14, 15, 17 and 18 of the licence Refer to section 3.3 for detailed risk assessment of PFAS storage.	Application advises no changes to waste types and quantities to be accepted post construction of the

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Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval / licence	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
		users and impacts on the biological diversity and ecosystem function of wetlands						new infrastructures.
	Uncontrolled Fire (smoke)	Air /airborne/wind dispersion resulting in human health impacts (smoke inhalation, noxious particulates)	Adjacent industrial and commercial premises 420 m south-west of the southern premises boundary	Refer to Section 3.1	C = Moderate L = Rare Medium Risk	Y	Condition 1, 2, 3, 4, 5, 6, 7, 14, 15, 16 and 17 of the licence	N/A
	Contaminated stormwater Firewater	Overland flow, stormwater network and infiltration to soil resulting in potential impacts to groundwater users and impacts on the biological diversity and ecosystem function of wetlands	Compensation basins and groundwater users	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 1, 2, 3, 4, 6, 16 and 17 of the licence	N/A

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

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

3.3 Detailed risk assessment for storage of PFAS containing waste

3.3.1 PFAS waste storage

The existing licence L7639 allows for the receipt of up to 100,000 kL (combined Premises total) of PFAS contaminated liquids (Controlled Waste Code M270). This material is currently received and then transferred offsite to downstream PFAS processing facilities – therefore the Licence Holder is not discharging PFAS to the environment. The Licence Holder proposes to develop a PFAS processing facility on site to process the contaminated material to remove the PFAS to a level to enable discharge of the processed water to the Water Corporation sewer – this discharge of PFAS to sewer is also not considered a discharge to the environment. The PFAS processing facility is a prefabricated containerised facility which will be delivered to the Premises and located within an existing bunded area and will require the conversion of existing storage tanks to PFAS storage tanks and piping.

The PFAS National Environmental Management Plan Version 2 (PFAS NEMP) establishes a practical basis for nationally consistent environmental guidance and standards for managing PFAS contamination. The plan has been developed by all jurisdictions and recognises the need for implementation of best practice regulation through individual jurisdictional mechanisms. It represents a how-to guide for the investigation and management of PFAS contamination and waste management. Section 10 of the PFAS NEMP prescribes stockpiling, storage, and containment infrastructure requirements for the storage of PFAS based on proposed duration of storage.

The Licence Holder has advised PFAS would generally be stored onsite for a period of less than three months. However, in some instances temporary storage of waste for a duration of up to 6 months may be required. As such the premises is considered a temporary storage facility (from 48 hours to 6 months). The requirements for temporary liquid waste storage are “*Self-bunded containment vessels covered, with lockable access, on impervious, bunded hardstand, with effective stormwater controls (e.g., diversion drains, banks, etc.)*”. These requirements were incorporated into the amended licence dated 9 June 2022.

The PFAS NEMP outlines that “*PFAS-contaminated materials, particularly liquids, should be stored above ground in appropriately bunded storage areas or in containment vessels such as covered intermediate bulk containers (IBCs) and isotainers in bunded areas. The bunds or bunded tanks must be of low permeability and of a sufficient size to retain a major spill, including capacity for stormwater runoff⁶⁰. The essential criterion is to ensure all PFAS remains completely contained*”. Further, “*Unless otherwise required by the relevant regulators, the capacity of the containment bunding should be at least 100% of the planned storage capacity plus 25% of the storage capacity up to 10 000 L, together with 10% of the storage capacity between 10 000 L and 100 000 L, and 5% above 100 000 L*”.

The Premises has an existing Water Corporation Trade Waste Permit (Number 18431) that enables the discharge of processed liquid waste with an upper PFAS contamination level of 0.1 parts per billion (0.1 ppb). The Trade Waste Permit does not specifically reference the proposed PFAS process. Therefore, when a subsequent licence amendment application for L7639 is submitted to authorise the ongoing operation of activities outlined in this works approval, Water Corporation will be referred the licence amendment application as a direct interest stakeholder so their comments on how additional premises activities may impact permissions on the Trade Waste Permit can be used to inform assessment outcomes.

The Works Approval Application advises processed PFAS that is not discharged down the Water Corporation sewer will be stored at the Premises in three (3) converted 35kL tanks prior to removal from the Premises for downstream disposal. The three existing storage tanks are housed within an existing concrete bunded hardstand area.

4. Consultation

Table 4 provides a summary of the consultation undertaken by the department.

Table 4: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 19/04/2024	None received	N/A
Local Government Authority advised of proposal on 16/04/2024	The City of Canning did not reply.	Noted.
Applicant was provided with draft documents on 30 May 2024	The Applicant responded on 31 May 2024 advising to please waive the comments period and issue the works approval.	Noted.

5. Conclusion

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

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
4. Department of Agriculture, Water, and the Environment (2020) *PFAS National Environmental Management Plan Version 2.0', Heads of EPA Australia and New Zealand 2020'*.

Appendix 1: Application validation summary

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)				
Application type				
Works approval	<input checked="" type="checkbox"/>			
Licence	<input type="checkbox"/>	Relevant works approval number:		None <input type="checkbox"/>
		Has the works approval been complied with?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
		Has time limited operations under the works approval demonstrated acceptable operations?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
		Environmental Compliance Report / Critical Containment Infrastructure Report submitted?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
		Date report received:		
Renewal	<input type="checkbox"/>	Current licence number:		
Amendment to works approval	<input type="checkbox"/>	Current works approval number:		
Amendment to licence	<input type="checkbox"/>	Current licence number:		
		Relevant works approval number:		N/A <input type="checkbox"/>
Registration	<input type="checkbox"/>	Current works approval number:		None <input type="checkbox"/>
Date application received	7/3/2024			
Applicant and premises details				
Applicant name/s (full legal name/s)	Western Resource Recovery Pty Ltd			
Premises name	Western Resource Recovery			
Premises location	113 Ewing Street WELSHPOOL WA 6106			
Local Government Authority	City of Canning			
Application documents				
HPCM file reference number:	DER2024/000138			
Key application documents (additional to application form):	Application Form Supporting Document			
Scope of application/assessment				

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)

<p>Summary of proposed activities or changes to existing operations.</p>	<p><i>Works approval</i></p> <p>Construction of:</p> <ul style="list-style-type: none"> • new Fixation Pit (5,5m x 5.5m x 1.4m); • Extended drainage trench; • PFAS processing facility - treatment using a pre-fabricated containerised facility within an existing bunded area and conversion of existing storage tanks to PFAS storage tanks and piping; and • New Dangerous Goods Storage area. Seven freestanding containerised, self-bunded DG storage containers will be installed. There will be 2 x 6 m³, 1 x 8 m³ and 4 x 10 m³ containers making up a total storage volume of 60 m³
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Category number/s (activities that cause the premises to become prescribed premises)

Table 1: Prescribed premises categories

Prescribed premises category and description	Assessed production or design capacity	Proposed changes to the production or design capacity (amendments only)
Category 61: Liquid waste facility: premises on which liquid waste produced on others premises (other than sewage waste) is stored, reprocessed, treated or irrigated.	55,000 tonnes per annual period.	No change proposed
Category 62: Solid waste depot: premises on which waste is stored, or sorted, pending final disposal or re-use.	550 tonnes per annual period	No change proposed

Legislative context and other approvals

<p>Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Referral decision No: Managed under Part V <input checked="" type="checkbox"/> Assessed under Part IV <input type="checkbox"/></p>
<p>Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Ministerial statement No: EPA Report No:</p>
<p>Has the proposal been referred and/or assessed under the EPBC Act?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Reference No:</p>
<p>Has the applicant demonstrated occupancy (proof of occupier status)?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)		
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	CPS No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: N/A Licence/permit No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: Licence/permit No: Licence / permit not required.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A Type: N/A Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Regional office:
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A Priority: N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to <u>WQPN 25</u>)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i>)	Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	<i>Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004 (Listed Facility)</i>
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If Yes include details of which EPP(s) here.
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	If Yes, include details here, e.g. Site is subject to SO ₂ requirements of Kwinana EPP.

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)		
Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Classification: N/A Date of classification: N/A