



Application for Works Approval

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

Works Approval Number	W6956/2024/1
Applicant	Elders Toll Formation Pty Ltd
ACN	669 173 951
File number	DWERVT15183~28
Premises	Elders Toll Formation Pty Ltd 4 Lodge Drive, East Rockingham Legal description Lot 13 on Plan P23754 As defined by the coordinates in Schedule 1 of the works approval
Date of report	24 October 2024
Proposed Decision	Works approval granted

MANAGER, PROCESS INDUSTRIES

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 W6956/2024/1 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 29 July 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 application is for the installation and construction of a chemical mixing facility at the premises. The premises is located in the Rockingham Industrial Zone on land zoned as 'General Industry'. A large shed exists on Lot 13 which is split into three tenancies and the premises will be located within the existing building in the northern tenancy, Tenancy 3 as shown in Figure 1.

Activities at the facility will involve storing different raw materials and mixing those materials in formulation mixing tanks to produce a finished product to a set recipe and quality control standards that comply with those set by the Australian Pesticide and Veterinary Medicines Authority (APVMA).

The premises relates to the category and assessed production capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in works approval W6956/2024/1. 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 W6956/2024/1.

2.3 Proposed mixing activities

Each type of product will have its own formulation mixing tanks:

- Tank 1 – Insecticide
- Tank 2 – Adjuvant
- Tank 3 – Herbicide PreEm (Pre-Emergent)
- Tank 4 – Herbicide Phenoxy
- Tank 5 – Glyphosate
- Tank 6 – Suspension Concentrate (SC) Plant – water-based herbicide.

Following the blending of the raw materials in these mixing tanks, the blended product will be transferred to the adjacent paired tank for storage and pumping into packages which will range from 5 L to 1,000 L and then stored on-site and dispatched as required in accordance with AS 1940:2017.

The total production from the facility is approximately 5,000 tonnes per year (year 1), ramping up to 9,500 tonnes per year (year 9).

A summary of the key infrastructure to be installed is detailed in Table 1 below and shown in Figure 2.

Table 1: Key infrastructure

Key Infrastructure/Equipment	Design description and emissions controls
<p>Paired tanks at T1-T5 comprising: 5 x 20 kL Formulation mixing tanks (10 kL each) 5 x 20 kL Packing tanks (Total 240 kL capacity)</p> <p>T1 - Insecticide T2 – Adjuvant T3 – Herbicide PreEm T4 – Herbicide Phenoxy T5 – Glyphosate</p> <p>T6 – SC Plant 4 x 5,000 L Formulation mixing tanks 4 x 5,000 L Packing tanks</p>	<ul style="list-style-type: none"> • Blending area is 10 m x 10 m for each paired tanks located on concrete hardstand. • Formulation mixing tank area is located outside of the existing building and is roofed to prevent incident rainfall inflow. • T1-T5 pairs tanks – combustible liquid; T6 pair – water-based products. In each pair of tanks one tank is for blending raw materials which are then transferred to the adjacent tank for storage and pumping into packages. • Tanks designed to AS1940 and AS1692. • All tanks are in concrete bunded areas in compliance with AS1940. • Concrete bund wall constructed to 140mm around perimeter of blending areas (10 x 10m) allows secondary containment of 84 kL (>25% of the total storage volume capacity in the tanks). • All tanks protected by bunding and fire safety wall. • Pipes in pipe racks. Flexible hoses used to supply raw materials from IBCs or drums. • Each tank will have venting – 4m high tank; 4.5m from tank to roof. • Liquid level alarm in tanks at 20 kL. • Each bay is separated from the next by a low wall 100 mm high which will ensure catchment of 25% of each pair of tanks and contain any potential spills. • Tilt panels to 4m height segregating each bay and cladded to 4m above the roof. Tilt panel on north, south and western side of all formulation tanks. • Any spills and/or washdown water from this area will be pumped out and stored in tanks for reuse or removal offsite. • Chemical vapours and/or powder dust vented to wet scrubber. • Tanks are not pressurised.
<p>Scrubber system</p>	<ul style="list-style-type: none"> • Wet scrubber system to be installed which will include three dedicated vent headers going into the scrubber: <ol style="list-style-type: none"> 1. Insecticide Tanks (T1 and T2), including mixing and storage tanks. 2. Herbicide Tanks (T3; T4 and T5), including mixing and storage tanks. There is provision in the design for an additional T6 to be included at a later date. 3. Extraction system from the packing/filling stations (from T1-T6). • The combined extraction systems are then ducted to a single packed bed scrubber, complete with spray nozzles, recirculation pipework and pump system, mist eliminator, clean air ductwork, ID fan and discharge stack. • Extraction system design based on assessment of raw and final products and associated flow rates in T1-T6. • pH control systems fitted to scrubber to maintain pH of recirculating water. • Carbon filter to be installed from vent headers. • Scrubber Stack Emission point height: 19m (maximum). • Emission monitoring points to be installed comprising 2 x 4" Flange sampling access ports. Sampling ports installed to conform with 'AS4323.1—Stationary source emissions Selection of sampling positions and measurement of velocity in stacks'.

Packing area	<ul style="list-style-type: none"> • Blended product from the storage tank in each formulation area is pumped into different packages, the volume dependent on the product and volume ordered by clients (ranging from 5L-20L and 100L – 1,000L). • Product is piped into the building to packing area i.e. from mixing tank to inside building. • Located in bunded hardstand storage areas, or, on self-contained bunding.
Raw materials storage	<ul style="list-style-type: none"> • Storage area for materials to be placed in formulation mixing tanks. • Located in bunded hardstand storage areas, or, on self-contained bunding. <ul style="list-style-type: none"> ○ RM1 - 450 kL storage area ○ RM2 – 60 kL storage area ○ RM3 – 25 kL storage area ○ All IBC – 250 kg drums
Finished Goods store	<ul style="list-style-type: none"> • Storage area for product prior to loading onto trucks for transport offsite. • Store finished goods in designated area to AS 1940:2017 compliance. • Located in bunded hardstand storage areas, or, on self-contained bunding. <ul style="list-style-type: none"> ○ FG1 – 1,600 kL storage area: IBC – 110L/20L ○ FG2 – 650 kL storage area: IBC – 110L/20L ○ FG3 – 350 kL storage area: IBC – 110L/20L ○ FG4 – 890 kL storage area
Storage Tanks	<ul style="list-style-type: none"> • 2 x 80 kL storage tanks combustible liquid installed on concrete hardstand. • Self-bunded double walled tanks • Designed to AS1692 • Pipework located within SBT • Overfill alarm and overfill float valve • 2 x high level switches with auto-emergency shutoff • Certified venting on top of tanks – water vapour trap fitted • Tanks surrounded by bollards. • Roll over/grate (sump) to capture any potential spills @ transfer point with concrete graded towards the grate.
Hot Water Baths	To keep products warm for flowability of liquid and melt solid to liquid out of drums and pumping into mixing vessel.
Flammable Store	<ul style="list-style-type: none"> • 15 kL storage area. • Stored in accordance with the requirements of the <i>Dangerous Goods Safety Act 2004</i> and the <i>Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007</i>.
Waste Storage Area	Separate segregated storage area for drums and containers.
Fire Protection	<ul style="list-style-type: none"> • Fire detection and fire-fighting equipment installed and maintained at the premises. • Fire detection system linked to emergency services.

Construction and site preparation

The premises is located within an existing building, the construction works for the proposed prescribed premises relate to:

- Ensuring area inside the existing T3 facility has impervious concrete hardstand and construction of concrete bunded and hardstand areas for each formulation tank area (bay T1-T6) in accordance with AS1940.
- Installation of equipment as listed in Table 1; and
- Establishing power and water connections to the newly installed equipment.

Process

Activities at the Premises will involve storing raw materials and mixing those materials in formulation mixing tanks to produce a finished product to a set recipe and quality control standards that comply with those set by the Australian Pesticide and Veterinary Medicines Authority (APVMA).

Following the blending of the raw materials in these mixing tanks, the blended product will be transferred to the adjacent paired tank for storage and pumping into packages which will range from 5L to 1,000 L and then stored on-site prior removal.

The applicant is proposing to use inputs including solvents, emulsifiers, surfactants and deionised water largely in liquid form with some solids. Liquids will be transferred via flow meters to bulk site storage, while other inputs are added from drums or IBCs using pallet scales and air pumps.

The process at the facility will involve mixing of raw materials in formulation tanks to generate product and does not involve any additional processing. The process involves:

- Good receipt.
- Unload delivery of products.
- Storage in designated storage area.
- Checking SDS and manufacturing instructions for relevant PPE requirements.
- Stage Bill of Material (BOM) ready for production schedule.
- Add products to mixing vessel / tank to manufacturing instructions inclusion list.
- Confirming product is within quality control parameters, once cleared by laboratory personnel transfer to Pack tank.
- Confirming packaging is correct to BOM items e.g. label, drum type, product name.
- Packing product to quality control parameters litres / weight.
- Storage of finished goods in designated area to AS 1940:2017 compliance.

Commissioning

Commissioning of the facility will commence upon completion of equipment installation. This will involve progressive testing and commissioning of all systems to ensure they operate within the manufacturer's guidance and establishment of power.

As no chemicals / raw products will be added to the formulation tanks during commissioning, no emission monitoring is proposed.

Time limited operations

Time limited operations are proposed to commence immediately upon the completion of all commissioning activities.

An Emission Monitoring Plan has been prepared by Ektimo. The emission testing includes a number of parameters including speciated volatile compounds, MCPA (2-methyl-4-chlorophenoxyacetic acid) and Trifluralin.

Elders propose the following schedule for emission monitoring:

1. Initial sampling to coincide with commencement of full operational formulation (minimum of 2x bays operating simultaneously) at commencement of TLO.
2. Sampling of 5 x bays operating simultaneously during TLO.
3. Conduct sampling at 3- monthly intervals for the first 12 months of TLO/operations interval (assess results and determine if ongoing 3-monthly sampling is required).
4. Conduct sampling at 6-monthly intervals for 12 months (dependent on the results for #3).



Figure 1: Location of premises



Figure 2: Site layout and emission points

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 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 and Figure 3 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 premise (*Guideline: Environmental Siting* (DWER 202))

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

Human receptors	Distance from prescribed activity
Rockingham Holiday Village	675 m southeast of the premises
Residential area	1.3 km South of the premises
Environmental receptors	Distance from prescribed activity
Conservation area	Rockingham Industrial Zone Strategic Environmental Assessment, Conservation area located ~1 km west of the premises (as part of Ministerial Statement 863) Bush forever site 349 (Leda and adjacent bushland) 725 to the east of the premises Bush forever site 356 (Lake Coolongup etc and adjacent bushland)
State Environmental Conservation Act Management Areas	Cockburn Sound Policy boundary area, within premises <i>State Environmental (Cockburn Sound) Policy 2015</i> is backed by the <i>Environmental Protection Act 1986</i> and authorises the Cockburn Sound Management Council to report annually on the 'state of the sound'. The Cockburn Sound is a highly valued by the communication for its ecological, economic and recreational attributes and is bounded by the Kwinana Industrial strip to the east.
Threatened / Priority fauna	Potential Carnaby's Cockatoo foraging habitat in DBCA reserve areas immediately adjacent to the premises. The premises has no native vegetation. The premises is located within the modelled distribution for Black Cockatoo's Carnaby's Cockatoo (<i>Zanda latirostris</i>) and Forest Red-tailed Cockatoo (<i>Calyptorhynchus banksia subsp. naso</i>) and it is possible potential breeding, foraging and roosting

	<p>habitat is located in native vegetation in the local area (DWER, 2023).</p> <p>The following fauna species of conservation significance could be present in surrounding habitat include:</p> <ul style="list-style-type: none"> • Quenda (<i>Isodon fusciventer</i>). • Black-striped snake (<i>Neelaps calonotos</i>). • Western Brush Wallaby (<i>Marcopus irma</i>). • Perth slider, lined skink (<i>Lerista lineata</i>).
TECs/PECs	<p>Part of the premises prior to development – north corner and immediately adjacent, Tuart (<i>Eucalyptus gomphocephala</i>) woodlands and forests of the Swan Coastal Plain). Woodlands over Sedgeland of the Southern Coastal Plan (floristic community type 19) (Native vegetation has been cleared under CPS 9710/1)</p>
Groundwater	<p>Groundwater is approximately 2 mbgl</p>

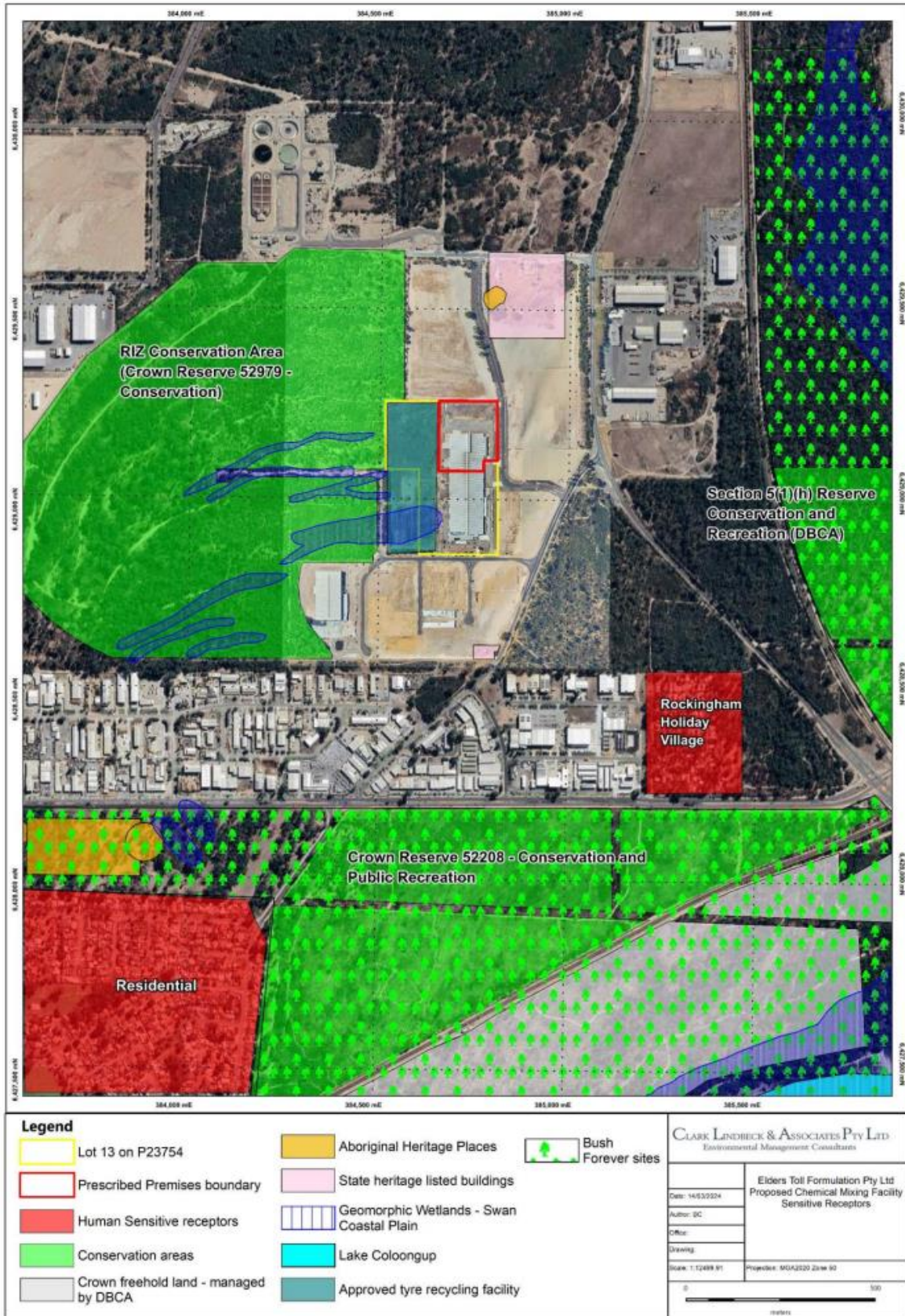


Figure 3: Distance to sensitive receptors

3.2 Air quality impacts

The premises is located within an industrial zone with the closest sensitive receptors located 675m south of the premises.

The following wind roses (see Figure 4 and Figure 5) provides the annual wind direction and strength for the Perth region taken at the Perth airport, BoM 2019, predominantly from the east (9AM) and south-west (3PM).

9 am
27474 Total Observations

Calm 12%

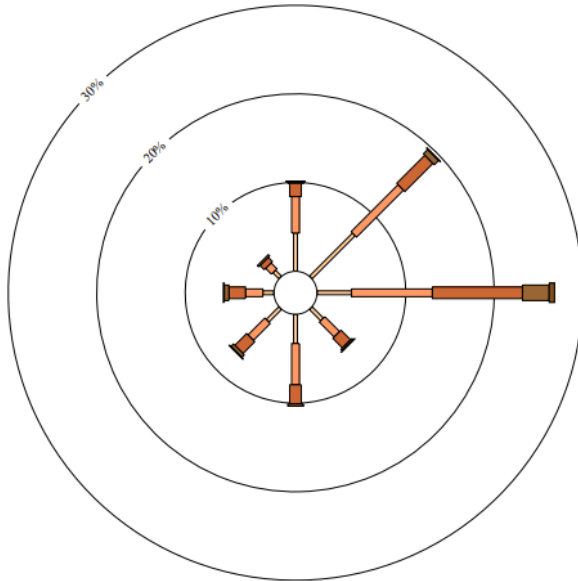
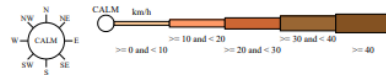


Figure 4: Wind speed and direction rose, Perth Airport 9am annual (BoM 2019)



3 pm
27458 Total Observations

Calm 4%

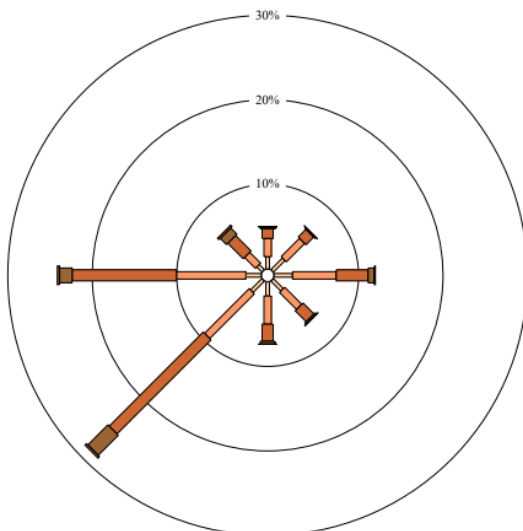


Figure 5: Wind speed and direction rose, Perth airport annual 3pm (BoM 2019)

Gaseous and particulate emissions

The premises is located within 'Area B' as defined in the *Environmental Protection (Kwinana) Atmospheric Wastes) Policy 1999* and the *Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992* reflecting its location in an area zone for industrial purposes under a Town Planning Scheme. The regulation sets out sulfur dioxide (SO₂) standards and limits for each area (Area A, B & C).

Controls:

All vapours/emissions from the tanks (which are closed) are directed into scrubber ducts. The venting (out-breathing) flow rates have been determined by an assessment provided by GPA (GPA, 2024). This report took into account the size of the tanks, product composition, liquid transfer rates to the tanks and liquid movement and thermal effects. The ventilation system has been designed based on these recommendations to ensure all vapours/emissions from each tank flow into the scrubber duct.

- The scrubber ducts come from each packing and mixing tank (and filling area). Scrubber ducts from the tank flow into two vent headers:
 - Vents from tanks T1 and T2 (referred to as Bay 1, 2) are directed into one vent header; and
 - Vents from tanks T3, T4, T5 (Bays 3-5) are directed into a separate header;
 - Vents from the filling area are directed into a third vent header.
- Design drawing – aerial view pipework (Figure 6) show an aerial view of the scrubber ducts from tanks to scrubber; and
- Design drawing – ducts to scrubber (Figure 7) shows the pipework to the scrubber system which includes the Hepal Filter unit (carbon) and then to the wet scrubber (referred to as 'fume scrubber').

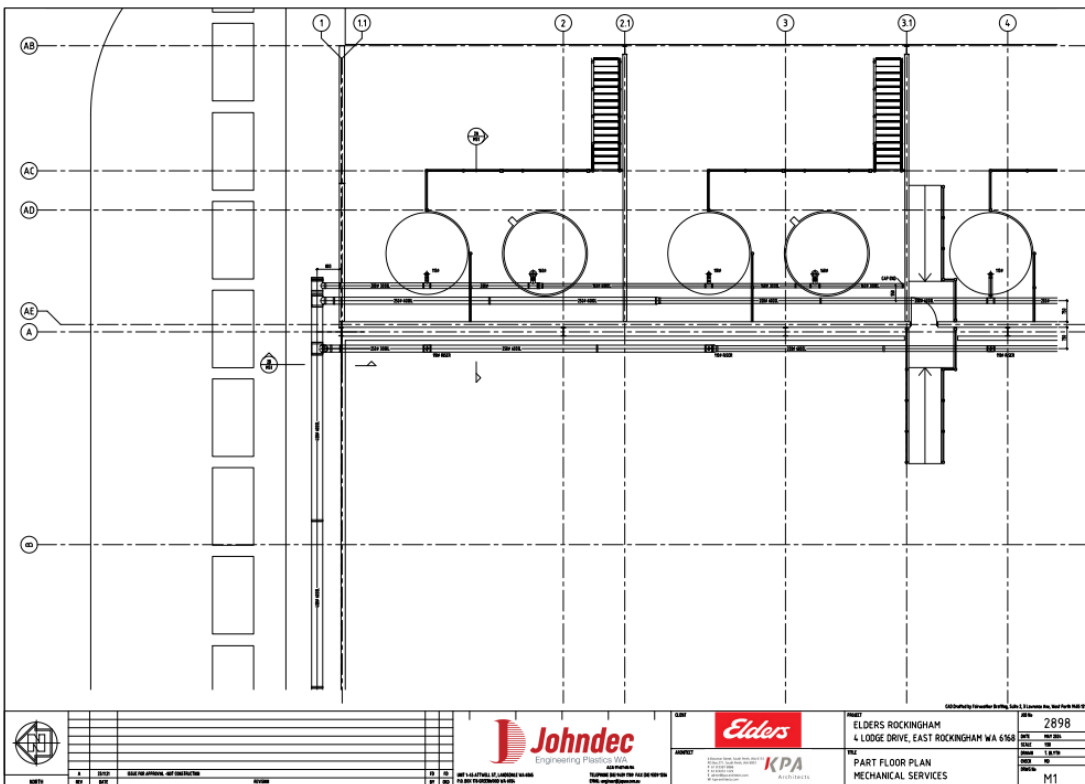


Figure 6: Design drawing - aerial view pipework

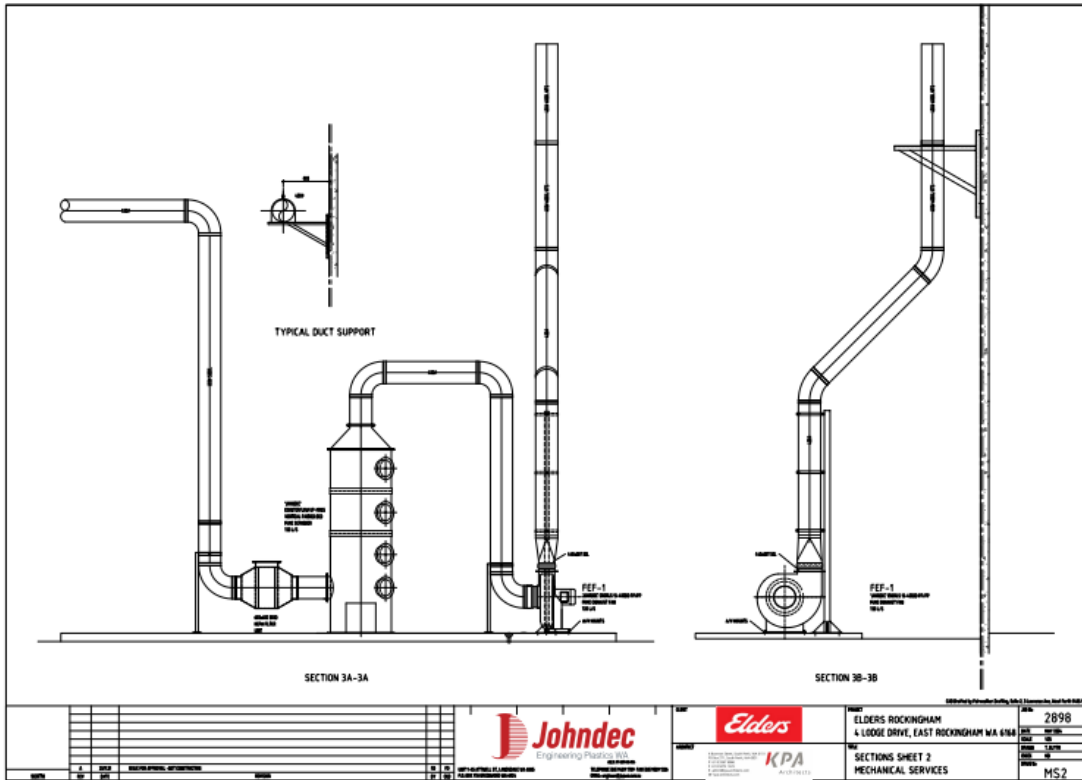


Figure 7: Design drawing duct to scrubber

The applicant has submitted an Emissions Monitoring Plan and identified compounds and stack gas parameters that are proposed to be measured (NO_x, CO, SO₂, O₂, CO₂, VOCs and Trifluralin).

The Applicant has commissioned Ektimo to update the Emission monitoring plan to include a full list of parameters prior to operation. The Applicant is currently also developing operational procedures which will include Scrubber Operation and Maintenance Procedure.

Odour

There is a potential for odour emissions to be emitted from the premises from the storage and mixing of raw materials on site.

The applicant is proposing to manage potential odour emissions with the use of a ducts that includes a Hepal Filter unit (carbon) and then treated by a wet scrubber.

The applicant provided a self-assessment of the potential odour emissions from the premises using DWER’s *Guideline: Odour Emissions*. The screening tools determines whether additional assessment is required considering screening distance and sensitive receptor distance. The screening assessment identified that a detailed analysis for odour emissions was not required.

3.3 Noise impacts

The applicant is proposing to operate 5 days per week from 7AM to 3.30PM daily.

A list of the sounds power levels of the proposed equipment is shown in Table 3 below.

Table 3: Sound power levels of equipment

Equipment/Machinery	Sound Power Level dBA
Compressor	72dBA
Forklift Truck	65dBA
Diaphragm Pump	Maximum 75 dBA

The applicant provided a self-assessment of the predicted noise emissions using DWER's *Draft Guideline: Assessment of environmental noise emissions*. The screening form is a tool to determine whether further detailed assessment is required. The form identified that:

- The distance to the nearest noise sensitive receiver / premises is 675m, closest commercial receiver is 600m and distance to nearest industrial receiver is 100m, as shown in Figure 8.
- The estimated sounds power for all operational noise sources was <85dB(A).
- No blasting, vibration, aircraft or amenity issues were identified; and
- Additional noise emission assessment was not required.



Figure 8: Distance to noise receivers

3.4 Groundwater

Groundwater monitoring wells MW1 and MW3 are located immediately south of the premises and recorded groundwater levels at 1.7 mbgl at MW1 and 2.45 mbgl at MW4 (Tetra Tech Coffey 2023). According to the DoW (2006) groundwater flows in a northwesterly direction.

As part of the environmental baseline assessment, Tetra Tech Coffey (2023) sampled groundwater from the two groundwater monitoring wells. The groundwater quality is considered representative of the whole site and the concentrations were reported below the limit of reporting for the adopted criteria (Department of Health (2014) Domestic Non-Potable Groundwater Use and ADWG aesthetic values).

There are two conservation category wetlands (CCW) are mapped at Lot 12 immediately west of the

proposed premises which have been highly modified as a result of clearing and grazing between 1961-1995 and are separated by a road from the main wetland (in the RIZ SEA conservation area) (DWER 2023).

Stormwater Management:

There is an existing drainage swale located on the eastern edge of the premises boundary, that will be used to discharge clean and uncontaminated stormwater (Figure 10). The required basin storage volume for 10% AEP has been calculated to 113m³ and 1% AEP is 298m³. The available basin storage volume is 456m³. The applicant is proposing to install bioretention basin as shown in Figure 9. The bioretention garden will use 8-12 plants per m² and at least 50% of plants shall be effective at nutrient removal, remainder shall be local, native, ephemeral plants.

The highest risk area for spills are discharges is the outside area where the hot water baths and formulation tanks are stored. The applicant is proposing to install nine junction pits (concrete sumps) to capture potential spills or stormwater which then flow (via underground pipework) to 1800 x 1800mm concrete sump with isolation valve, and submersible pump with float switch, which will pump contained material to a 27 kL above ground storage tank. The storage tank is designed to hold 1 kL potential spill and 24 kL washwater / rainwater. The tank will be located in the northeast corner of the catchment area as shown in orange in Figure 11.

Maintenance will occur monthly to ensure system is working as per design intent and free from sediments or any obstructions.

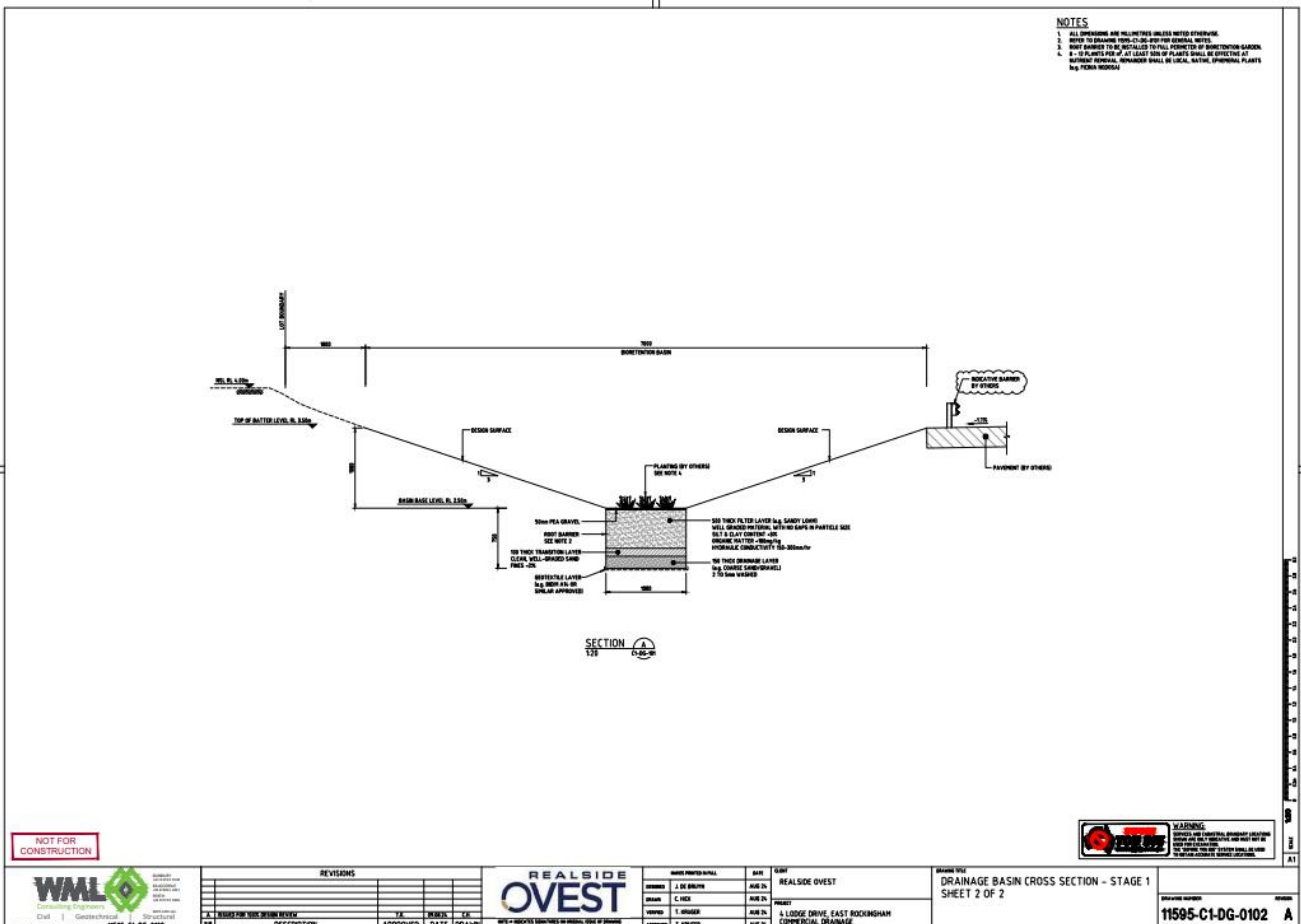


Figure 9: Drainage basin cross section

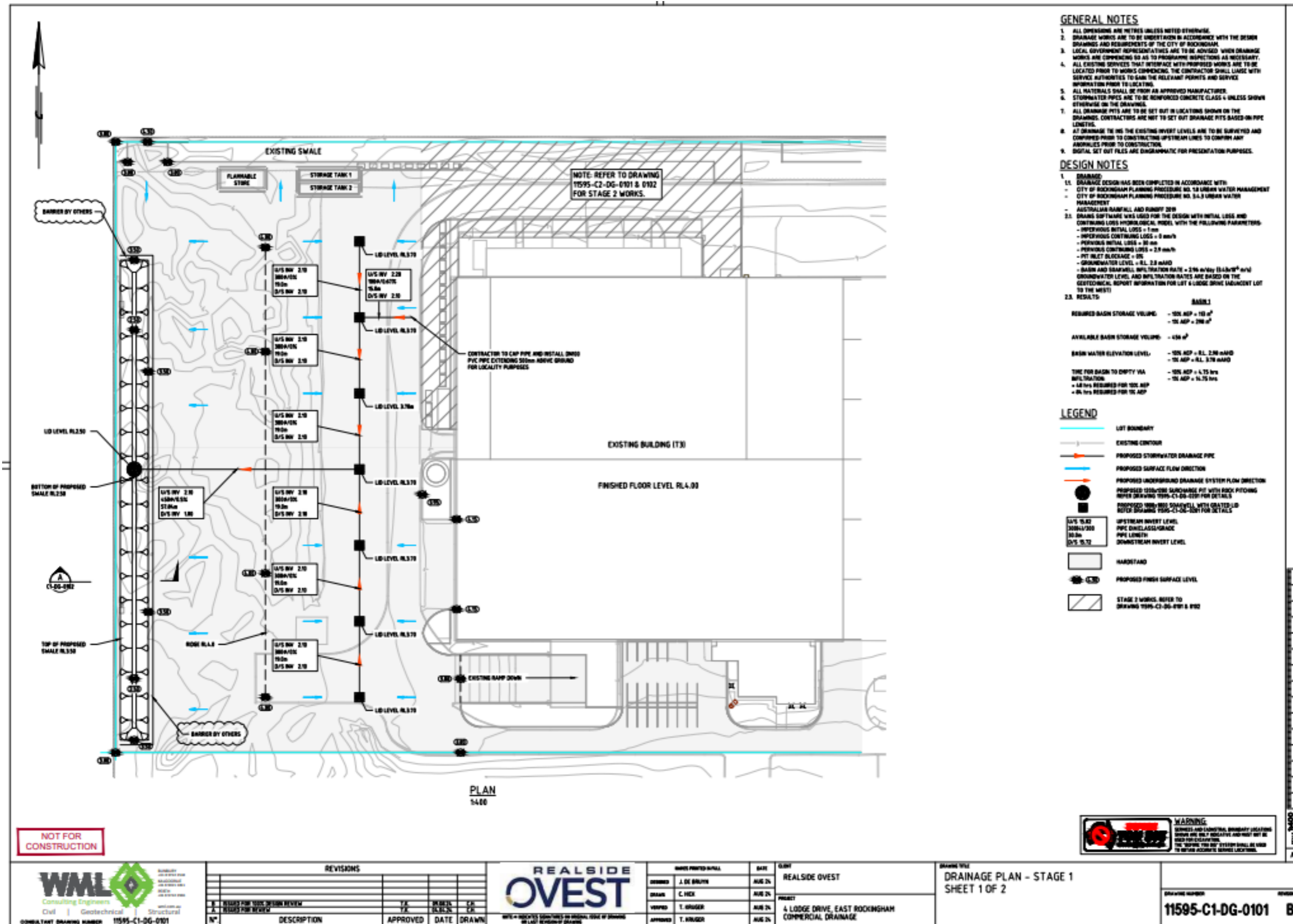


Figure 10: Drainage Plan - Stage 1

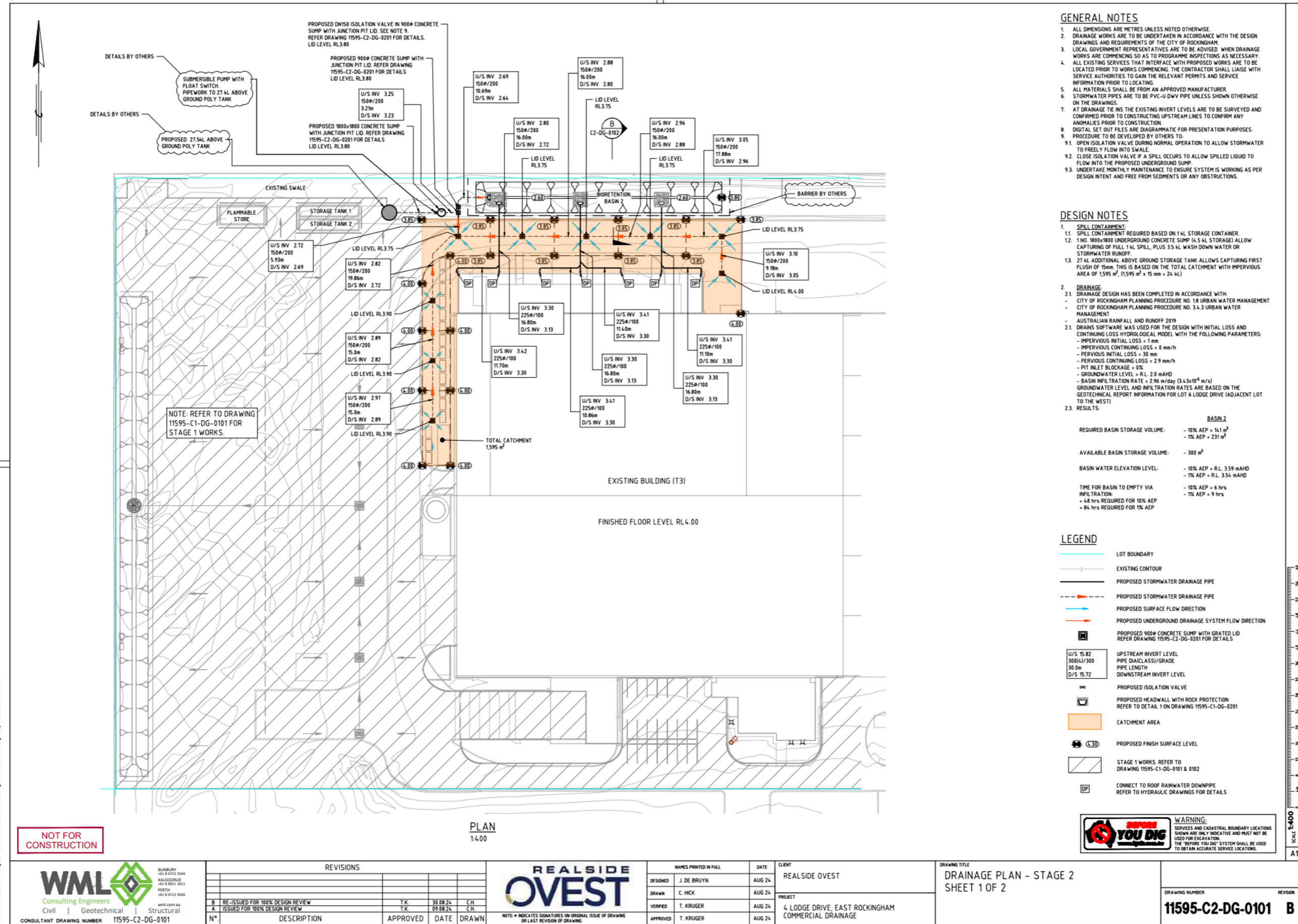


Figure 11: Drainage plan – Stage 2

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IR-T13 Decision report template (short) v3.0 (May 2021)

3.5 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 4.

Works approval W6956/2024/1 that accompanies this decision report authorises construction and time-limited operations. The conditions in the issued works approval, as outlined in Table 4 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence is required following the time-limited operational phase authorised under the works approval to authorise emissions associated with the ongoing operation of the premises i.e. chemical blending or mixing activities. 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.

Table 4: Risk assessment of potential emissions and discharges from the premises during construction, commissioning and operation

Risk events					Risk rating ¹	Reasoning	Regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood		
Construction							
Construction of all chemical mixing plant including installation of tanks and equipment and vehicle movement	Dust	Air / windborne pathway causing impacts to health and amenity	Residential receptors 675m southeast of the premises	The Premises will be located within an existing building. Construction works are related to installation of equipment in the existing building and on pre-existing cleared areas and no excessive dust generation is expected.	C = Slight L = Rare Low Risk	The delegated officer considers that the risk of dust emissions from construction activities will be acceptably low and does not warrant specific regulatory controls. General provisions of the EP Act apply relating to causing pollution and environmental harm.	N/A
	Noise			Construction works are largely related to installation of equipment in the existing building. Construction activities will be limited to day-shift only. Operations will comply with the <i>Environmental Protection (Noise) Regulations 1997</i> .	C = Slight L = Rare Low Risk	The delegated officer considers that the risk of noise emissions from construction activities will be acceptably low and does not warrant specific regulatory controls. General provisions of the EP Act apply relating to causing pollution and environmental harm and the <i>Environmental Protection (Noise) Regulations 1997</i> will apply.	N/A
Operation (including commissioning and time-limited-operations operations)							
Operation of chemical treatment plant (gaseous and particulate emissions from scrubber stack)	Gaseous emissions	Air/windborne pathway causing health impacts to health and amenity	Residential receptors 675m southeast of the premises	As detailed in Section 2.3 and Table 1. Proposed monitoring: An Emissions Monitoring Plan has been developed by Ektimo for the applicant. The Plan detailed the following: Emission monitoring points to be installed comprising 2 x 4" Flange sampling access ports. Sampling ports installed to conform with 'AS4323.1 – Stationery source emissions selection of sampling positions and measurement of velocity in stacks'. Air Emissions testing parameters– will be determined once DWER works approval has been issued. The proposed emission testing includes a number of parameters including speciated volatile compounds, MCPA (2-methyl-4-chlorophenoxyacetic acid) and Trifluralin. The applicant is proposing to undertake emission monitoring during time limited operations to measure the primary products which are likely to produce vapours released to the scrubbers, to confirm the effective operation of the scrubber system and confirm that the air emission are not significant. The applicant will develop a Scrubber Operation and Maintenance Procedure to ensure efficient operation of the scrubber which will include checks of the scrubber system during TLO to ensure its operating effectively.	C = Moderate L = Unlikely Medium Risk	Consideration has been given to the proximity of sensitive receptors, the prevailing winds (see Section 3.2), and the nature of activities undertaken at the premises. The consequence is considered moderate and likelihood of sensitive receptors being impacted is considered as unlikely Considering the activity is mixing of chemical products, the use of extraction systems and wet scrubber is considered to be sufficient in managing the potential risks. The delegated officer considers the applicants controls to be sufficient to main an acceptable level of risk posed by gaseous emissions associated with the operation of the chemical treatment plant and have been conditioned within the works approval. The Applicants additional proposed updates to the air emissions monitoring plan, and development of a Scrubber Operation and Management Procedure have also been conditioned within the works approval as these plans are considered key the ongoing effective management of gaseous emissions from the premises.	Conditions 1, 5, 8, 9, 12, 13, 16, 17 and 18.
Storage and treatment of chemicals on site	Odour	Air/windborne pathway causing impacts to health and amenity	Residential receptors 675m southeast of the premises	All tanks are closed and all vapours are directed into the vent headers to be treated by the wet scrubber. Daily site inspections will record odour emissions which could create amenity issues.	C = Moderate L = Possible Medium Risk	Consideration has been given to the prevailing winds (see Section 3.2) in the area that are likely to be from the east in the morning and from the south-west in the afternoon, the sensitive receptors are located at the southeast of the premises. Therefore, the likelihood of sensitive receptors being impacted is considered as unlikely and the consequence is moderate. Considering the activity is mixing of chemical products, the use of extraction systems and wet scrubber is considered to be sufficient in managing the potential risks or odour during operations. The delegated officer considers the applicants controls to be sufficient to main an acceptable level of risk posed by odour associated with the operation of the chemical treatment plant.	Condition 1, 5, 8, 9, 12, 13, 16, 17 and 18.

Risk events					Risk rating ¹	Reasoning	Regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood		
Operation of equipment including compressor, forklift truck and diaphragm pump.	Noise	Air/windborne pathway causing impacts to health and amenity	Residential receptors 675m southeast of the premises	The facility will operate 5 days per week Monday to Friday from 7am to 3.30pm daily. Activities will largely be based inside an enclosed shed, with the exception of vehicle/ truck movements (truck movements 11 -15 / week).	C = Minor L = Unlikely Medium Risk	The delegated officer considers that the risk of noise emissions during operations is unlikely to impact sensitive receptors, given that the work is mostly undertaken indoors and the wind direction is usually away from the receptors. The consequence to receptors is considered to be minor and does not warrant specific regulatory controls. General provisions of the EP Act apply relating to causing pollution and environmental harm and the <i>Environmental Protection (Noise) Regulations 1997</i> will apply.	N/A
Storage and treatment of chemicals on site	Wastewater discharge from leaks, spills, pipe ruptures associated with the operation of the chemical treatment plant.	Overland runoff and direct infiltration causing groundwater contamination.	Groundwater ~2m bgl Impact nearby TEC Conservation category wetland	As detailed in Section 2.3 and Table 1. General: Transfer of raw materials to formulation tanks (using forklifts). The largest volume of raw material / product to be transferred is 1,000L. Any spills outside of the existing building will be captured in a 9 x junction pits (concrete sumps), which then flow (via underground pipework) to 1800 x 1800mm concrete sump with an isolation valve and submersible pump with float switch, which will pump contained material to a 27 kL above ground storage tank. The isolation valve will be closed if a spill occurs. This allows spills to be collected in the concrete sump to be pumped (using submersible pump) to 27kL above ground storage tank. The submersible pump has been designed for a minimum flow rate of 31.32 m ³ /hr which allows pumping out of 25 kL of liquid and allows for 300 mm in the pit. Pipes in pipe racks. Flexible hoses used to supply raw materials from IBCs or drums. Spill kits will be available around site to contain any hydrocarbon and chemical spills. Any spills for reuse or removal offsite. Entry / exit points to building have a 38mm external bund which will prevent any release of material outside the building. All Dangerous Goods will be stored in accordance with the Dangerous Goods Licence (DGS303074) and stored and handled according to the applicable sections of the <i>Dangerous Goods Safety Act 2004</i> , <i>Dangerous Goods Safety (Storage and Handling of Non-Explosives) Regulations 2007</i> and <i>Dangerous Goods Safety (Explosives) Regulations 2007</i>	C = Moderate L = Possible Medium Risk	Consideration has been given to the location of the level of the underlying groundwater at the premises and the nearby conservation category wetland to the west of the premises boundary. Therefore, the likelihood of the receptors being impacted by this activity is considered possible. The delegated officer has considered the applicant's controls for storing the environmentally hazardous waste to Australian Standards and the potential emissions from the storage of environmentally hazardous materials. An additional condition has been included in the works approval that requires the applicant to maintain the drainage pits and sumps monthly and a procedure must be developed and available to employees regarding spills and specifically regarding closing the valve in the event of a spill. The applicant's proposed controls have been included as conditions on the works approval.	Conditions 1 and 16 Conditions 10 and 11
Storage and treatment of chemicals on site (2 x 80kL) located outside of building.	Contaminated stormwater	Overland runoff and direct infiltration causing groundwater contamination.	Groundwater ~2m bgl Impact nearby TEC Conservation category wetland	The outside tanks will be self-bunded double walled designed to AS1692. Tanks will contain an overflow alarm and overflow float valve. 2 x high level switches with auto-emergency shutoff. Roll over/grate to capture any spills at transfer points to the tanks. Spill kits available around site to contain any hydrocarbon and chemical spill. The existing facility has an impervious concrete hardstand and construction of bunded hardstand areas for each formulation tank area in accordance with AS1940. Any spills or leaks will be immediately cleaned reused on site or removed off site to an appropriate facility. The sealed hardstand area immediately north of the T3 building which will not be used for storage of chemicals /	C = Moderate L = Possible Medium Risk	The delegated officer the likelihood of contamination of groundwater from the operations is possible and the consequence is medium considering the groundwater level is around 2 mbgl, there are nearby TECs and a conservation category wetland. The applicant's proposed controls are considered adequate in managing the potential adverse impacts to surrounding land and surface water ecosystems. These controls have been included as condition of the works approval. An additional condition has been included in the works approval that requires the applicant to maintain the drainage basins and sumps monthly and a procedure must be developed and available to employees regarding spills and specifically regarding closing the valve in the event of a spill. The delegated officer considers these controls will be sufficient to mitigate the risks to groundwater, however also notes the ongoing monitoring of groundwater (via the adjacent monitoring bores) may be considered for ongoing operation of the premises (and assessed during the assessment for licence).	Conditions 1 and 16 Conditions 10 and 11

Risk events					Risk rating ¹	Reasoning	Regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood		
				hazardous goods, runoff from this area will be directed to a drainage swale north of this area. The site has a stormwater management plan that directs clean and uncontaminated stormwater to the retention basin. The applicant is proposing to install 9 x function pits (concrete sumps) to capture potential spills or stormwater which then flow (via underground pipework) to 1800 x 1800 mm concrete sump with isolation valve.		The <i>Environmental Protection (Unauthorised Discharge) Regulations 2004</i> make it an offense to discharge certain materials to the environment.	
Fire	Smoke damage and risk to sensitive receptors	Air/windborne pathway causing impacts to health and amenity	Residential receptors 675m southeast of the premises	Fire detection and fire-fighting equipment installed and maintained at the premises. Fire detection system linked to emergency services. Flammable storage area – 15 kL storage area. Stored in accordance with the <i>Dangerous Goods Storage Safety Act 2004</i> and the <i>Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007</i>	C = Moderate L = Possible Medium Risk	The delegated officer has considered the likelihood of a fire from the operations which is possible and the controls proposed by the applicant, the consequence is medium. The applicant's proposed controls have been included as conditions on the works approval.	Condition 1

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.

4. Consultation

Table 5 provides a summary of the consultation undertaken by the department.

Table 5: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 30 August 2024	None.	N/A
Local Government Authority advised of proposal on 3 September 2024	<p>The City of Rockingham provided the following comments on 10 September 2024:</p> <p>Pursuant to the City's Town Planning Scheme No.2 (TPS2), the subject property is located in the 'General Industry' zone. The proposed Chemical Mixing Facility is considered an 'Industrial – General (Licensed) land use which is defined in the TPS2 as follows:</p> <p><i>"means an industry which is a category of Prescribed Premises set out in Schedule 1 of the Environmental Protection Regulations 1987 or premises subject to registration set out in Schedule 2 of the Environmental Protection Regulations 1987.:</i></p> <p>Conditional Development Approval (attached) for a proposed 'Change of Use to Industry – General (Licensed) – Chemical Mixing Facility' was granted by the City over the rear tenancy (Tenancy No. 3) of the subject property on the 9 September 2024. The City has undertaken a review of the application and advises it has no objections to the proposal.</p>	The Department notes this information.
Applicant was provided with draft documents on 14 October 2024	Refer to Appendix 1	Refer to Appendix 1

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 Water and Environmental Regulation (2023) CPS9710/1 Decision Report. Report dated 23 August 2023
5. GPA Engineering Pty Ltd, Ventilation Flow Rate Calculation Report, Rockingham Formulation Tanks Ventilation Calculation, dated April 2024
6. Tetrattech Coffey (2023) Environmental Baseline Assessment at T1 Lodge Drive, East Rockingham WA. Dated 23 January 2023

Appendix 1: Summary of applicant’s comments on risk assessment and draft conditions

Condition	Summary of applicant’s comment	Department’s response
Table 1, No. 7c, Condition 6, Condition 11(d), Table numbering and Table 1 – No. 6 Fire protection	Suggested edits to minor typographical errors	Minor administrative errors corrected.
Condition 1 Table 1 – No. 7b Stormwater drainage	To reflect the updated design Elders request the following amendment: b) Stormwater control infrastructure must be designed and constructed to capture all potentially contaminated stormwater from the chemical blending/mixing area, storage areas and associated plant infrastructure and direct collected runoff to the junction pits spill pits and containment sumps (as depicted in Figure 4 – Eastern drainage area) Updated Figure 4 provided in attached drawings	Condition 1 has been amended to reflect the updated stormwater design as requested.
Condition 1 Table 1 – No 9 Retention basins	As the (bio)retention basins are a requirement of the City of Rockingham development approval, is it necessary for the installation of and maintenance of the basins to be conditioned in the Works Approval?	Given this condition has already been covered under the City of Rockingham’s Development Approval, this requirement has been removed from the Works Approval as requested.
Condition 16 Table 3, No 2(f) – Wet scrubber system	Elders request the following amendment for consistency with Table 1: f) stack emission point to be not less than 19m in height (from ground level).	Updated as requested.
Condition 16 Table 3, No 3 b, c - Stormwater	To reflect design Elders request the following amendments: a) Potentially contaminated stormwater collected from through the premises to be collected and drain toward the junction pits and Containment Sumps and pumped to above ground storage tank and recovered for reuse or disposed of at an appropriate licensed facility; and b) Retention basins and junction pits and containment sumps must be maintained monthly to be free of sand, debris and water to ensure efficacy.	Condition 16, Table 3, Item 3 b) and c) have been amended with the new wording to reflect the changes to the stormwater design as requested.

Condition	Summary of applicant's comment	Department's response
Condition 16 Table 3, No 4(d) – Environmentally hazardous materials	<p>d) Ensure that immediately following event, where material has entered the containment sumps and transferred to above ground storage tank, that this material is removed offsite as soon as practicable to an appropriate authorised waste facility.</p> <p>Disposal of any contaminated material will either be pumped out via tank or transferred into smaller containers (1kL) for disposal off site. Elders considers using the term 'immediately' is restrictive as first the material needs to be pumped out and then offsite facility notified. If storage of this material is required overnight, the storage container will be placed inside the building.</p>	The wording of this condition has been amended as requested. Given that the material is contained within an impervious storage tank, there is no additional risk posed to the environment to amend 'immediately' to 'as soon as practicable'.
Schedule 1 prescribed premises map	An updated prescribed premises map has been provided. Location of stack has shifted ~5m to the west.	The prescribed premises map has been amended.
Figure 4	<p>Updated Eastern drainage design is included in the drawings 'Drainage Plan – Stage 2, Sheet 1 of 2' (pg 5)</p> <p>Shows junction pits which replace 3 x 7 kL underground sumps.</p>	<p>Figure 4 has been updated with the new proposed plan.</p> <p>Condition 1, Table 1, item 8 has also been updated to include the 9 junction pits and 27 kL additional above ground storage tank in line with the new stormwater management design.</p>
Figure 6 – Eastern drainage swale cross-section	Updated cross section is included in the drawings 'Drainage Plan - Stage 2, Sheet 2 of 2' (pg 6). The only change from previous is the removal of the spill trench (a bund will be put in its place).	Figure 6 has been removed from the Works Approval Schedule as reference to the retention basins has been removed as requested (as it's already part of the existing conditions of the Development Approval).
Decision Report		
Section 2.2 – 2 nd paragraph	Request minor nomenclature change	Updated as requested.
Figure 2	Updated prescribed premises map provided with minor revision to stack location.	The prescribed premises map has been amended.
Section 3.4 – Stormwater management 2 nd paragraph, 2 nd sentence	Request update to reflect 9 x junction pits flowing underground concrete sump with an isolation valve and submersible pump to pump any spill material to the 27 kL above ground storage tank.	The description of the stormwater design has been updated to reflect the proposed changes.
Figure 9	Not current. Request update with attached Drawing 'Drainage Plan – Stage 2, Sheet 1 of 2' (pg 5)	Figure 9 has been deleted and replaced with drawing 'Drainage Plan – Stage 2, Sheet 1 of 2' (pg 5) as requested.

Condition	Summary of applicant's comment	Department's response
Figure 12	Request update with attached Drawing "Drainage Plan – Stage 2, Sheet 1 of 2" (pg 5)	Figure 12 has been replaced with Request update with attached Drawing "Drainage Plan – Stage 2, Sheet 1 of 2" (pg 5) and now referenced as Figure 11.
Risk assessment – 'Storage and treatment of chemicals on site' (pg 23)	Amend reference to '3 x 7 kL tanks' (as per previous sections).	The stormwater design description has been updated.
Risk assessment – 'Storage and treatment of chemicals on site (2 x 80 kL outside of building' (pg 23)	Amend reference to '3 x 7 kL tanks'.	The stormwater design description has been updated.

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY		
Application type		
Works approval	<input checked="" type="checkbox"/>	
Date application received	29 July 2024	
Applicant and Premises details		
Applicant name/s (full legal name/s)	Elders Toll Formulation Pty Ltd	
Premises name	Chemical Mixing Facility – East Rockingham	
Premises location	Lot 13 on P23754	
Local Government Authority	City of Rockingham	
Application documents		
HPCM file reference number:	DWERVT15183~28	
Key application documents (additional to application form):	Works Approval supporting document	
Scope of application/assessment		
Summary of proposed activities or changes to existing operations.	Works approval Construction of chemical mixing facility	
Category number/s (activities that cause the premises to become prescribed premises)		
Table 1: Prescribed premises categories		
Prescribed premises category and description	Proposed production or design capacity	Proposed changes to the production or design capacity (amendments only)
Category 33: chemical mixing facility	9,500 tpa 5,500 tpa (year one) 9,500 tpa (year 5 onwards)	N/A
Legislative context and other approvals		
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?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Certificate of title <input type="checkbox"/> General lease <input checked="" type="checkbox"/> Expiry: The land is owned by Hamersley 1 WA Pty Ltd and has been leased to Elders for 10 years. Expiry 24 July 2034 Mining lease / tenement <input type="checkbox"/> Expiry: Other evidence <input type="checkbox"/> Expiry:

<p>Has the applicant obtained all relevant planning approvals?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>	<p>Approval: Development Approval Expiry date: N/A If N/A explain why? Development Application to the City of Rockingham being submitted concurrently with this application. *Approved 9 September 2024</p>
<p>Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>CPS No: N/A No clearing is proposed.</p>
<p>Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Application reference No: N/A Licence/permit No: N/A No clearing is proposed.</p>
<p>Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Application reference No: Licence/permit No: Licence / permit not required.</p>
<p>Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Name: Cockburn Groundwater Area Type: Proclaimed Groundwater Area Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Regional office:</p>
<p>Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Name: N/A Priority: N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> *Jandakot Underground Water Pollution Control Area (P2) is located approximately 8.5km northeast of the premises.</p>
<p>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>)</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p><i>Dangerous Goods Safety Act 2004</i> <i>Dangerous Goods Safety (Storage and Handling of Non-Explosives) Regulations 2007</i> <i>Dangerous Goods Safety (Explosives) Regulations 2007</i> <i>Waste Avoidance and Resource Recovery Act 2007</i></p>
<p>Is the Premises within an Environmental Protection Policy (EPP) Area?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p><i>Environmental Protection (Kwinana Atmospheric Wastes) Policy 1999 and Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992</i></p>
<p>Is the Premises subject to any EPP requirements?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>The Regulations set out Sulfur Dioxide standards and limits for each Area (Area A, B & C). Sulfur Dioxide is not expected to be a significant emission from the premises. Scope 1 & 2 emissions are estimated at 208 t CO_{2-e}/yr</p>
<p>Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i>?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Classification: N/A Date of classification: N/A</p>