



## Application for Licence

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

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<b>Licence Number</b>	L9403/2023/1
<b>Applicant</b>	Simon Robert James Doleman
<b>File number</b>	DWER2022/000518
<b>Premises</b>	SJD Engineering Unit 3 28 Vale Street MALAGA WA 6090  Legal description Lot 3 on Strata Plan 29131 Certificate of Title Volume 2046 Folio 608 As defined by the premises maps attached to the issued licence
<b>Date of report</b>	24 October 2023
<b>Decision</b>	Licence granted

**Amine Fisher**

**A/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 operation of the SJD Engineering premises. As a result of this assessment, licence L9403/2023/1 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 [DWER Regulatory documents | Western Australian Government \(www.wa.gov.au\)](https://www.wa.gov.au/government/publications/dwer-regulatory-documents).

### 2.2 Application summary and overview of premises

On 4 October 2022, Simon Robert James Doleman (the applicant) submitted an application for a licence to the department under section 57 of the *Environmental Protection Act 1986* (EP Act).

The application is to seek a licence relating to the operation of chrome plating infrastructure at the SJD Engineering premises, located at 28 Vale Street, Malaga. The premises is located within the Malaga industrial area approximately 11.5 km north northeast of the Perth CBD.

The process undertaken on the premises involves chrome plating of manufactured parts in a tank containing chromic acid, and passing a current through the items to be plated. Items are washed in a second tank and allowed to drip dry over the tank. A power rectifier is used to convert AC to DC current for the plating process.

There will be no discharge of liquid waste as part of normal operations at the premises. The tank system is designed for reuse of wash water which will be collected and returned to the chrome tank. All chemicals remain in the tank and are deposited on plating works. The chrome plating tank will have its contents tested for chemical strength and when no longer suitable for use, acid and sludge from the tank will be collected and removed by a licensed controlled waste contractor.

The premises relates to the category 48: Metal finishing and assessed production capacity of 100 tonnes per annum under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in licence L9403/2023/1. 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 licence L9403/2023/1.

### 2.3 Works approval compliance

The applicant was granted works approval W6505/2021/1 for the installation and time limited operations of the chrome plating infrastructure on the premises. The works approval holder submitted an Environmental Compliance Report (ECR) following completion of construction of the infrastructure on 3 October 2022. The Department requested further information from the applicant on 15 June 2023. On 28 July 2023 the applicant submitted a revised ECR and further information was also provided in September 2023 to demonstrate compliance with the works approval requirements.

A review of the compliance documentation submitted found that the infrastructure had generally been built in accordance with the works approval requirements. It was noted that the 1.5 kL potassium sodium tartrate tetrahydrate holding tank was not built as it is no longer required for the chrome plating activities.

### 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.

The risks associated with emissions and discharges from the operation of the premises were previously assessed in works approval W6505/2021/1, a copy of which is attached in Appendix 1. The operational aspects of the premises are outlined in section 2.3 of the works approval Decision Report with the risk assessment of emissions or discharges from operations documented in section 5. As there are no changes to the proposed activities or infrastructure, the delegated officer has determined that the risk profile associated with ongoing operations is consistent with the assessment previously conducted in W6505/2021/1 and will not be re-assessed.

The premises is located within a P3 public drinking water source area (PDWSA) proclaimed under the *Metropolitan Water Supply, Sewerage and Drainage Act 1909*, and lies within the Gngarara Underground Water Pollution Control Area. The PDWSA protects the quality of drinking water used by Water Corporation for domestic supply in the Perth metropolitan area. The premises is located in a well head protection zone within this area as a drinking water bore managed by Water Corporation is located 150m north of the premises within the superficial aquifer.

To ensure sufficiently low level of risk of impact to the PDWSA from the activities on the premises the plating tank has been constructed in accordance with *Australian Standard 1692 – 2006 (AS1692) Steel tanks for flammable and combustible liquids* and lined with a coating resistant to corrosive substances. The tank and emergency tanks are located within bunding which also has a coating resistant to corrosive substances and bund walls one metre in height above the concrete surface level to mitigate the risk of overflow in a loss of containment event.

### 4. Consultation

Table 1 provides a summary of the consultation undertaken by the department.

**Table 1: Consultation**

Consultation method	Comments received	Department response
Application advertised on the department's website on 14 August 2023	None received	N/A
Local Government Authority advised of proposal on 14 August 2023	City of Swan replied 7 September 2023 stating they had no objection to the proposal and development approval was not required.	The delegated officer noted this advice.
Applicant was provided with draft documents on 28 September 2023	Applicant replied 3 October 2023 advising draft was accepted and requesting issue of the licence	The delegated officer noted this advice.

## 5. Decision

The delegated officer has determined the proposal to operate the chrome plating facility, with an assessed production capacity of 100 tonnes per annum, does not pose an unacceptable risk of impacts to public health or the environment. The determination is based on the following:

- the proposed small scale of the facility (100 tpa);
- the chrome plating infrastructure was previously assessed for the grant of works approval W6505/2021/1 and the risk of impact to receptors was not deemed to be unacceptable subject to the applied works approval infrastructure conditions; and
- the applicant has installed the chrome plating infrastructure on the premises in accordance with the conditions of works approval W6505/2021/1.

Licence L9403/2023/1 contains conditions based on operational requirements of the constructed premises infrastructure, as outlined in Condition 1 of works approval W6505/2021/1. These operational requirements were determined in accordance with the *Guidance Statement: Setting conditions* (DER 2015) to address the risk of emission impacts associated with the ongoing operation of the chrome plating infrastructure including air emissions, odour and liquid discharges from spills or leaks.

General conditions required for compliance reporting, complaint investigation, and record keeping will also be included in the licence. The delegated officer has had regard to the Environmental Compliance Report submitted by the applicant on 28 July 2023, and notes that compliance with works approval W6505/2021/1 has been demonstrated.

## 6. Conclusion

Based on the assessment outlined in this decision report, the delegated officer has determined that a licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements. The delegated officer has taken into account the *Guidance Statement: Licence duration* and granted the licence for 20 years.

## 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. SJD Engineering 2022. *Application for Licence* Perth Western Australia
5. SJD Engineering 2022, *Environmental Compliance Report W6505/2021/1* Perth Western Australia
6. SJD Engineering 2023, *Environmental Compliance Report W6505/2021/1* Perth Western Australia

# Appendix 1: Decision Report W6505/2021/1



Government of Western Australia  
Department of Water and Environmental Regulation

## Decision Report

### Application for works approval

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

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<b>Works approval</b>	W6505/2021/1
<b>Applicant</b>	Simon Robert James Doleman
<b>DWER file number</b>	DER2020/000564
<b>Premises</b>	SJD Engineering 3/28 Vale Street MALAGA WA 6090  Legal land description – Lot 3 on Plan 29131
<b>Date of Report</b>	1 July 2021
<b>Status of report</b>	Final

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## 1. Decision summary

This 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 W6505/2021/1 has been granted.

## 2. Scope of assessment

### 2.1 Regulatory framework

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

### 2.2 Application summary and overview of premises

On 9 November 2020, Simon Doleman (the applicant) submitted an application for a works approval under section 54 of the *Environmental Protection Act 1986* (EP Act) to construct and operate a chrome plating facility at an existing engineering workshop located within the Malaga industrial area.

The prescribed activity relates to category 48 (metal finishing) and assessed production capacity under Schedule 1 of the Environmental Protection Regulations 1987 (EP Regulations) which is defined in works approval W6505/2021/1. The infrastructure and equipment relating to the prescribed activity and associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in below.

This assessment does not consider other activities being conducted within the existing engineering workshop located on the premises.

### 2.3 Overview of premises

#### 2.3.1 Construction and operational aspects

The applicant operates an existing engineering workshop at the premises and is proposing to add a chrome plating facility that will remove hard industrial coatings, repair, and provide new chrome coatings for manufactured components for the mining, agriculture, and marine industries.

The process will involve chrome plating manufactured parts in a tank containing chromic acid and passing a current through the items to be plated. Items will be washed in a second tank and allowed to drip dry over the tank. A power rectifier will be used to convert AC to DC current for the plating process, and a tank of potassium sodium tartare tetrahydrate will be used as the reducing agent for effective chrome plating.

There will be no discharge of liquid waste as part of normal operations at the premises. The tank system is designed for reuse of wash water which will be collected and returned to the chrome tank. All chemicals remain in the tank and are deposited on plating works. The chrome plating tank will have its contents tested for chemical strength and when no longer suitable for use, acid and sludge from the tank will be collected and removed by a licensed controlled waste contractor.

The plating facility will be used as required with an expected maximum output of about 100 tonnes per annum, based on current purchasing of chrome plated manufactured goods from other businesses.



Infrastructure relating to category 48 (metal finishing) activities which will be constructed within the existing building on the premises is as follows:

- 1.8 kL steel chrome plating holding tank;
- 1.5 kL potassium sodium tartrate tetrahydrate holding tank;
- 2x 1 kL wash / spill emergency tanks;
- 2x 1 kL emergency transportable tanks;
- 1x sump pump, and
- Brick containment bund with chemical sealant, in which tanks will be located.

### 3. Environmental setting

The premises is located within a wellhead protection zone for a Water Corporation managed drinking water bore located within the superficial aquifer, about 150 m north of the premises. The premises is also within a Priority 3 public drinking water supply area (PDWSA) that is proclaimed under the *Metropolitan Water Supply, Sewerage and Drainage Act 1909*. The delegated officer notes that metal production and finishing facilities are considered an incompatible land use within public drinking water supply areas (DoW 2016).

DWER historic groundwater data from Reference Bore 61610210 located 1.3 km to the west indicates that maximum seasonal groundwater levels are 1 metre below ground level (mbgl). A perched seasonal wetland about 150 m to the northeast of the premises confirms that seasonal groundwater is close to the surface.

### 4. Consultation

The application was referred to relevant public authorities and advertised for public comment on the department's website during February and March 2021. No public submissions were received in the timeframe specified.

The applicant was provided a copy of the draft works approval and decision report on the 25 June 2021. The applicant waived the comment period and provided no comments on the 28 June 2021.

#### 4.1 Public authorities

Water Corporation advised it objects to the proposed development in the current location, being within a PDWSA and a wellhead protection zone of an operational drinking water production bore.

The City of Swan advised the proposed works were exempt from requiring planning approval, as they will be conducted within an existing building that will not affect its external appearance.

### 5. 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.

## 5.1 Source-pathways and receptors

### 5.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction and operation which have been considered in this 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
<b>Construction</b>			
Noise	Installation of tanks and brick bund (containment)	Air/windborne pathway	Construction will take place inside an existing building. Construction occurs within "day-time" hours (business operational hours area from 6:00am to 5:00pm Monday to Saturday).
<b>Operation</b>			
Spills and leaks of chemicals or wastewater	Chemicals from chroming operations including plating, washdown operations and cleaning of tanks	Runoff from hardstand areas, reaching shallow groundwater and nearby surface water features (P3 catchment)	<p>Containment bund and all tanks will be located within an enclosed building with an existing concrete floor.</p> <p>Chrome plating and potassium sodium tartare tetrahydrate tanks to be constructed in accordance with <i>Australian Standard 1692 – 2006 (AS1692) Steel tanks for flammable and combustible liquids</i>.</p> <p>Wash / emergency spill and transportable emergency tanks to be constructed in accordance with <i>Australian Standards AS3780-2008 (AS3780) the storage and handling of corrosive substances</i>.</p> <p>Four tanks to be located within a bund constructed in accordance with AS3780, including the walls and floor of the containment area.</p> <p>Bunded area is double bricked with an internal protective rubber coating/fusion bonded epoxy.</p> <p>The floor is 200mm thick reinforced concrete slab.</p> <p>Containment bund wall is 1 metre in height above the concrete surface level.</p> <p>The bunded area and floor are lined with chemically resistant hexavalent chromium and sealed with a water proofing sealant.</p> <p>Bunded area has a 110% volume (1.98 kL) of the largest tank (chromic acid tank).</p> <p>Spills within the containment area are pumped into the chrome tank.</p> <p>Two transportable emergency tanks located within the enclosed building within the premises for chromium solution spills.</p> <p>The chrome tank, potassium sodium tartrate</p>

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Emission	Sources	Potential pathways	Proposed controls
			<p>tetrahydrate tank and two wash/emergency spill tanks are located within the bunded containment area</p> <p>The chrome plated materials are washed and drip dried over the wash/emergency spill tanks.</p> <p>All washdown water is recycled back into chrome plating tank.</p> <p>All acids and sludges not required in the process are removed from the premises by a licensed contractor.</p> <p>All chemical spills will be cleaned immediately using a neutralizing agent and a spill kit.</p> <p>All situations requiring removal of liquid chemicals will be placed inside transportable/emergency tank and be tested for strength and removed off site.</p> <p>Sump pump located within the containment bund.</p>
Air emissions Chromic acid fumes	Chromic acid tank	Air/windborne pathway	<p>Use of a non-perfluorooctane sulphonate (PFOS) fume suppressant at a rate of 2L per 1,000L of chromic acid.</p> <p>250ml of spray suppressant added to chromic acid tank every 10,000 ampere hours of operation.</p> <p>Tanks will be installed inside an existing building which is completely enclosed.</p> <p>Workshop ventilation to disperse fume emissions.</p>
Odour			

### 5.1.2 Receptors

In accordance with the *Guideline: Risk Assessments* (DWER 2020), the delegated officer has excluded employees, visitors and contractors of the applicants 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 because of activities upon or emission and discharges from the prescribed premises (*Guideline: Environmental Siting* (DWER 2021)).

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

Human receptors	Distance from the enclosed building of the prescribed activity
Closest residential receptor in Malaga	58 m east from the building of the premises activity which is located within residential suburb of Malaga.
Industrial receptors within Malaga Industrial area	Immediately adjacent to the north, west and south from the building of the premises activity
Closest public recreational area is Crown Reserve 45429	115 m northeast from the building of the premises activity

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Environmental receptors	Distance from prescribed activity
Underlying groundwater (non-potable purposes)	Mirrabooka Groundwater Area, Sub area Ballajurra, Perth-Superficial Swan aquifer Historic maximum groundwater 1 metre below ground level (mbgl) (34 m Australian Height Datum (AHD))
Priority 3 (P3) Public drinking water supply area (PDWSA) Well head protection zone for Water Corporation Bore drinking water (610610303, Mirrabooka Production Bore M35-88)	Premises is within a P3 PDWSA proclaimed under the <i>Metropolitan Water Supply, Sewerage and Drainage Act 1909</i> , and lies within the Gnangara Underground Water Pollution Control Area. The premises is located in a well head protection zone. A drinking water bore managed by Water Corporation is located 150m north of the premises within the superficial aquifer. The PDWSA protects the quality of drinking water used by Water Corporation for domestic supply in the Perth metropolitan area.  Water Quality Protection Note 25 (WQPN 25) (DoW 2016) lists that metal production / finishing industries are an incompatible land use within P3 areas.
Threatened Ecosystem Community (TECs)	Within buffer of Banksia woodlands Swan Coastal Plain (SCP) TEC

## 5.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and consider potential source-pathway and receptor linkages as identified in Section 5.1. 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 5.1), 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 W6505/2021/1 that accompanies this report authorises construction and time-limited operations. 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 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. chrome plating activities. A risk assessment for the operational phase has been included in this report, however licence conditions will not be finalised until the department assesses the licence application.



**Table 3: Risk assessment of potential emissions and discharges from the premises during construction, and operation**

Risk Event					Consequence	Likelihood	Risk rating <sup>1</sup>	Applicant controls sufficient?	Justification for additional regulatory controls	Conditions <sup>2</sup> of works approval/
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls						
<b>Construction</b>										
Construction and installation of 6 tanks and containment bund	Noise	Air/windborne pathway causing impacts to amenity	Industrial businesses adjacent north, west and south. Residences 58 m west and local park 115m northwest	Refer to Section 3.1 Table1	Slight: minimal impact at a local scale	Rare: will only occur in exceptional circumstances	Low	Y	The Delegated Officer has considered that construction will occur during daylight hours only, will be for a minimum period and occur within an enclosed existing building within an existing industrial area. The Environmental Protection Act (Noise) Regulations 1997 are sufficient to regulate noise emissions.	No Conditions
<b>Operation -including time-limited operations</b>										
Chrome plating operations	Emissions from chromic acid fumes and other vapors	Air/windborne pathway causing impacts to health and amenity	Industrial businesses adjacent north, west and south. Residences 58 m west and local park 115m northwest	Refer to Section 3.1 Table 1	Minor low-level impact to amenity at a local scale	Rare: will only occur in exceptional circumstances	Low	Y	The Delegated Officer considers the proposed applicant controls consisting of PFOS fume suppressants used when chrome plating is undertaken, 250ml of spray suppressant added to chromic acid every 10,000 ampere hours of operation, and the location of the facility within an enclosed building are sufficient to minimise the risk of vapors, fumes, and aerosols.	Condition 6
	Noise			Refer to Section 3.1 Table 1	Minor low-level impact to amenity at a local scale	Rare: will only occur in exceptional circumstances	Low	Y	The Delegated Officer considers the low storage volumes (1.8kL of chromic acid), small-scale operation (100 tonnes per year) and the applicant's controls that include the facility is within an enclosed building are sufficient to minimise the risk of noise.	Condition 6
	Odour			Refer to Section 3.1 Table 1	Minor low-level impact to amenity at a local scale	Rare: will only occur in exceptional circumstances	Low	Y	The Delegated Officer considers the low storage volumes (1.8kL of chromic acid), small-scale operation (100 tonnes per year) and the applicant's controls that include the use of PFOS fume suppressants used when chrome plating is undertaken, 250ml of spray suppressant added to chromic acid every 10,000 ampere hours of operation and location of the facility within an enclosed building are sufficient to minimise the risk of odour.	Condition 6
	Leaks and spills of chemical liquids	Failure of containment structures resulting in leaks and spills generating overland runoff through carpark drainage potentially causing contamination to superficial groundwater and soils. Contamination of groundwater within a Priority 3 PDWSA / wellhead protection area and public drinking water bore	Mirrabooka Groundwater Area, Sub area Ballajurra, Perth-Superficial Swan aquifer Groundwater 1 mbgl Public drinking water bore located 150m north.	Refer to Section 3.1 Table 1	Major High level onsite impacts, mid level local scale offsite impacts, drinking water quality ANZECC exceedances for environment/public health at risk of not being met (public drinking water source)	Rare: will only occur in exceptional circumstances	Medium acceptable subject to regulatory controls.	N	<p>The proposed category 48 metal finishing facility will process up to 100 tonnes per annum within a Priority 3 PDWSA, well head protection zone and is located 150m north of a public drinking water supply superficial bore. WQPN 25 states that the proposed use is not compatible within a Priority 3 PDWSA. Thus, the proposed works are located within a sensitive environment that does not comply with WQPN 25.</p> <p>The Delegated Officer considers that poor construction can lead to containment failure once operational. Where the failure of containment infrastructure can result in leaks and spills of chemicals and acids, that could runoff from the facility into the carpark and stormwater system and infiltrate into soil and contaminate public drinking water resources.</p> <p>The applicants operational controls consist of a sump pump located within the containment bund; all four tanks are located in the containment bund; chrome plated material are dripped and washed over wash tanks; acid and waste are removed from premises when not required, by a licenced waste controller; spills are immediately neutralized, recovered and disposed of within and outside of the containment area with a spill kit located onsite; acid wastes and sludge are removed from the premises by a licenced contractor; wash down water is recycled back into the chrome tank to make a closed loop system. The Applicants constructions controls consist of: all tanks are built to AS1692-2006 and / or AS 3780-2008; floor of the containment bund is 200 mm of reinforced concrete; the containment bund wall height is 1 metre; the containment bund is double bricked and lined with a rubber coating; the bricked containment bund hold up to 110% of the volume of the 1.8 kL chromic acid tank, having a total volume of 1.98 kL; wall and floor of the containment bund is lined with chemical resistant hexavalent chromium seal and water proofed.</p> <p>The Delegated Officer considers the construction of the bricked containment bund and tanks requires further controls to sufficiently minimise the risk of containment breach and the consequential contamination to the high value PDWSA. The Delegated Officer will place the following conditions to minimise the risk of containment failure causing leaks and spills that could contaminate soil and groundwater sensitive receptors.</p> <ul style="list-style-type: none"> <li>The bricked containment bund is built to an impermeability of 10<sup>-9</sup> metres/second.</li> <li>Materials of the containment bund shall be substantially immune to attack by corrosive substance that they may be required to contain.</li> <li>The containment bund shall be sufficiently impervious to retain and to enable the recovery of any spillage.</li> <li>No more than 1.8 kL of chromic acid is stored on the premises at any one time.</li> <li>A professional engineer to certify that the bricked containment bund and tanks have been built to Australian Standards AS1692-2006 and/or AS3780-2008 and that the containment bund and tanks have been built as detailed within Works Approval W6505/2021/1.</li> <li>That the applicant increases the volume of the bricked containment bund from 1.98 to 3.305 kL. The larger containment bund area will capture 110% of the volume of the</li> </ul>	Condition 1 <u>Condition 1</u> <u>Condition 2</u> <u>Condition 3</u> <u>Condition 6</u> <u>Condition 7</u>

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Risk Event					Consequence	Likelihood	Risk rating <sup>1</sup>	Applicant controls sufficient?	Justification for additional regulatory controls	Conditions <sup>2</sup> of works approval/
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls						
									<p>largest tank (1.8 kL chrome plating tank) plus 25% of the capacity of all stored containers within the bund containment area (this includes 1.8 kL chrome plating tank, 1.5kL potassium sodium tartrate tetrahydrate, two 1 kL wash/emergency spill tanks). A qualified engineer to certify that the bricked containment bund is built to hold 110% of the largest storage vessel plus 25% of the capacity of all stored container (total 3.305 kL) before the chrome plating facility is operated under time limited operations.</p> <ul style="list-style-type: none"> <li>• A civil or structural engineer to certify the bricked containment bund is built to works approval W6505/2021/1 specifications at two stages in the construction. <ul style="list-style-type: none"> <li>➢ Certification at stage 1 on the completion of the double bricked bund to certify that the volume of the containment bund complies and that the internal protective rubber coating applied is fused with bonded epoxy.</li> <li>➢ Certification at stage 2 on the completion of the bricked containment bund and installation of tanks.</li> </ul> </li> </ul>	

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guidance Statement: Risk Assessments* (DER 2017).

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

## 6. Decision

The Delegated Officer has determined the proposal for a chrome electroplating facility at the premises does not pose an unacceptable risk of impacts to on- and off-site receptors. This determination is based on the following:

- the proposal constitutes adding a new metal finishing process at an existing engineering workshop;
- the proposed small scale of the facility (100 tpa); and
- the proposed engineering controls, with additional regulatory controls added, are considered sufficient for ensuring an acceptable level of risk is maintained.

To minimise the potential for environmental impacts the applicant has proposed the following engineering controls:

- holding tanks for chromic acid and potassium sodium tartrate to comprise mild steel manufactured to relevant Australian Standards (AS 1692) and an outside chemical resistant fibreglass coating;
- holding tanks will be located within an above ground sealed containment bund, constructed of concrete bricks and lined with a chemical resistant coating;
- the containment bund will be sufficiently sized to contain at least 110% of the largest holding tank (1.98 kL), in the event of a spill or leak; and
- all chrome plating activities will be conducted within the containment bund area.

In considering the sensitivity of the surrounding environment (i.e. PDWSA, wellhead protection zone), the Delegated Officer has determined to include the following additional regulatory controls, which will be imposed on the works approval as they are considered critical for maintaining an acceptable level of risk:

- increase in the capacity of the containment bund to include, in addition to 110% of the largest tank, at least 25% of the other four tanks within the bund (3.305 kL);
- specifying that the permeability of the containment bund must be at least  $1 \times 10^{-9}$  m/s;
- requiring the use of construction materials for the containment bund that are substantially immune to attack by any corrosive substance they may be required to contain; and
- construction of the containment bund must be certified as being constructed to specification and being fit-for-purpose, prior to the commencement of chrome plating activities.

The works approval also includes conditions for time limited operations where the applicant can commence operating the facility upon submission of an Environmental Compliance Report at the completion of works in accordance with the works approval. During the time limited operations phase (up to 6 months) the applicant will need to apply for a licence.

The Delegated Officer expects the time limited operations requirements on the works approval will form part of the conditions of a future licence, and subject to consideration of a licence application and an Environmental Compliance Report. A future licence will consider the requirement for annual integrity inspections to reduce the risk of spills and leaks of containment infrastructure.

## 7. Conclusion

Based on the assessment in this 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) 2020, *Guidance Statement: Environmental Siting*, Perth, Western Australia.
2. DWER 2020, *Guidance Statement: Risk Assessments*, Perth, Western Australia.
3. DER 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
4. Department of Water and Environment Regulation (DWER) 2019 *Guideline: Guide to Licensing*, Perth, Western Australia
5. Department of Water (DOW) 2016 *Water Quality Protection Note No. 25, Land use compatibility table for public drinking water source areas* Perth, Western Australia