



## Application for Works Approval

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

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<b>Works Approval Number</b>	W6785/2023/1
<b>Applicant</b>	CSBP Limited
<b>ACN</b>	008 668 371
<b>File number</b>	DER2018/001042-8~89
<b>Premises</b>	CSBP Albany 198 Hanrahan Road ALBANY WA 6330  Legal description – Lot 201 on Plan 76615 Certificate of Title 2818 Folio 699 as defined by the coordinates in Schedule 1 of the works approval
<b>Date of report</b>	16/06/2023
<b>Decision</b>	Works approval granted

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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 time limited operation of the premises. As a result of this assessment, works approval W6785/2023/1 has been granted.

## 2. Scope of assessment

### 2.1 Regulatory framework

In completing the assessment documented in this decision 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

On 23 February 2023, CSBP Limited (CSBP) 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 an inline chemical treatment plant (CTP) at the existing Albany Fertiliser Depot.

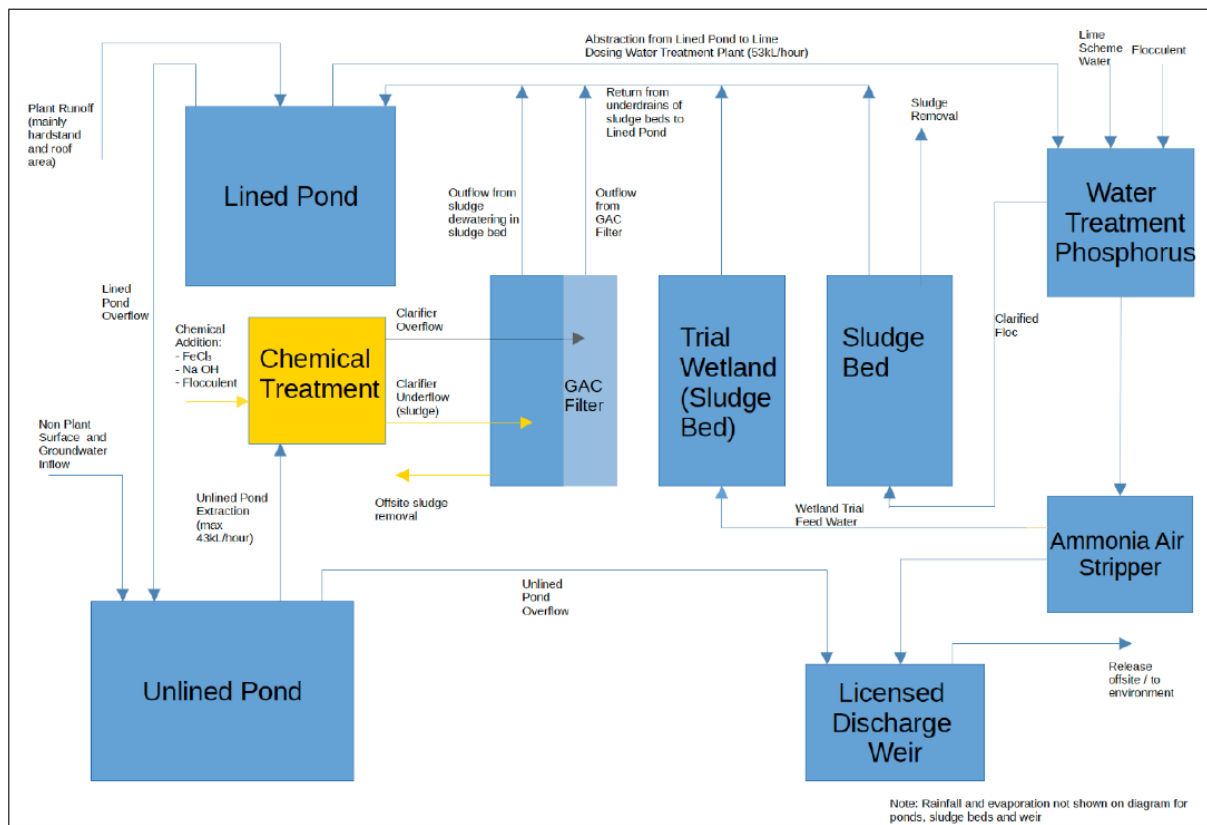
In accordance with licence L8669/2021/1, CSBP operates an existing water treatment plant (WTP) which is designed to treat stormwater prior to discharge from site. The site has, however, experienced several breaches of treated wastewater emission limits prescribed in licence L8669/2012/1, specifically for Total Phosphorus (TP). This is believed to be caused by elevated levels of dissolved organic carbon (DOC) in the unlined pond (SW8) and has been found to cause a reduced amount of calcium phosphate to settle within the WTP clarifier. An investigation conducted by CSBP concluded that the primary source of elevated DOC is likely to be the phosphorus-rich intercepted groundwater in the unlined pond and not as a result of site operations.

The proposed CTP design includes a chemical dosing unit contained within a sea container, three lamella clarifiers, a self-bunded diesel generator and associated chemical storage (ferric chloride coagulant, hydrochloric acid, flocculant, and diesel). The CTP will treat water from the unlined pond which contains diverted stormwater runoff (from non-operational areas) and groundwater inflow. After treatment by the CTP, the water will undergo further treatment using a granulated active carbon filter (GAC). The treated water will then flow into the lined pond (SW11) before being directed to the WTP for further treatment prior to being discharged to Munster Hill Drain via the SW4 v-notch weir. A schematic of the water treatment process is shown in Figure 1.

Precipitate (sludge) from the base of the clarifiers will be discharged into geo-bags which will be hung vertically with a purpose-built frame inside the existing WTP sludge beds. Dewatered filtrate from the geo-bags will be directed to the lined pond. Geo-bags will be covered with tarpaulins to prevent rainwater ingress and full geo-bags will be disposed of off-site to an appropriately licenced waste facility.

The CTP aims to provide adequate mitigation against licence discharge breaches by reducing DOC in the stormwater to below 20 mg/L prior to entering the WTP with the aim of improving WTP treatment quality and meeting the water quality parameters set by licence L8669/2012/1. This interim solution will be implemented temporarily in support of a longer-term program of permanent works to upgrade the WTP at the site.

**Figure 1: A schematic of the existing and proposed water treatment process**



### 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 those emissions.

#### 3.1 Source-pathways and receptors

##### 3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction and operation which have been considered in this 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 (from application)**

Emission / Source	Potential pathways	Proposed controls
<b>Construction</b>		
<b>Noise</b> Vehicle movements, pumps, generators, construction work.	Air / windborne	Pre-cast materials and tanks will be used and therefore the amount of time construction machinery will be onsite is minimised.
<b>Dust</b> Vehicle movements on unsealed roads and surfaces, earthworks and storage of excavated material.	Air / windborne	<b>Management</b> <ul style="list-style-type: none"> <li>• Water will be applied to unsealed roads and areas that pose a risk of dust emissions.</li> <li>• Speed limits will be imposed on site.</li> <li>• Earthworks will not involve any excavation, only import of clean fill for storage area construction.</li> </ul> <b>Monitoring</b> <ul style="list-style-type: none"> <li>• Opportunistic inspections during construction to ensure dust control measures are effective.</li> <li>• If visible dust emissions are noted then source will be assessed and additional water applied to key source areas, or alternative treatments applied.</li> </ul>
<b>Operation</b>		
<b>Noise</b> Operation of plant equipment	Air / windborne	No controls proposed.
<b>Contaminated wastewater discharge</b>  Leaks, spills, pipe ruptures and overtopping of untreated potentially contaminated stormwater in both ponds.	Direct discharge to land and groundwater.  Direct discharge via the SW4 v-notch weir to the Munster Hill Drain	<b>Management</b> <ul style="list-style-type: none"> <li>• Chemical dosing manifold and storage tanks will be self-bunded</li> <li>• Chemical dosing pipework will be sleeved.</li> <li>• All hydrocarbons/chemicals will be stored in HDPE-lined double wall bunded areas over impervious surfaces</li> <li>• The HDPE will be curbed to ensure stormwater drains to the lined drain.</li> <li>• Ferric chloride coagulant will be stored within a double-walled, self-bunded polyethylene tank.</li> <li>• The outer tank will be 110% of the capacity of the inner tank.</li> <li>• Tank refilling will be within a portable bund.</li> <li>• Hydrochloric acid and flocculant will be stored within double-walled polyethylene tanks.</li> <li>• All hoses will be flanged and bolted with torque wrenches to manufacturer's specifications.</li> <li>• All HDPE pipe couplings will be electrofusion welded and pressure tested prior to commissioning.</li> <li>• The diesel generator will be self-bunded with a steel frame to provide collision protection.</li> <li>• Spill kits will be placed in close proximity to operational areas.</li> <li>• Refueling will occur in dedicated bunded areas or offsite.</li> </ul> <b>Monitoring</b> <ul style="list-style-type: none"> <li>• Hydrocarbon and chemical storage areas will be regularly inspected for spills and leaks.</li> <li>• Spill kits will be routinely inspected and replenished as required.</li> <li>• All spills will be managed and reported in accordance with existing site procedures.</li> <li>• Ferric chloride, hydrochloric acid and flocculant tanks will be fitted with audible alarms to indicate leaks</li> <li>• Daily and weekly sampling of plant outflow water and weekly sampling of ponds for an expanded suite of parameters.</li> </ul>

### 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**

<b>Human receptors</b>	<b>Distance from prescribed activity</b>
Light industry	170m south of premises boundary
Residential premises	500m east of premises boundary
<b>Environmental receptors</b>	<b>Distance from prescribed activity</b>
Baudin’s Cockatoo Carnaby’s Cockatoo Forest Red- tailed Black Cockatoo	Within premises boundary
Coastal Saltmarsh TEC	1.4km southeast of premises boundary
Acid sulphate soils	Premises is within an area of high to moderate risk
Groundwater	Depth to groundwater is 2-3m bgl
Gledhow Conservation wetland	650m southwest of premises boundary
Munster Hill Drain	Adjacent to the west of premises boundary

## 3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and considers potential source-pathway and receptor linkages as identified in Table 3. 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 W6785/2023/1 that accompanies this decision 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).

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

Risk Event				Risk Rating <sup>1</sup> C = consequence L = likelihood	Reasoning / justification	Regulatory controls
Source/ Activities	Potential emissions	Potential receptors, pathway, and impact	Applicant controls			
<b>Construction / Installation</b>						
Construction of inline chemical treatment plant, including the installation of tanks and equipment and vehicle movements	Fugitive dust	Air / windborne pathway causing unreasonable impacts to health, comfort, convenience or amenity of nearby residents.	Refer to Table 1	<p><b>C – Slight:</b> Minimal on-site impact.</p> <p><b>L – Unlikely:</b> the risk event will probably not occur in most circumstances.</p> <p><b>Low Risk</b> Acceptable, generally not subject to regulatory controls.</p>	<p>The delegated officer considers that the separation distance from the proposed location of the chemical treatment plant to the closest receptor is sufficiently large for there to be low likelihood of adverse impacts from noise or dust emissions from the installation of the chemical treatment plant.</p> <p>Therefore, no specific additional regulatory controls are required, and the general provisions of the <i>EP Act</i> and Environmental Protection (Noise) Regulations 1997 will apply.</p>	N/A
	Noise	Light industry premises 170m south of the premises and closest residential receptor ~500m east.				
<b>Operation</b>						
Wastewater discharge from leaks, spills, pipe ruptures associated with the operation of the chemical treatment plant.	Unauthorised wastewater discharges, leaks, or spillages to ground	Overland runoff and direct infiltration causing groundwater contamination	Refer to Table 1	<p><b>C – Slight:</b> Minimal on-site impact.</p> <p><b>L – Unlikely:</b> the risk event will probably not occur in most circumstances.</p> <p><b>Low Risk</b> Acceptable, generally not subject to regulatory controls.</p>	<p>The delegated officer considers that regulatory controls are required to manage the risks associated with discharge at SW4. However, operating licence L8669/2012/2 condition 5(i) specifies emission limits at the Munster Hill Drain and condition 7 specifies the water quality monitoring to be undertaken at SW4. As CTP outflow is further treated by the WTP prior to discharge, the delegated officer considers the surface water discharge limits and monitoring required under licence L8669/2012/2 to be sufficient to manage risks associated with discharge at SW4 following WTP treatment.</p> <p>The delegated officer considers the applicant controls listed in Table 1 to be sufficient to maintain an acceptable level of risk posed by leaks, spills, pipe or ruptures associated with the operation of the CTP. As the proposed applicant controls relating to sludge and leachate management are crucial for achieving an acceptable level of risk, the delegated officer has included those applicant controls in the works approval as operational requirements during time limited operations.</p>	Condition 6: Infrastructure operational requirements during time limited operations

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



## 4. Decision

The delegated officer has determined, subject to regulatory controls and justification outlined in Table 3, that the installation and construction of the chemical treatment plant does not present an unacceptable risk to human health, amenity or the environment and will not alter the risk profile of the site, provided the infrastructure is constructed in accordance with the applicant's proposed design controls and operated in accordance with existing conditions of L8669/2012/1.

### 4.1 Authorisation of extended time-limited operations

Due to the interim nature of the works as a short-term solution to recurrent breaches of discharge limits on the licence, the delegated officer has deemed an extended time-limited operations period of 545 days (18 months) to be appropriate whilst a long-term WTP upgrade is investigated.

Any additional works proposed for the long-term WTP upgrades or ongoing operation of the CTP beyond the approved time-limited operations period would require further regulatory approvals.

## 5. Consultation

The applicant was provided with the draft instrument and decision report on 1 May 2023 for comment. A response was received on 23 May 2023. A revised draft was then sent to the applicant on 8 June 2023. A response was received on 8 June 2023. The applicant's comments are summarised, along with the department's responses, in Appendix 1.

## 6. Conclusion

Based on the assessment in this decision report, the delegated officer has determined that works approval W6785/2023/1 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) 2019, *Guideline: Industry Regulation Guideline to Licensing*.
3. Department of Water and Environmental Regulation (DWER) 2020a, *Guideline: Environmental Siting*, Perth, Western Australia.
4. Department of Water and Environmental Regulation (DWER) 2020b, *Guideline: Risk Assessments*, Perth, Western Australia.
5. Works Approval Supporting Document, CSBP Chemical Treatment Plant (Sterling Environmental, January 2023)
6. Existing Licence L8669/2012/1

## Appendix 1: Summary of applicant comments

**Table 4: Summary of applicant's comments on risk assessment and draft conditions**

Condition	Summary of applicant comment	Department response
Condition 1 Table 1: Design and construction / installation requirements	<p>The applicant proposed the following changes to tank specifications:</p> <ul style="list-style-type: none"> <li>Improving the storage vessel for hydrochloric acid and flocculant, from IBCs to larger polyethylene self-bunded tanks, will reduce the likelihood of leaks and spills as there will be less handling of individual containment units.</li> <li>The three vessels (ferric, hydrochloric acid and polymer) will all be sized at 3,300L, with no increase in the chemical usage (i.e &lt;1,000L usage for hydrochloric acid and polymer and &lt;10,000L used for ferric chloride over a season). Overall chemical volumes stored on site will not increase beyond original application.</li> </ul>	As the proposed reduced tank volumes and improved storage vessels would reduce the risk of spills and leaks, the delegated officer has accepted these changes and the works approval and decision report have been updated accordingly.
	Applicant provided the required updated site infrastructure map	Map figure and map references have been updated accordingly.
	<p>The chemical infrastructure (tanks, piping and dosing manifold) will be self-bunded, this will form the same function as a portable bund. The piping connecting the storage tanks to the dosing manifold will be sleeved and any leaks will drain to a bund containing the dosing unit.</p> <p>Additionally, this will eliminate the generation of contaminated stormwater and subsequent management/disposal, as the bunding on the tanks and dosing manifold will be covered from rain. HDPE liner, protected with geotextile fabric, will be applied and will be curbed to ensure stormwater drains to the lined drain.</p>	As the proposed changes to infrastructure bunding and stormwater contamination prevention should produce an overall lower risk profile for the CTP, the delegated officer has accepted the changes. The works approval and decision report have been updated accordingly.

Condition	Summary of applicant comment	Department response
<p>Condition 3</p> <p>Table: 2: Surface water discharge monitoring</p>	<p>Applicant proposed that the sampling frequency be updated to “<i>Weekly composite sample (when discharging), or a weekly grab sample if the composite sampler is unavailable.</i>” as the composite sampler pump is not expected to be commissioned in time for the intended commencement date of the CTP operation.</p> <p>The applicant noted that the CTP does not discharge directly off site (the water discharged from the CTP is further treated by the WWTP prior to discharge offsite) and a composite sample for offsite discharge is required in the licence.</p> <p>The applicant also requested the removal of the requirement for a daily spot sample of CTP outflow when the lined pond overflows and causes discharge as the CTP will not run during a lined pond overflow. There is an interlock that prevents pumping from the unlined pond during a "lined pond high level alarm". This prevents overtopping of the lined pond with unlined pond water.</p> <p>As the CTP does not discharge directly off site and a licence condition already requires daily sampling of the offsite discharge during overflow events, this could be considered regulatory duplication.</p>	<p>The delegated officer notes that the existing licence (L8669/2012/2) requires weekly composite sampling of off-site surface water discharges and that CTP treated outflow will undergo further treatment in the WTP prior to discharge.</p> <p>The delegated officer also notes that the applicant intends to conduct additional testing of the CTP outflow and ponds using an expanded suite of parameters beyond those required by the works approval for the purpose of assessing CTP effectiveness.</p> <p>As the risks associated with surface water discharge are already sufficiently managed under the existing licence and the inclusion of the CTP is upstream of the WTP in the overall water treatment process, the delegated officer has determined that the risks from surface water discharge can be sufficiently managed under the existing licence and additional monitoring of the CTP outflow is not required.</p>
<p>Condition 6</p> <p>Time limited operations</p>	<p>The applicant proposed an extension of the TLO period from 180 days to 545 calendar days (18 months) as “<i>The upgrades being implemented will be hired during this TLO period. This would allow for the CTP to be operated for two winter seasons, from 2023 through to the start of summer 2024. This time is required to assess the performance of the CTP and a permanent solution is investigated. The time proposed is needed to develop a proposal that will need DWER assessment.</i>”</p>	<p>As the applicant has stated that the CTP is considered a temporary interim solution whilst a long-term WTP upgrade is investigated and will not be continued beyond the 18-month period requested, the delegated officer has deemed extended TLO appropriate in this circumstance.</p> <p>Any works proposed for long-term upgrades or ongoing operation of the temporary CTP beyond 18 months would be subject to further regulatory approvals.</p>
<p>Works approval and decision report</p>	<p>Applicant proposed corrections to typographical, formatting and referencing errors.</p>	<p>Typographical, formatting and referencing errors in the works approval and decision report have been corrected.</p>

**Table 5: Summary of applicant’s comments on revised draft risk assessment and draft conditions**

Condition	Summary of applicant comment	Department response
<p>Condition 1</p> <p>Table 1: Design and construction / installation requirements</p>	<p>The applicant has requested the removal of referencing the chemical dosing plant within a sea container as this was a typographic error in CSBP’s supporting documentation. This infrastructure is the same piece of infrastructure as the chemical dosing manifold which is already referenced in this condition.</p> <p>In place of a sea container, a dedicated encapsulated bund will be engineered for the dosing manifold and will form the function of being self-bunded. This will be more suitable than a sea container for containing any spills or leaks and dramatically reduce the health and safety risk.</p>	<p>The delegated officer considers this change acceptable as the manifold is already referenced with acceptable applicant controls in place.</p>
<p>Condition 5</p>	<p>A typographic error that references 45 days of time-limited operations. Requesting it be amended to 545 days to match the decision document.</p>	<p>The delegated officer notes that this is a typographic error and has updated this number accordingly.</p>