



Application for Works Approval

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

Works Approval Number	W6459/2020/1
Applicant	Water Corporation
ACN	28 003 434 917
File Number	DER2020/000433
Premises	Canning Beach Road Pumping Station Reserve 41516 60 Canning Beach Road, Applecross 6153 WA Legal description Lot 11312 on Deposited Plan 189373 Certificate of Title Volume LR3000 Folio 695 As defined by the coordinates in Schedule 2 of the Works Approval As defined by the Premises maps attached to the issued works approval
Date of Report	2 September 2021
Decision	Works approval granted

Abbie Crawford
A/MANAGER, WASTE INDUSTRIES
REGULATORY SERVICES
an officer delegated under section 20 of the Environmental Protection Act 1986 (WA)

Table of Contents

1. Decision summary	1
2. Scope of assessment	1
2.1 Regulatory framework	1
2.2 Application summary and overview of Premises	1
3. Infrastructure construction	1
4. Risk assessment	6
4.1 Source-pathways and receptors	6
4.1.1 Emissions and controls	6
4.1.2 Emergency overflow procedure	11
4.1.3 Dewatering procedure	12
4.1.4 Acid sulfate soil (ASS) procedure	12
4.1.5 Receptors	13
4.2 Risk ratings	20
5. Consultation	24
6. Conclusion	24
References	25
Appendix 1: Summary of applicant’s comments on risk assessment and draft conditions	26
Appendix 2: Application validation summary	27
Table 1: Infrastructure construction works	2
Table 2: Proposed applicant controls	6
Table 3: Emergency overflow alarm levels	11
Table 4: Sensitive human and environmental receptors and distance from prescribed activity	13
Table 5: Risk assessment of potential emissions and discharges from the Premises during construction and operation	21
Table 6: Consultation	24
Figure 1: Prescribed Premises boundary	4
Figure 2: Layout of Prescribed Premises	5
Figure 3: Premises location	15
Figure 4: Sensitive receptors – Local planning, zones and reserves	16
Figure 5: Sensitive receptors – DBCA Developmental Control Area	17
Figure 6: Acid Sulfate Soil (ASS) risk	18
Figure 7: Floodplain mapping (1-in-100 AEP event)	19

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 W6459/2020/1 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 and overview of Premises

On 11 September 2020, Water Corporation (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 to undertake construction works at the Canning Beach Road Sewage Pumping Station (premises). The premises is situated within the town of Applecross and directly adjacent to the Swan-Canning estuary.

Due to its location and in the event of a system failure, there is potential for discharge from the wastewater pumping station (WWPS) to enter the Swan-Canning estuary. The Premises is an existing Prescribed Premises Registration (R1161/1996/1) and relates to a category 85A – Sewage Pumping Station as defined under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in Works Approval W6459/2020/1.

The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guidance Statement: Risk Assessments* (DER 2017) are outlined in Works Approval W6459/2020/1.

3. Infrastructure construction

The proposed upgrades to the sewage pumping station are proposed to be conducted in accordance with Water Corporation design standards. The infrastructure upgrades and an overview of the Premises layout is included in Figure 1 and Figure 2. The mechanical, electrical and inlet upgrades to the existing sewage pumping station will occur within and outside of the existing site prescribed boundary.

The upgrades to the sewage pumping station design to be assessed as part of this application include:

- Installation of new pumps and pipework internal to the pump station;
- Replacement of existing pump motors from 7.5 kW units to 22 kW units;
- Removal of the Flow Transmitter Panel;
- Replacement of the motor starters from auto-transformer to panel-mounted variable speed drive (VSD);
- Addition of a bypass pit to the existing access chamber;
- Magnetic flow-meter installation;
- Additional 111 m³ of emergency storage;
- Air vents for pump station; and

- Installation of backflow prevention device on the site water service.

The upgrades to occur outside the premises boundary and have not been included as part of this assessment include:

- The construction of the majority of the new 3 km long pressure main.

Table 1: Infrastructure construction works

Infrastructure / equipment	Design and construction / installation specifications
Pumps	<p>The design has been based on Water Corporation design standard <i>DS 51 – The Design and Construction of Wastewater Pumping Stations and Pressure Mains</i>.</p> <p>The pump station upgrade is to include a total of two pumps similar to a Flygt NT 3171 SH3 dry mount submersible wastewater pump with one for duty and one for standby as contingency.</p> <p>In event of a complete pump failure, seven alarms will be in place during the pump station operation to ensure operators are aware of suspected failures or issues with the pump station prior to flowing into the emergency storage system</p> <p>Refer to section 4.1.2 for further information on the emergency overflow procedures.</p>
Pipework	<p>The design is in accordance with the Water Corporation design standard <i>DS 65 – Pipe Fittings Standard Drawings</i>.</p> <p>Pipework within existing the pump station and premises boundary. (However, majority of the 3 km pipework upgrades are external to the premises boundary.)</p>
Emergency storage	<p>The emergency storage will be upgraded and will provide an additional 111 m³ capacity. This will include an additional 18 concrete pipes to be installed adjacent to the existing emergency storage underground within the road reserve.</p> <p>Odour filters connected to the wet well vent.</p> <p>The emergency storage pipes will be reinforced concrete pipes at 95 mm thick with a very low permeability of 10⁻¹³ m/s.</p> <p>The upgrades to emergency storage capacity allows between approximately 4 hours and 9.5 hours of storage time before overflow to the environment. The response time for operators to attend to the pump station is within one hour from the metropolitan region.</p>

Infrastructure / equipment	Design and construction / installation specifications
Electrical	<p>The proposed electrical upgrades will be undertaken in accordance with the following Water Corporation design standards:</p> <ul style="list-style-type: none"> • <i>DS20 – Design Process for Electrical Works</i> • <i>DS22 – Ancillary Plant and Minor Pump Stations;</i> • <i>DS29 – Arc Flash Hazard Assessment of Switchgear Assemblies</i> <p>The new switchboards have been designed in accordance with Water Corporation design standard <i>DS26-09 Design Process for Electrical Works and Drawings</i> under the <i>MN01 Small Pump Station Standard Electrical Design</i>.</p> <p>The existing underground switchboard and associated wiring will be completely decommissioned. The new switchboards will be on a platform height of RL2.2 m (or 1.1m above ground level) to stay above the 1-in-100 year flood plain level.</p> <p>The estimated maximum electrical demand of the upgraded asset is 39 kVA.</p>

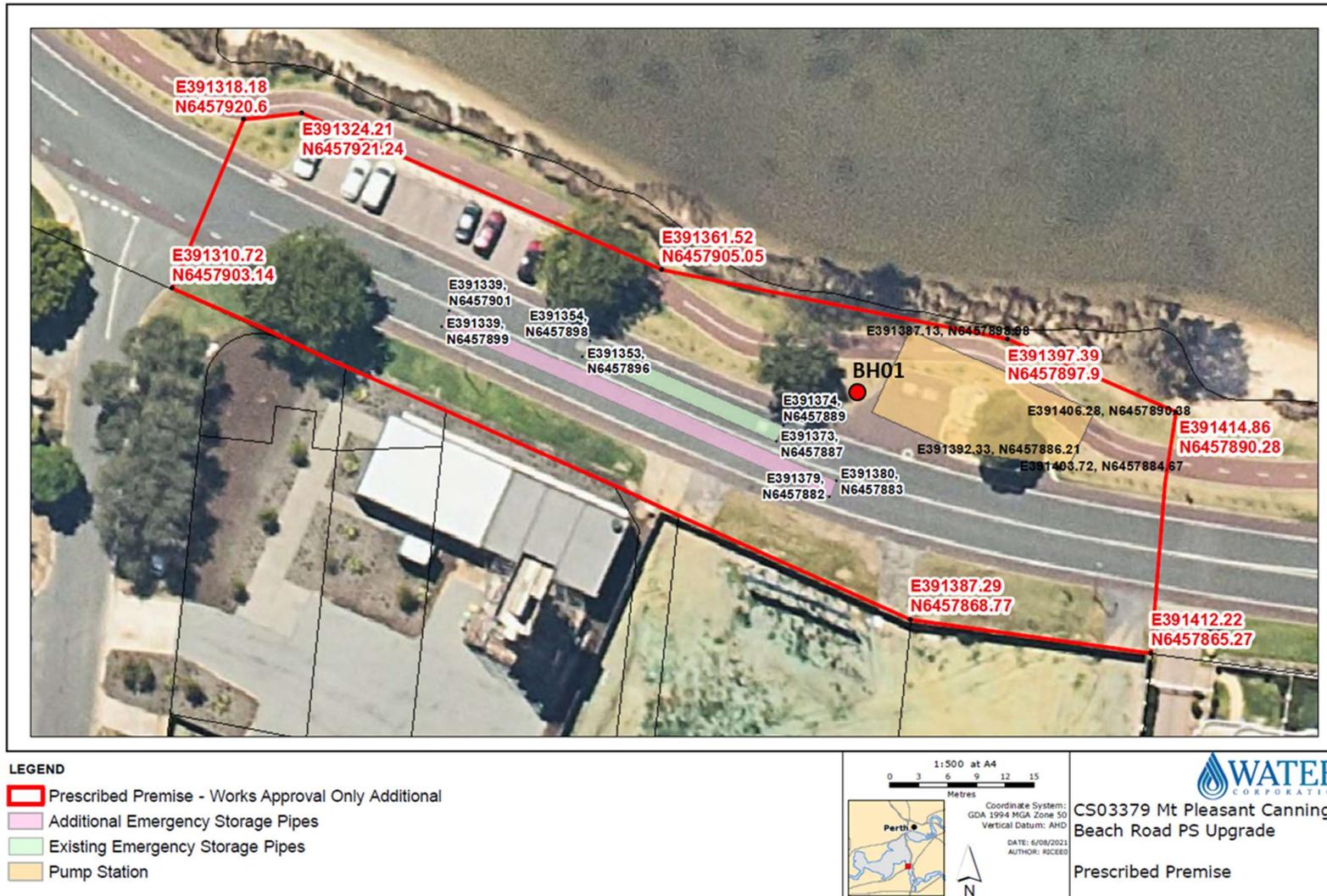


Figure 1: Prescribed Premises boundary

Works Approval: W6459/2020/1 (issued 02/09/2021)

IR-T13 Decision Report Template (short) v2.0 (July 2020)

4. 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 *Guidance Statement: Risk Assessments (DER 2017)*.

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.

4.1 Source-pathways and receptors

4.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction, commissioning and operation, which have been considered in this Decision Report are detailed in Table 2 below. It also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 2: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Noise	<p>The movement and use of machinery, equipment and bypass pumping during construction may contribute to added noise emissions within the area.</p> <p>Night construction work is not expected to occur with the exception of tie-ins to the sewer system</p>	Air/windborne pathway	<p>A Construction Environmental Management Plan (CEMP) will be prepared prior to construction and will include, but is not limited to, the following controls:</p> <ul style="list-style-type: none"> • During the construction phase, noise levels will be similar to those associated with normal construction projects involving the use of building construction plant, equipment and power tools; • Construction activities will be undertaken between 7am to 5pm Monday to Saturday; • Works will be conducted in accordance with the <i>Environmental Protection (Noise) Regulations 1997</i>; • Night construction works is not expected, however should they be required Water Corporation will seek relevant approvals from DWER and the Local Government authority, prepare a Noise Management Plan and undertake community consultation in accordance with the <i>Environmental Protection (Noise) Regulations 1997</i>; • Construction activities will be carried out in accordance with control of environmental noise practices set out in Section 6 of <i>AS2436-1981 Guide to</i>

Emission	Sources	Potential pathways	Proposed controls
			<p><i>Noise Control on Construction Maintenance and Demolition Sites;</i></p> <ul style="list-style-type: none"> • Vehicles and equipment will be fitted with appropriate noise controls or will be the quietest that is reasonably available; • All plant, equipment and vehicles will be regularly inspected and maintained; • The bypass pumping system will be installed in the inlet access chamber which will reduce noise levels. In addition, a Bypass Noise Management Plan will be prepared by the Contractor and provided to the Local Government for review and comment prior to works commencing and • A complaints register will be kept on site.
Light emissions	Lighting will be required during cut-in and tie in works for the sewer pressure main and upgraded PS.	Air/windborne pathway	<p>A CEMP will be prepared prior to construction and will include, but is not limited to, the following controls:</p> <ul style="list-style-type: none"> • Lighting will be restricted to only what is necessary for safety requirements and will be designed to restrict light overspill, where possible.
Dust	Dust generation during construction activities is anticipated mostly due to vehicle movement on unsealed surfaces, excavations and movement of soil, stockpiling soil and other materials, and construction activities	Air/windborne pathway	<p>A CEMP will be prepared prior to construction and will include, but is not limited to the following controls to manage dust:</p> <ul style="list-style-type: none"> • The project will utilise pre-cast pipes and structures that will reduce construction timeframe and limit the construction works conducted on site, thus reducing the potential for dust emissions; • Existing hardstand areas will be utilised around infrastructure areas to reduce dust emissions during construction and operations from vehicle and machinery movement; • Fencing the site prior to the commencement of any works to reduce potential dust migration; • Reduce dust generation from concrete cutting or grinding using water to suppress dust or using a vacuum system to capture dust emissions;

Emission	Sources	Potential pathways	Proposed controls
			<ul style="list-style-type: none"> • Roads and access paths shall be maintained to reduce the build-up of dirt and dust; • Opportunistic visual inspections of dust plumes and dust emissions on site will be undertaken during construction period on a daily basis to ensure dust control measures are implemented and effective; • Wetting/dust suppression of unsealed surfaces using benign dust suppressants will be used on disturbed areas as required during construction; • Weather forecasts will be checked daily and high risk weather conditions (windy, hot and dry) will be monitored and additional wetting/dust suppressant used on unsealed surfaces during these conditions; and • Speed limited on site will be adhered to on unsealed and sealed roads/tracks.
Acid sulfate soils (ASS)	Disturbance of ASS through earthworks, releasing toxic metal and arsenic, and potentially hydrogen sulfide gas emissions	Transmission through land, air and waters resulting in potential acidification of groundwater and waterways Health and amenity impacts to nearby residences	<ul style="list-style-type: none"> • Disposal of soils to a DWER approved treatment and disposal facility; • .
Dewatering	Earthworks and excavation works	Land and waters: resulting in contamination of groundwater	<p>The Applicant has submitted a Dewatering Management Plan (DMP) detailing the below proposed methodology:</p> <ul style="list-style-type: none"> • Treatment of dewatering effluent as required and retention/disposal; and • Monitoring of groundwater during all stages of dewatering. <p>Refer to section 4.1.3 below for further information on the dewatering activities proposed.</p>
Uncontrolled Discharge of Contaminants	Chemical Storage	Chemical spills from accidental spills, loss of containment, mishandling of chemicals,	All hazardous chemicals and hydrocarbons required on site are to be stored in appropriately bunded areas compliant with AS1940 and AS192 to contain any potential leaks or spills.

Emission	Sources	Potential pathways	Proposed controls
		<p>Refueling and leaks from machinery/vehicles during construction activities</p> <p>During transfer chemicals to/from storage containers;</p> <ul style="list-style-type: none"> • As a result of failure of storage containers; and • From a breakdown of construction machinery. 	<p>Appropriate spill kits, containment and recovery equipment, personal protective equipment and relevant operator instructions/emergency procedure guides for the management of waste and chemicals associated with activities will be kept and maintained on site.</p>
Operation			
Odour	<p>Slight odour emissions may occur during the tie-in works to the sewers.</p> <p>During operation odour emissions are only likely during overflow events or under abnormal operating conditions.</p>	Air/windborne pathway	<p>Wastewater in the facility will be located within a contained underground system with odour filters connected to the dry well vent.</p> <p>The WWPS including odour filters will be regularly maintained during operation.</p>
Noise	<p>Noise emissions during the operation of the PS is expected to be minimal due to the new pumps and assets being located underground. The electrical system harmonics will be in accordance with Western Power's standards.</p>	Air/windborne pathway	<p>Noise emissions from the upgraded pump station will be compliant with the <i>Environmental Protection (Noise) Regulations 1997</i>.</p>
Overflow wastewater discharges to land and/or waters	Emergency overflow event	Wastewater discharged via emergency overflow resulting in impacts to surface and groundwater	<p>Installation of 111 m³ of additional emergency storage allowing approximately between 4 hours and 9.5 hours' worth of storage time (peak and off-peak times). The response time for operators to attend the site is within one hour in the metropolitan region allowing enough time</p>

Emission	Sources	Potential pathways	Proposed controls
		<p>quality, human health, amenity and ecosystem health</p>	<p>for response and action to avoid an overflow to the environment.</p> <p>There are multiple alarms in operation at all process steps to warn against potential system failures including release of wastewater to emergency storage pipes and at several stages of volume reached. These alarms are set off remotely at Water Corporation offices via SCADA with primary communication links or satellite backup in the event of a power shortage. Temporary equipment can be brought to the site and easily connected to the PS temporarily until normal operation is restored.</p> <p>The design of the upgraded pump station allows for the connection of a temporary portable 54 kVA generator to be used during power outages.</p> <p>Water Corporation's SCADA and alarm system will allow for operators to attend the metropolitan site in time to determine a solution before overflow will reach the environment which could include bypass pumping or tinkering off site until normal operations is restored.</p> <p>In the event of a complete system failure that cannot be repaired within the emergency storage capacity time, the effluent is likely to overflow into the environment to the Canning River.</p>
	<p>Flood and stormwater event</p>	<p>Wastewater discharged via emergency overflow resulting in impacts to surface and groundwater quality, human health, amenity and ecosystem health</p>	<p>The current Pump Station was designed to consider flooding. The pump station is a completely sealed and fully contained concrete wet well beneath the ground.</p> <p>The well does not allow any liquids to leak out of or seep into the well as a result of flooding or any potential sewerage leaks. The current pump station contains the current electrical equipment within the well.</p> <p>The proposed upgrade will involve the removal of electrical equipment from within the well and replace with new electrical switchboard cabinets adjacent to the well to bring the pump station up to current electrical standards. The electrical cabinets will be installed inside Water Corporation's land parcel on a platform that is above the 1 in 100-year ARI flood level which is 1.1 m above ground level.</p>

Emission	Sources	Potential pathways	Proposed controls
			There will also be some modifications and upgrades of the infrastructure within the pump station well but the well itself will not be altered.

4.1.2 Emergency overflow procedure

The emergency storage for the premises is proposed to be upgraded with an additional 111 m³ capacity, and total capacity of 227 m³. This will include an additional 18 concrete pipes to be installed adjacent to the existing emergency storage underground within the road reserve within the Prescribed Premise boundary. The upgrades to emergency storage capacity allows a minimum 4 hours of storage time at peak flow rate before overflow to the environment.

Seven alarms will be in place during the pump station operation to ensure operators are aware of suspected failures or issues with the pump station prior to flowing into the emergency storage system. Water Corporation's remote SCADA and alarm system will allow for operators to attend the metropolitan site within an hour to determine a solution before overflow, which could include bypass pumping until normal operations is restored.

In the event of a complete system failure that cannot be repaired within the emergency storage capacity time, the effluent is likely to overflow into the environment to the Canning River. The emergency overflow alarm levels are detailed in Table 3 below.

Table 3: Emergency overflow alarm levels

Alarm No.	Scenario	Pump station alarm levels	Relative level (RL) until overflow
1	First pump stops working	Cut-out plant	-3.34 m
2	Second pump stops working	Cut-in level	-2.25 m
3	If specific trigger levels with the dry/wet well are reached following failure of both pumps	Standby alarm	-2.25m
4	If there has been a system failure and wastewater is continuing to flow into the well and is overflowing back into the inlet chamber	High level alarm	-1.95m
5	If the well and chamber are full and wastewater is beginning to flow into the emergency storage tanks	Flow to storage alarm	-1.91 m
6	If the overflow tanks and reticulation network are half full	Half Storage alarm	-0.83 m
7	If the overflow tanks are completely full and about to overflow into the environment	Overflow to the environment	-0.47 m

4.1.3 Dewatering procedure

Excavation works requiring dewatering is proposed to be undertaken in accordance with the DMP prepared by the applicant. The maximum depth of excavation proposed at the pump station is approximately 4.0 mbgl. The applicant has estimated maximum dewatering rate required is 6 L/s (during winter) and the total dewatering volume at the site would be approximately 2,900 kL with 400 kL of initial drawdown and 2,500 kL seepage over the month. The construction DMP estimates dewatering will be required for less than 30 consecutive days. The maximum groundwater level drawn down required is estimated to up to 2.5 mbgl if work completed during winter and 1.5 mbgl during summer.

DWER 26D and 5C water licences are not required for dewatering purposes. Based on the information provided the application meets the exemption requirements under the *Rights in Water and Irrigation Act 1914*:

- The development is within the water table (non-artesian) aquifer; and
- Dewatering is undertaken solely for the purpose of removing underground water to facilitate construction or other activity (that is, dewatering); and
- The water is taken at a pump rate not exceeding 10 L/s over a period of less than 30 consecutive days; and
- The volume of water taken over the period does not exceed 25 000 kilolitres.

The Delegated Officer notes that there may be other requirements under the *Rights in Water and Irrigation Act 1914*, and that the Applicant is responsible for understanding and implementing those requirements, which includes the advice provided in *Water Quality Protection Note 13 - Dewatering at Construction Sites (WQPN 13)*.

The DMP proposes a dewatering methodology for the pumping station upgrade works to consist a combination of the following:

- Dewatering spears and/or in-pit sump pumping;
- Exclusion methods (secant piles or sheet piles) will be utilised near the Canning River surrounding the excavations for the pump station upgrade; and
- A temporary retaining wall will be installed around the pump station excavation site for groundwater cut off.

Monitoring of dewatering effluent and groundwater will be undertaken by a suitably qualified person in accordance with the DMP. Groundwater quality monitoring of the existing well directly adjacent to the premises boundary will be conducted:

- Immediately prior to the commencement of the dewatering for baseline;
- Halfway through dewatering operation (2 weeks); and
- Within one week after cessation of the whole dewatering operation.

Vegetation within 50 m of the dewatering area shall be inspected and photographed:

- Immediately prior to the commencement of dewatering;
- Weekly through operation; and
- At least one week after cessation of the whole dewatering program.

The applicant has proposed the preferred method for site dewatering disposal is direct to the Water Corporation managed sewer. On site treatment for TDS concentrations and pH may be required, however overall management of the discharge to sewer is managed by the Water Corporation.

4.1.4 Acid sulfate soil (ASS) procedure

The applicant engaged an external consultant and commissioned a preliminary ASS investigation at the site (March, 2020). The results of the investigation indicate that PASS and

ASS material is present below the water table within the natural material at existing groundwater monitoring well directly adjacent to the premises boundary. Potential disturbance of ASS can occur during dewatering and earthworks activities during construction.

The applicant has committed to treating and disposing of ASS offsite at a suitably licenced facility. No treatment or stockpiling of ASS will occur within the prescribed premises boundary.

Monitoring of dewatering effluent shall be undertaken by a suitably qualified person in accordance with the DMP.

4.1.5 Receptors

In accordance with the *Guidance Statement: Risk Assessment* (DER 2017), the Delegated Officer has excluded employees, visitors and contractors of the applicant's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 4 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises (*Guidance Statement: Environmental Siting* (DER 2016)).

Table 4: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Residential Premises	Multiple premises ~ 20 m from south-east to south-west of Premises boundary (see Figure 3)
Environmental receptors	Distance from prescribed activity
Specified Ecosystems – Important/ Geomorphic Wetlands (Swan-Canning Estuary)	Mapped adjacent / within approximately <10 m (see Figure 4)
Environmentally Sensitive Areas/ DBCA Legislative Tenure Swan and Canning Rivers Management Act 2006	Mapped adjacent/ within Lot boundary/Premises area (see Figure 4)
Green Growth RSNAs DPAW Managed Lands-SRT - River Reserve	Mapped adjacent/ within Lot boundary/Premises area (see Figure 5)
Green Growth Wetlands Commitments Swan River Estuary	Mapped adjacent/ within Lot boundary/Premises area
Soil landscape flood risk – L1	Site has a moderate to high flood risk (see Figure 7)
Acid Sulfate Soil Risk – Swan Coastal Plain	Site is mapped as having High to Moderate risk of ASS within first 3 m of natural ground level. (see Figure 6)
Surface water bodies – Canning River	Approximately 10 m - The site is located adjacent to the Swan-Canning River estuary listed as a Conservation Category Wetland. (see Figure 3)

Proclaimed groundwater area RIWI Act – Perth groundwater area	Mapped within Lot boundary/Premises area
Underlying groundwater - water table 1 m AHD	Within Lot boundary/Premises area
Aboriginal and other heritage sites	Two Registered Aboriginal heritage sites located approximately within 150 m south-east of Premises boundary



LEGEND

 Canning Beach Rd SPS (Lot 11312)

1:31,299 at A4

0 310 620 930

Metres

Coordinate System: GDA 1994 MGA Zone 50
Vertical Datum: AHD

DATE: 3/08/2020
AUTHOR: MCL/EO/CD

 Perth

 N



Project Location
CS03379
Mt Pleasant
Canning Beach Rd PS

Figure 3: Premises location

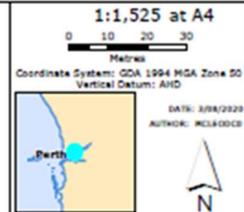


Figure 4: Sensitive receptors – Local planning, zones and reserves



LEGEND

- Canning Beach Rd SPS (Lot 11312)
- Important Wetlands
- Swan River Trust Development Control Area
- Geomorphic Wetlands Swan Coastal Plain
- Conservation



Environmental Receptors
CS03379
Mt Pleasant
Canning Beach Rd PS

Figure 5: Sensitive receptors – DBCA Developmental Control Area



LEGEND

- Canning Beach Rd SPS (Lot 11312)
- Acid Sulphate Soils WA**
- High to moderate ASS disturbance risk (<3m from surface)
- Moderate to low ASS disturbance risk (<3m from surface)

1:1,525 at A4

0 10 20 30
Metres

Coordinate System: GDA 1994 MGA Zone 50
Vertical Datum: AHD



Perth

DATE: 20/02/21
AUTHOR: MCLRODGE



N



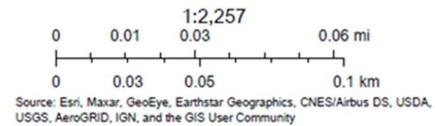
Environmental Receptors
CS03379
Mt Pleasant
Canning Beach Rd PS

Figure 6: Acid Sulphate Soil (ASS) risk



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- Flood level points (m AHD)
- Extent of floodway
- Extent of Flooding
- Cadastre
- Floodway limit
- Extent of flooding
- Floodway and Flood Fringe Line
- Floodway and Flood Fringe Areas
- Floodway
- Floodplain Area
- Flood fringe
- Floodplain



Web AppBuilder for ArcGIS

Figure 7: Floodplain mapping (1-in-100 AEP event)

Works Approval: W6459/2020/1 (issued 02/09/2021)

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4.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guidance Statement: Risk Assessments* (DER 2017) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 4.1. 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 4.1), 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 5.

Works Approval W6459/2020/1 that accompanies this Decision Report authorises construction only. The conditions in the issued Works Approval, as outlined in Table 5 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

The existing registration is required to authorise emissions associated with the ongoing operation of the Premises i.e., Category 85A 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 5: Risk assessment of potential emissions and discharges from the Premises during construction and operation

Risk Event					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Construction								
Construction, and upgrade of the WWPS	Dust	Air/windborne pathway causing impacts to health and amenity	Residences 20 m south south-west and south-east of Premises	Refer to Section 4.1	C = Slight L = Possible Low Risk	Y	N/A	The Delegated Officer considers dust emissions associated with construction activities can be adequately regulated by the general provisions of the EP Act. The applicant has proposed that controls for dust emissions will be finalised by the appointed construction contractor, with the submission of a Construction Environmental Management Plan as evidence of the proposed controls, prior to construction works commencing at the site.
	Noise				Refer to Section 4.1	C = Minor L = Possible Medium Risk	Y	N/A
	Disturbance of ASS through earthworks releasing toxic metals and arsenic, and potentially hydrogen sulfide gas emissions	Transmission through land and waters resulting in potential acidification of groundwater and waterways Air/windborne pathway causing impacts to health and amenity	Residences 20 m south south-west and south-east of Premises Underlying groundwater Proclaimed surface water and groundwater areas	Refer to Section 4.1	C = Moderate L = Unlikely Medium Risk	Y	Conditions 5, 6, 7, 8, 9 and 10	The Delegated Officer considers that the proposed methodology for the management of ASS is consistent with the guidance outlined in DWER's <i>Guideline: Treatment and management of soils and water in acid sulfate soils landscapes</i> . Applicant proposed management practices appear likely to be sufficient to mitigate the risk of the release of environmentally hazardous contaminants, associated with ASS to the environment through land disturbance. These have been added to works approval as regulatory controls.
	Dewatering	Land and waters pathway resulting in contamination of groundwater	Canning River					Refer to Section 4.1

Works Approval: W6459/2020/1 (issued 02/09/2021)

IR-T13 Decision Report Template (short) v2.0 (July 2020)

Risk Event					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
								A dewatering management plan will be finalised by the appointed contractor undertaking dewatering works, prior to dewatering commencing at the site.
Operation								
Operation of WWPS infrastructure	Noise	Air/windborne pathway causing impacts to health and amenity	Residences 20 m south south-west and south-east of Premises	Refer to Section 4.1	C = Minor L = Unlikely Medium Risk	Y	N/A	The Delegated Officer considers that noise emissions can be sufficiently managed through the <i>Environmental Protection (Noise) Regulations 1997</i> .
	Odour			Refer to Section 4.1	C = Minor L = Rare Low Risk	Y	N/A	The Delegated Officer considers the installation and maintenance of odour filters is expected to mitigate the risk of odour emissions arising from routine operations of the WWPS.
	Overflow wastewater discharges to land and/or waters	Wastewater discharged via normal operations resulting in impacts to surface and groundwater quality and ecosystem health Health and amenity impacts to nearby residences	Underlying groundwater Proclaimed surface water and groundwater areas Canning River	Refer to Section 4.1	C = Moderate L = Rare Medium Risk	Y	Conditions 3 and 4 Further conditions to be considered for future licence/registration	The Delegated Officer considers that during routine operation of the WWPS, the contained underground system constructed of concrete is expected to be sufficient to contain and mitigate the risk of an overflow of wastewater. The proposed hydrostatic testing activities (Table 1) of the sewage pump station are considered to provide confirmation that the WWPS is performing effectively prior to any raw sewage being processed.
		Wastewater discharged via emergency overflow resulting in impacts to surface and groundwater quality and ecosystem health Health and amenity impacts to nearby residences	Underlying groundwater Proclaimed surface water and groundwater areas Canning River	Refer to Section 4.1	C = Moderate L = Possible Medium Risk	Y	Conditions 3, 4 and 5 Further conditions to be considered for future licence/registration	The Delegated Officer considers that the additional emergency discharge control infrastructure will be adequate to contain, store and buffer discharges to the environment in most circumstances. The installation of additional emergency storage increases emergency storage capacity by a further 111 m ³ to a total capacity of 227 m ³ . This allows a minimum of 4 hours at peak flow rate before overflow into the environment. The Delegated Officer

Works Approval: W6459/2020/1 (issued 02/09/2021)

Risk Event					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
								<p>notes that the response time for the applicant to attend the site is within one hour in the metropolitan region allowing enough time for response and action to avoid an overflow to the environment.</p> <p>With an adequate emergency discharge response procedure (EDRP) in place, when successfully implemented, the Delegated Officer considered the risk to be medium.</p>

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.

5. Consultation

Table 6 provides a summary of the consultation undertaken by the department.

Table 6: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website (08/12/2020)	None received	N/A
Local Government Authority advised of proposal (15/12/2020)	<p>The City of Melville replied on 19/01/2021 mostly limited to the aesthetic impact of the proposed infrastructure on the foreshore, namely the elevated platform atop which the electrical cabinets are proposed. The proposal is considered to not only create a long term maintenance issue for the City but risks destabilising the foreshore.</p> <p>The City recommended that in the event the WAPC determine to support the proposed public work upgrades, a list of conditions be imposed.</p>	The department notes the comments from the City of Melville and notes that a final planning decision regarding the works rest with the WAPC.
Department of Biodiversity, Conservation and Attractions (DBCA) advised of proposal (15/12/2020)	DBCA replied on 11/01/2021 stating/advising that DBCA has no objection to the upgrade subject to planning conditions provided to WAPC on 21/12/2020 for consideration.	The department notes the comments from DBCA and notes that a final planning decision regarding the works rest with the WAPC.
Applicant was provided with draft documents (31/05/2021)	Comments received - See Appendix 1	See Appendix 1

6. 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.

The Delegated Officer notes that the infrastructure and premises layout considered as part of this Decision Report is not consistent with the premises assessed as part of the existing registration R1161/1996/1. The Applicant is advised that a new registration should be applied for on completion of the construction to the satisfaction of the works approval conditions. The existing surrender may then be surrendered upon commencement of the new registration.

References

1. Department of Environment Regulation (DER) 2016, *Guidance Statement: Environmental Siting*, Perth, Western Australia.
2. DER 2017, *Guidance Statement: Risk Assessments*, Perth, Western Australia.
3. DER 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
4. DER 2015, *Guideline: Treatment and management of soil and water in acid sulfate soil landscapes*
5. *WQPN 13; Water Quality Protection Note 13 - Dewatering at Construction Sites*

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

Condition	Summary of applicant's comment	Department's response
Table 1, Item 3 Emergency Storage Infrastructure construction outside Prescribed Premises boundary	<p><u>Applicant comment:</u></p> <p><i>. The location coordinates of the emergency storage have been provided in the attached updated map and includes a revised prescribed premise boundary for the works approval only and coordinates to include areas for construction, emergency storage and the existing pump station area, as well as sufficient areas for laydown and site offices and minor change of the location of the platform and electrical cabinets within the site as per negotiations through the DA process.</i></p>	<p><u>DWER response:</u></p> <p><i>Site map provided by applicant updated to include new Prescribed Premises boundary</i></p>
Table 1, Item 5 ASS / PASS treatment pad, Conditions 6-13	<p><u>Applicant comment:</u></p> <p><i>The treatment option for ASS/PASS management has been confirmed as:</i></p> <p><i>(i) Removal of ASS to an approved licenced treatment facility and disposal facility.</i></p> <p><i>No treatment or stockpiling of ASS will occur within the prescribed premise boundary..</i></p>	<p><u>DWER response:</u></p> <p><i>Updated as per applicants comments to remove conditions pertaining to the requirements of stockpiling and treatment of ASS/PASS within Prescribed Premises boundary.</i></p>
Figure 3, Pump Station and Pressure Main Upgrades	<p><u>Applicant comment:</u></p> <p><i>The Notice of Proposal provided as Figure 3, Page 14 has now been updated to reflect the current Project Manager's details, updated project commencement date and includes an inset map of the Pump Station upgrade plan. Please replace Figure 3 with the latest Notice of Proposal in Attachment 2 of this document. Please replace this Notice in the Works Approval document.</i></p>	<p><u>DWER response:</u></p> <p>Updated per applicant request</p>

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY		
Application type		
Works approval	<input checked="" type="checkbox"/>	
Date application received	11/09/2020	
Applicant and Premises details		
Applicant name/s (full legal name/s)	Water Corporation	
Premises name	Water Corporation Canning Beach Rd Pump Station	
Premises location	Reserve 41516 Canning Beach Road, Mount Pleasant	
Local Government Authority	City of Melville	
Application documents		
HPCM file reference number:	DER2018/001042-3~99 / R/1161/1	
Key application documents (additional to application form):	a. Certificate of Title b. Proposed project, premise maps and figures c. Geotechnical, Dewatering and Acid Sulfate Soils Investigation d. Dewatering Management Plan e. Acid Sulfate Soils Management Plan	
Scope of application/assessment		
Summary of proposed activities or changes to existing operations.	<p>Construction: Pump Station upgraded to support higher flows of up to 40L/s and a new pressure main will be constructed from the Canning Beach Road PS to divert flows away from the Rockwood St PS. The scope of the Mt Pleasant Pump Station and Pressure Main Project broadly includes:</p> <ul style="list-style-type: none"> • Upgraded 315 mm DN pressure main; • Additional emergency storage at the pump station; • Upgrade to pump station inlet works; • Upgrade to pump station mechanical and electrical equipment, including additional electrical cabinets. <p>Water Corporation design standards that are available on the Water Corporation website:</p> <ul style="list-style-type: none"> • DS 51 – The Design and Construction of Wastewater Pumping Stations and Pressure Mains; • DS 65 – Pipe Fittings Standard Drawings. <p>This Works Approval covers the proposed upgrades to the Pump Station design including:</p> <ul style="list-style-type: none"> • Installation of new pumps and pipework internal to the PS, including incoming pipework from the splitter chamber and pipework from the wet well to the dry well. • Replacement of existing pump motors from 7.5 kW units to 22 kW units • Removal of the Flow Transmitter Panel; 	

	<ul style="list-style-type: none"> • Replacement of the motor starters from auto-transformer to panel-mounted VSD; • Addition of a bypass pit to the existing access chamber 1300 and associated pipework; • Magnetic flow-meter installation; • Additional 111m³ of emergency storage; • Air vents for the emergency storage and pump station; • Installation of backflow prevention device on the site water service <p>Operation: Category 85A: Sewerage pumping station</p>
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Category number/s (activities that cause the premises to become prescribed premises)

Table 1: Prescribed premises categories

Prescribed premises category and description	Proposed production or design capacity	Proposed changes to the production or design capacity (amendments only)
Category 85A: Sewerage pumping station: premises on which sewerage is pumped (other than to or from septic tanks) and where a discharge of waste from the station may enter the Swan River or Canning River	N/A for category Works associated with proposed increase to 40L/s pumping capacity (from 20L/s)	

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 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 checked="" type="checkbox"/> General lease <input type="checkbox"/> Expiry: Mining lease / tenement <input type="checkbox"/> Expiry: Other evidence <input type="checkbox"/> Expiry:
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/>	Approval: Expiry date: If N/A explain why? A development approval is being sought from WAPC

		concurrently with this Works Approval application
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	CPS No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: N/A Licence/permit No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: Licence/permit No: Licence / permit not required.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Name: Perth Groundwater/ Swan-Canning River System Type: Proclaimed Groundwater Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> Regional office: Swan Avon Will request comment on application from Swan Avon.
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A Priority: P1 / P2 / P3 / N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to <u>WQPN 25</u>)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i>)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<i>Environmental Protection (Unauthorised Discharge) Regulations 2004</i>
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A Classification: N/A

		Date of classification: N/A
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