



# CX11266 – Cotter Pumping Station Improvements

## Environmental Significance Opinion

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## Document management

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Prepared by	Henry Grogan	Senior Environmental Scientist	14/2/2022
Reviewed by	Mechelle Swanepoel	Team Leader Impact Assessment & Approvals	15/02/2022
Approved by	Mechelle Swanepoel	Team Leader Impact Assessment & Approvals	15/02/2022

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# 1 Introduction

## 1.1 Overview

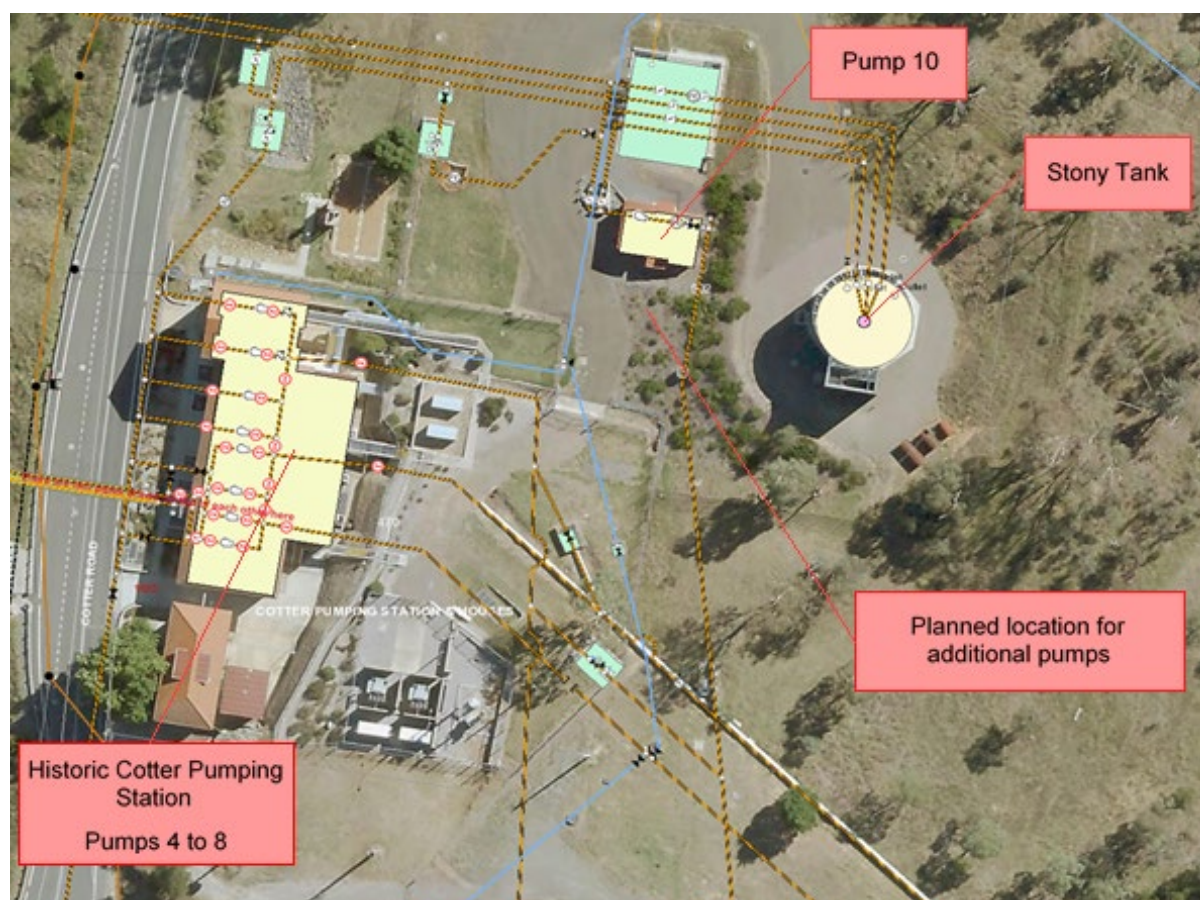
The Cotter Pumping Station (CPS) delivers raw water to the Stromlo Water Treatment Plant (WTP) from the Cotter Dam. Three pump failures that have recently occurred highlight the challenges in maintaining equipment dating back to the 1940's. As a result, a number of reliability and energy efficiency improvements are proposed to mitigate risk. A new set of three pumps are proposed to be installed adjacent to the existing pump 10 (2 now, and 1 at a later date), which was commissioned in 2010. The proposed development will be sympathetic to the surrounding pump station as it is situated within a heritage precinct. The pump houses will fit into the general context of the site as a listed heritage site.

The CPS was completed in 1918 to pump water from Cotter Dam to the Upper Red Hill reservoir. The role of the pump station has changed significantly over time with the construction of the Bendora and Corin Dams in the 1960s and the enlarged Cotter Dam in 2013.

The Cotter Dam accounts for 27% of Icon Water's total water storage capacity and access to this water is fully dependant on the CPS. The strategic outlook is for the CPS to deliver water to the Stromlo WTP on 80-100 days per year to meet a demand of 100 mega litres per day (ML/d) for the next 10 years.

Figure 1 below shows the existing CPS and associated infrastructure.

**Figure 1: CPS Site Location**



The new pump station building is proposed to be built within a special purpose nature reserve and in an area utilised for the purposes of a road and an embankment for the existing pump station. A visual

assessment has been undertaken to assess the impact of the new infrastructure to the surrounding vista (Appendix A).

## **1.2 Report Structure and Content**

The following key themes are covered in this report:

- Description of the works;
- Ecological assessment of the site;
- Heritage assessment of the site;
- Contamination assessment of the site; and
- Detail of the expected environmental impacts and proposed mitigation measures.

The proposed works will have minimal impact to the surrounding vegetation and the significant environmental values, as the works area is previously disturbed with the installation of the existing infrastructure corridor and with little remnant vegetation present.

A Construction Environmental Management Plan (CEMP) will be in place prior to the start of works that will detail mitigation measures to minimise disturbance to surrounding environmental values.

## 2 Contextual site details

### 2.1 Site details

Table 1 below provides the site context and zoning information.

**Table 1: Site details**

<b>Block</b>	470	502	504
<b>Section</b>	0	0	0
<b>District</b>	Stromlo	Stromlo	Stromlo
<b>Land use zone</b>	NUZ4: RIVER CORRIDOR.		
<b>Overlay zone</b>	Pd: Special Purpose Reserve. Development within a special purpose reserve requires an Environmental Significance Opinion (ESO), which states that the proposal is not likely to have a significant adverse environmental impact under Schedule 4, Part 4.3, Item 3 of the <i>Planning and Development Act 2007</i> .		
<b>Land custodian</b>	Icon Water leased land.		

### 2.2 Description of works

The CPS Improvements project incorporates the construction of a new pump station building, and installation of three new pumps and associated pipework adjacent to pump 10. This is to increase the reliability, maintainability, and energy efficiency of Cotter Pump Station, as per the design shown in Figure 2.

#### 2.2.1 Reliability

It is noted that the CPS is currently able to meet its operational target of 100 ML/d with the three existing operational pumps. However, there is no redundancy available in pumping capacity until Pump 6 is returned to service and even then, a Pump 10 failure would result in a significant loss in capacity.

During normal operation, redundancy within the source water headworks system means a shortfall in Cotter pumping capacity could be accommodated in the short term. However, in a dry period there are drought security and efficiency impacts if the CPS is not able to meet its operational target. Table 2 provides a summary of the pumps at CPS.

**Table 2: Summary of nominally operational pumps at CPS**

Pump No.	Year installed	Current Status	Typ. Capacity (ML/day)	Comments
4	1942	Out of service	21 to 24	Damaged by fire 5/1/19. Currently no intention to repair.
5	1955	In service	21 to 24	-
6	1955	Out of service	21 to 24	Bearing failure, repair in progress.

Pump No.	Year installed	Current Status	Typ. Capacity (ML/day)	Comments
7	1963	Out of service	21 to 24	Vibration issue from unknown source. Refurbishment on hold.
8	1963	In service but vibration issue	21 to 24	Similar vertical configuration to pump 7. Currently has a pump drive end vibration issue which is being monitored.
10	2010	In service	Max. 60	Cooling limitations restrict capacity when ambient temperatures are high. High temperature may lead to accelerated aging of electronic components.

### 2.2.2 Scope of Work

Specifically, the scope of this project includes the following:

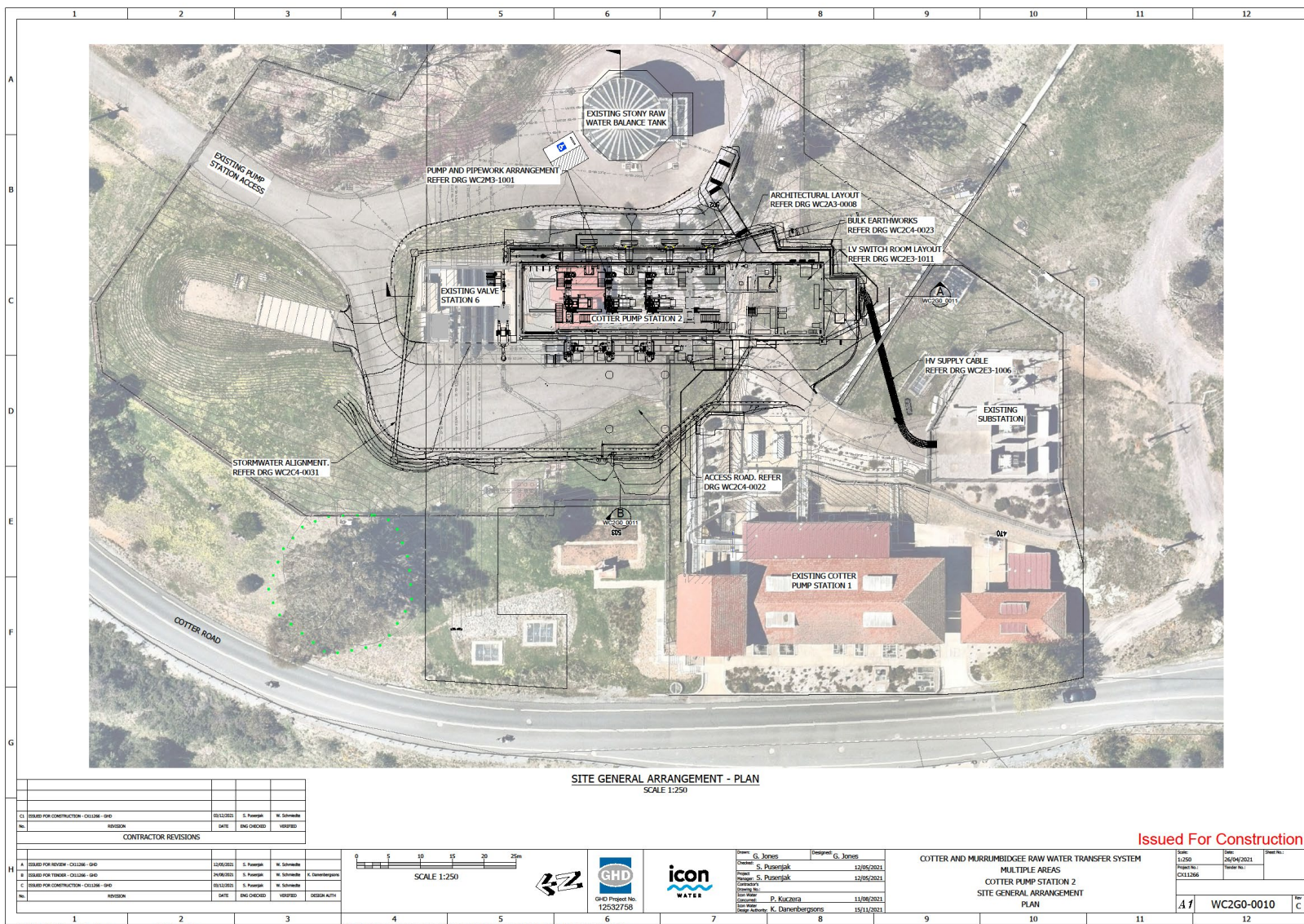
- Demolish existing Pump 10 Building and remove all footings (pump 10, motor, and VSD to be retained for reuse)
- Demolish existing power, communication, and water lines to existing Pump 10. Replace to the new building along alternative route.
- Demolish various concrete structures (retaining and head walls, bitumen pavements)
- Locate and protect services (communications, storm water,) under proposed hardstand
- Construct new Pump Station 2 and install pumps and associated infrastructure
- Install surrounding hardstand areas
- Undertake revegetation of disturbed areas

## 2.3 Approval Pathways

Given the environment and planning context, the proposed construction requires the following approvals:

- Under Section 138AA of the *Planning and Development Act 2007* (P&D Act), Icon Water is applying for an Environmental Significance Opinion (ESO) from the ACT Conservator of Flora and Fauna, as Schedule 4 Part 4.3 of the P&D Act is triggered. Icon Water considers that the proposed works are minor in nature and are unlikely to have a significant adverse impact on certain items listed in Schedule 4 of the P&D Act.
- A Contaminated Land Search was conducted to ascertain information about potential contamination sources present within the site. The search did not indicate any known contamination risk along the route and the area is not on the ACT EPA Contaminated land register or database (See Section 5 for details).
- A Protected Matters Search Tool (PMST) was run on the proposed site on the 14<sup>th</sup> February 2022 (Appendix F). This was obtained to provide guidance on Matters of National Environmental Significance (MNES) and other matters protected by the *Environment Protection and Biodiversity Conservation Act 1999* within the area (see Section 3.2 for details). Given the minor nature of works, the proposed works are not expected to impact any items listed in this report.
- The works will require a Development Application (DA) to be attained under the *Planning and Development Act 2007*. The *Territory Plan 2008* specifies that a DA in the Merit Track is required for a Major Utility Installation in an NUZ4, including a 'pump station having capacity greater than 500 litres per second in the case of water supply'.

Figure 2: Concept design of additional pumps to be installed.



## 3 Ecological Assessment

### 3.1 Methodology overview

A desktop study was undertaken to identify any significant plants and animals within all site boundaries, using ACTmapi and MNES searches. This study identified three threatened species overlays that will be discussed further in section 3.3 & 3.4.

Site walkover and tree survey was also completed in December 2020.

### 3.2 Protected Matters Search

#### 3.2.1 EPBC Search

A PMST report was received on 14<sup>th</sup> February 2022 Cotter Pump Station (Appendix 4). This indicated that Listed Ecological Communities, Listed Threatened Species, Listed Migratory Species and Wetlands of International Importance may potentially occur within the area. The works are not near any Listed Wetlands of International Importance. Two critically endangered ecological communities, *Natural Temperate Grassland*, and *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* are listed as likely to occur within the area.

Three fish species, Murray Cod (*Maccullochella peelii*), Trout Cod (*Maccullochella macquariensis*), and Macquarie Perch (*Macquaria australasica*), are likely to occur in in the Murrumbidgee River below the Cotter Pump Station. This is supported by the ACTmapi search. Works are not within any waterway and therefore unlikely to impact any listed fish species. Erosion and sediment controls will be in place to avoid any runoff into waterways. Bird species are unlikely to be impacted due to no trees being removed and the presence of other mature trees in the area. All other listed items are unlikely to occur in the proposed works location.

**Table 3: PMST species habitat known to occur within area and likelihood**

Species	Listed under	Federal Threatened status	ACT/NSW threatene dstatus	Habitat	Likelihood of presence withinstudy area
Regent Honeyeater ( <i>Anthochaera phrygia</i> )	Birds	Critically endangered	Critically endangered	Eucalypt forestsand woodlands	Low. Open Eucalyptwoodland around pump station but not within pump station fence.
White- throated Needletail ( <i>Hirundapus caudacutus</i> )	Birds	Vulnerable	Secure	Almost exclusively high flying aerial over a wide varietyof habitats Rarely roosts in trees.	Low. Rarely roosts intrees.
Murray Cod ( <i>Maccullochella peelii</i> )	Fish	Vulnerable	Not listed	Range of habitats from clear, rocky streams to slow flowing billabongs. Prefers structural woody habitat.	Not present. Waterways not withinstudy area.

Macquarie perch ( <i>Macquaria australasica</i> )	Fish	Endangered	Endangered	Bottom or mid-water in slow-flowing rivers with deep holes, typically in the upper reaches of forested catchments with intact riparian vegetation.	Not present. Waterways not within study area.
Black faced monarch ( <i>Monarcha melanopsis</i> )	Migratory species	Secure	Secure	Rainforests, eucalypt woodlands, coastal scrub, damp gullies and open woodland when migrating.	Low. Prefers wet, dense habitat. May pass through when migrating.
Satin faced flycatcher ( <i>Myiagra cyanoleuca</i> )	Migratory species	Secure	Secure	Tall forests and forested gullies.	Low. May pass through when migrating.
Rufous fantail ( <i>Rhipidura rufifrons</i> )	Migratory species	Secure	Secure	A range of habitats but prefers dense coverage. May be found in open habitats during migration.	Low. May pass through when migrating.
Pale pomaderris ( <i>Pomaderris pallida</i> )	Plants	Vulnerable	Vulnerable	Shrub communities around Brittle Gum and Red Stringybark woodlands.	Low Disturbed area and dominated by Blakely's red gum and Yellow-box.

### 3.2.2 ACTmapi Search

A desktop search of the ACTmapi Significant Species, Vegetation Communities and Registered Trees layers was conducted on the 11/12/2022. Results are shown in Appendix D. The search showed the potential presence of Rosenberg's Monitor (*Varanus rosenbergi*), as well as potential habitat for Pink-Tailed Worm-Lizard (PTWL) (*Aprasia parapulchella*), approximately 750m east of the site.

The search also confirmed the potential presence of the EPBC listed Box Gum Woodland, in the surrounds of the site. Across the entire Cotter Pumping Station site there is potential for Murrumbidgee bossiaea (*Bossiaea grayi*) to be present. In addition to the fish species listed above, the Murray River crayfish (*Euastacus armatus*) was also shown to be potentially in the river.

These species will be discussed further in sections 3.3 & 3.4.

## 3.3 Flora

### 3.3.1 Site Details

A site walkover was conducted on the 1<sup>st</sup> of October 2020 (early spring). A meandering survey was conducted around the impact zone and around the back of the existing pump station building and the Stony Tank with all significant trees within the fence line were recorded.

The location for installation of the new pumps and house consists of a mulched landscaped slope, associated with the construction of the Stony Tank, and an asphalt road leading out of the site. The area surrounding the proposed pump station is a manicured grassed area, with garden beds surrounding the existing historical pump house. Around the periphery of the fence line, there is a scattering of mature trees, juvenile regrowth and planted eucalypts. Some trees on the property show signs of scarring, likely from the 2003 bushfires.

Five (5) trees were surveyed along the periphery of where the new pump station is to be installed:

- One high value, three moderate value, and one low value tree were surveyed
- Three surveyed trees were assessed to be mature eucalypts
- Two trees surveyed were dead standing trees with moderate retention values
- A nest was observed in the high value tree. It was not clear whether the nest was active and or what species of bird it belonged to
- Figure 2 shows the sole high value eucalypt onsite which was a Blakely's Red Gum. This was adjacent to a dead standing tree.

Tree species observed around the site included Blakely's Red Gum (*Eucalyptus blakeyi*), Yellow Box (*Eucalyptus melliodora*), and River she-oak (*Casuarina cunninghamiana*) (shown in Figure 4). The vegetation surveyed does not meet the requirements of endangered grassland or box gum communities due to the lack of native ground cover species and high cover of broad leaf weeds such as Blackberry. No Murrumbidgee bossiaea was found during a walkover of the site.

**Figure 3: Ornamental plantings to be removed**



### 3.3.2 Vegetaion Removal

There will be no tree removal and minimal vegetation disturbance as part of these works. Established garden beds featuring *Grevilleas*, *Hardenbergias*, and native planted sedges will be removed to make way for the new pump station building and surrounding hardstand (Figure 3).

The trees surrounding the site will be protected for the duration of works, with protective fencing delineating the Tree Protection Zones (see Appendix C). None of these trees will be removed. If there is any unanticipated interaction with tree roots, it will be supervised by the project arborist in accordance with tree protection measures provided in *AS4970-2009 – Protection of trees on development sites*.

Revegetation of disturbed areas will be undertaken using TCCS mix A or B, depending on seasonal conditions.

**Figure 4: High Value Blakely's Red Gum**



**Table 4: Key Flora species present at the site and in the surrounds**

Scientific Name	Common Name	Presence
<i>Eucalyptus blakeyi</i>	Blakely's Red Gum	Few (5%)
<i>Eucalyptus mellidora</i>	Yellow Box	Few (5%)
<i>Casuarina cunninghamiana</i>	River She-Oak	Few (<5%)
<i>Acacia decurrens</i>	Green Wattle	Few (<5%)
<i>Hardenbergia violacea</i>	Purple Coral Pea	Few (5%)
<i>Bothriochloa macra</i>	Red-Leg Grass	Few (5%)
<i>Themeda triandra</i>	Kangaroo Grass	Few (<5%)
<i>Rubus fruticosus</i>	Blackberry	Few (<5%)
<i>Hypericum perforatum</i>	St John's Wort	Few (5%)
<i>Verbascum thapsus</i>	Great Mullein	Few (<5%)
<i>Eragrostis curvula</i>	African Lovegrass	Few (<5%)
<i>Onopordum acanthium</i>	Scotch Thistle	Few (5%)

### 3.4 Fauna

Targeted fauna surveys were not undertaken as part of the site survey. However, animal presence was noted during the survey and numbers documented. Site surrounds and key habitat features were also noted during the assessment. A fauna species list can be seen in Table 5. The Murrumbidgee River was not surveyed for the presence of threatened species of fish. This proposal will not impact on the River and hence these species.

Rosenberg's monitor is listed as vulnerable in NSW and rarely seen in the ACT. It is described as dark grey with narrow yellow or white bands across the tail; this feature distinguishes it from the common Lace monitor (*Varanus varius*), which has wide bands across the tail. Rosenberg's monitor is found in heath, open forest and woodland habitat. They lay their eggs within termite mounds and shelter in hollow logs, rock crevices or burrows (*NSW government, 2017*). No termite mounds were observed within the project footprint during the site walkover. The works are therefore unlikely to impact on nesting and breeding sites. Wildlife exclusion fencing will be erected around any trenches left open overnight. During construction and upon project completion, there will be no significant negative impact to this species, if present.

As it is already highly disturbed, the site is largely absent of surface rocks required for PTWL shelter / habitat. There is not expected to be a significant negative impact to this species, if present.

**Table 5: Fauna species present at the site and in the surrounds**

Scientific name	Common name	Frequency
<i>Cacatua galerita</i>	Cockatoo	5
<i>Platycercus elegans</i>	Crimson Rosella	2
<i>Eolophus roseicapilla</i>	Galah	3
<i>Cracticus tibicen</i>	Australian Magpie	3 (nest present outside of property to the east)
<i>Corvus</i> sp.	Crow	1
<i>Dromaius novaehollandiae</i>	Emu	1 (outside of property)

## 4 Heritage Assessment

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### 4.1 Overview

#### 4.1.1 Cotter Pumping Station Precinct

The precinct, which includes the Cotter Pumping Station, associated staff cottages, and Cotter Bridge over the Murrumbidgee River are included in an interim Heritage Places Register by the ACT Heritage Council (gazetted 9<sup>th</sup> November 2000). The features intrinsic to the heritage significance of the place are:

- The **Pumping Station industrial buildings** - consisting of the Pump House and Transformer House.
- **Mechanical plant and equipment used in pumping operations** - including pumps 1 to 8, plus associated electric motors, switchboards and controls.
- The salvaged **Hydro Pump**, now stored within the Transformer House.
- The ruin of the **Blockhouse**, in which the Hydro Pump was originally located.
- The six **Pumping Station Staff Cottages** - built in 1927 (first), 1938 (second), 1957 (third & seventh), 1950 (fifth), and 1952 (sixth).
- The **Cotter Bridge** (Cotter Road crossing of the Murrumbidgee River) – including approach ramps and abutments.

According to its statement of significance, The Pumping Station, with its original equipment, associated buildings, and the high-level bridge are significant as a historical industrial landscape and a contemporary landmark as the 'gateway' to the Cotter Reserve and other areas of public recreation west of Canberra. The precinct demonstrates Canberra's early engineering history and the development of its initial civil infrastructure – specifically the provision of a reticulated water supply for the proposed Federal Capital.

The two buildings forming the Pumping Station, the Pump House and Transformer House, are among the earliest permanent buildings constructed during the development of Canberra. Completed in 1915, they were designed by the first Chief Architecture for the Commonwealth, John Smith Murdoch.

Since completion of the Bendora Gravity Main in 1968, whereby water from Corin and Bendora dams is supplied to the Mt Stromlo reservoir without the need for pumping, the Cotter system is managed as a reserve supply for drought relief.

Although demolition and construction is occurring within the heritage precinct, none of the significant features mentioned above will be impacted. The area of works is situated upslope from the existing Cotter Pump Station buildings, allowing clear delineation. The stabilized access point enters the site from the north-east, ensuring there is no interaction with any of the key historic elements.

The design of the new pump station building is sympathetic to the character of the original pump station below, within the confines of not compromising efficiency and sustainability afforded by advances in architecture.

To meet our statutory obligations, Icon Water has developed and maintains a Conservation Management Plan for this site, approved by ACT Heritage. A Statement of Heritage Effects was also prepared by GHD on behalf of Icon Water, which found that the proposed works are unlikely to have an adverse impact on the heritage values of the site, for reasons including the following:

- The Cotter WPS 2 (Pump 10) is identified as containing no heritage values.
- The proposed works are largely located within Block 502 which was identified within the CMP as being a location suitable within the heritage curtilage for the installation of new water infrastructure. The new build will extent into Block 470, but the location is not inappropriate.

- The proposed structure will have a sympathetic aesthetic to the existing heritage values, but will be clearly identifiable as new elements. The building will be set further back within the Precinct, behind the heritage listed Cotter WPS 1, therefore being visually separated from key heritage elements.
- No changes to the Cotter WPS 1 (Pump House) and Transformer House are included within the proposed works, and the existing heritage fabric will not be impacted. Impacts to the rising main are to later modifications only, are minor and are not inconsistent with CMP policies.

#### **4.1.2 Indigenous Heritage**

Icon Water sought information from the ACT Heritage Council in November 2020, to ascertain the location and details of Aboriginal heritage places 'CPS2' and 'CPS3'. Additional information regarding places 'CPS1,' 'ECRA49,' and 'ECRA50' was also provided. The material provided by the Council confirms that none of the places listed will be impacted by the proposed works. The heritage places are well outside and up-gradient of the construction area.

Although works are taking place in an already highly disturbed area, an Unexpected Finds Protocol will be developed as part of the CEMP for these works, as identified in the Statement of Heritage Effects.

## 5 Contamination Assessment

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### 5.1 Desktop Study

The site is located within 40m of the Murrumbidgee River. However, because the work is limited to the Pump Station and works will not be conducted directly adjacent to or in the river, a Waterways Works License will not be required.

#### 5.1.1 Shared Database

A search of Icon Water's contamination database shared with the ACT Government under a memorandum of understanding, showed that there is possible hydrocarbon contamination nearby to the west of the proposed work area, associated with the Rangers Station.

#### 5.1.2 Register of Contaminated Sites

The Register of Contaminated Sites online from the EPA, is a record of contaminated sites in the ACT. The database was checked on the 11/02/2022 and no sites appear on this list pertaining to the proposed work areas.

#### 5.1.3 Contaminated Land Search

A Contaminated Land Search report was received from EPA on the 25/09/2020 for blocks 470 and 502 (Appendix E). The results are summarised below:

- The blocks are not recorded on the EPA's contaminated sites management database or geographic information system.
- Aerial photographs indicate that the site is occupied by the Cotter Pumping Station. Fuel storage facilities may have been present at the site, associated with the operation of the station.
- The ACT EPA Contaminated Sites Environment Protection Policy 2017 lists fuel storage facilities as activities associated with land contamination.

#### 5.1.4 Hazardous Materials Survey

A hazardous materials (HAZMAT) survey of Cotter Pump Station was undertaken by WSP Australia on behalf Icon Water, in November 2020. The survey placed particular focus on the areas proposed for the additional pumps.

Results of the survey found no asbestos containing materials (ACM), lead based paint, polychlorinated biphenyls (PCBs), or ozone depleting substances (ODS). Some synthetic mineral fibre (SMF) insulation debris was found contained to the subfloor of the High Voltage switch room. The lagging on the pipeline from Cotter Dam to CPS was also found to comprise polycyclic aromatic hydrocarbons (PAH). The material was deemed to be in good condition and should not present an unacceptable risk so long as it is maintained as such, and that labelling, engineering controls and correct PPE are used during any disturbance/demolition.

Appropriate mitigation measures will be identified in the CEMP, specifically the Unexpected Finds Protocol (UFP) to manage risk associated with these and other contaminants.

## 6 Environmental Impact Assessment

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### 6.1 Approach

Icon Water employs a risk-based approach to managing and mitigating environmental impacts from activities and operations. The potential impacts to the environment that could result from this project are addressed below in Table 7 Risk Assessment, using the Environmental Risk Mitigation Matrix presented in Table 6.

**Table 6: Environmental Risk Mitigation Matrix**

Likelihood	Consequence				
	Negligible	Minor	Moderate	Major	Severe
Almost Certain	Low	Medium	High	Very High	Very High
Likely	Low	Medium	High	High	Very High
Possible	Low	Medium	Medium	High	High
Unlikely	Low	Low	Medium	Medium	High
Rare	Low	Low	Low	Medium	Medium

### 6.2 Recommendations

The Risk Assessment below indicates that, due to the proposed works being restricted to an already highly disturbed/developed area, and the mitigations to be included in the CEMP, it is unlikely that the project will have a detrimental impact on the environment and local area.

Table 7: Risk Assessment

Environment factor	Aspect	Interaction	Impact	Likelihood	Consequences	Initial Risk Rating	Recommendations for Risk Mitigation	Likelihood	Consequences	Residual Risk Rating
Air	Air pollution	Emission of dust, smoke, and particulates	Reduction in air quality	Possible	Negligible	Low	Avoid excessive and unnecessary vehicle use (see Appendix B).	Possible	Negligible	Low
Land	Erosion	Disturbance of soil	Increased erosion, impacted vegetation, water quality impacts (see Water)	Possible	Minor	Medium	Implement measures detailed in <i>Sediment and Erosion Control Plan</i> including sediment fences, stormwater inlet filters, straw bale check dams, and stabilized access point (see Appendix B).	Unlikely	Minor	Low
	Bushfire	Hot works and sparks setting fire	Damage to wider area, danger to personnel, ecological impacts	Rare	Major	Medium	Hot must be undertaken consistent with the Hot Works Permit system i.e. no hot works on Total Fire Ban days.	Rare	Major	Medium
	Litter	Packaging and waste left on site	Loss of amenity, pollution, loss of habitat value	Unlikely	Minor	Low	All litter to be removed from site by contractors. Recycling undertaken for all applicable waste.	Unlikely	Minor	Low
	Soil loss down slope	Destabilisation of slope	Depletion of soil cover	Unlikely	Minor	Low	See 'Erosion'	Unlikely	Minor	Low
	Contamination	Disturbance of soils and improper storage and disposal.	Damage to ecological values, impact to groundwater.	Unlikely	Minor	Low	Contamination studies done prior to works commencing. UFP in place for works. All excess soil is to be disposed of in accordance with <i>ACT EPA Information Sheet 4</i> .	Unlikely	Minor	Low
Water	Runoff sediment entering river	Water quality reduction, water pollution, algal blooms	Loss of amenity, reduction in source water quality	Unlikely	High	Medium	See 'Erosion'	Rare	Low	Low
	Chemical spill entering river	Water quality reduction, water pollution	Loss of amenity, reduction in source drinking water quality	Unlikely	Minor	Low	Spill kits onsite, and personnel trained in their use. Sediment fences and straw bales will provide additional protection in the event of a spill.	Rare	Minor	Low
Ecology	Runoff sediment entering river	Water quality reduction, water pollution, smothering of aquatic habitats, algal blooms	Loss of low tolerance species, reduction in breeding success and recruitment, reduction in river biodiversity	Unlikely	Minor	Low	See 'Erosion' Sediment controls and stormwater protection will prevent runoff from the works area reaching the river.	Unlikely	Minor	Low

	Vegetation impact	Removal and impact on trees or vegetation around construction. Impact on adjacent tree roots.	Loss of ecological value, loss of habitat.	Unlikely	Minor	Low	No trees to be removed, and minimal vegetation disturbed. Tree protection measures implemented around 13 trees adjacent to works area in accordance with <i>Landscape Management and Tree Protection Plan</i> .	Rare	Minor	Low
Energy and Carbon	Vehicle Use	Release of CO <sub>2</sub> , use of fossil fuels	Increased atmospheric CO <sub>2</sub> , depletion of fossil fuel resources	Almost certain	Negligible	Low	Avoid excessive and unnecessary vehicle use	Almost certain	Negligible	Low
Heritage	Protected heritage items and values	Damage to heritage artefacts and values on site.	Loss or depreciation of cultural items and values.	Unlikely	Moderate	Medium	There are no known Aboriginal heritage places/items within the works area. There will be no interaction with or impact on the Cotter Pump Station buildings. UFP in place during works.	Rare	Moderate	Low

## 7 Rehabilitation Specifications

---

### 7.1 Grass Mix

Icon Water is committed to ensuring rehabilitation is completed and any areas impacted are to be returned to pre-construction quality or better (considering weed species spread throughout the site).

Although unlikely to be extensive, disturbed sites are to be rehabilitated post-construction, as soon as practicable. This mixture of grass species, detailed in Table 6, may look to improve the overall ecological value of these areas. A Sterile Rye agent may be added to the mix to allow for the early germination and stabilisation of the site before the native seed can establish itself adequately. Areas requiring native ground storey rehabilitation will be seeded at a rate of 30-50kg per ha.

Site	Frequency
All disturbed areas surrounding the newly built pump station and hardstand	<ul style="list-style-type: none"><li>• 40% Red-leg Grass</li><li>• 20% Windmill Grass</li><li>• 20% Panic Grass</li><li>• 20% Wallaby Grass</li></ul>

No trees are being removed, so there is no replanting required, however a screening row of trees may be planted outside the north-western boundary, to be confirmed with TCCS (Appendix C).

## 8 Conclusions

---

### 8.1 Discussion

Increased pumping capacity is required to ensure the reliability, maintainability, and energy efficiency of water sourced from Cotter Dam. In order to provide this capacity, Icon Water intends to install three additional pumps alongside Pump 10, in a new pump station building.

Desktop searches using both EPBC PMST and ACTmapi revealed a number of threatened ecological communities and species to be potentially present within the site and surrounds, including the following:

#### Threatened Ecological Communities

- *Natural Temperate Grassland*
- *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland*

#### Threatened Species

- Rosenberg's monitor (*Varanus rosenbergi*)
- Pink-tailed worm lizard (*Aprasia parapulchella*)
- Murrumbidgee bossiaea (*Bossiaea grayi*)

A walkover of the site did not find any examples of the ecological communities, or habitat for the species listed above. Given the works are taking place within an operational and established water utility site, the area is already highly disturbed. Vegetation within the site boundaries is predominantly ornamental plantings and established trees, which will be protected from impacts.

Consultation with ACT Heritage Council helped to identify and locate known places of Aboriginal heritage surrounding the site. This information allows Icon Water to ensure that no known heritage places will be impacted by the works. The significant buildings onsite will be demarcated with protective fencing for the duration of works regardless. The proposed structure is sympathetic to the surrounding landscape of the Cotter Pumping Station heritage precinct, and none of the significant features will be impacted during demolition/construction.

### 8.2 Conclusion

Based on the assessment of the site, the proposed project is predicted not to have a significant environmental impact, for the following reasons:

- Works are contained within an already disturbed, operational industrial site.
- No evidence of threatened ecological communities or species/habitat found within the construction footprint.
- No trees are to be removed or impacted, and minimal vegetation disturbed.
- Heritage places have been identified and do not fall within the construction footprint, but will be demarcated with protective fencing regardless.
- A CEMP will be developed providing mitigation measures for tree protection, erosion and sediment control, waste management, air quality and noise management, and unexpected finds.



9.1 Appendix A – Perspective View



**PERSPECTIVE VIEW - EXISTING COTTER PUMP STATION 1 AND NEW COTTER PUMP STATION 2**

No.	REVISION	DATE	ENG CHECKED	VERIFIED	
CONTRACTOR REVISIONS					
C1	FOR DEVELOPMENT APPROVAL - CX11266 - GHD	03/12/2021	F. Edham	S. Pusnjak	
A	FOR DEVELOPMENT APPROVAL - CX11266 - GHD	09/07/2021	F. Edham	S. Pusnjak	
B	FOR DEVELOPMENT APPROVAL - CX11266 - GHD	06/06/2021	F. Edham	S. Pusnjak	
C	FOR DEVELOPMENT APPROVAL - CX11266 - GHD	03/12/2021	F. Edham	S. Pusnjak	
No.	REVISION	DATE	ENG CHECKED	VERIFIED	DESIGN AUTH



Drawn: J. David	Designed: R. Pritz
Checked: F. Edham	12/05/2021
Project Manager: S. Pusnjak	12/05/2021
Contractor's Drawing No.:	
Icon Water Contracted:	P. Kuczera 16/08/2021
Icon Water Design Authority:	K. Danenbergsons 15/11/2021

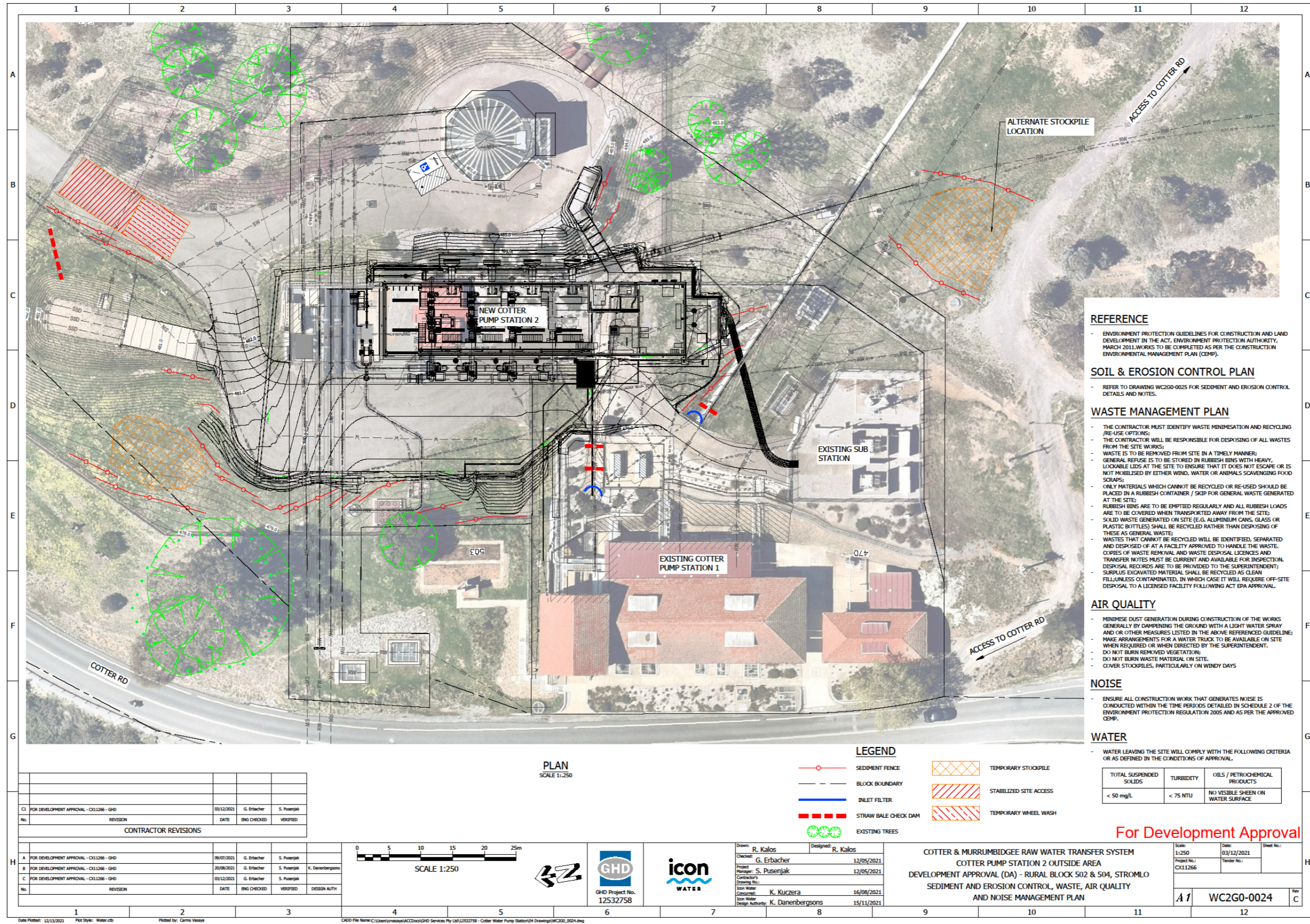
COTTER & MURRUMBIDGEE RAW WATER TRANSFER SYSTEM  
 COTTER PUMP STATION 2 MAIN PUMP HOUSE  
 DEVELOPMENT APPROVAL (DA) - RURAL BLOCKS 502 & 504, STROMLO  
 PERSPECTIVE VIEW  
 SHEET 2

For Development Approval

Scale: N T 5	Date: 09/07/2021	Sheet No.:
Project No.: CX11266	Tender No.:	
WC2G0-0028		Rev C



9.2 Appendix B – Sediment & Erosion Control, Waste, Air Quality & Noise Management Plan



**REFERENCE**

- ENVIRONMENT PROTECTION GUIDELINES FOR CONSTRUCTION AND LAND DEVELOPMENT IN THE ACT, ENVIRONMENT PROTECTION AUTHORITY, MARCH 2011, WORKS TO BE COMPLETED AS PER THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP).

**SOIL & EROSION CONTROL PLAN**

- REFER TO DRAWING WC2G0-0025 FOR SEDIMENT AND EROSION CONTROL DETAILS AND NOTES.

**WASTE MANAGEMENT PLAN**

- THE CONTRACTOR MUST IDENTIFY WASTE MINIMISATION AND RECYCLING /RE-USE OPTIONS;
- THE CONTRACTOR WILL BE RESPONSIBLE FOR DISPOSING OF ALL WASTES FROM THE SITE WORKS;
- WASTE IS TO BE REMOVED FROM SITE IN A TIMELY MANNER;
- GENERAL REFUSE IS TO BE STORED IN RUBBISH BINS WITH HEAVY, LOCKABLE LIDS AT THE SITE TO ENSURE THAT IT DOES NOT ESCAPE OR IS NOT MOBILISED BY EITHER WIND, WATER OR ANIMALS SCAVENGING FOOD SCRAPS;
- ONLY MATERIALS WHICH CANNOT BE RECYCLED OR RE-USED SHOULD BE PLACED IN A RUBBISH CONTAINER / SKIP FOR GENERAL WASTE GENERATED AT THE SITE;
- RUBBISH BINS ARE TO BE EMPTIED REGULARLY AND ALL RUBBISH LOADS ARE TO BE COVERED WHEN TRANSPORTED AWAY FROM THE SITE;
- SOLID WASTE GENERATED ON SITE (E.G. ALUMINIUM CANS, GLASS OR PLASTIC BOTTLES) SHALL BE RECYCLED RATHER THAN DISPOSING OF THESE AS GENERAL WASTE;
- WASTES THAT CANNOT BE RECYCLED WILL BE IDENTIFIED, SEPARATED AND DISPOSED OF AT A FACILITY APPROVED TO HANDLE THE WASTE. COPIES OF WASTE REMOVAL AND WASTE DISPOSAL LICENCES AND TRANSFER NOTES MUST BE CURRENT AND AVAILABLE FOR INSPECTION. DISPOSAL RECORDS ARE TO BE PROVIDED TO THE SUPERINTENDENT;
- SURPLUS EXCAVATED MATERIAL SHALL BE RECYCLED AS CLEAN FILL UNLESS CONTAMINATED, IN WHICH CASE IT WILL REQUIRE OFF-SITE DISPOSAL TO A LICENSED FACILITY FOLLOWING ACT EPA APPROVAL.

**AIR QUALITY**

- MINIMISE DUST GENERATION DURING CONSTRUCTION OF THE WORKS GENERALLY BY DAMPENING THE GROUND WITH A LIGHT WATER SPRAY AND OTHER MEASURES LISTED IN THE ABOVE REFERENCED GUIDELINE;
- MAKE ARRANGEMENTS FOR A WATER TRUCK TO BE AVAILABLE ON SITE WHEN REQUIRED OR WHEN DIRECTED BY THE SUPERINTENDENT.
- DO NOT BURN REMOVED VEGETATION;
- DO NOT BURN WASTE MATERIAL ON SITE.
- COVER STOCKPILES, PARTICULARLY ON WINDY DAYS

**NOISE**

- ENSURE ALL CONSTRUCTION WORK THAT GENERATES NOISE IS CONDUCTED WITHIN THE TIME PERIODS DETAILED IN SCHEDULE 2 OF THE ENVIRONMENT PROTECTION REGULATION 2005 AND AS PER THE APPROVED CEMP.

**WATER**

- WATER LEAVING THE SITE WILL COMPLY WITH THE FOLLOWING CRITERIA OR AS DEFINED IN THE CONDITIONS OF APPROVAL:

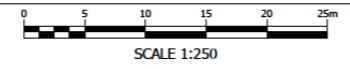
TOTAL SUSPENDED SOLIDS	TURBIDITY	OILS / PETROCHEMICAL PRODUCTS
< 50 mg/L	< 75 NTU	NO VISIBLE SHEEN ON WATER SURFACE

**For Development Approval**

**LEGEND**

- SEDIMENT FENCE
- - - BLOCK BOUNDARY
- INLET FILTER
- STRAW BALE CHECK DAM
- EXISTING TREES
- TEMPORARY STOCKPILE
- STABILIZED SITE ACCESS
- TEMPORARY WHEEL WASH

**PLAN**  
SCALE 1:250



No.	REVISION	DATE	ENG CHECKED	VERIFIED
<b>CONTRACTOR REVISIONS</b>				
C1	FOR DEVELOPMENT APPROVAL - CX11266 - GHD	03/12/2021	G. Erbacher	S. Pusenjak

No.	REVISION	DATE	ENG CHECKED	VERIFIED	DESIGN AUTH
A	FOR DEVELOPMENT APPROVAL - CX11266 - GHD	08/07/2021	G. Erbacher	S. Pusenjak	
B	FOR DEVELOPMENT APPROVAL - CX11266 - GHD	20/06/2021	G. Erbacher	S. Pusenjak	K. Danenbergsons
C	FOR DEVELOPMENT APPROVAL - CX11266 - GHD	03/12/2021	G. Erbacher	S. Pusenjak	

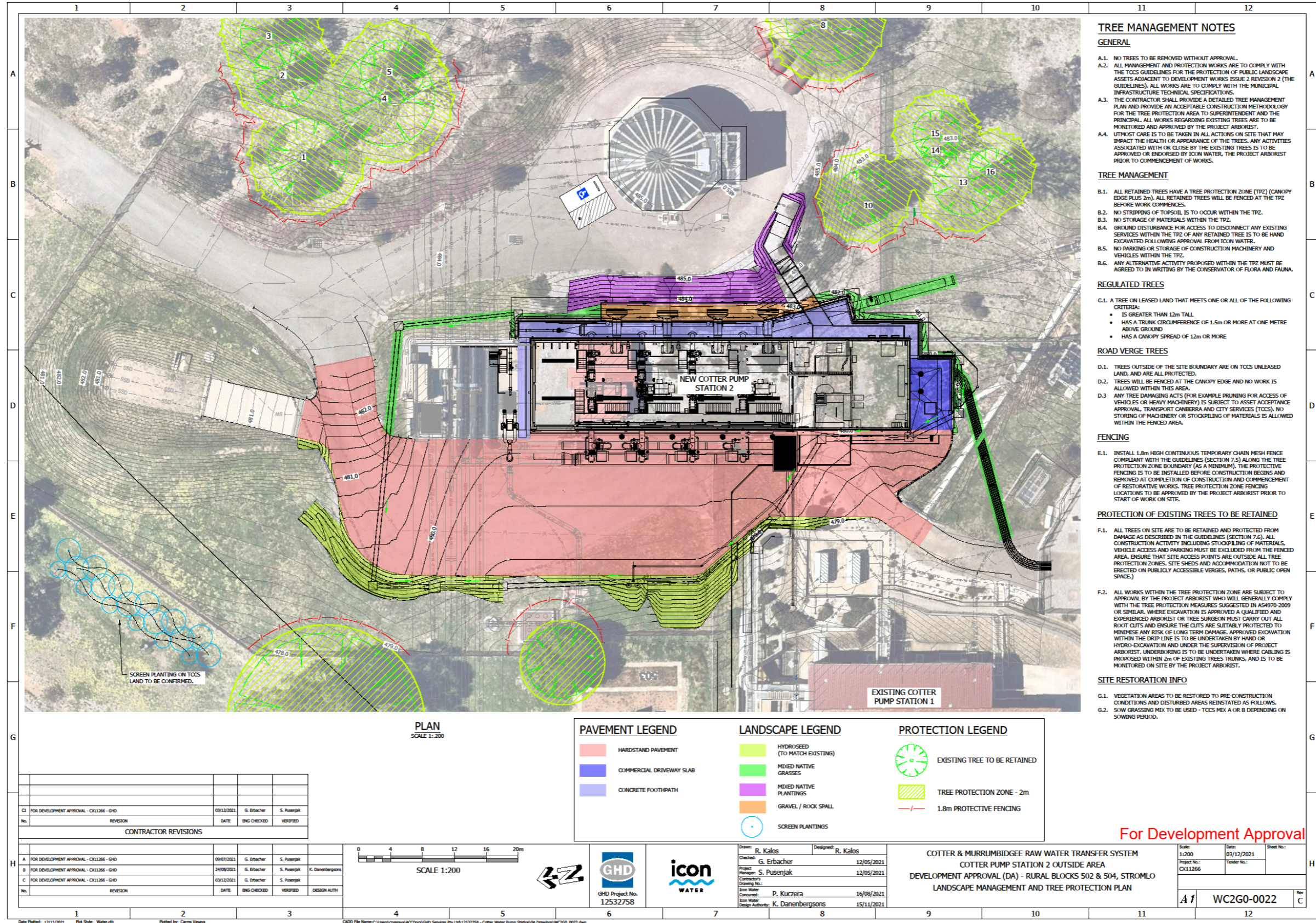
Drawn: R. Kallos | Designed: R. Kallos  
 Checked: G. Erbacher | 12/05/2021  
 Project Manager: S. Pusenjak | 12/05/2021  
 Contractor's Drawing No.:  
 Icon Water  
 Consultant: K. Kuczbarska | 16/08/2021  
 Soil Water  
 Design Authority: K. Danenbergsons | 15/11/2021

**GHD** Project No. 12532758  
**icon WATER**

**COTTER & MURRUMBIDGEE RAW WATER TRANSFER SYSTEM**  
**COTTER PUMP STATION 2 OUTSIDE AREA**  
**DEVELOPMENT APPROVAL (DA) - RURAL BLOCK 502 & 504, STROMILO**  
**SEDIMENT AND EROSION CONTROL, WASTE, AIR QUALITY AND NOISE MANAGEMENT PLAN**

Scale: 1:250	Date: 03/12/2021	Sheet No.:
Project No.: CX11266	Tender No.:	
<b>A f</b>		<b>WC2G0-0024</b>
		Rev C

9.3 Appendix C – Landscape Management and Tree Protection Plan



**TREE MANAGEMENT NOTES**

**GENERAL**

A.1. NO TREES TO BE REMOVED WITHOUT APPROVAL.

A.2. ALL MANAGEMENT AND PROTECTION WORKS ARE TO COMPLY WITH THE TCCS GUIDELINES FOR THE PROTECTION OF PUBLIC LANDSCAPE ASSETS ADJACENT TO DEVELOPMENT WORKS ISSUE 2 REVISION 2 (THE GUIDELINES). ALL WORKS ARE TO COMPLY WITH THE MUNICIPAL INFRASTRUCTURE TECHNICAL SPECIFICATIONS.

A.3. THE CONTRACTOR SHALL PROVIDE A DETAILED TREE MANAGEMENT PLAN AND PROVIDE AN ACCEPTABLE CONSTRUCTION METHODOLOGY FOR THE TREE PROTECTION AREA TO SUPERINTENDENT AND THE PRINCIPAL. ALL WORKS REGARDING EXISTING TREES ARE TO BE MONITORED AND APPROVED BY THE PROJECT ARBORIST.

A.4. UTMOST CARE IS TO BE TAKEN IN ALL ACTIONS ON SITE THAT MAY IMPACT THE HEALTH OR APPEARANCE OF THE TREES. ANY ACTIVITIES ASSOCIATED WITH OR CLOSE BY THE EXISTING TREES IS TO BE APPROVED OR ENDORSED BY ICON WATER, THE PROJECT ARBORIST PRIOR TO COMMENCEMENT OF WORKS.

**TREE MANAGEMENT**

B.1. ALL RETAINED TREES HAVE A TREE PROTECTION ZONE (TPZ) (CANOPY EDGE PLUS 2m). ALL RETAINED TREES WILL BE FENCED AT THE TPZ BEFORE WORK COMMENCES.

B.2. NO STRIPPING OF TOPSOIL IS TO OCCUR WITHIN THE TPZ.

B.3. NO STORAGE OF MATERIALS WITHIN THE TPZ.

B.4. GROUND DISTURBANCE FOR ACCESS TO DISCONNECT ANY EXISTING SERVICES WITHIN THE TPZ OF ANY RETAINED TREE IS TO BE HAND EXCAVATED FOLLOWING APPROVAL FROM ICON WATER.

B.5. NO PARKING OR STORAGE OF CONSTRUCTION MACHINERY AND VEHICLES WITHIN THE TPZ.

B.6. ANY ALTERNATIVE ACTIVITY PROPOSED WITHIN THE TPZ MUST BE AGREED TO IN WRITING BY THE CONSERVATOR OF FLORA AND FAUNA.

**REGULATED TREES**

C.1. A TREE ON LEASED LAND THAT MEETS ONE OR ALL OF THE FOLLOWING CRITERIA:

- IS GREATER THAN 12m TALL
- HAS A TRUNK CIRCUMFERENCE OF 1.5m OR MORE AT ONE METRE ABOVE GROUND
- HAS A CANOPY SPREAD OF 12m OR MORE

**ROAD VERGE TREES**

D.1. TREES OUTSIDE OF THE SITE BOUNDARY ARE ON TCCS UNLEASED LAND, AND ARE ALL PROTECTED.

D.2. TREES WILL BE FENCED AT THE CANOPY EDGE AND NO WORK IS ALLOWED WITHIN THIS AREA.

D.3. ANY TREE DAMAGING ACTS (FOR EXAMPLE PRUNING FOR ACCESS OF VEHICLES OR HEAVY MACHINERY) IS SUBJECT TO ASSET ACCEPTANCE APPROVAL, TRANSPORT CANBERRA AND CITY SERVICES (TCCS). NO STRIPPING OF MACHINERY OR STOCKPILING OF MATERIALS IS ALLOWED WITHIN THE FENCED AREA.

**FENCING**

E.1. INSTALL 1.8m HIGH CONTINUOUS TEMPORARY CHAIN MESH FENCE COMPLIANT WITH THE GUIDELINES (SECTION 7.5) ALONG THE TREE PROTECTION ZONE BOUNDARY (AS A MINIMUM). THE PROTECTIVE FENCING IS TO BE INSTALLED BEFORE CONSTRUCTION BEGINS AND REMOVED AT COMPLETION OF CONSTRUCTION AND COMMENCEMENT OF RESTORATIVE WORKS. TREE PROTECTION ZONE FENCING LOCATIONS TO BE APPROVED BY THE PROJECT ARBORIST PRIOR TO START OF WORK ON SITE.

**PROTECTION OF EXISTING TREES TO BE RETAINED**

F.1. ALL TREES ON SITE ARE TO BE RETAINED AND PROTECTED FROM DAMAGE AS DESCRIBED IN THE GUIDELINES (SECTION 7.6). ALL CONSTRUCTION ACTIVITY INCLUDING STOCKPILING OF MATERIALS, VEHICLE ACCESS AND PARKING MUST BE EXCLUDED FROM THE FENCED AREA. ENSURE THAT SITE ACCESS POINTS ARE OUTSIDE ALL TREE PROTECTION ZONES. SITE SIGNS AND ACCOMMODATION MATS TO BE ERRECTED ON PUBLICLY ACCESSIBLE VERGES, PATHS, OR PUBLIC OPEN SPACE.)

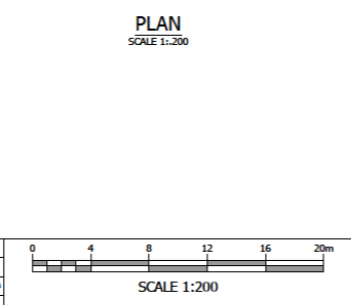
F.2. ALL WORKS WITHIN THE TREE PROTECTION ZONE ARE SUBJECT TO APPROVAL BY THE PROJECT ARBORIST WHO WILL GENERALLY COMPLY WITH THE TREE PROTECTION MEASURES SUGGESTED IN AS4970-2009 OR SIMILAR. WHERE EXCAVATION IS APPROVED A QUALIFIED AND EXPERIENCED ARBORIST OR TREE SURGEON MUST CAREY CUT ALL ROOT CUTS AND ENSURE THE CUTS ARE SUITABLY PROTECTED TO MINIMISE ANY RISK OF LONG TERM DAMAGE. APPROVED EXCAVATION WITHIN THE DRIP LINE IS TO BE UNDERTAKEN BY HAND OR HYDRO-EXCAVATION AND UNDER THE SUPERVISION OF PROJECT ARBORIST. UNDERBORING IS TO BE UNDERTAKEN WHERE CABLING IS PROPOSED WITHIN 2m OF EXISTING TREES TRUNKS, AND IS TO BE MONITORED ON SITE BY THE PROJECT ARBORIST.

**SITE RESTORATION INFO**

G.1. VEGETATION AREAS TO BE RESTORED TO PRE-CONSTRUCTION CONDITIONS AND DISTURBED AREAS REINSTATED AS FOLLOWS.

G.2. SOW GRASSING MIX TO BE USED - TCCS MIX A OR B DEPENDING ON SOWING PERIOD.

No.	REVISION	DATE	ENG CHECKED	VERIFIED
CONTRACTOR REVISIONS				
A	FOR DEVELOPMENT APPROVAL - CX11266 - GHD	09/07/2021	G. Erbacher	S. Pusenjak
B	FOR DEVELOPMENT APPROVAL - CX11266 - GHD	24/08/2021	G. Erbacher	S. Pusenjak
C	FOR DEVELOPMENT APPROVAL - CX11266 - GHD	03/12/2021	G. Erbacher	S. Pusenjak

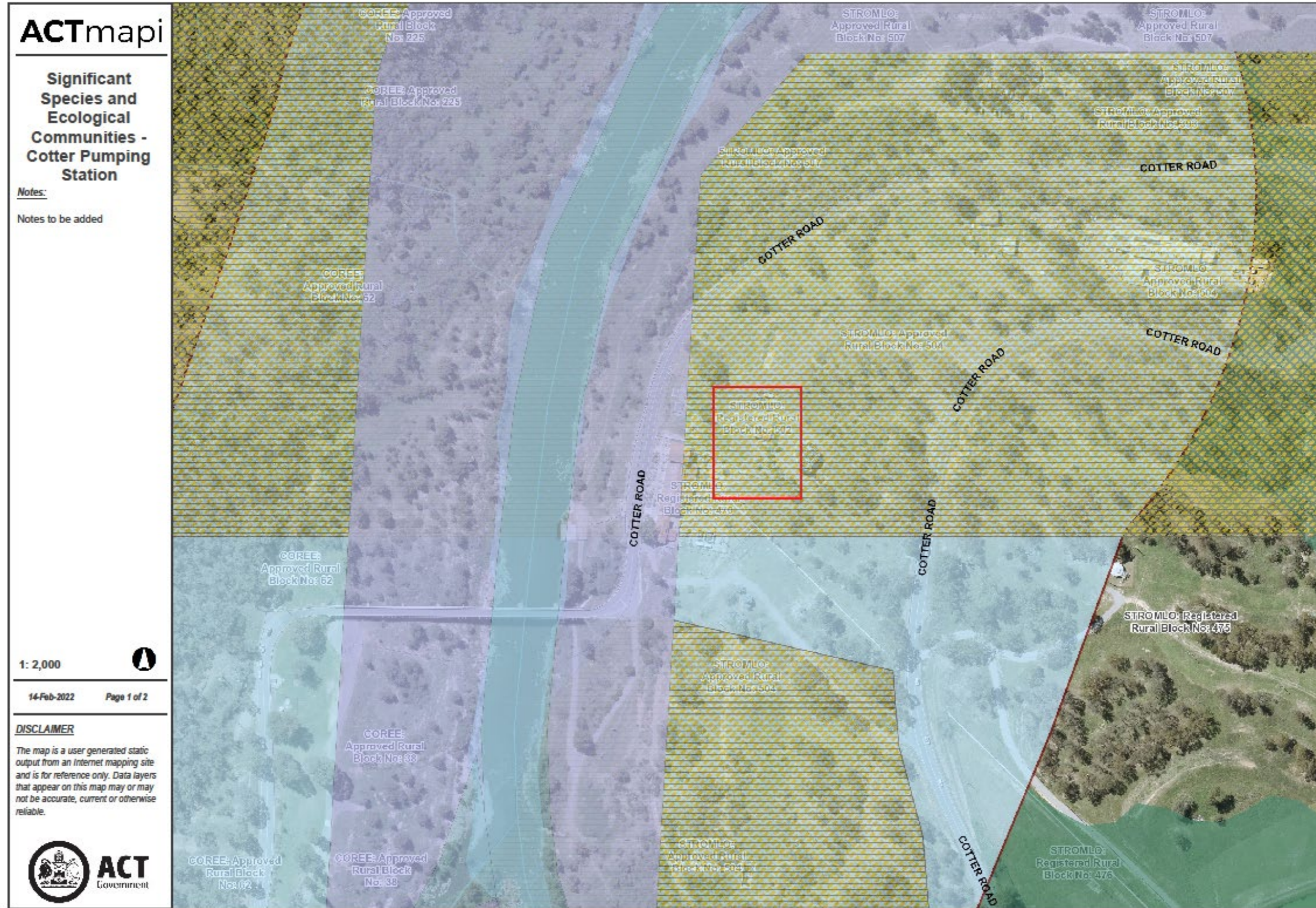


PAVEMENT LEGEND	LANDSCAPE LEGEND	PROTECTION LEGEND
HARDSTAND PAVEMENT	HYDRISEED (TO MATCH EXISTING)	EXISTING TREE TO BE RETAINED
COMMERCIAL DRIVEWAY SLAB	MIXED NATIVE GRASSES	TREE PROTECTION ZONE - 2m
CONCRETE FOOTPATH	MIXED NATIVE PLANTINGS	1.8m PROTECTIVE FENCING
	GRAVEL / ROCK SPALL	
	SCREEN PLANTINGS	

For Development Approval

<p>Drawn: R. Kalos   Design: R. Kalos</p> <p>Checked: G. Erbacher   12/05/2021</p> <p>Project Manager: S. Pusenjak   12/05/2021</p> <p>Contractor: [ ]</p> <p>Icon Water: P. Kuczera   16/08/2021</p> <p>Design Authority: K. Danenbergson   15/11/2021</p>		<p>COTTER &amp; MURRUMBIDGEE RAW WATER TRANSFER SYSTEM</p> <p>COTTER PUMP STATION 2 OUTSIDE AREA</p> <p>DEVELOPMENT APPROVAL (DA) - RURAL BLOCKS 502 &amp; 504, STROMLO</p> <p>LANDSCAPE MANAGEMENT AND TREE PROTECTION PLAN</p>	<p>Scale: 1:200</p> <p>Date: 03/12/2021</p> <p>Project No.: CX11266</p> <p>Sheet No.: 1 of 1</p> <p>WC2G0-0022</p>
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9.4 Appendix D - Significant Species and Ecological Communities




**Significant  
Species and  
Ecological  
Communities -  
Cotter Pumping  
Station**

Legend


Road Labels


-  Murray Cod (*Maccullochella peelii peelii*)
-  Macquarie Perch (*Macquaria australasica*)
-  Murray River Crayfish (*Euastacus armatus*)
-  Trout Cod (*Maccullochella macquariensis*)
-  Pink-tailed Worm-lizard (*Aprasia parapulchella*)
-  Rosenberg's Monitor (*Varanus rosenbergi*)
-  Murrumbidgee Bossiaea (*Bossiaea grayi*)


ACT Grassland Communities


-  Native grassland
-  Natural temperate grassland
-  Potential Natural temperate grassland
-  Exotic grassland

Potential Threatened Woodland

 Water Feature Polygons

 Water Feature Lines

 Rural Registered

 Rural Approved

*The map is a user generated static output from an internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current or otherwise reliable.*



## 9.5 Appendix E – Contaminated Land Search

**From:** [Zhang, Jianmin \(ACT Gov\)](#) on behalf of [Contaminated Sites](#)  
**To:** [Swanepoel, Mechelle](#)  
**Subject:** Contaminated Land Search - Block 470 and 502 Stromlo  
**Date:** Friday, 25 September 2020 12:45:24 PM  
**Attachments:** [image001.png](#)

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OFFICIAL

Dear Ms Swanepoel

**RE: CONTAMINATED LAND SEARCH**

Thank you for your search form request of 15/09/2020 enquiring about:

**Block 470 Stromlo**

**Block 502 Stromlo**

Records held by the Environment Protection Authority (EPA) for the above block(s) indicate the following:

The blocks are not recorded on the EPA's contaminated sites management database or geographic information system.

Aerial photographs indicate that the site is occupied by the Cotter Pumping Station. Fuel storage facilities may have been present at the site, associated with the operation of the station.

The ACT EPA Contaminated Sites Environment Protection Policy 2017 lists fuel storage facilities as activities associated with land contamination.

You or your client should also contact Access Canberra, Dangerous Substances Licensing, who administer the Dangerous Substances legislation, on 132281 regarding the possible presence and status of any fuel related facilities or hazardous materials storage at the site.

Other potentially contaminating activities may have also been undertaken at the site associated with past and current uses.

The EPA has not issued any orders of assessment or remediation under sections 91C (1) or 91D (1) respectively, environment protection orders under sections 125 (2) or (3), requested an audit under section 76 (2) or received an audit notification under section 76A (1) of the *Environment Protection Act 1997* (the Act) over the site and as a result the site is not recorded on the Register of contaminated sites under section 21A of the Act.

The information detailed above only relates to records held by the EPA and may not represent the actual condition of the site.

At present the EPA has no information on contamination of the above block(s) other than as

detailed above. However, this does not absolutely rule out the possibility of contamination and should not be interpreted as a warranty that there is no contamination.

I appreciate that this does not absolutely rule out the existence of contamination of the soils. If you or your clients wish to be completely sure you, or they, should arrange to conduct independent tests.

Regards

**Jianmin Zhang | Environment Protection Officer, Environmental Quality  
Office of the Environment Protection Authority  
Access Canberra | Chief Minister Treasury and Economic Development Directorate | ACT**  
Phone: 02 6207 2157 | Email: [jianmin.zhang@act.gov.au](mailto:jianmin.zhang@act.gov.au)  
480 Northbourne Avenue, Dickson | GPO Box 158 Canberra ACT 2601 |  
[www.act.gov.au/accessCBR](http://www.act.gov.au/accessCBR)



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---

**From:** [Zhang, Jianmin \(ACT Gov\)](#) on behalf of [Contaminated Sites](#)  
**To:** [Swanepoel, Mechelle](#)  
**Subject:** Contaminated Land Search - Block 504 Stromlo  
**Date:** Friday, 25 September 2020 12:11:53 PM  
**Attachments:** [image001.png](#)

---

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OFFICIAL

Dear Ms Swanepoel

**RE: CONTAMINATED LAND SEARCH**

Thank you for your search form request of 15/09/2020 enquiring about:

**Block 504 Stromlo**

Records held by the Environment Protection Authority (EPA) for the above block(s) indicate the following:

The block is recorded on the EPA's contaminated sites management database and geographic information system.

EPA records indicate that the site is occupied by a Government depot. Underground fuel storage facilities are or were present at the site, associated with the operation of this Depot. The EPA has no record of an environmental assessment of the site.

The ACT EPA Contaminated Sites Environment Protection Policy 2017 lists fuel storage facilities as activities associated with land contamination.

You or your client should also contact Access Canberra, Dangerous Substances Licensing, who administer the Dangerous Substances legislation, on 132281 regarding the possible presence and status of any fuel related facilities or hazardous materials storage at the site.

Other potentially contaminating activities may have also been undertaken at the site associated with past and current uses.

The EPA has not issued any orders of assessment or remediation under sections 91C (1) or 91D (1) respectively, environment protection orders under sections 125 (2) or (3), requested an audit under section 76 (2) or received an audit notification under section 76A (1) of the *Environment Protection Act 1997* (the Act) over the site and as a result the site is not recorded on the Register of contaminated sites under section 21A of the Act.

The information detailed above only relates to records held by the EPA and may not represent the actual condition of the site.

At present the EPA has no information on contamination of the above block(s) other than as detailed above. However, this does not absolutely rule out the possibility of contamination and

should not be interpreted as a warranty that there is no contamination.

I appreciate that this does not absolutely rule out the existence of contamination of the soils. If you or your clients wish to be completely sure you, or they, should arrange to conduct independent tests.

Regards

**Jianmin Zhang | Environment Protection Officer, Environmental Quality  
Office of the Environment Protection Authority  
Access Canberra | Chief Minister Treasury and Economic Development Directorate | ACT**  
Phone: 02 6207 2157 | Email: [jianmin.zhang@act.gov.au](mailto:jianmin.zhang@act.gov.au)  
480 Northbourne Avenue, Dickson | GPO Box 158 Canberra ACT 2601 |  
[www.act.gov.au/accessCBR](http://www.act.gov.au/accessCBR)



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## 9.6 Appendix F – Protected Matters Search Tool reports

## Summary

### Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

<a href="#">World Heritage Properties:</a>	None
<a href="#">National Heritage Places:</a>	None
<a href="#">Wetlands of International Importance:</a>	4
<a href="#">Great Barrier Reef Marine Park:</a>	None
<a href="#">Commonwealth Marine Area:</a>	None
<a href="#">Listed Threatened Ecological Communities:</a>	2
<a href="#">Listed Threatened Species:</a>	34
<a href="#">Listed Migratory Species:</a>	13

### Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

<a href="#">Commonwealth Land:</a>	None
<a href="#">Commonwealth Heritage Places:</a>	None
<a href="#">Listed Marine Species:</a>	20
<a href="#">Whales and Other Cetaceans:</a>	None
<a href="#">Critical Habitats:</a>	None
<a href="#">Commonwealth Reserves Terrestrial:</a>	None
<a href="#">Australian Marine Parks:</a>	None

### Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

<a href="#">State and Territory Reserves:</a>	None
<a href="#">Regional Forest Agreements:</a>	None
<a href="#">Invasive Species:</a>	30
<a href="#">Nationally Important Wetlands:</a>	None
<a href="#">Key Ecological Features (Marine)</a>	None

## Details

### Matters of National Environmental Significance

Wetlands of International Importance (Ramsar)	[ Resource Information ]
Name	Proximity
<a href="#">Banrock station wetland complex</a>	700 - 800km upstream
<a href="#">Hattah-kulkyne lakes</a>	500 - 600km upstream
<a href="#">Riverland</a>	700 - 800km upstream
<a href="#">The coorong, and lakes alexandrina and albert wetland</a>	800 - 900km upstream

Listed Threatened Ecological Communities	[ Resource Information ]
For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.	

Name	Status	Type of Presence
<a href="#">Natural Temperate Grassland of the South Eastern Highlands</a>	Critically Endangered	Community likely to occur within area
<a href="#">White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland</a>	Critically Endangered	Community may occur within area

Listed Threatened Species	[ Resource Information ]	
Name	Status	Type of Presence
<b>Birds</b>		
<a href="#">Anthochaera phrygia</a> Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Botaurus poiciloptilus</a> Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Falco hypoleucos</a> Grey Falcon [929]	Vulnerable	Species or species habitat may occur within area
<a href="#">Grantiella picta</a> Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Hirundapus caudacutus</a> White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Lathamus discolor</a> Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Polytelis swainsonii</a> Superb Parrot [738]	Vulnerable	Species or species habitat likely to occur

Name	Status	Type of Presence within area
<a href="#">Rostratula australis</a> Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
<b>Fish</b>		
<a href="#">Maccullochella macquariensis</a> Trout Cod [26171]	Endangered	Species or species habitat likely to occur within area
<a href="#">Maccullochella peelii</a> Murray Cod [66633]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Macquaria australasica</a> Macquarie Perch [66632]	Endangered	Species or species habitat may occur within area
<b>Frogs</b>		
<a href="#">Litoria aurea</a> Green and Golden Bell Frog [1870]	Vulnerable	Species or species habitat may occur within area
<a href="#">Litoria booroolongensis</a> Booroolong Frog [1844]	Endangered	Species or species habitat likely to occur within area
<a href="#">Litoria castanea</a> Yellow-spotted Tree Frog, Yellow-spotted Bell Frog [1848]	Critically Endangered	Species or species habitat may occur within area
<b>Insects</b>		
<a href="#">Synemon plana</a> Golden Sun Moth [25234]	Vulnerable	Species or species habitat likely to occur within area
<b>Mammals</b>		
<a href="#">Chalinolobus dwyeri</a> Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat may occur within area
<a href="#">Dasyurus maculatus maculatus (SE mainland population)</a> Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area
<a href="#">Petauroides volans</a> Greater Glider [254]	Vulnerable	Species or species habitat may occur within area
<a href="#">Petrogale penicillata</a> Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)</a> Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat likely to occur within area
<a href="#">Pteropus poliocephalus</a> Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<b>Plants</b>		
<a href="#">Amphibromus fluitans</a> River Swamp Wallaby-grass, Floating Swamp Wallaby-grass [19215]	Vulnerable	Species or species habitat may occur within area
<a href="#">Eucalyptus aggregata</a> Black Gum [20890]	Vulnerable	Species or species habitat may occur within area
<a href="#">Lepidium aschersonii</a> Spiny Pepper-cress [10976]	Vulnerable	Species or species

Name	Status	Type of Presence
<a href="#">Leucochrysum albicans subsp. tricolor</a> Hoary Sunray, Grassland Paper-daisy [89104]	Endangered	habitat may occur within area Species or species habitat known to occur within area
<a href="#">Pomaderris cotoneaster</a> Cotoneaster Pomaderris [2043]	Endangered	Species or species habitat may occur within area
<a href="#">Pomaderris pallida</a> Pale Pomaderris [13684]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Prasophyllum petilum</a> Tarengo Leek Orchid [55144]	Endangered	Species or species habitat may occur within area
<a href="#">Senecio macrocarpus</a> Large-fruit Fireweed, Large-fruit Groundsel [16333]	Vulnerable	Species or species habitat may occur within area
<a href="#">Swainsona recta</a> Small Purple-pea, Mountain Swainson-pea, Small Purple Pea [7580]	Endangered	Species or species habitat may occur within area
<a href="#">Thesium australe</a> Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area
<b>Reptiles</b>		
<a href="#">Aprasia parapulchella</a> Pink-tailed Worm-lizard, Pink-tailed Legless Lizard [1665]	Vulnerable	Species or species habitat likely to occur within area
<b>Listed Migratory Species</b>		<b>[ Resource Information ]</b>
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
<b>Migratory Marine Birds</b>		
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area
<b>Migratory Terrestrial Species</b>		
<a href="#">Hirundapus caudacutus</a> White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Monarcha melanopsis</a> Black-faced Monarch [609]		Species or species habitat may occur within area
<a href="#">Motacilla flava</a> Yellow Wagtail [644]		Species or species habitat may occur within area
<a href="#">Myiagra cyanoleuca</a> Satin Flycatcher [612]		Species or species habitat known to occur within area
<a href="#">Rhipidura rufifrons</a> Rufous Fantail [592]		Species or species habitat known to occur within area
<b>Migratory Wetlands Species</b>		
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat may occur within area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species

Name	Threatened	Type of Presence
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area
<a href="#">Gallinago hardwickii</a> Latham's Snipe, Japanese Snipe [863]		Species or species habitat likely to occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Pandion haliaetus</a> Osprey [952]		Species or species habitat may occur within area

#### Other Matters Protected by the EPBC Act

Listed Marine Species	[ Resource Information ]	
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
<b>Birds</b>		
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat may occur within area
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area
<a href="#">Ardea ibis</a> Cattle Egret [59542]		Species or species habitat may occur within area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area
<a href="#">Chrysococcyx osculans</a> Black-eared Cuckoo [705]		Species or species habitat likely to occur within area
<a href="#">Gallinago hardwickii</a> Latham's Snipe, Japanese Snipe [863]		Species or species habitat likely to occur within area
<a href="#">Haliaeetus leucogaster</a> White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
<a href="#">Hirundapus caudacutus</a> White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur

Name	Threatened	Type of Presence within area
<a href="#">Lathamus discolor</a> Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
<a href="#">Merops ornatus</a> Rainbow Bee-eater [670]		Species or species habitat may occur within area
<a href="#">Monarcha melanopsis</a> Black-faced Monarch [609]		Species or species habitat may occur within area
<a href="#">Motacilla flava</a> Yellow Wagtail [644]		Species or species habitat may occur within area
<a href="#">Myiagra cyanoleuca</a> Satin Flycatcher [612]		Species or species habitat known to occur within area
<a href="#">Neophema chrysostoma</a> Blue-winged Parrot [726]		Species or species habitat may occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Pandion haliaetus</a> Osprey [952]		Species or species habitat may occur within area
<a href="#">Rhipidura rufifrons</a> Rufous Fantail [592]		Species or species habitat known to occur within area
<a href="#">Rostratula benghalensis (sensu lato)</a> Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area

## Extra Information

### Invasive Species [\[ Resource Information \]](#)

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
<b>Birds</b>		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Alauda arvensis Skylark [656]		Species or species habitat likely to occur

Name	Status	Type of Presence within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
<b>Mammals</b>		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
<b>Plants</b>		
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax,		Species or species

Name	Status	Type of Presence
Florist's Smilax, Smilax Asparagus [22473]		habitat likely to occur within area
Chrysanthemoides monilifera subsp. monilifera Boneseed [16905]		Species or species habitat likely to occur within area
Cytisus scoparius Broom, English Broom, Scotch Broom, Common Broom, Scottish Broom, Spanish Broom [5934]		Species or species habitat likely to occur within area
Genista monspessulana Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126]		Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within area
Nassella neesiana Chilean Needle grass [67699]		Species or species habitat likely to occur within area
Nassella trichotoma Serrated Tussock, Yass River Tussock, Yass Tussock, Nassella Tussock (NZ) [18884]		Species or species habitat likely to occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Ulex europaeus Gorse, Furze [7693]		Species or species habitat likely to occur within area

## Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

## Coordinates

-35.32195 148.95192

## Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [Office of Environment and Heritage, New South Wales](#)
- [Department of Environment and Primary Industries, Victoria](#)
- [Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [Department of Environment, Water and Natural Resources, South Australia](#)
- [Department of Land and Resource Management, Northern Territory](#)
- [Department of Environmental and Heritage Protection, Queensland](#)
- [Department of Parks and Wildlife, Western Australia](#)
- [Environment and Planning Directorate, ACT](#)
- [Birdlife Australia](#)
- [Australian Bird and Bat Banding Scheme](#)
- [Australian National Wildlife Collection](#)
- [Natural history museums of Australia](#)
- [Museum Victoria](#)
- [Australian Museum](#)
- [South Australian Museum](#)
- [Queensland Museum](#)
- [Online Zoological Collections of Australian Museums](#)
- [Queensland Herbarium](#)
- [National Herbarium of NSW](#)
- [Royal Botanic Gardens and National Herbarium of Victoria](#)
- [Tasmanian Herbarium](#)
- [State Herbarium of South Australia](#)
- [Northern Territory Herbarium](#)
- [Western Australian Herbarium](#)
- [Australian National Herbarium, Canberra](#)
- [University of New England](#)
- [Ocean Biogeographic Information System](#)
- [Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [Geoscience Australia](#)
- [CSIRO](#)
- [Australian Tropical Herbarium, Cairns](#)
- [eBird Australia](#)
- [Australian Government – Australian Antarctic Data Centre](#)
- [Museum and Art Gallery of the Northern Territory](#)
- [Australian Government National Environmental Science Program](#)
- [Australian Institute of Marine Science](#)
- [Reef Life Survey Australia](#)
- [American Museum of Natural History](#)
- [Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.

© Commonwealth of Australia  
Department of Agriculture Water and the Environment  
GPO Box 858  
Canberra City ACT 2801 Australia  
+61 2 6274 1111

## 10 References

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