Cardinia Reservoir Dam Upgrade

Application Number: **03255** Commencement Date: **04/12/2025** Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

Cardinia Reservoir Dam Upgrade

1.1.2 Project industry type *

Water Management and Use

1.1.3 Project industry sub-type

Irrigation

1.1.4 Estimated start date *

01/01/2027

1.1.4 Estimated end date *

31/12/2029

1.2 Proposed Action details

1.2.1 Provide an overview of the proposed action, including all proposed activities. *

Cardinia Reservoir is Melbourne's second largest water storage and is a critical asset for water supply operations. It enables maximisation of harvest from the water supply catchments and is the point of supply from the Victorian Desalination Plant. The large storage capacity (287GL at full supply level) holds up to 15% of total water supply system storage and provides 110GL annually to service over 1 million customers in Melbourne's south-eastern suburbs and the Mornington Peninsula. Cardinia Reservoir consists of a main dam, 4 saddle dams, one catchment diversion dam, diversion drainage system, spillway and 3,200ha catchment.

Under the Water Act 1989, Melbourne Water is responsible for the safety of dams within its portfolio. Dam safety is regulated in Victoria by the Department of Energy, Environment and Climate Action (DEECA) through the Statement of Obligations and associated DEECA Guidance Documentation, all of which point to the Australian National Committee on Large Dams (ANCOLD) Guidelines as industry good practice. The risks associated with all major water storages are regularly reviewed to ensure dam safety risk is managed in line with Melbourne Water's duty of care obligations.

Melbourne Water undertook a dam portfolio risk assessment in 2008, which highlighted four water storages as being at 'intolerable' risk levels. A 4-metre operating level restriction was put in place at Cardinia Reservoir. This restriction reduces the maximum storage volume by 47GL, which reduces harvesting performance and yield, and impacts the ability to meet downstream pressure and flow requirements, and water supply system resilience. A program of investigations and upgrades has been completed on the remaining water storages.

The Cardinia Reservoir Dam Upgrade involves works to remove the operating level restriction. The Main Dam works include new filters from crest to between 7 and 10 metre depth and seepage monitoring upgrades (Att 2 - Main Dam and Drainage Drawings). The saddle dam works include full-height filter buttress, 0.9 metre crest raise, 4 metre depth foundation filter trench, upgraded surface water drainage and seepage collection, and access track to improve the effectiveness of visual surveillance (Att 3 - Saddle Dams and Internal Access Road Drawings). The works involve specialist engineering and complex earthworks using heavy earthmoving equipment, and the import of filter and rock-fill materials.

Early works include pine tree removal, relocation of a Telstra communications cable and lowering the reservoir operating level. Pre-construction activities include native and exotic vegetation removal, site facilities, hardstands and laydown, haul road construction, and stockpiling and material handling areas. Removal of native and exotic vegetation is required for the works footprint, construction access and temporary works. Post-construction activities include reinstatement of existing roads and reservoir park facilities. Reservoir Park reinstatement shall be informed through engagement with key stakeholders and the community.

The project area is approximately 40km southeast of the Melbourne CBD, near the township of Emerald, along the western side of Cardinia Reservoir. The total area is 80.45ha, with 59.07ha containing dam infrastructure, roads and carparks, public parklands and facilities, existing cleared areas and exotic vegetation. The remaining 21.38ha contains native vegetation.

The project area and surrounding landscape is characterised by undulating foothill terrain. The southern extent contains the main dam wall and Cardinia Reservoir Park. The main embankment is 86 metres high and approximately 1.5km long. Cardinia Reservoir Park is managed by Parks Victoria for recreational use. The northern extent is a linear section encompassing the saddle dam walls and isolated, fragmented and degraded woodland. The four saddle dams vary in height from 5 to 16 metres and in length from 240 to 1,200 metres.

Most of the project area is situated on multiple freehold land allotments owned by Melbourne Water. Cardinia Reservoir Park is leased to Parks Victoria for management as a public open space. The project area contains one parcel of crown land administered by DEECA and four parcels of crown land administered by Parks Victoria.

The flora recorded within the project area is dominated by a mix of indigenous, planted, and exotic species, reflecting a history of disturbance and modification. No EPBC Act listed flora species were identified. The project area is estimated to require the removal of up to 21.381ha of native vegetation, representing a significant reduction from the initial estimate of 40ha. The majority of the habitat to be removed is degraded, on edges, has a high weed count and a low structural and floristic diversity. Mitigation measures have been proposed to address the temporary loss of native vegetation, including the current revegetation of cleared areas and areas where pine trees have been removed, salvage of suitable hollows, nest boxes and hollow creation. The residual impact will be offset in accordance with Victoria's Native Vegetation Management Framework. The proposed offset will provide 0.054 General Habitat Units, which include 100 large trees, as well as Species Habitat Units for three threatened plant species.

Field surveys across the project area recorded a broad suite of native and introduced fauna. Two EPBC Act listed species have been recently recorded and a third has medium likelihood within the broader area. An assessment has been undertaken of the likelihood of a significant impact occurring on relevant Matters of National Environmental Significance. The Significant Impact Assessments indicate that the potential for significant impact on the Gang-gang Cockatoo, Southern Brown Bandicoot (eastern) and Brown Treecreeper (south-eastern) is unlikely and that the proposed action is not a controlled action.

Under the Aboriginal Heritage Act 2006 and Aboriginal Heritage Regulations 2018, there is no mandatory requirement for an Aboriginal Cultural Heritage Management Plan (CHMP). Nevertheless, the project has commenced the preparation of a voluntary CHMP, including a comprehensive program of archaeological excavation to establish if sub-surface Aboriginal cultural heritage is present within the project area. This will enable Melbourne Water to appropriately mange and mitigate any Aboriginal heritage risks associated with the project.

1.2.2 Is the project action part of a staged development or related to other actions or proposals in the region?

No

1.2.6 What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? *

The Commonwealth Environment Protection and Biodiversity Conservation (EPBC) Act 1999 require projects to be referred that may impact protected matters. Significant Impact Assessments have been undertaken of the likelihood of a significant impact occurring on Matters of National Significance (MNES) protected under the EPBC Act. It is anticipated that a significant impact is unlikely on the Gang-gang Cockatoo, Brown Treecreeper and Southern Brown Bandicoot because the habitat is degraded, disturbed, marginal and there are large, continuous areas of high-quality suitable habitat elsewhere in the landscape (Att 4 - Cardinia Dam Upgrade Ecology Report, Section 5.1.1, p. 43). The proposed action has been referred to ensure appropriate assessment and approval.

The Victorian Flora and Fauna Guarantee Act 1988 (FFG Act) is aimed at the conservation of threatened species and communities for the management of potentially threatening processes. A permit is required to take (kill, injure, disturb or collect) threatened or protected flora species from public land. A portion of the project is crown land. The FFG Act Amendment Act 2019 strengthens biodiversity protection, mandating public authorities to consider biodiversity effects in decision-making. A permit will be required to remove FFG Act listed Green Scentbark mature trees detected within the project area (Att 4 – Cardinia Dam Upgrade Ecology Report - Section 5.2.2, pp. 44-5).

The Victorian Wildlife Act 1975 (Wildlife Act) and Wildlife Regulations 2024 form the procedural, administrative and operational basis for the protection and conservation of native wildlife. Under the Wildlife Act, it is an offence to wilfully damage, disturb or destroy wildlife habitat, disturb protected wildlife or take or destroy threatened or protected wildlife without authorisation. Habitat features within the project area may be occupied by native fauna. These include hollows, tree canopy and dense shrubs which may be used for roosting and nesting by a range of species. A suitably qualified wildlife handler, holding a relevant and current management authorisation, will be engaged to salvage any wildlife encountered (Att 4 – Cardinia Dam Upgrade Ecology Report, Section 5.2.4, pp. 46-7).

The Planning and Environment Act 1987 established the framework for the use, development and protection of land in Victoria. All Victorian planning schemes contain standard provisions requiring a permit to remove, destroy or lop native vegetation unless an exemption applies. Clause 52.17 of the relevant council planning scheme enacts the guidelines for the removal of native vegetation (Att 4 – Cardinia Dam Upgrade Ecology Report, Section 5.2.1, p. 44). The Project will be seeking a planning exemption from the Minister for Planning under Clause 52.30 (State Projects) of the Cardinia Planning Scheme.

1.2.7 Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. *

Initial engagement, with the Member for Monbulk, Parks Victoria, Cardinia Shire Council and the Department of Transport and Planning (DTP) occurred from mid-2024 to mid-2025 in parallel with detailed design (Att 6 - Cardinia Dam Upgrade Consultation Summary Report). Consultation focused on the project need, identifying the optimal pathway for project assessment and ensuring compliance with consultation requirements, understanding key stakeholder expectations and concerns, securing site access for geotechnical investigations and planning for broader community outreach.

A Communications and Engagement Plan (CEP) has been prepared for the project, which outlines the community and stakeholder engagement approach (Att 7 - Cardinia Dam Upgrade Communications and Engagement Plan). Formal stakeholder engagement is being undertaken in four phases:

- Phase 1 - Targeted stakeholder pre-consultation to build understanding of social risks and expectations (July 2025 to January 2026).
- Phase 2 - Project announcement to build awareness on project need and engage on vegetation removal, impacts and opportunities (February to April 2026).
- Phase 3 - Engage on legacy liveability benefits and continue to facilitate broadscale communications in the lead up to construction (April to August 2026).
- Phase 4 - Report back on legacy liveability benefits, how feedback has influenced project design and construction impacts (September to October 2026).

Targeted stakeholder pre-consultation engagement, with Bunurong Land Council and Aboriginal Corporation (BLCAC), Parks Victoria, the Member for Monbulk, Cardinia Shire Council, DEECA and DTP, and the Member for Pakenham, were undertaken in the second half of 2025 (Att 6 - Cardinia Dam Upgrade Consultation Summary Report). Stakeholders noted the project need, requirement for significant native vegetation removal, managing the impacts of increased demand on other local parks and the potential for impacts on local traffic.

A key objective is to establish a strong partnership with BLCAC. Preparation of a voluntary Cultural Heritage Management Plant (CHMP) is underway with site investigations completed in March 2026. A Cultural Values Assessment (CVA) commenced in March 2026 to enable Traditional Owner engagement on legacy liveability benefits, during construction and after the project.

The CEP will be supported by a Communications Action Plan (CAP) that will be developed in the last quarter of 2026 by the successful contractor. This plan will provide a detailed outline of how key stakeholders, and the community will be engaged during construction.

1.3.1 Identity: Referring party

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1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN/ACN	81945386953
Organisation name	MELBOURNE WATER CORPORATION
Organisation address	3008 VIC

Referring party details

Name	Mark Side
Job title	Senior Project Manager
Phone	0407 839 141
Email	mark.side@melbournewater.com.au
Address	990 La Trobe Street, Docklands, Vic, 3008

1.3.2 Identity: Person proposing to take the action

1.3.2.1 Are the Person proposing to take the action details the same as the Referring party details? *

Yes

Person proposing to take the action organisation details

ABN/ACN	81945386953
Organisation name	MELBOURNE WATER CORPORATION
Organisation address	3008 VIC

Person proposing to take the action details

Name	Mark Side
Job title	Senior Project Manager
Phone	0407 839 141
Email	mark.side@melbournewater.com.au
Address	990 La Trobe Street, Docklands, Vic, 3008

1.3.2.14 Are you proposing the action as part of a Joint Venture? *

No

1.3.2.15 Are you proposing the action as part of a Trust? *

No

1.3.2.17 Describe the Person proposing the action's history of responsible environmental management including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Person proposing to take the action. *

Melbourne Water has not been subject to proceedings for breaching Victorian or Commonwealth environmental laws or laws for the conservation and sustainable use of natural resources.

Since the enactment of the EPBC Act on 16 July 2000, Melbourne Water has been involved in 53 referrals, 7 of which were not submitted by Melbourne Water, but which affect Melbourne Water's property. Of the 46 referrals submitted by Melbourne Water, 4 were deemed 'controlled actions' and 13 were 'not a controlled action if undertaken in a particular manner' while 1 is awaiting additional information from Melbourne Water (Att 10 - Previous Melbourne Water EPBC Act Referrals).

1.3.2.18 If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

The Melbourne Water Environment Policy supports the ‘Our Strategic Direction’ of Enhancing Life and Liveability through Healthy People, Healthy Places and Healthy Environment (Att 9 - Environmental Policy). Melbourne Water is committed to supply affordable, high-quality water, provide reliable sewerage treatment and resource recovery, manage healthy waterways, provide integrated drainage management and flood resiliency, and maintain outstanding natural community spaces.

Policy objectives include:

- Protect the environment, prevent pollution and embed environmental sustainability into our processes.
- Apply a risk-based approach to how we work in reducing environmental harm and building resilience.
- Maintain collaborative relationships with our customers, community and other stakeholders to protect biodiversity and establish healthy ecosystems.
- Work transparently with the community, using the most up-to-date science and data to build confidence and trust in our environmental management processes.
- Prepare and adapt to the challenges of climate change and urbanisation.
- Comply with applicable environmental compliance obligations.
- Implement, maintain and continually improve an independently certified integrated management system based on ISO 14001, ISO 45001, ISO 9001 and ISO 22000 management system standards.

Melbourne Water’s Environmental Management System is aligned to the principles of ISO 14001:2015 environmental management system standard.

The Melbourne Water Integrated Management System Manual provides a description of how Melbourne Water plans to achieve its objectives and outcomes, how its business activities are connected and managed, and what Melbourne Water does to achieve its vision of Enhancing Life and Liveability (Att 11 - Integrated Management System Manual). The manual applies to all activities associated with the provision of services to our customers, including the management of water supply catchments, treatment and supply of drinking and recycled water, removal and treatment of sewage, and management of waterways and major drainage systems in the Port Phillip and Westernport region.

Melbourne Water is certified to the following standards:

- ISO 45001 - Occupational health and safety management systems
- ISO 14001 - Environmental management systems
- ISO 9001 - Quality management systems
- ISO 22000 - Food safety management systems
- ISO 31000 – Risk management systems
- ISO 55001 – Asset management systems

Each of these systems contributes towards achieving Melbourne Water’s environmental performance improvement.

1.3.3 Identity: Proposed designated proponent

1.3.3.1 Are the Proposed designated proponent details the same as the Person proposing to take the action? *

Yes

Proposed designated proponent organisation details

ABN/ACN	81945386953
Organisation name	MELBOURNE WATER CORPORATION
Organisation address	3008 VIC

Proposed designated proponent details

Name	Mark Side
Job title	Senior Project Manager
Phone	0407 839 141
Email	mark.side@melbournewater.com.au
Address	990 La Trobe Street, Docklands, Vic, 3008

1.3.4 Identity: Summary of allocation

Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

ABN/ACN	81945386953
Organisation name	MELBOURNE WATER CORPORATION
Organisation address	3008 VIC
Representative's name	Mark Side
Representative's job title	Senior Project Manager
Phone	0407 839 141
Email	mark.side@melbournewater.com.au
Address	990 La Trobe Street, Docklands, Vic, 3008

Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

Same as Referring party information.

Confirmed Proposed designated proponent's identity

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

1.4 Payment details: Payment exemption and fee waiver

1.4.1 Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)? *

No

1.4.3 Have you applied for or been granted a waiver for full or partial fees under Regulation 5.21A? *

No

1.4.5 Are you going to apply for a waiver of full or partial fees under EPBC Regulation 5.21A?

No

1.4.7 Has the department issued you with a credit note? *

No

1.4.9 Would you like to add a purchase order number to your invoice? *

Yes

1.4.10 Enter purchase order number *

173995

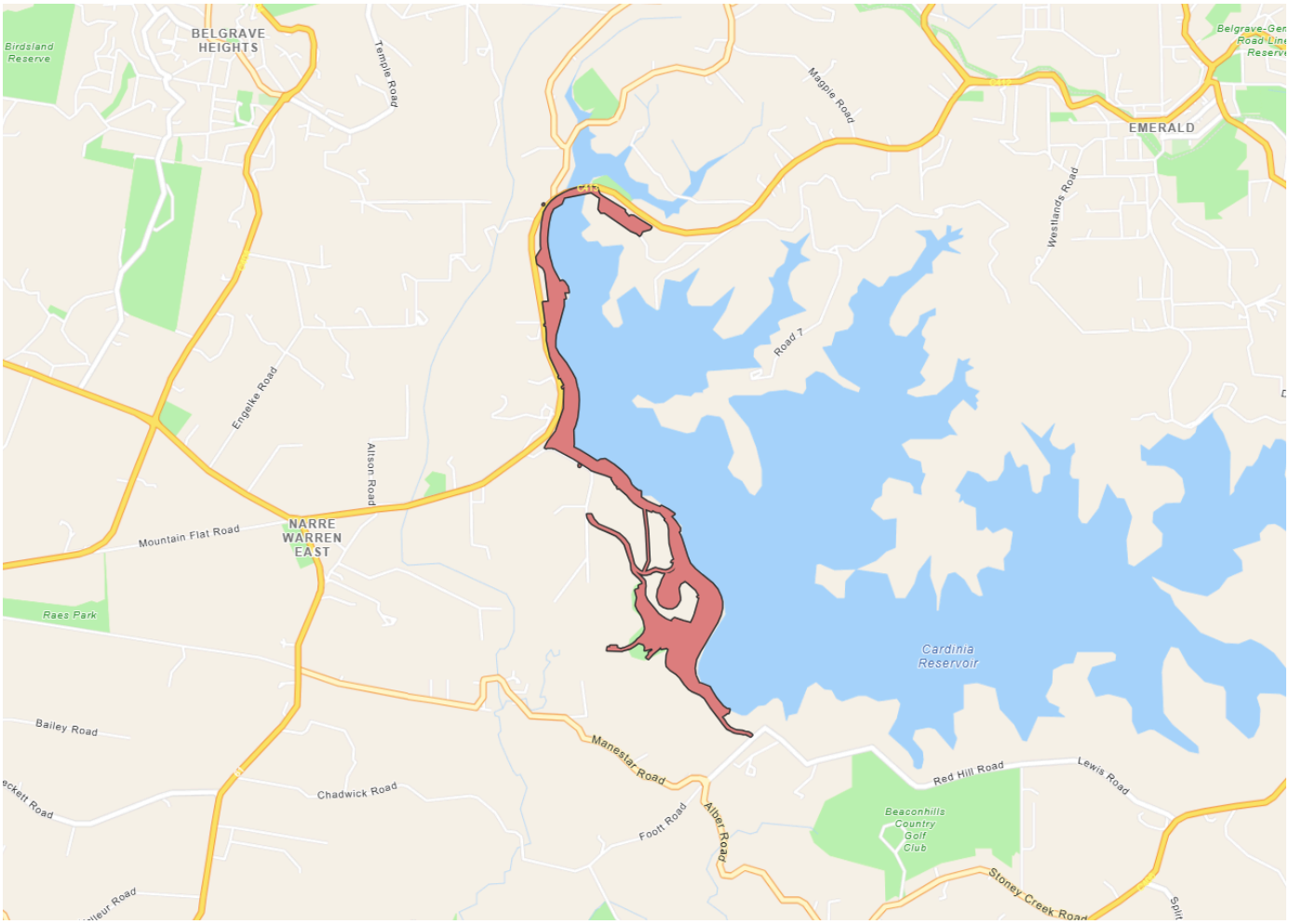
1.4 Payment details: Payment allocation

1.4.11 Who would you like to allocate as the entity responsible for payment? *

Person proposing to take the action

2. Location

2.1 Project footprint



Project Area: 81.08 Ha **Disturbance Footprint:** 81.08 Ha

2.2 Footprint details

2.2.1 What is the address of the proposed action? *

Cardinia Reservoir, Cardinia Creek Road, Emerald

2.2.2 Where is the primary jurisdiction of the proposed action? *

Victoria

2.2.3 Is there a secondary jurisdiction for this proposed action? *

No

2.2.5 What is the tenure of the action area relevant to the project area? *

Most of the project area is situated on multiple freehold land allotments owned by Melbourne Water (Att 12 - Melbourne Water Freehold Land). The southern portion, known as Cardinia Reservoir Park, is leased to Parks Victoria for management as a public open space (Att 13 - Lease Agreement Reservoir Parks).

The project area contains one parcel of crown land (Crown Allotment 2066) administered by DEECA. Consent to lodgement of a planning application was provided on 2 October 2025.

The project area contains four parcels of crown land (Crown Allotments 2059, 2065, 2068 and 2069) administered by Parks Victoria. Consent to lodgement of a planning application was provided on 10 September 2025 (Att 14 - Crown Allotments and Consents).

3. Existing environment

3.1 Physical description

3.1.1 Describe the current condition of the project area's environment.

The project area is approximately 40km southeast of the Melbourne CBD, near the township of Emerald, along the western side of Cardinia Reservoir. The project area has undergone many transformations since European settlement (Att 4 - Cardinia Dam Upgrade Ecology Report, Section 3.1.1, p. 8). Prior to the construction of Cardinia Reservoir between 1970 and 1973, historical aerial imagery indicated a landscape characterised by a mosaic of wooded areas, likely native vegetation, and cleared land predominantly used for agricultural purposes.

Approximately 73% of the project area is non-native vegetation or hardstand areas and areas dominated by exotic plant species. There are extensive groves of Pines *Pinus radiata*, many infested with Giant Pine Scale. Spanish Heath *Erica lusitanica* (exotic) is extensive, particularly along the edges of woodland and the dam walls. The project area and surrounding landscape is characterised by undulating foothill terrain, with natural surface elevations ranging from 110 to 170 metres above sea level. Some sections of elevated land have a gradient of more than 20%. Several artificially elevated areas are present, including dam walls created as part of the Cardinia Reservoir infrastructure. A network of roads provides access throughout the area.

The southern extent contains the main dam wall and Cardinia Reservoir Park. The main dam wall comprises steep, rocky slopes largely devoid of vegetation. The main embankment is 86 metres high and approximately 1.5km long. Cardinia Reservoir Park is managed by Parks Victoria for recreational use, and includes open space and picnic grounds, carparks, walking tracks, playground and toilet block. The northern extent is a linear section encompassing the saddle dam walls and isolated, fragmented and degraded woodland. The four saddle dams vary in height from 5 to 16 metres and in length from 240 to 1,200 metres. The project area is partially along Wellington Road (a major arterial road). Historic and recent rubbish discarded by passing motorists is common within the woodland and forest areas.

3.1.2 Describe any existing or proposed uses for the project area.

The project area is primarily used for water storage infrastructure, including dam walls, access roads and tracks, spillway and dam safety surveillance facilities. Although the use will remain unchanged, the project will improve access for dam safety surveillance and provide an upgrade to dam safety surveillance facilities.

The southern extent contains Cardinia Reservoir Park. The reservoir park is managed by Parks Victoria for recreational use, and includes open space and picnic grounds, carparks, walking tracks, playground and toilet block. The reservoir park encompasses an approximately 147ha public recreation area featuring facilities such as the Kangaroo Flat Picnic Area and Crystal Brook Picnic Area. The park is open from sunrise to sunset every day of the year and visitors are frequent, with numbers peaking on weekends. Although the use will remain unchanged, the project shall include improvements to public open space.

3.1.3 Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

Cardinia Reservoir Park is a popular and important feature of the landscape. The reservoir park encompasses an approximately 147ha public recreation area featuring facilities such as the Kangaroo Flat Picnic Area and Crystal Brook Picnic Area. The park is open from sunrise to sunset every day of the year and visitors are frequent, with numbers peaking on weekends. The reservoir park is managed by Parks Victoria for recreational use, and includes open space and picnic grounds, carparks, walking tracks, playground and toilet block.

3.1.4 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The project area and surrounding landscape is characterised by undulating foothill terrain, with natural surface elevations ranging from 110 to 170 metres above sea level. Some sections of elevated land have a gradient of more than 20%. Several artificially elevated areas are present, including dam walls created as part of the Cardinia Reservoir infrastructure. The southern extent contains the main dam wall, which comprises steep, rocky slopes largely devoid of vegetation. The main embankment is 86m high and approximately 1.5km long. The northern extent is a linear section encompassing the saddle dam walls. The four saddle dams vary in height from 5 to 16 metres, and in length from 240 to 1,200 metres.

3.2 Flora and fauna

3.2.1 Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

Flora

The flora recorded within the project area is dominated by a mix of indigenous, planted, and exotic species, reflecting a history of disturbance and modification. Indigenous species were well-represented, with common wattles such as Silver Wattle *Acacia dealbata*, Blackwood *Acacia melanoxylon*, Hedge Wattle *Acacia paradoxa*, and Golden Wattle *Acacia pycnantha*, along with a suite of eucalypts including Yellow Box *Eucalyptus melliodora*, Swamp Gum, Messmate, and Manna Gum *Eucalyptus viminalis*. Other characteristic native understorey species include Sweet Bursaria *Bursaria spinosa*, Common Everlasting *Chrysocephalum apiculatum*, Common Rice-flower *Pimelea humilis*, and Kangaroo Grass *Themeda triandra*. These species are typical of grassy woodland and forest habitats in the Melbourne region, but they occur in a patchy and often degraded condition within the project area.

A number of non-indigenous native trees have been planted, including Ovens Wattle *Acacia pravissima*, Crimson Bottlebrush *Callistemon citrinus*, and Totem-poles *Melaleuca decussata*. Forty-one exotic/weed species were recorded within the project area. The ground layer and edges of the site are heavily influenced by weedy species, with invasive plants such as Blackberry Rubus *fruticosus* spp., English Broom *Cytisus scoparius*, Boneseed *Chrysanthemoides monilifera*, and Gorse *Ulex europaeus*, all of which are recognised as Weeds of National Significance. A range of other environmental weeds and pasture grasses, including Sweet Vernal-grass *Anthoxanthum odoratum*, Yorkshire Fog *Holcus lanatus*, and Cocksfoot *Dactylis glomerata*, dominate disturbed areas (Att 4 - Cardinia Dam Upgrade Ecology Report, Section 3.2.4, pp. 16-7).

No EPBC Act listed flora species were identified within the project area. Targeted surveys for White Star-bush did not detect any individuals (Att 4 - Cardinia Dam Upgrade Ecology Report, Section 3.2.4.1, p. 17).

Fauna

Field surveys across the project area recorded a broad suite of native and introduced fauna, reflecting the mosaic of forest, woodland, riparian, and modified habitats present. Forty birds, 12 mammals and 4 frogs were seen, heard or evidence found to suggest their recent use.

Woodland and forest habitats with eucalypts (Lowland Forest and Damp Heathy Woodland) supported a common avifaunal assemblage. Common woodland species included Noisy Miner *Manorina melanocephala*, Australian Magpie *Gymnorhina tibicen*, Little Raven *Corvus mellori,* and various small passerines such as Superb Fairy-wren *Malurus cyaneus*, Thornbills *Acanthiza* spp., Spotted Pardalote *Pardalotus punctatus*, Grey Fantail *Rhipidura albiscapa*, White-plumed Honeyeater *Ptilotula penicillata*, White-eared Honeyeater *Nesoptilotis leucotis*, New Holland Honeyeater, Yellow-tufted Honeyeater *Lichenostomus melanops*, and Yellow-faced Honeyeater *Caligavis chrysops*. White-throated Treecreepers *Cormobates leucophaea* were common.

Larger species included Red Wattlebird *Anthochaera carunculata*, Pied Currawong *Strepera graculina*, Sulphur-crested Cockatoo *Cacatua galerita*, Crimson Rosella *Platycercus elegans*, Eastern Rosella *P. eximius*, Rainbow Lorikeet *Trichoglossus moluccanus*, Laughing Kookaburra, Collared Sparrowhawk *Accipiter cirrocephalus*, and Grey Shrike-thrush *Colluricincla harmonica*. Use of tree hollows was observed in species such as rosellas and kookaburras, indicating the importance of mature, hollow-bearing trees in the landscape.

Mammalian fauna included Swamp Wallaby *Wallabia bicolor*, Eastern Grey Kangaroo *Macropus giganteus*, Short-beaked Echidna *Tachyglossus aculeatus*, and Common Wombat *Vombatus ursinus*. Introduced and pest species were recorded, such as Sambar Deer, Fallow Deer, Red Fox, European Rabbit *Oryctolagus cuniculus*, and domestic or feral dogs *Canis familiaris*. There was evidence of Common Brushtails *Trichosurus vulpecula* inhabiting hollows.

Areas dominated by planted Pine trees were typically less diverse in both avifauna and mammals.

Wetlands, damp areas and larger, more permanent waterbodies are largely absent from the project area. These wetter microhabitats were limited in extent and appeared degraded, showing signs of trampling, rubbish and sediment disturbance. *Crinia* species were also recorded at multiple locations at the base of the dam wall, where damp conditions and runoff create suitable habitat.

Lawn and open parkland zones adjacent to roads, creek corridors, and open clearings supported more ubiquitous and tolerant species, including Australian Magpie, Magpie-lark *Grallina cyanoleuca*, Little Raven, Australian Wood Duck *Chenonetta jubata*, White-faced Heron, Noisy Miner, Galah *Eolophus roseicapilla*, Sulphur-crested Cockatoo, Welcome Swallow *Hirundo neoxena* and Eastern Grey Kangaroo.

Land reptiles and evidence of land reptiles were not encountered during surveys.

Common species encountered have become accustomed to human-associated disturbance. Weeds, rubbish and fragmentation by hardstand areas have decreased the quality of the habitat. Noisy Miners are more noticeable in the edges and have probably caused the decline of other small bird species in those areas. There are a few patches of better structural and floristic diversity, but these are isolated and small (Att 4 - Cardinia Dam Upgrade Ecology Report, Section 3.2.5, p. 20).

Nineteen species of small and large tree were identified within the project area, with many stags scattered across the site. Many of the trees and stags contained hollows, with a total of 268 hollows recorded. Small hollows (<5cm) were the most frequently observed, followed by medium (5 to 15cm) and large (>15cm). Stags supported the highest number of hollows, with an abundance of hollows recorded in Silver-leaf Stringybark *Eucalyptus cephalocarpa*. These hollows provide important nesting and roosting habitat for a variety of native and non-native fauna. Many of the hollows were inhabited by bees or wasps, possums or other common woodland species (Att 4 - Cardinia Dam Upgrade Ecology Report, Section 3.2.5.1, p. 20-1).

Two EPBC Act listed species have been recently recorded and a third has medium likelihood within the broader area (Att 4 - Cardinia Dam Upgrade Ecology Report, Section 3.2.5.2, pp. 25-9):

- Gang-gang Cockatoos were recorded once in January 2024 during incidental observations and three times in September-October 2025 during targeted survey (Att 5 - Cardinia Dam Upgrade Gang-gang Targeted Survey). Habitat within the project area falls within the range of the species population. At least 178 trees and large shrubs, representing 18 species, provide potential foraging opportunities within the project area. Suitable hollows were absent and no breeding activity was observed.
- Brown Treecreeper *Climacteris picumnus victoriae* were both seen and heard at a few locations during the Gang-gang Cockatoo targeted survey. Individuals were observed foraging in adjacent habitat. White-throated Treecreepers were more abundant and common. Although ninety-six medium-sized and 25 large hollows are potentially suitable, they are subject to competition from other hollow-dependent fauna. While stringybark-dominated Lowland Forest provides suitable foraging habitat, the availability of suitable hollows limits nesting and roosting opportunities.
- Southern Brown Bandicoot *Isoodon obesulus obesulus* inhabit areas of dense vegetation in a variety of habitats including heathy woodland, heathland, coastal scrub and wetland fringes. Targeted mammal surveys, along the northern and eastern sides of Cardinia Reservoir, failed to detect the species (Att 4 - Cardinia Dam Upgrade Ecology Report, Appendix G, p. G9). The Southern Brown Bandicoot is unlikely to occur within the project area due to the structure and floristic composition of the vegetation and disturbance regime.

3.2.2 Describe the vegetation (including the status of native vegetation and soil) within the project area.

A total of 21.381ha of native vegetation was recorded across the project area, comprising 54 Habitat Zones. The project area is entirely within the Highlands-Southern Fall bioregion. Three EVCs were recorded within the project area, which were Lowland Forest (EVC 16), Riparian Forest (EVC 18), and Damp Heathy Woodland (EVC 793). Lowland Forest and Riparian Forest are listed as 'Least Concern', while Damp Heathy Woodland is classified as 'Depleted'. Dominant within native vegetation were Mealy Stringybark *Eucalyptus cephalocarpa*, Narrow-leaf Peppermint *E. radiata* and Swamp Gum *E. ovata*. Sub-dominant and scattered species were Yellow Box *E. melliodora*, Silvertop Ash *E. sieberi* and Manna Gum *E. viminalis* (Att 4 - Cardinia Dam Upgrade Ecology Report, Section 3.2.1, p. 13).

Lowland Forest (EVC 16) is typically characterised as a mixed eucalypt forest up to 25m in height on moderately well-drained, relatively fertile soils in areas with substantial rainfall. The understorey supports high biodiversity, including a range of shrubs, grasses, and herbs. Within the project area, Lowland Forest occurred in 22 patches, covering a total of 8.242ha. The canopy was dominated by Messmate Stringybark *Eucalyptus obliqua*, Narrow-leaf Peppermint, and Mealy Stringybark, while the understorey included shrubs such as Blackwood *Acacia melanoxylon*, Shiny Cassinia *Cassinia longifolia*, and Prickly Currant-bush *Coprosma quadrifida*. Groundcover was generally composed of Thatch Saw-sedge *Gahnia radula*, Austral Bracken *Pteridium esculentum*, and Bidgee-widgee *Acaena novae-zelandiae*. Many patches were adjacent to disturbed or non-native vegetation. Condition assessments ranged from completely degraded to relatively intact patches. This variability reflects a heterogeneous distribution of ecological quality across the project area, with remnants of moderate value occurring alongside severely disturbed areas (Att 4 - Cardinia Dam Upgrade Ecology Report, Section 3.2.1.1, pp. 13-4).

Riparian Forest (EVC 18) is typically characterised as a tall forest occurring along riverbanks and associated alluvial terraces, with occasional occurrences at the heads of gullies leading into creeks and rivers. It develops on fertile alluvial soils that are permanently moist and subject to regular inundation. The vegetation is dominated by tall eucalypts, often reaching 30 metres in height, with an open to sparse secondary tree layer of wattles and a variable understorey of shrubs, ferns, grasses and herbs. Within the project area, Riparian Forest was limited in extent, occurring in only three patches with a combined area of 0.338ha. The canopy was dominated by Narrow-leaf Peppermint and Mealy Stringybark. The shrub layer included Swamp Paperbark *Melaleuca ericifolia* and Burgan *Kunzea ericoides* spp. agg., while the ground layer supported scattered Thatch Saw-sedge *Gahnia radula*, Austral Bracken *Pteridium esculentum* and Tasman Flax-lily *Dianella tasmanica*. Condition assessments indicate a consistently degraded state, with key structural and floristic attributes diminished across all patches (Att 4 - Cardinia Dam Upgrade Ecology Report, Section 3.2.1.2, pp. 14-5).

Damp Heathy Woodland (EVC 793) is typically characterised as a low woodland to 10 metres in height with a dense, heathy understorey. The ground layer is dominated by grasses, herbs, small shrubs and tough-leaved graminoids. It generally occurs on sandy soils of moderate to low fertility, which are seasonally waterlogged in winter due to an impeding soil layer and dry in summer (DELWP, 2021). Within the project area, Damp Heathy Woodland was the most extensive vegetation type, occupying 29 patches with a combined area of 12.8 ha. The canopy was dominated by Narrow-leaf Peppermint and Swamp Gum, with a midstory commonly comprising Tea-trees *Leptospermum* spp. The understorey was generally dominated by Thatch Saw-sedge *Gahnia* radula and native grasses, although composition varied across patches. Condition assessments ranged from very poor to the highest scores recorded in the project area. Several patches supported vegetation in moderate to good condition, while others were substantially degraded. This variation reflects a heterogeneous distribution of remnant quality across the landscape, with both relatively intact stands and disturbed areas (Att 4 - Cardinia Dam Upgrade Ecology Report, Section 3.2.1.3, pp 15-6).

3.3 Heritage

3.3.1 Describe any Commonwealth Heritage Places Overseas or other places recognised as having heritage values that apply to the project area.

A Protected Matters Search Tool (PMST) search was undertaken in August 2025 for records within 10km of the project area. No world heritage properties or national heritage places exist within the project area (Att 4 - Cardinia Dam Upgrade Ecology Report, Appendix B).

3.3.2 Describe any Indigenous heritage values that apply to the project area.

An Aboriginal Heritage Assessment identified two previously recorded Aboriginal places within the project area. The results of the desktop assessment and inspection suggest that it is possible that new Aboriginal places and additional Aboriginal cultural heritage associated with these places may be present. Whilst the construction of the reservoir, parklands, car parking, walking tracks and roads would likely have caused disturbance at these locations, the presence of two registered Aboriginal places within the project area confirms that intact surface and sub surface deposits remain. The project area is situated close to a number of nearby waterways, which are known to be sensitive for Aboriginal cultural heritage.

Under the Aboriginal Heritage Act 2006 and Aboriginal Heritage Regulations 2018, there is no mandatory requirement for an Aboriginal Cultural Heritage Management Plan (CHMP) to be prepared for the project. Whilst the project area is located within an area of cultural heritage sensitivity, the proposed activity is not a high impact activity as the works are associated with an existing high impact activity (Att 8 - Cardinia Dam Upgrade Aboriginal Heritage Assessment). Nevertheless, the project has commenced the preparation of a voluntary CHMP, including a comprehensive program of archaeological excavation to establish if sub-surface Aboriginal cultural heritage is present within the project area. This will enable Melbourne Water to appropriately mange and mitigate any Aboriginal heritage risks associated with the project.

3.4 Hydrology

3.4.1 Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. *

Cardinia Reservoir consists of a main dam, 4 saddle dams, one catchment diversion dam, diversion drainage system, spillway and 3,200ha catchment. Water is transferred to Cardinia Reservoir from Silvan Reservoir and the Victorian Desalination Plant and can be pumped back to Silvan Reservoir.

The diversion drainage system is located along the northern side of the Cardinia Reservoir to intercept and divert polluted drainage from privately owned developed areas within the reservoir catchment. It discharges to Aura Vale Lake, which discharges to Muddy Creek. Muddy Creek runs along the western side of Cardinia Reservoir and connects to Cardinia Creek. Cardinia Creek was diverted during construction of the reservoir between 1970 and 1973. The spillway discharges into the diverted Cardinia Creek which flows into Western Port Bay, approximately 28km to the south.

A Hydrology, Dambreak and Consequence Assessment was completed to inform the design. The flood hydrology included production of an updated hydrological model of Cardinia Dam and the downstream catchment that is consistent with inputs and guidance of Australian Rainfall and Runoff 2019.

The main dam works include drainage improvements to separate surface drainage from seepage flows and upgraded seepage monitoring. The saddle dam works include installation of a 4 metre depth foundation filter trench to intercept foundation seepage flows, and upgraded seepage monitoring. Reliable and accurate seepage monitoring is required for dam safety surveillance.

Based on a desktop review of the proposed works:

- Main dam works are not expected to cause greater permanent groundwater drawdown than the present installations. No long-term risk to remnant native vegetation or faunal communities is posed from changes to the groundwater regime at the main dam.
- Saddle dam foundation filter trenches are located within the footprint of the existing dam structure. No remnant native vegetation or faunal communities will be present above these trenches or the area around each trench which will be impacted by groundwater drawdown post-construction.
- Seepage outlets will induce drawdown extending to <4.0 metres from the respective outlets within areas which may presently have native vegetation or faunal communities. All native vegetation or faunal communities will be removed at these locations. No risk to remnant native vegetation or faunal communities is posed from changes to the groundwater regime at any saddle dam.
- Any changes to the groundwater regime at the main dam or saddle dams are not expected to materially impact the long-term location or rate of groundwater seepage that may supply water to native vegetation and/or faunal communities. Some reduction to short-term groundwater seepage rates may occur during the construction phase.

4. Impacts and mitigation

4.1 Impact details

Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.

EPBC Act section	Controlling provision	Impacted	Reviewed
S12	World Heritage	No	Yes
S15B	National Heritage	No	Yes
S16	Ramsar Wetland	No	Yes
S18	Threatened Species and Ecological Communities	Yes	Yes
S20	Migratory Species	No	Yes
S21	Nuclear	No	Yes
S23	Commonwealth Marine Area	No	Yes
S24B	Great Barrier Reef	No	Yes
S24D	Water resource in relation to large coal mining development or coal seam gas	No	Yes
S26	Commonwealth Land	No	Yes
S27B	Commonwealth Heritage Places Overseas	No	Yes
S28	Commonwealth or Commonwealth Agency	No	Yes

4.1.1 World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.1.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.1.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No world heritage properties exist within the project area. Given the absence of potential impacts, no avoidance or mitigation measures are necessary.

4.1.2 National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.2.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.2.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No national heritage places exist within the project area. Given the absence of potential impacts, no avoidance or mitigation measures are necessary.

4.1.3 Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.3.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.3.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no Ramsar Wetlands within, adjacent or immediately downstream of the project area. The only Ramsar site downstream is Western Port Ramsar Site, over 30 km away. Sediment controls will prevent changes in water immediately downstream of the project area and thus would be negligible beyond this. Therefore, there will be no indirect impact on any Ramsar sites.

4.1.4 Threatened Species and Ecological Communities

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Threatened species

Direct impact	Indirect impact	Species	Common name
No	No	Amphibromus fluitans	River Swamp Wallaby-grass, Floating Swamp Wallaby-grass
No	No	Antechinus minimus maritimus	Swamp Antechinus (mainland)
No	No	Anthochaera phrygia	Regent Honeyeater
No	No	Asterolasia asteriscophora subsp. albiflora	White Star-bush
No	No	Botaurus poiciloptilus	Australasian Bittern
No	No	Calidris acuminata	Sharp-tailed Sandpiper
No	No	Calidris ferruginea	Curlew Sandpiper
No	Yes	Callocephalon fimbriatum	Gang-gang Cockatoo
No	Yes	Climacteris picumnus victoriae	Brown Treecreeper (south-eastern)
No	No	Dasyurus maculatus maculatus (SE mainland population)	Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population)
No	No	Dianella amoena	Matted Flax-lily
No	No	Falco hypoleucos	Grey Falcon
No	No	Galaxiella pusilla	Eastern Dwarf Galaxias, Dwarf Galaxias
No	No	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
No	No	Glycine latrobeana	Clover Glycine, Purple Clover
No	No	Grantiella picta	Painted Honeyeater
No	No	Hirundapus caudacutus	White-throated Needletail
No	Yes	Isoodon obesulus obesulus	Southern Brown Bandicoot (eastern), Southern Brown Bandicoot (south-eastern)
No	No	Lathamus discolor	Swift Parrot
No	No	Lepidium aschersonii	Spiny Peppercress

Direct impact	Indirect impact	Species	Common name
No	No	Liopholis montana	Mountain Skink
No	No	Lissolepis coventryi	Swamp Skink, Eastern Mourning Skink
No	No	Litoria raniformis	Southern Bell Frog, Growling Grass Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog
No	No	Mastacomys fuscus mordicus	Broad-toothed Rat (mainland), Tooarrana
No	No	Melanodryas cucullata cucullata	South-eastern Hooded Robin, Hooded Robin (south-eastern)
No	No	Nannoperca obscura	Yarra Pygmy Perch
No	No	Neophema chrysostoma	Blue-winged Parrot
No	No	Pedionomus torquatus	Plains-wanderer
No	No	Petauroides volans	Greater Glider (southern and central)
No	No	Petaurus australis australis	Yellow-bellied Glider (south-eastern)
No	No	Pomaderris vacciniifolia	Round-leaf Pomaderris
No	No	Potorous tridactylus trisulcatus	Long-nosed Potoroo (southern mainland)
No	No	Prototroctes maraena	Australian Grayling
No	No	Pseudomys fumeus	Smoky Mouse, Konoom
No	No	Pseudomys novaehollandiae	New Holland Mouse, Pookila
No	No	Pteropus poliocephalus	Grey-headed Flying-fox
No	No	Pterostylis chlorogramma	Green-striped Greenhood
No	No	Pycnoptilus floccosus	Pilotbird
No	No	Rostratula australis	Australian Painted Snipe
No	No	Stagonopleura guttata	Diamond Firetail
No	No	Synemon plana	Golden Sun Moth
No	No	Thesium australe	Austral Toadflax, Toadflax
No	No	Tringa nebularia	Common Greenshank, Greenshank
No	No	Xerochrysum palustre	Swamp Everlasting, Swamp Paper Daisy

Ecological communities

Direct impact	Indirect impact	Ecological community
No	No	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland

4.1.4.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.4.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

Gang-gang Cockatoo

Gang-gang Cockatoo *Callocephalon fimbriatum* are endemic to south-eastern Australia. They primarily occur in temperate eucalypt forests and woodlands. Old growth forest and woodland assemblages are preferred for nesting, loafing, and roosting. During the summer breeding months, Gang-gang Cockatoos are thought to primarily occupy mature, eucalypt-dominated wet sclerophyll forests with dense understoreys. During the winter months, Gang-gang Cockatoos are believed to move from montane forests to more open forest and woodland assemblages where they are often seen in urban areas. Nesting usually occurs in tree hollows within trunks, limbs, or dead branches of large living eucalypts, often near watercourses where hollow-bearing trees are more common. Habitat within the project area falls within the range of the species population (Att 4 - Cardinia Dam Upgrade Ecology Report, Section 3.2.5.2, pp. 25-6).

Gang-gang Cockatoo targeted survey was undertaken in September-October 2025. Area searches and hollow checks were undertaken over 11 days (approximately 90 hours) within the project area, with 19 sites sampled every week, and 162 point counts, area searches and incidental records collected (Att 5 - Cardinia Dam Upgrade Gang-gang Targeted Survey, Section 4.2, p. 10). The species was recorded once (6 individuals) in January 2024 during incidental observations and three times (3, 31 and 2 individuals) in September-October 2025 (Att 5 - Cardinia Dam Upgrade Gang-gang Targeted Survey, Section 4.2.1, pp. 10-1).

Hollows greater than 15cm were unsuitable for Gang-gang Cockatoos due to the hollow already being occupied, too close to the ground, unsuitable surrounding habitat and/or the cavity would be too small or exposed. All large hollow-bearing trees and stags within the project area were investigated and all were either found to be unsuitable or occupied. Disturbance-tolerant species are much more likely to use these hollows given their proximity to roads, people and the ground. No evidence of Gang-gang Cockatoo breeding was observed. No very large hollows were identified (>20cm) that were fully encased, closed cavity hollows. Hollows in adjacent habitat appeared to be more suitable for Gang-Gang Cockatoo because the trees were taller and older, and the hollows were higher (Att 5 - Cardinia Dam Upgrade Gang-gang Targeted Survey, Section 4.2.2, pp. 11-4).

Gang-gang Cockatoo feed on more than 130 plant species across 25 families. Within the project area, at least 178 trees and large shrubs representing 18 species provide potential foraging opportunities. Gang-gang Cockatoos have not been observed foraging in the project area. Melbourne Gang-gang Cockatoo most commonly feed on Hawthorn *Crataegus monogyna*, which is absent in the project area (Att 4 - Cardinia Dam Upgrade Ecology Report, Section 3.2.5.2, pp. 25-6).

Southern Brown Bandicoot (eastern)

Southern Brown Bandicoot *Isoodon obesulus obesulus* occur in a variety of habitats including heathland, shrubland, sedgeland, healthy open forest and woodland, but they appear to prefer gullies and riparian habitat along waterways. The species is usually associated with infertile, sandy and well drained soils, in areas with dense ground cover. They typically uses dense, low vegetation, and coarse woody debris for nesting and shelter, building mound nests from leaf litter and soil.

The project area is within an area defined as containing likely habitat. In Victoria, the Southern Brown Bandicoot is primarily distributed in coastal regions although isolated populations occur inland in the Dandenong Ranges, Grampians, central western Victoria and Bunyip State Park. Cardinia Creek, south of the Princes Highway, is known habitat. There is connectivity of remnant bushland between the project area and known records approximately 5 km to the south.

Surveys within the Cardinia Reservoir Catchment failed to detect Southern Brown Bandicoot. A habitat assessment evaluated known structural and floristic components necessary for the species and further evaluated during the Gang-gang Cockatoo targeted survey. Potential habitat occurs in the project area, but it appears to be too disturbed to provide understory cover. The project area may be used for foraging on a very irregular basis.

Brown Treecreeper (south-eastern)

Brown Treecreeper (south-eastern) *Climacteris picumnus victoriae* typically occupy dry open eucalypt forest and woodland, particularly those dominated by rough-barked eucalypts such as stringybarks, with an open grassy understorey. They generally avoid dense shrub layers or heavily degraded woodlands. The species forages both terrestrially and arboreally, utilising fallen logs, trunks, branches and the ground to feed on invertebrates, as well as nectar, sap and small vertebrates. Lowland Forest EVC provide suitable habitat within the project area due to the presence and abundance of stringybark trees and a low density of shrubs in the ground layer. Damp Heathy Forest, the most widespread EVC within the project area, is potentially less suitable because dense shrub layers in parts of this EVC limit foraging opportunities.

Brown Treecreeper (south-eastern) were both seen and heard at a few locations across the project area during the Gang-gang Cockatoo targeted survey. Individuals were observed foraging in adjacent habitat and moving into and out of the project area, indicating that the site contributes to their local activity network. Brown Treecreepers were not as abundant or as common as the White-throated Treecreeper. These two species have some niche overlap, but given the limited resources in the project area, it is likely that the Brown Treecreeper's core habitat is within the better and drier scrub forest to the south of the project area.

Brown Treecreepers nest and roost in naturally occurring cavities in live and dead trees, stumps and limbs across a variety of eucalypt species. Successful breeding is associated with territories that contain a low density of shrubs, moderate ground cover, and abundant foraging substrate such as coarse woody debris. A total of 268 hollows were recorded in trees and stags within the project area. The majority were small (<5cm diameter) and unsuitable for Brown Treecreeper nesting. Ninety-six medium-sized hollows (5 to 15cm) and 25 large hollows (>15cm) were potentially suitable, though these are subject to competition from other hollow-dependent fauna (Att 4 - Cardinia Dam Upgrade Ecology Report, Section 3.2.5.2, pp. 26-7).

4.1.4.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.4.6 Describe why you do not consider this to be a Significant Impact. *

Gang-gang Cockatoo

Within the project area, at least 178 trees and large shrubs representing 18 species provide potential foraging opportunities. Gang-gang Cockatoos have not been observed foraging in the project area. There is small to very large patches of foraging habitat elsewhere in the landscape, with many trees and shrubs being avoided and retained adjacent to the project area.

Hollows in adjacent habitat appeared to be more suitable for Gang-gang Cockatoo because the trees are taller and older, and the hollows are higher. No evidence of Gang-gang Cockatoo breeding was observed within the project area.

An assessment against the significant impact guidelines was undertaken:

- No breeding habitat occurs within the project area. Given the high-quality habitat in the surrounding landscape, it is highly likely that Gang-gang Cockatoo would frequently use the foraging resources in the landscape. There will be a loss of a small proportion of this habitat, but this is unlikely to lead to a long-term decrease in the size of the subpopulation or the population.
- The proposed vegetation loss represents a small proportion of habitat available to individuals of the species. Removal of this habitat equate to <0.0001% of the total estimated area of occupancy.
- The Gang-gang Cockatoo is a highly mobile species and a seasonal migrant that is known to use an array of habitats. Habitat within the project area occurs along an already open edge and the dam creates an open feature in the landscape. Reduction of the habitat along this already existing edge is unlikely to fragment the habitat. The species routinely fly over potential barriers and habitat gaps of this scale. There will be no change in habitat connectivity.
- While the habitat within the project area may meet the literal definition of critical habitat by being '*all foraging habitat during both the breeding and non-breeding season…this does not include exotic feeding grounds such as ornamental trees, shrubs and hedges within urban and suburban areas*', the context suggests it is unlikely to constitute habitat critical to the survival because it is degraded, not their preferred food sources and it is a very small proportion of suitable habitat available within the landscape.
- No breeding habitat occurs within the project area. There was no evidence of breeding within the project area, and all large hollows were unsuitable for nesting. Existing hollows could also not become suitable in the future due to their position in the tree, such as being at the base or too low, or being completely exposed to elements. The level of disturbance would remain unchanged given the proximity to Wellington Road (a major arterial road), dam infrastructure and public open space.
- The extent of proposed habitat removal is proportionally small when compared to the Gang-gang Cockatoo estimated area of occupancy. Foraging and breeding habitat across the landscape will continue to be available, minimising the likelihood of a decline to the species. There is ample foraging habitat across Cardinia Reservoir catchment and the nearby suburbs and wooded habitats.
- Species harmful to the Gang-gang Cockatoo are those that compete for nesting hollows and nest predators. These invasive species are abundant within the project area. Removal of habitat within the project area is unlikely to affect the abundance or distribution of invasive species.
- Psittacine Beak and Feather Disease (PBFD) is a common and highly infectious viral disease among parrots, and the Gang-gang Cockatoo is known to be susceptible. PBFD is already prevalent in south-eastern Australia and is likely already present in the region. The project is unlikely to introduce this disease.
- The removal of habitat may impact on a small portion of habitat for the Gang-gang Cockatoo individuals using the project area. This is unlikely to interfere with recovery of the species.

The significant impact assessment indicates that the potential for significant impact is unlikely (Att 4 - Cardinia Dam Upgrade Ecology Report, Appendix G, Section 2.1, pp. G3-8).

Southern Brown Bandicoot (eastern)

An assessment against the significant impact guidelines was undertaken:

- The habitat loss is on the edge of fragments, poorer quality, highly disturbed and unlikely to represent core habitat for any individuals. The habitat loss is unlikely to result in a loss of individuals and will not represent a decline in the Gippsland Plains (west) population.
- The proposed native vegetation loss, only a portion of which is suitable for the Southern Brown Bandicoot, represents 0.01% of the national area of occupancy and 0.03% of the Victorian area of occupancy.
- Habitat within the project area occurs along an already open edge and the dam creates an open feature in the landscape. Reduction of the habitat along this already existing edge is unlikely to fragment the habitat.
- The habitat within the project area is unlikely to qualify as breeding habitat. The foraging habitat may be used very occasionally because it is highly disturbed along roads, has poor structure and has low floristic diversity. The habitat is suboptimal for regular use and does not qualify as habitat critical to the survival of a species.
- Invasive species known to be harmful to the Southern Brown Bandicoot were observed in the project area. Removal of vegetation is unlikely to alter the abundance or distribution of these species.
- Toxoplasmosis, a parasitic infection, has been recorded in bandicoot populations. The proposed works would not influence the prevalence of toxoplasmosis given infected individuals are unlikely to be introduced to the area or through changes in host populations.
- The proposed works are unlikely to impact on the recovery of this species as the project proposes to remove a very small proportion of poor habitat that should not decrease area of occupancy, increase threats and not impede conservation actions.

The significant impact assessment indicates that the potential for significant impact is unlikely (Att 4 - Cardinia Dam Upgrade Ecology Report, Appendix G, Section 2.2, pp. G9-12).

Brown Treecreeper (south-eastern)

An assessment against the significant impact guidelines was undertaken:

- The habitat in the project area is disturbed and may be used for foraging. The removal of a linear strip of potential foraging habitat is unlikely to impact any individuals present, as there is considerable habitat in the surrounding landscape. The structure of the woodland suggests that it's unlikely to be used for nesting. It is more likely that they occasionally use the project area for foraging and its loss is unlikely to cause a long-term decrease in an important population.
- The proposed vegetation loss represents a small proportion of habitat available to individuals of the species. Removal of this habitat equates to <0.01% of the total estimated area of occupancy.
- The removal of a linear strip of potential foraging habitat is unlikely to impact on any individuals present as there is considerable habitat in the surrounding landscape. Removal will be on the edge of a dam and will not fragment a continuous patch.
- Habitat critical to the survival of the Brown Treecreeper includes areas that have relatively undisturbed grassy woodland with native understorey. While some habitat elements are present within the project area, the habitat is disturbed and removal is unlikely to adversely affect habitat critical to the survival of the species.
- Brown Treecreepers nest and roost in naturally occurring tree cavities in a variety of eucalypt species. The structural complexity required is absent and it's unlikely that the species relies on the habitat for breeding.
- Invasive species are common and already present in the project area. The project will not change the occurrence of predators.
- There are no known diseases that cause the species to decline. The project is unlikely to introduce new diseases.
- The removal of a linear strip of potential foraging habitat is unlikely to impact on any individuals present as there is considerable habitat in the surrounding landscape. Several individuals may be temporarily displaced, but this will not interfere with the recovery of the species.

The significant impact assessment indicates that the potential for significant impact is unlikely (Att 4 - Cardinia Dam Upgrade Ecology Report, Appendix G, Section 3.1, pp. G12-5).

4.1.4.7 Do you think your proposed action is a controlled action? *

No

4.1.4.9 Please elaborate why you do not think your proposed action is a controlled action. *

An assessment against the significant guidelines has been undertaken on the Gang-gang Cockatoo *Callocephalon fimbriatum* (Endangered), Southern Brown Bandicoot (eastern) *Isoodon obesulus obesulus* (Endangered), and Brown Treecreeper (south-eastern) *Climacteris picumnus victoriae* (Vulnerable).

Gang-gang Cockatoo:

- Gang-gang Cockatoos were observed using the project area as a resting or collection site, with the dam likely representing a navigational feature in the landscape.
- There will be a loss of a small proportion of potential foraging habitat. It is highly likely that Gang-gang Cockatoo would use the high-quality habitat in the surrounding landscape for foraging.
- No breeding habitat occurs within the project area.

Southern Brown Bandicoot (eastern):

- Surveys within the Cardinia Reservoir Catchment failed to detect Southern Brown Bandicoot.
- The potential, marginal foraging habitat may be used very occasionally because it is highly disturbed along roads, has poor structure and has low floristic diversity.
- The habitat within the project area is highly unlikely to qualify as breeding habitat.

Brown Treecreeper (south-eastern):

- The Brown Treecreeper was heard elsewhere in the landscape more frequently than in the project area.
- There will be a loss of a small proportion of foraging habitat. The habitat in the project area is disturbed, and it is likely that they occasionally use the project area for foraging. There is considerable habitat in the surrounding landscape.
- The structure of the woodland suggests that it's unlikely that the species relies on the habitat for breeding.

The significant impact assessment indicates that the potential for significant impact on the Gang-gang Cocaktoo, Southern Brown Bandicoot (eastern) and Brown Treecreeper (south-eastern) is unlikely and that the proposed action is not a controlled action (Att 4 - Cardinia Dam Upgrade Ecology Report, Appendix G).

4.1.4.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

Avoidance

The project area has been subjected to ongoing review and revisions throughout design development. At project inception, it was recognised that significant native vegetation removal would be required, particularly downstream of the saddle dams. A preliminary project area was considered to inform an initial flora and fauna assessment.

During design development there was a significant change in engineering design of the dam upgrade and project scope. The project area was increased, and the native vegetation removal associated with the revised project area was approximately 40ha. The expanded project area has been subjected to targeted, site-specific flora and fauna assessments.

The additional studies identified areas of relatively high environmental sensitivity:

- Areas of potentially suitable White Star-bush (EPBC-listed) habitat in proximity to where sitings have previously been recorded. These areas were removed from the project area.
- Localised area of Swamp Skink (EPBC-listed) habitat where sitings have previously been recorded. These areas were removed from the project area.
- Potential feed trees for the Yellow-bellied Glider. These areas were removed from the project area.
- Areas of suitable Gang-gang Cockatoo (EPBC-listed) habitat. These areas cannot be removed from the project area. However, efforts have been made to minimise impacts.
- Localised areas where Green Scentbark trees have been surveyed. Most of these areas have been removed from the project area. In areas where removal is unavoidable, efforts have been made to minimise impacts.

The project area downstream of Saddle Dam 3 and 4 was reviewed and attempts made to reduce the extent of native vegetation disturbance by considering a restricted construction access arrangement. The restricted access arrangement was critically reviewed at a constructability workshop. The outcome was that areas downstream of Saddle Dams 3 and 4 should conservatively be assumed as being required for construction. Ecologist review challenged this, noting the need to demonstrable that all efforts have been made to avoid and minimise. The restricted construction access arrangement allows for surface water management and environmental controls.

An area to the east of Saddle Dam 4 was included in the project area for stockpiling and/or disposing of excess fill materials. This area is comprised of partially cleared land, exotic vegetation and lower quality native vegetation. This enabled the areas between Cardinia Reservoir and Red Hill Road to be removed from the project area.

Ecologists worked with dam engineers to avoid higher quality habitat and higher densities of trees. The focus was on avoiding threatened species and their habitat but also reducing the quantity and quality of potential Gang-gang Cockatoo and Brown Treecreeper foraging habitat. Consequently, the majority of the habitat to be removed is degraded, on edges, has a high weed count, frequent rubbish and has a low structural and floristic diversity. The project area is estimated to require the removal of up to 21.381ha of native vegetation, representing a significant reduction from the initial estimate of 40ha (Att 4 - Cardinia Dam Upgrade Ecology Report, Section 4.1, p. 33-4).

Mitigation

A Construction Environmental Management Plan will outline all mitigation measures relevant to minimising impacts on threatened species and their habitat. Actions will include delineation of no-go zones, sediment and water quality controls, weed and pest control and vehicle management.

Actions to mitigate the impact in the longer-term, and on a landscape scale, will encompass revegetation of adjacent areas within the Cardinia Reservoir Catchment (Att 4 - Cardinia Dam Upgrade Ecology Report, Appendix G, Section 1.2, p. G2-3):

- Increase Gang-gang Cockatoo foraging resource plantings as part of approximately 40ha of revegetation works. Melbourne Water is currently revegetating cleared areas and areas where pine trees have been removed. This will enhance the availability of fauna habitat, with a particular emphasis on species suitable for foraging Gang-gang Cockatoos.
- Salvage and erect suitable hollows, suitable for Gang-gang Cockatoo and Brown Treecreepers. The section of the tree, containing the hollow, will be excised to ensure that the hollow is undamaged. Suitable hollows will be selected prior to removal with advice sought from a species expect regarding specific requirements.
- Install artificial nest boxes to offset the loss of any natural hollows that could not be salvaged, with monitoring to ensure uptake.
- Investigate ‘natural’ hollow creation techniques in existing, healthy trees using purpose-built machines. Arborists would need to be engaged to ensure tree suitability.
- Trial methods to minimise hollows being used by nest predators or feral bees when hollows/boxes are erected. This may minimise hollows loss and may reduce competition and predation. Other methods to reduce nest predators and feral bees may include control programs and increasing natural predator presence.

4.1.4.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

The residual impact will affect 21.381ha of native vegetation, encompassing three Ecological Vegetation Classes (EVCs), 92 large trees in patches, 8 large scattered trees, and 8 small scattered trees. These residual impacts will be offset in accordance with Victoria’s Native Vegetation Management Framework. The proposed offset will provide 0.054 General Habitat Units, which include 100 large trees, as well as Species Habitat Units for three threatened plant species (Att 4 - Cardinia Dam Upgrade Ecology Report, Section 4.2.2, p. 35):

- Swamp Bush-pea, *Pultenaea weindorferi* (502881): 14.789 Species Habitat Units
- Wine-lipped Spider-orchid, *Caladenia oenochila* (503694): 16.417 Species Habitat Units
- Dandenong Wattle, *Acacia stictophylla* (505140): 12.800 Species Habitat Unit

4.1.5 Migratory Species

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Species	Common name
No	No	Actitis hypoleucos	Common Sandpiper
No	No	Apus pacificus	Fork-tailed Swift
No	No	Calidris acuminata	Sharp-tailed Sandpiper
No	No	Calidris ferruginea	Curlew Sandpiper
No	No	Calidris melanotos	Pectoral Sandpiper
No	No	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
No	No	Hirundapus caudacutus	White-throated Needletail
No	No	Motacilla flava	Yellow Wagtail
No	No	Pandion haliaetus	Osprey
No	No	Tringa nebularia	Common Greenshank, Greenshank

4.1.5.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.5.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No migratory species rely on the habitat within the project area. Migratory species that occur within the landscape will only be seen flying over the project area or use the dam itself, which is outside of the project area, and will be unaffected by works.

4.1.6 Nuclear

4.1.6.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.6.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

None exist within the project area.

4.1.7 Commonwealth Marine Area

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.7.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.7.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

None exist within the project area.

4.1.8 Great Barrier Reef

4.1.8.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.8.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The project area is in Victoria.

4.1.9 Water resource in relation to large coal mining development or coal seam gas

4.1.9.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.9.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The project scope is to undertake upgrades to a water storage reservoir.

4.1.10 Commonwealth Land

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.10.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.10.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

None exist within the project area.

4.1.11 Commonwealth Heritage Places Overseas

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.11.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.11.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

None exist within the project area.

4.1.12 Commonwealth or Commonwealth Agency

4.1.12.1 Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? *

No

4.2 Impact summary

Conclusion on the likelihood of significant impacts

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

None

Conclusion on the likelihood of unlikely significant impacts

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)
- Ramsar Wetland (S16)
- Threatened Species and Ecological Communities (S18)
- Migratory Species (S20)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)
- Commonwealth Heritage Places Overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

4.3.1 Do you have any possible alternatives for your proposed action to be considered as part of your referral? *

No

4.3.8 Describe why alternatives for your proposed action were not possible. *

Cardinia Reservoir is Melbourne's second largest water storage and is a critical asset for water supply operations. Under the Water Act 1989, Melbourne Water is responsible for the safety of dams within its portfolio. A 4-metre operating level restriction was put in place at Cardinia Reservoir. This restriction reduces the maximum storage volume by 47GL, which reduces harvesting performance and yield, and impacts the ability to meet downstream pressure and flow requirements, and water supply system resilience. The Cardinia Reservoir Dam Upgrade involves works to remove the operating level restriction.

An assessment has been undertaken of the likelihood of a significant impact occurring on relevant Matters of National Environmental Significance. The significant impact assessment indicates that the potential for significant impact on the Gang-gang Cocaktoo, Southern Brown Bandicoot (eastern) and Brown Treecreeper (south-eastern) is unlikely and that the proposed action is not a controlled action

The project area has been subjected to ongoing review and revisions throughout design development. The project area is estimated to require the removal of up to 21.381ha of native vegetation, representing a significant reduction from the initial estimate of 40ha. The majority of the habitat to be removed is degraded, on edges, has a high weed count and a low structural and floristic diversity. The project area has been reduced as much as possible, but some loss of habitat and vegetation is unavoidable.

Mitigation measures within Cardinia Reservoir Catchment have been proposed to address the temporary loss of native vegetation, including the current revegetation of cleared areas and areas where pine trees have been removed, salvage of suitable hollows, nest boxes and hollow creation.

The residual impact will affect 21.381ha of native vegetation, encompassing three Ecological Vegetation Classes (EVCs), 92 large trees in patches, 8 large scattered trees, and 8 small scattered trees. These residual impacts will be offset in accordance with Victoria's Native Vegetation Management Framework.

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1 - Site Layout and Existing Conditions Drawings.pdf Site layout and existing conditions detailed design drawings.	22/12/2025	No	High
#2.	Document	Att 2 - Main Dam and Drainage Drawings.pdf Main dam, drainage and seepage collection detailed design drawings.	22/12/2025	No	High
#3.	Document	Att 3 - Saddle Dams and Internal Access Road Drawings.pdf Saddle dams and internal access road detailed design drawings.	22/12/2025	No	High

1.2.6 Commonwealth or state legislation, planning frameworks or policy documents that are relevant to the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 4 - Cardinia Dam Upgrade Ecology Report - Redacted.pdf Existing ecological conditions and impact assessment (redacted version).	03/02/2026	No	High
#2.	Document	Att 4 - Cardinia Dam Upgrade Ecology Report.pdf Existing ecological conditions and impact assessment.	03/02/2026	Yes	High

1.2.7 Public consultation regarding the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 6 - Cardinia Dam Upgrade Consultation Summary Report.pdf Summary of stakeholder engagement undertaken to date.	05/02/2026	No	High
#2.	Document	Att 7 - Cardinia Dam Upgrade Communications and Engagement Plan - Redacted.pdf Outlines the community and stakeholder engagement approach (redacted version).	31/12/2025	No	High
#3.	Document	Att 7 - Cardinia Dam Upgrade Communications and Engagement Plan.pdf Outlines the community and stakeholder engagement approach.	31/12/2025	Yes	High

1.3.2.17 (Person proposing to take the action) Proposer's history of responsible environmental management

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 10 - Previous Melbourne Water EPBC Act Referrals.pdf EPBC Act referrals where Melbourne Water is the Proposer/Approval holder or where it has been a major contributor.	05/02/2026	No	High

1.3.2.18 (Person proposing to take the action) If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 11 - Integrated Management System Manual.pdf Provides a description of how Melbourne Water plans to achieve its objectives and outcomes.	31/10/2025	Yes	High
#2.	Document	Att 9 - Environmental Policy.pdf Board approved environmental policy	01/08/2024	No	High

2.2.5 Tenure of the action area relevant to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 12 - Melbourne Water Freehold Land.pdf Map showing freehold titles and leased area	08/02/2026	No	High
#2.	Document	Att 13 - Lease Agreement Reservoir Parks.pdf Reservoir parks overarching lease agreement between Melbourne Water and Parks Victoria	06/07/2022	Yes	High
#3.	Document	Att 14 - Crown Allotments and Consents - Redacted.pdf Crown folio statements and crown land administrator consents (redacted version)	08/02/2026	No	High
#4.	Document	Att 14 - Crown Allotments and Consents.pdf Crown folio statements and crown land administrator consents.	08/02/2026	Yes	High

3.1.1 Current condition of the project area's environment

	Type	Name	Date	Sensitivity	Confidence
#1.	Document				

		Att 4 - Cardinia Dam Upgrade Ecology Report - Redacted.pdf Existing ecological conditions and impact assessment (redacted version).	03/02/2026	No	High
#2.	Document	Att 4 - Cardinia Dam Upgrade Ecology Report.pdf Existing ecological conditions and impact assessment.	03/02/2026	Yes	High

3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 4 - Cardinia Dam Upgrade Ecology Report - Redacted.pdf Existing ecological conditions and impact assessment (redacted version).	03/02/2026	No	High
#2.	Document	Att 4 - Cardinia Dam Upgrade Ecology Report.pdf Existing ecological conditions and impact assessment.	03/02/2026	Yes	High
#3.	Document	Att 5 - Cardinia Dam Upgrade Gang-gang Targeted Survey - Redacted.pdf Gang-gang Cockatoo targeted survey report (redacted version)	03/02/2026	No	High
#4.	Document	Att 5 - Cardinia Dam Upgrade Gang-gang Targeted Survey.pdf Gang-gang Cockatoo targeted survey report.	03/02/2026	Yes	High

3.2.2 Vegetation within the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 4 - Cardinia Dam Upgrade Ecology Report - Redacted.pdf Existing ecological conditions and impact assessment (redacted version).	03/02/2026	No	High
#2.	Document	Att 4 - Cardinia Dam Upgrade Ecology Report.pdf Existing ecological conditions and impact assessment.	03/02/2026	Yes	High

3.3.1 Commonwealth heritage places overseas or other places that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 4 - Cardinia Dam Upgrade Ecology Report - Redacted.pdf	03/02/2026	No	High

		Existing ecological conditions and impact assessment (redacted version).			
#2.	Document	Att 4 - Cardinia Dam Upgrade Ecology Report.pdf Existing ecological conditions and impact assessment.	03/02/2026	Yes	High

3.3.2 Indigenous heritage values that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 8 - Cardinia Dam Upgrade Aboriginal Heritage Assessment - Redacted.pdf Aboriginal heritage assessment (redacted version).	23/10/2024	No	High
#2.	Document	Att 8 - Cardinia Dam Upgrade Aboriginal Heritage Assessment.pdf Aboriginal heritage assessment	23/10/2024	Yes	High

4.1.4.2 (Threatened Species and Ecological Communities) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 4 - Cardinia Dam Upgrade Ecology Report - Redacted.pdf Existing ecological conditions and impact assessment (redacted version).	03/02/2026	No	High
#2.	Document	Att 4 - Cardinia Dam Upgrade Ecology Report.pdf Existing ecological conditions and impact assessment.	03/02/2026	Yes	High
#3.	Document	Att 5 - Cardinia Dam Upgrade Gang-gang Targeted Survey - Redacted.pdf Gang-gang Cockatoo targeted survey report (redacted version).	03/02/2026	No	High
#4.	Document	Att 5 - Cardinia Dam Upgrade Gang-gang Targeted Survey.pdf Gang-gang Cockatoo targeted survey report.	03/02/2026	Yes	High

4.1.4.6 (Threatened Species and Ecological Communities) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 4 - Cardinia Dam Upgrade Ecology Report - Redacted.pdf	03/02/2026	No	High

		Existing ecological conditions and impact assessment (redacted version).			
#2.	Document	Att 4 - Cardinia Dam Upgrade Ecology Report.pdf Existing ecological conditions and impact assessment.	03/02/2026	Yes	High

4.1.4.9 (Threatened Species and Ecological Communities) Why you do not think your proposed action is a controlled action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 4 - Cardinia Dam Upgrade Ecology Report - Redacted.pdf Existing ecological conditions and impact assessment (redacted version).	03/02/2026	No	High
#2.	Document	Att 4 - Cardinia Dam Upgrade Ecology Report.pdf Existing ecological conditions and impact assessment.	03/02/2026	Yes	High

4.1.4.10 (Threatened Species and Ecological Communities) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 4 - Cardinia Dam Upgrade Ecology Report - Redacted.pdf Existing ecological conditions and impact assessment (redacted version).	03/02/2026	No	High
#2.	Document	Att 4 - Cardinia Dam Upgrade Ecology Report.pdf Existing ecological conditions and impact assessment.	03/02/2026	Yes	High

4.1.4.11 (Threatened Species and Ecological Communities) Proposed offsets relevant to avoidance or mitigation measures

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 4 - Cardinia Dam Upgrade Ecology Report - Redacted.pdf Existing ecological conditions and impact assessment (redacted version).	03/02/2026	No	High
#2.	Document	Att 4 - Cardinia Dam Upgrade Ecology Report.pdf Existing ecological conditions and impact assessment.	03/02/2026	Yes	High

5.2 Declarations

Completed Referring party's declaration

The Referring party is the person preparing the information in this referral.

ABN/ACN	81945386953
Organisation name	MELBOURNE WATER CORPORATION
Organisation address	3008 VIC
Representative's name	Mark Side
Representative's job title	Senior Project Manager
Phone	0407 839 141
Email	mark.side@melbournewater.com.au
Address	990 La Trobe Street, Docklands, Vic, 3008

☑ Check this box to indicate you have read the referral form. *

☑ Check this box to confirm these are the correct identification details. *

☑ By checking this box, I, **Mark Side of MELBOURNE WATER CORPORATION**, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. *

You may receive automated notifications that aim to assist you in tracking the progress of your project. You can opt out of these notifications by updating your communication preferences on your profile.

Completed Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

Same as Referring party information.

☑ Check this box to indicate you have read the referral form. *

☑ Check this box to confirm these are the correct identification details. *

☑ I, **Mark Side of MELBOURNE WATER CORPORATION**, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity. *

☑ I, **Mark Side of MELBOURNE WATER CORPORATION**, the Person proposing the action, consent to the designation of **Mark Side of MELBOURNE WATER CORPORATION** as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *

You may receive automated notifications that aim to assist you in tracking the progress of your project. You can opt out of these notifications by updating your communication preferences on your profile.

✓ Completed Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

☑ Check this box to indicate you have read the referral form. *

☑ Check this box to confirm these are the correct identification details. *

☑ I, **Mark Side of MELBOURNE WATER CORPORATION**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *

You may receive automated notifications that aim to assist you in tracking the progress of your project. You can opt out of these notifications by updating your communication preferences on your profile.