Australian Government
Department of the Environment

Referral of proposed action

What is a referral?

The *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) provides for the protection of the environment, especially matters of national environmental significance (NES). Under the EPBC Act, a person must not take an action that has, will have, or is likely to have a significant impact on any of the matters of NES without approval from the Australian Government Environment Minister or the Minister's delegate. (Further references to 'the Minister' in this form include references to the Minister's delegate.) To obtain approval from the Environment Minister, a proposed action should be referred. The purpose of a referral is to obtain a decision on whether your proposed action will need formal assessment and approval under the EPBC Act.

Your referral will be the principal basis for the Minister's decision as to whether approval is necessary and, if so, the type of assessment that will be undertaken. These decisions are made within 20 business days, provided sufficient information is provided in the referral.

Who can make a referral?

Referrals may be made by or on behalf of a person proposing to take an action, the Commonwealth or a Commonwealth agency, a state or territory government, or agency, provided that the relevant government or agency has administrative responsibilities relating to the action.

When do I need to make a referral?

A referral must be made for actions that are likely to have a significant impact on the following matters protected by Part 3 of the EPBC Act:

- World Heritage properties (sections 12 and 15A)
- National Heritage places (sections 15B and 15C)
- Wetlands of international importance (sections 16 and 17B)
- Listed threatened species and communities (sections 18 and 18A)
- Listed migratory species (sections 20 and 20A)
- Protection of the environment from nuclear actions (sections 21 and 22A)
- Commonwealth marine environment (sections 23 and 24A)
- Great Barrier Reef Marine Park (sections 24B and 24C)
- A water resource, in relation to coal seam gas development and large coal mining development (sections 24D and 24E)
- The environment, if the action involves Commonwealth land (sections 26 and 27A), including:
    - actions that are likely to have a significant impact on the environment of Commonwealth land (even if taken outside Commonwealth land);
    - actions taken on Commonwealth land that may have a significant impact on the environment generally;
- The environment, if the action is taken by the Commonwealth (section 28)
- Commonwealth Heritage places outside the Australian jurisdiction (sections 27B and 27C)

You may still make a referral if you believe your action is not going to have a significant impact, or if you are unsure. This will provide a greater level of certainty that Commonwealth assessment requirements have been met.

To help you decide whether or not your proposed action requires approval (and therefore, if you should make a referral), the following guidance is available from the Department's website:

- the Policy Statement titled Significant Impact Guidelines 1.1 – Matters of National Environmental Significance. Additional sectoral guidelines are also available.

- the Policy Statement titled Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies.
- the Policy Statement titled Significant Impact Guidelines: Coal seam gas and large coal mining developments—Impacts on water resources.
- the interactive map tool (enter a location to obtain a report on what matters of NES may occur in that location).

Can I refer part of a larger action?

In certain circumstances, **the Minister may not accept a referral for an action that is a component of a larger action and may request the person proposing to take the action to refer the larger action for consideration under the EPBC Act (Section 74A, EPBC Act).** If you wish to make a referral for a staged or component referral, read 'Fact Sheet 6 Staged Developments/Split Referrals' and contact the Referrals Gateway (1800 803 772).

Do I need a permit?

Some activities may also require a permit under other sections of the EPBC Act or another law of the Commonwealth. Information is available on the Department's web site.

Is your action in the Great Barrier Reef Marine Park?

If your action is in the Great Barrier Reef Marine Park it may require permission under the *Great Barrier Reef Marine Park Act 1975* (GBRMP Act). If a permission is required, referral of the action under the EPBC Act is deemed to be an application under the GBRMP Act (see section 37AB, GBRMP Act). This referral will be forwarded to the Great Barrier Reef Marine Park Authority (the Authority) for the Authority to commence its permit processes as required under the Great Barrier Reef Marine Park Regulations 1983. If a permission is not required under the GBRMP Act, no approval under the EPBC Act is required (see section 43, EPBC Act). The Authority can provide advice on relevant permission requirements applying to activities in the Marine Park.

The Authority is responsible for assessing applications for permissions under the GBRMP Act, GBRMP Regulations and Zoning Plan. Where assessment and approval is also required under the EPBC Act, a single integrated assessment for the purposes of both Acts will apply in most cases. Further information on environmental approval requirements applying to actions in the Great Barrier Reef Marine Park is available from http://www.gbrmpa.gov.au/ or by contacting GBRMPA's Environmental Assessment and Management Section on (07) 4750 0700.

The Authority may require a permit application assessment fee to be paid in relation to the assessment of applications for permissions required under the GBRMP Act, even if the permission is made as a referral under the EPBC Act. Further information on this is available from the Authority:

Great Barrier Reef Marine Park Authority

2-68 Flinders Street PO Box 1379
Townsville QLD 4810
AUSTRALIA

Phone: + 61 7 4750 0700
Fax: + 61 7 4772 6093

www.gbrmpa.gov.au

What information do I need to provide?

Completing all parts of this form will ensure that you submit the required information and will also assist the Department to process your referral efficiently. If a section of the referral document is not applicable to your proposal enter N/A.

You can complete your referral by entering your information into this Word file.

Instructions

Instructions are provided in blue text throughout the form.

Attachments/supporting information

The referral form should contain sufficient information to provide an adequate basis for a decision on the likely impacts of the proposed action. You should also provide supporting documentation, such as environmental reports or surveys, as attachments.

Coloured maps, figures or photographs to help explain the project and its location should also be submitted with your referral. Aerial photographs, in particular, can provide a useful perspective and context. Figures should be good quality as they may be scanned and viewed electronically as black and white documents. Maps should be of a scale that clearly shows the location of the proposed action and any environmental aspects of interest.

Please ensure any attachments are below three megabytes (3mb) as they will be published on the Department's website for public comment. To minimise file size, enclose maps and figures as separate files if necessary. If unsure, contact the Referrals Gateway (email address below) for advice. Attachments larger than three megabytes (3mb) may delay processing of your referral.

Note: the Minister may decide not to publish information that the Minister is satisfied is commercial-in-confidence.

How do I pay for my referral?

From 1 October 2014 the Australian Government commenced cost recovery arrangements for environmental assessments and some strategic assessments under the EPBC Act. If an action is referred on or after 1 October 2014, then cost recovery will apply to both the referral and any assessment activities undertaken. Further information regarding cost recovery can be found on the Department's website at: http://www.environment.gov.au/epbc/publications/cost-recovery-cris

Payment of the referral fee can be made using one of the following methods:

- **EFT Payments can be made to:**

  BSB: 092-009
  Bank Account No. 115859
  Amount: $7352
  Account Name: Department of the Environment.
  Bank: Reserve Bank of Australia
  Bank Address: 20-22 London Circuit Canberra ACT 2601
  Description: The reference number provided (see note below)

- **Cheque** - Payable to "Department of the Environment". Include the reference number provided (see note below), and if posted, address:

  The Referrals Gateway
  Environment Assessment Branch
  Department of the Environment
  GPO Box 787
  Canberra ACT 2601

- **Credit Card**

  Please contact the Collector of Public Money (CPM) directly (call (02) 6274 2930 or 6274 20260 and provide the reference number (see note below).

Note: in order to receive a reference number, submit your referral and the Referrals Gateway will email you the reference number.

How do I submit a referral?

Referrals may be submitted by mail or email.

Mail to:

Referrals Gateway
Environment Assessment Branch
Department of Environment
GPO Box 787
CANBERRA ACT 2601

- If submitting via mail, electronic copies of documentation (on CD/DVD or by email) are required.

Email to: epbc.referrals@environment.gov.au

- Clearly mark the email as a 'Referral under the EPBC Act'.
- Attach the referral as a Microsoft Word file and, if possible, a PDF file.
- **Follow up with a mailed hardcopy including copies of any attachments or supporting reports.**

What happens next?

Following receipt of a valid referral (containing all required information) you will be advised of the next steps in the process, and the referral and attachments will be published on the Department's web site for public comment.

The Department will write to you within 20 business days to advise you of the outcome of your referral and whether or not formal assessment and approval under the EPBC Act is required. There are a number of possible decisions regarding your referral:

The proposed action is NOT LIKELY to have a significant impact and does NOT NEED approval

No further consideration is required under the environmental assessment provisions of the EPBC Act and the action can proceed (subject to any other Commonwealth, state or local government requirements).

The proposed action is NOT LIKELY to have a significant impact IF undertaken in a particular manner

The action can proceed if undertaken in a particular manner (subject to any other Commonwealth, state or local government requirements). The particular manner in which you must carry out the action will be identified as part of the final decision. You must report your compliance with the particular manner to the Department.

The proposed action is LIKELY to have a significant impact and does NEED approval

If the action is likely to have a significant impact a decision will be made that it is a *controlled action*. The particular matters upon which the action may have a significant impact (such as World Heritage values or threatened species) are known as the *controlling provisions*.

The controlled action is subject to a public assessment process before a final decision can be made about whether to approve it. The assessment approach will usually be decided at the same time as the controlled action decision. (Further information about the levels of assessment and basis for deciding the approach are available on the Department's web site.)

The proposed action would have UNACCEPTABLE impacts and CANNOT proceed

The Minister may decide, on the basis of the information in the referral, that a referred action would have clearly unacceptable impacts on a protected matter and cannot proceed.

Compliance audits

If a decision is made to approve a project, the Department may audit it at any time to ensure that it is completed in accordance with the approval decision or the information provided in the referral. If the project changes, such that the likelihood of significant impacts could vary, you should write to the Department to advise of the changes. If your project is in the Great Barrier Reef Marine Park and a decision is made to approve it, the Authority may also audit it. (See "*Is your action in the Great Barrier Reef Marine Park,"* p.2, for more details).

For more information

- call the Department of the Environment Community Information Unit on 1800 803 772 or
- visit the web site http://www.environment.gov.au/epbc

All the information you need to make a referral, including documents referenced in this form, can be accessed from the above web site.

Referral of proposed action

Project title: Colchester Road Retarding Basin Upgrade

1 Summary of proposed action

NOTE: You must also attach a map/plan(s) and associated geographic information system (GIS) vector (shapefile) dataset showing the location and approximate boundaries of the area in which the project is to occur. Maps in A4 size are preferred. You must also attach a map(s)/plan(s) showing the location and boundaries of the project area in respect to any features identified in 3.1 & 3.2, as well as the extent of any freehold, leasehold or other tenure identified in 3.3(i).

1.1 **Short description**

The Colchester Road Retarding Basin (CRRB) is located in Kilsyth South, in the outer east of Melbourne, approximately 28 km from the central business district. The upgrade of the CRRB is required as a recent risk assessment of the retarding basin indicated that the basin did not meet current safety guidelines and the consequence of embankment failure is high. As such, Melbourne Water has been instructed under a Statement of Obligation set by the Victorian Water Minister to reduce the risk of failure below the Limit of Tolerability, "As Low As Reasonably Practicable".

1.2 **Latitude and longitude**

	Latitude			Longitude		
location point	degrees	minutes	seconds	degrees	minutes	seconds
37°49'36.782"S (taken from centre of works)				145°18'24.282"E		

1.3 **Locality and property description**

The Colchester Road retarding basin is located on the Bungalook Creek, in the suburb of Kilsyth South, approximately 28 km east of Melbourne. The retarding basin was constructed in 1988 with a grassed earthen embankment to protect residences downstream from flooding.

As a result of the embankment creation, a small wetland area is present on the upstream site that includes a permanent pond surrounded by an ephemeral marsh area revegetated with indigenous species. Remnant vegetation of scrub and swampy woodland communities within the project area has regrown on the embankment and along the spillway, where water is diverted during rain event.

Colchester Road retarding basin is surrounded by low density residential housing to the east, moderate/medium density residential housing to the west, an industrial estate immediately to the north and Bungalook Conservation Reserve to the east.

1.4 **Size of the development footprint or work area (hectares)** The project area is 2.52 ha

1.5 **Street address of the site** 12B Ormond Place Kilsyth South 3137

1.6 **Lot description**
TP186732

1.7 **Local Government Area and Council contact (if known)**
Maroondah Local Council.
Contact:
Roger Lord, Coordinator - Environmental Planning - Statutory Planning

1.8 **Time frame**

Construction on the proposed project site is to commence in September/October 2016 and be completed in December 2016 to January 2017. Reinstatement and maintenance works will occur in October 2016 to March 2017.

1.9	**Alternatives to proposed action**	X	No
			Yes, you must also complete section 2.2
1.10	**Alternative time frames etc**		No
		X	Yes, you must also complete Section 2.3. For each alternative, location, time frame, or activity identified, you must also complete details in Sections 1.2-1.9, 2.4-2.7 and 3.3 (where relevant).
1.11	**State assessment**	X	No
			Yes, you must also complete Section 2.5
1.12	**Component of larger action**	X	No
			Yes, you must also complete Section 2.7
1.13	**Related actions/proposals**	X	No
			Yes, provide details:
1.14	**Australian Government funding**	X	No
			Yes, provide details:
1.15	**Great Barrier Reef Marine Park**	X	No
			Yes, you must also complete Section 3.1 (h), 3.2 (e)

2 Detailed description of proposed action

2.1 Description of proposed action

The CRRB was constructed in 1988 with a grassed earthen embankment, low level outlet and an uncontrolled broad crested spillway. The structure provides flood protection to people and property downstream.

Melbourne Water has commissioned an independent assessment of the retarding basin and determined that it does not meet current Australian National Committee On Large Dams (ANCOLD) guidelines. The Victorian Minister for Water through the Statement of Obligations under the *Water Industry Act 1994* formally instructed Melbourne Water to reduce the risk of failure of all their water storage embankments. The Statement requires Melbourne Water to apply the ANCOLD guidelines to the management of its retarding basins as Australian and International best practice.

The structure poses unacceptable risk in regards to flood capacity and risk of piping failure. The objective of the project is to upgrade the retarding basin to ensure it complies with the ANCOLD guidelines and reduces the risk to damage on life and property downstream of the retarding basin.

The risk of failure for the Colchester Road retarding basin embankment is primarily due the presence of woody vegetation that has regrown on the embankment and spillway. It is estimated that for the probability of failure, woody vegetation on the embankment accounts for 90 per cent of the total probability of failure. In the event of a storm, trees can cause embankment failure through:

- trees falling and taking part of the embankment
- water accelerating around fallen trees causing faster embankment erosion
- tree roots providing or initiating water flow through the embankment leading to internal erosion
- reducing grass cover and exposing soil to erosion
- shrinkage cracking from tree roots
- thick scrub also prevents adequate inspection of the embankment to identify defects.

Therefore, the presence of woody vegetation and their roots are required to be removed from the embankment to minimise the risk of failure and impact on life and property downstream. In addition, the project will consist of the following elements of scope:

- clearing and deepening of the spillway channel to direct water flows
- installation of a filter diaphragm on the outlet conduit
- installation of a crest filter trench
- replacement of grate on outlet.

2.2 Alternatives to taking the proposed action

No alternatives are available to Melbourne Water. Minimum requirements to meet ANCOLD guidelines are necessary to be completed on site to reduce the risk to life and property to an acceptable level. Not taking the proposed action puts life and property at an unacceptable risk.

2.3 Alternative locations, time frames or activities that form part of the referred action

Alternative options were considered to be able to minimise impacts to remnant vegetation values along the embankment. A concrete cut-off wall was investigated as a method to retain vegetation on the embankment. However, this approach was discounted for the following reasons:

- An un-reinforced concrete cut-off wall would be subject to shrinkage cracking and cracking at joints that could result in erosion in the embankment
- The embankment length has settled differently over time and further settlement around the concrete wall would form large voids and cracks in the embankment
- The concrete wall would still not meet requirements of ANCOLD guidelines to remove woody vegetation on the embankment.

Hence, alternative approaches have been duly considered by Melbourne Water, however, are not considered suitable to meet safety requirements.

Therefore alternative approaches to construction and reinstatement of the have been incorporated by Melbourne Water as a way to minimise impacts to significant biological values within the site. Alternative approaches to construction and reinstatement include:

- Classification of areas as abutments, rather than embankments, where suitable, as vegetation may be retained on these areas
- Utilise alternative access points to preserve areas of high understorey diversity and potential habitat for threatened flora species
- Restriction of machinery access for vegetation removal to protect areas of high understorey diversity and potential habitat for threatened flora species
- Incorporation of seed sourced from the site into the rehabilitation of the embankment, including planting of established grasses in preference to re-seeding to achieve required grass cover

These alternative approaches to construction have been incorporated into the construction methodology of the project. Mitigation measures are further outlined in Section 5.

2.4 Context, planning framework and state / local government requirements

The Victorian government, through the Victorian Water Minister, has directed Melbourne Water, under the *Water Industry Act 1994* to upgrade the CRRB to an acceptable risk level. As the majority of risk is associated with woody vegetation, this predominately requires removal and constant management of woody vegetation on the embankment and spillway.

Removal of native vegetation will be required and need to occur in accordance with Clause 52.17 of the Maroondah Planning Scheme under the *Planning and Environment Act 1987*. In addition, a Vegetation Protection Overlay (VPO) and Significant Landscape Overlay (SLO) apply to the study area under the Maroondah Planning Scheme. A permit for removal, destruction or lopping of native vegetation, including dead vegetation is required of the project. Impacts to native vegetation will also need to consider the Biodiversity Assessment Guidelines and require vegetation offsets.

The permit will also need to consider requirements under the VPO, where a permit is required to remove, destroy or lop native vegetation and dead or fallen trees that provide or are likely to provide nesting, roosting or other habitat for native fauna. Under the SLO a permit is required to remove, destroy or lop a tree if the circumference of the trunk is more than 16 cm diameter or greater at 1 m above ground level and the height of the tree is 5 m or more.

Maroondah City Council has been consulted and has raised concerns about the upgrade impacts to the values of the site. These concerns have been taken into consideration in designing the alternative approaches mentioned in Section 2.3.

2.5 Environmental impact assessments under Commonwealth, state or territory legislation

N/A

2.6 Public consultation (including with Indigenous stakeholders)

Direct consultation will occur with the residents that have potential to be directly affected by the construction works. This includes residents along Tereddan Drive, Regency Street and Ormond Place.

Consultation with other the relevant stakeholders such as Maroondah City Council, Municipal Council/VicRoads, South East Water, Multinet Gas Operations, Telstra VICTAS, AusNet Electricity Services, local residents, factory owners, community groups (Friends of Bungalook Creek and Montrose Environment Group) and Melbourne Water.

A Communications Action Plan has been prepared for the project which guides this process. This will involve door knocking, letter dropping and constant updates to the stakeholders about the project. Directly and indirectly affected residents and residential communities will be consulted and their concerns integrated into the management of the project.

To date, consultation has occurred with Maroondah City Council and Graeme Lorimer from the local conservation community groups. Both parties have highlighted the locally, regional and state significant values contained within the site. This knowledge has been used by the project to guide and design alternative construction and reinstatement approaches included in Section 2.3.

2.7 A staged development or component of a larger project

N/A

3 Description of environment & likely impacts

3.1 Matters of national environmental significance

The CRRB is located within a 6.2 ha area of Melbourne Water land that was incorporated into the Bungalook Conservation Reserve in 2009. The Bungalook Conservation reserve also includes two other land managers; Maroondah City Council (MCC) manage a 6.1 ha area to the south east of the retarding basin, and Trust for Nature (TFM) manage a 2.2 ha area directly east of the retarding basin.

The Bungalook Conservation Reserve includes the last known population of the Kilsyth South Spider-orchid (*Caladenia sp. aff. venusta* (Kilsyth South)). The species is listed as critically endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and classified as endangered under the Victorian *Flora and Fauna Guarantee Act 1988* (FFG Act).

The species has no previous records within the Melbourne Water CRRB parcel, with only a maximum of 20 plants ever recorded from the adjacent MCC and TFN managed areas. Currently, only three individuals are known to occur within the Bungalook Conservation Reserve.

Due to the low numbers and high susceptibility to potential impacts, a targeted survey was completed within the identified works area during the species flowering season in October 2015 (Ecology Australia 2015b). This included the retarding basin embankment, the spillway, within 10 m of the existing management access track (proposed for construction access) and remnant vegetation immediately north and south of the embankment and spillway.

The targeted survey did not detect the Kilsyth South Spider-orchid and noted that it is 'highly improbable that the Kilsyth South Spider-orchid occurs on the Retarding Basin spillway, embankment (either side)'. This is due to the modified substrates that are often waterlogged and high amount of shrub cover, weeds and organic litter.

3.1 (a) World Heritage Properties

Description

There are no World Heritage Properties with 10km of the study area.

Nature and extent of likely impact

N/A

3.1 (b) National Heritage Places

Description

There are no National Heritage Places within 10km of the study area.

Nature and extent of likely impact

N/A

3.1 (c) Wetlands of International Importance (declared Ramsar wetlands)

Description

There are no Wetlands of International Importance (declared Ramsar wetlands) within 10km of the study area.

Nature and extent of likely impact

N/A

3.1 (d) Listed threatened species and ecological communities
Description

Communities

No nationally listed threatened ecological community was recorded within the study area under the Federal Environment Protection and *Biodiversity Conservation* (EPBC) *Act 1999*. In addition, no threatened communities listed under the Victorian *Flora and Fauna Guarantee* (FFG) *Act 1988* occurs within the study area.

Flora

As detailed in Ecology Australia (2015b), the CRRB is part of the Bungalook Conservation Reserve that contains records of nationally threatened flora species, the Kilsyth South Spider-orchid (*Caladenia sp. aff. venusta* (Kilsyth South), which is listed as critically endangered under the EPBC Act, is considered endangered in Victoria (DEPI 2014) and is listed as threatened under the FFG Act.

Very little is known about the biology of the Kilsyth South Spider-orchid. The species is associated with the valley heathy forest vegetation community, with an open grassy understorey with an overstorey of narrow-leaf peppermint (*Eucalyptus radiata*) and silver-leaf stringybark (*E. cephalocarpa*). The species flowers in October to early November and is pollinated by an unknown native bee or wasp.

Spider-orchids are potentially very long-lived, they have a single ground-hugging leaf, require high light intensities, reproduce exclusively by seed (i.e. not vegetatively as many orchid generally do) and have an obligate relationship with a mycorrhizal fungus (which infects the plant tissue) to enable seed germination and nutrition throughout life. For recruitment and persistence on a site, the mycorrhizal fungus must be present, and reasonably high light intensities must prevail. Little is known about the biology and distribution of the fungus except that the relationship between orchid and fungus is highly specific. Field studies of numerous Spider-orchid species indicate that they occur in relatively high-quality habitats (vegetation that is structurally and floristically moderately to highly intact). Spider-orchids are not known to colonise highly artificial (anthropogenic) habitats such as the Retarding Basin embankment, unlike some orchid species. Additional species information is provided in Attachment A.

As discussed above, there have only been three individual Kilsyth South Spider-orchids known to occur within the Bungalook Conservation Reserve and a survey conducted in 2015 (Ecology Australia 2015b) did not detect the Kilsyth South Spider-orchids. This study also noted the improbability that it occurred on the Retarding Basin spillway embankment due to the highly modified state, the high cover of exotic vegetation and shaded understories, litter and waterlogged soils.

In addition to the Kilsyth South Spider-orchid, the Swamp Everlasting (*Xerochrysum palustre*) has previous records within the CRRB. The species is listed as vulnerable under the EPBC Act and listed as threatened under the FFG Act. The species was planted in the retarding basin approximately 10 years ago but no plants are known to have survived (Ecology Australia 2015a). The species is not considered to occur naturally on the site and is considered to have a low likelihood of occurring in the project area.

Fauna

No nationally listed fauna species have been recorded, or are likely to occur within the project area.

There have been two FFG listed species identified to potentially occur within the study area. These are: the Powerful Owl and Swamp Skink, which are both listed as Vulnerable under the Victorian Advisory List. Another species, the Southern Toadlet, is listed as Vulnerable under the Victorian Advisory List, also has previous records in the nearby area (DEPI 2013).

The Powerful Owl has been recorded within the study area and has known breeding and roosting sites 2.5 kms north-east of the study area. Additionally, the Swamp Skink has found been found on site. One of the recorded individuals was a juvenile, which indicates breeding on site. The third species, the Southern Toadlet has historically been sited 2kms from the project area. The conditions within the wetland area adjacent to the study area are consistent with breeding and foraging habitat required by both species.

Nature and extent of likely impact

As discussed, direct impacts to the Kilsyth South Spider-orchid is unlikely as it has a low probability of occurring in the project area. Habitat suitability is limited within the project area to small undisturbed pockets adjacent to the proposed construction area, which will be protected and managed as a no-go zone during works. The remainder of the habitat does not meet usual habitat requirements for the Kilsyth South Spider-orchid, as the area is previously disturbed clay embankment or swampy areas considered unsuitable for the species.

However, there is a slight risk of potential indirect risks if the project is not managed properly. These include potential introduction of weeds and diseases that may expand into adjacent habitat from the site, or dust impacts. There is also a risk of accidental damage to habitat where works are adjacent to mapped areas of potential and known habitat.

In consideration of the species' susceptibility to any adverse impacts, mitigation methods will be employed to reduce the risk of indirect construction impacts which may threaten the species' life cycle, including flowering, pollination and mycorrhizal association. The mitigation measures for key risks include protecting habitat, including areas classified as low-moderate habitat (Ecology Australia 2015b), the transmittal of weeds and pathogens into the site which may interfere with this species, and control of dust due to construction occurring during the species flowering time.

These mitigation measures are detailed in a dedicated construction management plan for the species (see Attachment A, JH-KBR JV 2016).

Impacts to the Victorian listed Swamp Skink and Southern Toadlet habitat in the wetlands of the project area will be negligible as habitat will be protected with temporary fencing and silt fencing during construction to avoid the loss of habitat. There will be minimal loss of habitat for the Powerful Owl, with only potential foraging or roosting habitat impacted. Individuals are likely to fly away from the construction area. In addition, a wildlife handler will be engaged to remove any birds prior to vegetation removal.

3.1 (e) Listed migratory species

Description

A total of 12 migratory species are listed to contain potential habitat within 10 kilometres of the study area (DoE 2016). However, due to limited habitat available on site and distance from important habitat areas, the study area is unlikely to be defined as 'important habitat' for any migratory shorebirds in accordance with the EPBC Act Policy Statement 3.21 *Significant impact guidelines for 36 migratory shorebird species Migratory species* (DoE 2015).

Use of the site by listed migratory species is likely to be only occasional use by vagrant individuals of more common species, such as great egret (*Ardea alba*) and black-faced monarch (*Monarcha melanopsis*), and significant use is considered unlikely.

Nature and extent of likely impact

It is not considered likely that the proposed action will significantly impact upon any listed migratory species, or their habitat. These works are not likely to reduce the potential use of the wider Bungalook Conservation Reserve by any migratory species, where there is large areas of vegetation and habitat of greater floristic and structural quality.

3.1 (f) Commonwealth marine area

Description

There are no Commonwealth marine areas within 10kms of the study area.

Nature and extent of likely impact

N/A

3.1 (g) Commonwealth land

Description

The action is not being undertaken on Commonwealth land.

Nature and extent of likely impact

N/A

3.1 (h) The Great Barrier Reef Marine Park

Description

The action is not in the Great Barrier Reef Marine Park.

Nature and extent of likely impact

N/A

3.1 (i) A water resource, in relation to coal seam gas development and large coal mining development

Description

The action is not a coal steam gas development or large coal mining development.

Nature and extent of likely impact

N/A

3.2 Nuclear actions, actions taken by the Commonwealth (or Commonwealth agency), actions taken in a Commonwealth marine area, actions taken on Commonwealth land, or actions taken in the Great Barrier Reef Marine Park

3.2 (a)	**Is the proposed action a nuclear action?**	X	No
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment		

3.2 (b)	**Is the proposed action to be taken by the Commonwealth or a Commonwealth agency?**	X	No
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment		

3.2 (c)	**Is the proposed action to be taken in a Commonwealth marine area?**	X	No
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(f))		

3.2 (d)	**Is the proposed action to be taken on Commonwealth land?**	X	No
			Yes (provide details below)

If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(g))	

3.2 (e)	**Is the proposed action to be taken in the Great Barrier Reef Marine Park?**	X	No
			Yes (provide details below)

If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(h))

3.3 Other important features of the environment

3.3 (a) Flora and fauna

The CRRB contains a wetland along Bungalook creek adjacent to the embankment, regrowth vegetation of woodland and scrub along the embankment and spillway and slashed vegetation along walking trails on top of the embankment and the spillway. Some localised areas of remnant vegetation occur in the eastern portion of the Melbourne Water property and in the south east and south west corner of the project area.

There are several locally and regionally significant species present on site and within the project area. Included in these are important grass species which produce a high level of grass diversity in the area. Species include the Porphyry Wallaby-grass (*Rytidosperma* aff. *caespitosum* (South-west swamps)), Water Blinks (*Montia fontana*), Veined Spear-grass (*Austrostipa rudis* subsp. *australis*), Floodplain Fireweed (*Senecio campylocarpus*) and Hundreds and Thousands (*Stylidium inundatum*) (Ecology Australia 2015a). Veined spear-grass is also listed as rare in Victoria (DEPI 2014).

Fauna habitats that exist in the project area include wetlands, which provides habitat for frogs and reptiles (including the Southern Toadlet and the Victorian listed swamp skink), and woodlands which have a variety of common bird species present amongst them and scrub which inhabits a broad range of avian species. The woodland habitat is likely to provide habitat use for several bird species, including some migratory which may occasionally use the habitat to move through the landscape.

3.3 (b) Hydrology, including water flows

The retarding basin has been created in this area to prevent downstream flood and to protect nearby assets. The embankment retards flows from Bungalook Creek from the east. Adjacent to the eastern boundary of the study area there is a wetland system (area of 1.056 hectares) which consists of a permanent pond (area of 0.13 hectares) that has been created as part of the retarding basin system. Bungalook Creek drains into this wetland and it consists of two dominant zones. The first zone consists of deep open water and the second occurs immediately north and surrounds a small vegetated island. The wetland will hold the majority of water draining from the catchment, including during normal rain events.

At the edge of the wetland near the embankment is an inlet to a pipe that is located under the embankment and extends under the residences west of the CRRB, with an outlet approximately 300 m further west on the other side of Colchester Road.

Along the southern side of the embankment is the spillway, which diverts waters around the base of the spillway to a drainage area at the end of Ormond Place.

3.3 (c) Soil and Vegetation characteristics

Colchester Road Retarding Basin is located within the Gippsland Plain bioregion. The main geological features in this bioregion include low lying plains, gently undulating terrain, barrier dunes, floodplains and swamp flats.

Soil type present in CRRB is variable and ranges from texture contrast soils and gradational texture soils to sandy soils. The embankment area is comprised of clayey soils which have poor drainage (DELWP 2016b). The earthen embankment was partially created from spoil borrowed from the adjacent area, which is now the wetland. The embankment was established as a clay embankment, with minimal top soil. Vegetation has gradually regrown on the embankment from adjacent vegetation and potentially propagules in the soil.

The establishment of the embankment has contributed to current state of the site, including regrowth of indigenous species, with low weed cover due to the decreased nutrients in the soil.

3.3 (d) Outstanding natural features

There are no outstanding natural features within the study area.

3.3 (e) Remnant native vegetation

Remnant vegetation patches are located throughout the study area and fall into the Ecological Vegetation Communities of Swamp Scrub, Swampy Woodland and Valley Heathy Forest (Ecology Australia 2015a).

The vegetation is predominately regrowth of components of swampy woodland and swamp scrub vegetation communities. This includes areas of dense scrub, particularly in wetter areas and on the southern aspect of the embankment, and swampy woodland with swamp gum (*Eucalyptus ovata*), grasses and other graminoids, such as spiny-headed mat-rush (*Lomandra longifolia*), on the drier and more exposed areas of the embankment.

Remnant vegetation is the dominant vegetation type on the embankment, particularly in the drier areas, where minimal top soil is apparent, which has likely restricted weed growth.

3.3 (f) Gradient (or depth range if action is to be taken in a marine area)

The embankment is approximately 3 m high and approximately 20 m wide and dominates the topography of the site. The topography of the area would otherwise be generally flat, with the land gradually sloping down to the Bungalook Creek.

On the upstream side (east) of the embankment, the land slopes down to the Bungalook Creek or the wetland at the base of the embankment. On the downstream side (west) the embankment slopes down to the spillway, which gently slopes to a low point at approximately Ormond Place. Water from Bungalook Creek flows via an underground drain beneath the residential areas west of Bungalook Creek.

3.3 (g) Current state of the environment

Historically, Bungalook Creek has been modified and the wetland and embankment have been constructed. The open areas in the site area are used for passive recreation (mown parkland) and there are also areas of native bushland. These areas have regenerated back following major earthworks along the creek and construction of the retarding basin in 1988, as well as a small wildfire during this period. It also forms part of a patchwork of remnant bushland areas and corridors at the foothills of the Dandenongs (Bushland Management Services 2006).

The areas of remnant vegetation are in variable condition and stages of regeneration (Bushland Management Services 2006). The levee and adjoining vegetation supports remnant indigenous vegetation belonging to three Ecological Vegetation Classes (EVCs): Swamp Scrub, Swampy Woodland and Valley Heathy Forest (Ecology Australia 2015a). The north and wester ends of the embankment contain more woodland regrowth with only sparse understorey due to drier conditions. Along the southern of the embankment there is greater regrowth of dense scrub, with greater understorey cover and diversity. This area also contains higher weed content, notably Blue Stars (*Aristea ecklonis*).

3.3 (h) Commonwealth Heritage Places or other places recognised as having heritage values

There are no Commonwealth Heritage Places of other places recognised as having heritage values within the study area.

3.3 (i) Indigenous heritage values

The project area is within an area of cultural sensitivity. However, this area has significant prior ground disturbance and therefore unlikely to contain artefacts.

3.3 (j) Other important or unique values of the environment

Colchester Retarding Basin has been identified as a site of environmental significance at a municipal and bioregional level due to the presence of a number of EVCs. These include: Swamp Scrub (EVC 53), Valley Heathy Forest (EVC 128) and Swampy Woodland (EVC 937) that are all listed as endangered in the bioregion.

3.3 (k) Tenure of the action area (eg freehold, leasehold)

Much of the land in the study area is Melbourne Water owned and managed land, specifically 6.2 hectares around and including the retarding basin located to the east of the reserve near Ormond Place and Regency Drive. The site also forms part of the nationally significant biosite, the Bungalook Conservation Reserve. The reserve includes two other lots managed by Maroondah City Council, 6.1 ha to the south of Tereddan Drive and Trust for Nature which looks after 2.2 ha to the north of Tereddan Drive.

3.3 (l) Existing land/marine uses of area

Primarily the site is a Melbourne Water asset for protection of residents from flooding. The Melbourne Water retarding basin asset is vital for the protection of residential houses from flooding

Other secondary uses of this site include recreational activities, predominately walking, dog-walking and occasional bike riding. There is also high community use and interest due to the Kilsyth South Spider-orchid and other ecological values of the site, and there is a dedicated conservation-focused community group that assists with management of the site. Melbourne Water manages the site as a Site of Biological Significance, noting the ecological values present.

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3.3 (m) Any proposed land/marine uses of area

There are no proposed changes of land use for the study area. The land is required permanently for flood protection.

4 Environmental outcomes

Due to the ANCOLD guidelines to remove woody vegetation, including roots, and maintain the embankment as a grassed embankment, the site will alter from its current state of regrowth of shrubs and trees.

In understanding the values of the site and to the local community groups and Maroondah City Council, in particularly the identified grass and understorey diversity, Melbourne Water has committed to revegetating the embankment, including with native grass seed sourced from the site. This includes the significant grasses, the Porphyry Wallaby-grass and Veined Spear-grass.

The amount of revegetation will be dictated by the amount of seed able to be sourced from site and ability to meet ANCOLD requirements on grass cover over the embankment. Based on the projection of available seed sourced from the CRRB site, an approximate 400 m² area of the embankment will be revegetated with indigenous grasses.

The area will be located on the south-facing embankment between the protected area of the spillway and the protected embankment area. This part of the embankment is also the closest to known Kilsyth South Spider-orchid habitat, and will be managed to prevent the establishment of weeds following works.

5 Measures to avoid or reduce impacts

Due to the high susceptibility of the Kilsyth South Spider-orchid to any negative impacts, a dedicated threatened species construction management plan has been prepared and is attached to this referral (Attachment A). This plan details the mitigation measures and responsibilities to be implemented during construction of the project.

A risk assessment has been undertaken identifying risks associated with construction activities on the Kilsyth South Spider-orchid and known and potential habitat for the orchid (Attachment A). This risk assessment has been used to prioritise and develop mitigation measures.
In summary, the key construction risks identified are:

- Accidental intrusion of construction machinery or vehicles into known or potential habitat for the Kilsyth South Spider-orchid
- Ground disturbance from vegetation clearance and construction activity on the retarding basin embankment and spillway increases weed invasion from the construction and revegetation areas into the known and potential habitat of the Kilsyth South Spider-orchid
- Introduction or spread of invasive weed species due to the clearance of vegetation on the embankment and spillway and re-profiling of the embankment and spillway
- Spread of exotic invertebrates, including slugs and Portugese millipedes (*Ommatoiulus moreletii*), which occur in the reserves
- Spread of Cinnamon fungus or other diseases into uninfected areas of orchid habitat.

Measures will be implemented to avoid and reduce impacts to the species by managing the above key risks to the Kilsyth South Spider-orchid. Key mitigation measures to be implemented include:

- Protection of habitat areas through temporary protective fencing. This includes protecting vegetation identified as low to moderate habitat (Ecology Australia 2015b)
- Utilise other roads and locations at the western side of the project area, where the species is unlikely to occur
- Containing stockpiles, site offices, car parking and facilities on existing tracks and road surfaces, implementing bunding, sediment controls and barriers to protect habitat from both direct and indirect impacts
- Implementing strict vehicle and personnel hygiene controls to prevent the introduction of weeds and diseases
- Implement dust controls, including installing shade-cloth on fencing adjacent to habitat and staging works to minimise the generation of dust.

Areas that have potential to contain the Kilsyth South Spider-orchid include the vegetation along the roadway or access track from the end of Tereddan Drive to the retarding basin and the south-west corner of the reserve (Ecology Australia 2015b). No clearing of vegetation will occur in these areas (only removal of overhanging branches along the access road/track). In addition, fencing and the installation of solid barriers will occur around the works area to prevent accidental impacts outside this area. Furthermore, 'no-go zones' will be implemented and strictly adhered to during the construction phase. All temporary fencing will be installed under the direction of an ecologist.

A temporary construction access track from Regency Drive will be established to minimise construction activities near Kilsyth South Spider-orchid habitat. This will include delivery of materials and equipment, access of construction machinery and to facilitate construction works. This temporary access track will be reinstated at the conclusion of the project as part of the staged reinstatement works.

The staged construction approach of approximately 50 m sections, followed immediately by revegetation, has been designed to minimise dust generation that may impact the local residences and sensitive environment, including any flowering Kilsyth South Spider-orchid.

Importantly, strict sanitisation procedures to avoid importation and spread of weed seed or pathogens for vehicles, equipment and people entering the site in all phases of the proposed works will also be utilised. This will include use of only designated and clean trucks for delivery of materials, off-site cleaning of machinery, vehicles and equipment, inspection of all machinery and vehicles entering site and spraying clothing and boots with a fungicide.

During removal of construction fencing and barriers, soil and natural drainage disturbance will be minimised by using disassembly methods which do not require the use of heavy machinery and do not impact protected habitat. The barriers will also not be dragged across the previously protected area during removal.

In order to manage the impacts of the works on the potential habitat of the Kilsyth South Spider-orchid there will be regular weed control during and after works of the retarding basin as the disturbance created is likely to promote the growth and spread of invasive weeds that are capable of altering the native vegetation to a weedy profile. This will be assessed every three months for one year following construction. With regular assessment and maintenance, this weeding strategy is likely to be successful at preventing weed spread into the orchid habitat. The use of herbicides will also be prevented near the orchid habitat. Also using locally indigenous plant stock during revegetation after works on the embankment which are appropriate to the Ecological Vegetation Class will occur to prevent weedy species altering the vegetation in the future (Ecology Australia 2015b).

6 Conclusion on the likelihood of significant impacts

6.1 Do you THINK your proposed action is a controlled action?

X	No, complete section 6.2
	Yes, complete section 6.3

6.2 Proposed action IS NOT a controlled action.

The Kilsyth South Spider-orchid is currently restricted to a single small reserve and is currently at a population of three individuals. This makes the species extremely susceptible to any impacts, including indirect impacts.

The works area does not contain any known or likely habitat, in addition there will beno removal of habitat or any individuals, therefore the project is unlikely to cause additional decline of the species or its habitat.

Potentially significant impacts are therefore considered to be only related to indirect impacts that can introduce weeds and pathogens that can then expand into known habitat and affect the species. Notably this relates to the following significant impact criteria:

- result in invasive species that are harmful to a critically endangered species or endangered species becoming established in the species habitat
- introduce disease that may cause the species to decline

Through the implementation of strict hygiene controls identified in the construction management plan for the species throughout all phases of the project, it is unlikely that weeds and pathogens will be introduced into the site.

It is considered that the project does not meet any of the significant impact criteria and is not considered a controlled action.

6.3 Proposed action IS a controlled action

	Matters likely to be impacted
	World Heritage values (sections 12 and 15A)
	National Heritage places (sections 15B and 15C)
	Wetlands of international importance (sections 16 and 17B)
	Listed threatened species and communities (sections 18 and 18A)
	Listed migratory species (sections 20 and 20A)
	Protection of the environment from nuclear actions (sections 21 and 22A)
	Commonwealth marine environment (sections 23 and 24A)
	Great Barrier Reef Marine Park (sections 24B and 24C)
	A water resource, in relation to coal seam gas development and large coal mining development (sections 24D and 24E)
	Protection of the environment from actions involving Commonwealth land (sections 26 and 27A)
	Protection of the environment from Commonwealth actions (section 28)
	Commonwealth Heritage places overseas (sections 27B and 27C)

7 Environmental record of the responsible party

		Yes	No
7.1	**Does the party taking the action have a satisfactory record of responsible environmental management?** **Provide details** Melbourne Water has an established Environmental Policy (MWC 2013), and provides annual Sustainability Reports detailing its performance which are published on the company website. Melbourne Water further provides ongoing monitoring and reporting of listed species and water quality to the Department of the Environment under existing audit requirements. The Colchester Road Retarding Basin is also an identified Melbourne Water Site of Biological Significance. The site is managed in accordance with the Melbourne Water Site of Biological Significance Strategy.	X	
7.2	**Has either (a) the party proposing to take the action, or (b) if a permit has been applied for in relation to the action, the person making the application - ever been subject to any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources?**	X	

If yes, provide details

The JH-KBR JV has not been subject to proceedings under any local, state or Commonwealth law.

In 2000/01 Melbourne Water received two Penalty Infringement Notices for litter and odour related to the discharge of effluent to Bass Strait from Eastern Treatment Plant.

In 2005/06 Melbourne Water received two Penalty Infringement Notices for pollution and late notification related to a failure of a sludge supernatant pump at Eastern Treatment Plant.

In 2005/06 aluminium sulphate (alum) from the Winneke water treatment plant lost to Sugarloaf Creek at Christmas Hills was identified and contained in November 2005. The cause was a leaking chemical pipeline that went undetected because it was within a wall cavity at the plant. The leak is likely to have occurred for many weeks before being realised and finally resulted in a blue colouration to the creek water and a small number of dead fish in Watsons Creek. EPA Issued a Clean Up Notice for this incident.

In 2005/06 fluorosilicic acid (a liquid form of fluoride) from the Cardinia water treatment plant was lost to Cardinia Creek at Beaconsfield. The cause was a leaking chemical pipeline within a part of the plant that was out of service at the time of the incident. The leak occurred intermittently over a period of 3 weeks before it was identified and stopped. Inspection of the creek revealed no sign of fish deaths.

These two offences were heard together in the Magistrates' Court on 29 August 2007 with both found proven without a conviction recorded against Melbourne Water. Melbourne Water was required to make contributions to an environmentally relevant community project totalling $150,000 and also had to pay for the EPA's technical reports and its legal costs.

In 2006/07 Melbourne Water was issued a Pollution Abatement Notice to manage the remediation of the Dandenong Wastewater Treatment Plant. Melbourne Water inherited this plant from a previous organisation. The remediation work has now been completed.

7.3	**If the party taking the action is a corporation, will the action be taken in accordance with the corporation's environmental policy and planning framework?**	X	

	If yes, provide details of environmental policy and planning framework Melbourne Water's Environment Policy is available at http://iwww.melbwater.com.au/index/policy/policies/policy_environment.htm Melbourne Water is committed to protecting, conserving and improving natural assets and using natural resources sustainably. Our Environment Policy specifies actions and outcomes to achieve maximum net environmental benefits to society and to promote sustainable resource management and use. Melbourne Water's Environment Policy supports the Strategic Framework. The Framework formalises Melbourne Water's commitment to a sustainable water future and links our programs to relevant Government policy platforms such as Melbourne 2030 and Our Environment Our Future.		
7.4	**Has the party taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?**	X	

Provide name of proposal and EPBC reference number (if known)

The JH-KBR JV has not previously referred a project under the EPBC Act. However, Melbourne Water have previously referred actions or been responsible for undertaking actions under the EPBC Act. Below is a list of referrals which occurred after 2010.

Ref. No.	Project Title	Outcome
2015/7619	WTP Effluent Discharge Improvement Works	Not a controlled action
2015/7515	Melbourne Water WTP Stage 2 Capacity Augmentation Project	Not a controlled action
2014/7313	WTP Stage 1 Augmentation	Not a controlled action if undertaken in a particular manner.
2014/7156	Kayes Drain drainage works	Not a controlled action
2013/6939	WTP: Sludge drying pan refurbishment	Not a controlled action if undertaken in a particular manner.
2013/6719	Kew: North Branch Sewer Upgrade	Not a controlled action
2012/6678	Seaford Wetlands Hydrology Works	Not a controlled action if undertaken in a particular manner.
2011/5992	Bunyip Main Drain Bank Rehabilitation Works	Approved with conditions.
2011/5926	Edithvale Wetlands Bird Hide Repairs, Vic.	Not a controlled action
2011/5921	WTP: Class C Recycled Water Supply Reliability Improvement	Not a controlled action if undertaken in a particular manner.
2010/5654	Mordialloc Creek: Wetland Lot 4 Governor Road Braeside	Not a controlled action
2010/5641	Replace the existing weir at Dights Falls with a new weir and vertical slot fishway, Yarra River	Not a controlled action
2010/5626	Eastern side of Turntable Way, Caroline Springs: Modification of an artificial dam into a constructed wetland and water retarding basin	Not a controlled action
2010/5376	Upgrade to Eastern Treatment Plant	Not a controlled action

8 Information sources and attachments

(For the information provided above)

8.1 References

- Bushland Management Services (2006) Overview of vegetation condition and management issues for Colchester Road Retarding Basin.
- Department of Environment (DoE) (2013) Matters of National Significance: Significant impact guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999.
- Department of Environment (DoE) (2015) EPBC Act Policy Statement 3.21 Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species.
- Department of Environment (2016) EPBC Act Protected Matters Report.
- Department of Environment, Land, Water and Planning (DELWP) (2016a) Biodiversity Interactive Map http://mapshare2.dse.vic.gov.au/MapShare2EXT/imf.jsp?site=bim. Accessed 1st March 2016.
- Department of Environment, Land, Water and Planning (DELWP) (2016b) EVC benchmarks, Bioregions http://www.depi.vic.gov.au/environment-and-wildlife/biodiversity/evc-benchmarks#gipp. Accessed 1st March 2016.
- DEPI (2013) Advisory list of threatened vertebrate fauna in Victoria 2014 (Department of Environment and Primary Industries, Melbourne).
- DEPI (2014) Advisory list of rare or threatened plants in Victoria 2014 (Department of Environment and Primary Industries, Melbourne).
- Ecology Australia (2015a) Colchester Road Retarding Basin (Bungalook Conservation Reserve), Kilsyth South: flora and fauna due diligence assessment for a proposed levee upgrade, prepared for Melbourne Water, Ecology Australia.
- Ecology Australia (2015b) Colchester Road Retarding Basin upgrade, Kilsyth South: Targeted survey for the Kilsyth South Spider-orchid, Caladenia sp. aff. venusta (Kilsyth South), prepared for Melbourne Water, Ecology Australia.
- JH-KBR JV (2016) Kilsyth South Spider-orchid - Caladenia sp. aff. venusta (Kilsyth South) Threatened Species Construction Management Plan.
- MWC (2013) Environmental Stewardship Policy - Version 1. Prepared by Melbourne Water Corporation, November 2013.

8.2 Reliability and date of information

Melbourne Water approached Ecology Australia to specifically develop the following reports for the purpose of the Project assessment:

- Ecology Australia (2015a) Colchester Road Retarding Basin (Bungalook Conservation Reserve), Kilsyth South: flora and fauna due diligence assessment for a proposed levee upgrade.
- Ecology Australia (2015b) Colchester Road Retarding Basin upgrade, Kilsyth South: Targeted survey for the Kilsyth South Spider-orchid, Caladenia sp. aff. venusta (Kilsyth South)

Ecology Australia are able to provide relevant and reliable information on the species and its management. The following was noted in Ecology Australia (2015b):

Geoff Carr and other Ecology Australia staff have particularly relevant experience in relation to Spider-orchids (*Caladenia* species and the Kilsyth South Spider-orchid) as outlined below:

- Geoff is highly familiar with Spider-orchid biology, ecology and taxonomy, having described 17 new species of Caladenia (Spider-orchids) over c. 35 years (e.g. Carr 1991);
- Graeme Lorimer and Geoff Carr intend to describe the Kilsyth South Spider-orchid.

- Ecology Australia has prepared the following relevant reports:
    - Management Plan for the Kilsyth South Spider-orchid with Graeme Lorimer (Lorimer and Carr 2013);
    - Significance of Vegetation at Lot 10, Tereddan Drive, Kilsyth South and Potential Impacts of Clearing, an expert witness statement for a Victorian Civil and Administrative Appeals Tribunal hearing (Ecology Australia 1998); and
    - Vegetation and Management of Tereddan Drive Reserve, Kilsyth South, Victoria (Ecological Horticulture 1992);
- Ecology Australia has conducted numerous formal and informal surveys for threatened orchid species, including *Caladenia* (e.g. Carr 1980; Ecological Horticulture 1989; Ecology Australia 2010, 2011a, b)

The Kilsyth South Spider-orchid Threatened Species Construction Management Plan was prepared by ecologists from the JH-KBR JV, with information and issues sourced from representatives from the Australian Native Orchid Society and the Herbarium and the Melbourne Botanic Gardens. Ecologists from JH-KBR JV have previous experience in preparation of construction management plans for endangered orchid species, having prepared the construction management plan for the Sunshine Diuris for the Regional Rail Link project.

All information is considered reliable and recent. The sources of information to design mitigation measures to reduce the impact to the Kilsyth South Spider-orchid was obtained from orchid experts and suitably qualified ecologists and botanists.

8.3 Attachments

		✓ attached	Title of attachment(s)
You must attach	figures, maps or aerial photographs showing the project locality (section 1)	✓	Attachment A JH-KBR JV (2016) Kilsyth South Spider-orchid - *Caladenia* sp. aff. *venusta* (Kilsyth South) Threatened Species Construction Management Plan.
	GIS file delineating the boundary of the referral area (section 1)		
	figures, maps or aerial photographs showing the location of the project in respect to any matters of national environmental significance or important features of the environments (section 3)	✓	Attachment B Protected Matters report (2016) Attachment C Ecology Australia (2015a) Colchester Road Retarding Basin (Bungalook Conservation Reserve), Kilsyth South: flora and fauna due diligence assessment for a proposed levee upgrade.

			Attachment D Ecology Australia (2015b) Colchester Road Retarding Basin upgrade, Kilsyth South: Targeted survey for the Kilsyth South Spider-orchid, Caladenia sp. aff. venusta (Kilsyth South). Attachment A JH-KBR JV (2016) Kilsyth South Spider-orchid - Caladenia sp. aff. venusta (Kilsyth South) Threatened Species Construction Management Plan.
If relevant, attach	copies of any state or local government approvals and consent conditions (section 2.5)		
	copies of any completed assessments to meet state or local government approvals and outcomes of public consultations, if available (section 2.6)		
	copies of any flora and fauna investigations and surveys (section 3)	✓	Attachment C Ecology Australia (2015a) Colchester Road Retarding Basin (Bungalook Conservation Reserve), Kilsyth South: flora and fauna due diligence assessment for a proposed levee upgrade. Attachment D Ecology Australia (2015b) Colchester Road Retarding Basin upgrade, Kilsyth South: Targeted survey for the Kilsyth South Spider-orchid, Caladenia sp. aff. venusta (Kilsyth South).
	technical reports relevant to the assessment of impacts on protected matters that support the arguments and conclusions in the referral (section 3 and 4)	✓	Attachment B Protected Matters report (2016) Attachment A JH-KBR JV (2016) Kilsyth South Spider-orchid -

		Caladenia sp. aff. venusta (Kilsyth South) Threatened Species Construction Management Plan.
report(s) on any public consultations undertaken, including with Indigenous stakeholders (section 3)		

9 Contacts, signatures and declarations

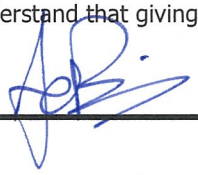
Project title: Colchester Road Retarding Basin Upgrade Project

9.1 Person proposing to take action

1. Name and Title:	Paul Coysh, Senior Project Manager, Major Project Delivery
2. Organisation (if applicable):	Melbourne Water Corporation
3. EPBC Referral Number (if known):	
4: ACN / ABN (if applicable):	81 945 386 953
5. Postal address	990 Latrobe Street, Docklands 3008
6. Telephone:	03 9679 7324
7. Email:	paul.coysh@melbournewater.com.au
8. Name of proposed proponent (if not the same person at item 1 above and if applicable):	
9. ACN/ABN of proposed proponent (if not the same person named at item 1 above):	
I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:	N/A
If you are small business entity you must provide the Date/Income Year that you became a small business entity:	N/A
I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations. Under sub regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons why it should be made:	N/A
Declaration	I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct. I understand that giving false or misleading information is a serious offence. I agree to be the proponent for this action. I declare that I am not taking the action on behalf of or for the benefit of any other person or entity.

Signature  Date 18/03/2016

9.2 Person preparing the referral information (if different from 8.1)

Name	Adam Rigg
Title	Environment and Approvals Lead
Organisation	John Holland Pty Ltd - Kellogg Brown & Root Pty Ltd Joint Venture
ACN / ABN (if applicable)	ABN 48 418 909 355
Postal address	Level 3/441 St Kilda Road, Melbourne 3004
Telephone	03 9828 5421
Email	adam.rigg@kbr.com
Declaration	I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct. I understand that giving false or misleading information is a serious offence.
Signature	 Date 18/3/16

REFERRAL CHECKLIST

HAVE YOU:

- ❑ Completed all required sections of the referral form?
- ❑ Included accurate coordinates (to allow the location of the proposed action to be mapped)?
- ❑ Provided a map showing the location and approximate boundaries of the project area?
- ❑ Provided a map/plan showing the location of the action in relation to any matters of NES?
- ❑ Provided a digital file (preferably ArcGIS shapefile, refer to guidelines at Attachment A) delineating the boundaries of the referral area?
- ❑ Provided complete contact details and signed the form?
- ❑ Provided copies of any documents referenced in the referral form?
- ❑ Ensured that all attachments are less than three megabytes (3mb)?
- ❑ Sent the referral to the Department (electronic and hard copy preferred)?

Geographic Information System (GIS) data supply guidelines

If the area is less than 5 hectares, provide the location as a point layer. If the area greater than 5 hectares, please provide as a polygon layer. If the proposed action is linear (eg. a road or pipline) please provide a polyline layer.

GIS data needs to be provided to the Department in the following manner:

- Point, Line or Polygon data types: ESRI file geodatabase feature class (preferred) or as an ESRI shapefile (.shp) zipped and attached with appropriate title
- Raster data types: Raw satellite imagery should be supplied in the vendor specific format.
- Projection as GDA94 coordinate system.

Processed products should be provided as follows:

- For data, uncompressed or lossless compressed formats is required - GeoTIFF or Imagine IMG is the first preference, then JPEG2000 lossless and other simple binary+header formats (ERS, ENVI or BIL).
- For natural/false/pseudo colour RGB imagery:
    - If the imagery is already mosaiced and is ready for display then lossy compression is suitable (JPEG2000 lossy/ECW/MrSID). Prefer 10% compression, up to 20% is acceptable.
    - If the imagery requires any sort of processing prior to display (i.e. mosaicing/colour balancing/etc) then an uncompressed or lossless compressed format is required.

Metadata or 'information about data' will be produced for all spatial data and will be compliant with ANZLIC Metadata Profile. (http://www.anzlic.org.au/policies_guidelines#guidelines).

The Department's preferred method is using ANZMet Lite, however the Department's Service Provider may use any compliant system to generate metadata.

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