

### **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 <u>Department's website</u>.

#### 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/topics/about-us/legislation/environment-protection-andbiodiversity-conservation-act-1999

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

### **Project title:**

### **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

Use 2 or 3 sentences to uniquely identify the proposed action and its location.

APA GasNet Australia (Operations) Pty Ltd (APA) is proposing to loop (or duplicate) two further sections of the existing 300mm Wollert to Wodonga gas transmission pipeline (Pipeline Licence 101) to meet contractual requests from clients for the supply of natural gas. The sections of the route to be looped consists of the following:

- Looping 6: Broadford to Mangalore covering about 29.1km;
- Looping 7: Glenrowan to Barnawartha covering about 66.4km.

Note that the naming conventions used in this document take into consideration that APA has recently completed a number of other loopings of the existing pipeline between Wollert and Glenrowan (Loopings 1 to 5, completed in June 2015). These have previously been considered under the EPBC Act separately to this application.

#### 1.2 Latitude and longitude

Latitude and longitude details are used to accurately map the boundary of the proposed action. If these coordinates are inaccurate or insufficient it may delay the processing of your referral.

	Longitude			Latitude			
		degrees	minutes	seconds	degrees	minutes	seconds
L6	Broadford	145°	4'	35.148"	37°	12'	22.608"
L6	Mangalore	145°	10'	44.652"	37°	0'	1.764"
L7	Glenrowan	146°	11'	41.028"	36°	27'	39.924"
L7	Barnawartha	146°	40'	42.024"	36°	5'	21.66"

Co-ordinates of each vertex or turning point of the proposed pipeline have been provided in an Excel file. See Attachment A: 'DoE\_Monarc L6 L7 GIS Data.zip'. Co-ordinates in Attachment A are presented in Decimal Degrees.

Also in **Attachment A** are a number of files containing ESRI compatible GIS shapefiles to facilitate assessment of the proposal. All shapefiles are in GCS\_GDA\_1994. Shapefiles pertain to:

- L6 Broadford Mangalore Footprint polygon layer
- L6 proposed pipeline polyline layer
- L6 Remnant Patches polygon layer
- L7 Glenrowan Barnawartha polygon layer
- L7 proposed pipeline polyline layer
- L7 Remnant Patches polygon layer
- Proposed pipeline vertices XY point layer
- VNIE Loopings 6 and 7 DOE EPBC Referral METADATA XML (ANZLIC compliant)

The Interactive Mapping Tool may provide assistance in determining the coordinates for your project area.

If the area is less than 5 hectares, provide the location as a single pair of latitude and longitude references. If the area is greater than 5 hectares, provide bounding location points.

There should be no more than 50 sets of bounding location coordinate points per proposal area.

Bounding location coordinate points should be provided sequentially in either a clockwise or anticlockwise direction.

If the proposed action is linear (eg. a road or pipeline), provide coordinates for each turning point.

Also attach the associated GIS-compliant file that delineates the proposed referral area. If the area is less than 5 hectares, please provide the location as a point layer. If greater than 5 hectares, please provide a polygon layer. If the proposed action is linear (eg. a road or pipline) please provide a polyline layer (refer to GIS data supply guidelines at <u>Attachment A</u>).

#### Do not use AMG coordinates.

#### 1.3 Locality and property description

Provide a brief physical description of the property on which the proposed action will take place and the project location (eg. proximity to major towns, or for off-shore projects, shortest distance to mainland).

The proposed pipeline is to be installed within APA's existing 35m wide easement occupied by the existing 300mm Wollert to Wodonga pipeline. The 300mm Wollert to Wodonga gas transmission pipeline was constructed in 1975 and runs in an approximately north easterly direction from the Wollert Compressor Station on the northern outskirts of Melbourne through to Wodonga, a total distance of approximately 269km.

Looping 6 commences on the north side of Strath Creek Road to the east of Broadford and the Hume Freeway. It then heads north to pass under the Goulburn River and diverts to the east of Seymour to finish about 50m south of Back Mountain Road (about four kilometres north-east of Seymour).

Looping 7 commences on the north side of the Glenrowan-Boweya Road about 3km west of Glenrowan and skirts the north side of the township before crossing the Hume Freeway. It then heads in a north easterly direction, crossing the Hume Freeway twice more, as it passes to the east of Wangaratta. Keeping to the east of the Freeway, the pipeline then heads in a northerly direction before crossing the Freeway a fourth time to the south west of Chiltern. The easement then heads around the northern side of Chiltern township, passing through the eastern side of the Chiltern section of the Chiltern - Mt. Pilot National Park, before heading in a north-easterly direction to finish at Barnawartha at about KP184.6.

Refer to Figure 1 for a plan of the route.

1.4	Size of the development footprint or work area (hectares)	Approximately 265.9 hectares inclusive of construction ROW and access tracks for the length of project (comprising Looping 6 at 81.38ha and Looping 7 at 184.52ha)
1.5	Street address of the site	Looping 6: predominantly in privately owned agricultural and horticultural properties to the east of the Hume Freeway between Broadford and north-east of Seymour. Looping 7: predominantly in privately owned agricultural properties and Crown Land between Glenrowan and Barnawartha

#### 1.6 Lot description

Describe the lot numbers and title description, if known.

Land parcels that the proposed pipelines will intersect are provided in Attachment B.

#### 1.7 Local Government Area and Council contact (if known)

If the project is subject to local government planning approval, provide the name of the relevant council contact officer.

The project will be constructed in accordance with the Victorian *Pipelines Act 2005* and is not subject to local government planning approval (refer S85 of the Act or Section 2.4 of this referral).

Local government authorities are being consulted during the planning stages of the project which passes through the following local government areas:

		Looping	Location	<u>Contact</u>
•	Shire of Mitchell	6	KP45.2 to 74.3	Elyse Kelly - Environmental Program Coordinator
٠	Benalla Rural City	7	KP118.2 to 118.5	Joel Ingham - Planning Coordinator
•	Wangaratta Rural City	7	KP118.5-166.2	Bronwyn Chapman - Manager, Environmental and Community Safety
•	Shire of Indigo	7	KP166.2-184.6	Jenna Pena - Coordinator Natural Resources Management

#### 1.8 Time frame

Specify the time frame in which the action will be taken including the estimated start date of construction/operation.

Construction of the pipelines is scheduled to commence in December 2015 and be completed by June 2016.

The timing of construction of each looping stage will be negotiated with the successful construction tenderer(s) when they are appointed to the project.

1.9 Alternatives to proposed action Were any feasible alternatives to taking the proposed action (including not taking the action) considered but are not proposed?		~	No		
			Yes, you must also complete section 2.2		
1.10	Alternative time frames etc	$\checkmark$	No		
	alternative time frames, locations or activities?		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		No		
	cerritory environmental impact assessment?	$\checkmark$	Yes, you must also complete Section 2.5		
1.12 <b>Component of larger action</b>		$\checkmark$	No		
	a larger action?		Yes, you must also complete Section 2.7		
1.13	Related actions/proposals Is the proposed action related to other actions or proposals in the region (if known)?		No Yes, provide details: Separate loopings have recently been constructed parallel to the existing 300mm Wollert to Wodonga gas pipeline between Wollert and Glenrowan in two construction programmes. These are referred to as Looping 1 & 5 (KP0 to KP45.2) and Looping 2 to 4 (KP73.8 to 118.2). These sections were constructed as part of a separate action and have previously been considered under the EPBC Act separately to this referral. Correspondence for these projects included:		

	Looping 1:			
			<ul> <li>9 August 2013 - Letter from DSEWPC noting no requirement for referral under the EPBC Act for the portion of the project within the Northern Growth Corridor of the Urban Growth Boundary</li> <li>18 September 2013 - Letter from DSEWPC noting no requirement for referral under the EPBC Act for the portion of the project outside of the Urban Growth Boundary given that significant impacts to matters of national environmental significance are not likely</li> </ul>	
			Loopings 2 to 5:	
			• 1 July 2014 - Decision by the Minister that the action is not a controlled action if undertaken in a particular manner (EPBC 2014/7186).	
			These sections were constructed to meet the demands of separate commercial contracts that had been negotiated by APA at that stage. The pipeline sections to be constructed on Loopings 6 and 7 are required to meet recently negotiated commercial contracts and future contracts currently being negotiated and are the subject of independent business decisions.	
1.14	Australian Government funding	$\checkmark$	No	
	Has the person proposing to take the action received any Australian Government grant funding to undertake this project?		Yes, provide details:	
1.15	Great Barrier Reef Marine Park	$\checkmark$	No	
	Is the proposed action inside the Great Barrier Reef Marine Park?		Yes, you must also complete Section 3.1 (h), 3.2 (e)	

### 2 Detailed description of proposed action

**NOTE:** It is important that the description is complete and includes all components and activities associated with the action. If certain related components are not intended to be included within the scope of the referral, this should be clearly explained in section 2.7.

#### 2.1 Description of proposed action

This should be a detailed description outlining all activities and aspects of the proposed action and should reference figures and/or attachments, as appropriate.

APA is proposing to loop (or duplicate) two sections of the existing 300mm Wollert to Wodonga gas transmission pipeline to meet contractual requests from clients for the supply of gas. The sections of the route to be looped consist of the following:

- Looping 6: Broadford to Mangalore (Kilometre Point or KP45.2 to KP74.3) covering about 29.1km;
- Looping 7: Glenrowan to Barnawartha (KP118.2 to KP184.6) covering about 66.4km.

Note that:

- For Looping 6, KPO commences 500m south of Summerhill Road, Wollert within the Wollert Compressor Station;
- For Looping 7, KPO has been set at 50m south of Back Mountain Road, Seymour (commencement of Looping 3).

This referral is based on obtaining approvals for the whole of Loopings 6 and 7 as described above. However, it has not yet been determined how much of each looping section will be constructed - only the pipe length necessary to meet the demand requirements of customers is proposed to be constructed and this may be less than the total distance of these proposed loops.

- At the time of making this application it is anticipated that about 16.1km of Looping 6 will be constructed (from Broadford to about Tallarook); and
- Looping 7 is expected to be between Byawatha Rd, north of Wangaratta to Barnawartha (about 39.4km)

However, as the future outcomes of commercial negotiations with customers cannot be predicted, approvals are being sought for the whole of Loopings 6 and 7 in the event that the current negotiation of contracts or future contracts may require these sections to be completed in the same time frame as previously indicated.

The pipeline will be installed in the existing 35m wide APA easement for the existing 300mm Wollert to Wodonga gas transmission pipeline. The existing pipeline is located approximately 7.5m from the western edge of, and within, the existing easement with the proposed pipeline to be located approximately 7m east of the existing pipeline.

The construction Right-of-Way (ROW) for the project is a temporary construction zone that will accommodate plant and equipment, allow vehicle travel along the construction route and temporary storage of trench spoil and topsoil. The width of the ROW also ensures that construction activities can be safely performed with minimum risk of accident or injury to construction personnel. Access to the construction ROW will be via existing roads or designated lateral access tracks.

To avoid impacts to the existing pipeline, the construction ROW along most of the project area will be confined to the portion of the easement that lies east of the existing pipeline except at certain points where additional space may be required adjacent to the easement to accommodate plant and equipment required for crossing special features, such as Horizontal Directional Drilling (HDD), or where space may be required as a temporary site depot or laydown area.

The ROW will therefore generally be 28m in width and will largely utilise the area of the existing easement that lies east of the existing pipeline. In sensitive areas, however, the construction ROW will be reduced to 20m and, in some locations, shifted westward over the existing pipeline to avoid, or minimise impacts to, significant vegetation.

Pipe is to be laid below the ground surface with a minimum depth of cover of 1200mm for its entire length and construction works will generally involve a clear and grade process that will remove the existing surface cover from the construction ROW (such as the vegetation strip and topsoil, approximately 100mm in depth), the excavation of a trench of approximately 700mm width, laying of 400mm diameter pipe, backfilling of the trench and reinstatement of the land surface. If feasible (dependent on considerations such as location, geology and access), HDD may be used for some major watercourses where minimal disturbance to significant features is required.

It should be emphasised that the construction ROW will be within the existing easement. Land that is disturbed by pipeline construction activities will be rehabilitated so that it is restored to its pre-existing land use within a reasonable time period after construction (with the proviso that no trees will be allowed to be planted within 3m to either side of the pipeline). Each landholder's specific requirements and requests will be identified, conditions will be negotiated, and contact will be maintained with the landholder during construction activities. As part of the construction contract, the entire disturbed area of the construction ROW will be subject to a weed monitoring and control program for 24 months following construction. After this period, the whole easement will be monitored under the requirements of the Operations Environmental Management Plan (Ref: 320-PL-HEL-0015), which APA utilises for all operational pipelines within Victoria.

Pipeline construction is to comply with all relevant codes and standards including Australian Standard AS2885.1-2007 Pipelines-Gas and liquid petroleum-Design and construction (Standards Australia 2012) and the Australian Pipeline Industry Association Code of Environmental Practice (APIA, 2013). The construction will also be guided by the environmental requirements to be specified in a Construction Environment Management Plan (CEMP) to be prepared in compliance with the Victorian Pipelines Regulations 2007 and accepted by the Earth Resources Regulation Branch of the Department of Economic Development, Jobs, Transport and Resources (DEDJTR).

Pipeline construction activities will include:

- <u>Access to the ROW</u>: Access to the ROW will primarily be from road crossings and designated access tracks. Landholders will be consulted for permission regarding any use and maintenance requirements for any access tracks on their properties.
- <u>Centreline survey</u>: This requires a survey of the centreline of the pipeline and the limits of the ROW. Boundaries will be marked using stakes and will be retained until ROW restoration. Any fences to be cut to allow for construction will also be marked by surveyors.
- Establishment of temporary <u>construction support</u> worksites including:
  - Construction depot;
  - Equipment laydown areas;
  - Temporary pipe storage areas;
  - Project Manager's site office.

While some of these may be consolidated on the same site, this is dependent upon construction logistics and will be determined by the construction contractor. Construction support facilities for this project are expected to be located in previously cleared areas within close proximity to the construction ROW.

- <u>Traffic Management</u>: The construction ROW will cross several transport corridors and a traffic management plan will be developed in consultation with Local Government Authorities and VicRoads, as appropriate, prior to the commencement of construction. Sufficient gaps will be provided for public and private access across the ROW including the movement of vehicles, farm equipment and livestock.
- <u>Installation of temporary gateways</u>: Fences to be cut shall be marked by surveyors. Temporary strainer assemblies and gateways shall be installed at every fence line that crosses the ROW. If requested by the land owner / occupier the ROW will be fenced off with temporary fencing to provide extra livestock security while construction progresses along the ROW.
- <u>Clear and grade</u>: Proposed construction methods of the pipeline include a clear and grade process to remove the vegetation and topsoil from the ROW. This is intended to allow both safe access for construction and improve the likelihood of successful restoration by minimizing adverse impacts on topsoil during construction. In vegetated areas, it also assists in managing fire risk during construction.

Clear and grade will include the removal of a 50mm vegetation strip from the ROW and the grading of up to 100mm of topsoil in private property and pasture, depending on the soil profile, using bulldozers and graders. The topsoil will be stockpiled in a windrow along the edge of the ROW to permit safe and practical construction access whilst preserving the topsoil for later reinstatement. Vegetation and topsoil cleared from the construction ROW will be stockpiled separately from the excavated trench material to encourage successful reinstatement of the ROW following construction.

APA will supervise the extent of clearing required and ensure compliance with the Construction Environment Management Plan. Special features, which include areas of native vegetation, not to be disturbed will be included on a construction line list and marked at this time.

Where sedimentation of watercourses may occur, erosion and sediment control measures will be installed around stockpiles and spoil at these locations. Erosion and sediment control measures will be inspected and maintained on a regular basis and following rain events for the entire construction area.

• <u>Trenching</u>: The trench will be approximately 700mm wide and will be excavated using a range of specialist equipment to a depth that provides an appropriate cover for the pipe (as established in the Safety Management Study) commensurate with the terrain and land use characteristics. Trench depth will be increased at road and watercourse crossings as appropriate. As a general rule, the minimum cover over the pipeline will be 1200mm. Trench spoil will be stockpiled separately from topsoil on the trench side of the ROW.

It is expected that the trench may remain open up to 14 days at any one location. Measures will therefore be put in place to mitigate wildlife intrusions and entrapment in the trench.

• <u>Horizontal Directional Drilling</u> will involve drilling beneath some major waterways and major transport infrastructure utilising trenchless technology. It will require the excavation of an exit pit (approximately 3mx3mx3m) on the opposite side to where the drilling rig is set up to contain drilling fluids used to assist the drilling process. A smaller entry pit approximately half the size of the exit pit is excavated on the drilling rig side for the same reason as described above. A bore hole is then drilled more than several metres beneath the invert of the river from one side to the other and the pipe pulled back through the bore hole. The drilling fluids that are used to assist the process are monitored through the logging of fluid inputs and returns.



While the use of HDD techniques avoids river bank and in-stream construction activities, it can pose technical and environmental risks as part of the crossing is beneath the watercourse and cannot be readily observed. Drilling fluids are used to assist the process and fluid use needs to be monitored through the logging of fluid inputs and returns. The potential for 'frac-outs', or loss of fluids through fractures in the overlying strata, is minimized by a review of geology and selection of a drill profile and depth that controls this potential risk. A separate HDD Management Plan will therefore be prepared by the construction contractor for approval by the relevant regulatory authority prior to commencement of the crossing. This will provide design details of the crossing, methods to monitor fluid use and procedures to be followed in the event of a 'frac-out'.

- <u>Horizontal boring</u>: For bitumen road crossings horizontal boring methods will be employed in order to avoid disruption to traffic and the road surface. The installation of the pipeline by horizontal boring involves boring a hole from one bore pit to another bore pit, then pulling the welded pipe string back through the bored hole. Boring is conducted by a specially designed bore rig and operated by a specialist construction contractor.
- <u>Watercourse crossings</u>: Potential assets that have been identified within the construction ROW include a number of perennial waterways as well as numerous ephemeral waterways. In general, natural waterways and drainage lines (designated waterways under the Victorian *Water Act 1989*) are the responsibility of the Goulburn Broken Catchment Management Authority (GBCMA) and the North East Catchment Management Authority (NECMA). In summary:
  - Looping 6 (Broadford to Mangalore) intersects 24 designated waterways, all of which are managed by GBCMA. This includes the Goulburn River.
  - Looping 7 (Glenrowan to Barnawartha) intersects 50 designated waterways including the Ovens and King Rivers. NECMA manages 48 of the designated waterways while two, at the very start of the looping, are managed by GBCMA.

All designated waterways intersected by the project within Looping 6 drain to the Goulburn River. Those within Looping 7 drain to the Murray River.

It is expected that the following waterways will be crossed with the use of HDD construction methods to pass under the river or creek (subject to the completion of geotechnical assessments):

• Looping 6 - Goulburn River (KP62.85)

• Looping 7 - King River (KP135.1)

Yanko Creek (KP137.3) Ovens River (KP138.03)

All other waterway crossings will be open cut. This involves the excavation of a trench across the watercourse. Construction is generally scheduled for periods of low/zero flow and sediment control measures (such as sediment fences) are used where appropriate to minimise impacts to water quality. In some cases, temporary dams may be constructed and flumes or pumps used to carry water from one side of the construction area to the other in order to maintain stream flow.

All waterways will be crossed in accordance with relevant guidelines for creek and river crossings. Approval to traverse these assets will be sought through the submission of a Site Environment Management Plan (SEMP) to both CMAs, which will include construction plans and drawings along with appropriate methods of construction and rehabilitation. Restoration of these crossings will use a range of methods to ensure the area is stabilised after construction is complete.

- <u>Pipe stringing</u>: Pipe will be delivered to the ROW by semi-trailer and laid out end-to-end alongside the trench. The pipes will be up to 18m long and are placed on raised timber skids or sandbags to protect the pipe from damage and allow it to be welded into continuous lengths (pipe strings). Gaps will be provided for public or private access such as the movement of farm equipment or livestock.
- <u>Bending</u>: Bending may be required to enable the pipe to conform to topographic conditions. Pipe may either be 'cold bent' in the field using hydraulic bending equipment or manufactured by applying heat in a factory to produce the desired shape.
- <u>Welding, radiography and joint coating</u>: Pipe segments are welded into continuous lengths before being laid in the trench. Welded joints will be x-ray tested to ensure compliance with Australian Standard AS2885.2 Pipelines-Gas and liquid petroleum-Welding, surface scale and rust will be removed and the joints coated with a high build epoxy (HBE) to provide a continuous external coating to prevent corrosion.
- <u>Lowering in</u>: Refers to the placement of the pipe strings into the trench by side-boom tractors. Prior to lowering-in, it may be necessary to dewater the trench and any water will be discharged to land, if appropriate, in accordance with regulatory requirements and not into watercourses. Artificial or natural sediment filters and energy dissipaters may be required to prevent sediment and erosion.

If required, clean bedding and padding sand will be placed around the pipe to provide protection from sharp objects damaging the pipe coating. This may consist of quarried sand or fine material may be sorted from the trench material.

- <u>As-built survey</u>: Prior to backfilling, a survey will be conducted to record the location of the actual pipeline and other details such as pipe numbers, welds and crossings.
- <u>Backfilling</u>: Where suitable, stockpiled trench spoil will be returned to the trench and compacted following the lowering-in of the pipe. If required, clean approved locally-sourced fill will be imported to make up any shortfall from soil removed. This is then covered with the stockpiled spoil, where suitable. Topsoil removed during grading will then be respread over the ROW and contours reinstated.
- <u>Hydrostatic testing</u>: The pipeline loops will be hydrostatically tested in accordance with the Australian pipeline standard (AS2885) to verify the integrity of the pipeline. Prior to hydrostatic testing, the interior of the pipeline will be pre-cleaned to remove weld debris, dust and surface scale. Once full of water, the pipeline will be pressurised for an extended period (strength test). The pressure is then lowered and held for 24 hours and monitored for pressure drops (leak detection test). Water for hydrostatic testing will be sourced from recycled sources where possible and disposed following completion of testing in accordance with relevant regulatory requirements and approvals. Comment on the discharge plan will be sought from the relevant regulatory authorities prior to disposal.
- <u>Clean-up and rehabilitation</u>: all temporary infrastructure, equipment and construction waste will be removed from the site following backfilling. Rehabilitation of the ROW will aim to reinstate contours, minimise the potential for erosion, minimise any impact on drainage patterns, minimise weed establishment, minimise the visual impact of the pipeline installation and minimise adverse impacts of the pipeline on existing land uses. As a result, erosion and sediment control structures (diversion berms, sediment traps) may be put in place to protect water quality at water or drain crossings and to divert run-off away from potentially unstable areas. Revegetation of the ROW will be based on specialist advice and consultation with landholders and will continue to be monitored. Timing of the removal of temporary gates and reinstatement of fences will be negotiated with each landholder. Note, however, that while the objective of restoration following construction will be to restore the land to its pre-existing use, APA has no control over the ongoing management of these areas.

It is expected that the workforce for this project may range up to 200 site based personnel comprised of general labour and specialist technical experts.

#### 2.2 Alternatives to taking the proposed action

This should be a detailed description outlining any feasible alternatives to taking the proposed action (including not taking the action) that were considered but are not proposed (note, this is distinct from any proposed alternatives relating to location, time frames, or activities – see section 2.3).

The proposed Loopings have been carefully designed to meet contractual requests from clients for the supply of gas to the north of Victoria and interstate. The decision to construct each looping section (or part thereof) is therefore driven by the individual gas demand of each customer and only those lengths of the pipeline required to meet the demands are constructed.

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

If you have identified that the proposed action includes alternative time frames, locations or activities (in section 1.10) you must complete this section. Describe any alternatives related to the physical location of the action, time frames within which the action is to be taken and alternative methods or activities for undertaking the action. For each alternative location, time frame or activity identified, you must also complete (where relevant) the details in sections 1.2-1.9, 2.4-2.7, 3.3 and 4. Please note, if the action that you propose to take is determined to be a controlled action, any alternative locations, time frames or activities that are identified here may be subject to environmental assessment and a decision on whether to approve the alternative.

The proposed route is largely controlled by the location of the existing pipeline and easement between Wollert and Barnawartha. An alternative route would require the acquisition of new easements and the possible clearing of new undisturbed areas to allow construction to proceed. However, space is available for a new pipe within the existing pipeline easement and the use of this easement will restrict the potential disturbance to the environment to the previously disturbed existing easement. This disturbance will be both during the construction phase and in relation to the relatively minor operations and maintenance works.

#### 2.4 Context, planning framework and state/local government requirements

Explain the context in which the action is proposed, including any relevant planning framework at the state and/or local government level (e.g. within scope of a management plan, planning initiative or policy framework). Describe any Commonwealth or state legislation or policies under which approvals are required or will be considered against.

The project is approved pursuant to a licence granted under the Victorian *Pipelines Act 2005*. The Act is administered by the Earth Resources Regulation Branch of DEDJTR for new facilities together with Energy Safe Victoria (ESV) for existing facilities. Key steps in the granting of approvals under the *Pipelines Act* include:

- Approval to construct, following acceptance of a Construction Safety Management Plan (CSMP) and a Construction Environment Management Plan (CEMP). Consent to construct will not be issued until DEDJTR and ESV is satisfied that all relevant issues are appropriately addressed;
- Consent to operate, following successful construction and testing of the facility, and approval of an amended operating safety case and an amended operations environment management plan from ESV. Operations Environment Management Plans are assessed by ESV following consultation with appropriate government and local government agencies and other interested stakeholders.

Section 85 of the *Pipelines Act* provides an exemption from the need to obtain planning approvals under the *Planning and Environment Act 1987* (P&E Act). The project is however, subject to any other relevant Victorian environmental legislation including but not limited to:

- Catchment and Land Protection Act 1994
- Flora and Fauna Guarantee Act 1988
- Environment Effects Act 1987

In addition, agreements between DEDJTR (the pipeline regulator) and other government departments ensure that relevant government policies such as State Environment Protection Policies or those related to vegetation management still apply.

#### 2.5 Environmental impact assessments under Commonwealth, state or territory legislation

If you have identified that the proposed action will be or has been subject to a state or territory environmental impact statement (in section 1.11) you must complete this section. Describe any environmental assessment of the relevant impacts of the project that has been, is being, or will be carried out under state or territory legislation. Specify the type and nature of the assessment, the relevant legislation and the current status of any assessments or approvals. Where possible, provide contact details for the state/territory assessment contact officer.

Describe or summarise any public consultation undertaken, or to be undertaken, during the assessment. Attach copies of relevant assessment documentation and outcomes of public consultations (if available).

The Planning group within the Victorian Department of Environment, Land, Water and Planning (DELWP) has been consulted on this project and it has been determined that a referral is required to determine whether an Environment Effects Statement (EES) under the Victorian *Environment Effects Act 1978* is needed.

Preliminary discussions were held with DEWLP at the commencement of studies for the project who requested more information on the likely impacts from the project before making a decision. The EES referral is being submitted concurrently with this referral following the completion of a number of studies for the project. These have included:

- An assessment of the extent and quality of all areas of remnant native vegetation within the construction ROW including identification of any areas containing vegetation that may qualify as an ecological community listed under the State *Flora and Fauna Guarantee Act 1988 (FFG Act) or Commonwealth EPBC Act.*
- Surveys for flora species listed as threatened under the *EPBC Act*, *FFG Act* or listed as endangered, vulnerable or rare on the DELWP Advisory List of threatened flora.
- Surveys for fauna species listed as threatened under the *EPBC Act*, *FFG Act* or listed as critically endangered, endangered or vulnerable on the DELWP Advisory Lists for threatened vertebrate and invertebrate fauna (including surveys for aquatic fauna in selected waterways).
- An arborist assessment of trees within the ROW to assess impacts of construction, such as the determination of Tree Protections Zones (TPZ) of trees to be retained, within and adjacent to, the proposed construction ROW.

Vegetation within the construction ROW has been assessed in accordance with state guidelines for vegetation quality assessment and any native vegetation to be cleared will be offset in accordance with legislative requirements.

Contact details for the Planning Group within DELWP are:

Niki Oleenik Environmental Assessment Project Officer Environment Assessment Unit Department of Environment, Land, Water and Planning Level 11, 1 Spring Street MELBOURNE Tel: 9223 5312 Email: <u>niki.oleenik@delwp.vic.gov.au</u>

#### 2.6 Public consultation (including with Indigenous stakeholders)

Your referral must include a description of any public consultation that has been, or is being, undertaken. Where Indigenous stakeholders are likely to be affected by your proposed action, your referral should describe any consultations undertaken with Indigenous stakeholders. Identify the relevant stakeholders and the status of consultations at the time of the referral. Where appropriate include copies of documents recording the outcomes of any consultations.

A voluntary Consultation Plan for the project has been prepared by APA. It will be the responsibility of APA to ensure that any significant environmental issues that are identified in environmental assessments undertaken for the project are adequately communicated to all relevant stakeholders, personnel and contractors. Steps shall be taken to ensure the intent, scope and relevance of these assessments are understood by all the stakeholders particularly how APA plans to minimise, as far as practicably possible, the impact of the proposed pipeline on the enjoyment and use of their land by the affected landholders.

The Consultation Plan describes how communications with affected landowners/occupiers will be initiated as well as means by which community members will be advised of the project. A comprehensive line list will be generated for affected landowners/occupiers that identify individual concerns over access to properties as well as requirements regarding impacts and reinstatement. Property inspection reports will be prepared to record agreed requirements of landowners/occupiers and to ensure such requirements are complied with.

Feedback from all interested parties will be continuously monitored during the entire project. An Issues and Action Register will be maintained by the Project Manager in which actions taken to address issues will be recorded.

Means by which project developments will be communicated to stakeholders and feedback encouraged include:

- Letters to affected landholders/occupiers
- Meetings with affected landowners/occupiers likely to be affected
- Meetings with community and special interest groups likely to be affected
- Meetings with local council and infrastructure owners
- Media releases during the construction of each looping to all identified media outlets
- Establishment of a phone number for stakeholders to contact the project team

Landowners and affected stakeholders are to be kept aware of scheduled activities and impacts as the project progresses.

A number of stakeholders have been identified as potentially having an interest in the project. A summary of the stakeholders consulted to date is provided below:

- Government and Regulatory bodies including:
  - Department of Environment (Canberra)
  - o Department of Economic Development, Jobs, Transport and Resources (Victoria)
  - Department of Environment, Land, Water and Planning (Victoria)
  - o Parks Victoria
  - Office of Aboriginal Affairs Victoria (AAV)
  - Heritage Victoria
  - Goulburn Broken Catchment Management Authority
  - North East Catchment Management Authority
  - VicRoads
  - VicTrack
- Local government authorities including
  - Mitchell Shire Council
  - Indigo Shire Council
  - o Rural City of Benalla
  - Rural City of Wangaratta
- Local interest groups including
  - Friends of Chiltern Mt. Pilot National Park
  - Birdlife Australia (the co-coordinating agency in a Regent Honeyeater recovery project that includes a release program around Chiltern Mt Pilot National Park)
  - Chiltern Landcare Group
- Landowners and occupiers whose property will be traversed by the pipeline.

#### Indigenous Stakeholders

The construction ROW contains a number of culturally sensitive areas including all major waterways. As construction activity may impact on these areas, Cultural Heritage Management Plans (CHMP) are being prepared in accordance with the Victorian *Aboriginal Heritage Regulations 2007*.

The project area is within the boundary of two Registered Aboriginal Parties (RAPs) being:

- Taungurung Clans Aboriginal Corporation (TCAC) covering all of Looping 6
- Yorta Yorta Nation Aboriginal Corporation covering the majority of Looping 7

A small part of Looping 7 (~KP 176.8 to 184.6) lies outside the RAP area. As there is no RAP for this section, the final CHMP will be approved by AAV. One CHMP will therefore be required for Looping 6 and two CHMPs for 7.

Both TCAC and Yorta Yorta are been consulted during the assessments of the respective parts of the loopings and will be approving the final CHMPs.

For the area of Looping 7 where is no RAP, APA has consulted with Yorta Yorta people and contacted a number of other persons on the advice of AAV. Additional Traditional Owners Groups include the Yaitmathang (no response so far), the Dhudhuroa Waveroo (no response so far), and the Dhudhuroa Local Custodians

#### 2.7 A staged development or component of a larger project

If you have identified that the proposed action is a component of a larger action (in section 1.12) you must complete this section. Provide information about the larger action and details of any interdependency between the stages/components and the larger action. You may also provide justification as to why you believe it is reasonable for the referred action to be considered separately from the larger proposal (eg. the referred action is 'stand-alone' and viable in its own right, there are separate responsibilities for component actions or approvals have been split in a similar way at the state or local government levels).

The action is not part of a larger project. However, as noted in Section 1.13, separate pipeline loopings have recently been constructed parallel to the existing 300mm pipeline between Wollert and Glenrowan (KP0 to KP45.2 and KP73.8 to 118.2).

Each looping section is required to meet the specific demands of separate large commercial customers, each requiring a specific volume of gas to meet their growing retail gas needs throughout eastern Australia. The decision to construct each looping section (or part thereof) is therefore driven by the individual gas demand of each customer and only those lengths of the pipeline required to meet the demands are constructed.

Construction on any section, or loop, is therefore dependent on long-term gas supply agreements negotiated by APA with commercial customers.

Loopings 2 to 5 were constructed to meet the demands of commercial contracts that had been negotiated by APA at that stage. The sections to be constructed on Loopings 6 and 7 are required to meet separate commercial contract already negotiated or currently being negotiated.

Advice was recently sought from the Department of Environment who confirmed that Loopings 6 and 7 may be treated as a separate to the previous projects on the pipeline.

### **3 Description of environment & likely impacts**

#### 3.1 Matters of national environmental significance

Describe the affected area and the likely impacts of the proposal, emphasising the relevant matters protected by the EPBC Act. Refer to relevant maps as appropriate. The interactive map tool can help determine whether matters of national environmental significance or other matters protected by the EPBC Act are likely to occur in your area of interest.

Your assessment of likely impacts should refer to the following resources (available from the Department's web site):

- specific values of individual World Heritage properties and National Heritage places and the ecological character of Ramsar wetlands;
- profiles of relevant species/communities (where available), that will assist in the identification of whether there is likely to be a significant impact on them if the proposal proceeds;
- Significant Impact Guidelines 1.1 Matters of National Environmental Significance; and
- associated sectoral and species policy statements available on the web site, as relevant.

Your assessment of likely impacts should consider whether a bioregional plan is relevant to your proposal. The Minister has prepared four marine bioregional plans (MBP) in accordance with section 176. It is likely that the MBP's will be more commonly relevant where listed threatened species, listed migratory species or a Commonwealth marine area is considered.

Note that even if your proposal will not be taken in a World Heritage area, Ramsar wetland, Commonwealth marine area, the Great Barrier Reef Marine Park or on Commonwealth land, it could still impact upon these areas (for example, through downstream impacts). Consideration of likely impacts should include both direct and indirect impacts.

#### 3.1 (a) World Heritage Properties

#### Description

The proposed action is not within a World Heritage property and will not affect any World Heritage values.

#### Nature and extent of likely impact

Address any impacts on the World Heritage values of any World Heritage property.

#### 3.1 (b) National Heritage Places

#### Description

The proposed action is not within a listed National Heritage place and will not affect any National Heritage values.

#### Nature and extent of likely impact

Address any impacts on the National Heritage values of any National Heritage place.

### **3.1 (c)** Wetlands of International Importance (declared Ramsar wetlands) Description

There are no Ramsar listed wetlands in the vicinity of the project.

Looping 6 crosses the Goulburn River upstream of Seymour. The Goulburn and the Lower Goulburn River Floodplain, downstream of the Goulburn Weir, approximately 40km downstream from the pipeline crossing is listed on the Directory of Important Wetlands in Australia.

The Ovens River in Looping 7 is also listed on the Directory of Important Wetlands in Australia. However, the pipeline crossing is approximately 14km upstream of the section of the Ovens River that is listed. For both these rivers, the new pipeline will be installed using HDD to pass under the waterways and it is therefore expected that there will be no impacts to either of these waterways.

#### Nature and extent of likely impact

Address any impacts on the ecological character of any Ramsar wetlands. Not applicable

# **3.1 (d)** Listed threatened species and ecological communities Description

#### **Threatened Flora and Vegetation Communities**

Searches of the EPBC Act Protected Matters Search Tool (PMST) identified 15 threatened flora species and four threatened ecological communities with potential to occur within a five kilometre radius of the construction ROW (DoE, 2015). Refer Table 1.

#### Table 1: Summary of EPBC listed flora species and communities potentially occurring within the region

	Species name	Common Name	EPBC Status	Looj Num	oing Iber
				6	7
Flora	Amphibromus fluitans	River Swamp Wallaby-Grass	Vulnerable	~	~
	Caladenia concolor	Crimson Spider-orchid	Vulnerable		~
	Caladenia cremna	Don's Spider Orchid	Critically Endangered		~
	Dianella amoena Matted Flax-lily		Endangered	~	
	Dodonaea procumbens Trailing Hop-bush		Vulnerable	~	
	Eucalyptus cadens	Warby Range Swamp Gum	Vulnerable		~
	Glycine latrobeana	Purple Clover	Vulnerable	~	~
	Goodenia macbarronii	Narrow Goodenia	Vulnerable		~
	Pimelea spinescens supsp spinescens	Spiny Rice Flower	Critically Endangered	~	
	Prasophyllum frenchii	Maroon Leek-orchid	Endangered	~	
	Senecio garlandii Woolly Ragwort		Vulnerable		~
	Senecio macrocarpus Large-headed Fireweed		Vulnerable	~	
	Swainsona murrayana	Slender Darling-pea	Vulnerable		~
	Swainsona recta	Small Purple-pea	Endangered		~
	Thelymitra matthewsii Spiral Sun-orchid		Vulnerable	~	
Threatened Ecological	Buloke Woodlands of the Riverina and Murray	Endangered		~	
Communities	Grey Box (Eucalyptus macrocarpa) Grassy Woo Grasslands of South eastern Australia	Endangered	~	~	
	Natural Grasslands of the Murray Valley Plain	S	Critically Endangered		~
	White Box-Yellow Box-Blakely's Red Gum Gra Native Grassland	ssy Woodland and Derived	Critically Endangered	~	~

Source: EPBC Act Protected Matters Search Tool, Dept. of Environment, Canberra

The proposed route was surveyed by qualified and experienced ecologists in June 2012 and January and

February 2013 to identify areas within the construction ROW that may potentially provide suitable habitat for threatened species or communities. Targeted surveys were then conducted from spring and summer 2013 and early 2014 to survey sites of suitable vegetation communities noted in the initial survey for threatened species. Surveys were implemented in accordance with recognised species-specific survey guidelines (DSE 2010; DEWHA 2010a, 2010b; DSEWPaC 2011a, 2011b,2011c).

In general, extensive clearing for agriculture and minor development has left the land within and surrounding the majority of the construction ROW devoid of indigenous vegetation with the exception of roadsides and waterways and, in Looping 7, the Chiltern - Mt. Pilot National Park.

The morphology and distribution of each flora species listed in **Table 1** are described below. All information derives from the Victorian Biodiversity Atlas (VBA), the Protected Matters Search Tool (PMST) and the Species Profile and Threats (SPRAT) database (DELWP 2015; DoE 2015a, 2015b). Although no threatened flora species listed under the EPBC Act were detected during targeted surveys, each species is considered in the referral process, given their potential to occur in Looping 6 and 7 based on historical records and modelled distribution.

- <u>River Swamp Wallaby-Grass Amphibromus fluitans</u> grows mostly in permanent swamps. The species needs wetlands which are at least moderately fertile and is virtually aquatic, often with only the flower heads above the water. Several historical records are located within the vicinity of Looping 7, in Winton North and south of Boldsworth Lane, Laceby. No records occur in the vicinity of Looping 6, however it falls within the EPBC Act modelled distribution of habitat for the species. No specimens of the plant were located during project surveys.
- <u>Crimson Spider-orchid Caladenia concolor</u> occurs in Box Ironbark and foothill forest, usually with an open grassy understorey on well-drained, gravelly or stony sand and clay loam. The species flowers in September to October. Several historical records occur in the vicinity of Looping 7 at Chiltern Mt. Pilot National Park, south of the Hume Freeway. No specimens of the plant were located during project surveys.
- <u>Don's Spider Orchid Caladenia cremna</u> is known only from one small population in the Black Range State Forest in north-east Victoria, approximately 50 km east of Seymour. This is located approximately 50km east of Looping 6. It occurs in Heathy Dry Forest dominated by Red Stringybark (*Eucalyptus macrorhyncha*) and Long-leaved Box (*Eucalyptus goniocalyx*) and is considered extremely unlikely to occur in the project area. No specimens of the plant were located during project surveys.
- <u>Matted Flax-lily Dianella amoena</u> is endemic to Victoria and occurs most commonly in lowland grasslands, grassy woodlands, valley grassy forest and creeklines of herb-rich woodland. Most populations are small and highly fragmented with a number of records from the northern suburbs of Melbourne. There are no recent records within the vicinity of Looping 6 construction ROW. However the ROW falls within the EPBC Act modelled distribution of habitat for the species. No specimens of the plant were located during project surveys.
- <u>Trailing Hop-bush Dodonaea procumbens</u> a small prostrate growing to about 20 cm tall is patchily distributed across south-eastern Australia. In Victoria the species is confined largely to the south-west of the State. The species occupies low-lying, often winter-wet areas in woodland, low open forests, heathland and grasslands. There are no recent records within the vicinity of Looping 6 construction ROW. However the ROW falls within the EPBC Act modelled distribution of habitat for the species. No specimens of the plant were located during project surveys.
- <u>Warby Range Swamp Gum Eucalyptus cadens</u> is endemic to north-eastern Victoria. It occurs in woodlands often in or around the peripheries of springs, soaks and waterbodies, defined as 'Spring-soak Herbland/Woodland Mosaic' Ecological Vegetation Class. The majority of stands are associated with the south-eastern foot-hills of the Pilot Range near Beechworth and Wooragee, with additional locations in the eastern foothills of the Warby Range. All known locations occur at the Warby Range or Chiltern Mt. Pilot National Park or on private land within areas of Wangaratta Rural City or Indigo Shire. It is considered to have only a low likelihood of occurring within the looping 7 construction ROW. No specimens of the plant were located during project surveys.
- <u>Purple Clover (Glycine latrobeana)</u> is a small perennial herb of the pea family that flowers in spring and summer. It occurs mainly in grassland and grassy woodland habitats and less often in dry forests. The species has been found widely across Victoria from the south-west through the central midlands to the northern inland plains around Benalla and Wangaratta. Looping 6 and 7 both fall within modelled distribution of habitat for the species. No specimens of the plant were located during project surveys.
- <u>Narrow Goodenia (Goodenia macabarronii)</u> is an erect herbaceous plant growing to 40 cm high with yellow or white flowers arranged in clusters on the stem ends. The species is confined to forests and grassy areas between Euroa and the Murray River. Historical records occur widely throughout Chiltern Mt-Pilot National Park, within the vicinity of the Looping 7 construction ROW. No specimens of the plant were located during project surveys.

- <u>Spiny Rice Flower (Pimelea spinescens subsp spinescens)</u> is most commonly found on the basalt plains west of Melbourne but in contrast to most other grassland species, typically blooms in mid-winter. It occurs in grassland habitats and is generally associated with vegetation classes such as Plains Grassland as well as Plains Grassy Woodland, Plains Woodland and Plains Grassland/ Grassy Woodland. While there are no records on the VBA within the vicinity of the project, Looping 6 falls just within the EPBC Act modelled area as 'species may occur' modelled between south of Broadford to just north of Seymour. No specimens of the plant were located during project surveys.
- <u>Maroon Leek-orchid Prasophyllum frenchii</u> is a ground orchid that occurs in damp yet well-drained grassland or grassy woodland with soils of sandy or black clay loam that are generally damp but well drained. Known populations in Victoria are distributed widely in about six disjunct populations across southern Victoria from the south-west to east of Melbourne and across to Gippsland. Looping 6 falls within modelled distribution of habitat for the species. No specimens of the plant were located during project surveys.
- <u>Woolly Ragwort Senecio garlandii</u> is an erect perennial herb growing 1-2 m high. The species occurs in dry sclerophyll forest and open woodland. It is found on the upper parts of south- to east-facing slopes of rocky outcrops. The species' range extends from Wyalong, New South Wales, to Wodonga, Victoria. Historical records for the species occur south of the looping 7 construction ROW in Chiltern Mt. Pilot National Park. No specimens of the plant were located during project surveys.
- <u>Large-headed Fireweed Senecio macrocarpus</u> is a perennial daisy growing to 70 cm high, with yellowish flowers which emerge from September to November. In Victoria, the species has been recorded widely across the State; from the Murray Darling Depression, Victorian Volcanic Plain, Victorian Midlands and South Eastern Highlands bioregions. A single historical record is located on the outskirts of Seymour, approximately three kilometres west of the Looping 6 construction ROW. No specimens of the plant were located during project surveys.
- <u>Slender Darling-pea Swainsona murrayana</u> is sparsely-downy forb with greyish, thin or tapered, stiffly leathery pods grows in a variety of vegetation types including bladder saltbush, black box and grassland communities on level plains, floodplains and depressions. Plants have been found in remnant native grasslands or grassy woodlands that have been intermittently grazed or cultivated. A single record from Chiltern exists from 1897, approximately one kilometre south of Looping 7 construction ROW. No specimens of the plant were located during project surveys.
- <u>Small Purple-pea Swainsona recta</u> was likely to have been relatively widespread in south-eastern Australia, with a range extending from north-eastern Victoria, along the western slopes of New South Wales to the north of Dubbo. It occurs predominantly in grassy woodlands, sometimes within grassy open-forest, and flowers in spring, peaking during October. Most of the surviving populations are in New South Wales and the Australian Capital Territory with the only extant population known to occur in Victoria being located within Chiltern National Park, within the vicinity of Looping 7. No specimens of the plant were located during project surveys.
- <u>Spiral Sun-orchid Thelymitra matthewsii</u> is a small terrestrial orchid emerging annually from an underground tuber to flower in later August to early September. It grows in heathy open forest, and especially in areas where there has been some soil disturbance. It occurs in a few populations scattered across Victoria. Looping 6 falls within modelled distribution of habitat for the species. No specimens of the plant were located during project surveys.

#### Threatened Ecological Communities

EPBC Act listed communities that were either recorded within Looping 6 and 7 or have the potential to occur in the construction ROW are described below. **Table 2** identifies the KP locations of where EPBC Act listed communities were recorded in Looping 6 and 7. Descriptions of threatened ecological communities are derived from SPRAT profiles (DoE 2015b).

• <u>Buloke Woodlands of the Riverina and Murray Darling Depression Bioregion</u> encompasses a number of closely-related woodland communities in which Buloke (*Allocasuarina luehmannii*) is usually the dominant or co-dominant tree. Other trees that may be prominent in the community are Slender Pine (*Callitris gracilis*), White/Murray Pine (*Callitris glaucophylla*), Black Box (*Eucalyptus largiflorens*), Yellow/Blue Gum (*Eucalyptus leucoxylon* subsp. pruinosa) and Grey Box (*Eucalyptus microcarpa*).

In Victoria, the community largely occurs in north-western Victoria but may be found in parts of northern central Victoria. Modelling of the community by Environment Australia (2003) indicates that Looping 6 and 7 lie south-east of where the community is likely to occur. While such mapping is indicative only, in general, the community tends to be located in semi-arid areas to the north and west of project area. The project will not impact on this community.

• <u>Natural Grasslands of the Murray Valley Plains</u> is a type of natural temperate grassland that has semi-arid characteristics, due to the low rainfall where it occurs. Modelling of the communities' distribution by

DSEWPaC suggests that part of Looping 6 lies at the southern edge of the area in which the community may occur. In Victoria, a substantial part of the ecological community is recognised as 'Northern Plains Grasslands', which is listed as threatened under the Victorian *Flora and Fauna Guarantee Act 1988*. The Listing Advice provides a number of condition thresholds in order for a patch to have sufficient quality to be recognised as the protected community under the EPBC Act. No patches have been found within the ROW that meet these conditions.

- <u>White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland</u> occur either as woodland or grassland from which the trees have been removed. It has a ground layer dominated by native tussock grasses and herbs and a sparse, scattered shrub layer. White Box (*Eucalyptus albens*), Yellow Box (*E. melliodora*) or Blakely's Red Gum (*E. blakelyi*) dominate the community where a tree layer still occurs. The community tends to occur on the slopes and tablelands of the Great Dividing Range (GDR). An assessment of the ROW has found two locations where the community is believed to occur, which are summarised in Table 2.
- <u>Grey Box (E. microcarpa) Grassy Woodlands and Derived Native Grasslands of South-Eastern Australia</u> community generally occurs in landscapes of low-relief such as flat to undulating plains, low slopes and rises and, to a lesser extent, drainage depressions and flats. It occurs both in a grassy woodland form with a tree canopy that is dominated or co-dominated by Grey Box (*Eucalyptus microcarpa*) and as a derived native grassland where the tree canopy and mid layer has been almost entirely removed but the native ground layer remains largely intact (DSEWPaC 2011a).

The community predominantly occurs on the drier edge of the temperate grassy eucalypt woodland belt that covered the lower slopes and plains of mainland eastern Australia, inland of the GDR, and which ranges from central New South Wales through northern and central Victoria into South Australia. An indicative map that shows where the community is likely to occur indicates that both Looping 6 and 7 lie on the southern or south-eastern edge of where the community may occur (DSEWPaC 2012).

On-ground assessment of the ROW has located several locations along the proposed construction ROW where the community is believed to occur, primarily as thin linear strips within roadside reserves. These are summarised in Table 2.

Looping	Threatened Ecological Community	Source of Listing	Location KP	Habitat Zone		
			47.4	L6_4		
			47.5	L6_5		
			47.7	L6_6		
			48.4	L6_7		
			48.4	L6_54		
		48.4       L6_2         52.97       L6_2         53.33       L6_2         53.77       L6_2         53.77       L6_2         stern Australia       59.0         L6_2       59.5         L6_2       53.77         L6_2       53.77         L6_2       53.77         L6_2       53.77         L6_2       59.0         L6_2       59.5         L6_2       59.5				
Broadford to Mangalore (L6)	Grey Box ( <i>E. microcarpa</i> ) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	EDBC Act	59.0	L6_27		
		EPDC ACL	59.5	L6_28		
			59.5	L6_58		
			59.5	L6_59		
			66.2	L6_34		
			66.21	L6_35		
			67.1	L6_36		
			68.6	L6_41		
			71.3	L6_47		
			71.3	L6_48		
	Total Area		2.56	hectares		
Glenrowan to	Grey Box (E. microcarpa) Grassy Woodlands and Derived Native Grasslands	FPBC Act	KP123.6	L7_8		
Barnawatha (L7)	of South-eastern Australia		52.97       L6_14         53.33       L6_15         53.77       L6_16         59.0       L6_27         59.5       L6_28         59.5       L6_58         59.5       L6_59         66.2       L6_34         66.21       L6_36         68.6       L6_41         71.3       L6_48 <b>2.56 + ectares</b> KP123.6       L7_8         KP124.6       L7_9	L7_9		

#### Table 2: Summary of locations where EPBC Act listed communities were recorded

Total Area		0.09 hectares	
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native	FPRC Act	KP163.8	L7_58
Grassland	ed Native EPBC Act		L7_59
Total Area		0.11 hectares	

Most of the communities found within the construction ROW occupy road reserves and cover less than 0.1ha. Vegetation at these locations qualified as the listed communities largely due to the coverage of indigenous perennial grass species, the patch size and the number of indigenous trees per hectare thereby meeting the recommended thresholds for the listed community.

The larger or most significant area (>0.5ha) in Looping 6 occurs on private land south of Ennis Road (KP53.0 - 53.75). The patch intersected by the construction ROW occupies the north-western corner of a grazing property (T119-7-94) and covers an estimated area of approx 1.2ha but is contiguous with other vegetation that extends parallel to the Hume Highway and east towards the Tallarook Ranges. The area intersected by the construction ROW is largely clear of mature trees but contains more than the benchmark cover of perennial native grass species and has been classed as the community due to its close connection to woodland areas outside the construction ROW. Significantly better quality areas of the patch occur outside the construction ROW and will not be impacted by construction.

In Looping 7, the most significant area of threatened ecological community occurs on Sanderson Road (KP163.8). This community has been categorised as *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* and occupies an area, within the construction ROW, of 0.07ha. The roadside reserve is contiguous both east and west of the road crossing, linking up with other remnant patches of vegetation further away.

Note that the construction ROW forms a narrow linear project area that generally intersects only small portions of much larger areas of remnant vegetation. Much of the construction ROW passes through private land. The focus of the assessment has therefore been on the ecological value of the easement or construction ROW being the area accessible to APA. Any judgment about the quality of vegetation outside these areas (for instance when assessing the impact of proposed works on patches of listed communities) is based on modeling of vegetation types by DELWP documented within the Biodiversity Information Management System.

Note also that threshold criteria provided for *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland* require patches to be assessed at a scale of 0.1ha or greater (DEH 2006a). In many cases, the area of vegetation intersected by the ROW was less than this figure. Assessment for the presence of this community was based entirely on vegetation found within the easement.

#### Threatened Fauna

Searches of the EPBC Act Protected Matters Search Tool (PMST) (DoE 2015) identified 18 threatened fauna species with potential to be present within the vicinity of the construction ROW (either Looping 6 or 7) - refer to Table 3.

The proposed construction ROW for Looping 6 and 7 was surveyed by qualified and experienced ecologists between June 2012 and February 2013 to identify areas within the construction ROW that may potentially provide suitable habitat for threatened fauna species (Monarc 2014). Targeted surveys were then conducted in the spring and summer of 2013/2014 to survey sites noted in the initial survey as potentially suitable for threatened species. Further targeted and aquatic surveys were also conducted in winter and spring 2014 (Monarc 2015a, GHD 2015). Surveys were implemented in accordance with recognised species-specific survey guidelines (DSE 2010; DEWHA 2010a, 2010b; DSEWPaC 2011a, 2011b, 2011c).

The morphology and distribution of the threatened fauna species listed in **Table 3** are described below. All information derives from the Victorian Biodiversity Atlas (VBA), the Protected Matters Search Tool (PMST) and the Species Profile and Threats (SPRAT) database (DELWP 2015; DoE 2015a, 2015b respectively). Several species of national environmental significance were recorded during targeted surveys and some that were not detected have historical records within close vicinity to the construction ROW. Species that were not detected nor have records within five kilometres of the ROW are still considered in the referral process, given their potential to occur in Looping 6 and 7 based on their EPBC Act modelled distribution.

Fauna Class	una Class Common Name Species name EPBC Status		Looping Number		
				6	7
Invertebrates	Golden Sun Moth	Synemon plana	Critically Endangered	~	~
Fish	Silver Perch	Bidyanus bidyanus	Critically endangered	~	~
	Trout Cod	Maccullochella macquariensis	Endangered		~
	Murray Cod	Maccullochella macquariensis       Endangered         Maccullochella peelii       Vulnerable         Macquaria australasica       Endangered         Litoria raniformis       Vulnerable         Aprasia parapulchella       Vulnerable         Delma impar       Vulnerable		~	$\checkmark$
	Macquarie Perch	Macquaria australasica	Endangered	~	~
Amphibians	Growling Grass Frog	Litoria raniformis	Vulnerable	~	~
Reptiles	Pink-tailed Worm Lizard	Aprasia parapulchella	Vulnerable	~	~
	Striped Legless Lizard	Delma impar	Vulnerable	~	~
Birds	Regent Honeyeater	Anthochaera phrygia	Endangered	~	~
	Australasian Bittern	Botaurus poiciloptilus	Endangered	~	~
	Painted Honeyeater	Grantiella picta	Vulnerable	~	~
	Swift Parrot	Lathamus discolour	Endangered	~	~
	Plains Wanderer	Pedionomus torquatus	Vulnerable	~	
	Superb Parrot	Polytelis swainsonii	Vulnerable		~
	Australian Painted Snipe	Rostratula australis	Endangered	~	✓
Mammals	Spot-tailed Quoll	Dasyurus maculatus maculatus	Endangered	~	
	Smoky Mouse	Pseudomys fumeus	Endangered	~	
	Grey-headed Flying Fox	Pteropus poliocephalus	Vulnerable	✓	✓

Table 3: Summary of EPBC listed fauna species potentially occurring in the construction ROW.

Source: EPBC Act Protected Matters Search Tool, Dept of Environment, Canberra

#### Invertebrates

• <u>Golden Sun Moth (Synemon plana)</u> is a diurnal moth that inhabits grassy woodlands and grasslands. These grasslands/woodlands are generally dominated by Wallaby Grass although the species has also recently been found in areas with less than 10% cover of native species; particularly in areas with introduced Chilean Needle-grass. Parts of Looping 6 fall within the EPBC Act modelled distribution of habitat for Golden Sun Moth. Few records exist for the species north of Broadford with the only known sites in the vicinity of the proposed Looping 6 construction ROW located at Mt Piper (about 6km to the west of the pipeline easement at Broadford) and approximately 8km to the east of the pipeline, near Seymour, at Whiteheads Creek. Surveys were conducted in Looping 6 but no moths were recorded.

#### Fish

- <u>Murray Cod (Maccullochella peelii peelii)</u> are found in a broad range of aquatic habitat types, from still or small, clear rocky streams to large meandering rivers, streams and anabranches throughout the Murray-Darling River system. Their preferred habitat consists of complex structural cover such as large rocks, large snags and smaller structural woody habitat, undercut banks and over-hanging vegetation. EPBC Act modelled habitat for the species occurs in both Looping 6 and 7. This species was recorded in both Yanko Creek (three individuals) and Ovens River (two individuals) during aquatic surveys undertaken for the project within Looping 7.
- <u>Silver Perch, Trout Cod and Macquarie Perch</u>: these species are known to occur within the designated waterways associated with the Lower and Upper Ovens System, the King System and Murray Plains System. Only a few occurrences of threatened aquatic species are recorded in the area traversed by the construction ROW. Surveys of waterways for threatened aquatic species were therefore discussed with regional officers of DELWP who confirmed that all known populations of threatened fish species are located upstream of the project area. No individuals were located during project surveys.

#### Frogs

• <u>Growling Grass Frog (Litoria raniformis)</u> occurs in a range of habitat types but generally requires permanent still or slow moving water such as lakes, ponds and dams to breed, especially those with bulrushes and emergent vegetation. The entire route falls within the EPBC Act modelled area for Growling Grass Frog (GGF) as 'species may occur' and a number of sightings have been recorded on the VBA

scattered throughout Loopings 6 and 7. No individuals were located during project surveys.

#### Reptiles

- <u>Pink-tailed Worm Lizards (Aprasia parapulchella)</u> occur in native grasslands or grassy woodlands with a substantial cover of small to medium embedded rocks which they use for shelter. Most sites where Pink-tailed Worm-lizard occurs are characterised by a cover of predominantly native grasses. Looping 6 and 7 fall within EPBC Act modelled habitat for the species. However, its current distribution is fragmented with a number of discrete populations recorded in NSW and the only known population in Victoria occurring near Bendigo, approximately 70km to the north-west of the easement in Looping 6. Appropriate habitat is extremely rare along the ROW, given the long term agricultural use of the area, and no impact is expected as it is not expected to occur within the vicinity of the ROW in either of the Loopings.
- <u>Striped Legless Lizard (Delma impar)</u> (SLL) is generally found on flat areas derived from basalt. In Victoria they are known to occupy areas derived from the Western (Basalt) Plains Grassland community but were once more widely distributed across the south-eastern corner of Australia. The easement falls within the EPBC Act modelled distribution where the 'species may occur' or is 'Known/Likely to Occur' although few recent records occur north of the volcanic plains around Melbourne.

Following discussions with regional DELWP staff and an independent local expert on SLL, it was noted that there are two recent records (less than four years old, not yet appearing in the VBA) in the vicinity of Looping 6. One of these records is approximately 600m and the other 1600m east of the construction ROW, near Broadford. There is also a record on the VBA for the eastern outskirts of Seymour, from 2003, which lies approximately three kilometres west of the Looping 6 construction ROW. Surveys were undertaken in Looping 6 but no individuals were found.

#### Birds

- <u>Regent Honeyeater (Anthochaera phrygia)</u> occurs mainly in dry open forest and woodland in area of low to moderate relief on the inland slopes of the GDR (mostly with box-ironbark). Populations are patchy, but in Victoria, over 80% of recent records are from three localities: Chiltern, Killawarra State Forest (Wangaratta) and Reef Hills Park (Benalla). Surveys were undertaken in accordance with federal guidelines but no individuals were found within or near the construction ROW. Chiltern Mt. Pilot National Park is well known, however, to provide habitat for the species and this has been taken into account in the preparation of management measures for the project.
- <u>Australasian Bittern Botaurus poiciloptilus</u> is a large, stocky, thick-necked heron-like bird with camouflagelike plumage. The species occurs from south-east Queensland to south-east South Australia, Tasmania and the south-west of Western Australia. In Victoria, it is recorded mostly in the southern coastal areas and in the Murray River region of central-northern Victoria. EPBC Act modelled habitat for the species occurs in both Looping 6 and 7, however there are no records of the species within 10km of the construction ROW. Proposed works are not expected to impact upon the species.
- <u>Painted Honeyeater (Grantiella picta)</u> is a breeding spring-summer migrant to south-east Australia. It is a highly nomadic species influenced by rainfall and food availability. During the winter, Painted Honeyeater disperses inland and to northern Australia. This species has a preference for open forest, box-ironbark woodlands and other vegetation communities that support its primary food source fruiting mistletoes. Numerous historical records occur within the vicinity of the Looping 7 construction ROW and two birds were observed on the construction ROW in Chiltern during the 2013 field surveys.
- <u>Swift Parrot (Lathamus discolor)</u> occurs in Victoria during the autumn and winter months after migrating from Tasmania, where it breeds during the spring and summer. They generally over-winter in eucalypt forests and woodlands consisting primarily of autumn and winter winter-flowering eucalypts. When on the mainland, they occur mainly in central and southern Victoria and appear in most years in north-east Victoria along the Hume Highway corridor associated with Grey Box and Blakely's Redgum in April/May then dispersing into box-ironbark habitats. While some areas intersected by the ROW contain these tree species, all constructions works are planned to be undertaken prior to their arrival in the construction area. No impact on the species is therefore expected.
- <u>Plains Wanderer (Pedionomus torquatus)</u> is a small (about 15-20cm tall) ground-dwelling bird. It occupies sparse native grassland where the topsoil has been eroded to expose red clay subsoil, which does not support dense pasture growth under any seasonal conditions. Remaining strongholds include north central Victoria. An historical record occurs within the vicinity of Looping 6 but dates from 1983 with the locality recorded as Broadford Police Station. There are no areas within either of the Loopings that are considered to provide suitable habitat for the species and therefore no impact is expected.
- <u>Superb Parrot (Polytelis swainsonii)</u> is a large, mostly green parrot endemic to inland south-eastern Australia, where it occurs through the inland slopes and plains of New South Wales (including the Australian Capital Territory) to northern Victoria. In Victoria, Superb Parrots occur mainly between Cobram and Echuca, centred on the Barmah forest area, in the Riverina bioregion. Birds occasionally range further east

to Wangaratta and south to Shepparton. Historical records for the species occur in Wangaratta, approximately four kilometres from the Looping 7 construction ROW but there are no recent records. Proposed works are not expected to impact upon the species.

• <u>Australian Painted Snipe (*Rostratula australis*)</u> is a stocky wading bird with a long pinkish bill. The species requires suitable wetland areas even in drought conditions. They tend to use shallow, often temporary, freshwater wetlands or saltmarshes generally with a good cover of grasses and while they can use modified habitats, such as low-lying woodlands converted to grazing pasture, sewage farms, dams and irrigation schemes, they do not necessarily breed in such habitats. Whilst no historical records occur in the Looping 6 and 7 construction ROWs, the area falls within EPBC Act modelled habitat for the species. Proposed works are not expected to impact upon the species.

#### Mammals

- <u>Spot-tailed Quoll Dasyurus maculatus maculatus</u> occurs in eastern Australia, including Tasmania, and is the largest marsupial carnivore on mainland Australia. In Victoria, historical records throughout southern and eastern portion of the state. The most recent historical records occur in 1961 within five kilometres of Looping 6 and from 1995 approximately 8km south-east of the Looping 7. Proposed works are not expected to impact upon the species.
- <u>Smoky Mouse (*Pseudomys fumeus*)</u> inhabits a diverse range of vegetation communities. Groundcover is a critical habitat feature including dense low vegetation, such as occurs in heaths, grass tussocks, rocks and logs in more open habitats. No records occur within approximately 100km of Looping 6 or 7 with the nearest recorded populations occurring in the Victorian Highlands and East Gippsland. Proposed works are not expected to impact upon the species.
- <u>Grey-headed Flying Fox (Pteropus poliocephalus)</u> is one of the largest bats in the world and is Australia's only endemic flying-fox. The species has adopted complex migration patterns in response to ephemeral and patchy food resources and occurs in the coastal belt from Rockhampton in central Queensland to southern Victoria. Several historical records occur within the vicinity of looping 7 and EPBC Act modelled habitat for the species is present in both Loopings. No habitat critical for breeding or foraging is expected to be disturbed as a result of the proposed works.

A total of 55 sites were surveyed for the various fauna across both Loopings. In summary:

- No fauna species listed under the EPBC Act were located in Looping 6 during surveys undertaken for the project.
- Two threatened species listed under the EPBC Act were located in Looping 7 during the surveys undertaken for the project. An additional species, the Regent Honeyeater was observed within close vicinity (approximately 2.5km) of Looping 7 construction ROW during winter surveys in 2014 and is known to occupy the area of Chiltern Mt. Pilot National Park intersected by the ROW. The locations of these sightings are summarised in Table 4 below:

Common Name	Scientific Name	Status	Looping	Location (KP)
Murray Cod	Maccullochella peelii peelii	Vulnerable	L7	Yanko Creek (137.3) Ovens River (138.03)
Painted Honeyeater	Grantiella picta	Vulnerable	L7	Between Chiltern - Mt. Pilot NP and Property T119-7-537 (Chiltern- Howlong Road) (KP175.6 - 176.0)
Regent Honeyeater	Anthochaera picta	Critically Endangered	L7	Rileys Rd, approx. 2km from construction ROW

	Table 4. EPBC Act listed s	pecies recorded in a	or within the vicinit	y of the construction ROW.
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#### Nature and extent of likely impact

Address any impacts on the members of any listened threatened species (except a conservation dependent species) or any threatened ecological community, or their habitat.

To address the significant impact criteria for threatened species, APA has determined whether construction works will significantly impact upon an important population of threatened species or reduce the extent of a threatened ecological community (DoE 2013). The actions proposed for this project are designed to avoid significant impacts to EPBC Act listed matters of National Environmental Significance. This will be achieved by adopting best practice such as reducing the construction ROW in ecologically sensitive areas and implementing strict environmental controls for works in waterways and for the removal of flora and fauna and their habitat.

#### **Threatened Communities**

The primary impact of the project will be clearance of small areas of vegetation that qualify as the following listed ecological communities:

- Grey Box (E. microcarpa) Grassy Woodlands and Derived Native Grasslands of South-Eastern Australia.
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

It is anticipated that the following activities could impact on vegetation located in these areas:

- Clearing of the ROW to allow movement of construction traffic and installation of the pipeline.
- Weeds being introduced from vehicles and construction personnel.

As can be seen in **Table 5** below, the patches that will be impacted by the project are portions only of much larger patches of the community intersected by the ROW.

Looping	Community	Approximate KP	Patch Reference	Area impacted (ha)	Total Modelled Area* (ha)	Percent impact
		47.4	L6_4	0.02		
6		47.5	L6_5	0.41		
		47.7	L6_6	0.37	>372	<0.3
		48.4	L6_7	0.06		
		48.4	L6_54	0.04		
		52.97	L6_14	0.72		
		53.33	L6_15	0.69	>507	0.3
	Grey Box (E . microcarpa) Grassy Woodland and Derived Native Grasslands	53.77	L6_16	0.10		
		59.4	L6_27	0.04		0.01
		59.5	L6_28	0.01	<u>\612</u>	
		59.5	L6_58	0.02	2012	
		59.5	L6_59	0.00		
		66.2	L6_34	0.02		
		66.21	L6_35	0.04	<u>\603</u>	0.05
		67.1	L6_36	0.14	~075	
		68.6	L6_41	0.16		
		71.3	L6_47	0.02	5	0.6
		71.3	L6_48	0.01		0.0
		Total Area		2.56	>2189	0.1%
7	Grey Box (E . microcarpa) Grassy	123.6	L7_8	0.07	2.31	

Table 5: Distribution and Area of threatened EPBC Act communities across Loopings 6 and 7

Woodland and Derived Native Grasslands	124.6	L7_9	0.06	183.41	
	Total Area		0.09	186.00	0.07
	Combined Total		2.65	>2375	0.1
White Box- Yellow Box- Blakely's Red	163.8	L7_58	0.07	>154	<0.07
Gum Grassy Woodland and Derived Native	165.3	L7_59	0.04	>104	~0.07
Grassland	Total Area		0.11	>154	<0.07

\*The total modelled area is based on total DELWP-modelled EVC's that the relevant patches occur within. The EVC's considered are in accordance with the EPBC Act listing advice for both threatened communities. Maps of each of the KP locations showing the areas of removal of native vegetation and the context in which these EPBC communities occur within the immediate area (derived from DELWP modelling) are provided in Attachment D.

A number of measures have been taken to minimise impacts (refer to Section 4) and small portions only of each patch will be impacted. In particular, management measures have focused on the retention of as many mature trees as possible. Grading of the topsoil prior to installation of the pipeline and its replacement following construction will also assist in maximising the retention of the existing seed bank and maximise the chances of restoration of the understorey.

The construction ROW has been reduced in these areas from 28m to 20m to reduce the extent of impact of construction. Topsoil and its associated seed bank will be preserved during construction on the ROW for later reinstatement of the surface after pipeline installation. In addition, the CEMP to be prepared for the project will provide mitigation measures including protection of native vegetation outside of the construction ROW.

#### Threatened Flora

Whilst no flora species of national significance were recorded during field surveys, mitigation measures pre, during and post construction are designed to protect potential EPBC Act listed species' habitat, state listed flora species and ecological communities as well as remnant native vegetation and non-target species. These measures are described in detail in section 4.

#### Threatened fauna

A number of threatened bird species may occur in the area of the Looping 6 and 7 construction ROW. However, because of their mobility, most species are unlikely to be significantly affected by the proposed construction. There are some species that are relatively sedentary (some such as Regent Honeyeater on a seasonal basis) and tied to specific habitats or areas either for nesting or foraging and have potential to be impacted. Federally listed species that were recorded during field surveys include:

#### **Regent Honeyeater**

A single Regent Honeyeater was observed on Ryans Road, within Chiltern - Mt. Pilot National Park, approximately 2.5 kilometres from the construction ROW. This sighting was used as a reference for the targeted surveys. These targeted field surveys failed to detect the species on the ROW. However the species is known to be present throughout the wider area (DELWP 2015).

Chiltern - Mt. Pilot National Park is currently the release site for the Regent Honeyeater captive breeding and release project being undertaken by the Regent Honeyeater Recovery Team. Over 70 birds were released into the park in April 2015 and are monitored on a weekly basis. Current records show that the birds are moving widely through the park, both on the east and west side of the Hume Highway (Ingerswen, *pers comm* 2015). Although impacts from the project are expected to be negligible, the species is considered in the referral process due to the release of captive bred birds and the species recent category upgrade from Endangered to Critically Endangered under the EPBC Act (DoE 2015).

The timing of construction has been discussed with a number of parties including DELWP, Parks Victoria, Birdlife Australia and Friends of Chiltern - Mt. Pilot National Park. Construction work throughout the national park, which is considered to contain the most significant habitat for the species within the ROW, is therefore planned to be undertaken in mid to late summer at a time that has least impact on the threatened fauna that are a feature of the park (Regent Honeyeater, Painted Honeyeater, and Swift Parrot). These species are known to be absent during these months or post breeding during construction time. Reinstatement of the ROW is planned to be completed before these species return to the park in the late autumn and / or early winter months.

#### Painted Honeyeater

Three male Painted Honeyeaters were recorded in Chiltern - Mt. Pilot National Park and private property along the construction ROW between KP 175.6 and 176.0 during spring surveys of the area. The species was recently upgraded from State significant (Vulnerable in NSW and VIC) to its federal listing as a Vulnerable species under the EPBC Act (DoE 2015).

Potential impacts to both honeyeater species include:

- Noise and vibration from construction machinery may disorientate or displace birds and disrupt foraging and breeding behaviour.
- Clearance of vegetation where the construction ROW is proposed may impact upon foraging / breeding habitat or remove potential food resources.

Measures to reduce the impacts to threatened birds are detailed in Section 4.

#### Striped Legless Lizard

The EPBC Act modelled distribution for SLL covers most of Looping 6. Discussions with DELWP regional staff and an independent local expert on SLL suggested that a large portion of the country through which the Looping 6 construction ROW runs is likely to be potential (although sub-optimal) habitat for SLL. The field assessments undertaken by Monarc also identified areas of potential habitat during surveys.

Targeted surveys of Looping 6 were therefore undertaken using the DELWP approved 'Winter Search Method' in association with a local expert on SLL. No SLL were found during the surveys but five properties/sites were identified within the ROW containing potentially the most suitable habitat for SLL (based on characteristics identified at known SLL sites including a grassy ground layer interspersed with surface rock, fallen timber and /or other refugia that are located within the vicinity of surrounding woodland and grassland habitat where there was less intensive agricultural activity).

Potential impacts to the species include:

- Removal of foraging and refuge habitat in the vicinity of potential populations.
- Fragmentation of potential populations from connecting habitat may limit movement of individuals during the breeding season.
- Injury or death of individuals during construction works.

Whilst it is considered unlikely that the species will be encountered during construction works, it was agreed with DELWP that management measures for the species will be prepared for Looping 6. These will be included in the Flora Fauna Management Plan to be approved by DELWP and will include a salvage program at the five sites with the most suitable habitat for the species - a summary is outlined in Section 4.

#### Murray Cod

Murray Cod were recorded in both Yanko Creek (KP137.25) and Ovens River (KP138.1) during targeted aquatic surveys. The presence of Murray Cod in these waterways could also indicate their possible distribution in other waterways and billabongs traversed by the construction ROW. The Goulburn River (downstream of Lake Nagambie), Ovens River and lower reaches of the King River are listed as containing important populations of Murray Cod (NMCRT 2010). Impacts at these waterways, however, will be negligible as they will be crossed using Horizontal Directional Drilling to pass under the waterway.

Other threatened species such as Trout Cod, Macquarie Perch and Silver Perch are known to occur within some of the designated waterways associated with the Lower and Upper Ovens System, the King System and Murray Plains System (NECMA 2014) and are also considered in this impact assessment.

There is the potential for the project to impact upon populations of Murray Cod or other threatened fish that may occur in some waterways only if they are flowing and require dewatering at the time of construction. Potential impacts include:

- Altered hydrological regimes have the potential to impact upon fish survival if long-term damming of waterways results in extreme temperature or dissolved oxygen fluctuations.
- Removal of snags and in-stream logs, boulders and vegetation may reduce fish foraging and refuge habitat, rendering them susceptible to predators and reducing availability of food resources.
- Increased sediment load/potential pollution from inappropriate construction works has the potential to cause widespread fish kills in both the construction ROW and surrounding habitat.
- Disruption to breeding cycle where construction occurs at the time of breeding dewatering during the breeding season may impact upon migration and spawning behavior of mature fish. Dewatering may also

displace eggs or leave them vulnerable to predation. Breeding occurs:

- In late spring / early summer for Murray Cod in water temperatures between 16.5-23.5°C (success is determined with good river flow).
- In late spring for Trout Cod when water temperatures are between 14-22 °C
- During spring and early summer in shallow, fast-flowing water over gravel beds, when water temperatures reach 16.5  $^\circ C$  for Macquarie Perch
- In spring and summer after an upstream migration for Silver Perch

These occur outside the proposed construction period and therefore no impact on the breeding cycle of these species is expected.

- Inefficient biosecurity measures (i.e. contaminated machinery, inappropriate handling of salvaged fish) have the potential to spread invasive species or disease amongst fish populations.
- There may be potential impacts from noise and vibration from construction machinery, the insertion of plates into the waterway and trench digging and back filling. The effects of anthropogenic noise on freshwater fish may include hindering of acoustic communication, disorientation or displacement through avoidance of suitable habitat in the vicinity of works.
- Temporary fragmentation of habitat from dewatering the construction ROW reduces fish habitat and may compromise territorial boundaries.

Detailed measures to avoid or reduce impacts to both EPBC Act listed species and common flora and fauna species are provided in Section 4.

# **3.1 (e)** Listed migratory species Description

#### Migratory / Marine species

The PMST identified 12 migratory and / or marine species listed under the EPBC Act where species or species habitat is known to occur within a five kilometre radius of the construction ROW (DoE, 2015). Data from the VBA show another nine species listed under the EPBC Act as migratory or marine species have also been recorded within the same buffer of the construction ROW. All of these species are shown in **Table 6**.

The majority of these species are woodland or wetland migratory birds and they are not expected to be impacted by the construction ROW for Looping 6 or 7.

Common Nome	Consciona norma	EDDC Status	Looping Number		
Common Name	species name	EPBC Status	6	7	
Common Sandpiper	Actitis hypoleucos	CAMBA/JAMBA/ROKAMBA/A2S	<b>√</b> #		
Fork-tailed Swift	Apus pacificus	CAMBA/JAMBA/ROKAMBA/marine	$\checkmark$	$\checkmark$	
Cattle Egret	Ardea ibis	JAMBA/marine	$\checkmark$	$\checkmark$	
Eastern Great Egret	Ardea modesta	JAMBA/marine	$\checkmark$	$\checkmark$	
Sharp-tailed Sandpiper	Calidris acuminata	CAMBA/JAMBA/ROKAMBA/A2H/marine		<b>√</b> #	
Red-necked Stint	Calidris ruficollis	CAMBA/JAMBA/ROKAMBA/A2H/marine		<b>√</b> #	
Double-banded Plover	Charadrius bicinctus	A2H/marine		<b>√</b> #	
Latham's Snipe	Gallinago hardwickii	JAMBA/ROKAMBA/A2H	$\checkmark$	$\checkmark$	
White-bellied Sea-Eagle	Haliaeetus leucogaster	marine	$\checkmark$	$\checkmark$	
White-throated Needletail	Hirundapus caudacutus	CAMBA/JAMBA/ROKAMBA/marine	$\checkmark$	$\checkmark$	
Swift Parrot	Lathamus discolor	Marine		$\checkmark$	
Rainbow Bee-eater	Merops ornatus	JAMBA	$\checkmark$	$\checkmark$	
Black-faced Monarch	Monarcha melanopsis	A2H	$\checkmark$		
Satin Flycatcher	Myiagra cyanoleuca	A2H	$\checkmark$	$\checkmark$	
White-tailed Tropicbird	Phaethon lepturus	CAMBA/JAMBA/marine		<b>√</b> #	
Glossy Ibis	Plegadis falcinellus	A2S		<b>√</b> #	
Rufous Fantail	Rhipidura rufifrons	A2H	$\checkmark$	$\checkmark$	
Australian Painted Snipe	Rostratula benghalensis (sensu lato)	Marine	$\checkmark$	$\checkmark$	
Wood Sandpiper	Tringa glareola	CAMBA/JAMBA/ROKAMBA/A2H/marine		<b>√</b> #	
Common Greenshank	Tringa nebularia	CAMBA/JAMBA/ROKAMBA/A2H/marine		<b>√</b> #	
Marsh Sandpiper	Tringa stagnatilis	CAMBA/JAMBA/ROKAMBA/A2H/marine		<b>√</b> #	

Table 6: Summary of migratory species potentially occurring within the region.

\* CAMBA/JAMBA/ROKAMBA/Bonn Convention (A2s, A2H) - international migratory bird treaties

# Species recorded from the VBA only

Surveys were conducted in the spring of 2013 to determine if the area may be utilised by migratory bird species. The following migratory species listed under the EPBC Act were located in the vicinity of Looping 6 and 7 during the surveys undertaken for the project.

#### Table 7: Migratory species recorded during field surveys for Looping 6 and 7

Common Name	Scientific Name	КР	Location
Eastern Great Egret	Ardea modesta	135.1 - 137.3	On drying billabongs, between King River and Yanko Creek
Latham's Snipe	Gallinago hardwickii	135.1 - 137.3	On drying billabongs, between King River and Yanko Creek
		134.25	Laceby-Targoora Road
Rainbow Bee-eater	Merops ornatus	163.4	Diddah Diddah Creek
		180.4	Stockyard Creek
White-bellied Sea-eagle	Haliaeetus leucogaster	73.00	Over Seymour Treatment Plant ponds to west of ROW
White-throated Needletail	Hirundapus caudacutus	180.8	Riley's Road

#### Nature and extent of likely impact

Address any impacts on the members of any listed migratory species, or their habitat.

In general, disturbance created by this project (linear project with a temporary construction ROW width of up to 28m) is not expected to significantly impact on migratory avian fauna as limited habitat critical to breeding or foraging is expected to be disturbed as a result of the proposed works.

Approximately 1.7 hectares of habitat that could potentially be used by Swift Parrots will be impacted. This area is across the three kilometres that the construction ROW intersects the Chiltern - Mt. Pilot National Park and adjacent wooded private property. However, Swift Parrots were not recorded during the field surveys and are not expected to be present in the area during the construction period.

#### 3.1 (f) Commonwealth marine area

(If the action is <u>in</u> the Commonwealth marine area, complete 3.2(c) instead. This section is for actions taken outside the Commonwealth marine area that may have impacts on that area.)

Description

Not applicable

#### Nature and extent of likely impact

Address any impacts on any part of the environment in the Commonwealth marine area.

#### 3.1 (g) Commonwealth land

(If the action is on Commonwealth land, complete 3.2(d) instead. This section is for actions taken outside Commonwealth land that may have impacts on that land.)

#### Description

If the action will affect Commonwealth land also describe the more general environment. The Policy Statement titled *Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies* provides further details on the type of information needed. If applicable, identify any potential impacts from actions taken outside the Australian jurisdiction on the environment in a Commonwealth Heritage Place overseas.

#### Nature and extent of likely impact

Address any impacts on any part of the environment in the Commonwealth land. Your assessment of impacts should refer to the *Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies* and specifically address impacts on:

- ecosystems and their constituent parts, including people and communities;
- natural and physical resources;
- the qualities and characteristics of locations, places and areas;
- the heritage values of places; and
- the social, economic and cultural aspects of the above things.

#### 3.1 (h) The Great Barrier Reef Marine Park

#### Description

Not applicable

#### Nature and extent of likely impact

Address any impacts on any part of the environment of the Great Barrier Reef Marine Park.

Note: If your action occurs in the Great Barrier Reef Marine Park you may also require permission under the *Great Barrier Reef Marine Park Act 1975* (GBRMP Act). If so, section 37AB of the GBRMP Act provides that your referral under the EPBC Act is deemed to be an application under the GBRMP Act and Regulations for necessary permissions and a single integrated process will generally apply. Further information is available at www.gbrmpa.gov.au

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

#### Description

If the action is a coal seam gas development or large coal mining development that has, or is likely to have, a significant impact on water resources, the draft *Policy Statement Significant Impact Guidelines: Coal seam gas and large coal mining developments—Impacts on water resources* provides further details on the type of information needed.

#### Nature and extent of likely impact

Address any impacts on water resources. Your assessment of impacts should refer to the draft *Significant Impact Guidelines: Coal seam gas and large coal mining developments—Impacts on water resources.* 

# 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

You must describe the nature and extent of likely impacts (both direct & indirect) on the <u>whole</u> environment if your project: • is a nuclear action;

- will be taken by the Commonwealth or a Commonwealth agency;
- will be taken in a Commonwealth marine area;
- will be taken on Commonwealth land; or
- will be taken in the Great Barrier Reef marine Park.

Your assessment of impacts should refer to the *Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies* and specifically address impacts on:

- ecosystems and their constituent parts, including people and communities;
- natural and physical resources;
- the qualities and characteristics of locations, places and areas;
- the heritage values of places; and
- the social, economic and cultural aspects of the above things.

3.2 (a)	Is the proposed action a nuclear action?	$\checkmark$	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	$\checkmark$	No
	commonwealth or a commonwealth agency?		Yes (provide details below)

If yes, nature & extent of likely impact on the whole environment

:)	Is the proposed action to be taken in a	$\checkmark$	No
	Commonwealth marine area?		Yes (provide details below)
	If yes, nature & extent of likely impact on	the who	le environment (in addition to 3.1(f))
)	Is the proposed action to be taken on Commonwealth land?	v	No
	commonwearth land?		Yes (provide details below)
	If yes, nature & extent of likely impact on	the who	le environment (in addition to 3.1(g))
e)	Is the proposed action to be taken in the	$\checkmark$	No
	Great Parrier Boof Marine Park?		4

Great Barrier Reef Marine Park?		Yes (provide details below)
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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

Provide a description of the project area and the affected area, including information about the following features (where relevant to the project area and/or affected area, and to the extent not otherwise addressed above). If at Section 2.3 you identified any alternative locations, time frames or activities for your proposed action, you must complete each of the details below (where relevant) for each alternative identified.

#### 3.3 (a) Flora and fauna

The Looping 6 and 7 construction ROW supports four broad habitat types: introduced grassland/pasture with occasional remnant native species, remnant patches of native woodland and scattered trees and aquatic/riparian habitats provided by watercourses and farm dams. Looping 7 construction ROW also supports a substantial area of native regrowth in Chiltern - Mt. Pilot National Park.

- The construction ROW is located in a region dominated by open pasture subject to grazing. The vegetation in these areas contains very little middle canopy cover and groundcover is mostly made up of introduced grass species that are either grazed or cropped while other parts are also ploughed. Large trees are often left in these areas to provide shade for stock. These trees are largely scattered throughout the landscape and may provide roosting and nesting sites for some hollow-dependent fauna. Logs and other potential surface habitats typical of the region were almost entirely absent from the majority of the construction ROW. As a result, introduced grassland/pasture is generally considered of low habitat value for native fauna, especially in the absence of large trees.
- Many areas of woodland were identified within the construction ROW of Looping 6. Remnants of the original native vegetation were identified along roadsides and water courses. Generally, the roadsides contained higher quality native vegetation than that found scattered throughout individual properties. In Looping 6, there are some exceptions to this with Grassy Woodland found on the properties along Box Tree Lane (KP47.5-48.1) and south of Ennis Rd (KP53.3-53.8) being high to very high quality. A number of the roadsides have been identified by the GBCMA as having a level of conservation significance as they provide corridors of remnant woodland that connect to larger areas of native woodland in the area. These woodland corridors have been identified as important habitat for native fauna such as the Brushtailed Phascogale *Phascogale tapoatafa tapoatafa*.

Roadsides within Looping 7 also provide corridors of remnant woodland that connect to larger areas of native woodland in the area. These woodland corridors have also been identified as being of conservation significance for native fauna such as the Grey-crowned Babbler and Squirrel Glider (Rural City of Wangaratta 2000). Remnant native vegetation along roadsides is also identified as playing an important role in the movement and migration of native fauna by NECMA (NECMA 2013).

• The construction ROW traverses three major rivers (Goulburn, King and Ovens Rivers), a number of significant creeks (including Dabyminga, 15 Mile and Indigo Creeks) along with many minor creeks and

drainage lines. There are also a number of farm dams on or near the construction ROW as well as a few ephemeral wetlands.

The riparian margins of the Goulburn, King and Ovens Rivers and larger creeks in the vicinity of the ROW include River Red Gums representative of the overstorey vegetation that originally occupied the area. Within the construction ROW, the understorey vegetation ranges from good quality native vegetation to one almost completely dominated by exotic species. These waterways have been identified as important corridors for habitat and dispersal of native fauna and are included in the GBCMA Biodiversity Action Planning sites (DSE 2006) and NECMA Waterways Strategy (NECMA 2014).

The minor creeks and drainage lines are generally ephemeral watercourses that lack significant water for most of the year but were often holding water at the time of the inspection due to good rainfall in the preceding months. Habitat elements such as surface cover, overhanging riparian vegetation (indigenous or otherwise), indigenous embankment vegetation and in-stream snags are absent within some drainage lines on the plains. These areas are considered to be of low to moderate habitat value but may provide dispersal opportunities for smaller fauna such as amphibians into other habitat areas.

Most of the dams and wetlands identified during the surveys are similarly subject to climatic factors and may therefore provide only limited habitat value within the warmer months. However some or the larger dams could provide important refuges for native amphibians and reptiles such as turtles when other water bodies are dry.

• A substantial amount of native forest, primarily Box Ironbark and Heathy Dry Forests, occurs around Chiltern, towards the upper end of the Looping 7 construction ROW. Most of this forest is preserved in the Chiltern - Mt. Pilot National Park with small amounts on properties adjoining the national park.

### **3.3 (b) Hydrology, including water flows** Surface Water

The proposed construction ROW lies within the following catchments:

- Looping 6: wholly within the Goulburn and Broken Rivers catchments administered by the GBCMA
- Looping 7: predominantly within the catchment area administered by the NECMA

The construction ROW will traverse several watercourses including three major rivers, several creek lines and numerous unnamed drainage lines. Named watercourses are summarised in **Table 8**.

Water flow in many of these waterways is transitory and generally flows only when rainfall conditions are sufficient. Water flow within these waterways may therefore vary from a few hours or days following a storm event (ephemeral) to a few weeks or months (intermittent). The Goulburn River is the only perennial waterway in Looping 6 and the Ovens and King Rivers are the only perennial waterways in Looping 7.

In both Loopings, most of the waterways intersected by the construction ROW fall within private freehold land. Eight waterways, however, fall within Crown Land in Looping 7 whilst four waterways fall within Crown land in Looping 6.

Most major creek lines are lined with remnant vegetation of varying width. Several unnamed watercourses also support remnant vegetation, although quality varies.

Table 8: Major name	d waterways throughout the	Looping 6 and 7 construction ROW
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Looping	Name	Location	Flow status	Proposed Crossing Method
6	Dabyminga Creek #1	55.6	Intermittent	Open cut
	Dabyminga Creek #2	58.55	Intermittent	Open cut
	Goulburn River	62.9	Perennial	HDD
	Whiteheads Creek	70.8	Intermittent	Open cut
	Back Creek	71.95	Intermittent	Open cut
7	Fifteen Mile Creek	125.7	Perennial	Open cut
	Three Mile Creek	129.0	Ephemeral	Open cut
	One Mile Creek	132.2	Ephemeral	Open cut
	King River	135.1	Perennial	HDD
	Yanko (Maloneys) Creek	137.3	Perennial	HDD
	Ovens River	138.03	Perennial	HDD

Looping	Name	Location	Flow status	Proposed Crossing Method
	Yellow Creek	138.37	Ephemeral	Open cut
	Reedy Creek	140.15	Ephemeral	Open cut
	Diddah Diddah Creek	162.2	Ephemeral	Open cut
	Diddah Diddah Ck Tributary	163.1	Ephemeral	Open cut
	Rocky Waterholes Creek	164.52	Ephemeral	Open cut
	Black Dog Creek	172.82	Perennial	Open cut
	Stockyard Creek	180.42	Ephemeral	Open cut
	Frying Pan Creek	183.03	Ephemeral	Open cut
	Indigo Creek	183.45	Perennial	Open cut

#### Groundwater

No significant effect on groundwater is expected given the maximum depth of trenching and excavation works on the majority of the project is expected to be 1.8m. Groundwater is likely to be intersected during the crossing of perennial waterways such as the King and Ovens Rivers and Yanko Creek (Looping 7). These will be crossed utilising HDD to pass under the waterway and no significant impact on groundwater is expected.

### **3.3 (c) Soil and Vegetation characteristics** Soil

For the purposes of the assessment, three broad landform units have been identified along the easement. These are:

- Foothills and forests on the northern slopes of the Victorian section of the GDR intersected by Looping 6
- Northern Victorian plains between the GDR and the Murray River intersected by Looping 7
- The northern inland slopes, which consist of low hills of mixed geology that lie to the north of the GDR. These are an extension of the NSW South Western Slopes, a large area of scattered foothills and minor ranges from the western fall of the GDR that continue across the Murray River into Victoria.

While it is believed that there are no significant geotechnical hazards, geotechnical assessments have been done at all proposed HDD sites. These assessments will influence the design and nature of the operations to be undertaken.

#### Looping 6

The area of Looping 6 is classified as part of the Plains Pedogenic Province of the South-Eastern Murray Basin with soil associations based on their fluvial patterns of deposition, each with their characteristic soil types.

On the Dissected Uplands, they consist of:

- Type 1 A horizon: loam, clay loam and B soil horizon: heavy clay.
  - Soils on lower slopes of hills, scattered rock fragments at surface & occasionally in profile.
  - Medium-Low infiltration characteristic.
- Type III A horizon: sandy loam, fine sandy loam and B soil horizon: light & medium clay.
  - Colluvial & alluvial soils developed on fringes of granitic hills.
    - Medium-High infiltration characteristic.

The dominant soils are duplex due to the relatively lower grade, elevation and rainfall in the Riverine Plains on its margin with the Strathbogie Ranges.

Soils, called red-brown earths, characterise the Shepparton Formation. They have contrasting texture between soil horizons and sharp boundary change and contain lime in the clay horizon. There are hard alkaline duplex soils with red clay subsoils and grey cracking clays.

#### Looping 7

The area of Looping 7 is classified as part of the Plains Pedogenic Province of the South-Eastern Murray Basin with the soil associations based on four fluvial patterns of deposition, each with characteristic soil types (Bartley, 1990):

- Active Floodplain (ancestral and present river courses, liable to regular inundation and cracking when dry) sand, sandy loam, fine sandy loam and sandy clay loam, light & medium clay, medium-low infiltration characteristics. Refer to soil type Qb3 below.
- Meander Floodplain (prior stream & ancestral river activity) essentially sand, sandy loam and fine sandy loam and B1 and B2 soil horizons with low clay content, deep profile and well drained.
- Near Floodplain (high level floodplain area) typically loam and occasionally clay loam, less permeable and light & medium clay.
- Far Floodplain (mid to low level floodplain area) clay or clay loam, medium to heavy clay horizons, low permeability and higher salinity soils

#### Vegetation

The Victorian Government has prepared a Biodiversity Strategy that has divided Victoria into a number of bioregions based on a combination of biological and geographical criteria (landform, climate etc.). While bioregion boundaries cannot be considered as rigid, based on current mapping, the construction ROW intersects three bioregions:

- Broadford to Mangalore (Looping 6)-Central Victorian Uplands (CVU) and Victorian Riverina (VRiv).
- Glenrowan to Barnawartha (Looping 7) Northern Inland Slopes (NIS) and Victorian Riverina.

Notable ecological features of the bioregions are summarised below:

- <u>The Central Victorian Uplands</u> which borders the northern edge of the Victorian Highlands is part of a larger region known as the Victorian Midlands which stretches east-west across central Victoria. This region has undulating terrain and was formerly dominated by foothill forest, some of which is still found on the upper slopes. The flatter and more fertile areas are largely cleared for agriculture. Dry Foothill Forest Complexes dominated the *Central Victorian Uplands*, but large areas of Moist Foothill Forest Complexes and Valley Grassy Woodland Complexes also occurred.
- <u>The Victorian Riverina</u> consists of a flat to gently sloping riverine plain formed from Quaternary alluvial deposits associated with the eight river basin tributaries of the Murray River. Prior to European settlement, the vegetation of the Victorian Riverina was a mixture of grasslands and low open woodland, dominated by box species (Grey Box Eucalyptus microcarpa and Yellow Box E. melliodora), red gum and Murray-pine (Callitris), with a sparse grassy understorey. A number of small freshwater wetlands of various types were also scattered across the region with concentrations of large and shallow wetlands adjacent to the major rivers in a few locations, such as around Wangaratta.

Over 90% of the current landscape has been cleared, mainly for dryland farming involving grazing and mixed cropping. As a result, the once-extensive woodlands are largely cleared, the remnants containing predominantly Grey Box with grassy understorey and scattered shrubs. Networks of vegetated roadsides and creeklines now play an important role in sustaining biodiversity across this highly modified landscape (GBCMA, 2003). Creekline vegetation remnants can retain good connectivity, while the networks of road reserves and associated vegetation can not only provide important habitat for native bird species but also for colonies of gliders and other mammals. Other threatened fauna in the area includes Bush Stone-curlew *Burhinus grallarius*, Swift Parrot *Lathamus discolor*, Tree Goanna *Varanus varius* and Brush-tailed Phascogale *tapoatafa tapoatafa* which are often found along connected creeklines and roadsides with large, old, hollow-bearing trees.

• <u>The Northern Inland Slopes</u> are comprised of the lower foothills north of the GDR with minor ranges separated by river valleys. The pre-European vegetation primarily consisted of box ironbark forest (though notably lacking ironbark species) in the hills, with grassy woodland on the lower slopes and areas of gilgai plain woodland / wetland mosaic fringing the riverine plain (GBCMA, 2003). The remaining hills vegetation was dominated by Grey Box, Red Box *E. polyanthemos* and White Box *E. albens*, with an understorey frequently dominated with wattles, and a sparse ground layer.

#### 3.3 (d) Outstanding natural features

In general, extensive clearing for agriculture and other development has left the majority of the land within and surrounding the easement largely devoid of extensive areas of indigenous vegetation. Some areas of natural value that are crossed by the construction ROW are listed below.

#### Looping 6

<u>The Goulburn River (KP62.9)</u> is a regulated waterway with Eildon Dam and Pondage located upstream of the Looping 6 crossing location and Nagambie Weir and Waranga basin located downstream. Regulation of the Goulburn River results in seasonal fluctuations of water levels subject to downstream water demands.

The riparian zone of both the east and west side of the river consists of a linear strip of mature canopy and understorey trees species. These include River Red Gum, Silver Wattle and River Tea-tree (*Leptospermum obovatum*). The understorey is highly modified and predominately includes exotic pasture grasses along with several native grasses and rushes located on the river's edge. These include Silver Tussock-grass (*Poa labillardieri*) and rushes (*Juncus* spp).

The crossing of the Goulburn River will be constructed using HDD and will therefore avoid the riparian zone and in-stream habitat. The design and management requirements for all HDD crossings included in the project are to be described in a separate HDD Management Plan to be prepared by the Construction Contractor and approved by the pipeline regulator prior to commencement of construction at the crossing.

#### Looping 7

<u>The King River (KP135.1)</u> is a significant river in its own right but merges with the Ovens River at Wangaratta approximately 4km downstream of the pipeline easement and therefore forms part of the bigger Ovens River catchment. The riparian zone of both the east and west side of the river consist of a linear strip of mature canopy tree species (River Red Gum *Eucalyptus camaldulensis*). The understorey is highly modified and predominately includes exotic pasture grasses along with some native grasses and rushes located on the river's edge. These include Silver Tussock-grass *Poa labillardieri*, Rush sedge *Carex tereticaulis* and rushes *Juncus* spp. The river has in-stream habitat of snags and other woody debris. The western bank of the river drops several metres to the water's edge from the surrounding land, while the eastern bank is much lower and forms part of the floodplain in this area.

<u>The Ovens River (KP138.03)</u> is a major tributary of the Murray River with a total catchment area of almost 8000 km<sup>2</sup>. The Ovens River commences on the northern side of the GDR in the Victorian high country. The river is subjected to periodic flooding which impacts Wangaratta from time to time. The riparian zone of both the east and west side of the river consist of a linear strip of mature canopy tree species with limited shrubs and a native understorey. The canopy consists of River Red Gum, with scattered Sweet Bursaria *Bursaria spinosa* in the shrub layer. The understorey is modified with exotic pasture grasses and weed species although it has a significant suite of native grass and aquatic species located on the river's edge. These include Silver Tussock-grass, Rush sedge, Spike-sedge *Eleocharis* sp., Knotweed *Persicaria* sp., Water Ribbons *Triglochin procera* and rushes. The river has in-stream habitat of snags and other woody debris.

<u>Chiltern - Mt. Pilot National Park</u> (~KP175.0-178.8) contains eucalyptus forests with Red Stringybark and Blakeley's Red Gum among Grey Box and Ironbark. Prolific spring wildflowers include wattles, orchids, bush peas and Cassinia. Across the highway the forest covering the ridges and spurs of the south-eastern block is similar but with more diverse trees and plants, including White Box. Dry granite ridges and outcrops are characterised by the presence of Black Cypress Pines. The park provides habitat for several rare or threatened species including the Regent Honeyeater, Turquoise Parrot, Peregrine Falcon, the Brush-tailed phascogale and Squirrel Glider. More than 150 bird species have been recorded in the area. Eastern Grey Kangaroos are often seen grazing in the late afternoon and smaller tree-dwelling creatures - Feathertail and Sugar Gliders, Brushtail and Ring-tail Possums - live in tree hollows in the southern areas. Many reptiles, including the Lace Monitor are also found (Parks Victoria, 2014).

#### 3.3 (e) Remnant native vegetation

The easement intersects a number of areas of native vegetation that were identified as an Ecological Vegetation Class (EVC) under the Victorian Government Biodiversity Strategy. These are explained in detail in the flora and fauna report for Looping 6 and 7 (Monarc 2015a). A brief overview of vegetation types within the region traversed by the ROW is provided in Section 3.3(c) of this referral document.

Today, over 90% of the area is cleared of native vegetation, mainly for dryland farming involving grazing and mixed cropping. Most of the remnant native vegetation occurs on roadsides with some patches of reasonable quality vegetation occurring along some of the more significant waterways. However, large areas of Box Ironbark and Heathy Dry Forest occur within areas of the construction ROW that intersect the Chiltern - Mt. Pilot National Park in Looping 7. These areas currently have fewer weed problems.

An assessment of obligations applicable to the clearance of vegetation occurring within the proposed construction ROW has been undertaken in accordance with the Vegetation Quality Assessment Manual prepared by the Victorian government (DSE 2004).

The original assessment was prepared on the basis that the full 28m of the easement that lies 'east' of the existing pipeline would be cleared to allow construction to proceed. Subsequent to the assessment of the original proposal for the construction ROW, results were reviewed and the ROW narrowed to 20m where it intersects vegetation that qualifies as native vegetation under State guidelines. The distribution of this vegetation across each of the looping projects is provided in **Table 9** below.

### Table 9: Summary of Native Vegetation occupying ROW (before and after application of minimisation and avoidance measures)

Looping Section	Native vegetation occupying 28m of easement east of existing pipeline (ha)	Native vegetation occupying construction ROW (after minimisation of ROW to 20m in sensitive areas)	
	Area of Vegetation (ha)	Area of Vegetation (ha)	
Broadford to Mangalore (Looping 6)	8.48	6.01	
Glenrowan to Barnawartha (Looping 7)	18.61	12.72	
Total (ha)	27.09	18.73	

Most of this vegetation, particularly within Looping 6, occurs on roadsides with some patches of reasonable quality vegetation occurring along some of the more significant waterways and on some freehold properties. The area traversed by Looping 6 has probably been subject to less clearing than the area north of the GDR and as a result includes some areas of remnant woodland that have survived on freehold land.

Most areas, however, have been subject to invasion by exotic species to varying extent (refer to Section 3.3(g)). As a result, the quality of native vegetation within the ROW varies greatly and includes areas of native grasses with very little or no native canopy that have established over previously cleared land, patches of remnant woodland with very little native understorey and patches of remnant woodland with a good cover of native understorey species. In a number of cases, native vegetation has re-established over the existing pipeline.

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

Looping 6 commences in the foothills of the north-western slopes of the GDR within the *Central Victorian Uplands Bioregion*. The topography consists of low rolling hills commencing at about 240m AHD at Strath Creek Road east of Broadford before dropping gradually through the foothills to about 150m AHD at the Goulburn River. The ROW then continues through undulating country to finish south of Back Mountain Road at about 180m AHD.

Looping 7 commences just south of Glenrowan on the plains to the north of Benalla at about 180m AHD. The ROW then rises slightly to approximately 250m AHD as it passes around the south-western perimeter of the Warby Range on the northern edge of the Glenrowan township. As the ROW heads in a north-easterly direction it drops to an elevation of about 150m AHD on the floodplain to the east of Wangaratta before entering rolling hills just south of Springhurst. Here it rises to about 270m AHD before dropping back to about 200m AHD near the fourth Hume Freeway crossing. The ROW then rises again to a maximum of about 270m AHD as it passes through the national park to the north of Chiltern before dropping back again to about 170m AHD at Barnawartha.

#### 3.3 (g) Current state of the environment

Include information about the extent of erosion, whether the area is infested with weeds or feral animals and whether the area is covered by native vegetation or crops.

The route of the existing easement generally traverses farmland with a grazing or cropping history. The majority of the surrounding area has been cleared or modified for cropping or pasture development or utilised for other agricultural activities in which the soil has been disturbed or altered by application of fertilisers. As a result, many waterways are degraded as a result of land clearance.

The portion of Looping 7 that passes through Chiltern - Mt. Pilot National Park Is located within an existing easement that was created during the construction of the original pipeline in 1975. Adjacent to and west of the pipeline easement, is an electrical power line easement that was also created prior to the declaration of the park.

The Box-Ironbark forests of the Chiltern section of the park were mostly cleared during the gold mining era of the late 1800s (Parks Vic 2008) and relics of this era are evident through many parts of the park. As a result, much of the original topsoil cover is gone and much of the vegetation now present is largely due to regrowth. This clearing is evident in the lack of large old trees in the Park and is also apparent in tree population data gathered during an arborist assessment of the pipeline easement: the average diameter of mature trees recorded in the wooded section of the ROW was about 45-50cm dbh (diameter at breast height) while the average height was about 20m.

Except for the area of the park, the field surveys have noted the prevalence of opportunistic weed infestations throughout the easement and surrounding areas, particularly in agricultural properties, demonstrating that their management and control will be difficult unless undertaken across all properties.

Introduced pasture grasses dominate the existing easement and the success of invasive weed species is expected to persist with current land use. Refer to **Table 10** below.

Common Name	Scientific Name	Declared Noxious Weed Status GBCMA	Declared Noxious Weed Status NECMA	L6	L7
Bathurst Burr	Xanthium spinosum	Regionally Controlled	Restricted	~	~
Variegated Thistle	Silybum marianum		Regionally Controlled		~
Blackberry	Rubus fruticosus	Regionally Controlled	Regionally Controlled	~	~
Sweet Briar	Rosa rubiginosa	Regionally Controlled	Regionally Controlled	~	~
Chilean Needle Grass	Nassella neesiana		Restricted		~
St John's Wort	Hypericum perforatum	Regionally Controlled	Regionally Controlled	~	~
Patterson's Curse	Echium plantagineum	Regionally Controlled	Regionally Controlled	✓	~
Spear Thistle	Cirsium vulgare	Restricted	Regionally Controlled	~	~
Cape Broom	Genista monspessulana	Regionally Controlled	Regionally Controlled	~	~
Hawthorn	Crataegus monogyna		Regionally Controlled		~
Horehound	Marrubium vulgare	Regionally Controlled	Regionally Controlled	~	~
Great Mullein	Verbascum thapsus		Regionally Controlled		~
Scotch Thistle	Onopordum acanthium		Regionally Controlled		~
Spiny Rush	Juncus acutus		Regionally Controlled		~
Pampas Lily of the Valley	Salpichroa origanifolia		Regionally Controlled		~
Bridal Creeper	Asparagus asparagoides		Restricted		~
Soursob	Oxalis pes-caprae	Restricted	Restricted	~	~
Willow	Salix sp.	Restricted		~	
Prickly Pear	Opuntia sp		Regionally Controlled		~

 Table 5: Declared Noxious Weeds recorded in the Looping 6 and 7 Construction ROW

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

There are no Commonwealth Heritage Places intersected by the construction ROW.

Assessment for any sites of historic heritage value within or near to the ROW is also being undertaken during the cultural heritage survey (refer Section 3.3(i) below).

#### 3.3 (i) Indigenous heritage values

The construction ROW contains a number of culturally sensitive areas including all major water ways. As construction activity may impact on these areas, mandatory Cultural Heritage Management Plans (CHMP) are being prepared in accordance with the Victorian *Aboriginal Heritage Regulations 2007*.

The project area is within the boundary of two Registered Aboriginal Parties (RAP) being:

- Taungurung Clans Aboriginal Corporation (all of Looping 6)
- Yorta Yorta Nation Aboriginal Corporation (most of Looping 7)

A small part of Looping 7 (KP 178.6 to 184.6) lies outside the RAP area. One CHMP will therefore be required for Looping 6 and two CHMPs for Looping 7. Surveys for cultural heritage are currently being implemented to inform the CHMPs.

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

Describe any other key features of the environment affected by, or in proximity to the proposed action (for example, any national parks, conservation reserves, wetlands of national significance etc).

There are a few other conservation reserves located in proximity to the Looping 7 construction ROW including:

- Warby-Ovens National Park, west of Wangaratta, was created by the Victorian Government in June 2010 to protect and enhance the remaining River Red gum forests in Victoria (Parks Victoria, 2014). The granitic hills and woodlands of the Warby Range section of the Park lies about 800m north of the ROW as it passes around the north edge of Glenrowan.
- East Wangaratta Nature Conservation Reserve\_is a large River Red Gum forest approximately 169ha in size, on the outskirts of Wangaratta that is managed by Parks Victoria. The eastern boundary of the reserve is located approximately 100 metres west of the construction ROW.

- Barambogie Bushland Reserve (Sanderson Hill) is located approximately 400 metres east of the construction ROW near Springhurst. This 64.55ha reserve is managed by Parks Victoria and contains a diverse range of threatened birds such as Diamond Firetails, Speckled Warblers and Turquoise Parrots.
- A number of other smaller Bushland Reserves can be found within a kilometre of the construction ROW, almost entirely within Looping 7 including three at Barambogie and two near Chiltern.

None of the above mentioned parks and reserves will be impacted by the construction works.

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

Land in the region is predominantly freehold. However, the easement also intersects a number of areas of Crown Land being:

- Roads and associated roads reserves. These include the Hume Freeway, major highways, rural roads and a number of undeveloped and unnamed road reservations, some with rough tracks (generally referred to in this document as Government Road). While private land in the area has often been subject to development for agricultural purposes, roadside reserves often contain remnant native vegetation, particularly within undeveloped road reserves or partially developed road reserves.
- Rail lines managed by Victrack (Looping 7: KP122.6, KP169.4)
- Land associated with a number of major waterways intersected by the easement classed as Water Frontage Reserves
- Murray to The Mountains Rail Trail (Looping 7: KP144.45), categorised as a recreation reserve
- Uncategorised Public Land such as that surrounding the Great Victorian Rail Trail (Looping 6: KP59.5)
- Chiltern Mt. Pilot National Park north of Chiltern (in the area of KP175.1-178.8).

It is noted that an easement does not apply within Crown Land and that in these sections the pipeline operates under an agreement with the State Government.

#### 3.3 (I) Existing land/marine uses of area

Land usage in the area is predominantly rural with the majority of the land classed as a Farming Zone. There are some exceptions including:

- About 3km of Looping 7, which passes through the eastern side of the Chiltern section of the Chiltern Mt Pilot National Park.
- Low density rural residential or rural living zones where the easement passes near regional towns (Tallarook, Seymour, Wangaratta, Chiltern and Barnawartha).

The greater part of the region, however, retains an open aspect typical of grazing land and much of this land is subject to either sheep or cattle grazing. While much of the private land has been cleared for agricultural purposes, many areas have retained a number of the larger old trees as part of the landscape.

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

N/A

### **4 Environmental outcomes**

Provide descriptions of the proposed environmental outcomes that will be achieved for matters of national environmental significance as a result of the proposed action. Include details of the baseline data upon which the outcomes are based, and the confidence about the likely achievement of the proposed outcomes. Where outcomes cannot be identified or committed to, provide explanatory details including any commitments to identify outcomes through an assessment process.

If a proposed action is determined to be a controlled action, the Department may request further details to enable application of the draft *Outcomes-based Conditions Policy 2015* and *Outcomes-based Conditions Guidance 2015* (<u>http://www.environment.gov.au/epbc/consultation/policy-guidance-outcomes-based-conditions</u>), including about environmental outcomes to be achieved, details of baseline data, milestones, performance criteria, and monitoring and adaptive management to ensure the achievement of outcomes. If this information is available at the time of referral it should be included.

General commitments to achieving environmental outcomes, particularly relating to beneficial impacts of the proposed action, CANNOT be taken into account in making the initial decision about whether the proposal is likely to have a significant impact on a matter protected under the EPBC Act. (But those commitments may be relevant at the later assessment and approval stages, including the appropriate level of assessment, and conditions of approval, if your proposal proceeds to these stages).

APA will avoid significant impacts to Matters of National Environmental Significance through best practice construction activities and transparency in reporting to regulatory authorities. This approach is based on previous successful projects where impacts on Matters of NES were negligible. Table 6 summarises the proposed environmental outcomes and management measures required to meet these objectives. Further details are provided in the documentation supplied with this referral application (Attachments A-D).

Outcomes	Measures	Monitoring
EPBC Act listed Flora and Fauna No significant impacts to • Regent Honeyeater • Painted Honeyeater • Striped Legless Lizard • Murray Cod	<ul> <li>Construction outside breeding season for Regent and Painted Honeyeater</li> <li>Reduction of ROW to 20m at all areas where the ROW intersects native vegetation</li> <li>Salvage program for SLL to be implemented in areas of potential habitat intersected by L6</li> <li>Trenchless excavation (HDD) under Goulburn, King and Ovens Rivers and Yanko Creek</li> <li>No contamination of waterways as a result of construction through effective sediment, erosion and pollution control</li> <li>Storage of chemicals and fuels according to Australian standards</li> </ul>	• Daily inspections / Weekly inspection reports / Audit reports
EPBC Act listed Communities No significant impacts to • Grey Box (E. microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia • White Box-Yellow Box- Blakely's Red Gum Grassy Woodland and Derived Native Grassland	<ul> <li>Reduction of ROW to 20m at all areas where the ROW intersects EPBC communities</li> <li>Clearly identify and demarcate conservation 'No-Go Zones'</li> <li>No clearance of vegetation outside of approved construction ROW as per alignment sheets</li> <li>No clearance of vegetation that has not been approved by DEDJTR</li> <li>Arborist supervision where construction occurs within the TPZ of a retained tree</li> <li>Rehabilitation of ROW on completion of construction in conjunction with relevant parties and a fully qualified ecologist</li> <li>Weed management measures for 24 months post construction</li> </ul>	• Daily inspections / Weekly inspection reports / Audit reports

#### Table 6. Environmental Outcomes for Matters of National Environmental Significance

These measures are based on detailed baseline environmental surveys undertaken specifically for this project (refer Q3.1(d)), discussions with individuals and state government personnel with local knowledge as well as various stakeholders (refer Q3.1(d) and Q5). Survey results are contained in the following reports:

- Monarc, 2015. Flora and Fauna Report for VNIE Looping 6 & 7. Monarc Environmental, Melbourne, VIC.
- GHD. 2015. Aquatic Surveys Broadford to Mangalore and Glenrowan to Barnawartha. Prepared for Monarc Environmental, Melbourne.
- Tree Logic 2015. Arboricultural Assessment: APA Gas line duplication, Broadford to Mangalore (Looping 6) and Glenrowan to Barnawartha (Looping 7). Prepared for Monarc Environmental, Melbourne.

The proposed management measures to be implemented during construction are detailed in management plans prepared for the project to be approved by regulatory authorities and included as part of construction contract documentation (refer Q5). These include:

- Monarc 2015. Construction Environment Management Plan for VNIE Looping 6 & 7. Monarc Environmental, Melbourne, VIC.
- Monarc, 2015. Flora and Fauna Management Plan for VNIE Looping 6 and 7 (Draft). Monarc Environmental, Melbourne, VIC.
- Monarc 2015. Chiltern Mt. Pilot National Park Management and Rehabilitation Plan VNIE Looping 7 (Draft). Monarc Environmental, Melbourne, VIC.
- Monarc, 2015. Site Environmental Management Plan for Goulburn Broken CMA: VNIE Broadford to Mangalore Looping 6. Monarc Environmental, Melbourne, VIC.
- Monarc, 2015. Site Environmental Management Plan for North East CMA: VNIE Glenrowan to Barnawartha Looping 7. Monarc Environmental, Melbourne, VIC.

Confidence regarding the achievement of the proposed environmental outcomes is therefore extremely high.

### **5** Measures to avoid or reduce impacts

**Note:** If you have identified alternatives in relation to location, time frames or activities for the proposed action at Section 2.3 you will need to complete this section in relation to each of the alternatives identified.

Provide a description of measures that will be implemented to avoid, reduce, manage or offset any relevant impacts of the action. Include, if appropriate, any relevant reports or technical advice relating to the feasibility and effectiveness of the proposed measures.

For any measures intended to avoid or mitigate significant impacts on matters protected under the EPBC Act, specify:

- what the measure is,
- how the measure is expected to be effective, and
- the time frame or workplan for the measure.

Examples of relevant measures to avoid or reduce impacts may include the timing of works, avoidance of important habitat, specific design measures, or adoption of specific work practices.

Provide information about the level of commitment by the person proposing to take the action to achieve the proposed environmental outcomes and implement the proposed mitigation measures. For example, if the measures are preliminary suggestions only that have not been fully researched, or are dependent on a third party's agreement (e.g. council or landowner), you should state that, that is the case.

Note, the Australian Government Environment Minister may decide that a proposed action is not likely to have significant impacts on a protected matter, as long as the action is taken in a particular manner (section 77A of the EPBC Act). The particular manner of taking the action may avoid or reduce certain impacts, in such a way that those impacts will not be 'significant'. More detail is provided on the Department's web site.

For the Minister to make such a decision (under section 77A), the proposed measures to avoid or reduce impacts must:

- clearly form part of the referred action (eg be identified in the referral and fall within the responsibility of the person proposing to take the action),
- be must be clear, unambiguous, and provide certainty in relation to reducing or avoiding impacts on the matters protected, and
- must be realistic and practical in terms of reporting, auditing and enforcement.

More general commitments (eg preparation of management plans or monitoring) and measures aimed at providing environmental offsets, compensation or off-site benefits CANNOT be taken into account in making the initial decision about whether the proposal is likely to have a significant impact on a matter protected under the EPBC Act. (But those commitments may be relevant at the later assessment and approval stages, including the appropriate level of assessment, if your proposal proceeds to these stages).

#### Vegetation

An assessment of the native vegetation existing in the construction ROW was undertaken in accordance with Victorian State Government policy (habitat hectares assessment). This assessment was based on the temporary clearing of 20-28m of the existing easement to the 'east' of the existing pipeline. There is 27.09ha of native vegetation on the easement (east of the existing pipeline) over the two looping sections. After avoidance and minimisation measures have been factored in, the total area of native vegetation to be cleared is reduced to 18.73ha, a reduction of 8.36ha.

Monarc and APA undertook an inspection of the proposed construction ROW to identify areas where vegetation removal could be avoided or minimised. During this inspection, APA identified a number of areas where measures could be taken to avoid or minimise impacts to native vegetation. These measures included the narrowing of the construction ROW to 20m at specific locations to avoid/minimise impacts to native vegetation and/or mature trees within the construction ROW. As a result, the following measures have been taken to minimise impacts to vegetation:

- Reduction of the construction ROW to 20m width where it intersects a remnant patch in order to minimise impacts to native vegetation;
- Reduction of the construction ROW to the minimum width possible in order to avoid impacts to scattered trees that do not lie over, or near, the alignment of the proposed pipeline. This is generally possible in most areas of the construction ROW due to the open nature of the countryside through which the construction ROW passes;
- Shifting of the narrowed construction ROW (20m), in some cases, westwards over the existing pipeline (reverse ROW) to avoid impacts on remnant vegetation in the 'eastern' area of the easement. In

general, the construction process will avoid work or movement of heavy construction traffic over the existing pipeline. In some cases, however, in areas where a specialist crew is proposed, such as at waterway crossings, impacts can be reduced by shifting the narrowed ROW westwards over the existing pipeline. This is only proposed in areas where a reduction in impacts can be demonstrated (in some properties, vegetation that has regrown west of the existing pipeline is of similar quality to vegetation located east of the proposed pipeline).

This will minimise the extent of clearance of wooded vegetation through the area. In particular this has been applied in all areas of the easement that intersect Chiltern - Mt. Pilot National Park. As a result, about 11m of vegetation that will require clearance is shrubby regrowth over the area of the existing pipeline (mostly indigenous grasses, herbs and medium to tall shrubs) and only about 5.5m of wooded vegetation will require clearance from the eastern edge of the ROW. Most of the vegetation in this section of the easement, as with the majority of the park, is regrowth as a result of vegetation clearance that occurred during the gold mining era of the late 1800s. As a result, large old trees are generally absent from the easement. Nevertheless, vegetation clearance in the wooded part of the ROW will focus on the removal of younger vegetation and any trees greater than 40cm dbh will be retained wherever possible.

The remainder of the ROW in the eastern section of the Park is currently occupied by Pipeline Track, a dirt track (about 3-4m wide) that is largely located to the east of the existing pipeline and, together with the network of roads and tracks through the park, currently provides an important access point to this section of the park for both management and recreational purposes. This will be reinstated after construction between the existing and new pipeline. Reinstatement after construction will also allow the replacement of vegetation over much of the ROW except for Pipeline Track and restrictions regarding trees and tall vegetation over both pipelines (per requirements within the operating licence).

- HDD of selected waterways to pass under significant vegetation as well as the waterway. This includes the following waterways
  - Looping 6: Goulburn River
  - Looping 7: Yanko Creek, King and Ovens Rivers

As a result, every effort has been made to minimise impacts on any remnant vegetation intersected by the ROW including areas that are considered to qualify as EPBC Act listed communities. The outcome of these measures on the proposed construction ROW has been significant (refer to Table 9 within Section 3.3(e). Measures to minimise impacts to mature trees have also led to a significant reduction in the number to be felled such that only a few large old trees within remnant patches will require removal.

A Construction Environment Management Plan (CEMP) is required to be prepared for the project to ensure environmental issues are appropriately managed during construction and that regulatory obligations are met. A construction footprint that defines the extent of the area to be disturbed during construction has been prepared and is to be included within the CEMP.

Environmental controls will also be documented within the CEMP. The aim of these control measures is to eliminate risk to the environment in the first instance and, where this is not possible, to mitigate the risk to as low as reasonably practicable. They will include the following:

- All contractors will be made aware through inductions and training of areas of ecological value along the construction ROW, particularly the areas of remnant and regrown vegetation that occur within and adjacent to the construction ROW.
- Prior to construction, the construction ROW will be graded to remove the topsoil and existing seedbank from the construction area and stockpiled to one side of the ROW.
- The removal of vegetation will be restricted to the minimum necessary and will not exceed that described in the CEMP and approved construction drawings.
- Vegetation to be retained will be identified and located on the Construction Alignment sheets and marked in the field as not to be disturbed, by a suitably qualified environmental consultant.
- Any remnant native vegetation that is required to be removed will be subject to the appropriate vegetation offset requirements as outlined in the Victorian Permitted Clearing Regulations (DEPI, 2013). Offsets will be secured prior to construction in accordance with DELWP requirements.
- No buildings or works, including loading and unloading, storage of materials, dumping of waste, vehicle access and parking or other construction activity, will occur within areas of retained vegetation.
- Erosion and sediment control measures (e.g. diversion berms, geotextile matting, silt fences and sediment basins) will be installed as necessary. The erosion controls will be maintained for a period of at least 12 months to minimise erosion risk from the disturbed area.

- The period of time between backfilling and restoration of the construction ROW will be minimised to prevent degradation and loss of exposed soils. Soil surfaces will be re-profiled to original or stable contours, re-establishing surface drainage lines and other land features.
- Stockpiled topsoil containing the existing seed bank will be re-spread over the rehabilitation area and prompt reseeding and revegetation of the ROW will be undertaken after construction.
- Contractors will undertake appropriate weed hygiene practices to prevent the spread of weeds that occur within the construction ROW, particularly in sensitive areas.
- Targeted control of weeds will only be undertaken by an accredited weed control contractor with an Agricultural Chemical User Permit.
- To avoid spray drift and off target damage, herbicide required to be sprayed will be applied at low pressure by skilled operators using knapsacks only on a still day, after which no rain is expected.
- If weather conditions prevent the prompt reseeding and revegetation of the construction ROW, controls will be put in place to manage erosion and sedimentation until such time as reseeding and revegetation can occur.
- Regular inspections will be undertaken during the pipeline construction maintenance period and operation phases to monitor for trench subsidence. An inspection of completed rehabilitation works by APA with the construction contractor will determine if the works have been carried out to an acceptable standard prior to the issuing of a Certificate of Reinstatement by APA and identify any areas requiring remedial action.
- Following the issue of the Certificate of Reinstatement, a 24 month defects liability period will be provided by the construction contractor.
- Post-construction weed monitoring and control will be undertaken to minimise environmental weeds colonising disturbed areas. The weed control measures will be to prevent the spread of any noxious or environmental weed that does establish (e.g. by spraying weeds prior to flowering).
- Post-construction erosion control management will be maintained as part of the operations pipeline inspections.
- A post-construction inspection will be conducted with the construction contractor, prior to the expiry of the Pipeline Defects Liability period, to identify areas requiring further remedial action.

#### Flora and Fauna impacts

To minimise impacts to the ecological values within the construction ROW the following will be implemented:

- Induction of employee and contractors prior to commencement of works to highlight environmental, cultural and other construction issues (such as threatened flora and fauna, vegetation communities etc);
- Vegetation to be retained shall be identified and located on the construction alignment sheets and flagged in the field as not to be disturbed;
- Narrowing of the construction ROW to the minimum safe width practicable (20m) where it intersects native vegetation in order to minimise disturbance to habitat provided by these communities. Any native vegetation that is to be removed as a result of construction works is to be offset in accordance with legislative requirements;
- Prior to commencement of construction, the approved ROW will be clearly identified and demarcated using high visibility para-webbing on each side of the ROW where it intersects EPBC communities to prevent any construction access to retained vegetation. Tree protection, if required, will be in accordance with the Australian Standard AS 4970-2009 Protection of trees on development sites (Standards Australia 2009);
- An arborist to be present during any vegetation clearance and trenching works within the vicinity of treed vegetation identified in the Arborist report;
- No works, including loading and unloading, storage of materials, dumping of waste, vehicle access and parking or other construction activity, will occur within areas of retained native vegetation identified in the flora and fauna assessment report (Attachment C);
- Regular environmental inspections to be undertaken by appropriately qualified environmental specialists throughout the project to monitor impacts to flora and fauna.

The Chiltern - Mt. Pilot National Park has a significant number of Commonwealth and State significant fauna. Mitigation measures will therefore consider potential impacts to the threatened Squirrel Glider (breeds about June to November), Regent Honeyeater (breeds winter to early spring), Swift Parrot (visits the park over autumn and winter), Painted Honeyeater (breeds in spring to summer) and Turquoise Parrot (breeds August to December). A separate *Chiltern - Mt. Pilot National Park Management and Rehabilitation Plan* (Monarc 2015c) is currently being prepared to address impacts and rehabilitation requirements and timeframes pre, during and post-construction. The park-specific plan is to be a subsidiary document to the Looping 7 CEMP and will be approved by Parks Victoria and DELWP.

Construction of the pipeline will primarily occur between December 2015 and June 2016. The timing of construction has been discussed with a number of parties including DELWP, Parks Victoria, Birdlife Australia and Friends of Chiltern Mt Pilot National Park. Most activities in the Park, including vegetation clearance, will therefore occur outside of the prime breeding season for threatened fauna likely to occur in the vicinity of the ROW. This includes those species that may occur in Chiltern - Mt. Pilot National Park. In particular, Regent Honeyeater are expected to be absent from the park during construction.

An arborist has undertaken an arboricultural assessment to determine the impact of construction on all indigenous trees (>40cm dbh) that occur within the construction ROW. Recommendations regarding the management of trees identified for retention and details of construction controls required to minimise impacts to trees during the works have been provided as part of the respective Arborist reports. Protection measures will be included in the CEMP to be prepared for the project.

In addition, a Flora and Fauna Management Plan for Looping 6 and 7 is currently being prepared in accordance with DELWP and DoE threatened species protocols to provide guidelines for the management of native flora and fauna during the pre-construction, construction and post-construction stages at locations where protected species and habitat occur.

Four of the major waterways within the project area (the Goulburn, King and Ovens Rivers and Yanko Creek), will be crossed by Horizontal Directional Drilling to avoid impacts to aquatic fauna and habitats. Other waterways are to be crossed by open-cut trenching, with works to occur during low flow/dry periods wherever possible. The construction ROW will be reduced in width in areas where sensitive flora and fauna habitat is recorded. A fully qualified zoologist will be present during tree removal, clear and grade and works along waterways where good quality native vegetation occurs and where threatened flora and fauna species have been recorded or have the potential to occur.

The following mitigation measures will be employed to reduce impacts to fauna habitat and to minimise faunal injury or mortality:

#### Pre-construction

- Any vegetation within the ROW that has been assessed by an ecologist to contain fauna habitat (dead stags, trees with hollows) will be recorded on an Environmental Line List to indicate that a zoologist must be present during their removal.
- Where hollow-bearing trees are to be removed, nest boxes for fauna will be installed in adjacent nonimpacted vegetation at least several days prior to tree removal, if practical, otherwise during rehabilitation.
- Threatened flora species are to be salvaged either by collecting seeds or cuttings, or where it is feasible, the removal of the entire plant/s prior to construction works beginning. These plants or plant material will be taken to a DELWP approved location for propagation.

#### Construction Phase

- The zoologist/s and botanist/s engaged to undertake the removal of fauna and flora from the ROW, will conduct a thorough on-site induction for construction staff prior to the removal of trees and vegetation. The induction will advise them of:
  - The legislative framework for the protection of species.
  - The management plan requirements to be followed for all native fauna and flora.
  - $\circ~$  The appearance of the threatened species identified from the project area. It will also include the protocols that will be followed for marked vegetation and in the event of any fauna being found.
- Clear photos, a description of the appearance of these species and the protocols to be followed will be provided on a laminated poster to the contractor and displayed in a central location.
- The zoologist will carefully inspect hollow-bearing trees identified on the Environmental Line List for fauna using an elevated work platform, and where necessary an endoscope, prior to felling of these trees. Any fauna found will be removed prior to the felling.
- Any hollow-bearing limbs or trunk sections will be removed by qualified arborists, by carefully using chainsaws under the direction of the zoologist.

- If any threatened fauna species are detected during construction, works are to be suspended in that area until the zoologist is able to remove the animal(s) in accordance with the guidelines outlined below.
- Where possible, fauna will be allowed to leave the area of their own accord. Habitat trees are to be knocked with an excavator bucket to disturb any resident fauna that may be present encouraging it to move out of the tree before the tree is felled. The tree will be left for at least 5 minutes to allow time for fauna to move.
- The zoologist will carefully inspect all trees containing habitat once felled for fauna using an endoscope and other suitable tools depending on the habitat present.
- Areas outside the construction ROW remain out-of-bounds including habitat areas either side of the construction ROW, which are 'No-go Zones'.
- The length of time the trench is to remain open will be minimised as much as practicable. Near watercourses, this is expected to be no more than three days.
- The open trench must contain measures to enable fauna to escape the trench if they are trapped within it. Such measures include trench ramps, hessian and animal ladders.
- Trench plugs and ramps with slopes no greater than 45 degrees will be constructed at intervals no greater than 500 metres along the pipeline trench to provide exits for fauna. Branches, hessian sacks, ramped gangplanks or similar will be used to create "ladders" to enable fauna to exit the trench.
- The open trench is to be inspected prior to commencement of work each day for any animals. If any nonthreatened animals are found they are to be removed by the qualified zoologist/s and moved to suitable nearby habitat. Any threatened fauna species are to be moved to suitable nearby habitat in accordance with Management Authorisation conditions. The open trench will be checked for fauna prior to pipelaying and backfill.
- Fallen timber will be moved and stockpiled separately from other vegetation so that it can be replaced as habitat during the reinstatement of the construction ROW.
- End caps will be placed on pipe strings to prevent entry of fauna into the pipe prior to construction.
- If an animal is injured during construction works, the zoologist will transport it to a suitably qualified veterinarian or wildlife carer to determine whether it can be treated and released. Injured or dead native wildlife within the project area will be reported to the pipeline regulator and regional DELWP personnel.
- All flowing waterways that are open cut will have flow maintained during construction. High flow, low flow and flex drive pumps will be in operation or on standby to ensure continual flow. All operating pumps will have a mesh covering on the inlet pipes to prevent fauna being sucked into the pump. Water will be extracted from as high in the water column as possible, and away from submerged aquatic vegetation, to reduce the likelihood of fauna being sucked into the pump.
- Adopting a safe speed limit along the construction ROW of no greater than 40kph will minimise the potential for collision with fauna moving through roadsides or other remnant vegetation.

#### **Post-Construction**

- The period of time between excavation and restoration of the pipeline area will be minimised to prevent degradation and loss of exposed soils;
- Land disturbed during construction will be restored following construction to its former condition and use in order to minimise degradation of terrestrial habitat. Measures to improve terrestrial habitat within the construction ROW adjacent to road and watercourse crossings, such as the planting of appropriate wattles, shall be incorporated into the restoration requirements;
- Prompt reseeding, revegetation and weed-control will be undertaken after construction in accordance with requirements of the CEMP. Reseeding and revegetation will occur prior to the winter break and preferably after weed seeds have germinated so that they can be controlled as part of the reseeding programme.

#### Fish

Species that are listed under the EPBC Act, and known to occur within the designated waterways associated with the Lower and Upper Ovens System, the King System and Murray Plains System are Murray Cod, Trout Cod, Macquarie Perch and Silver Perch. Murray Cod were recorded from the Ovens River and Yanko Creek during aquatic surveys undertaken for this project.

High priority species will require special mitigation measures to comply with the EPBC Act Significant Impact Guidelines for Matters of National Environmental Significance (DoE 2013). These include:

- Implement trenchless excavation using HDD techniques to install the full length of the pipeline under the King and Ovens Rivers and Yanko Creek;
- Implement sediment, erosion and pollution controls, in accordance with *Construction Techniques for* Sediment Pollution Control (EPA Publication No. 275, 1991) and *Environment Guidelines for Major* Construction Sites (EPA Publication No. 480, February 1996);
- Ensure chemicals and fuels are stored and handled in accordance with Australian Standards (AS1940-2004 'The storage and handling of flammable and combustible liquids') and:
  - $\circ~$  Ensure chemicals and fuels are stored and handled in accordance with the relevant Safety Data Sheets;
  - Ensure chemicals and fuels are not stockpiled within 100 metres of waterways;
  - $\circ$  Ensure a spill kit is kept onsite for the duration of construction; and
  - Implement an emergency response procedure in the event of a chemical or fuel spill near waterways.

#### Aquatic salvage

Five waterways that are to be open-cut have been identified for potential aquatic fauna salvage (if water is present) prior to construction activities commencing and during dewatering activities. These are:

#### Looping 6

Dabyminga Creek

#### Looping 7

- Fifteen Mile Creek
- Reedy Creek
- Black Dog Creek
- Indigo Creek

If water is present in the crossing during construction, salvage and relocation of aquatic and terrestrial species in the riparian zone will be undertaken by a suitably qualified zoologist prior to any works commencing at the waterway in accordance with procedures included within the Management Plan approved by DELWP.

Other measures will include:

- Water flow will be reinstated as soon as practicable once crossing construction is complete, ideally no longer than 24 hours, as some native fish are susceptible to barrier effects.
- Any snags (logs) and boulders removed from the waterway during construction will be returned to the waterway prior to reinstatement of flow.
- All salvaged native fauna will be relocated within 100 metres of its habitat. If this cannot be achieved (particularly for highly territorial species), advice will be sought from DELWP whilst the species is within its holding container.
- Land disturbed during construction will be rehabilitated to its former condition and use. Measures to improve terrestrial habitat within the construction ROW will be incorporated into the restoration requirements for these areas.
- Rehabilitation of the waterway and fauna habitat will occur as soon as possible following construction.

#### Significant Species

#### Birds

Regent Honeyeater, Painted Honeyeater and Swift Parrot populations will be managed by scheduling construction at Chiltern - Mt. Pilot National Park in late summer - early autumn (January-March) to avoid the breeding or migration seasons of these threatened species.

Other threatened species that have been recorded, such as Latham's Snipe, Rainbow Bee-eater, Eastern Great Egret or White-throated Needletail, will not be impacted by the construction works.

#### Reptiles

Management measures for the SLL have been prepared to describe measures to be undertaken prior to construction in Looping 6 and contingency measures to be employed in the event that SLL are located during construction. These have been included in the Flora Fauna Management Plan to be approved by DELWP and include a preconstruction salvage program for areas identified as potential habitat.

#### Weed Management

Vehicles and personnel have the potential to transfer or spread weeds and disease, since they can carry seeds or organic matter caught on clothing, in tyres or under the vehicle body. Similarly, weeds can be introduced to an area via equipment that is contaminated with plant matter or soil from previous work sites. The potential impact of weeds into areas that were previously weed free can be substantial, from both environmental and economic perspectives.

Hygiene procedures are required during all phases of the project to minimise the risk of spreading weeds and disease. Contractors are advised to reference the *Guide for Machinery Hygiene for Civil Construction*, (CCF 2011). These guidelines outline industry best practice for weed and disease management. Key management guidelines include:

- All vehicles will be washed-down prior to entering the construction area to prevent the transfer of weeds. Wash-down details will be recorded in a Wash-Down Register.
- All personnel will receive induction training in procedures for weed and disease control personal hygiene practices, such as removing seeds and mud from clothing and footwear.
- To prevent the introduction of weeds and disease, equipment used during works or vegetation clearing will be delivered to the site free of soil and organic matter to prevent the introduction of exotic species to the site and adjacent areas. A visual inspection will be undertaken and documented prior to acceptance of the vehicle or equipment item onto the Construction ROW.
- Cleaning will be thorough so as to remove all soil or organic matter from the surface of vehicles, equipment and portable infrastructure, including the undercarriage and running gear.
- Grading of soil from the ROW will minimise the transfer of soil between properties;
- Where the works require the importation of material, such as sand, gravel or spoil, the material will be sourced from a reputable (preferably local) supplier, be weed free as far as possible and be certified by the supplier to meet the Environment Protection Authority's Fill Material criteria and to meet human health and environmental criteria.
- All construction vehicle and equipment movement will be confined to the Construction ROW, designated access tracks/roads and allocated parking areas.
- Revegetation and weed-control will be undertaken as soon as practicable after construction.
- Post-construction weed monitoring and control will be carried out throughout the project life to minimise environmental weeds colonising disturbed areas and to control and prevent the spread of noxious weeds.
- Prior to clear and grade, wash down points will be set up at locations when moving from an identified contaminated area to a weed free area.

Wash down bays will be installed at pre-determined points to minimise the potential for spread of weeds into these areas, if deemed necessary.

### **6** Conclusion on the likelihood of significant impacts

Identify whether or not you believe the action is a controlled action (ie. whether you think that significant impacts on the matters protected under Part 3 of the EPBC Act are likely) and the reasons why.

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

✓

No, complete section 5.2

Yes, complete section 5.3

#### 6.2 Proposed action IS NOT a controlled action.

Specify the key reasons why you think the proposed action is NOT LIKELY to have significant impacts on a matter protected under the EPBC Act.

A substantial survey effort has been undertaken to ensure any biodiversity issues are appropriately identified. Regular consultation with state environmental regulators, including DELWP, LGAs and CMAs, has been an important part of the project to ensure all issues are satisfactorily identified. Detailed ecological surveys were undertaken between June 2012 and March 2015 and included targeted surveys of all listed species that may be expected in the area traversed the construction ROW.

Appropriate measures are to be implemented to minimise potential impacts on all matters of national environmental significance that may be affected by this proposal.

These include measures to minimise impacts on listed ecological communities as described in this referral including:

- Reduction of the ROW to 20m at all locations where the ROW intersects any areas considered to be representative of listed communities.
- Minimisation of the clearance of large old trees.

The following measures are also to be implemented:

- Preparation of a CEMP for acceptance by the Victorian pipeline regulator that will detail all measures required to manage and minimise impacts to the environment. This will include a program of regular internal inspections and external audits of construction against the requirements of the CEMP including:
  - o Daily inspections by the construction contractor
  - Weekly inspections by senior construction personnel
  - Monthly inspections and compliance audits by external auditors/inspectors
  - Compliance audits by the regulator(s)

APA will forward weekly reports to the pipeline regulator on the progress of the project including a report on environmental performance with respect to the CEMP

- Preparation of Site Environment Management Plans for GBCMA and NECMA for the protection of waterways during construction.
- Preparation of a detailed Flora and Fauna Management Plan for Looping 6 and 7 is currently being prepared to provide guidelines for the management of native flora and fauna during the preconstruction, construction and post-construction stages where protected species and habitat occur (Monarc 2015b). This will provide management recommendations for the specific landscape characteristics and threatened species habitat that are unique to Loopings 6 and 7. This will include measures for management of aquatic fauna, mammals, birds and SLL.
- Preparation of a management plan to cover all construction and rehabilitation works within the portion of the ROW that is located within Chiltern Mt. Pilot National Park. This will be submitted to DELWP and Parks Victoria for approval.

Land that is disturbed by pipeline construction activities will be rehabilitated so that it is restored to its preexisting land use. This includes reinstatement of the topsoil with the existing seed bank which should encourage the re-establishment of existing species.

No significant impacts on matters of national environmental significance protected under the EPBC Act are therefore expected.

### 6.3 Proposed action IS a controlled action

Type 'x' in the box for the matter(s) protected under the EPBC Act that you think are likely to be significantly impacted. (The 'sections' identified below are the relevant sections of the EPBC Act.)

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)

Specify the key reasons why you think the proposed action is likely to have a significant adverse impact on the matters identified above.

**7 Environmental record of the responsible party NOTE:** If a decision is made that a proposal needs approval under the EPBC Act, the Environment Minister will also decide the assessment approach. The EPBC Regulations provide for the environmental history of the party proposing to take the action to be taken into account when deciding the assessment approach.

		Yes	No
7.1	Does the party taking the action have a satisfactory record of responsible environmental management?	YES	
	Provide details		
	APA has undertaken a number of projects that have been referred to the Department under the EPBC Act. They include:		
	Brooklyn to Lara Pipeline Project (Victoria)		
	This 57 kilometre gas pipeline was constructed from October 2007 to March 2008 utilising previously disturbed easement as well as a "Greenfield section". The route included the crossing of two native grassland sections through private property as well as the crossing of the Derrimut Grasslands. Management plans were in place to minimise the impact on the grasslands. An offset property was secured and an approved land management plan set up to satisfy net gain obligations. In addition, APA entered into a three year plan with Parks Victoria for the improvement of native vegetation within the vicinity of the pipeline crossing of the Derrimut Grasslands. The environmental performance was monitored and audited during and after construction. The Department of Primary Industries (DPI) also monitored the environmental performance against the CEMP. The project was completed without any major environmental incidents and to the satisfaction of DPI.		
1	Bonaparte Gas Pipeline (Northern Territory)		
	The 286km Bonaparte gas pipeline runs from Wadeye to Ban Ban Springs, through aboriginal land and pastoral leases and was constructed from April 2008 to October 2008. The EPBC referral decision placed conditions for the protection of a number of threatened and migratory species. Audits and regular inspection reports were carried out by environmental consultants, fauna monitors and an independent auditor against the CEMP during construction. An independent audit immediately following construction determined that there had been no effect on the EPBC listed species. A detailed report on fauna mortality and the types of species identified was forwarded to the NT Government and Commonwealth Government following construction.		
	Wollert Compressor Station (Victoria)		
	APA owns a 193 hectare property at Wollert approximately 27 kilometres north of Melbourne. The project in 2009 involved upgrading the Natural Gas Compressor station at Wollert and the building of two additional compressors behind the existing compressors to expand the supply of gas to the north of Victoria.		
	The property contains Natural Temperate Grasslands of the Victorian Volcanic Plain and also has a significant population of Golden Sun Moths. The EPBC referral was 'NOT a controlled action if undertaken in a particular manner' due to the protection measures applied to the Golden Sun Moth population and ongoing protection of this population.		
	Sunbury Pipeline Looping Project (Victoria)		
	The 8.4km Sunbury pipeline runs from Brooklyn Lara Pipeline at the corner of Hopkins and Middle Roads, Truganina to the Plumpton Pressure Regulating Station at Taylors Road, Plumpton. The entire pipeline route is located within the 2010 expanded Melbourne Urban Growth Boundary and was constructed in 2012 prior to the recent declaration of the Biodiversity Conservation Strategy. However removal of native vegetation was offset in accordance with the prescriptions for native vegetation loss.		
	A CEMP was prepared for the project and the environmental performance monitored and audited during and after construction against the CEMP. The Department of		

	Primary Industries (DPI) also monitored the environmental performance and the project was completed without any major environmental incidents and to the satisfaction of DPI.		
	Victorian Northern Interconnect Expansion (VNIE) Looping 2-5 Project (Victoria)		
	The existing 300NB Wollert to Wodonga gas transmission pipeline runs in an approximate north easterly direction from the Wollert Compressor Station on the northern outskirts of Melbourne through to Wodonga West; a total distance of approximately 269km. The project commenced in October 2014 and was completed in June 2015.		
	The project was deemed as not a controlled action if undertaken in a particular manner, conditional to appropriate mitigation measures to avoid impacts to matters of NES. A CEMP, SEMP and Flora and Fauna Management Plan were prepared prior to commencement of construction to meet the obligations under the EPBC Act.		
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?		NO
	If yes, provide details		
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?	YES	
	If yes, provide details of environmental policy and planning framework		
	Details of the APA Environmental Management Plan Policy are found in <b>Attachment E.</b>		
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?	YES	
	Provide name of proposal and EPBC reference number (if known)		
	Dubbo - Tamworth Natural Gas Pipeline - Reference No 2000/0032		
	Somerton Natural Gas Pipeline - Reference No 2001/0275		
	Southern Gas Pipeline Project - Reference No 2002/0619		
	Brooklyn to Lara Gas Transmission Pipeline - Reference No 2006/3093		
	Bonaparte Gas Pipeline - Wadeye to Ban Ban Springs - Reference No 2006/2930		
	Wickham Point Interconnect Gas Pipeline - Reference No 2008/4309		
	Upgrade to existing gas compressor facilities at Wollert - Reference No 2009/5092		
	Caltex Lateral Underground Pipeline and Associated Surface Infrastructure - Reference No 2009/5196		
	Young to Wagga Wagga Looping Pipeline Stage 2 (Bethungra to Young) - Reference No 2011/6100		
	Sunbury Pipeline Looping Project - Reference No 2011/6159		

Roma to Brisbane Transmission Pipeline Metropolitan Looping Phases 2 & 3 - Reference No 2012/6660	
Boodarie Gas Lateral Pipeline - Reference No 2014/7116	
Victorian Northern Interconnect Expansion Project (Loopings 2 to 5) - Reference No 2014/7186	
Eastern Goldfields Gas Pipeline Construction - Reference No 2014/7284	

### 8 Information sources and attachments

(For the information provided above)

#### 8.1 References

- List the references used in preparing the referral.
- Highlight documents that are available to the public, including web references if relevant.
- Standards Australia 2012. Australian Standard AS2885.1-2007 Pipelines-Gas and liquid petroleum-Design and construction. Council of Standards Australia, NSW
- CCF 2011. A Guide for Machinery Hygiene for Civil Construction. Civil Contractors Federation, Victoria.
- APIA 2013 Australian Pipeline Industry Association Code of Environmental Practice. Australian Pipeline Industry Association, ACT.
- DEH. 2006. White Box Yellow Box Blakely's Red Gum grassy woodlands and derived native grasslands. EPBC ACT Policy Statement. Department of the Environment and Heritage, Canberra
- DELWP 2015. Victorian Biodiversity Atlas <u>https://vba.dse.vic.gov.au/vba/index.jsp</u> department of Environment, Land, Water and Populations. Accessed on 14 July 2015
- DEPI. 2013. *Biodiversity Assessment Guidelines: Permitted clearing of native vegetation*. Department of Environment and Primary Industries., East Melbourne. Published September 2013.
- DEPI. 2014a. Biodiversity Interactive Map Viewed March 2014. http://mapshare2.dse.vic.gov.au/MapShare2EXT/imf.jsp?site=bim
- DEPI, 2014b. Ecological Vegetation Class (EVC) Benchmarks for each Bioregion [WWW Document]. URL http://www.dse.vic.gov.au/conservation-and-environment/native-vegetation-groups-for-victoria/ecological-vegetation-class-evc-benchmarks-by-bioregion
- DEPI. 2014c. Permitted clearing of native vegetation Biodiversity assessment handbook. Department of Environment and Primary Industries, January 2014.
- DEWHA 2010a. Survey guidelines for Australia's threatened birds: Guidelines for detecting birds listed as threatened under the Environment Protection and Biodiversity Conservation Act 1999. Department of the Environment, Water, Heritage and the Arts, Canberra.
- DEWHA 2010b. Survey guidelines for Australia's threatened frogs: Guidelines for detecting frogs listed as threatened under the Environment Protection and Biodiversity Conservation Act 1999. Department of the Environment, Water, Heritage and the Arts, Canberra.
- DoE 2013. Matters of National Environmental Significance: Significant impact guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999. Department of Environment, Canberra.
- DoE 2015a. Protected Matters Search Tool <u>http://www.environment.gov.au/epbc/pmst/</u> Department of the Environment, ACT. Accessed 15 July 2015.
- DoE 2015b. Species Profile and Threats Database <u>http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl</u> Department of Environment, ACT. Accessed 15 July 2015
- DSE 2004. Vegetation Quality Assessment Manual-Guidelines for applying the habitat hectares scoring method. Version 1.3. Victorian Government Department of Sustainability and Environment, Melbourne
- DSE. 2006. Conservation Plan for the South West Goulburn Landscape Zone. Water and Biodiversity, Department of Sustainability and Environment, Alexandra.
- DSE. 2010. *Biodiversity Precinct Structure Planning Kit*. Department of Sustainability and Environment, Melbourne.
- DSE 2011. Salvage & Translocation of Striped Legless Lizard in the Urban Growth Areas of Melbourne: Operational Plan. Department of Sustainability and Environment, Melbourne
- DSEWPaC 2011a. Survey guidelines for Australia's threatened mammals: Guidelines for detecting mammals listed as threatened under the Environment Protection and Biodiversity Conservation Act 1999. Department of Sustainability, Environment, Water, population and Communities, Canberra.
- DSEWPaC 2011b. Survey guidelines for Australia's threatened reptiles: Guidelines for detecting reptiles listed as threatened under the Environment Protection and Biodiversity Conservation Act 1999. Department of Sustainability, Environment, Water, population and Communities, Canberra.
- DSEWPaC 2011c. Survey guidelines for Australia's threatened fish: Guidelines for detecting fish listed as threatened under the Environment Protection and Biodiversity Conservation Act 1999. Department of Sustainability, Environment, Water, population and Communities, Canberra.

- DSEWPaC 2012. Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-Eastern Australia: A guide to the identification, assessment and management of a nationally threatened ecological community. Environment Protection and Biodiversity Conservation Act 1999. Commonwealth of Australia, Canberra.
- Environment Australia 2003. Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions: Threatened Ecological Community. http://www.environment.gov.au/system/files/pages/23848440-0489-42f0-b63c-ad4ef5e999e2/files/murray-darling-buloke-map.pdf
- GBCMA 2003. Native Vegetation Retention Control, Regional Guidelines for the Goulburn Broken Catchment. Goulburn Broken Catchment Management Authority
- Monarc 2014. Flora and Fauna Report for VNIE Looping 1-5. Monarc Environmental, Melbourne, VIC.
- Monarc, 2015a. Flora and Fauna Report for VNIE Looping 6 & 7. Monarc Environmental, Melbourne, VIC.
- Monarc, 2015b. *Flora and Fauna Management Plan for VNIE Looping 6 and 7* (Draft). Monarc Environmental, Melbourne, VIC.
- Monarc 2015c. Chiltern Mt. Pilot National Park Rehabilitation Plan (Draft). Monarc Environmental, Melbourne, VIC.
- Monarc 2015d. Construction Environment Management Plan for VNIE Looping 6 & 7. Monarc Environmental, Melbourne, VIC.
- Monarc, 2015e. Site Environmental Management Plan for Goulburn Broken CMA: VNIE Broadford to Mangalore Looping 6. Monarc Environmental, Melbourne, VIC.
- Monarc, 2015f. Site Environmental Management Plan for North East CMA: VNIE Glenrowan to Barnawartha Looping 7. Monarc Environmental, Melbourne, VIC.
- Monarc 2015g. Referral of a project for a decision on the need for assessment under the environment effects act 1978: Victorian Northern Interconnect Expansion Construction of a Transmission Gas Pipeline from Broadford to Mangalore and Glenrowan to Barnawartha. Monarc Environmental, Melbourne.
- NECMA, 2014. North East Catchment Management Authority Waterway Strategy 2014. NECMA, Wodonga, VIC.
- National Murray Cod Recovery Team (NMCRT) 2010. *National Recovery Plan for the Murray Cod* Maccullochella peelii peelii. Department of Sustainability and Environment, Melbourne.
- Standards Australia. 2009. Australian Standard AS 4970-2009 Protection of trees on development sites. Standards Australia, Sydney.
- SWIFFT 2015. Regent Honeyeater Captive Release Programme, Chiltern VIC 2015. <u>http://www.swifft.net.au/cb\_pages/regent\_honeyeater\_captive\_release.php</u> State Wide Integrated Flora and Fauna teams. Accessed on 14 July 2015.
- Tree Logic 2015. Arboricultural Assessment: APA Gas line duplication, Broadford to Mangalore (Looping 6) and Glenrowan to Barnawartha (Looping 7). Prepared for Monarc Environmental, Melbourne.

#### 8.2 Reliability and date of information

For information in section 3 specify:

- source of the information;
- how recent the information is;
- how the reliability of the information was tested; and
- any uncertainties in the information.

To assist in preparation of this referral, the information sources, investigations and reports utilised have all been completed by professional consultants in their respective fields. The key inputs to the referral have been sourced from reports by Monarc Environmental. The reliability of such information is summarised in the following points:

- The investigations and reports have been recently completed in 2013 & 2014 for the purposes of the preparation of a Flora and Fauna Assessment (refer to Attachment C) and targeted surveys for EPBC and Victorian listed flora/fauna in suitable areas of habitat.
- The construction ROW forms a narrow linear project area that generally intersects only small portions of much larger areas of remnant vegetation. Much of the construction ROW passes through private land. The focus of the study was therefore on the ecological value of the easement or construction ROW being the area accessible to APA. The quality of vegetation when assessed on a broader scale across a property may differ when compared to an assessment of a small portion of that area such as that intersected by the construction ROW.

Note also that threshold criteria provided for some listed vegetation communities such as *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland* require patches to be assessed at a scale of 0.1ha or greater (DEH 2006). In many cases, the area of vegetation intersected by the ROW was less than this figure. Assessment for the presence of this community was based entirely on vegetation found within the easement.

Any judgement about the quality of vegetation outside the area of the easement (for instance when assessing the impact of proposed works on patches of listed communities) is based on modeling of vegetation types by DELWP documented within the Biodiversity Information Management System (DEPI 2014b).

- Surveys concentrated on areas of habitat found within the construction ROW considered potentially suitable for the targeted species or community. All surveys were undertaken in accordance with federal and/or state guidelines for the species concerned:
  - Surveys provide a sampling of flora at a given time only. Different seasonal conditions may provide more flora. Every effort has been taken to identify the significant species that may be expected to occur in the area and, subsequently, to examine parts of the construction ROW at times appropriate to the flowering of the significant species identified.
  - While the surveys are considered adequate for detecting active fauna typical of the area, such surveys provide a sampling of the fauna only at a given time. Factors such as time of year and day, weather conditions, species behaviour and habitat impact on the likelihood of locating many species. The surveys were therefore undertaken during times and conditions when the targeted threatened species were considered most likely to be active and the chance of locating uncommon or transient species was highest.

The reports listed have been completed by professional Ecologists, Zoologists, Botanists and Environmental Scientists and the recommendations have been made to avoid impact on significant habitat, species and areas of National Significance.

#### 8.3 Attachments

Indicate the documents you have attached. All attachments must be less than three megabytes (3mb) so they can be published on the Department's website. Attachments larger than three megabytes (3mb) may delay the processing of your referral.

		$\checkmark$	
		attached	Title of attachment(s)
You must attach	figures, maps or aerial photographs showing the project locality (section 1)		Figure 1: Project Location
	GIS file delineating the boundary of the referral area (section 1)		<b>Attachment A:</b> '9_GIS Data.xlsx'
		$\checkmark$	Attachment B: Property Descriptions
	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)		Refer to: Attachment C: Flora and Fauna Assessment - Victorian Northern Interconnect Expansion - Loopings 6 and 7 Attachment D: VNIE Map Book
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)	$\checkmark$	
	copies of any flora and fauna investigations and surveys (section 3)	✓	Attachment C: Flora and Fauna Assessment -

	Victorian Northern Interconnect Expansion - Loopings 6 and 7
technical reports relevant to the assessment of impacts on protected matters that support the arguments and conclusions in the referral (section 3 and 4)	CHMPS for each of the loopings are currently in preparation
report(s) on any public consultations undertaken, including with Indigenous stakeholders (section 3)	

Attachment E APA Environmental Management Plan Policy

### 9 Contacts, signatures and declarations

NOTE: Providing false or misleading information is an offence punishable on conviction by imprisonment and fine (s 489, EPBC Act).

Under the EPBC Act a referral can only be made by:

- the person proposing to take the action (which can include a person acting on their behalf); or
- a Commonwealth, state or territory government, or agency that is aware of a proposal by a person to take an action, and that has administrative responsibilities relating to the action<sup>1</sup>.

### **Project title:**

#### 9.1 Person proposing to take action

This is the individual, government agency or company that will be principally responsible for, or who will carry out, the proposed action.

If the proposed action will be taken under a contract or other arrangement, this is:

- the person for whose benefit the action will be taken; or
- the person who procured the contract or other arrangement and who will have principal control and responsibility for the taking of the proposed action.

If the proposed action requires a permit under the Great Barrier Reef Marine Park Act<sup>2</sup>, this is the person requiring the grant of a GBRMP permission.

The Minister may also request relevant additional information from this person.

If further assessment and approval for the action is required, any approval which may be granted will be issued to the person proposing to take the action. This person will be responsible for complying with any conditions attached to the approval.

If the Minister decides that further assessment and approval is required, the Minister must designate a person as a proponent of the action. The proponent is responsible for meeting the requirements of the EPBC Act during the assessment process. The proponent will generally be the person proposing to take the action<sup>3</sup>.

1. Name and Title:	Craig Bergin Senior Program Manager
2. Organisation (if applicable):	APA GasNet Australia (Operations) Pty Ltd
3. EPBC Referral Number (if known):	
4: ACN / ABN (if applicable):	65 083 009 278
5. Postal address	180 Greens Road DANDENONG VIC 3175
6. Telephone:	03 9797 5147
7. Email:	Craig.Bergin@apa.com.au
8. Name of designated proponent (if not the same person at item 1 above and if applicable): 9. ACN/ABN of	

<sup>2</sup> If your referred action, or a component of it, is to be taken in the Great Barrier Reef Marine Park the Minister is required to provide a copy of your referral to the Great Barrier Reef Marine Park Authority (GBRMPA) (see section 73A, EPBC Act). For information about how the GBRMPA may use your information, see http://www.gbrmpa.gov.au/privacy/privacy\_notice\_for\_permits.

<sup>3</sup> If a person other than the person proposing to take action is to be nominated as the proponent, please contact the Referrals Gateway(1800 803 772) to obtain an alternative contacts, signatures and declarations page.

<sup>&</sup>lt;sup>1</sup> If the proposed action is to be taken by a Commonwealth, state or territory government or agency, section 8.1 of this form should be completed. However, if the government or agency is aware of, and has administrative responsibilities relating to, a proposed action that is to be taken by another person which has not otherwise been referred, please contact the Referrals Gateway (1800 803 772) to obtain an alternative contacts, signatures and declarations page.

designated proponent (if not the same person named at item 1 above):

### COMPLETE THIS SECTION ONLY IF YOU QUALIFY FOR EXEMPTION FROM THE FEE(S) THAT WOULD OTHERWISE BE PAYABLE

I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:

an individual; OR

a small business entity (within the meaning given by section 328-110 (other than subsection 328-119(4)) of the *Income Tax Assessment Act 1997*); OR

not applicable.

If you are small business entity you must provide the Date/Income Year that you became a small business entity:

Note: You must advise the Department within 10 business days if you cease to be a small business entity. Failure to notify the Secretary of this is an offence punishable on conviction by a fine (regulation 5.23B(3) *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth)).

#### COMPLETE THIS SECTION ONLY IF YOU WOULD LIKE TO APPLY FOR A WAIVER

not applicable.

I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC <u>Regulations</u>. 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: 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

Wilser

5/10/15 Date

**9.2 Person preparing the referral information (if different from 8.1)** Individual or organisation who has prepared the information contained in this referral form.

Name	David Coleman
Title	Principal Ecological Consultant
Organisation	Monarc Environmental
ACN / ABN (if applicable)	89 604 427 894
Postal address	Level 1, Suite 2, 17 Cotham Road, Kew, Victoria 3101
Telephone	03 9205 0600
Email	davidc@monarcenviro.com.au
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

D Gu

Date 5 October 2015

### **REFERRAL CHECKLIST**

NOTE: This checklist is to help ensure that all the relevant referral information has been provided. It is not a part of the referral form and does not need to be sent to the Department.

#### 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. (<u>http://www.anzlic.org.au/policies\_guidelines#guidelines</u>).

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

All data will be provide under a Creative Commons license (<u>http://creativecommons.org/licenses/by/3.0/au/</u>)