REFERRAL OF A PROJECT FOR A DECISION ON THE NEED FOR ASSESSMENT UNDER THE *ENVIRONMENT EFFECTS ACT 1978*

REFERRAL FORM

The *Environment Effects Act 1978* provides that where proposed works may have a significant effect on the environment, either a proponent or a decision-maker may refer these works (or project) to the Minister for Planning for advice as to whether an Environment Effects Statement (EES) is required.

This Referral Form is designed to assist in the provision of relevant information in accordance with the *Ministerial Guidelines for assessment of environmental effects under the Environment Effects Act 1978* (Seventh Edition, 2006). Where a decision-maker is referring a project, they should complete a Referral Form to the best of their ability, recognising that further information may need to be obtained from the proponent.

It will generally be useful for a proponent to discuss the preparation of a Referral with the Impact Assessment Unit (IAU) at the Department of Environment, Land, Water and Planning (DELWP) before submitting the Referral.

If a proponent believes that effective measures to address environmental risks are available, sufficient information could be provided in the Referral to substantiate this view. In contrast, if a proponent considers that further detailed environmental studies will be needed as part of project investigations, a more general description of potential effects and possible mitigation measures in the Referral may suffice.

In completing a Referral Form, the following should occur:

- Mark relevant boxes by changing the font colour of the 'cross' to black and provide additional information and explanation where requested.
- As a minimum, a brief response should be provided for each item in the Referral Form, with a more detailed response provided where the item is of particular relevance. Cross-references to sections or pages in supporting documents should also be provided. Information need only be provided once in the Referral Form, although relevant cross-referencing should be included.
- Responses should honestly reflect the potential for adverse environmental effects. A Referral will only be accepted for processing once IAU is satisfied that it has been completed appropriately.
- Potentially significant effects should be described in sufficient detail for a reasonable conclusion to be drawn on whether the project could pose a significant risk to environmental assets. Responses should include:
    - a brief description of potential changes or risks to environmental assets resulting from the project;
    - available information on the likelihood and significance of such changes;
    - the sources and accuracy of this information, and associated uncertainties.
- Any attachments, maps and supporting reports should be provided in a secure folder with the Referral Form.
- A USB copy of all documents will be needed, especially if the size of electronic documents may cause email difficulties. **Individual documents should not exceed 2MB as they will be published on the Department's website.**

- A completed form would normally be between 15 and 30 pages in length. Responses should not be constrained by the size of the text boxes provided. Text boxes should be extended to allow for an appropriate level of detail.
- The form should be completed in MS Word and not handwritten.

The party referring a project should submit a covering letter to the Minister for Planning together with a completed Referral Form, attaching supporting reports and other information that may be relevant. This should be sent to:

Postal address

Minister for Planning
PO Box 500
EAST MELBOURNE VIC 8002

Couriers

Minister for Planning
Level 16, 8 Nicholson Street
EAST MELBOURNE VIC 3002

In addition to the submission of the hardcopy to the Minister, separate submission of an electronic copy of the Referral via email to ees.referrals@delwp.vic.gov.au is required. This will assist the timely processing of a referral.

PART 1 PROPONENT DETAILS, PROJECT DESCRIPTION & LOCATION

1. Information on proponent and person making Referral

Name of Proponent:	**Australian Rail Track Corporation (ARTC)**
Authorised person for proponent: **Position:** **Postal address:** **Email address:** **Phone number:** **Facsimile number:**	Dinesh Batra Acting Project Director Inland Rail - Australian Rail Track Corporation 97-99 Bakehouse Road Kensington VIC 3031 DBatra@artc.com.au 1800 732 761
Person who prepared Referral: **Position:** **Organisation:** **Postal address:** **Email address:** **Phone number:** **Facsimile number:**	Marisa Feher Environment Manager – Victoria ARTC Inland Rail 39 Bakehouse Road, Kensington, VIC 3031 MFeher@artc.com.au 1800 732 761
Available industry & environmental expertise: (areas of 'in-house' expertise & consultancy firms engaged for project)	ARTC has engaged a range of specialists to provide specialist advice for the Victorian Inland Rail Tottenham to Albury (T2A) section including: • KBR - engineering design and environmental advisory services to ARTC, including investigation and assessment of various matters to inform this referral in planning, hydrology and ecology • Andrew Long & Associates – Aboriginal cultural heritage and archaeology • Jacobs - built heritage • Coffey - groundwater and geotechnical • SLR - noise and vibration and air quality • UDEC - specialist advice on overhead powerlines ARTC are responsible for the assessment, approval and construction of 13 individual Inland Rail projects across Victoria, New South Wales and Queensland. The projects are being procured, assessed and delivered independently of each other, but all are scheduled to be delivered to facilitate double-stacked freight trains from Melbourne to Brisbane by 2025. Across the program, there are more than 30 environmental professionals with a range of experience including approvals, heritage, ecology, contaminated land, compliance and auditing.

2. Project – brief outline

Project title: Inland Rail - Beveridge to Albury (the Project)
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Project location: (describe location with AMG coordinates and attach A4/A3 map(s) showing project site or investigation area, as well as its regional and local context)

Inland Rail has been divided into 13 sections, seven of which are in New South Wales, one is in Victoria and five are in Queensland. Each section can be independently delivered and operated.

The Project is presently the only confirmed part of Inland Rail in Victoria. There is the potential that future works may be required to the rail line south of Beveridge, and although some investigations have been carried out between Tottenham and Beveridge, whether any works will be required between Tottenham and Beveridge will only be determined once it has been decided whether an intermodal freight terminal will developed at Beveridge. If an intermodal freight terminal is developed at Beveridge, works between Tottenham and Beveridge may not be required and, accordingly, these works do not presently form part of the Victorian section of Inland Rail.

The Inland Rail route, which is approximately 1,700 km long, involves:

- using the existing interstate rail line through Victoria and southern NSW, with modifications to achieve clearances to facilitate double stacked freight trains
- upgrading about 400 km of existing track, mainly in western NSW
- providing about 600 km of new track in northern NSW and south-east Queensland.

The Project location consists of a series of isolated work areas from Beveridge to Albury where a range of works will be required to achieve horizontal and vertical clearances in the rail corridor to facilitate operation of double-stacked freight trains. The works include enhancement sites (track lowering/new replacement bridge structures), signal gantries, track slews and overhead powerline works. The Project includes 12 discrete project areas along the North East Rail from Beveridge to Albury where there are rail and road interfaces that do not provide the required horizontal and vertical clearance to allow double-stacked freight trains to run along the existing corridor.

Travelling from north to south, the North East Rail Line runs largely parallel to the Hume Highway from the Murray River at Wodonga to the outskirts of Melbourne. The Australian Rail Track Corporation Ltd (ARTC) shares the rail corridor with V/Line's passenger operations, the Sydney-Melbourne XPT.

The project location falls within the local government areas (LGAs) of Mitchell, Benalla, Strathbogie, Wangaratta, Indigo and Wodonga.

Approximately 70% of the project areas, excluding overhead powerlines, are located on land zoned Public Use Zone 4 - Transport (PUZ4) or Road Zone Category 1 (RDZ1). Land within these zones is heavily modified due to historical and current use of the land for rail and road activities. Overhead powerlines are mostly located outside of the transport corridors, with approximately 33% within existing road and rail reserves and the balance within in existing electricity easements over private land.

Refer to Attachment A for Locality Maps illustrating the project location. The bounding coordinates of the project are:

North: 6,007,365.662 m, South: 5,850,905.4799 m
West: 321,122.1714 m, East: 491,791.0506 m.

Short project description (few sentences)**:**

ARTC is the proponent for the Project which is a brownfield project that includes upgrade works along the existing North East Rail Line corridor from Beveridge to Albury. The Project will utilise the existing corridor and modify or replace existing infrastructure at discrete locations where there is not adequate clearance for double-stacked freight trains.

The main components of the Project include 12 discrete project areas (also referred to as 'enhancement sites') from Beveridge to Albury where road and rail interfaces do not provide the required horizontal and vertical clearance for double-stacked freight trains. The design solutions to achieve the required clearance at the road and rail interfaces at these enhancement sites are currently at reference design stage. During detailed design, further design development and assessment will be undertaken in consultation with relevant stakeholders and the community.

In addition to the enhancement sites, the Project includes works to signal gantries, track slews and overhead powerline works to ensure that appropriate horizontal and vertical clearances are achieved for double-stacked freight trains along the alignment from Beveridge to Albury.

3. Project description

Aim/objectives of the project (what is its purpose / intended to achieve?):

Overview

The Project is the Victorian component of the Inland Rail program. The Inland Rail program will provide greater freight carrying capacity, designed for double-stacked freight trains up to 1,800 m long, each of which will be able to carry the same volume of freight as 110 B-double trucks.

Intended Achievements

Enhanced national freight network

Inland Rail is a once-in-a-generation project that will enhance supply chains and complete the backbone of the national freight network between Melbourne and Brisbane via regional Victoria, New South Wales and Queensland. Inland Rail will transform the way we move freight around the country, connect regional Australia to markets more efficiently, drive substantial cost savings for producers and consumers, and deliver significant economic benefits.

Better infrastructure and an effective national freight operation are key to delivering efficient supply chains, improving Australia's global competitiveness and lifting our nation's wealth and prosperity.

Increased revenue and jobs creation

An increase in Victoria's gross product by $40 billion over the next three decades will see freight volumes triple (https://transport.vic.gov.au/ports-and-freight). According to the Department of Transport, Victoria's freight is generated by several different sources and reliance on food-and-fibre and manufacturing means exports are collected from thousands of farms and factory gates right across the State. Better freight connections will support Victorian businesses and primary producers and – ultimately – create jobs across all parts of the economy.

To build on Victoria's advantage as the freight and logistics capital of Australia, freight networks need to be safeguarded into the future.

Improved investment landscape – local and international

Inland Rail will be a catalyst for complementary private sector investments, such as fleet upgrades, new terminals and integrated freight precincts. International investors are expressing an interest in complementary investments along the corridor because of Inland Rail. Australia is seen as a safe place to invest and the fact that the Inland Rail project itself is fully funded by the Australian Government provides additional security to potential investors.

Investment opportunities put forward by international investors to date have included:

- Intermodal hub development:
    - Intermodal Hubs currently collect about 75% of their freight within an 80 km radius of hubs, though for some commodities they may source from up to a 200 km radius. While the benefits will be differentiated and highest closest to the rail hubs, these benefits will flow beyond the local government areas which have a rail hub.
- Industrial park development:
    - Interest in land at the Logic site in Wodonga, Victoria (https://www.logicwodonga.com.au/) has increased dramatically since the first Inland rail project commenced and there have been a number of concluded land sales in the last couple of months.
    - To take advantage of Inland Rail there is early interest in industrial precincts near Benalla and interest in a potential multi modal logistics centre north of Seymour. Early scoping discussions have also emerged with a freight only airport close to the Logic centre near Barnawartha, to take advantage of the road – rail interface that Inland Rail will bring, adding an air interface.
- Industrial development (warehouses etc.).
    - Formula forage (https://www.formulaforageaustralia.com/) has started construction of a facility at the Logic Centre to take advantage of the Inland Rail project once it is in operation.

Enrich opportunities to work with Government
The Department of Infrastructure, Transport, Cities and Regional Development has three Inland Rail regional offices, including one in Wodonga, Victoria. The regional offices have been established to work with stakeholders to maximise local procurement and employment opportunities arising from the construction of Inland Rail, as well as preparing industries and regions to take advantages of the opportunities arising from the operation of Inland Rail. Businesses such as Beechworth Honey and Bridge Road Brewers are currently exploring opportunities to increase access to national markets and decrease logistics costs using the benefits Inland rail provides.

Enhancing appeal to freight operators
Efficient intermodal terminals can also increase flexibility for freight operators' and decrease the overall cost in a supply chain. The Victorian Government has indicated, through the 2018-19 Victorian State Budget and Victorian Freight Plan: Delivering the Goods 2018, that it is considering intermodal terminals at:

- Truganina, west Melbourne (referred to as the Western Interstate Freight Terminal).
- Beveridge, north Melbourne (referred to as the Beveridge Intermodal Freight Terminal).

The intermodal terminal is expected to accommodate longer trains with double-stacked freight trains, which cannot be efficiently accommodated at Dynon, adjacent to the Port of Melbourne. The optimal site for an intermodal terminal in Melbourne is based on factors such as, but not limited to proximity to customers and supporting warehousing facilities; access to connecting infrastructure; and the appetite for investment in terminals in Melbourne.

Background/rationale of project (describe the context / basis for the proposal, eg. for siting):

Australia's freight task is growing and changing. Australia's east coast comprises 70% of the country's population, 78% of Australia's national employment and generates 75% of the nation's GDP. With the population estimated to grow by 60% over the next 40 years increasing pressure will be placed on freight infrastructure and services.

Most intercapital freight—the hardware, steel, groceries and other consumer goods that travel between our major ports and capital cities before being distributed to retailers—is transported between Melbourne

and Brisbane by road with just 26% currently transported via the rail network. By 2049-50, this is projected to shift from 26% to 62% using rail.

To position Australia to meet its emerging freight and supply chain challenges the Transport and Infrastructure Council endorsed the National Freight and Supply Chain Strategy and National Action Plan on 2 August 2019 (refer to https://www.freightaustralia.gov.au/). The Strategy and Action Plan set an agenda for integrated national action across all freight modes over the next 20 years and beyond.

Inland Rail is a priority for the Commonwealth Government and forms a key part of the action plan to provide infrastructure that connects regions and remote areas to markets, with the objective of making rail freight more competitive with road freight. Inland Rail is a once-in-a-generation project that will enhance supply chains and complete the backbone of the national freight network between Melbourne and Brisbane via regional Victoria, New South Wales and Queensland.

The key criteria adopted for the purpose of preliminary route selection were capital cost and journey time. These criteria were used to establish a shortlist of route options which were subjected to more detailed technical, financial and economic assessment.
The two key route options from Melbourne to Parkes considered in the Melbourne–Brisbane Inland Rail Alignment Study conducted in 2010 were:

- Via Albury, using existing track from Melbourne to Parkes (with a possible new direct line from Junee or Illabo to Stockinbingal by-passing Cootamundra)
- Via Shepparton, following the existing broad-gauge Mangalore–Tocumwal line via Shepparton, the disused standard gauge line to Narrandera and a new direct connection through to near Caragabal where it rejoins the existing line to Parkes.

The various alternative routes through Albury offered superior outcomes for the key criteria of capital costs and transit time. Though the Shepparton route offered a transit time that would be quicker by about 30 minutes, this route attracted a significant extra capital cost (adding over $900 million to the project relative to Albury alternatives) for limited reduction in transit times. The Shepparton route had the potential to capture only a very small amount of regional freight, reflecting the dominance of Melbourne as a destination for that freight.

For more information on the route selection please refer to: Melbourne–Brisbane Inland Rail Alignment Study – Final Report July 2010.

Main components of the project (nature, siting & approx. dimensions; attach A4/A3 plan(s) of site layout if available):

The Project proposes works in discrete areas to provide the necessary horizontal and vertical clearance for double-stacked freight trains to operate along the existing North East Rail Line from Beveridge to Albury. To achieve the required clearance the proposed works includes:

- Track lowering
- Bridge replacements
- Removal of two footbridges
- Track slews (small adjustments to the alignment of existing rail tracks)
- Signal gantry modifications and associated works (relocation or raising of existing rail signal gantries)
- Overhead powerline pole modifications and associated works

Project areas for the proposed works above have been identified and refined through an iterative process that has taken into account design, construction and key environmental features, such as ecology and heritage matters. Design and construction planning have occurred to define project areas for each worksite, which are provided in **Attachments A1-A3**. Detailed maps of the project areas are provided in the Planning Assessment Report (**Attachment B**), the Biodiversity Assessment Report (**Attachment C**) and the Overhead Powerline Biodiversity Assessment Report (**Attachment D**).

The nature and siting of the works listed above are provided in Tables 1, 2 and 3 below and descriptions of the main components of the project are provided below. Construction details for each of the main components is provided below in the 'Key Construction Activities' section of this Referral.

Enhancement Sites – Track Lowering and Bridge Replacements
The major civil construction works associated with the Project are the track lowering and bridge

replacement activities (termed Enhancement Sites in this Referral and supporting technical assessments). These occur at 12 discrete locations along the North East Rail Line as described in Table 1. There are limitations in the flexibility of design solutions for these major components of the Project, particularly spatial constraints where tie-in to existing infrastructure is required with limited space to achieve the required grade. Design solutions that could provide the required clearance under bridges are limited to:

- lowering or realigning the track, and/or,
- raising or widening the bridges; or,
- replacing the bridges (road and pedestrian footbridges).

Major civil construction works will occur over a period of several months at each Enhancement Site, with the duration of works varying and dependent on the complexity and scale of works required. Where bridge replacements are proposed, partial road closures / traffic management measures will likely be required for 3 to 6 months.

Footbridge Removals

Within the Wangaratta Station precinct, removal of two footbridges is proposed (Cusack Street and Docker Street), as part of the broader precinct works required to facilitate the horizontal and vertical clearances necessary for double-stacked freight trains. The vertical clearances beneath the existing footbridges is insufficient and both will require removal. Consultation with stakeholders and advice from heritage advisors has informed the design solution to replace the two pedestrian footbridges with an underpass to provide cross corridor and platform access.

Track slews

Track Slew works are works to realign the railway track, are minor in nature and range from a slew width of 30mm to 370 mm. Track Slews less than 100 mm can be constructed via hi-rail machinery with no disturbance outside the existing formation of the rail track i.e. no disturbance of land and no requirement to remove vegetation. Track slews greater than 100 mm and less than 300 mm, will mostly be completed on track, with the formation being widened through grading and proof-rolling, placing new ballast and moving the track via an excavator. For track slews greater than 300 mm, full reconstruction of the formation layer is typically required which would result in some disturbance of land immediately adjacent to the existing rail track. Details of the proposed works at track slews 4, 5, 6, 8 and 9 are provided in Table 2 given that the remaining track slews works are minor in in nature with no disturbance outside the rail corridor.

Signal gantry modifications

Signal gantry modifications involve minor works to facilitate relocation of existing signal gantries within the rail corridor, set back from the adjacent rail track at a safe distance in the same general location. Details of only signal gantries 20 and 21 are provided in Table 3 given these two gantries will require relocation. The remaining gantry will only require minor modifications with no disturbance outside the rail corridor.

Overhead powerlines

At discrete locations (where lines cross the existing track from chainage 47 to 300 km), modifications to overhead powerlines are required to provide the vertical clearance required for double-stacked freight trains. The overhead line assets are owned and managed by AusNet (distribution powerlines), VicTrack (lines for lighting or signalling) and local Council (low voltage lines for lighting).

The proposed works are to existing assets, in previously disturbed areas, where vegetation is maintained to provide safe clearances from powerlines under the *Electricity Safety (Electric Line Clearance) Regulations 2015* and its Schedule – Code of Practice for Electric Line Clearance. Asset owners routinely access these areas for maintenance activities. Despite the maintenance requirements and disturbed nature of these areas the proposed works will involve some ground disturbance and there is potential to impact threatened species and communities. During detailed design, micro-siting of overhead line power poles will occur to avoid important environmental values identified during surveys to the extent practicable.

Detailed maps of the overhead lines works including access areas, temporary work space and no-go zones will be prepared during detailed design.

Table 1: Enhancement Sites works

Enhancement Site Name	Proposed Works	LGA	Nature and Siting
Broadford-Wandong Road Overbridge (Wandong)	Bridge Replacement - north of existing structure.	Mitchell	The proposed works are located within the township of Wandong. A new bridge is proposed to be built on a new alignment to the north of the existing structure. Once this is completed the existing bridge is proposed to be decommissioned. The adjacent roads will be regraded to suit proposed road levels. The new bridge will be raised by 2.5 m over the height of the old bridge. The replacement bridge works will impact Epping-Kilmore Road, Broadford-Wandong Road and Rail Street over a total length of approximately 600m. This solution requires endorsement by the relevant road authority for permanent speed restrictions for vehicles travelling over the new bridge. Other alternatives for this site are discussed in Section 4 – Project Alternatives of this referral.
Hamilton Street Overbridge (Broadford)	Bridge Replacement - on existing alignment	Mitchell	The proposed works are located within the town of Broadford. Bridge replacement works involve a new replacement road bridge which is 2.2 m higher than the existing bridge on the same alignment. The existing bridge will be decommissioned and removed. The replacement bridge works will occupy approximately 200 m of the road corridor. Bridge construction will allow for the road to be remain open during construction. Other alternatives for this site are discussed in Section 4 – Project Alternatives of this referral.
Short Street Overbridge (Broadford)	Track lowering	Mitchell	The proposed works are located within the town of Broadford. The proposed work includes a rail track lowering solution where the rail is lowered by 2.4 m over approximately 900m. This solution avoids complex tie-ins to the road network, partial acquisition of private properties, and removes vehicle speed restrictions that would have been required with a bridge replacement solution.
Marchbanks Road Overbridge (Broadford)	Bridge replacement - new alignment north of existing structure	Mitchell	The proposed works are located at the intersection of a regional road and the rail corridor, outside the town of Broadford. A new road bridge is proposed on a new alignment to the north of the existing structure. Once this is completed the existing bridge is proposed to be removed. The new bridge will be raised 2.2 m more than the existing bridge. There will be adjustments made to the Hume Freeway northbound on-ramp and property driveways to suit new road levels on Marchbanks Road. The works will occupy approximately 1 km of road corridor.
Hume Highway Tallarook Precinct (Tallarook)	Track Lowering	Mitchell	The proposed works are located at the intersection of the Hume Hwy and the rail corridor, outside the town of Tallarook. The proposed works involve lowering the track over 860 m by a maximum depth of 1.8 m. Track slew and realignment works will occur throughout the site, within the rail reserve. The works will occupy approximately 1.2 km of rail corridor
Seymour Avenel Road Overbridge (Seymour)	Bridge replacement – on existing alignment	Mitchell	The proposed works are located at the intersection of a regional road and the rail corridor, outside the town of Seymour. A new on-line road bridge is proposed, with the existing bridge to be decommissioned and removed. The new bridge will be 1.8 m higher than the existing bridge. Works include upgrading existing access to Granville Drive to maintain access to an existing business. The works will occupy approximately 1.4 km of road corridor.
Hume Highway Seymour	Track Lowering	Mitchell	The proposed works are located at the intersection of the Hume Hwy and the rail corridor, outside the town of Seymour.

Precinct (Seymour)			The proposed works include track lowering by a maximum of 1.5 m over 620 m and slewing of tracks. The project area occupies approximately 800 m of rail corridor.
Anderson Street Overbridge (Euroa)	Bridge replacement - offline alignment immediately north east of the existing bridge	Strathbogie	The proposed works are located within the town of Euroa. A replacement road bridge is proposed on a mostly offline alignment immediately north east of the existing bridge. The existing bridge will be decommissioned and removed. The existing Railway Street and Euroa Station Road access ramps will also be decommissioned and removed. The existing pedestrian underpass from the Railway Street carpark to Euroa Station will be upgraded for *Disability Discrimination Act 1992* (DDA) compliance. The existing car park on Railway Street South of Euroa station will be formalised. The works will occupy approximately 700 m of road corridor. This solution requires further investigation of the impact of the new bridge structure on the rail track and some minor reconfiguration of the track is also likely to be required.
Benalla Station Approach Road Overbridge (Benalla)	Bridge replacement – upgrade to existing approach road into station	Benalla	The proposed works are located within the town of Benalla. The proposed works requires the demolition of the existing bridge and provision of a replacement road approach to the station to allow a level of vehicle connectivity. A new road bridge will involve building a bridge east of the existing structure, 2.1m higher than the existing bridge. The works occupy approximately 700 m of road/rail corridor. Other alternatives for this site are discussed in Section 4 – Project Alternatives of this referral.
Beaconsfield Parade Overbridge (Glenrowan)	Bridge replacement - on new alignment South of existing structure	Wangaratta	The proposed works are located within the town of Glenrowan, within the nationally significant Glenrowan Heritage Precinct. A new road bridge is proposed to be built on a mostly offline alignment immediately west of the existing bridge. The new bridge will be 2.3 m higher than the existing bridge. Decommissioning and removing the existing bridge and associated embankment and raising adjacent roads to suit proposed road levels will be required. Removal of a disused siding track within the rail corridor will be required. The bridge works will occupy approximately 400 m of the road corridor.
Wangaratta Station precinct (Wangaratta)	Track lowering, Track realignment, and Green Street Bridge to be rebuilt. Two footbridges (Cusack and Docker Street footbridges) associated with the station would be replaced by an underpass.	Wangaratta	The proposed works are located within the town of Wangaratta. Works are this site are a combination of track lowering, track realignment and bridge replacement. Track lowering works are proposed to maximum depth of 2.2 m, and track realignment would occur over 950m through Wangaratta Station precinct. Green Street road bridge will be replaced to accommodate the various track realignments required in this precinct. The new bridge will be replaced on the same alignment and to the same elevation/height as the existing structure. Rail related works also include providing an additional station platform on the western side of the station precinct and decommissioning the platform on the eastern side of the precinct. Removal of the Cusack Street and Docker Street pedestrian footbridges is also proposed, and these will be replaced by an underpass for cross corridor and platform access at Wangaratta Station precinct. The works will occupy approximately 1km of rail corridor.
Murray Valley Highway Overbridge (Barnawartha North)	Track Lowering.	Wodonga	The proposed works are located at the intersection of the Murray Valley Hwy and the rail corridor, outside the town of Barnawartha North. The proposed works comprise lowering the track by a maximum of 1.4 m over 400 m in the rail corridor. Substantial drainage upgrades are required in this location to accommodate the track lowering.

Table 2: Track Slews works

Site name	Proposed works	LGA	Nature and Siting
Track Slew 4	Track Slew >100mm, for approximately 80m	Mitchell	Located near the Wallan railway station. Located immediately adjacent to Track Slew 5 and would be constructed at the same time.
Track Slew 5	Track Slew >350mm, for approximately 600 m	Mitchell	Located near the Wallan railway station. Full reconstruction of formation layer, ballast shoulder and relaying of tracks will be required at this site.
Track Slew 6	Track Slew >100mm, for approximately 150m	Mitchell	Located near the town of Tallarook. Works will involve widening of the existing ballast shoulder and formation layer subgrade, which will consist of: • Existing ballast shoulder to be 'trimmed' • Widening of formation layer through grading and proof rolling • Place new ballast • Bulk movement of rail to be performed by excavator/ loader • Track tamper to ensure final alignment and pack ballast for stability.
Track Slew 8	Track Slew >100mm, for approximately 150m	Mitchell	Works are located north of Seymour railway station. The works will involve widening of the existing ballast shoulder and formation layer subgrade, which will consist of: • Existing ballast shoulder to be 'trimmed' • Widening of formation layer through grading and proof rolling • Place new ballast • Bulk movement of rail to be performed by excavator/ loader • Track tamper to ensure final alignment and pack ballast for stability.
Track Slew 9	Track Slew >100mm, for approximately 900m	Mitchell	Works are located between the towns of Seymour and Mangalore. Works will involve widening of the existing ballast shoulder and formation layer subgrade, which will consist of: • Existing ballast shoulder to be 'trimmed' • Widening of formation layer through grading and proof rolling • Place new ballast • Bulk movement of rail to be performed by excavator/ loader • Track tamper to ensure final alignment and pack ballast for stability.

Table 3: Signal Gantry works

Site name	Proposed works	LGA	Nature and Siting
Signal Gantry 20 - Chainage 95.631km	Modify signal gantry to achieve vertical clearance	Mitchell	Located between the towns of Tallarook and Seymour. Land affected by heritage and flooding overlays. Final siting of signal gantry to be determined.
Signal Gantry 21 - Chainage 99.120km	Modify signal gantry to achieve vertical clearance	Mitchell	Located north of Seymour railway station. Land affected by heritage and flooding overlays. Final siting of gantry to be determined.

Ancillary components of the project (e.g. upgraded access roads, new high-pressure gas pipeline; off-site resource processing):

Site compound and laydown establishment

To facilitate safe construction, the establishment of site compounds and laydown areas is necessary. Locations of proposed laydown areas and access tracks were selected and refined overtime to minimise

impacts to the environment and private land as far as practicable by selecting previously disturbed land and using the following hierarchy for site selection:

- Land within the road and rail corridor
- Council managed land
- Private property.

Site compound and laydown areas are located within the defined Project Areas.

Utility relocations

Relocation of utilities is necessary to support the Enhancement Site works. All of the relocations are minor in nature and within the existing road and rail reserves. The design of the relocated services aims to utilise the existing routes much as possible thus minimising disturbance impacts or the construction of new routes. Utility relocations are sited within the defined Project Areas.

Key construction activities

The following provides an indication of the likely construction activities associated with the works.

Site Establishment and Utilities

- Installation of site fencing and temporary signage for restricted access and temporary vehicle traffic diversion around site entry/exit points (if required)
- Installation of erosion and sediment controls
- Establish site access locations, compound and stockpile sites
- Vegetation clearing or grubbing

Utilities and service relocations

This work will occur in consultation with the service asset owner and will generally occur in the following sequence:

- Excavation of new route
- Installation of new conduit
- Temporary isolation of exiting service and cutover to new route
- Commissioning of relocated service
- Isolation and cutover of new service (to occur during times that service outage will have the least impact to services)

Track Lowering

- Relocation and/or protection of identified utilities and services
- Construction of piled retaining walls to support differences in ground level between the existing and proposed level (typically at least one week prior to track lowering)
- Removal of existing rail infrastructure such as track, sleepers and ballast
- Track drainage works consisting of pit and pipe drainage system that runs parallel to the tracks. The drainage works will service the lowered tracks and divert surface and subsurface water
- Excavations to lower the track and grading to achieve rail design speed and drainage
- Replacement of capping and rail infrastructure including services (if applicable)
- Reinstatement of railway tracks
- Reinstatement of existing train detection signals/systems

Site decommissioning:

- Removal of compound, stockpile and ancillary sites
- Removal of site environmental and erosion and sedimentation controls
- Making good the site as appropriate

Bridge Replacement

- Bulk earthworks for bridge approaches
- Structural piling operations
- Erect formwork and place reinforcement
- Erect pre-cast concrete girders
- Pour concrete for decks
- Sealing the bridge approaches
- Sign posting and line marking
- Landscaping
- Removal of the existing bridge structure upon completion of the new bridge

Track Slews
Track Slews are minor in nature and range from a slew width of 30mm to 370mm. The magnitude of each track slew will determine the construction method required, occurring in the following general manner:

- Track Slew less than 100 mm construction can occur via hi-rail machinery with no disturbance outside the existing formation of the rail track
- Track slews greater than 100 mm and less than 300 mm, will mostly be completed on track, with the formation being widened through grading and proof-rolling, placing new ballast and moving the track via an excavator
- For track slews greater than 300mm, full reconstruction of the formation layer is required, including relaying the ballast shoulder and relaying of tracks

Signal Gantries
Where construction of new or relocated signal gantry is proposed, the works are anticipated to involve the following steps:

- Excavation and construction of piling foundations, footings and ladder foundations
- Construction of two-way cable route
- Installation of small part steelwork. If existing hold down bolts do not match the required configuration for the new structures, then the bolts would be ground off and new chemical anchors installed as required
- Erection of portal legs and brace
- Erection of signal gantry structure (the main sections of the gantries would be prefabricated off site)
- Installation of new cabling for signals
- Commissioning of new structure
- Decommissioning of existing signals and gantries

Overhead Powerlines
Both high and low voltage overhead powerlines cross over the rail corridor at discrete locations along the Project alignment which present non-compliant clearances required for double-stacked freight trains. These will require works which may involve either tensioning the cables or raising the wire heights by installing new, higher power poles. Undergrounding is also proposed for some assets.

Demolition works
Demolition works are limited to removal of road and rail infrastructure. Bridges will be demolished after replacement bridges are tied into connecting roads. Some removal of redundant infrastructure is also proposed, including two footbridges in the Wangaratta Station precinct (Docker Street and Cusack Street footbridges).

Key operational activities:
The Project will not result in any significant changes to operational activities other than the running of double-stacked freight trains along the corridor.

The forecasted train movement estimate post project completion is undergoing further operational modelling which will be refined over-time.

Key decommissioning activities (if applicable):
n/a

Is the project an element or stage in a larger project?

☒ No ☒ **Yes** If yes, please describe: the overall project strategy for delivery of all stages and components; the concept design for the overall project; and the intended scheduling of the design and development of project stages).

The Project forms part of the Inland Rail program. Inland Rail has been divided into 13 distinct projects to deliver the 1,700 km Rail Line: the Project in Victoria, seven in NSW, and five in Queensland. Each of these projects can be delivered and operated independently with tie-in points on the existing railway.

At present, interstate containers bound for distribution in Melbourne are railed to terminals at Dynon,

adjacent to the Port of Melbourne, and then trucked to the outer suburbs. The Dynon terminals have limited space and capacity and are difficult to access.

The Victorian Government has indicated, through the 2018-19 Victorian State Budget and Victorian Freight Plan: Delivering the Goods 2018, that it is considering development of Intermodal Freight Terminals at the following two locations:

- Truganina, west of Melbourne (referred to as the Western Interstate Freight Terminal)
- Beveridge, north of Melbourne (referred to as the Beveridge Intermodal Freight Terminal)

The proposed Intermodal Terminal includes the construction of an interstate rail freight terminal and potential warehousing precinct to accommodate longer trains with double-stacked freight trains, which cannot be efficiently accommodated at Dynon.

As the location of the rail intermodal terminal facility at Beveridge has not been determined by the State, the Project is the only part of Inland Rail that is currently being progressed in Victoria.

Inland Rail has no decision-making powers on the location of the intermodal terminal or the timing of the decision on the preferred location. The Victorian State government is the proponent for the Intermodal terminal. Accordingly, it is necessary for the Project to be progressed ahead of a decision on the preferred location of the intermodal terminal in order to meet the overall 2025 operational target for Inland Rail, particularly given the limited construction timeframes available for construction of the Project to maintain ongoing operation of the line.

Is the project related to any other past, current or mooted proposals in the region?

☒ **No** ☐ Yes If yes, please identify related proposals.

4. Project alternatives

Brief description of key alternatives considered to date (eg. locational, scale or design alternatives. If relevant, attach A4/A3 plans):

Do-nothing scenario

Currently 74% of all inter-capital freight between Brisbane and Melbourne is carried by road. Increasing the size and number of trucks on our highways to facilitate growing freight volumes will have significant safety, environmental and community consequences. The “do nothing” scenario (i.e. Inland Rail does not proceed) will result in:

- Increased volume of trucks on our roads with an increase in the number of larger trucks (e.g. B-triples) mixing with passenger cars on our major highways
- The need to invest heavily in major arterial and rural roads to cater for the increase road traffic
- Increased number and size of heavy vehicles on our roads will mean more spend on maintenance and upgrades
- Potential increase in road accident frequency due to greater truck volumes - Road accidents causing death or serious injury are nearly three times more likely in comparison to rail
- An increase in fuel use and carbon emissions due to the increase in road freight - Trucks use almost 3 times as much fuel and emit 750,000 more tonnes of carbon emissions than trains doing the same job
- Communities and neighbourhoods suffering due to road congestion, with more and larger trucks sharing our road networks
- Without an incentive to invest in rail supply chains, companies will potentially be locked into road-based logistics options, limiting logistic flexibility.

Alternative Alignment

The proposed Project is a brownfield project with works planned at discrete locations along the existing North East Rail Line corridor. There is limited flexibility in design solutions to achieve the required clearance for double-stacked freight trains, largely due to spatial constraints in brownfield areas where

tie-in to existing infrastructure is required. The works provide upgrades to existing infrastructure including replacing some bridges that are nearing end-of-life.

Various alternative routes were considered, including an alternative brownfield alignment via Shepparton. The Shepparton route had the potential to capture only a very small amount of regional freight, reflecting the dominance of Melbourne as a destination for that freight.

The alternative to the brownfields project is construction of a new route (greenfield project) between Beveridge and Albury, outside the existing corridor however this would result in significant social and environmental impacts, including significant land acquisition, and would be cost prohibitive.

For more information on the route selection please refer to: Melbourne–Brisbane Inland Rail Alignment Study – Final Report July 2010, https://inlandrail.artc.com.au/route

Specific site-based alternatives

For each enhancement site the following alternatives have been considered to provide the vertical or horizontal clearance required for double-stacked freight trains:

- Lowering or realigning the track
- Raising or widening the bridges
- Replacing the bridges (road and pedestrian footbridges).

The above alternatives are the only design options that can achieve the purpose of the Project and provide the required clearance.

Key considerations / constraints to design alternatives for each enhancement site included:

- Topography (grade of track)
- Hydrology / Hydrogeology
- Proximity/impact to private properties
- Avoiding and minimising relevant environmental impacts to the extent practicable, including but not limited to native vegetation, ecological communities and species, heritage values and watercourses
- Avoiding and minimising land acquisition and land access requirements to the extent practicable
- Condition of existing infrastructure (ability to modify structures and meet current Australian Standards)
- Construction times with regards to the limited 60-hour annual possession windows available to complete most on-track works
- Disruption to existing freight and passenger rail services and disruption to road users
- Emergency service requirements
- Maintenance/operability considerations
- Stakeholder requirements and specification (e.g. PTV, MTM, VicTrack, VicRoads specifications).

Detailed review of design options to provide the required clearances has been completed in the context of engineering, environmental and stakeholder requirements across the project area. Additional information on the implementation of avoidance and minimisation measure can be found in Section 18 of this referral. At several Enhancement Sites, environment, heritage and social issues had been identified during technical environmental assessments, which have led to alternative design solutions being adopted, including at:

- Seymour/Avenel Road overbridge (Seymour)
- Marchbanks overbridge (Broadford)
- Beaconsfield Parade overbridge (Glenrowan).

For Seymour/Avenel Road overbridge, the design solution has been changed from an off-line bridge replacement solution to an online bridge replacement solution with retaining walls. The selected solution significantly reduces potential land acquisition requirements, impacts to an EPBC Act threatened ecological community and native vegetation.

For Marchbanks overbridge, the design solution has changed from a full offline design solution with embankments to a partial offline solution with retaining walls, which significantly reduces impacts to native vegetation and areas of Aboriginal cultural heritage sensitivity. This solution also maintains vehicle access onto the adjacent Hume Freeway road during construction, a significant stakeholder issue, so that Broadford residents and emergency vehicle access could be maintained throughout construction.

For Beaconsfield Parade overbridge, the design solution has changed form a track lowering solution to full replacement of the bridge at Beaconsfield Parade. The proposed solution is considered a pragmatic response in the context of the significant historical, archaeological and landscape features associated with the site and the Ned Kelly siege history. The outcomes of consultation with the community and Heritage Victoria has been a key factor in the selection of the preferred design solution.

Access tracks, crane pads and laydown areas

The proposed works are being undertaken in an existing corridor with appropriate access track running parallel to the rail infrastructure. ARTC would be replacing / modifying existing assets whether it is a bridge or signalling asset or overhead poles rather than duplicating the line. In most of cases, we would be using existing access/ maintenance tracks, existing roads and existing open spaces nearby the areas that require modification. Some of these sites are at or near station premises e.g. Benalla, Euroa and Wangaratta where the station footprint provides good access and use of open storage spaces within the station for use during construction.

As the work sites are fixed, this proves a constraint in terms of limited flexibility for laydown areas, crane pads or access areas as they need to be in proximity of the individual site. To minimise impact on environmental values, the works, where feasible, are selected based on:

- using an existing access road
- available land close to the site for laydown.

Most works will be undertaken using conventional plant and machinery with the need of specialist plant kept to a minimal. In all the cases, for the use of access tracks, site compounds and laydown areas, impact on environmental values has been a key consideration and where possible, these locations have been selected to avoid and minimise impacts on environmental sensitive and heritage listed areas.

Brief description of key alternatives to be further investigated (if known)**:**

The enhancement sites described below are subject to further investigation and design refinement to respond to queries raised during stakeholder engagement. Consultation with key stakeholders and community will continue during the final stages of reference design phase and throughout detailed design.

Alternative design solutions (from those described in Table 1) are being investigated at the following sites:

Broadford-Wandong Road Overbridge, Wandong:

- A bridge replacement further north of the current solution. A longer bridge span at this site would help to resolve the steep grade and tie-in more easily to the road network.
- This design would have the benefit of removing a vehicle speed restriction on the Epping Kilmore road which is required with the current design solution (10km/hr).
- This alternate option would likely require acquisition of two residential properties.
- Impacts on a small watercourse in the Project Area are yet to be determined. Further engineering would occur during detailed design and it is expected that direct impacts to the waterway could be avoided.

Hamilton Street Overbridge, Broadford:

- Track lowering where the rail is lowered by 1.8 m over approximately 500 m. This alternative would help resolve complex tie-ins to the road network.
- Both solutions would result in unavoidable impacts on native vegetation (Grassy Woodland EVC) recorded within the Project Area.
- Track lowering would include a relatively shallow excavations. DELWP databases indicating depth to water table of between 5 – 20m. Potential impacts on groundwater have not been evaluated at this time although impacts on regional groundwater are considered unlikely, particularly given the shallow depth of excavations.

Benalla Station Approach Road Overbridge, Benalla:

- Over the last 12 to 18 months, ARTC has undertaken consultation with stakeholders and State agencies to understand local needs and design options in Benalla. This included the advice that after further work with stakeholders the removal of the bridge is a viable option. Next design

stage will involve ongoing design development works in consultation with key stakeholders, including DoT, local council and community. In view of recent feedback received from local council and community, it is acknowledged that there could be further design modifications which will be accommodated in the proposed project area.

- Benalla station is included in a heritage overlay. Removal or modifications of the approach road bridge is not expected to impact on the heritage fabric of the site, however further assessment by an independent heritage advisor is required should this alternative solution be progressed.

5. Proposed exclusions

Statement of reasons for the proposed exclusion of any ancillary activities or further project stages from the scope of the project for assessment:

Works South of Beveridge and the Intermodal terminal

The Victorian Department of Transport is undertaking a study to determine the need, configuration and the timeframe for development of new intermodal terminals in Melbourne. As the location and timing of the development of a rail intermodal terminal facility at Beveridge is presently unknown, works south of Beveridge do not form part of the Project. If an intermodal freight terminal is developed at Beveridge works south of Beveridge may not be required to provide clearance for double-stacked freight trains. The intermodal terminal is a separate project for which Inland Rail has no decision-making powers for.

As the site selection study for the intermodal terminal is not yet complete, works to provide clearance for double-stacked freight trains in the section south of Beveridge do not form part of the Project. Progressing with works south of Beveridge prior to a decision on the intermodal terminal location could unnecessarily result in environmental and social impacts. It is also not an efficient allocation of government funding.

Preliminary environmental investigations have been undertaken of sites south of Beveridge. The results of these investigations are contained within the environmental reports attached, however are not discussed in detail as part of this referral as these sites do not form part of the Project. Further environmental assessments and separate environmental approvals will need to be obtained for any future works that may be required south of Beveridge.

6. Project implementation

Implementing organisation (ultimately responsible for project, ie. not contractor)**:**

The Australian Government selected ARTC to deliver Inland Rail, in partnership with the private sector, and has committed $9.3 billion to the delivery of Inland Rail. ARTC are responsible for delivering 13 projects across three States by 2025.

Implementation timeframe:

In active rail corridors, maintenance and construction on track are mostly undertaken during rail occupations (or possessions) when trains do not operate on the rail corridor. In the North East Rail Line corridor, there is an annual rail possession window of 60 hours. This limited construction window has been a key consideration in design solutions for the Project. There is limited capacity to extend these possession window without significantly impacting the movement of freight around the country or impacting regional passenger services. The major construction activities for Project works are scheduled within these possession windows. Minor works can be completed during 'short track occupancies' on a Sunday night through to Monday morning for 9 hours – providing for 7 hours work with minimal disruption to train services.

The proposed timeline is provided in Table 4 and includes the estimated start date of construction and commencement of operation. These timeframes are indicative only and may be subject to change once the delivery partner has been selected. The proposed construction program has been designed to minimise disruption to train services, roads and the community.

Table 4: Inland Rail Beveridge to Albury Indicative timeframes of construction program

Enhancement site and other works	Indicative Timeframe
Early Works - Track slews 7, 10 and 11 and Signal Gantries	August 2020 – September 2022
Early Works - Murray Valley Hwy, Barnawartha	October 2021 – March 2022
Award Project delivery contract for Main Works	March 2021
Overhead lines relocation works	December 2021 – December 2024
Beaconsfield Parade, Glenrowan	November 2021 – April 2022
Hume Highway, Tallarook	August 2022 - February 2023
Wangaratta Station Precinct	July 2022 - December 2022
Hamilton Street Bridge, Broadford	July 2022 - November 2022
Short Street Bridge, Broadford	August 2022- November 2022
Hume Highway, Seymour	January 2023- July 2023
Anderson Street Bridge, Euroa	July 2023- July 2024
Benalla Station Approach Road, Benalla	October 2023- March 2024
Marchbanks Road Bridge, Broadford	October 2023- April 2024
Seymour- Avenel Bridge	March 2024 – March 2025
Broadford-Wandong Road, Wandong	March 2024- April 2025
Commissioning	April 2025 – June 2025
First Inland Rail train	July 2025

Table 5 describes the program for key activities and assessments associated with the regulatory approvals process planned by ARTC for the Project.

Table 5: Key Project activities / assessments / approvals

Proposed key activities / assessments / approval process	Timeframe
Ongoing consultation with authorities/agencies, utility owners and community	Ongoing/all phases
Lodge of heritage and biodiversity referrals under the *Environment Protection Biodiversity Conservation Act 1999* (EPBC)	Q2 2020
Receive decisions on referral under the EE Act and EPBC Act	Q2 2020
CHMP process and Aboriginal Cultural Heritage assessments	Q3 2020 – Q1 2021
Statutory planning processes under the *Planning and Environment Act 1987*	Q2 2020 – Q2 2021

Proposed staging (if applicable):

Early Works

1- Track Slews and Signal Gantries

The following ancillary works are likely to delivered as early works as the works can be completed via hi-rail machinery with no disturbance outside the existing formation of the rail track:

- Track Slews 7, 10 and 11: The works at these locations require track slews less than 100mm in width and therefore can be constructed via hi-rail machinery with no disturbance outside the existing formation of the rail track i.e. no disturbance of land or vegetation would result from this construction methodology.

- Signal Gantries (All except 20 & 21): This activity involves minor works to relocate existing gantries within the rail corridor and there is enough flexibility in the nature of the siting requirements that they can be sited to avoid environmental values included mapped native vegetation.

2- Murray Valley Hwy, Barnawartha

The engineering design at Murray Valley Highway track lowering site at Barnawartha has been revised to avoid impacts to native vegetation and as a result the track lower can be completed without impacting the environment and without the need for a planning permit. This site would be delivered as early works and excluded from the proposed statutory planning process for the Project. Note that the attached assessments reflect the old design with predicted impacts that are now avoided.

7. Description of proposed site or area of investigation

Has a preferred site for the project been selected?

☐ No ☒ **Yes** If no, please describe area for investigation.
If yes, please describe the preferred site in the next items (if practicable).

General description of preferred site, (including aspects such as topography/landform, soil types/degradation, drainage/ waterways, native/exotic vegetation cover, physical features, built structures, road frontages; attach ground-level photographs of site, as well as A4/A3 aerial/satellite image(s) and/or map(s) of site & surrounds, showing project footprint):

The Project is centred around the North East Rail Line corridor with project works to occur in discrete locations within the rail corridor, associated road reserves and public and private land immediately adjacent to the rail corridor. A comprehensive and iterative process of design development, stakeholder consultation, environmental investigation and impact assessment has been undertaken to define project areas to support the project objectives and minimise social and environmental impacts, as far as practicable.

The project works are dispersed across a broad geographic area between Beveridge and Albury (approximately 255 km). The following summary description is focused on key attributes within the project areas.

Topography, landform and geology:
The rail corridor is consistently low grade, as is preferred for an operational rail corridor. There is a general increase in elevation from the southern project areas (Beveridge) to a peak elevation at Broadford Road overbridge (Wandong) (312 mAHD to 322 mAHD) and then a general decrease to the north of the project area (the Murray River).

The geology across the project area varies, but can be summarised as follows:

- Beveridge to Wallan - this area is typically underlain by Quaternary Newer Volcanics comprising Olivine basalts.
- Wallan to Seymour - this area is typically underlain by Kilmore Siltstone and Humevale Siltstone.
- Seymour to Albury – this area is typically underlain by Quaternary Pleistocene Alluvium (Qpa) comprising colluvium, gravel, sand, silt, clay and limestone.

Drainage/waterways:
The Project is located within the Port Philip and Westernport Catchment Management Area, the Goulburn Broken Catchment Management Area and the North East Catchment Management Area. Melbourne Water is the relevant designated Floodplain Management authority for the Port Phillip and Westernport Catchment region.

Track lowering and bridge replacements occur adjacent to several designated waterways including: One Mile Creek and tributaries associated with Dry Creek, Sunday Creek, Goulburn River, Eight Mile Creek and Show Creek. Works proposed in proximity to waterways are limited in nature and include works such as minor extension to existing culverts and drainage upgrades.

Overhead powerline project areas intersect, 13 mapped minor drainage lines. Further details on the works proposed near waterways is included in Section 13 of this referral.

Native/exotic vegetation cover:
The project areas are largely located along an operational railway line or adjacent roads and approximately 85% of the project areas are disturbed. The condition of vegetation is often a function of the adjacent land uses and the intensity of activities at the location. For instance, railway stations and surrounding yards are generally heavily disturbed environments. Outside of major towns and away from rail stations, there is less disturbance to the vegetation and soil. Where the adjacent land use is rural residential or agriculture, these areas generally contain canopy and large remnant trees, though ground layers are often disturbed.

Areas with less disturbance and more intact understorey, are generally contiguous with vegetation within adjacent road reserves, particularly along Seymour-Avenel Road, north of Seymour and along the adjacent Gairns Lane, south of Tallarook. In these locations, the vegetation within the road and rail reserves is connected and consists of a 20 to 50 m wide vegetated corridor.

Several different ecological vegetation classes (EVCs) have been recorded, mostly grassy woodland types and box-ironbark forest, at the sites away from town centres.

Built structures:
Given the works are centred on an existing rail corridor, there are several railway stations in the project areas. These include Broadford Station, Euroa Station, Benalla Station, Glenrowan Station and Wangaratta Station precinct. In Wangaratta an additional station platform on the western side of the station precinct and decommissioning the platform on the eastern side of the precinct is proposed. No works to Station buildings is proposed.

Other key built structures include the road bridges that cross the rail corridor at multiple locations, including those that are proposed to be removed to meet the projects vertical clearance requirements.

Project areas are shown in detailed maps are provided in the Planning Assessment Report (**Attachment B**) and the Biodiversity Assessment Report (**Attachment C**).

Site area (if known): 119.8 hectares

The Site area or Project area, included the area within the rail corridor at each enhancement/gantry/ site, impacted existing overhead powerline easement, estimated temporary workspace adjacent to the rail corridor and overhead powerlines where required, and access tracks.

Route length (for linear infrastructure) approximately 255 km **and width** approximately 30 m at discrete areas

Current land use and development:

The Project is largely situated in existing rail and road corridors where current land use is routine rail and road operations and the land is developed with road and rail infrastructure. Sections of the rail corridor are operated by either V/line or ARTC. Road reserves are generally managed by VicRoads, Regional Roads Victoria or local councils.

Project activities will occur on land adjacent to the rail and road reserves including:

- Permanent works such as road or rail realignment and rail earthworks
- Temporary works such as construction access and haulage routes, construction site compounds and laydown areas
- Overhead powerline modifications.

The land adjacent to the rail and road reserve where these activities are proposed include current land uses comprising farming, public open space, rural residential and commercial. Design and construction planning for the project has sought to utilise land with limited existing development, excepting the overhead powerline sites were the existing power pole assets are located. **Table 6** below summarises the temporary construction area required to complete the proposed works. The table also provides an overview of the project area broken up in enhancement and overhead sites.

Table 6: Project and temporary construction areas requirements

Land Type	Owner / Manager	*Enhancement Sites (ha)*	*Overhead utilities sites (ha)*	Total Area (ha)
Total Project Area		83.4	36.4	119.8
Crown land within Rail Corridor				
Rail corridor land	Owned by VicTrack, managed by V/Line & ARTC	50.7	5	55.7
Road corridor land	Council owned / VicRoads / Regional Roads Victoria / VicTrack	17.3	16.7	34
Temporary Construction areas outside the Rail and Road corridor				
Agricultural / Residential / Industrial / vacant	Privately owned	15.4	14.7	30.1

Description of local setting (e.g. adjoining land uses, road access, infrastructure, proximity to residences & urban centres):

The local setting context varies from site to site**. Table 7** below summarises the adjoining land uses, the proximity to urban and regional centres and key infrastructure and identified sensitive receptors for the track lowering and bridge replacement sites.

Signal gantry and track slew project areas are predominantly located within the rail reserve. Overhead powerline project areas are typically located within existing easements on farming land.

Table 7: Local setting and context

Enhancement Site	Adjoining Land Use	Proximity to regional and urban centres and key infrastructure	Adjoining Residences and other Sensitive Receptors
Broadford-Wandong Road Overbridge (Wandong)	Low Density Residential / Rural Living/ Farm Zone	Regional, within the small rural settlement of Wandong	Residential dwellings
Hamilton Street Overbridge (Broadford)	Residential / Commercial	Regional Town, within the town of Broadford	Sensitive receptors include Broadford Presbyterian Church, Paisy Park Early Learning Centre, Nexus Primary Health and Broadford Secondary College
Short Street Overbridge (Broadford)	Residential / Public Open Space / Industrial	Regional Town, within the town of Broadford	Sensitive receptors include residential dwellings and Mt Piper Preschool
Marchbanks Road Overbridge (Broadford)	Rural Living / Industrial / Farming	Regional, key regional road providing access to the Hume Hwy	No sensitive receptors.
Hume Highway Tallarook Precinct (Tallarook)	Farming	Regional, south of Tallarook town centre	No sensitive receptors
Seymour-Avenel Road Overbridge (Seymour)	Farming/ Industrial (abattoir)	Regional road providing access between the towns of Seymour and Avenel	No sensitive receptors
Hume Highway Seymour Precinct	Farming	Regional location	No sensitive receptors
Anderson Street Overbridge (Euroa)	Residential/ Commercial	Regional Town, within the town of Euroa including the station precinct	No sensitive receptors
Benalla Station Approach Road Overbridge	Residential / Industrial / Commercial	Regional Town, within the town of Benalla including the station precinct	Residential dwellings
Beaconsfield	Town/	Regional Town, within	Residential dwellings

Parade Overbridge (Glenrowan)	Located within the Ned Kelly Siege site.	the town of Glenrowan	
Wangaratta Station precinct (Wangaratta)	Residential / Industrial /Commercial	Regional Town, within the town of Wangaratta including the station precinct	Sensitive receptors include Northeast Health Wangaratta
Murray Valley Highway Overbridge (Barnawartha North)	Farming / Industrial	Regional location	No sensitive receptors
Murray River Underbridge (Albury)	Conservation Parkland	Regional, rail bridge crossing of the Murray River, on the border of VIC and NSW.	No sensitive receptors.

Planning context (e.g. strategic planning, zoning & overlays, management plans):

In the context of improving freight networks and transport planning, the following State-wide policies are particularly relevant to the Project. Review of applicable planning policies is provided in Attachment B.

Strategic Planning:

Statewide Transport Policy (Victorian Planning Provisions)

Clause 18.01 Integrated Transport

Clause 18.01-1S Land use and transport planning

Objective:

To create a safe and sustainable transport system by integrating land use and transport.

Key policy documents include the Victorian Transport Plan (Victorian Government, 2008) – Strategy 4.2 seeks to improve national, regional and cross-town freight connections whereby the Victorian Government aims to improve inter-regional and interstate connections. Priority actions identified within the Victorian Transport Plan include to upgrade the interstate rail network, as agreed with the Federal Government and Australian Rail Track Corporation, to reduce travel times between Melbourne and Sydney (i.e. Inland Rail).

Clause 18.01-2S Transport System

Objective:

To coordinate development of all transport modes to provide a comprehensive transport system.

Key policy documents include Freight Futures: Victorian Freight Network Strategy for a more prosperous and liveable Victoria (Victorian Government, 2008). Key goals identified within the Freight Futures document include Maintain and improve the efficiency of the freight network – ensuring that the road and rail links, ports, terminals and related facilities for handling and moving goods around our cities, towns and State are operating to their maximum efficiency to support Victoria's continued economic growth.

Clause 18.05 Freight

Clause 18.05-1S – Freight Links

Objective:

To develop the key Transport Gateways and freight links and maintain Victoria's position as the nation's premier logistics centre.

Key strategies applicable to the Inland Rail project include:

- *Improve the freight and logistics network to optimise freight handling and maintain the efficiency and effectiveness of the network.*
- *Plan for improved freight connections that are adaptable to commodity, market and operating changes.*
- *Facilitate increased capacity of Interstate Freight Terminals, both in regional areas and Metropolitan Melbourne.*
- *Minimise negative impacts of freight movements on urban amenity.*

Plan Melbourne 2017-2050: Metropolitan Planning Strategy

In terms of strategies applicable to the Inland Rail project, Outcome 3 of Plan Melbourne outlines the following:

- *Melbourne has an integrated transport system that connects people to jobs and services and goods to market.*

Whilst policy 3.1.4 seeks to:

- *Provide guidance and certainty for land-use and transport development through Principal Public Transport Network and the Principal Freight Network.*

Strategic policy considerations applicable to improving the efficiency and effectiveness of freight networks in Victoria are reflected in the PPF and are supportive of the Inland Rail project.

Victoria's 30 year Infrastructure Strategy (Infrastructure Victoria, December 2016) and the Victorian Infrastructure Plan (Department of Premier and Cabinet, September 2018)

In terms of the 30 year Infrastructure Strategy, Need 13 seeks to:

- *Increase the capacity and connectivity of Victoria's freight network.*

And outlines the following priorities:

- *The requirement for further scoping and planning for the delivery of the Inland Rail project in the next 0-5 years.*
- *The project is expected to be completed between 2026 and 2031.*
- *Potential benefits include productivity improvements from double-stacked freight trains (noting that construction of an intermodal facility for double-stacked freight trains would be required.*
- *Another benefit would be decreased transit time between Melbourne and Brisbane and reduced reliance on road-based haulage.*

In terms of transport priorities, the Victorian Infrastructure Plan identifies the following project under Priority 3 – Connecting regional Victoria:

- *Continued collaboration with the Commonwealth on the delivery of the Inland Rail project to upgrade freight lines between Melbourne and Albury as part of the high capacity inland rail route being constructed between Melbourne and Brisbane.*

Zoning and Overlays:

A summary of local planning policy considerations applicable to the Inland Rail scope of works regarding transport, native vegetation, Aboriginal cultural heritage and historical heritage matters is provided in Attachment B, Planning Assessment, as is a detailed review of applicable zones and overlays and particular provisions that apply to each of the Project components.

Zoning provisions are not predicted to trigger permit requirements, except for buildings and works associated with high voltage overhead powerlines on land outside transport corridors.

The following overlays occur in the project areas and are expected to trigger a permit for buildings and works and/or vegetation removal – Heritage Overlay, Vegetation Protection Overlay, Land Subject to Inundation Overlay, Environmental Significance Overlay, Special Building Overlay, Floodway Overlay, Erosion Management Overlay and Public Acquisition Overlay.

In addition, the requirements of *Clause 52.17* Native Vegetation and *Clause 52.29* Land Adjacent to Road Zone Category 1 would apply to the Project.

Subject to further design development, a planning permit is required for:

- all Enhancement Sites
- 5 of 8 Track Slews; and
- 2 of 8 Signal Gantries.

Works associated with the modification of power lines which operate at less than 220,000 volts will be considered exempt from requiring a planning permit under the 'minor utility installation' exemption pursuant to *Clause 62.02-1* (buildings and works not requiring a permit).

Local government area(s):

Works are proposed to occur in the following local government areas - Benalla, Mitchell, Strathbogie, Wangaratta, Indigo and Wodonga.

8. Existing environment

Overview of key environmental assets/sensitivities in project area and vicinity (cf. general description of project site/study area under section 7)**:**

The works are predominantly located in an existing rail corridor and intersect road reserves that have been modified over time due to the ongoing use of the land for rail and road operations. The overhead powerline works are largely sited on private land adjacent to the rail corridor, in existing easements.

In the overhead powerline project areas vegetation is maintained to provide safe clearances from powerlines under the *Electricity Safety (Electric Line Clearance) Regulations 2015* and its Schedule – Code of Practice for Electric Line Clearance. Asset owners routinely access these areas for maintenance activities.

Where project areas are in regional towns, surrounding land use is comprised of mixed residential and commercial. In the rural project areas, located between established towns, the land use is predominantly rural in nature and typically used for farming.

Key environmental assets within the project areas include:

- Threatened Species and Communities
- Native Vegetation
- Aboriginal cultural heritage
- Historic heritage
- Waterways.

Amenity issues for sensitive receptors, including residents and educational facilities are a key consideration.

<u>Threatened Species and Communities</u>

Desktop and several site-based ecological assessments have been completed. Ecological assessments have confirmed the presence of, or potential habitat for, threatened species and communities in the project areas. A detailed list of confirmed and potential listed species and communities and the potential and significance of impacts is provided in Section 12.

Several patches of listed ecological communities, including the EPBC Act listed Grey box grassy

woodlands and derived native grasslands of South-eastern Australia have been recorded within or in the vicinity of project areas including at Seymour Avenel Road and Hume Freeway, Seymour. The EPBC Act listed White box-yellow box-Blakely's red gum grassy woodland and derived grassland was recorded in the Glenrowan area but approximately 300 m from the project area.

Project areas, concentrated between Broadford to north of Seymour, are considered to support the FFG Act listed Victorian Temperate Woodland Bird Community (VTWBC). The VTWBC is comprised of 24 species, 5 of which were observed during survey at 5 sites considered to have suitable habitat. No FFG or EPBC listed species were observed. In the absence of a community description specifying thresholds or criteria to determine presence of the VTWBC, the 5 unlisted species observed within the community along with the location and appropriate vegetation type and condition is considered to indicate the presence of VTWBC at the survey sites.

The VTWBC community is considered present at Hume Freeway, Tallarook, Seymour Avenel Road and Hume Highway, Seymour, Marchbanks and Tallarook. The 5 unlisted species observed during targeted surveys include: Brown-headed honeyeater, Fuscous honeyeater, Jacky winter, Little lorikeet, Western gerygone.

One FFG Act listed flora species, Buloke (*Allocasuarina leuhmanii*) was recorded at Seymour Avenel Road in 2018 however no individuals were recorded during a targeted flora survey. There were also several species listed under the Victorian advisory list of rare and threatened plants (DEPI 2014) recorded at enhancement sites, including the Seymour Wattle (*Acacia verniciflua* (1-nerved variant), Late-flowering flax-lily (*Dianella tarda*), Rosemary grevillea (*Grevillea rosmarinifolia* ssp. *rosmarinifolia*) and Golden cowslip (*Diuris behrii*). These species were recorded at several sites around Broadford, Tallarook and Seymour. There was no threatened flora (FFG or EPBC) observed within project areas during targeted surveys and the rapid field assessment. There is potential habitat for threatened flora at overhead powerline sites 60 (Buoke) and 84 (Mountain swainson-pea) where threatened flora were observed within the vicinity but outside the project areas.

A rapid field investigation identified potential habitat for EPBC species: Sloanes Froglet, Golden Sun Moth, and Growling Grass Frog at 5 overhead powerline pole project areas.

Native Vegetation

Ecological and habitat hectare assessments have been completed by DELWP accredited Vegetation Quality Assessment (VQA) assessors on the Enhancement Site project areas. Information on surveys completed is detailed in Section 12.

The presence of native vegetation and habitat within the project areas is largely determined by the amount of disturbance that has occurred within and adjacent to the sites. Project areas in regional Victoria, outside of towns, can contain remnant woodland and forest vegetation, though often in a modified state, due to previous road and rail construction and maintenance.

Within the project areas, patches of plains grassy woodland, grassy woodland, floodplain riparian woodland and box-ironbark forest EVCs have been recorded. Several of these patches of native vegetation communities are consistent with Victorian and Commonwealth listed ecological communities and provide habitat for woodland bird species and arboreal mammals.

Aboriginal Cultural Heritage

Various parts of the Project are in areas of cultural heritage sensitivity due to the presence of several registered cultural heritage places and named waterways as defined in the *Aboriginal Heritage Regulations 2007*. A search of Victorian Aboriginal Heritage Register (VAHR) indicated that there are:

- No registered Aboriginal cultural heritage places within the project areas
- 7 Aboriginal places located within approximately 200m of the project areas and these Aboriginal places generally comprise artefact scatters, and fewer Low-Density Artefact Distribution (LDADs) such as a single silcrete flake found during excavations, object collections and scarred trees.

The registered places are clustered around the northern metropolitan work areas, Broadford, Wangaratta and the Murray River.

Preparation of Cultural Heritage Management Plans will be staged to align with the project's construction delivery schedule. Further detail regarding Aboriginal cultural values and proposed management is provided in Section 15 of this Referral.

Historic Heritage

There are two key historic heritage places within the project areas: the Glenrowan Heritage Precinct and the Wangaratta Railway station complex.

The Glenrowan Heritage Precinct is a site of national heritage significance (NHL 105729) associated with the Ned Kelly Siege and is also listed on the Victorian Heritage Register (VHR H2000) and the Victorian Heritage Inventory (VHI H8125-0015). The bridge replacement works associated with the Beaconsfield Parade, Glenrowan Enhancement Site will occur within the extent of the heritage place. The project works at this site will be subject to a referral under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) and approval under the *Heritage Act 2017* (VIC).

The Wangaratta Railway Station Complex is also listed on the VHR (H1597) and project works including track lowering and pedestrian footbridge replacement will require approval under the *Heritage Act 2017*.

Further details regarding the impacts and proposed mitigation measures for project works at these significant heritage places, as well as heritage places protected under local heritage overlays, are included in Section 15 of this Referral.

Waterways

Works for the Project intersect two named waterways and drainage lines. The two main waterways are:

- Sunday Creek is present within the Short Street Overbridge in Broadford. The waterway is ephemeral. Sunday Creek is a tributary of the Goulburn River.
- One Mile Creek at Wangaratta Precinct. The creek flows in a north south direction through residential areas of Wangaratta. The waterway has a low-flow shallow channel and bank.

The Project passes close to, but does not cross, several minor waterways and drainage lines. Key waterways immediately adjacent to the project areas include Merri Creek, Murray River and tributaries associated with Dry Creek, Goulburn River, Eight Mile Creek and Show Creek.

Further information about the waterways and drainage lines are provided in Section 13.

9. Land availability and control

Is the proposal on, or partly on, Crown land? ☐ No ☒ **Yes** If yes, please provide details.
Current land tenure (provide plan, if practicable): The project is largely located within rail (managed by VicTrack) and road reserves (managed by Regional Roads Victoria and local councils as the relevant road authority). However, some private and public owned land will also be impacted. Please refer to Table 7 In Section 7 of this Referral. The project areas total 119.8 ha with approximately 75% occurring within rail and road reserves and remaining 25% includes temporary access tracks and construction areas surrounding overhead lines. Work is underway to determine the level of land acquisition that may be required for the Project; however, acquisition of private property is only predicted at two sites based on reference design. These acquisitions would be partial acquisition of small areas of land and unlikely to impact the viability of the ongoing use of the land. Access and temporary construction activities will also occur on private and public land adjacent to the rail and road reserves.
Intended land tenure (tenure over or access to project land): VicTrack would have tenure over the rail related project land. VicTrack will then negotiate modified rail lease agreements with ARTC (and V/line) where required. As the relevant road authority, Regional Roads Victoria and local councils would have tenure over the road related project land. All works to overhead distribution lines will be undertaken within the existing easements.
Other interests in affected land (e.g. easements, native title claims): A native title claim search was completed on 24 June 2019. No native title claims are registered in the project areas.

10. Required approvals

State and Commonwealth approvals required for project components (if known):

Table 8 summarises the State and Commonwealth approvals required for the project.

Table 8: Project approvals

Legislation	Referral or Approval required	Applicability to Project	Applicable Activity/Location
Environment Protection and Biodiversity Conservation Act 1999	Referral	Impacts to Matters of National Environmental Significance (threatened species, communities and National Heritage Place)	Enhancement Sites & Overhead Powerlines
	Assessment and Approval	Impacts to Threatened Ecological Community likely to be considered a controlled action	Enhancement Sites & Overhead Powerlines
Planning and Environment Act 1987	Planning Scheme Amendment (introducing an Incorporated Document and Specific Control Overlay)	Planning approval required for use, buildings and works, and removal of vegetation	All project activities and locations
	Land acquisition	Application of a Public Acquisition Overlay to provide for applicable acquisition processes under the Land Acquisition and Compensation Act	Any land acquired for the project would be under ownership of the State of Victoria, with VicTrack as the land manager. Final land acquisition requirements will be determined during detailed design.
Heritage Act 2017	Heritage Permit	Works within VHR listed sites	Enhancement Sites - Wangaratta Station Precinct and Beaconsfield Parade, Glenrowan
	Heritage Permit Exemptions	Minor works within VHR listed sites	Investigation works including archaeological survey and minor early works within the Enhancement Sites of Wangaratta and Beaconsfield Parade, Glenrowan
	Heritage Consents	Works within VHI listed sites	Consents to disturb may be required at Beaconsfield Parade, Glenrowan
Aboriginal Heritage Act 2006	Cultural Heritage Management Plans	All areas of cultural heritage sensitivity	All project activities and locations
Flora and Fauna Guarantee Act 1988	Permit to take protected flora	Removal of protected flora (including threatened communities or species) from public land including rail and road reserves	All public land in the project area
Wildlife Act 1975	Management authorisation under the *Wildlife Act 1975*	Potential impacts to wildlife including FFG Act listed fauna species, including loss of hollows and nests.	All project activities and locations
Water Act 1989	Works on waterways permits	Required for permanent and temporary works across, under or adjacent to designated waterways	Modified or new discharge points at waterways, minor extension of existing culverts, temporary vehicle crossings

Road Management Act 2004	Permit for works (permanent and temporary)	Permit required from relevant road authority (VicRoads, Local Council) for: - Bridge design and construction - Relocation of utilities within road reserves - temporary construction in road reserves including creation of temporary haul roads and access points. Temporary traffic management is also authorised by the relevant road authority.	All Enhancement Sites

Have any applications for approval been lodged?

☒ No ☒ Yes If yes, please provide details.

Approval agency consultation (agencies with whom the proposal has been discussed):

DELWP (Statutory Planning; and Impact Assessment); (Cwlth) Department of Agriculture, Water and the Environment, Environment Protection Authority, Aboriginal Victoria and Heritage Victoria have been consulted as design has progressed through concept to reference design.

Other agencies consulted:

Department of Transport, VicTrack, VicRoads, Melbourne Water, Councils (Benalla, Wangaratta, Strathbogie, Mitchell, Wodonga), V/Line.

PART 2 POTENTIAL ENVIRONMENTAL EFFECTS

11. Potentially significant environmental effects

Overview of potentially significant environmental effects (identify key potential effects and comment on their significance and likelihood, as well as key uncertainties):

The following environmental values have potentially significant effects, which are each discussed further below:

- Native Vegetation
- Threatened species and communities
- Heritage
- Land Acquisition
- Noise from operational activities.

Native Vegetation

Through avoid and minimisation measures the impact to native vegetation north of Beveridge has been reduced from 28.1 ha to 19.4 ha. Further detail is provided in **Attachment C** - Biodiversity Assessment Report which shows the potential impact is primarily over 5 key areas:

- Marchbanks Road Overbridge (Broadford) - 1.7 ha of endangered EVCs, including 9 large trees.
- Hume Highway Tallarook Precinct (Tallarook) - 2.8 ha of endangered EVCs including 10 large trees
- Seymour Avenel Road Overbridge (Seymour) - 1.3 ha of endangered EVCs and 2.9 ha of vulnerable EVCs, including 6 large trees
- Hume Highway Seymour Precinct (Seymour) - 0.1 ha of an endangered EVC and 1.894 ha of vulnerable EVCs including 7 large trees
- Overhead powerlines are estimated to impact on 7.2 ha of native vegetation, of which 6.2 ha is predicted to be endangered. The estimated impact based on EVC modelling is conservative and assumes loss of all native vegetation within each overhead powerline easement project areas.

ARTC will continue to seek further opportunities to minimise impacts through detailed design and construction planning.

Threatened species and communities

Populations of threatened species and communities are known to occur in proximity to some of the project areas. Ecological investigations relevant to the Project are documented in Section 12.

These include the following listed flora species:

- Euroa guinea-flower near Powerline Site 60, chainage 143, approximately 7 km south of Euroa (KBR in prep – September 2019). A total of 60 Euroa guinea-flower were recorded in potential habitat adjacent to the project area. No individuals were recorded in the project area for Powerline 60.
- Purple Diuris within private land at Powerline Site, 91 contains potential habitat for the species however it was not observed during a targeted flora survey (Attachment D Overhead lines biodiversity assessment report).
- 26 buloke were recorded adjacent to Powerline Sites 54 and 57. These individuals are unlikely to be impacted by works.
- Several Mountain swainson-pea plants are outside but adjacent to Powerline Site 84. These plants appeared to be planted by DELWP (to be confirmed). The species are considered extinct in Victoria, so it is likely that these individuals have been planted.

Impacts to the FFG Act listed Victorian Temperate Woodland Bird Community are unavoidable. This community has been mapped within and in the immediate vicinity of project areas. Impacts are predicted to include a total area of 7.5 ha. These impacts will occur at five discrete locations, ranging in area from 0.675 ha to 1.994 ha, spread over 25 km between Broadford to north of Seymour. At a regional scale, the loss of the vegetation is not predicted to significantly impact bird communities, as other suitable woodland habitats and movement corridors exist in the surrounding landscape. Impacts are likely to be more significant at a local scale, where family groups, particularly of smaller insectivorous species, will lose habitat and movement between habitat patches will potentially reduce.

Although the impact does not comprise a significant portion of remaining community throughout the State, the impact may be considered significant because of:

- the ongoing reduction of the community across Victoria
- the loss of large trees (32 in total over the five project areas), which provide key habitat features.
- the loss of complex understorey for ground-foraging species is also known to be affecting populations of these species.

The habitat is located immediately adjacent to the road and rail infrastructure, increasing the distances between habitat patches that currently exists. This may be locally significant to several woodland bird species, particularly smaller birds, where movements between patches may be restricted.

No individually listed woodland bird species were observed during targeted bird surveys and the habitat is considered unlikely to support populations therefore the project is unlikely to result in significant impacts to listed woodland bird species. There are likely to be localised impacts to bird movement at these sites, however the vegetation and habitat that would be retained adjacent to the project areas would still provide suitable habitat corridor (Refer to woodland bird habitat landscape map within Attachment F Woodland Bird Report).

There are potential localised impacts for arboreal mammal species, brush-tailed phascogale and squirrel glider. Both species have large home ranges for individuals, with squirrel glider having home ranges of between 2 and 17 ha, depending on connectivity and availability of den sites (DSE 2003). Brush-tailed phascogale has significant home ranges, with females having non-overlapping home ranges of 30-60 ha, with males having larger home ranges, over 100 ha that can overlap with multiple female home ranges and those of other males.

The extent and connectivity of the habitat with consideration of the species home ranges sizes and den sites (tree-hollows), indicates that the predicted impact to habitat is likely to be limited to the loss of den sites and movement within an individual's home range. Vegetation loss has potential to restrict movement of individuals in the local area and isolate habitat, particularly for the brush-tailed phascogale, which is less likely to cross gaps in habitat. These impacts may also affect movement of individuals migrating into new habitats within the landscape (refer to Attachment C Biodiversity Assessment Report).

The woodland habitat also potentially supports the brush-tailed phascogale, squirrel glider, and barking owl are assumed to be present. Species specific mitigation and management measures will be prepared and form part of Construction Environmental Management Plans (CEMPs) to ensure impacts are avoided and minimised as far as practical. Mitigation measures are likely to include pre-clearing checks and following construction habitat restoration in areas that are not required for ongoing maintenance and operation requirements. ARTC will work with DELWP to ensure restoration efforts are targeted to get the best conservation outcomes as part of the FFG permit process.

<u>Heritage</u>

There are two enhancement sites within nationally and state significant historic heritage places, the Glenrowan Heritage Precinct (NHL 105729/ VHR- H2000 / VHI- H8125-0015) and the Wangaratta Station Precinct (VHR- H1597).

The proposed works at the Beaconsfield Parade Overbridge (Glenrowan) involves replacing the existing bridge with a new overpass with the requisite 7.1 m clearance. The current bridge lies

diagonally off the Beaconsfield Parade alignment and encroaches into the public reserve on the station side of the railway corridor. The proposed replacement bridge would run along the Beaconsfield Parade alignment, reinstating the rail crossing to the location of the earlier level crossing that was in place at the time of the siege. Reinstating the crossing back to this point also reinstates a definition of the western boundaries of the siege site.

The proposed works represents an opportunity to install a new structure more sympathetic to the site that is designed to be an open structure and allows for viewing of nearly all locations significant to the siege. A new bridge also provides an opportunity to provide interpretation on the overpass for pedestrian traffic that would assist in understanding the siege and the significance of the place.

The replacement of the Beaconsfield Parade overpass maintains the ongoing presence of a modern structure in the heritage precinct. The proposed works are unlikely to result in a significant impact to the heritage values of the site.

At Wangaratta Station Precinct, the key heritage impact is associated with the proposed removal of two footbridges (one of which is the Cusack Street footbridge, included within the extent of the Victorian Heritage registration for this site) and replacement with a pedestrian underpass. The proposed works will have no impact on the station building or the other structures that are cited in the statement of significance as enhancing the importance of the place as a late Victorian junction station. It should be noted that the statement of significance does not cite the Cusack Street footbridge as being part of the group of significant structures.

Land Acquisition

The project is largely located within rail (managed by VicTrack) and road reserves (managed by Regional Roads Victoria and local councils as the relevant road authority). However, some privately and publicly owned land will be impacted.

Private land acquisition is only required at two enhancement sites, Seymour-Avenel Road Overbridge (Seymour) and Broadford-Wandong Road Overbridge (Wandong). The extent of the acquisition is to be determined through detailed design but is likely to be only partial acquisition at one site and small areas of partial acquisition at driveways that will not restrict access or alter the use of the land.

ARTC is proactively engaging with affected landholders and will be seeking further opportunities to minimise impacts to properties during detailed design**.**

Operational Noise

A noise and vibration assessment (**Attachment G – Noise and Vibration Memorandum**) has been undertaken at enhancement sites in accordance with the Inland Rail Noise and Vibration Management Strategy for the Inland Rail project. The preliminary results of the assessment indicate that noise abatement should be considered at the Wangaratta Station Precinct. Where the project requires the realignment of road traffic bridges, the preliminary assessment has found no exceedances of the VicRoads Traffic Noise Reduction Policy (2005). Vibration levels are also below the criteria that requires consideration of abatement.

12. Native vegetation, flora and fauna

Native vegetation

Is any native vegetation likely to be cleared or otherwise affected by the project?

☒ NYD ☒ No ☒ **Yes** If yes, answer the following questions and attach details.

What investigation of native vegetation in the project area has been done? (briefly describe)

During the Concept design phase, WSP/PB (2016) completed a desktop assessment and a detailed ecological survey on all Enhancement Sites to verify the presence of threatened species and communities.

During the Reference design phase, Enhancement Sites have been subject to detailed field ecological investigations in two stages. The first stage of field investigations was completed between December 2017 and February 2018 by KBR. Further assessment occurred in June 2019 by KBR, following completion of stakeholder consultation, constructability assessments and reference design.

A detailed Biodiversity Assessment Report (Attachment C) identifies ecological values recorded within the Enhancement Site project areas during the reference design. The assessment included:

- Vegetation Quality Assessment, using the Habitat Hectares method (DSE 2004).
- Recording the location, Diameter at Breast Height (DBH), species and habitat features of scattered trees and large trees in patch (in accordance with DELWP 2017).
- Recording the location of any observed threatened flora and fauna species.
- Assessing recorded patches of native vegetation (DELWP 2017) against the criteria of listed threatened ecological communities listed under the EPBC Act and the FFG Act.
- Recording and mapping the extent of potential habitat areas for listed threatened flora and fauna species.

A rapid field assessment was undertaken of the overhead line project areas over five days on 6th, 7th, 8th, 12th and 13th November 2019 to confirm the presence of:

- Habitat for threatened flora and fauna species listed under the EPBC Act and FFG Act; based on vegetation condition and habitat requirements of species.
- Threatened ecological communities listed under the EPBC Act or FFG Act; based on dominant overstorey species, and estimates on patch size, tree density and cover estimates and general observations on understorey cover and diversity.
- Patch vegetation (and likely EVC type); which meet the requirements for native patch, including tree cover and understorey cover >25% of native species.
- Presence of scattered trees.
- Patches of native vegetation.

Refer to **Attachment D**- Overhead Powerline Biodiversity Assessment report for the results of the rapid field assessment.

Targeted flora surveys were completed over four days in Spring, on the 19th of September and the 7th, 23rd and 24th of October 2019 at Hume Freeway, Tallarook, Seymour-Avenel Road, Seymour and Hume Freeway, Seymour where potential habitat was previously identified for threatened flora species during field assessments. Targeted flora surveys were also undertaken as part of the same survey effort at overhead powerline sites where there was a medium to high of supporting threatened flora and/or ecological communities. The surveys were undertaken in accordance with the methodology stipulated in Survey Guidelines for Australia's Threatened Orchids (DoE 2013b). Two suitably qualified ecologists searched the project areas by walking in parallel lines at a maximum spacing of 5 m. Given that threatened flora species are often small, this distance was usually closer to 2 m. Any findings were noted, and individual plant locations were captured using a hand-held Global Positioning System (GPS) and mapped. Where native patch vegetation and scattered trees, as defined under DELWP (2017), were considered to be present within the overhead powerline project areas, these were noted during the Targeted Flora Survey.

Refer to **Attachment D** for the threatened flora results at overhead powerline sites and Overhead **Attachment H** for the Threatened Flora results at the Enhancement sites.

What is the maximum area of native vegetation that may need to be cleared?

☒ NYD Estimated area 19.4 (hectares)

Maximum impact to native vegetation associated with the project is 19.4 ha (refer to Table 9 for breakdown by project area). The EVC names area provided in Table 10.

Table 9: Area impacts to Ecological Vegetation Class

Project Area Name	Area impacts to Ecological Vegetation Class (by conservation significance)
Track Slew Investigation Area C	0.192 ha of an endangered EVC
Broadford-Wandong Road Overbridge (Wandong)	0.037 of a vulnerable EVC 0.012 ha of an endangered EVC
Signal Gantry 15 (SG15)	0.015 ha of an endangered EVC
Signal Gantry 16 (SG16)	0.015 ha of an endangered EVC
Hamilton Street Overbridge (Broadford)	0.514 ha of an endangered EVC
Short Street Overbridge (Broadford)	0.919 ha of an endangered EVC
Marchbanks Road Overbridge (Broadford)	1.450 ha of an endangered EVC
Signal Gantry 18 (SG18)	0.005 ha of an endangered EVC
Signal Gantry 19 (SG19)	0.001 ha of an endangered EVC
Hume Highway Tallarook Precinct (Tallarook)	2.793 ha of an endangered EVC
Seymour Avenel Road Overbridge (Seymour)	0.907 ha of an endangered EVC 2.848 ha of a vulnerable EVC
Hume Highway Seymour Precinct (Seymour)	0.106 ha of an endangered EVC 1.894 ha of a vulnerable EVC
Anderson Street Overbridge (Euroa)	None
Benalla Station Approach Road Overbridge (Benalla)	0.090 ha of an endangered EVC
Beaconsfield Parade Overbridge (Glenrowan)	0.216 ha of an endangered EVC
Wangaratta Station Precinct (Wangaratta)	0.271 ha of an endangered EVC
Murray Valley Highway Overbridge (Barnawartha North)	None
Murray River Underbridge (Albury)	0.016 ha of a vulnerable EVC
Overhead powerlines (all)	7.2 ha of EVC

Note

**As a result of changes to the constructability method at Murray Valley Highway Overbridge (Barnawartha North) impacts to 0.6 ha of native vegetation within the project area has been avoided. Due to timing of the constructability review and reporting, the 0.6 ha of native vegetation removal is referenced in the biodiversity assessment report and considered in the offset calculation.*

How much of this clearing would be authorised under a Forest Management Plan or Fire Protection Plan?

☒ **N/A** …… approx. percent (if applicable)

Which Ecological Vegetation Classes may be affected? (if not authorised as above)

☒ NYD ☒ Preliminary/detailed assessment completed. If assessed, please list.

For the enhancement sites, the EVCs potentially impacted are based on field assessments and are listed in the Table 10 including bioregion and proposed area of impact (ha).

Table 10: EVCs potentially impacted at Enhancement Sites

Bioregion	Ecological vegetation class (EVC name)	Conservation significance rating	Ecological vegetation class (EVC code)	Predicted Impact Area (ha)
Victorian Volcanic Plain	Swampy riparian woodland	Endangered	83	0.192
Central Victorian Uplands	Box-ironbark forest	Vulnerable	61	4.742
	Grassy woodland	Endangered	175	2.429
	Plains grassy woodland	Endangered	55	3.861
	Valley grassy forest	Vulnerable	47	0.048
Victorian Riverina	Creekline grassy woodland	Endangered	68	0.247
	Grassy woodland	Endangered	175	0.033
	Plains grassy woodland	Endangered	55	0.412
	Riverine grassy woodland	Vulnerable	295	0.016
Northern Inland Slopes	Plains woodland	Endangered	175	0.824

EVCs within overhead line project areas has been confirmed (Table 11), however, no vegetation quality assessments have been completed. Further refinement and avoidance will be considered during the phase of investigation during detailed design.

Table 11: EVCs within Overhead Powerline Project areas

Bioregion	Ecological vegetation class (EVC code)	Ecological vegetation class (EVC name)	Conservation significance rating	Modelled EVC in Project Area (ha)
Victorian Volcanic Plain	18	Riparian Forest	Vulnerable	0.001
	126	Swampy Riparian Complex	Endangered	0.108
Central Victorian Uplands	22	Grassy Dry Forest	Depleted	0.047
	23	Herb-rich Foothill Forest	Depleted	0.030
	47	Valley grassy forest	Vulnerable	0.266
	55	Plains grassy woodland	Endangered	0.150
	61	Box-ironbark forest	Vulnerable	0.146
	175	Grassy woodland	Endangered	0.313
	235	Riverine Grassy Woodland/Riverine Swampy Woodland Mosaic	Endangered	0.005
	293	Riparian Forest / Creekline Grassy Woodland Mosaic	Vulnerable	0.005
	803	Plains Woodland	Endangered	0.085
Highland Northern Fall	127	Herb-rich Foothill Forest	Endangered	0.0001
Victorian Riverina	55	Plains Grassy Woodland	Endangered	3.445
	56	Floodplain Riparian Woodland	Vulnerable	0.324
	61	Box Ironbark Forest	Vulnerable	0.075
	68	Creekline grassy woodland	Endangered	0.334
	175	Grassy Woodland	Endangered	0.092
	235	Plains Woodland/Herb-rich Gilgai Wetland	Endangered	0.060
	274	Grassy Woodland/Plains Grassy Woodland Mosaic	Endangered	0.231
	287	Plains Grassy Woodland/Box Ironbark Forest Complex	Endangered	0.074
	803	Plains Woodland	Endangered	0.566
	815	Riverine Swampy Woodland	Vulnerable	0.003
Northern Inland Slopes	61	Box Ironbark Forest	Vulnerable	0.126
	153	Alluvial Terraces Herb-rich Woodland/Valley Grassy Forest	Endangered	0.285
	175	Grassy Woodland	Endangered	0.240
	235	Plains Woodland/Herb-rich Gilgai Wetland	Endangered	0.083
	803	Plains Woodland	Endangered	0.105

Have potential vegetation offsets been identified as yet?

☒ NYD ☒ Yes If yes, please briefly describe.

ARTC will identify suitable offsets to satisfy both State and Federal legislative requirements.

For a preliminary understanding of the combined offset obligations under State legislation for project impacts, Enhancement Sites data for remnant patch and scattered trees (using data collected during a Vegetation Quality Assessment) was combined with an estimate of the extent and condition of patch vegetation within the overhead powerline sites. The estimate for overhead powerline sites utilised modelled EVCs intersecting within the overhead powerline sites. In some instances, the site investigation identified patch vegetation where no modelled EVC layer was present. The extent of the patch was recorded during the site inspection and included in the estimate of native vegetation extent for the offset calculation. Tree canopies have not yet been mapped therefore a buffer was applied to estimate the tree loss which extended up to 25 m from the project areas in accordance with the DELWP Assessors handbook – Applications to remove, lop or destroy native vegetation (2018).

The data was compiled and analysed through the EnSym tool to generate an estimate of offset requirements for the project. The predicted impact would require offsets of 14.824 General Habitat Units (GHU) and 128 large trees. No species-specific offsets are required.

The offset obligation is expected to be reduced when the VQA for overhead powerline project areas is complete and tree canopies are mapped. Further opportunities to minimise and avoid will be further investigated during detailed design.

Other information/comments? (e.g. accuracy of information)

Field assessments on private land was limited due to accessibility constraints (approximately 16 ha of private land was not accessed because access was not granted). These areas of private land (shown in appendix A to the Biodiversity assessment report – Attachment C) have been selected for temporary construction activities to avoid environmental impacts, targeting previously disturbed land where there were no known cultural heritage and environmental values present. The ecological value of private land affected by the project is very low. A second limitation is that vegetation quality assessments have not been completed for the overhead powerline project areas however the modelled EVCs used to calculate offsets is considered a conservative measure that is likely to overestimate the extent of impact.

NYD = not yet determined

Flora and fauna

What investigations of flora and fauna in the project area have been done?
(provide overview here and attach details of method and results of any surveys for the project & describe their accuracy)

Ecological assessments have been prepared to describe the existing flora and fauna in the project areas, as described above in the Native Vegetation section. Additionally, targeted surveys for woodland bird species during winter 2019 and targeted threatened flora surveys during spring 2019 have been completed.

Ecological surveys for Enhancement Sites included field assessments to determine the potential for threatened flora and fauna species. The potential presence of threatened species was assessed by walking over the assessment area and recording incidental sightings of flora and fauna, any sign of fauna utilisation of the project site (e.g. scats, tracks, etc.) and undertaking an assessment of habitat available within the investigation area. Refer to Attachment C Biodiversity Assessment Report.

Woodland bird surveys consisted of timed area searches of habitat at five Enhancement Site Project Areas where potential habitat was recorded:

- Short Street
- Marchbanks Road
- Hume Freeway, Tallarook
- Seymour-Avenel Road
- Hume Freeway, Seymour

Threatened flora surveys were undertaken at three Enhancement Sites with potential habitat:

- Hume Freeway, Tallarook
- Seymour-Avenel Road
- Hume Freeway, Seymour.

Desktop assessment of flora and fauna within the Overhead Powerline project areas included the interrogation of ecological databases, including DELWP's Victorian Biodiversity Atlas, which provides recorded observations of threatened flora and fauna, plus the location of identified biosites. The desktop provided a risk-based assessment of the presence of threatened flora and fauna to occur. Rapid field assessments of overhead powerline project areas were undertaken to identify the presence of native vegetation, threatened ecological communities and habitat for threatened species. Targeted flora surveys were also undertaken at 19 overhead powerline sites, (Attachment D Overhead Powerlines Ecological Assessment).

Have any threatened or migratory species or listed communities been recorded from the local area?

☐ NYD ☐ No ☒ Yes If yes, please:

- List species/communities recorded in recent surveys and/or past observations.
- Indicate which of these have been recorded from the project site or nearby.

A complete list of potentially affected species identified in a desktop assessment for the Enhancement Sites is provided in the Biodiversity Assessment Report (Attachment C).

Threatened species or communities which have been recorded within the project areas, had habitat recorded within a project area, or have potential to occur have been included in Table 12 and Table 13. An assessment on the potential impacts to these species is provided below.

Table 12: Threatened species and communities with potential to occur in the Enhancement Site Project Areas

Common name	Scientific name	EPBC Act conservation status	FFG Act conservation status	Project Area with potential or confirmed habitat
Barking owl	*Ninox connivens*	-	Listed as threatened	Potential habitat recorded at: - Hume Freeway, Tallarook - Seymour-Avenel Road - Hume Freeway, Seymour
Brush-tailed phascogale	*Phascogale tapoatafa*	-	Listed as threatened	Potential habitat recorded at: - Hume Freeway, Tallarook - Seymour-Avenel Road - Hume Freeway, Seymour
Painted Honeyeater	*Grantiella picta*	Vulnerable	Listed as threatened	Potential habitat recorded at: - Hume Freeway, Tallarook - Seymour-Avenel Road - Hume Freeway, Seymour
Regent honeyeater	*Anthochaera phrygia*	Critically endangered	Listed as threatened	Potential habitat recorded at: - Hume Freeway, Tallarook - Seymour-Avenel Road - Hume Freeway, Seymour
Squirrel glider	*Petaurus norfolcensis*	-	Listed as threatened	Potential habitat recorded at: - Hume Freeway, Tallarook - Seymour-Avenel Road - Hume Freeway, Seymour
Swift parrot	*Lathamus discolor*	Critically endangered	Listed as threatened	Potential habitat recorded at: - Short Street - Marchbanks Road - Hume Freeway, Tallarook - Seymour-Avenel Road - Hume Freeway, Seymour
Buloke	*Allocasuarina leuhmanii*	-	Listed as threatened	Species recorded at Seymour-Avenel Road.
Crimson spider-	*Caladenia concolor*	Vulnerable	Listed as threatened	Potential habitat recorded at: - Seymour-Avenel Road

orchid				- Hume Freeway, Seymour
Euroa guinea-flower	*Hibbertia humifusa ssp. erigens*	Vulnerable	Listed as threatened	Potential habitat recorded at: - Seymour-Avenel Road - Hume Freeway, Seymour
Purple Diuris	*Diuris punctata var. punctata*	-	Listed as threatened	Potential habitat recorded at: - Hume Freeway, Tallarook - Seymour-Avenel Road - Hume Freeway, Seymour

Table 13: Listed threatened ecological communities with potential to occur in the Enhancement Site Project Areas

Threatened ecological communities	EPBC Act conservation status	FFG Act conservation status	Project Area with potential or confirmed habitat
Grey box grassy woodlands and derived native grasslands of South-eastern Australia	Endangered	-	TEC recorded at Seymour-Avenel Road and Hume Freeway, Seymour.
Victorian temperate woodland bird community	-	Listed as threatened	TEC recorded at: - Short Street - Marchbanks Road - Hume Freeway, Tallarook - Seymour-Avenel Road - Hume Freeway, Seymour

Threatened species which have been identified as having potential habitat within the overhead powerline project areas are included in the Table 14 for threatened species, and Table 15 for threatened ecological communities. An assessment on the potential impacts to these species is provided below.

Table 14: Threatened species with potential to occur in the Overhead Powerline Project Areas

Common name	Scientific name	EPBC Act conservation status	FFG Act conservation status	Project Area with potential or confirmed habitat
Golden sun moth	*Synemon plana*	Critically Endangered	Listed as threatened	Potential habitat at Overhead powerline sites 37 and 38
Growling grass frog	*Litoria raniformis*	Vulnerable	Listed as threatened	Potential habitat at Overhead powerline sites 29, 30 and 127
Sloane's froglet	*Crinia sloanei*	Endangered	-	Potential habitat at Overhead powerline site 109
Buloke	*Allocasuarina leuhmanii*	-	Listed as threatened	Recorded at Seymour-Avenel Road, Powerline Site 54 and Powerline Site 57.
Euroa guinea-flower	*Hibbertia humifusa ssp. erigens*	Vulnerable	Listed as threatened	Recorded (60 plants) adjacent to Overhead powerline site 60.
Mountain Swainson-pea	*Swainsona recta*	Endangered	Listed as threatened	Recorded (planted) adjacent to Powerline Site 84.
Purple Diuris	*Diuris punctata var. punctata*	-	Listed as threatened	Potential habitat identified at Overhead Powerline site 91.

Table 15: Listed threatened ecological communities with potential to occur in the Overhead Powerline Project Areas

Threatened ecological communities	EPBC Act conservation status	FFG Act conservation status	Project Area with potential or confirmed habitat
Grey box grassy woodlands and derived native grasslands of South-eastern Australia	Endangered	-	Overhead powerline sites 42, 51, 81 and 84
White Box-Yellow Box-Blakely's Red Gum Woodland and Derived Native Grassland	Critically Endangered	-	Overhead powerline sites 36, 84, 89 and 91

If known, what threatening processes affecting these species or communities may be exacerbated by the project? (eg. loss or fragmentation of habitats). Please describe briefly.

Of the Potentially Threatening Processes listed under the *Flora and Fauna Guarantee Act 1988*, threatening processes relevant to the project include:

- Habitat fragmentation as a threatening process for fauna in Victoria
- Invasion of native vegetation by Blackberry *Rubus fruticosus L. agg*.
- Invasion of native vegetation by 'environmental weeds'.

Habitat fragmentation

Habitat within the rail corridor has been fragmented due to its long use as an active Rail Line and maintenance clearing of vegetation throughout the corridor. In project areas located near high public use areas, such as regional towns and cities, road crossings and stations areas, native vegetation within the project area comprises small, degraded patches that are already highly fragmented. The project is unlikely to further exacerbate existing fragmentation in these locations.

Many of the areas, outside of high public use areas and regional towns, is where vegetation loss is unavoidable and is where fragmentation of habitat has the greatest potential impact. Although at a regional scale, there is generally vegetation and habitat in surrounding areas that provide other options for fauna dispersal. Therefore, it is considered that the effect of habitat fragmentation is reduced by the presence of alternative habitat linkage corridors that already exist in the landscape and which will not be affected by the project.

The project will result in loss of habitat for bird species included in the Victorian Temperate Woodland Bird Community. Loss of this community is unavoidable at Short Street (Broadford), Marchbanks Road Overbridge (Broadford), Seymour Avenel Road Overbridge (Seymour) and Hume Highway Seymour Precinct (Seymour) (**Attachment F –Woodland Bird report**). In these areas it is not known if woodland bird species already cross the gap over the rail line, though it is likely that increasing the existing gap in vegetation could limit the movement of smaller species of birds. There is potential for localised impacts to smaller, woodland bird species, which are likely to be exacerbated by the removal of woodland habitat at these sites.

Larger species of woodland birds are likely to be less effected as they have the capacity to cross larger open spaces. Overall, the movement of birds to other potential habitat locations in the surrounding region, are unlikely to be significantly exacerbated by the project.

Arboreal mammals, including Squirrel Glider (*Petaurus norfolcensis*) and Brush-tailed Phascogale (*Phascogale tapoatafa tapoatafa*) have the potential to be affected by habitat fragmentation in a similar capacity to woodland bird species. Squirrel gliders can glide up to 50m between trees, though Brush-tailed Phascogale are more restricted to jumping short distances and moving along the ground (Menkhorst & Knight 2004). These species have a significant potential to have their home ranges restricted through increasing the gaps in their habitat.

Invasion of native vegetation by 'environmental weeds'

A project CEMP will provide measures for appropriate biosecurity protocols which are to be implemented to prevent the spread and establishment of pest and diseases. It is considered unlikely the project will result in a significant increase in the extent of environmental weeds.

Invasion of native vegetation by Blackberry Rubus fruitcosus L. agg.

A project CEMP will provide measures for appropriate biosecurity protocols which are to be implemented to prevent the spread and establishment of pest and diseases as a result of the proposed works. It is considered unlikely the Project will result in a significant increase in the extent of environmental weeds, including Blackberry (*Rubus fruticosus L. agg.*).

Are any threatened or migratory species, other species of conservation significance or listed communities potentially affected by the project?

☐ NYD ☐ No ☒ **Yes** If yes, please:

- List these species/communities:
- Indicate which species or communities could be subject to a major or extensive impact (including the loss of a genetically important population of a species listed or nominated for listing) Comment on likelihood of effects and associated uncertainties, if practicable

This section provides an assessment of the following categories of flora and fauna species and ecological communities potentially impacted by the project (these species and communities have been listed in Section 8):

- EPBC Act-listed ecological communities
- EPBC Act-listed flora species (also listed under the FFG Act)
- EPBC Act-listed fauna species (also listed under the FFG Act)
- FFG Act-listed ecological communities
- FFG Act-listed threatened flora (not listed under the EPBC Act)
- FFG Act-listed threatened fauna (not listed under the EPBC Act).

EPBC Act-listed ecological communities

Grey box grassy woodland and derived native grasslands threatened ecological community has been recorded at the Seymour Avenel Road Overbridge site and the Hume Highway Seymour Precinct site, and respectively 1.7 ha and 1.8 ha of the community is predicted to be impacted. A total of 0.15 ha of the community has been identified at overhead powerline site 84, which is likely to be impacted. Impacts to the federally listed community are considered significant due to the size of impact/reduction in extent of the community (i.e. 3.7 ha).

White box-yellow box-Blakely's red gum grassy woodland and derived native grassland has been recorded at overhead powerline sites 36, 84, 89 and 91. It is likely that the community will be avoided at site 36, however, the community is potentially impacted at sites 84, 89 and 91, which total 0.4 ha of impact.

EPBC Act-listed flora species

Euroa Guinea-flower (*Hibbertia humifusa subsp. erigens*) and Crimson Spider-orchid (*Caladenia concolor*) have potential habitat recorded within Seymour-Avenel Road and Hume Freeway, Seymour, however none of the species were recorded during targeted flora surveys (Attachment H) and are considered not to be present. Impacts to these species are therefore considered negligible.

The assessments for Overhead Powerlines sites have indicated potential habitat for EPBC listed flora species at the following locations

- Euroa Guinea-flower (*Hibbertia humifusa subsp. erigens)* at power line 60
- Mountain Swainson-pea (*Swainsona recta*) at power line 84

During a targeted flora survey of the overhead powerline project areas, a population of Euroa Guinea-flower (sixty individuals) was recorded in an area adjacent to the overhead powerline project area near the access point to the works area. This area will be designated as a 'no-go zone' during construction which will avoid any potential impacts to the species and habitat within the designated no-go zone area. Similarly, individual Mountain Swainson-pea (likely planted), observed adjacent to Overhead Powerline Site 84 occurs adjacent to the project area and will be avoided by the works.

Significant impacts upon the other threatened flora species with potential habitat are considered unlikely at the overhead powerline sites. No individuals of other threatened flora species were recorded during the targeted flora surveys.

No impacts are therefore predicted for EPBC Act listed flora species.

EPBC Act-listed fauna species

Painted Honeyeater (*Grantiella picta*) has potential habitat at sites considered part of the Victorian Temperate Woodland Bird Community and contain large trees with mistletoe, which is a favourite food source of the species. These sites include Seymour Avenel Road Overbridge (Seymour), Hume Highway Seymour Precinct (Seymour) and Hume Highway Tallarook Precinct (Tallarook). Habitat recorded within these areas is most likely to be utilised by the species as a habitat corridor to move through the landscape. The species was not recorded during recent woodland bird surveys and it is unlikely that the habitat is critical for the species survival, including for foraging, nesting and breeding.

Based on the surveys completed and in consideration of the lack of previous records in the vicinity of the project areas, a population of the species is unlikely to be present in the project areas. This is due to the linear nature and reduced foraging resources present within the project areas and immediate vicinity, and therefore any impacts are likely to be minor for the species. It is noted that important bird habitats (Attachment F, Victorian Temperate Woodland Bird Report), exist to the north of Hume Highway, Seymour, therefore, vagrant individuals may use the site as a habitat corridor.

Regent Honeyeater (*Anthrochaera phrygia*) has a moderate potential to occur at sites considered part of the Victorian Temperate Woodland Bird Community and are contiguous with other woodland habitats. These sites include Seymour Avenel Road Overbridge (Seymour), Hume Highway Seymour Precinct (Seymour) and Hume Highway Tallarook Precinct (Tallarook). Habitat recorded within these areas is likely to be a habitat corridor for species to move through the landscape. The species was not observed during the current woodland bird surveys and it is unlikely that the habitat is critical for the species survival, including for foraging, nesting and breeding.

Based on the surveys completed and in consideration of the lack of previous records in the vicinity of the project areas, a population of the species is unlikely to be present in the project areas. This is due to the linear nature and reduced foraging resources present within the project areas and immediate vicinity, and therefore any impacts are likely to be minor for the species. It is noted that important bird habitats (Attachment Victorian Temperate Woodland Bird Report), exist to the north of Hume Highway, Seymour, therefore, vagrant individuals may use the site as a habitat corridor.

Swift Parrot (*Lathamus discolour*) has a moderate likelihood of occurring at sites considered to support the Victorian Temperate Woodland Bird Community (VTWBC). VTWBC was recorded at Short Street, Marchbanks Road, Seymour Avenel Road Overbridge (Seymour), Hume Highway Seymour Precinct (Seymour) and Hume Highway Tallarook Precinct (Tallarook). The Swift parrot was not recorded during a July 2019 survey of the VTWBC habitat, undertaken in accordance with the EPBC Act guidelines for swift parrots (DEWHA 2010) (Attachment F, Victorian Temperate Woodland Bird Report). The area surveyed is likely to be part of a habitat corridor used by the species to move through the landscape to important bird areas north of Seymour. The project areas are not critical habitat for the species, which is considered to be areas containing extensive habitat with a high density of preferred winter-flowering foraging species, particularly red ironbark (*Eucalyptus tricarpa*) and yellow gum (*Eucalyptus leucoxylon*) (Saunders & Tzaros 2011, DSE 2003, DoE 2015).

Based on the surveys completed and in consideration of the lack of previous records in the vicinity of the project areas, a population of the species is unlikely to be present in the project areas. This is due to the linear nature and reduced foraging resources present within the project areas and immediate vicinity, and therefore any impacts are likely to be minor for the species.

The assessments for Overhead Powerline sites have indicated potential habitat for EPBC-listed fauna species at the following locations

- Golden Sun Moth (*Synemon plana*) at power line 37 and 38
- Growling Grass Frog (*Litoria raniformis*) at power line 29, 30 and 127
- Sloane's Froglet (*Crinia sloanei*) at power line 109

The potential habitat for the species is generally limited in extent, within a modified environment surrounded by cleared areas. Alternative access routes through the cleared areas should be able to avoid impact to the areas of potential habitat. It is likely that through siting works and access routes to avoid these habitat areas, there will be negligible impacts to EPBC Act listed fauna.

FFG Act-listed ecological communities
The Victorian Temperate Woodland Bird Community is an FFG Act listed community that is predicted to be impacted at five Enhancement Site project areas – Short Street Overbridge (Broadford), Marchbanks Road Overbridge (Broadford), Hume Freeway, Tallarook, Seymour-Avenel Road and Hume Freeway, Seymour.

Attachment F Woodland Bird Survey Report (Landscape context map) illustrates the network of habitat within reserves and parks in the landscape surrounding the impacted woodland bird habitat within the five project areas. Over this landscape/regional context the impacts are unlikely to be significant for woodland bird species. The map displays the location of larger, more significant habitat areas, such as Puckapunyal Army Base, Tallarook State Forest and Mangalore Conservation Reserve, which provide more extensive habitat areas in the region. The map also indicates that there will likely be sufficient woodland vegetation surrounding the proposed impact area to provide habitat corridors and linkages for species to move through the landscape.

However, current knowledge of temperate woodland bird habitat in Victoria and South Eastern Australia, indicates that the habitat is in ongoing decline. Therefore, the proposed loss of 7.5 ha of the ecological community, is likely to be considered a significant proportion.

Also, of note, is the loss of features within woodland bird habitat such as large trees, particularly hollow-bearing, plus complex understorey containing native vegetation, logs, debris and organic litter. These features are being lost at a greater rate within the woodland bird habitat. It is noted that complex understorey habitat is present within the project areas, particularly Tallarook, Seymour-Avenel Road and Hume Freeway, Seymour. In total 32 large trees are proposed to be removed over the five sites with recorded woodland bird habitat.

Therefore, in consideration of the extent (7.5 ha) of habitat loss, which includes the loss of 32 large trees and complex understorey habitat for foraging, the impact to the community is considered to be a significant proportion of the habitat remaining in Victoria.

The assessment for Overhead Powerline project areas indicates the presence of State-listed Victorian Temperate Woodland Bird Community in the area surrounding the project areas. However, overhead powerline works can be designed to avoid impacts to woodland habitat and therefore works are not expected to impact the community.

Whilst the project areas have been reduced as far as practical to avoid impacts to the VTWBC, opportunities to further mitigate impacts will be assessed through ISCA credits and incentives built into the construction contract particularly associated with retention of large old trees and habitat restoration.

FFG Act-listed threatened flora

Two juvenile Buloke (*Allocasuarina luehmannii*) have been recorded at Seymour-Avenel Road Overbridge (Seymour). These are the only individuals that have been recorded. There is not considered to be a population of the species present. These individuals are likely to be impacted, however, it is not considered to significant.

Purple Diuris (*Diuris punctata*) was not record during targeted surveys. Overhead powerline site 91 contained potential habitat that was unable to be surveyed at the time of the targeted survey. However, as the species has not been recorded elsewhere, including in the adjacent rail reserve within overhead powerline site 91, it is unlikely that a significant population of the species occurs within the potential habitat.

The assessments for Overhead Powerline project areas have not identified potential habitat for any other FFG Act listed flora species.

FFG Act-listed threatened fauna

Barking Owl (*Ninox connivens connivens*) has a moderate likelihood of occurring in sites considered to be part of the Victorian Temperate Woodland Bird Community, are contiguous with other woodland habitats and with areas likely to contain suitable prey species. Suitable habitat has been recorded at Seymour Avenel Road Overbridge (Seymour), Hume Highway Seymour Precinct (Seymour) and Hume

Highway Tallarook Precinct (Tallarook), which include hollow-bearing trees with a more complex understorey for suitable prey species. There is potential for Barking Owls to be present, however, due to the species home range sizes, ranging from 100 to 1,000 ha, it is likely only a small number of individuals would be present. The size of these home ranges will depend on the densities of den sites (hollows) and prey species. It is likely that larger areas in the surrounding landscape, including Mangalore Conservation Reserve, Puckapunyal and Tallarook State Forest, would provide a higher density of habitat resources to be core areas for home ranges and may support several individuals. In consideration of the predicted impact to potential habitat areas and the species habitat requirements, impacts are likely to be localised to a few individuals and not be significant for the species.

Brown Toadlet (*Pseudophryne bibronii*) is considered to have a low to moderate potential to occur at sites near waterways and waterbodies that have the potential to hold water, including drainage lines. Sites include Marchbanks Road Overbridge (Broadford) and Wangaratta Station Precinct (Wangaratta). However, the species has not been recorded within 5 km of each of these project areas in the last 45 years (previous record was in 1964 near Wangaratta Station Precinct). A Brown Toadlet individual was recorded at Overhead Powerline site 109 during the ecological assessment of overhead powerlines. No other potential habitat areas were identified.
Brown Toadlet habitat is not expected to be impacted by the proposed works as they avoid waterways and therefore impacts to the species are predicted to be negligible.

Brush-tailed Phascogale (*Phascogale tapoatafa tapoatafa*) has a moderate potential to occur at sites considered containing larger and continuous areas of woodland habitat that are connected to other woodland areas in the landscape, particularly those areas containing large trees and hollows. The species has extensive home range sizes, ranging from 30-60 ha for females and over 100 ha for males. Suitable habitat has been recorded at Seymour Avenel Road Overbridge (Seymour), Hume Highway Seymour Precinct (Seymour) and Hume Highway Tallarook Precinct (Tallarook). In consideration of the species home ranges, the recorded habitat is likely to be part of a home range for a small number of individuals. Vegetation loss has potential to affect movement of these individuals within a home range and for individuals dispersing through the landscape, which can potentially isolate habitat areas. The loss of vegetation may impact on the local population.

Powerful Owl (*Ninox strenua*) has a moderate potential to occur at sites that area considered part of the Victorian Temperate Woodland Bird Community, are contiguous with other woodland habitats and with areas likely to contain suitable areas with prey species, mainly possums and gliders, and availability of nesting and roosting sites, in particular hollow-bearing trees. Habitat has been recorded at Seymour Avenel Road Overbridge (Seymour), Hume Highway Seymour Precinct (Seymour) and Hume Highway Tallarook Precinct (Tallarook). Similarly to the Barking Owl, the Powerful Owl has extensive areas for home ranges, between 400 ha to 1,500 ha depending on the density of prey species and den sites. Other habitat areas, which are likely to provide a greater density of den sites and prey species occur in the surrounding landscape. Habitat within the identified areas is likely to be used occasionally and only by a few individuals where home ranges overlap with the project areas. In consideration of the home range sizes of the species, it is unlikely that a population of the species persist. Therefore, impacts to the species is unlikely to be significant, being generally limited to the loss of resources and foraging areas within the home range of a small number of individuals.

Squirrel Glider (*Petaurus norfolcensis*) has a moderate potential to occur at sites considered containing larger and continuous areas of woodland habitat that are connected to other woodland areas in the landscape, particularly those areas containing large trees and hollows. Suitable habitat has been recorded at Seymour Avenel Road Overbridge (Seymour), Hume Highway Seymour Precinct (Seymour) and Hume Highway Tallarook Precinct (Tallarook). Vegetation loss has potential to affect movement of individuals through the landscape and potentially isolate areas of habitat. The loss of vegetation may impact on the local population.

Woodland Bird species: FFG Act listed woodland bird species, which have potential habitat within the project areas and have similar habitat requirements and impacts are provided in Table 16. These species were not recorded during current surveys and only have scattered previous records within the vicinity of the project areas. However, there is potential for several woodland bird species to be present as individuals or small family groups. Attachment F (Woodland bird context map) displays the other potential habitat in the area, including the known important habitat in Puckapunyal Army Base and Mangalore Conservation Reserve (Attachment F –Woodland bird report). Source populations of woodland birds are likely to be present in these areas, and therefore may utilise the habitat. However, the loss of habitat within the project areas is not expected to significantly affect the ability of most

species to move through the landscape to and from these important habitat areas. Therefore, although some local impacts will occur that could result in loss of foraging areas and restricted movements between habitat, particularly for smaller birds, in general impacts to woodland bird species is not considered to be significant.

Table 16: Listed woodland bird species

Common name	**Scientific name**	***Project Areas***
Apostlebird	*Struthidea cinerea*	Short Street Overbridge (Broadford) Marchbanks Road Overbridge (Broadford) Hume Highway Tallarook Precinct (Tallarook) Seymour Avenel Road Overbridge (Seymour) Hume Highway Seymour Precinct (Seymour)
Bush-stone Curlew	*Burhinus grallarius*	
Diamond Firetail*	*Stagonopleura guttata*	
Grey-crowned Babbler	*Pomatostomus temporalis*	
Ground Cuckoo-shrike	*Coracina maxima*	
Hooded Robin	*Melanodryas cucullata*	
Speckled Warbler	*Chthonicola sagittata*	
Turquoise Parrot	*Neophema pulchella*	

**recorded at overhead powerline site 60*

Impacts to woodland-dependent fauna species (Diamond Firetail) recorded at overhead powerline site 60 are unlikely to be significant, primarily due to the lack of trees and shrubs present due to maintenance requirements of the power lines and the flexibility of works to avoid impacts to habitat. Impacts to the species, and other woodland birds for overhead powerlines, is likely to be negligible through micro-siting of works to targeted existing cleared and disturbed areas.

Is mitigation of potential effects on indigenous flora and fauna proposed?

☒ NYD ☒ No ☒ **Yes** If yes, please briefly describe.

A CEMP will include specific mitigation controls to avoid impacts to indigenous flora and fauna. The conservative estimate of tree loss is expected to be reduced through mapping of tree canopies, however there will be a focus on retaining large old trees throughout all phases of detailed design and construction. It is considered likely any regulatory approvals obtained for the project will include a requirement to develop a CEMP to the satisfaction of the relevant regulator. The CEMP will include but not be limited to the following:

- No-go zones to protect significant flora, habitat and communities
- Weed hygiene measures
- Tree root protection zones / use of matting to protect roots
- Pre-clearing checks for nests and fauna
- Egress monitoring and management in excavations for fauna
- Dust monitoring and management

The CEMP must include clear roles and responsibilities, monitoring, audit and assurance processes, reporting and incident notifications.

Other information/comments? (eg. accuracy of information)

13. Water environments

Will the project require significant volumes of fresh water (eg. > 1 Gl/yr)?

☐ NYD ☒ No ☐ Yes If yes, indicate approximate volume and likely source.

Construction and operation of the project will not require significant volumes of freshwater.

Opportunities to use rain-water during construction will be dependent on potential catchment areas, project duration and weather. Alternative water sources for construction could include direct extraction from local water sources (subject to license approvals and seasonal restrictions) or direct purchase from local water authorities.

Where possible the use of recycled water will be considered for construction use. The volumes of construction water required for each enhancement site will vary depending on the scope of works, the optimum moisture content of imported and site generated materials and the weather conditions.

Will the project discharge waste water or runoff to water environments?

☐ NYD ☐ No ☒ Yes If yes, specify types of discharges and which environments.

As this is an operational rail corridor, existing stormwater discharge points will be maintained and utilised at completion of the project works. Modified discharge points to be constructed occur at:

- Wangaratta Station precinct (discharging to One Mile Creek)
- Murray Valley Highway (connecting to existing drainage within the corridor)

State Environment Protection Policy (SEPP) (Waters of Victoria) quality targets for modified discharge points designed for the project will be confirmed with the relevant catchment management authority (CMA) and achieved using water quality control devices including:

- Vegetated channels
- Bio-swales
- Sediment traps and bio-retention basins
- Proprietary stormwater quality improvement devices.

SEPP water quality targets will be confirmed during detailed design with relevant CMA and modelling (e.g. MUSIC), to verify water quality impacts for modified discharge points where risk assessments identify the requirement for further studies.

Construction activities will not require significant discharge of wastewater or runoff to water environments as site controls will be installed so that no uncontrolled releases from dewatering activities or other releases of wastewater to the environment occur. Best practice construction management is to be applied to protect water environments. Contractors will be required to develop a CEMP which includes:

- Requirements of any Works on Waterways permits and SEPP Waters
- Guidelines and practices such as the EPA Publication 480, *Environmental Guidelines for Major Construction Sites* in particular:
    - Erosion and sediment control
    - Management of contaminated stormwater
    - Procedures for working in waterways and floodplains
    - Dewatering management procedures during construction as required.

During construction the management, treatment and disposal of construction-generated water and run-off will be managed based on site specific considerations. Standard mitigation measures to be implemented by the project will include:

- Application for a ‘Permit to discharge’ and compliance with any permit conditions
- Construction-generated water should be contained within the site and as a minimum passed through primary and secondary settlement tanks to remove any sediment before being considered for removal off-site
- Reuse of wastewater rather than discharging to the environment e.g. dust suppression during construction works.

Are any waterways, wetlands, estuaries or marine environments likely to be affected?

☐ NYD ☐ No ☒ Yes If yes, specify which water environments, answer the following questions and attach any relevant details.

Enhancement Sites and Track Slews

There are several waterways and drainage lines located in the project areas, though limited number that may be directly impacted by construction works. Table 17 below describes work activities and potential impacts to waterways. Works to signal gantries are not located near any waterways.

Overhead Powerlines

There are nine overhead powerline project areas that include waterways or drainage systems. Direct impacts to waterways are expected to be avoided through micro-siting the power pole works and through management of temporary construction activities including standard sediment and erosion control practices.

There are no wetlands, estuaries or marine environments likely to be affected by the project.

Table 17: Enhancement Sites and Track Slew work activities in proximity to waterways

Site Name (Chainage)	Location of closest waterway	Is a Waterway in the Project Area?	Proposed Works in or adjacent to waterway	Assessment of potential impacts to waterways
Enhancement Sites				
Broadford-Wandong Road Overbridge, Wandong (55.470)	Unnamed watercourse (tributary of Dry Creek) passes through the western section of project area. Dry Creek located immediately east.	Unnamed water course passes beneath Epping-Kilmore Road.	New road bridge site works, however no major civil construction activities proposed in proximity to the watercourse. The existing watercourse crossing and its associated cross drainage structures are not anticipated to be affected by the proposed design as only minor road level adjustments (road raising) and minor horizontal realignment is proposed. The existing cross drainage is to be maintained and works will include the construction of a retaining wall on top of the drainage to avoid batter from spilling into the water course. During construction the project will minimise the footprint of works in the tributary.	**Negligible impact.** Minor works may be required to extend the existing cross drainage. This is not expected to require any significant impact to the bed or banks of the creek and there are no threatened species within the proposed project area.
Short Street, Broadford (76.596)	Sunday Creek approx. 200m west of Short Street work area.	Yes - tributary is located in project area	Track lowering works. A drainage design was not available at the time of preparation of this Referral, but it is likely the point of discharge will be an *existing* piped drainage network.	**Low impact predicted**. Project works yet to be confirmed in detail, but it is not expected to result in direct impact to the bed or banks of the creek.
Marchbanks Road, Broadford (77.978)	Two tributaries to Sunday Creek traverse the project area. Sunday Creek is located 220m north west of the bridge.	Yes - tributary is located in project area	New road bridge site works, however no major civil construction activities proposed in proximity to the watercourse. The existing watercourse crossings and their associated cross drainage structures are not anticipated to be affected by the proposed design as minor vertical alignment adjustments (road raising) and minor horizontal realignment is proposed. The culverts may require an extension.	**Negligible impact.** Minor works may be required to extend the existing culvert however this is not expected to require any significant impact to the bed or banks of the waterway.

Hume Highway, Tallarook Precinct (103.841)	Dabyminga Creek crossing approx. 400m north-east of bridge. Unnamed water course crosses investigation area.	Yes - tributary is located in project area	Track lowering site works, however no major civil construction activities proposed in proximity to the waterway. *Existing* overland flows discharge to Dabyminga Creek. The works propose to maintain this with no modifications to the tributary proposed.	**No impact.** The creek will not be directly impacted by these works as there are no works being undertaken within the waterway or embankment.
Seymour-Avenel Road, Seymour (102.392)	Unnamed watercourse (tributary of Goulburn River).	Yes - tributary is located in project area	New bridge site works, however no major civil construction activities proposed in proximity to the watercourse. The existing watercourse crosses the road via a culvert and is not anticipated to be affected by the proposed design as only minor vertical alignment adjustments (road raising) and minor horizontal realignment is proposed. The culvert may require an extension.	**Negligible impact.** No bridge works are predicted to impact on the waterway. There may be a requirement for an extension to the existing culvert (to be confirmed during detailed design). However, this is not expected to require any significant impact to the bed or banks of the waterway.
Beaconsfield Parade (218.664)	An unnamed water course (tributary of Show Creek) north of proposed site.	No	Bridge replacement works. A drainage design was not available at the time of preparation of this Referral, but it is likely the point of discharge will be an *existing* piped drainage network.	**Negligible impact.** Project works yet to be confirmed, but it is not expected to require any significant impact to the unnamed watercourse.
Wangaratta Precinct (234.002)	One Mile Creek	Yes	No major civil construction activities proposed in proximity to the watercourse. The proposed rail drainage system works, to support track lowering works, include the installation of piped drain with the construction of a concrete apron and head wall at the discharge point into One Mile Creek.	**Negligible impact.** Replacement of Green Street bridge is the closest civil works proposed to the waterway. However, due to distance between the bridge works and the waterway, no significant impacts are predicted to the waterway. New drainage works are predicted to have negligible impact to the waterways at this location. Under the existing conditions storm water discharges to One Mile Creek via cess drains (overland flow). Under the proposed conditions storm water discharges to One Mile Creek through piped drainage. Anticipated there will be negligible impacts to One Mile Creek.
Murray Valley Highway (285.087)	An unnamed water course (tributary of Dry Creek).	Yes	Track lowering works proposed. The proposed stormwater drainage design for this site will connect into drainage in the existing rail corridor.	**No impact.** New drainage works are predicted to have no impact.
Track Slews				

Track Slew 5 - Wallan Loop	Merri Creek approximately 10m to east of the rail reserve	No	Track slewing up to 368mm. Proposed works to occur to the west of the rail reserve and the creek is located to the east.	**No impact.** The creek will not be directly impacted by these works as there are no works being undertaken within the waterway or embankment.
Track Slew 6 - Tallarook Passing Lane	Unnamed water course (tributary to Dabyminga Creek) crosses investigation area	Yes - tributary is located in project area	Track slewing of up to 123mm. Temporary construction vehicle access is proposed across the tributary to the track slew work area and therefore a temporary vehicle crossing would be required to be installed at the waterway. During construction the project will minimise the footprint of works in the tributary.	**Low impact predicted.** Minor slew of both the rail main line and passing lane required. No culvert extension is required therefore it is predicted that there will be negligible impact from construction activities to the waterway at this location. Temporary vehicle access across a drainage line would occur.
Track Slew 9 - Seymour to Mangalore	Unnamed watercourse (tributary of Goulburn River) crosses the work in 2 locations	Yes - tributary is located in project area	Track slewing of up to 152mm. Potential culvert extensions at watercourse crossing locations. A temporary vehicle crossing may also be required to provide access from adjacent properties into the rail reserve to undertake the track slew works.	**Low impact predicted**. Minor works may be required to extend the existing culvert and temporary vehicle access across a waterway may be required. However, this is not expected to result in any significant impact to the bed or banks of the waterway.

**Note*: the Albury to Ilabo Inland Rail project works involve modifying the existing rail bridge structure at the Murray River, with no physical works in the waterway or on the riverbanks. No works are planned in Victoria. The project area at the Murray River is limited to provision of a temporary construction laydown and rail access via hi-rail machinery.

Are any of these water environments likely to support threatened or migratory species?

☐ NYD ☐ No ☒ **Yes** If yes, specify which water environments.

Works near waterways associated with Enhancement Sites are minor in nature and largely associated with small drainage lines. Site based ecological investigations completed for Enhancement Sites have not identified any suitable habitat for threatened or migratory species, associated with water environments (Attachment C – Biodiversity Assessment).

Two of the overhead powerline project areas contains suitable habitat for aquatic threatened species – Merri Creek (site number 29) which has suitable habitat for Growling grass frog and an unnamed waterway south of Chiltern (site number 109) which has suitable habitat for Sloane's froglet. It is expected that these aquatic habitats can be readily avoided through micro-siting of power poles and limiting the construction footprint.

Are any potentially affected wetlands listed under the Ramsar Convention or in 'A Directory of Important Wetlands in Australia'?

☐ NYD ☒ **No** ☐ Yes If yes, please specify.

There are no Ramsar Wetlands potentially directly or indirectly affected by the Project. The Port Phillip (Western Shoreline) and Bellarine Peninsula Ramsar Site is the closest to the project areas. Overhead Powerline Site No. 127 located in Beveridge is approx. 50 km from the Ramsar site.

Could the project affect streamflows?

☐ NYD ☐ No ☒ **Yes** If yes, briefly describe implications for streamflows.

While there are several watercourses in proximity to the project work areas, as identified in Table 17 (above), there will be very limited instream works required to support construction of the upgraded infrastructure.

There are several sites where extensions of existing rail and road culverts may be required (refer to

Table 17). During construction, there may be temporary impacts on streamflows during installation of the culverts, however once works are completed, streamflows will resume.

Some impacts associated with temporary construction vehicle access at select watercourses may occur, but temporary crossings can be appropriately sited, designed and constructed to maintain flows. Appropriate measures will also be implemented during construction to prevent erosion and sediment impacts on waterways.

Given the limited nature of works in or adjacent to waterways, impacts on stream flows are predicted to be negligible.

Could regional groundwater resources be affected by the project?

☒ NYD ☒ **No** ☒ Yes If yes, describe in what way.

Track lowering will involve relatively shallow excavations with the maximum depth of excavation ranging from 2.2 to 2.7 m. Groundwater may be encountered during excavation works for proposed track lowering at sites shallow groundwater levels. There is also the potential for encountering contaminated groundwater at these sites.

Limited groundwater investigations have been undertaken as part of geotechnical investigations for the project (Coffey, October 2019). These investigations included:

- review of depth to groundwater using data sourced from the Visualising Victoria's Groundwater database (www.vvg.org.au) (DELWP database)
- estimating the areas where groundwater occurs at depths less than 5 metres below ground surface (mbgs)
- installation and monitoring of groundwater standpipes at select locations

The DELWP database indicates that depth to groundwater at the track lowering sites ranges from less than 5 to 50 metres below ground surface (mbgs), however in general, the depth is within the range 5 to 20 mbgs.

The preliminary assessment of groundwater and potential for impacts to groundwater from track lowering works are summarised in Table 18 below.

Given the limited depth of excavation and low risk of impacts to groundwater at the individual project areas, it is unlikely that regional groundwater resources will be impacted by the project.

Table 18: Depth to groundwater at Track Lowering project sites

Project location (Track Lowering)	**Maximum depth of excavation**	**Depth to GW (DELWP)**	**Depth to GW (Lotsearch)***	**Phase 1 groundwater observations (Coffey 2019)**	**Predicted impact to groundwater**
Wangaratta station precinct	2.2m	5 – 20m	No data available	No data available	It is unlikely that the depth of track lowering will impact on groundwater based on the DELWP groundwater atlas data.
Murray Valley Highway Overbridge, Barnawartha North	2.3m	0 – 10m	Less than 5mbgs (20% of the site)	Groundwater was encountered in one borehole during drilling at depths of 3.2mbgs, 6.52mbgs and one location at 1.7mbgs.	Based on investigations and Lotsearch data, there is potential that track lowering may impact on groundwater in some locations. However, no water was encountered during most

				Groundwater was not encountered at any of the other boreholes during the geotechnical fieldwork.	geotechnical drilling investigations, except for one location, and as only 20% of the project area was identified as being <5mbgs, the risk assessment matrix for this site has this identified it as Low risk for groundwater.
Hume Highway, Tallarook precinct	2.7m	5 – 20m	Less than 5mbgs (13% of the site)	A groundwater standpipe was installed and monitored on 13 June 2018 and groundwater level was measured at a depth of 13.75 mbgs (RL 173.05 mAHD).	It is unlikely that the depth of track lowering will impact on groundwater based on the DELWP groundwater atlas data and the recorded depths.
Hume Highway, Seymour precinct	2.4m	5 – 10m	Less than 5mbgs (28% of the site)	A groundwater standpipe was installed and was monitored on 13 June 2018 and groundwater was not encountered.	It is unlikely that the depth of track lowering will impact on groundwater based on the DELWP groundwater atlas data and lack of groundwater recorded on site.

** Percentage of site with groundwater less than 5mbgs was derived from individual Lotsearch reports for each site (Coffey 2019).*

Could environmental values (beneficial uses) of water environments be affected?

☒ NYD ☒ **No** ☒ Yes If yes, identify waterways/water bodies and beneficial uses (as recognised by State Environment Protection Policies)

Major construction activities are not proposed across or immediately adjacent to any waterways in the project areas. Works are limited to minor extensions of culverts and upgrading of existing drainage discharge points. SEPP Water quality targets for upgraded discharge points will be confirmed with the relevant catchment management authority and are proposed to be achieved using water quality control systems which will be confirmed during detailed design.

There is limited aquatic habitat within the project areas which would be impacted by project activities. Site environmental controls can be applied to mitigate potential impacts on aquatic habitats and consequently no impact to beneficial uses of the water environments are predicted.

During construction, works will be required to comply with SEPP (Waters) for the protection of beneficial uses of waterbodies. Contractors will be required to undertake construction works in accordance with a CEMP to manage identified environmental risks to water quality and streamflows. The CEMP will contain requirements and measures for monitoring and reporting any construction related impacts to waterbodies.

Could aquatic, estuarine or marine ecosystems be affected by the project?

☐ NYD ☒ **No** ☐ Yes If yes, describe in what way.

The Project intersect two named waterways and drainage lines. The two main waterways are:

- Sunday Creek is present within the Short Street Overbridge in Broadford. The waterway is ephemeral. Sunday Creek is a tributary of the Goulburn River.
- One Mile Creek at Wangaratta Precinct. The creek flows in a north south direction through residential areas of Wangaratta. The waterway has a low-flow shallow channel and bank.

The Project passes close to, but does not cross, several minor waterways and drainage lines. Key waterways immediately adjacent to the project areas include Merri Creek, Murray River and tributaries associated with Dry Creek, Goulburn River, Eight Mile Creek and Show Creek.

A database review of Groundwater Dependent Ecosystems (GDEs) within the project areas where track lowering is proposed was undertaken to assess the potential for impacts on groundwater resources and therefore the ecosystems that are dependent on these resources. The VicMap GDE atlas data identifies that at two track lowering sites (Hume Hwy, Tallarook and Hume Hwy, Seymour) there are scattered mapped GDE near the project works.

Whilst the desktop assessment identified potential GDEs in the area, field-based ecological assessments completed for the track lowering project areas have not identified any aquatic ecosystems, such as wetlands, associated with surface water or GDEs as being likely to be affected by the project.

Is there a potential for extensive or major effects on the health or biodiversity of aquatic, estuarine or marine ecosystems over the long-term?

☒ **No** ☐ Yes If yes, please describe. Comment on likelihood of effects and associated uncertainties, if practicable.

There are limited works occurring in proximity to aquatic and estuarine environments and ecological assessments undertaken for the project did not identify any significant impact on aquatic or estuarine environments.

Based on the limited nature of the works proposed at or adjacent to each waterway, the shallow nature of the track lowering works, the ability to incorporate design treatments and/or apply site-based construction management techniques to avoid and minimise impacts, it is not expected that extensive or major effects on the health or biodiversity of aquatic and estuarine ecosystems would occur.

Is mitigation of potential effects on water environments proposed?

☐ NYD ☐ No ☒ **Yes** If yes, please briefly describe.

The CEMP will include:

- Requirements of any Works on Waterways permits and SEPP (Water)
- Guidelines and practices such as the EPA Publication 480, *Environmental Guidelines for Major Construction Sites* in particular:
    - Erosion and sediment control
    - Management of contaminated stormwater
    - Procedures for working adjacent to waterways and floodplains
    - Spill management procedures
    - Contingency measures in the event groundwater is intercepted during construction.

Specific site-based controls would include:

- Minor containers storing hydrocarbons or chemicals will be stored on bunded pallets or in fully bunded areas at all times
- Refuelling of mobile plant and equipment on designated hardstand areas and/or provided with temporary bunding to contain any spills
- Designated wash-out pits for concrete trucks or pumps
- Retention of existing vegetation where feasible
- Reinstatement of vegetation in cleared areas as soon as practicable
- Sediment fences and bunding during construction works to prevent erosion and sedimentation of waterways and their embankments.
- Stormwater drainage will be upgraded to piped systems for a number of drainage systems and

upgrades to discharge points to reduce infiltration from road and rail infrastructure areas into the groundwater systems.
- On site spill kits available

Other information/comments? (eg. accuracy of information)

The groundwater assessment is largely based on desktop information and levels may vary due to seasonal changes and other factors. Fluctuations in the groundwater table and seepage could occur due to rainfall, weather conditions and other factors. Further assessment of groundwater risks are proposed during detailed design.

14. Landscape and soils

Landscape

Has a preliminary landscape assessment been prepared?

☒ **No** ☐ Yes If yes, please attach.

Is the project to be located either within or near an area that is:

Subject to a Landscape Significance Overlay or Environmental Significance Overlay?

☐ NYD ☐ No ☒ **Yes** If yes, provide plan showing footprint relative to overlay.

The following Environmental Significance Overlays have been identified:

- Broadford-Wandong Road Overbridge – Environmental Significance Overlay – Schedule 3 (Watercourse Conservation) (Mitchell Planning Scheme)
- Marchbanks Road Overbridge – Environmental Significance Overlay – Schedule 3 (Watercourse Conservation) (Mitchell Planning Scheme)
- Overhead Powerline site numbers 33, 34, 35, 36, 38, 41, 50, 108, 109, 110, 111, 112, 113 and 118 - Environmental Significance Overlay (various).

No Significant Landscape Overlays occur in the project areas.

A planning overlay mapbook is provided in Attachment B.

Identified as of regional or State significance in a reputable study of landscape values?

☐ NYD ☐ No ☒ Yes If yes, please specify.

The Beaconsfield Parade overbridge is located in the Glenrowan Heritage Precinct. The precinct is recognised for its landscape values, which is an integral component of the historical significance of the site. The Glenrowan Heritage Precinct Conservation and Landscape Management Plan (draft) (Lovell Chen 2018) documents the landscape values and conservation policy, as well as a Landscape Technical Guideline. This management plan identifies the significance of the landscape, vegetation and topography of the historic landscape. The policy objective to "conserve and enhance the historic landscape character of the Glenrowan Heritage Precinct" directly influenced the selection of the preferred design solution of a bridge replacement rather than track lowering which would have resulted in permanent modification of the landscape.

The Murray River is a nationally significant waterway. While the project area near the Murray River is not identified in any specific studies related to landscape values, it is recognised that there are intrinsic landscape values associated with the Murray River that need to be respected.

No permanent works are planned in Victoria near the Murray River. The adjacent Inland Rail project in NSW, the proposed Albury to Illabo project, includes minor bracing modifications to the upper deck of the bridge. No works in the watercourse are planned. To facilitate the minor bracing modifications, a temporary construction laydown area on the Victorian side of the bridge forms part of the Project area near the bridge, where access to the bridge will also be provided via high-rail. The small laydown area is approximately 50 m from the watercourse in an area devoid of vegetation. No permanent impact on the Murray River landscape values are predicted.

Within or adjoining land reserved under the *National Parks Act 1975*?

☐ NYD ☒ No ☐ Yes If yes, please specify.

Within or adjoining other public land used for conservation or recreational purposes?

☐ NYD ☐ No ☒ Yes If yes, please specify.

The following project areas are adjacent to public land used for conservation and recreational purposes:

- The project area for Short Street track lowering site adjoins the Broadford Bowling Club recreation reserve
- Track Slew Investigation Area D is adjacent to the Tallarook Recreation Reserve, utilised by the Tallarook cricket club.
- The Wangaratta Station Precinct project area adjoins the One Mile Creek Water

Frontage.
- The project area associated with the Murray River Bridge is adjacent to the Murray River.

Is any clearing vegetation or alteration of landforms likely to affect landscape values?
☐ NYD ☒ No ☐ Yes If yes, please briefly describe.

Is there a potential for effects on landscape values of regional or State importance?
☐ NYD ☐ No ☒ Yes Please briefly explain response.

The project works at the Glenrowan heritage precinct have potential to impact landscape values that have State and national importance. However, ARTC has worked closely with regulators, the community and heritage specialists to develop a suitable design response to the sites values.

Heritage Victoria has provided in-principle support for the proposed bridge replacement solution at Glenrowan (Attachment K). Further consultation will be undertaken with interested groups, the community and regulators during detailed design and as part of the heritage permit process.

Inland Rail have an overall Landscape & Rehabilitation Framework (0-0000-900-ELE -00-GU-0001_0) (the Framework) document that supports the Landscape and Rehabilitation Strategy (0-000-ELE-00-ST-0001)(The Strategy). The Framework provides guidance for Inland Rail projects in detailed design and construction. Performance outcomes outlined in this Framework are to inform subsequent project specific completion criteria, which are to be developed by the appointed designer team during the detailed design. The Framework and Strategy documents will form part of the Urban Design Framework (UDF) and Guidelines (UDG) documents developed specific for the Project. The aim of these document is to achieve high quality urban design outcomes which support the social, cultural, economic and environmental health and well-being of communities along the North East Rail Line, whilst minimising adverse impacts which may result from the proposed works.

Is mitigation of potential landscape effects proposed?
☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

Design of the new bridge at Beaconsfield Parade, Glenrowan will be sympathetic to the landscape and aim to improve heritage interpretation opportunities in accordance with the Glenrowan Heritage Precinct Conservation and Landscape Management Plan. Further details regarding the works in the heritage precinct are provided in Section 15 of this referral.

More generally, land that is subject to temporary disturbance as a result of the project works is to be rehabilitated to a level commensurate with the underlying land use and in consideration of any potential habitat, using the following principles:

- Species selection to consider potential for woody vegetation to foul rail track (average height = distance from track)
- No impact to line of sight in the road and rail reservations
- Utilisation of species to prevent soil erosion from disturbed sites, including use of a ‘cover crop’ of rapidly germinating and sterile grasses, where required
- Utilise locally indigenous species, where possible
- Public space (e.g. council parks), rehabilitation to be determined in consultation with the relevant local authority and community
- Private land, rehabilitation consistent with land access agreements negotiated by ARTC
- Where native vegetation and fauna habitat was removed, utilise native vegetation for revegetation and incorporate appropriate habitat features (e.g. rocks, logs) relevant to the species.

Other information/comments? (eg. accuracy of information)

n/a

Note: A preliminary landscape assessment is a specific requirement for a referral of a wind energy facility. This should provide a description of:

- The landscape character of the site and surrounding areas including landform, vegetation types and coverage, water features, any other notable features and current land use;
- The location of nearby dwellings, townships, recreation areas, major roads, above-ground utilities, tourist routes and walking tracks;
- Views to the site and to the proposed location of wind turbines from key vantage points (including views showing existing nearby dwellings and views from major roads, walking tracks and tourist routes) sufficient to give a sense of the overall site in its setting.

Soils

Is there a potential for effects on land stability, acid sulphate soils or highly erodible soils?

☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

Potential for effects on land stability

Major civil construction activities for the project will occur largely within existing road and rail corridors. Excavation works are primarily associated with the track lowering sites and some bridge works. Potential land stability impacts are expected to be minor and are considered in the design of earthwork batters and retaining walls for the new civil works.

Acid sulfate soils

According to the Atlas of Australian Sulfate Soils (CSIRO, 2017) there is a very low to low probability of acid sulfate soils existing across the project areas (Class B and C). The Class A soils (high probability >70% of acid sulfate soils) occur within the eastern third of the Murray River Underbridge (Albury) project area (Coffey 2019). No works are required in this area therefore disturbance of ASS is highly unlikely.

Highly erodible soils

An erosion management overlay (EMO) is applied broadly across the Mitchell Shire planning scheme, including in project areas within this municipality. The EMO requires a permit to be obtained for buildings and works and vegetation removal (native and non-native). Potential erosion impacts on land affected by the EMO, and more generally across the project, will be managed through standard mitigation measures during construction such as minimising stripping and topsoil removal, use of bunding and sediment fences during construction works.

Are there geotechnical hazards that may either affect the project or be affected by it?

☐ NYD ☒ **No** ☐ Yes If yes, please briefly describe.

The topography of the project area is generally flat and large-scale landslips are not considered likely to occur.

Other information/comments? (eg. accuracy of information)

n/a

15. Social environments

Is the project likely to generate significant volumes of road traffic, during construction or operation?

☐ NYD ☒ No ☐ Yes If yes, provide estimate of traffic volume(s) if practicable.

An increase in traffic volumes during construction will be short term and are not expected to be significant. Road traffic generated during construction, including traffic generated by construction vehicles, will be typical of construction on a linear corridor.

Where Rail Line closures are required to complete on-track works during construction, replacement buses will be used. Consultation with councils and communities continues as designs are refined and construction plans further developed.

Temporary road diversions or closures and mobilisation of heavy equipment to and from the sites will be managed under a traffic management plan prepared in consultation with relevant road authority and Council. Works will be coordinated to minimise impacts on the adjacent road and pedestrian networks.

Operational traffic impact assessments at the bridge replacement sites have determined that there the proposed works are unlikely to materially impact on the permanent operations of the road network.

Is there a potential for significant effects on the amenity of residents, due to emissions of dust or odours or changes in visual, noise or traffic conditions?

☐ NYD ☒ No ☐ Yes If yes, briefly describe the nature of the changes in amenity conditions and the possible areas affected.

Visual amenity

Three of the five track lowering sites are in regional locations with no immediate residential communities. The fourth track lower is in the Wangaratta Station precinct and therefore visual changes will be observed in the context of the existing rail infrastructure.

New bridges will be between 1.8 m and 2.5 m higher than the existing bridge structures. The new bridges will be constructed to comply with modern engineering standards and will be designed to be sympathetic with the surrounding environment. Feedback from ongoing consultation with local councils and community will be factored into final design treatments.

An urban design specialist will also be engaged during the detailed design phase to identify design opportunities to improve on the existing environment and complement the surrounding area. ARTC recognises the importance of urban design and will be commissioning an independent peer review of the initial assessment to ensure that the best visual amenity outcomes are identified.

Air quality

Emissions from the operation of double-stacked freight trains are not expected to increase significantly over the existing emissions (without project scenario) primarily due to the use of the same number of locomotives per service and only a slight increase in train frequency. Calculations of PM2.5, PM10 and NOx emissions indicate that emissions would have a very minor contribution (<1%) to local air quality. SOx and VOC emissions will be even more minor compared to particulate and NOx emissions therefore no adverse impacts to air quality are expected to occur as a result of the project (refer to Attachment I).

Dust from construction activities and odour from mechanical plant may occur during construction but are not expected to be significant or to have extensive or major effects on the amenity of residents.

Contractors will develop and implement a project CEMP, which includes measures to minimise dust and other emissions in accordance with EPA Publication 480, Environmental Guidelines for Major Construction Sites (EPA 1996) including dust suppression measures.

Noise and Vibration

Operational rail and traffic noise assessments for the project have shown that there is no potential for significant effects on the amenity of residents (refer to **Attachment G**). A noise and vibration assessment has been undertaken at enhancement sites in accordance with the Inland Rail Noise and Vibration Management Strategy for the Inland Rail project. The strategy includes assessment against the criteria provided in the NSW EPA Rail Infrastructure Noise Guideline (RING). A decision to assess against the RING criteria was made to be consistent with the other Inland Rail projects and because the criteria provided in NSW policy is the most stringent among the states. The NSW RING criteria is largely consistent with the Victorian Passenger Rail Infrastructure Noise Policy (PRINP) although the PRINP does not apply for freight rail upgrade projects and the RING is more stringent in the application of the redeveloped criteria. Additionally, where passenger rail tracks are proposed to be slewed, noise levels were assessed against trigger levels provided in the PRINP and; where roads are being realigned, road traffic noise has been calculated and modelled in accordance with the VicRoads Traffic Noise Reduction Policy (2005).

As part of the assessment, baseline noise monitoring has been undertaken across the alignment to characterise and understand existing noise levels and to verify calculated rail noise levels used in modelling. Modelling of noise levels was undertaken for the first year of operations (2025) and the year that the double-stacked freight trains will be operating at full capacity (2040) to predict potential noise and vibration impacts on the existing environment.

The preliminary results of the operational rail noise assessment indicate that noise abatement should be considered at Wangaratta due to predicted noise levels above the trigger levels provided in RING (see Table 19). Traffic noise as a result of bridge replacements are not predicted to result in noise levels that require further consideration of noise abatement.

A number of mitigation options will be considered as the design is progressed into detailed phase. Consultation with the identified affected sensitive receptors will be undertaken to discuss noise abatement options and discuss the results of the noise modelling.

Table 19 RING trigger levels for considerate of noise abatement

Type of development	Noise trigger levels	
	Day (7:00am to 10:00pm)	Night time (10:00 pm to 7:00am)
Redevelopment of existing rail line*	Development increase existing LAeq (period) rail noise levels by 2dB or more, or existing LAmax rail noise levels by 3dB or more and predicted rail noise levels exceed:	
	LAeq (15 hour) 65 dBA	LAeq (15 hour) 60 dBA
	LAFmax dBA	LAFmax 85 dBA

* A redeveloped line is a development on land that is within an existing operational rail corridor, where a line is or has been operational or is immediately adjacent to an existing operational rail line which may result in the widening of an existing rail corridor.

Monitoring during the first year of operation will be used to verify the noise and vibration modelling results and to demonstrate that levels do not exceed the criteria in RING.

As part of ongoing operations, the ARTC Rail Noise Abatement Program (RNAP) will continue to be used to assess rail operations.

Construction noise is unlikely to result in a significant effect on the amenity of residents. Noise originating from construction activities will be short term and localised in the specific work areas. Works at Enhancement Sites are likely to require periods of 24-hour construction to maximise activities during approved rail occupations and road closures. Contractors will be required to undertake targeted community and stakeholder engagement in the lead up to and during any instances of night-time works and/or 24- hour construction periods.

During construction of the project, Contractors will be required to develop and implement a project CEMP, which includes managing construction activities to minimise construction noise in accordance with EPA Noise Control Guidelines Publication 1254 October 2008 (EPA 1254). Management measures may include to:

- Scheduling of noisy activities to normal construction hours as far as practicable
- notify residences in advance of works (as appropriate)
- provide residents with a contact number for complaints / comments.

Traffic

The project is not expected to significantly impact local user access, broader road network users and heavy vehicle routes. Traffic impacts to public transport networks, general vehicles access and Heavy Vehicles Networks adjacent to the work sites are minimal and can be managed through minor detours and construction scheduling. The redistribution of traffic throughout adjacent road networks at each site is within the capacity of the surrounding roads.

Where possible, road traffic impacts will be mitigated by keeping the existing bridge open for as long as possible until tie-in to existing road networks must be completed. Proposed alternate routes/diversions will be designed to minimise disturbance and will form part of a traffic management plan.

Where Rail Line closures are required, replacement buses will operate during rail closure periods.

ARTC have engaged with emergency services to understand where the key emergency access routes are and potential risks associated with the project to ensure works can be managed so that the project will not exacerbate any risks with regards to access to and from areas during construction and operation. Consultation with the emergency services is ongoing.

Is there a potential for exposure of a human community to health or safety hazards, due to emissions to air or water or noise or chemical hazards or associated transport?

☐ NYD ☒ No ☐ Yes If yes, briefly describe the hazards and possible implications.

The potential dust, water, noise and air emissions expected during construction is typical of rail and road projects and can be readily managed by standard mitigation measures.

The use, storage and management of chemical hazards will be undertaken in accordance with relevant regulations, standards and best practice guidance to avoid any exposure to the health and safety of the community and environment.

During construction of the project, the project contractor will be required to develop and implement a CEMP and associated sub-plans. This will include waste and spoil management prepared in accordance with relevant regulations, standards and best practice guidance and may include:

- Spill kits available on site with all personnel instructed in their use
- Minor volumes of hydrocarbons or chemicals will always be stored on bunded pallets or in fully bunded areas
- Refuelling of mobile plant and equipment should be undertaken, where feasible, on designated hardstand areas or provided with temporary bunding to contain any spills
- Work instructions shall be prepared and issued to cover tasks and activities which may involve the discharge of hazardous materials (e.g. oil change of engines). The instructions shall specifically address:
    - The appropriate method for discharging waste materials
    - Actions to be taken in the event of unplanned discharge to drains and waterways.

Is there a potential for displacement of residences or severance of residential access to community resources due to the proposed development?

☐ NYD ☒ No ☐ Yes If yes, briefly describe potential effects.

There are two sites that require partial land acquisition of private rural properties. At Broadford Wandong, the final alignment and design of the new bridge will determine the extent of acquisition required. At Seymour Avenel, there is a small amount of land acquisition likely to be required to provide for new retaining walls and earthwork batters. The land acquisition at Seymour Avenel is unlikely to result in changes to the way the land is used. During detailed design phase of the Project, further opportunities to reduce the land acquisition will be explored. Based on the preliminary design, residents are unlikely to be displaced by proposed minor acquisition.

Construction activities can be managed with appropriate traffic management to avoid severance of residential access to community resources.

Maintenance of pedestrian access is a key consideration and solutions have been identified to mitigate potential impacts to pedestrians including:

- Wangaratta station: the permanent removal of pedestrian footbridges will be mitigated through the construction of a new pedestrian underpass maintaining an important connection within this large regional town.
- Anderson Street, Euroa: maintenance of pedestrian access to the Euroa Train station during construction of the adjacent Anderson Street Bridge.

Temporary partial and full road closures are to be managed through approved Traffic Management Plans including providing ongoing community and emergency service access in regional locations.

Are non-residential land use activities likely to be displaced as a result of the project?

☐ NYD ☒ No ☐ Yes If yes, briefly describe the likely effects.

The project works occur predominantly within the railway corridor and/or existing road reserves. Where possible temporary construction areas have been sited on land currently utilised for railway or road activities. Where additional construction areas are required, these are located on vacant or disturbed farming land, as far as practicable. The additional areas would be small to accommodate equipment and may be materials. The selected areas would not produce a permanent loss of agricultural areas. Most of the abutting landowners are cattle farmers and use their land for grazing rather than intensive agricultural.

The project works at Seymour-Avenel Road bridge may temporarily impact the operations of an adjacent meat-processing facility; however, a temporary access road will be provided to the facility throughout construction. Specific engagement with the business has occurred and is ongoing.

Public open spaces including recreational parklands located immediately adjacent to the rail reserve have been identified as potential temporary construction areas. Consultation with relevant local councils is ongoing regarding the short-term use of these sites, which would temporarily affect recreational resources available to the community. Reinstatement of these areas will occur with consultation with community and Councils.

Do any expected changes in non-residential land use activities have a potential to cause adverse effects on local residents/communities, social groups or industries?

☐ NYD ☒ No ☐ Yes If yes, briefly describe the potential effects.

Except for the acquisition of land required for the Project, any changes to non-residential land use activities because of the project will be temporary and will not cause any permanent adverse effects to local resident, communities, social groups or industries.

Is mitigation of potential social effects proposed?

☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

ARTC recognises its responsibility to deliver and operate Inland Rail with the least social impact possible, while enhancing the benefits Inland Rail will deliver to the people of Australia at both a local and national scale.

Ongoing consultation with the community, stakeholders and businesses will be used to understand how the project can enhance opportunities and manage potential impacts. Standard mitigation measures will be used to ensure environmental aspects such as noise and vibration, dust are managed appropriately.

Other information/comments? (eg. accuracy of information)

Nil.

Cultural heritage

Have relevant Indigenous organisations been consulted on the occurrence of Aboriginal cultural heritage within the project area?

☒ No If no, list any organisations that it is proposed to consult.
☐ Yes If yes, list the organisations so far consulted.

ARTC propose to consult with the following organisations in regard to cultural heritage management and the preparation of Cultural Heritage Management Plans (CHMPs):

- Aboriginal Victoria
- Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation
- Taungurung Clans Aboriginal Corporation
- Yorta Nation Aboriginal Corporation

The following traditional owner groups will also be consulted in regard to the project and management of cultural heritage, as either former or current RAP Applicants:

- Boon Wurrung Foundation Ltd
- Dhudhuroa Waywurru Nations Aboriginal Corporation
- Yaitmathang Indigenous Lands Incorporated
- Bunurong Land Council Aboriginal Corporation.

What investigations of cultural heritage in the project area have been done?
(attach details of method and results of any surveys for the project & describe their accuracy)

An Aboriginal Cultural Heritage Report has been prepared for the project and is included as Attachment J.

The desktop assessment included review of environmental context, ethnographic background, determination of the presence of registered Aboriginal cultural heritage places via search of the Victorian Aboriginal Heritage Register and identification of areas of Aboriginal cultural heritage sensitivity. A provisional archaeological sensitivity rating has been assigned to each study area.

The assessment includes advice on obligations under the *Aboriginal Heritage Act 2006*, including the need to prepare CHMPs. Preparation of CHMPs will require further detailed site-based investigations and consultation with relevant stakeholders. Preparation of CHMPs is proposed to be staged to align with the project's staged construction schedule.

Is any Aboriginal cultural heritage known from the project area?

☐ NYD ☐ No ☒ **Yes** If yes, briefly describe:

- Any sites listed on the AAV Site Register
- Sites or areas of sensitivity recorded in recent surveys from the project site or nearby
- Sites or areas of sensitivity identified by representatives of Indigenous organisations

No registered Aboriginal cultural heritage places are recorded in the project areas.

Six Aboriginal places are recorded within 200 m of the enhancement site project areas. These recorded places generally comprise of artefact scatters. Sites listed on the AAV Site register include:

- Seymour 17 (VAHR 7924-0036) is located 29.26 m from the Hume Highway Seymour Precinct project area. This site is a scarred tree, a yellow box tree with one scar.

- High Street Broadford 1 (VAHR 7923-0234) is located 79.10 m from the Marchbanks Road, Broadford project area. This site consists of an artefact scatter which is represented by a single silcrete artefact.

- High Street Broadford 2 (VAHR 7923-0235) is located 50.41 m from the Marchbanks Road, Broadford project area. This site is an artefact scatter which was represented by a single silcrete artefact that was found on the surface of soil.

- Glenrowan Siege Archaeological Project – 2008 (VAHR 8125-0420) is located 39.42 m from the Beaconsfield Parade, Glenrowan project area. This is a Low Density Artefact Distribution (LDAD) and consists of a single silcrete flake.
- ARTC Passing Lane 4 AS3 (VAHR 7923-0155) is located 201.17 m from the Signal Gantry 17, Broadford project area. This consists of five silcrete artefacts; three flakes, one core and one blade.
- ARTC Passing Lane 5 IA 1 (VAHR 7923-0157) is located 157.23 m from the Signal Gantry 21, Tallarook project area. This consists of one silcrete flake and four quartz flakes.

Twenty-two VAHR registered Aboriginal cultural heritage places are located within 200 m of the overhead powerline project areas, however none were recorded within the project areas. The registered places generally consistent of artefact scatters, with several scarred trees also recorded.

Waterways are the predominant form of Aboriginal cultural heritage sensitivity comprising 55 of the 61 areas Aboriginal cultural heritage sensitivity identified within the project areas, with 6 areas of sensitivity relating to registered cultural heritage places.

Are there any cultural heritage places listed on the Heritage Register or the Archaeological Inventory under the *Heritage Act 1995* within the project area?

☐ NYD ☐ No ☒ Yes If yes, please list.

There are 2 sites listed on the Victorian Heritage Register – Wangaratta Station Complex and the Glenrowan Siege Site. Enhancement works are proposed at each of these locations consisting of the following proposed works:

- Wangaratta Station Complex: track lowering and realignment, bride replacement and removal of two pedestrian footbridges and replacement with a pedestrian underpass.
- Glenrowan Siege Site: removal of the existing Beaconsfield Parade Bridge and replacement with a new open, piered structure bridge, aligned immediately south of the existing bridge.

At Wangaratta Station precinct, direct impacts to heritage fabric listed under the VHR registration will be avoided. Proposed works include the removal of two pedestrian footbridges (Docker Street and Cusack Street footbridges) and provision of a pedestrian underpass. The current Cusack Street footbridge is located within the extent of the VHR place but is not individually recognised in the place's VHR registration; however, the potential heritage impacts of the removal of the footbridge has been considered in the design development. A new replacement footbridge was considered however to meet current Australian design standards and to meet DDA compliance the structure would be visually imposing and change the visual landscape of the precinct detrimentally. Track lowering under the footbridge was also considered but this would require lowering that extends to the station, resulting in direct impacts on the heritage station platform and building which would be considered a significant detriment to the heritage values of the place. An underpass is a more sympathetic proposal as it allows a pedestrian connection across the tracks without a visually imposing structure dominating the setting of the place.

Heritage Victoria have provided written in principle support for the proposed option to replace the existing Beaconsfield Parade Bridge, within the Glenrowan Heritage Precinct (refer to Attachment K). The proposal involves replacing the existing Beaconsfield Parade rail overpass (or bridge) with a new overpass with the requisite 7.1 m clearance. The current bridge lies diagonally off the Beaconsfield Parade alignment and encroaches into the public reserve on the station side of the railway corridor. The replacement of the Beaconsfield Parade overpass maintains the ongoing presence of a modern structure in the heritage precinct.

The proposed works are unlikely to result in a significant impact to the heritage values of the site, with the proposed overpass realignment opening up views to the siege site, reinforcing the visual relationship with the surrounding landscape. The proposed works reinstates the location of the earlier level crossing and the definition of the western boundary of the siege site. It also represents an opportunity to install a new structure more sympathetic to the site that is designed to be an open structure and allows for viewing of nearly all locations significant to the siege.

The removal of the current bridge, embankments and pedestrian ramp may cause disturbance to original ground surfaces and elements in the rail reserve including the original creek line, fence lines, level crossing and objects related to the siege within the precinct.

An overview of all the heritage sites either within or intersecting the project areas is provided in Table 20, and further details are provided in Attachment L (Historical Heritage Impact Assessment) and Attachment M (Glenrowan Archaeological Assessment).

Table 20: Heritage places in the project area.

Name	Heritage database	Register Number	Address	LGA	Description	Interaction with project
Victorian Heritage Register (VHR) Sites						
Glenrowan Heritage Precinct	NHL	105729	Siege Street, Church Street, Gladstone Street, Hill Street, and Burns Street, Glenrowan	Wangaratta	Historic precinct, site of Kelly Gang Siege, 'The Last Stand'	Intersecting with Project Area
	VHI	H8125-0015				
	VHR	H2000				
	HO	HO170				
Wangaratta Railway Station Complex	VHR	H1597	37 Norton Street, Wangaratta	Wangaratta	Railway Station Complex	Within Project Area
	HO	HO139				
Victorian Heritage Inventory (VHI) Sites						
HS(A)-2	'D'listed VHI	D8225-0002	Welladsens Road, Barnawartha North	Wodonga	Farming and grazing site	Intersecting with Project Area
Heritage Overlays						
Benalla Central Urban Conservation Area	HO	HO26	Benalla	Benalla	Historic precinct	Intersecting with Project Area
Benalla Railway Station	HO	HO60	Mackellar Street, Benalla	Benalla	Railway station complex	Within Project Area
Signal Boxes (A and B boxes)	HO	HO63	Adjacent to Mackellar Street, Benalla	Benalla	Railway signal boxes	One is within the rail corridor, the other is within the Project Area
Barnawartha Railway Station	HO	HO1	High Street, Barnawartha	Indigo	Railway Station	Intersecting with Project Area
Barnawartha Railway Goods Shed	HO	HO2	High Street, Barnawartha	Indigo	Railway goods shed	Intersecting with Project Area
Tallarook Town Precinct	HO	HO181	Tallarook Incorporated plan: Mitchell Shire HO Permit Exemptions Incorporated Plan, 2014 (amended 2016)	Mitchell	Historic precinct	Intersecting with Project Area
Docker Street East (Precinct)	HO	HO8	Docker Street, Wangaratta	Wangaratta	Historic precinct	Intersecting with Project Area
Docker Street	HO	HO9	Docker	Wangaratta	Historic	Intersecting

West (Precinct)			Street, Wangaratta		precinct	with Project Area
The Railway Station and Associated Items (Precinct)	HO	HO11	Norton Street, Wangaratta	Wangaratta	Historic precinct	Intersecting with Project Area

Is mitigation of potential cultural heritage effects proposed?

☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

CHMPs will be used for the assessment, mitigation and management of Aboriginal Cultural Heritage.

A referral under the *Environment Protection and Biodiversity Conservation Act 1999* will be submitted regarding project works at the Glenrowan Heritage Precinct. Permit applications will be submitted to Heritage Victoria regarding works at both the Glenrowan Heritage Precinct and the Wangaratta Railway Station Complex. These regulatory processes will be supported by further detailed assessment of the project works at each location by a heritage specialist, engagement and consultation with affected community's including heritage interest groups, and Heritage Victoria. Heritage interpretation strategies will be prepared for each site.

Regarding proposed works at Glenrowan Heritage Precinct, the design of the proposed road bridge at Beaconsfield Parade will consider the following measures to mitigate impacts:

- Incorporate an open design by avoiding incorporating embankments and retaining walls
- Keeping the space under the bridge as open and as permeable as possible.
- Provision for comfortable pedestrian access across the bridge creating opportunities for the interpretation of the site and the events of June 1880 that led to the significance of the heritage precinct.

During detailed design and as part of the heritage permit process, further impact assessment work will be undertaken by heritage specialists.

Other information/comments? (e.g. accuracy of information)

n/a

16. Energy, wastes & greenhouse gas emissions

What are the main sources of energy that the project facility would consume/generate?

- [x] Electricity network. If possible, estimate power requirement/output …….
- [ ] Natural gas network. If possible, estimate gas requirement/output ……...
- [x] Generated on-site. If possible, estimate power capacity/output ……
- [ ] Other. Please describe.

Some energy use will occur during the construction phase resulting from the use of vehicles and equipment, such as generators.

The Project facilitates the more frequent operation of diesel-powered rolling stock (freight trains) however the volume of trains is not expected to increase significantly.

What are the main forms of waste that would be generated by the project facility?

- [ ] Wastewater. Describe briefly.
- [ ] Solid chemical wastes. Describe briefly.
- [x] Excavated material. Describe briefly.
- [ ] Other. Describe briefly.

Please provide relevant further information, including proposed management of wastes.

Track lowering activities will generate excess material. The generated spoil will be handled, stored and managed in accordance with relevant EPA guidelines and regulations. Contaminated material will be managed in accordance with EPA Industrial Waste Guidelines and OHS regulations.

ARTC will manage waste in accordance with the waste hierarchy and seek to reuse waste where it is below the EPA criteria that allows for reuse. A soil management plan will be developed to ensure that all soil is managed appropriately and in accordance with the EPA Industrial Waste guidelines and OHS regulations.

To support the development of the soil management plan and management of wastes, a Detailed Site Investigation (DSI) is planned for early 2020 to delineate areas of contamination and understand risks/areas that require remediation as well as opportunities to reuse clean soil.

What level of greenhouse gas emissions is expected to result directly from operation of the project facility?

- [x] Less than 50,000 tonnes of CO_2 equivalent per annum
- [ ] Between 50,000 and 100,000 tonnes of CO_2 equivalent per annum
- [ ] Between 100,000 and 200,000 tonnes of CO_2 equivalent per annum
- [ ] More than 200,000 tonnes of CO_2 equivalent per annum

Please add any relevant additional information, including any identified mitigation options.

The strategic benefit of the Inland Rail program is to improve rail as a mode of freight transport and make it a more attractive mode for third party freight operators. Increased competitiveness of freight rail, as created by the Inland Rail program, is expected to prompt a move from road transport to rail. Compared to road, rail freight is more carbon efficient and as a result the change from road to rail is expected to reduce overall emissions. The objective of the Inland Rail program is to provide greater freight carrying capacity, designed for double-stacked freight trains up to 1,800 m long, each of which will be able to carry the same volume of freight as 110 B-double trucks. Carbon emissions will be reduced by 750,000 tonnes per year by 2050.

17. Other environmental issues

Are there any other environmental issues arising from the proposed project?

☒ No ☐ Yes If yes, briefly describe.

18. Environmental management

What measures are currently proposed to avoid, minimise or manage the main potential adverse environmental effects? (if not already described above)

☒ Siting: Please describe briefly

An alternative greenfield alignment would result in significant adverse environmental effects. Works are proposed to existing assets and infrastructure that does not provide the required clearance for double-stacked freight trains along an existing and operational rail corridor. Whilst the siting of the project areas is fixed and determined by the location of existing assets, environmental assessments and stakeholder consultation has informed design and several iterations have been undertaken with design and constructability engineers to reduce and adjust project areas to avoid and minimize adverse environmental effects.

☒ Design: Please describe briefly

Avoid and minimise – ecology

Significant effort has been undertaken to minimise impacts to key ecological features, notably where extensive threatened ecological communities have been recorded. Project Areas, including Seymour-Avenel Road and Marchbanks Road, have been significantly redesigned and construction methods altered to minimise the impact to areas of sensitive vegetation and habitat.

Avoid and minimisation measures have been implemented by using the results of ecological surveys to alter design and refine project areas throughout concept and reference design phases. Avoid and minimisation measures implemented to date, include the following:

- Review of engineering design in response to environmental assessments and stakeholder feedback
- Re-design of bridge replacement options to minimise the project footprint
- Restriction of track slews to the existing rail formation and utilising existing access tracks
- Identification of no-go zones during construction to avoid impacts to threatened ecological communities and threatened species habitat.

Following the implementation of these measures, the proposed impact has been significantly reduced. Specific examples of where avoid and minimisation has taken place is included in Table 21 below.

Table 21: Avoid and minimise measures implemented to date

Site Name	Summary of measures	Reduction of impact
Track Slew 5	The project area has been limited to the existing hard stand areas on the west of the tracks that require slewing. Vegetation and habitat to the east of the tracks will be identified as a no-go zone.	All impacts to the EPBC Act listed natural temperate grassland and threatened species habitat has been avoided at this site.
Marchbanks Road Overbridge (Broadford)	Due to the presence of extensive native vegetation, the bridge was re-aligned bridge closer to existing structure to minimise construction footprint.	A total area of 2.058 ha of endangered EVCs have been avoided through re-design.

Seymour-Avenel Road Overbridge (Seymour)	Due to the presence of extensive native vegetation, also considered to be of national environmental significance, the bridge design was re-aligned bridge closer to existing structure. This has significantly reduced the construction footprint. Temporary construction areas have been identified on existing hardstands and in private land.	A significant area of 5.948 ha has been avoided of the nationally threatened grey box grassy woodland ecological community.
Hume Highway Seymour Precinct (Seymour)	Project Area has generally been limited to the east side of the rail reserve, with minimal construction works on the west side reserve, which contains high quality woodland.	A significant area of 4.253 ha has been avoided to the nationally threatened grey box grassy woodland ecological community.
Beaconsfield Parade (Glenrowan)	Several options have been considered at this site, including track lowering and several bridge over locations. The preferred option is to construct a new bridge immediately west of the existing bridge. Works can be contained within a smaller footprint and construction activities can utilise adjacent cleared areas.	The selected design option avoids all impacts to the nationally threatened White box-yellow box-Blakely's red gum. This option also avoid impacts on significant heritage fabric within the Glenrowan Heritage precinct.
Overhead powerline site 60	A population of Euroa guinea-flower (60) has been recorded in the surrounding rail reserve. Access was proposed through the rail reserve containing the species to access the power pole located in adjacent (cleared) agricultural land.	The rail reserve is recommended to be avoided through locating access entirely in private property. No access or works will be allowable within the rail reserve at this location.
Overhead powerline sites 36, 42, 51 and 81	Sections of these overhead powerline sites have been identified to contain EPBC Act listed threatened ecological communities (Grey box grassy woodland and derived native grassland and White box-Yellow box-Blakely's red gum grassy woodland and derived native grassland communities).	It is recommended to site works in adjacent cleared areas to avoid impacts to threatened ecological communities.
Overhead powerline sites 84, 89 and 91	Large portions of the overhead powerline sites have been identified to contain EPBC Act listed threatened ecological communities (Grey box grassy woodland and derived native grassland and White Box-Yellow box-Blakely's red gum grassy woodland and derived native grassland communities). Based on the current project area for each site, there is potential impacts to the listed communities.	Works at these three locations will be reviewed to avoid and minimise impacts to the listed threatened communities.

☒ Environmental management: Please describe briefly.

A CEMP will be used to provide measures to avoid, minimise or manage potentially adverse environmental effects during construction. Site specific project Environmental Control Maps (ECM) will be developed and maintained during the construction process. The ECMs will be based on the existing ARTC Inland Rail Geographical Information System (GIS), and on-going environmental surveys.

- The ECMs are plain-view instructional maps that will be developed for the Inland Rail project areas to identify areas with particular landholder requirements and / or environmental sensitivity, such as locations of habitat or species of conservation significance, or locations in proximity to sensitive noise, vibration or light receptors.
- The ECMs will include (but not be limited to):
    - Cross-reference to applicable Project condition of approval, other permits, approvals or licences
    - Significant or sensitive areas and environmentally sensitive receivers
    - Environmental control measures, work areas and boundaries
    - Clear reference to relevant specific design drawings or plans applicable to that section (i.e. erosion and sediment control plans).

Specific environmental management measures that will be detailed in the project CEMP which will be based on EPA guidelines and standards. Specific EPA requirements to be complied with include:

- EPA Publication 480, Environmental Guidelines for Major Construction Sites
- EPA Publication 1254 Noise Control Guidelines October 2008
- EPA Publication 275 Construction techniques for sediment pollution control
- Industrial Waste Resource Guidelines, as appropriate.

Roles and responsibilities for implementation of the environmental management commitments will be identified in the CEMP and ECMs.

☒ Other: Please describe briefly

n/a

19. Other activities

Are there any other activities in the vicinity of the proposed project that have a potential for cumulative effects?

☒ NYD ☒ No ☒ **Yes** If yes, briefly describe.

Inland Rail (Albury to Ilabo)

The Inland Rail (Albury to Ilabo) (A2I) is a NSW Inland Rail project, north of Project. The A2I project involves enhancement of 12 sites over 105 km to achieve the horizontal and vertical clearance for double-stacked freight trains. A2I directly interfaces with the Victorian based Project at the Murray River Bridge. The State border is defined as the high-water mark on the Victorian side of the Murray River, with the bridge itself located on the NSW side of the border. The Murray River Bridge is an historic and aesthetically significant structure. Built during the boom period for railway construction 1871-1887, the wrought iron lattice underbridge has been in continuous use since it was opened in 1884, and while it has undergone changes in that time, it has remained an important part of the story of rail transportation in NSW. The bridge structure is located on the NSW side of the border. A2I project works include modification to the bracing on top of the bridge structure. No physical works in the waterway or banks of the River are required to undertake the works.

North East Rail Line Upgrade
The North East Rail Line upgrade is a maintenance project to improve the track up to a 'Victorian Class 2' track performance standard, in line with other long-distance regional Rail Lines in Victoria. The purpose of the project is to improve the reliability of passenger services and to improve the comfort of journeys for passengers. The works involve track resurfacing, new ballast, new underground wires, drainage improvements, bridge upgrades, and mud-hole removal. The project will not result in impacts outside the corridor and works will be coordinated with Inland Rail to ensure that opportunities to deliver work to reduce the overall disruption to communities.

20. Investigation program

Study program

Have any environmental studies not referred to above been conducted for the project?
☐ No ☒ Yes If yes, please list here and attach if relevant.

All relevant studies have been referred to in this referral.

Has a program for future environmental studies been developed?
☐ No ☒ Yes If yes, briefly describe.

A program of environmental studies is likely to be completed in the next 12 months to support the detailed design phase and support primary and secondary approvals. This are likely to include:

- Ground truthing of modelled EVCs and quality assessments along power lines
- Groundwater and surface water assessment
- Detailed Site Investigation for contaminated land
- Compilation of an Urban Design Framework and Guidelines
- Cultural Heritage assessments to support the preparation of a CHMP(s)

Consultation program

Has a consultation program conducted to date for the project?
☐ No ☒ Yes If yes, outline the consultation activities and the stakeholder groups or organisations consulted.

The Inland Rail Stakeholder Engagement and Communications team developed an engagement plan which commenced in 2017. The purpose of engagement undertaken to date is to provide the stakeholders and the communities with project information, present and gain feedback on design solutions and gather local knowledge that could influence the design as the project progresses. Engagement will continue throughout all phases of the project.

Engagement has included a range of information sessions in local communities, attendance at a number of agricultural and community shows, stands at local farmers markets, presentations to community groups, static information displays at libraries and community hubs, station pop-ups along the alignment, 1:1 meetings at the request of residents and potentially impacted landowners and tailored briefings with councillors and Victorian emergency service agencies. Engagement has been promoted through channels including paid adverts in local newspapers, letter box drops, social media, eNews and our project community feedback panels inviting all interested community members to participate.

Consultation undertaken for the Project to date has included engagement with Federal and State Members, State government departments and agencies (e.g. the Department of Transport: Rail Projects Victoria, VicRoads &V-Line), local councils, adjoining landholders, emergency services, businesses, community groups and the general community.

Inland Rail will be commencing engagement with indigenous stakeholders as part of the Cultural Heritage Management Plan process and the social performance program with regards to indigenous participation opportunities.

For further information on stakeholder engagement to date refer to Attachment N - Tottenham to Albury Project Consultation Summary Report – 2017 to September 2019

Has a program for future consultation been developed?

☐ NYD ☐ No ☒ Yes If yes, briefly describe.

Inland Rail will continue its stakeholder and community program as design develops and then into construction ending in late 2025. This will include:

- Ongoing meetings with key stakeholders
- One on one meetings with owners or occupiers of properties affected or adjacent to the Project
- Regular community updates
- Community pop up events and information sessions
- Online materials

The delivery partner will be required to develop and implement a Community and Stakeholder Engagement Plan that includes:

- Regular community updates
- Face to face engagement with stakeholders
- Clear processes for informing stakeholders, road users, transport users, residents and businesses of upcoming works and potential disruption
- Complaints resolution process

Consultation will be undertaken for the Planning Scheme Amendment (PSA) for the Project which ARTC intends to request that the Minister for Planning exempt from the formal exhibition requirements under section 20(4) of the Planning and Environment Act.

Authorised person for proponent:

I, Dinesh Kumar Batra .....(full name),

Acting Project Director / T2A.....(position), confirm that the information contained in this form is, to my knowledge, true and not misleading.

Signature _____

Date 21/04/2020

Person who prepared this referral:

I, ...Marisa Feher.....(full name),

Environment Manager -Victoria

.....(position), confirm that the information contained in this form is, to my knowledge, true and not misleading.

Signature _____

Date

Attachments

No.	Attachment
A	Maps
1	Project Area Plans
2	Key Feature Map
3	Planning Zones
4	Planning Overlays
5	Native Vegetation Mapping
B	KBR (2020) *Tottenham to Albury Planning Assessment*
C	KBR (2020) *Tottenham to Albury Biodiversity Assessment*
D	KBR (2020) Overhead Powerline Biodiversity Assessment Report
E	KBR (2020) *Ecology Report – Victorian Temperate Woodland Bird Survey*
F	*Woodland Bird Landscape Context Map*
G	SLR Inland Rail, *Tottenham to Albury: Operational Railway Noise and Vibration Memorandum*
H	KBR (2020) *Threatened Flora Survey Report*
I	SLR (2019) *ARTC Inland Rail T2A – Preliminary Air Quality Assessment*
J	Andrew Long + Associates (2019) *ARTC Inland Rail Phase 2 Tottenham to Albury: Aboriginal Cultural Heritage Assessment*
K	Heritage Victoria (2019) *Letter to Ms Tara Horsnell*, 23 September
L	Jacobs (2019) *Inland Rail: Tottenham to Albury (T2A) Rail Enhancement Project- Historical Heritage Impact Assessment*
M	Andrew Long + Associates (2019) *ARTC Inland Rail Phase 2 Tottenham to Albury: Preliminary report on the impacts of three civil engineering options at Glenrowan*
N	Inland Rail - ARTC (2019) *Consultation Summary Report*

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