



Bulloo Interlink Pipeline

Regional Interests Development

Approval

APA Bulloo Interlink Pipeline Pty Ltd

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Abbreviations

Abbreviation/term	Definition
ALARP	As low as reasonably practicable
APA	APA Bulloo Interlink Pipeline Pty Ltd
APGA	Australian Pipelines and Gas Association
AS	Australian Standard
CC-SEA	Channel Country Strategic Environmental Area
CRoW	Construction right of way
DCCEEW	Department of Climate Change, Energy, the Environment and Water (Commonwealth)
DSDIP	Department of State Development, Infrastructure and Planning
EA	Environmental authority
EP Act	<i>Environmental Protection Act 1994 (QLD)</i>
EPBC Act	<i>Environmental Protection and Biodiversity Act 1999 (Cth)</i>
ESCP	Erosion and Sediment Control Plan
EV	Environmental values
GDE	Groundwater Dependent Ecosystems
GES	General Ecological Significance
GSB	Great Artesian Basin
HDD	Horizontal directional drilling
HES	High Ecological Significance
ILUA	Indigenous land use agreement
km	Kilometres
LGA	Local government area
m	Metres
NC Act	<i>Nature Conservation Act 1992 (QLD)</i>
NSW	New South Wales
OOHW	Out-of-hours work
RE	Regional ecosystems
RIDA	Regional Interests Development Approval
RPI Act	<i>Regional Planning Interests Act 2014 (QLD)</i>
RPI Regulation	Regional Planning Interests Regulation 2014 (QLD)
SCADA	Supervisory control and data acquisition
SEA	Strategic Environmental Area
SMP	Species management plans
SWQP	South West Queensland Pipeline
VM Act	<i>Vegetation Management Act 1999</i>
Water Act	<i>Water Act 2000 (QLD)</i>
WQO	Water quality objectives

Glossary

Term	Definition
Bulloo Interlink Pipeline	An underground high-pressure gas pipeline that will link the South West Queensland Pipeline in QLD with the Moomba to Wilton Pipeline in NSW. The Bulloo Interlink Pipeline (BIL) includes an approximately 236 kilometre (km) long section in QLD.
Construction right of way (CRoW)	The area that would be directly disturbed to construct the pipeline within the project site (includes the trench, temporary storage areas and construction manoeuvring areas). The nominal corridor width is up to 40 m.
Pipeline alignment	The pipeline centreline of the Bulloo Interlink Pipeline.
Project	The construction, operation (including maintenance) and eventual decommissioning of an approximately 1.4 km subsurface section of the BIL installed beneath the Wilson River using HDD.
Project site	The project site is limited to a discrete location of the Wilson River crossing, which occurs within the Bulloo Shire local government area (LGA), approximately 3.2 km north-east of the rural township of Noccundra, Queensland.
Proposed activities	Installation of a permanently buried pipeline beneath the Wilson River using a 1.6 km horizontal directional drilling (HDD) and limited surface disturbance associated with the entry point of the HDD and associated temporary construction area on the northern side of Wilson River set back from the bank and channel.
Subject area	The portion of the Bulloo Interlink Pipeline (BIL) that intersects the Channel Country Strategic Environmental Area (CC-SEA) at the Wilson River crossing, within Lot 3 on BI22. The subject area includes the pipeline alignment at the crossing location and any associated temporary activities directly relevant to the HDD construction method.

1. Introduction

1.1 Project overview

APA Bulloo Interlink Pipeline Pty Ltd (APA), which is part of the APA group of companies (the APA Group) is planning to develop the Bulloo Interlink Pipeline (BIL), an underground high-pressure gas pipeline that will link the South West Queensland (QLD) Pipeline (SWQP) in QLD with the Moomba to Wilton Pipeline in New South Wales (NSW).

The BIL includes an approximately 236 kilometre (km) long section in QLD, which will provide a more direct route for natural gas to travel from Australia's northern production areas to southern gas markets. The pipeline has a total length of approximately 339 km, with the remaining 103 km located in NSW.

A discrete section of the BIL is proposed within the Channel Country (CC) Strategic Environmental Area (SEA) (CC-SEA), which is an Area of Regional Interest under the *Regional Planning Interests Act 2014* (RPI Act). Consequently, a Regional Interests Development Approval (RIDA) is required for the relevant section of the project.

1.2 Project features

The BIL will be designed, constructed and operated in accordance with the *AS 2885 Pipelines – Gas and Liquid Petroleum* series of standards (AS 2885) and the *Code of Environmental Practice – Onshore Pipelines* (APGA, 2022).

The key operational features of the project include:

- An approximately 710 mm (28 inch) underground high pressure, steel gas transmission pipeline with a length of about 236 km
- a permanent easement of up to 30 m
- supporting surface infrastructure, including:
 - beginning of line connection facility at the tie-in point with the SWQP
 - temperature control station, including a main line valve
 - cathodic protection units
 - main line valve
 - pipeline marker signs
 - permanent access tracks.

1.2.1 BIL activities within CC-SEA

A section of approximately 1.4 km of the BIL intersects the Critical Minerals Reach and the SEA (designated precinct) within the CC-SEA at the Wilson River crossing (refer to Figure 1.1). Within the CC-SEA, project activities are tightly constrained and are limited to the installation of a permanently buried pipeline beneath the Wilson River using horizontal directional drilling (HDD) and limited surface disturbance associated with the entry point of the HDD and associated temporary construction area on the northern side of Wilson River set back from the bank and channel. No surface disturbance is proposed within the bed or banks of the Wilson River.

Key features (referred to as proposed activities):

- Access to the HDD construction pads will be from the north and south off Warri Gate Road utilising access tracks and the CRoW located outside of the CC-SEA. Only a short section (approximately 170 m) of the CRoW providing access to the northern HDD construction pad is located within the Critical Minerals Reach area of CC-SEA.
- The temporary northern HDD construction pad is located within the CC-SEA.

- The southern HDD construction pad, construction compounds, pipe stringing areas, laydown areas and heavy plant operations are all located outside the CC-SEA.
- The temporary use of a previously cleared petroleum exploration track to install, monitor and subsequently remove an above-ground HDD mud return line (MRL) during drilling.
- All temporary works within the CC-SEA will be fully removed and reinstated following completion of HDD activities.
- No operational, maintenance or permanent above-ground infrastructure is proposed within the CC-SEA, with the exception of required AS 2885 gas pipeline signage, where applicable.

Proposed activity locations are shown in Figure 1.1.

1.3 Location

1.3.1 Project site

For the purposes of this application, the project site is limited to the location of the Wilson River crossing, which occurs within the Bulloo Shire local government area (LGA), approximately 3.2 km north-east of the rural township of Noccundra, Queensland. The project site is located within the traditional Country of the Wangkumarra People and Kullilli People. The Wilson River crossing represents a discrete component of the Bulloo Interlink Pipeline and is the only section of the project addressed in this report.

1.3.2 Subject area

The subject area for this application comprises the portion of the BIL that intersects the CC-SEA at the Wilson River crossing, within Lot 3 on B122. The subject area includes the pipeline alignment at the crossing location and any associated temporary activities directly relevant to the HDD construction method.

Within the CC-SEA, the subject area is confined to an approximately 1.4 km subsurface section of pipeline beneath the Wilson River, where the crossing will be constructed using HDD. The southern HDD exit point, construction compounds, laydown areas or pipe stringing areas are located outside of the CC-SEA. The northern HDD entry point and associated temporary construction area are located within the CC-SEA.

The extent of the subject area is shown in Figure 1.1 above and detailed in Table 1.1 below.

Table 1.1 Location details of the subject area

Parameter	Details
Real Property Description	Lot 3 on B122
Street Address	201 Warry Gate Road, Noccundra QLD 4492 (Nockatunga)
Local Government	Bulloo Shire Council
Tenure	Lands lease (Pastoral holding) There are no petroleum lease and/or mining lease.
Ownership	Bobs Flat Pty Limited
Impacted regional interest area	CC-SEA
Temporary surface disturbance footprint area within CC-SEA (ha)	CRoW and HDD construction pad: 1.32 ha
Permanent subsurface disturbance footprint area within CC-SEA (ha)	0.2 ha pipeline
MRL (no surface disturbance) (ha)	5.31 ha
Closest town	The subject area is located approximately 3.2 km north-east of the rural township of Noccundra.
Regional Plan	South West Regional Plan
Resource activity	Gas pipeline (PPL2087)



1.4 Purpose and scope

The purpose of this report is to support an application for a RIDA for the BIL.

A RIDA application is required for the project, as a section of the proposed pipeline intersects the Wilson River and associated floodplain which is within the CC-SEA under the RPI Act. The proposed pipeline involves undertaking a resource activity within an area of regional interest, and may result in impacts which affect a feature, quality characteristic or other attribute of the area relating to a matter associated with a SEA. Therefore, in accordance with Section 27 of the RPI Act, a RIDA must be obtained in accordance with the requirements of the RPI Act, prior to the commencement of the project.

This report has been prepared by GHD Pty Ltd (GHD) on behalf of the applicant, APA and seeks to demonstrate the suitability of the proposed pipeline within the local and regional contexts and its compliance with the relevant provisions of the RPI Act and the RPI Act guidelines including “Carrying out resource activities and regulated activities in a SEA, 05/14”, and the “RPI Act Statutory Guideline, 01/14”.

This report includes the following supporting information which has been included in the appendices:

- Appendix A Pre-lodgement meeting minutes
- Appendix B Current Title Search

1.5 Overview of the proponent

APA is a leading energy infrastructure business with a portfolio of more than \$27 billion in gas, electricity and renewable assets, transporting nearly half of Australia’s gas and connecting key regions through its electricity infrastructure investments (including links between Victoria and South Australia, Tasmania and Victoria, and New South Wales and Queensland). It also owns and operates generation assets across the country (gas-powered, wind and solar) and is exploring future fuels such as hydrogen. Working behind the scenes to keep homes, businesses and industry supplied with reliable energy, APA is well positioned to support Australia’s energy transition by enabling the accelerated phase-out of higher-emissions generation, investing in renewables and transmission, and using domestic gas and firming/storage solutions (including batteries and hydro) while partnering with customers on climate goals and decarbonising its own operations.

1.6 Report structure and content

The structure and content of this report are outlined in Table 1.2.

Table 1.2 *Structure and content*

Section	Description
Section 1 – Introduction	Outlines the key elements of the project site and proposed activities, a description of the subject area, the purpose of this report and proponent information.
Section 2 – Legislative and policy context	Describes the legislative and policy context of this report. Provides the statutory assessment against the RPI Act criteria of assessment for a RIDA application.
Section 3 – Stakeholder engagement	Describes the consultation undertaken and pre-lodgement advice sought in preparation of this report.
Section 4 – Project description	Provides a description of the construction, operation (including maintenance) and eventual decommissioning of an approximately 1.4 km subsurface section of the BIL installed beneath the Wilson River using HDD.
Section 5 – Existing environment of the subject area	Describes the existing environment and features of the subject area for the RIDA assessment.
Section 6 – Potential impacts and proposed mitigation measures	Examines the potential for construction, operational and decommissioning impacts on the CC-SEA and provides proposed mitigation measures.
Section 9 – Conclusion	Provides a succinct conclusion for this report.

1.7 Limitations

This report has been prepared by GHD for APA and may only be used and relied on by APA for the purpose agreed between GHD and APA as set out in Section 0 of this report.

GHD otherwise disclaims responsibility to any person other than APA arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations and assumptions set out in this report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

2. Legislative and policy context

This section outlines the legislative framework relevant to this application. It identifies and discusses the provisions of the RPI Act and subordinate legislation, RPI Regulation, that are relevant to this RIDA Application, including the assessment criteria and related requirements for an activity within a SEA. This RIDA is being prepared and submitted alongside an Environmental Authority application for the Queensland section of the BIL under the EP Act and a pipeline licence under the *Petroleum and Gas (Production and Safety) Act*. A referral will also be made under the *Environment Protection and Biodiversity Conservation Act 1999*.

2.1 Regional Planning Interests Act 2014

2.1.1 Channel country strategic environmental area

The subject area is located within the Critical Minerals Reach SEA (designated precinct) within the CC-SEA. The CC-SEA is a protected region in south-western Queensland, established under the RPI Act and managed through the RPI Regulation, to safeguard key environmental values from widespread and irreversible impacts associated with activities such as mining and petroleum development, broadacre cropping and large-scale water storage. It protects the natural hydrology, water quality and fertile floodplain systems of the Channel Country—covering free-flowing desert rivers (including systems such as Cooper Creek and the Diamantina), floodplains, wetlands and waterholes—within the wider Lake Eyre Basin, recognising their importance for biodiversity, wildlife corridors and the region's grazing industry.

Part 3, Section 7 of the RPI Regulation prescribes the following environmental attributes for the CC-SEA applicable to the subject area (current from 1st September 2025):

- a. *'the natural hydrologic processes of the area characterised by:*
 - i. *Natural, unrestricted flows in and along watercourse channels and the channel network in the area; and*
 - ii. *Overflow from watercourse channels and the channel network onto the flood plains of the area, or the other way; and*
 - iii. *Natural flow paths of water across flood plains connecting waterholes, lakes and wetlands in the area; and*
 - iv. *Groundwater sources, including the Great Artesian Basin and springs, that support waterhole persistence and ecosystems in the area;*
- b. *The natural geomorphic processes of the area characterised by:*
 - i. *Natural erosion; and*
 - ii. *The transport and deposit of sediment by water throughout the catchments and along the watercourse systems;*
- c. *The functioning riparian processes of the area characterised by native riparian vegetation associated with watercourses, lakes, flood plains and wetlands;*
- d. *The functioning wildlife corridors of the area characterised by:*
 - i. *Natural habitat in the watercourse systems; and*
 - ii. *Permanent waterholes and springs;*
- e. *The natural water quality in the watercourse channels and aquifers and on flood plains the area characterised by physical, chemical and biological attributes that support and maintain natural aquatic and terrestrial ecosystems;*
- f. *The beneficial flooding of land that supports flood plain grazing and ecological processes in the area.'*

The *Statutory Guidelines 05/14: Carrying Out Resource Activity and Regulated Activity within a Strategic Environmental Area* (Queensland Treasury, 2020) summarises the above attributes to broadly relate to:

- Vegetation mapping
- Riparian process and wildlife corridors

- Hydrological process and beneficial flooding
- Water quality
- Geomorphic processes

In December 2023, changes were made to the CC-SEA, implemented through the *Regional Planning Interests (Lake Eyre Basin) Amendment Regulation 2024* which expanded the mapped extent of the SEA. The changes strengthened the definition of protected environmental attributes and introduced regulatory treatment for the 2014 Reach and the Critical Minerals Reach. The changes allowed critical mineral activities to be considered through site-specific assessment and approval processes while making most future gas and oil production in designated precincts an unacceptable use.

The Critical Minerals Reach was developed to strengthen surface and floodplain protections while preserving access to critical mineral resources where impacts can be demonstrably avoided or minimised. The Decision Impact Analysis Statement confirms that the policy intent of the amendments was not to sterilise critical mineral development, but to ensure that development methods are compatible with the protection of environmental attributes, particularly floodplain connectivity and surface hydrology.

In this context, the project and associated construction methodology are considered to be low impact within the CC-SEA, because the proposed HDD methodology enables the pipeline to pass beneath mapped SEA and MSES values with predominantly subsurface disturbance. The HDD methodology avoids open trenching, surface excavation and hydrological modification within Wilson River, floodplains, wetlands and other water-dependent ecosystems. Where the HDD entry and exit works are confined to compact drill pads and located to avoid key environmental attributes, the project can be characterised as consistent with the intent of the amended framework, particularly in the Critical Minerals Reach. The proposed works will have limited impacts to the environmental attributes and this is demonstrated in Table 2.1 and Section 6.

2.1.2 Regional interests development application

This RIDA application addresses only impacts to the CC-SEA. Broader environmental impacts are assessed separately through the Environmental Authority process.

The RPI Act provides a framework for assessing and managing the impact of resource activities and regulated activities on areas of regional interest in Queensland. The RPI Act aims to balance economic development with environmental protection and social considerations, ensuring that land use conflicts are resolved effectively.

This report has been prepared as a supporting report for a RIDA application, and this section outlines the provisions of the following planning instruments that have been considered in this report:

- RPI Act
- RPI Regulation
- RPI Act guideline 01/14 - How to make an assessment application under the RPI Act
- RPI Act guideline 05/14 - Carrying out resource and regulated activities in a strategic environment area

A resource activity is defined under Part 1 section 12 of the RPI Act:

(2) A resource activity is -

- (a) a resource activity is an activity for which a resource authority is required to lawfully carry out; or
- (b) for a provision about a resource authority or proposed resource authority—an authorised activity for the authority or proposed authority (if granted) under the relevant resource Act.

(3) In this Act, a reference to a resource activity includes a reference to the carrying out of the activity. An activity for which a resource authority is required.

Under Part 3 Section 27 of the RPI Act, APA is required to apply for a RIDA as the project is defined as a 'resource activity' and part of the pipeline will result in impacts which affect a feature, quality characteristic of other attribute of the area relating to a matter associated with a SEA. The SEA associated with the project forms part of the CC-SEA as identified in Part 3 of the RPI Regulation. A RIDA is subject to an assessment of the extent of the expected impact of the resource activity on the area of regional interest as per Figure 1.1.

The RPI Act does not exclude any activity or project from obtaining other necessary approvals and permits as required under Federal and state government legislation and local government planning schemes and instruments.

2.1.3 Public notification

This application has been assessed against the RPI Act Statutory Guideline 06/14 – Public Notification, having regard to the nature, scale and extent of the proposed activities within the CC-SEA. The application relates to a highly localised interaction, limited to the following:

- Approximately 1.4 km subsurface section of pipeline beneath the Wilson River, constructed using HDD.
- Limited surface disturbance associated with the entry point of the HDD and associated temporary construction area on the northern side of Wilson River. No surface disturbance is proposed within the banks or bed of the Wilson River.
- Use of existing access tracks for installation and removal of an above-ground HDD MRL, with no new ground disturbance or vegetation clearing.

Within the CC-SEA, the proposal does not involve open trenching, construction compounds, laydown areas or ongoing operational activities. HDD exit point and all construction compounds are located outside the CC-SEA. The only surface activity within the CC-SEA is the HDD entry point and associated temporary construction area. Existing access tracks will be used in the short term for installation and removal of an above-ground HDD MRL, with no new ground disturbance or vegetation clearing. All temporary works will be removed and fully reinstated immediately following completion of HDD activities.

Access to the subject area and construction activities at the Wilson River crossing will be undertaken in accordance with a land access and construction agreement negotiated with the landholder, ensuring that access arrangements, construction impacts and reinstatement obligations are clearly agreed and appropriately managed.

The proposed activities are temporary, subsurface and not readily perceptible, do not alter land use, access or amenity, and do not result in ongoing or operational impacts within the CC-SEA. Technical assessments accompanying this application demonstrate that the works will not result in widespread or irreversible impacts on the prescribed environmental attributes of the CC-SEA.

Having regard to the limited scale, short duration, lack of surface disturbance, and absence of ongoing or perceptible impacts, the application does not meet the criteria under Statutory Guideline 06/14 that would warrant public notification. Accordingly, public notification is not required for this RIDA.

2.1.4 Level of assessment

The section outlines the assessment criteria relevant to a RIDA within the CC-SEA. Schedule 2, Part 5 of the RPI Regulation states the required outcome sought and outlines the criteria for assessing and determining RPI applications. Specifically, within the CC-SEA, the required outcome is that the ‘activity will not result in a widespread or irreversible impact on an environmental attribute of a strategic environmental area’ (RPI Regulation, Part 5 Item 14).

Table 2.1 presents the prescribed solutions and summarises how the details of this project align with the relevant assessment criteria and demonstrates that the proposed activities will not result in a widespread or irreversible impact on an environmental attribute of the CC-SEA. It has considered the provisions in the RPI Act guideline 01/14 and the RPI Act guideline 05/14.

As demonstrated in Section 4.4 and Section 6 of this report, the project has been designed to avoid potential impacts on the environmental attributes of the CC-SEA. Provided the proposed HDD activities under the Wilson River are implemented in accordance with the HDD management plan, residual risks are low and manageable. On this basis, the application demonstrates that the required outcome in Schedule 2, Part 5, Section 14 of the RPI Regulation can be achieved.

Table 2.1 Criteria for assessment or decision in a SEA

Schedule 2, Part 5, Section 15 Prescribed solution	APA response
(1) The application demonstrates either— (a) the activity will not, and is not likely to, have a direct or indirect impact on an environmental attribute of the strategic environmental area; or According to Table 1 in the RPI Act Statutory Guideline 05/14, to demonstrate compliance, the application may provide evidence that: - the activity is not located on land or a property that has the listed environmental attributes (e.g. such as a wetland, watercourse, regional ecosystems (REs) etc.) or is located a sufficient distance away from such environmental attributes that there will be no direct or indirect impact to those attributes from the activities being undertaken on the land, or - if the activity is of a temporary nature—undertaking the activity will not have any direct or indirect impact on the listed environmental attributes either at the time of undertaking the activity, or in the future (due to seasonal variations).	The application is considered to meet the prescribed solution in Schedule 2, Part 5, Section 15(1)(a) of the RPI Regulation, as the proposed activity will not, and is not likely to, have a direct or indirect impact on an environmental attribute of the CC-SEA. Within the CC-SEA, the proposed activity is limited to: - An approximately 1.4 km subsurface installation of pipeline beneath the Wilson River using HDD. The pipeline is constructed at depth beneath the river channel and floodplain, and no surface excavation, open trenching or permanent above-ground infrastructure is proposed within the bed or banks of the Wilson River within the CC-SEA (other than standard AS 2885 pipeline signage where required). - Establishment of an HDD entry point on the northern side of Wilson River including the temporary construction area, which will be reinstated to its pre-construction condition following completion of works. - The temporary use of an existing access track to install, monitor and subsequently remove an above-ground HDD MRL. This activity does not involve new ground disturbance, vegetation clearing or modification of the existing track and is fully reversible. Importantly, the HDD exit point, construction compounds, laydown areas, pipe stringing, vehicle manoeuvring areas or heavy plant operations are not located within the CC-SEA. The Wilson River riparian corridor and associated wildlife corridors intersect the pipeline alignment; however, the use of HDD enables the pipeline to be installed beneath the river channel at depth, avoiding direct disturbance to the riverbed, banks and riparian vegetation. As a result, the continuity and function of riparian vegetation and wildlife corridors are maintained, with no fragmentation or loss of connectivity. Potential indirect impacts to riparian and aquatic values, such as sedimentation, turbidity, bank instability, weed spread or fauna injury, will be avoided or reduced to as low as reasonably practicable (ALARP) through implementation of standard construction and environmental management measures. These include closed-loop drilling fluid management, erosion and sediment controls in accordance with the project ESCP, biosecurity controls, spill prevention and response procedures, and visual monitoring of upstream and downstream aquatic habitat during HDD activities. All temporary works within the CC-SEA will be fully removed and reinstated immediately following completion of HDD works, with no ongoing disturbance. Given the subsurface nature of the works, the limited surface disturbance within the CC-SEA, the temporary and reversible nature of ancillary activities, and the demonstrated avoidance of impacts to hydrological processes, geomorphic stability, riparian processes, wildlife corridors and water quality, the activity will not result in direct or indirect impacts on the listed environmental attributes of the CC-SEA. Accordingly, the application satisfies the prescribed solution under Schedule 2, Part 5, Section 15(1)(a). Refer to 6 for more information.
(1)(b) all of the following— (i) if the activity is being carried out in a designated precinct in the strategic environmental area—the activity is not an unacceptable use for the precinct; (ii) the construction and operation footprint of the activity on the environmental attribute is minimised to the greatest extent possible;	Not applicable. The application satisfies the prescribed solution under Schedule 2, Part 5, Section 15(1)(a). The construction and operational footprint within the CC-SEA has been minimised to the greatest extent reasonably practicable through the selection of HDD as the crossing method and the confinement of works to subsurface installation only. Given the subsurface nature of the works, the limited surface disturbance within the CC-SEA, the temporary and reversible nature of ancillary activities, and the demonstrated avoidance of impacts to hydrological processes,

Schedule 2, Part 5, Section 15 Prescribed solution	APA response
(iii)the activity does not compromise the preservation of the environmental attribute within the strategic environmental area; (iv)if the activity is to be carried out in a strategic environmental area identified in a regional plan—the activity will contribute to the regional outcomes, and be consistent with the regional policies, stated in the regional plan.	geomorphic stability, riparian processes, wildlife corridors and water quality, the activity will not compromise the preservation of the environmental attributes of the CC-SEA. The activity does not involve exploration, extraction, processing or surface infrastructure within the CC-SEA. Within the CC-SEA, the activity is limited to underground pipeline installation, with no surface petroleum operations, open-cut excavation, or permanent above-ground infrastructure (other than standard AS 2885 pipeline signage where required). The Wilson River crossing is located within an area identified in regional planning instruments that recognise the importance of the Channel Country's free-flowing river systems, floodplain connectivity and grazing-based land use. The use of HDD is consistent with these regional outcomes and policies, as it: – maintains natural hydrological and floodplain processes; – avoids long-term changes to land use, access or productivity; – supports the continued operation of grazing and ecological processes dependent on beneficial flooding; and – enables essential linear infrastructure to be delivered without compromising the environmental values of the CC-SEA. The proposed HDD crossing therefore, contributes to regional outcomes by balancing infrastructure connectivity between QLD and NSW with the preservation of the Channel Country's environmental and land-use value.
(2)The following are unacceptable uses for a designated precinct in a strategic environmental area— (a)if the designated precinct is in the Cape York strategic environmental area—a mining resource activity; (b)if the designated precinct is in the North Queensland strategic environmental area—a resource activity; (c)if the designated precinct is in the Channel Country strategic environmental area—a petroleum resource activity; (d)open cut mining, other than open cut mining for a critical mineral in a critical minerals reach in the Channel Country strategic environmental area; (e)broadacre cropping; (f)water storage (dam).	Not applicable. The application is considered to meet the prescribed solution in Schedule 2, Part 5, Section 15(1)(a) of the RPI Regulation, as the proposed activity will not, and is not likely to, have a direct or indirect impact on an environmental attribute of the CC-SEA. The proposed activity is a petroleum resource activity within a designated precinct within the CC-SEA. While the BIL is associated with the transmission of petroleum products, the proposed activity within the CC-SEA is predominantly limited to a subsurface HDD installation beneath the Wilson River. The proposed activity does not involve surface petroleum resource activities, exploration, extraction, processing, open-cut excavation, or permanent above-ground petroleum infrastructure within the CC-SEA. The activities occurring at the surface within the CC-SEA are temporary uses: – Use of an existing access track to install, monitor and subsequently remove an above ground HDD MRL. This activity does not involve new ground disturbance, vegetation clearing or modification of the existing track and is fully reversible. – The HDD entry point on the northern side of Wilson River including the temporary construction area is located within the CC-SEA and will be reinstated to its pre-construction condition following completion of works.
(2A) However, subsection (2)(c) does not apply in relation to an application to the extent the application relates to— (a)a petroleum resource activity to be carried out under an authority to prospect, or a petroleum lease, that— (i)was in effect immediately before 22 December 2023; and (ii)has not been amended, renewed or transferred on or after 22 December 2023; or	Not applicable This provision is not considered to be applicable to the proposed activities within the CC-SEA. Section (2A) of the RPI Regulation provides transitional exceptions to the operation of section (2)(c), which identifies petroleum resource activities as an unacceptable use within the CC-SEA. The proposal does not rely on the operation of section (2A), as the activity does not engage section (2)(c). The application relates solely to a subsurface HDD installation beneath the Wilson River.

Schedule 2, Part 5, Section 15 Prescribed solution	APA response
(b)a petroleum resource activity involving conventional gas or oil only to be carried out under a petroleum lease that— (i)was in effect immediately before 22 December 2023; and (ii)has been amended, renewed or transferred on or after 22 December 2023; or (c)a petroleum resource activity involving conventional gas or oil only to be carried out under a petroleum lease granted on or after 22 December 2023 for— (i)an application made under the Petroleum and Gas (Production and Safety) Act 2004 before 22 December 2023; or (ii)an application made under the Petroleum and Gas (Production and Safety) Act 2004, section 117 between 22 December 2023 and 30 August 2024, both dates inclusive; or (iii)a grant application for a replacement tenure mentioned in the Petroleum and Gas (Production and Safety) Act 2004, section 908(2).	The proposed activity is a petroleum resource activity within a designated precinct within the CC-SEA. While the BIL is associated with the transmission of petroleum products, the proposed activity within the CC-SEA is predominantly limited to a subsurface HDD installation beneath the Wilson River. The proposed activity does not involve surface petroleum resource activities, exploration, extraction, processing, open-cut excavation, or permanent above-ground petroleum infrastructure within the CC-SEA. The activities occurring at the surface within the CC-SEA is the temporary use of an existing access track to install, monitor and subsequently remove an above ground HDD MRL. This activity does not involve new ground disturbance, vegetation clearing or modification of the existing track and is fully reversible. The HDD entry point on the northern side of Wilson River including the temporary construction area is located within the CC-SEA but will be reinstated to its pre-construction condition following completion of works. The southern HDD exit point, construction compounds and surface works are located outside the CC-SEA.

3. Stakeholder engagement

3.1.1 Pre-lodgement advice

Pre-lodgement discussions were undertaken with the Department of State Development, Infrastructure and Planning (DSDIP), the Department of the Environment, Tourism, Science and Innovation (DETSI) and the Department of Local Government Water and Volunteers (DLWV) to discuss the RIDA application on 14 October 2025.

The outcomes of these discussions have been taken into consideration in the preparation of this application. A summary of the pre-lodgement advice provided by DSDIP is provided in Table 3.1, refer to Appendix A for a full copy of the meeting minutes.

The BIL is subject to an application for an EA under the EP Act. A pre-lodgement meeting was held with DETSI on 11 August 2025. The meeting provided an early introduction to the project and its proposed scope. The EA application process was discussed including potential approval pathways and regulatory triggers. This meeting also provided an opportunity to clarify DETSI's initial expectations for the assessment and supporting information.

3.2 Consultation approach

APA has well-established relationships with communities surrounding the proposed action area, particularly at the beginning and end connection points of the BIL, through the ongoing operation of existing APA-operated tie-in pipelines. APA applies a range of engagement methods to ensure community members and stakeholders are informed about proposed activities and provided with meaningful opportunities to raise issues and provide feedback.

APA is also directly negotiating an agreement with the Landowner for the construction and operation of the BIL.

3.2.1 Consultation with First Nations people and communities

Consultation with First Nations people and communities is being undertaken in accordance with the Interim Engaging with First Nations People and Communities on Assessments and Approvals under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (DCCEEW, 2023). This approach recognises the importance of early, ongoing and culturally appropriate engagement with Traditional Owners whose Country may be affected by the proposed action.

APA is currently negotiating Indigenous Land Use Agreements (ILUAs) under the *Native Title Act 1993* with two relevant First Nations groups whose native title rights and interests intersect with the proposed action area. These negotiations provide a structured, legally recognised framework for engagement, ensuring that potential impacts on Country, culture and native title rights are identified, discussed and appropriately managed.

The ILUA negotiation process is being undertaken directly with the relevant Traditional Owner groups and their authorised representatives and includes opportunities for information sharing, feedback and agreement on matters such as access, construction activities, environmental management, and cultural heritage protection. This process complements, and does not replace, APA's broader consultation obligations under the EPBC Act, and ensures that First Nations engagement is embedded within both the planning and assessment stages of the project.

Consultation with First Nations stakeholders will continue throughout the assessment, approval and delivery phases of the project, with outcomes of engagement informing project design, environmental management measures and approval conditions, as relevant.

Table 3.1 DSDIP pre-lodgement advice summary

Item of discussion	DSDIP Advice	Proponent response and where this has been addressed
How to describe impact area for sub-surface infrastructure?	– Shapefiles should be submitted to illustrate: • Planned disturbance areas (e.g., HDD entry/exit points) • Infrastructure locations (e.g., mudlines, sub-surface pipelines) • Ground-truthed ecological data relevant to the SEA Channel Country – The impact area, including sub-surface effects, should be demonstrated through: • A detailed plan and cross-sectional diagrams • Clear representation of directional gas drilling and its implications for the SEA Channel Country.	– Shapefiles of all figures are included with this application including: • Planned disturbance areas • Infrastructure locations • Ground-truthed ecological data. This data has been used to prepare Section 5 of this application. Refer to Section 5 for further details on ecological findings. – The impact area, including sub-surface effects, are demonstrated in this application including: • Cross-sectional diagrams, and proposed construction, operational and decommissioning methodologies in Section 4. • Clear representation of HDD and direct assessment of its implications for the CC-SEA are detailed in Section 4.
What level of detail is required for the proposed activity (disturbance occurs outside of the SEA)?	– Some detail of attributes bordering the CC-SEA may be required in the RIDA application but would confirm the level of detail required. – The application must: • Identify the environmental attributes relevant to the land that is the subject of the application • Identify any impacts on the environmental attributes as a result of the proposed activity • Provide evidence that the impacts of the resource activity (there is no difference between construction and operational disturbance – it is the cumulative area of both) will not compromise the preservation of the environmental attributes for the SEA Channel Country	– Locality context and surrounding environment and land uses have been detailed in Section 5. – The application: • Identifies the environmental attributes relevant to the land that is the subject of the application in Section 5. • Identifies any impacts on the environmental attributes as a result of the proposed activity in Section 6. • Provides evidence that the impacts of the resource activity will not compromise the preservation of the environmental attributes for the CC-SEA in Section 6. –
Further advice	– The fees (Schedule 4) and assessment criteria (Schedule 2) are detailed in the RPI Regulation. – Public notification is likely to be required for the RIDA application. – It would be preferable if the application provided EA and Licence approval, if available. – A RIDA is subject to an assessment of the extent of the expected impact of the resource activity on the area of regional interest only. The assessment does not extend outside the area of regional interest. The assessment of those broader impacts is undertaken during the assessment of the Environment Authority. – Please consider the environmental attributes defined in Part 3, Section 7 of the RPI Regulation 2014 and any RIDA application addresses any direct or indirect impacts on the environmental attributes identified in the SEA Channel Country.	– The further advice has been considered and addressed in preparation of this application. – A petroleum pipeline licence application has been validated (PPL2087) and is under assessment. – An Environmental Authority application is under preparation and will be submitted for assessment concurrently with this application. – Public notification requirements are discussed in Section 2.1.3. – The application identifies the environmental attributes of the CC-SEA relevant to the land that is the subject of the application in Section 5.

4. Project description

This section provides a description of the HDD works proposed beneath the Wilson River for the BIL. The description is limited to the infrastructure, land requirements and construction methodology relevant to the Wilson River crossing within the CC-SEA. It also describes how the HDD installation will be completed, reinstated and transitioned to operation, noting that broader project works outside the CC-SEA are addressed under separate approvals.

4.1 Project overview

The works described in this section relate solely to the construction, operation (including maintenance) and eventual decommissioning of an approximately 1.4 km subsurface section of the BIL installed beneath the Wilson River using HDD.

The HDD crossing enables the pipeline to pass beneath the Wilson River and associated floodplain without surface disturbance to the river channel, banks or riparian corridor and avoids the need for open-cut trenching within the CC-SEA.

The HDD crossing will be designed, constructed, operated and decommissioned in accordance with the following instruments and standards:

- AS/NZS 2885 – Pipelines: Gas and Liquid Petroleum series of standards
- Code of Environmental Practice – Onshore Pipelines (Australian Pipelines and Gas Association, 2022)
- conditions of any Environmental Authority (EA) granted under the *Environmental Protection Act 1994*
- pipeline licence requirements under the *Petroleum and Gas (Production and Safety) Act 2004* (QLD).

The pipeline installed beneath the Wilson River will comprise high-strength steel pipe with a wall thickness suitable for the safe transmission of high-pressure natural gas. The pipeline will be installed entirely below ground level and will not include any permanent above-ground infrastructure within the CC-SEA, other than standard AS 2885 pipeline signage where required.

4.2 Project features within the subject area

The proposed activities within the CC-SEA are shown in Figure 1.1 and outlined in Table 4.1.

Table 4.1 Activities in CC-SEA

Activity	Location	Disturbance within the CC-SEA	Cross reference
Subsurface pipeline (HDD)	Beneath the Wilson River -27.798951, 142.615474 to - 27.812522, 142.624400 (approximate)	Subsurface only.	Refer to Section 4.4.1 for more information. Refer to Figure 1.1.
Access track and above ground MRL	-27.798951, 142.615474 to - 27.812522, 142.624400 (approximate)	No new disturbance. Installation utilises a previously cleared exploration track.	Refer to Section 4.4.1 for more information. Refer to Figure 1.1.
HDD entry point and temporary construction area	Within CC-SEA setback from the Wilson River -27.800602, 142.615409 (approximate) -27.801954, 142.616067 to - 27.810567, 142.626675 (approximate)	Limited temporary surface disturbance during construction. Reinstated for operations.	Refer to Section 4.4.1 for more information. Refer to Figure 1.1.

Activity	Location	Disturbance within the CC-SEA	Cross reference
HDD exit pit and associated ancillary construction work areas	Outside of CC-SEA	Nil	Refer to Section 4.4.1 for more information. Refer to Figure 1.1.

4.3 Alternative alignments and construction methods

To enable the BIL to connect the QLD and NSW pipeline networks, the pipeline must cross the Wilson River within the Channel Country region. As a result, avoidance of the river crossing is not feasible, and the assessment of alternatives has focused on identifying the construction method that would achieve this crossing while protecting the environmental attributes of the CC-SEA.

During project planning, alternative construction methods were evaluated for the Wilson River crossing, including open-cut trenching through the CC-SEA. Open-cut construction was identified as technically practicable but was eliminated at an early stage due to its potential to directly disturb the river channel, banks, riparian vegetation and floodplain processes, and its associated risk of widespread or irreversible impacts to CC-SEA environmental values.

HDD was subsequently selected as the preferred crossing method, despite its higher cost and technical complexity, because it allows the pipeline to be installed entirely beneath the Wilson River and floodplain at depth, with no surface disturbance to the river channel or riparian corridor. HDD therefore represents the option that most effectively avoids and minimises impacts to the CC-SEA and aligns with the outcome-focused requirements of the RPI Act.

The selection of HDD is consistent with the project's application of a clear avoidance and minimisation hierarchy, whereby environmental protection outcomes have been prioritised alongside engineering, constructability, safety and program considerations. The HDD crossing has been informed by targeted ecological surveys, geotechnical investigations and constructability assessments, and has been designed so that HDD entry and exit points, pipe stringing, laydown areas and construction compounds are all located outside the CC-SEA as far as practicable.

Progressive refinement of the pipeline alignment and crossing design has further reduced the potential for interaction with higher-value ecological features, ensuring that impacts within the CC-SEA are localised, temporary and negligible. The HDD method enables the Wilson River crossing to be undertaken without compromising natural hydrological processes, geomorphic stability, riparian function, wildlife corridors or beneficial flooding.

Ongoing refinement of construction planning will continue during detailed design to ensure that ancillary facilities and temporary works remain outside the CC-SEA as far as practicable and that opportunities for further impact avoidance and minimisation are realised. However, the fundamental selection of HDD at the Wilson River represents the only practicable construction option capable of achieving the required QLD to NSW connection while maintaining the preservation of CC-SEA environmental attributes.

4.4 Construction details

The indicative construction methodology for the proposed pipeline is provided in Table 4.2. The works comprise a 1.6 km HDD (1.4 km beneath the CC-SEA) to install a pipeline beneath the Wilson River. The HDD methodology will allow the pipeline to be installed at depth without disturbance to the riverbed, banks, or surrounding environment. Construction activities will include site establishment, drill entry and exit pit preparation, pilot drilling, reaming, pipeline pull-back, testing, and site reinstatement.

Table 4.2 Indicative construction methodology for the project

Activity	Details
Site establishment	Survey and fencing Survey works would be completed prior to the commencement of HDD construction activities. Surveyors would mark the limits of approved disturbance for the HDD entry and exit sites, associated construction workspaces, and access routes. Only the northern HDD entry pad site is located within the CC-SEA. No fencing would occur within the CC-SEA or within the Wilson River channel.

Activity	Details
	Clear and grade Clearing and grading would be undertaken only within the approved workspaces. These activities would provide a level, safe and stable surface for HDD operations, pipe handling and support infrastructure. Clearing would be limited to the minimum area necessary and undertaken in accordance with vegetation clearing approvals. Topsoil and subsoil from the work areas would be stripped and stockpiled separately for reuse during rehabilitation. Stockpiles would be located outside the riparian corridor and stabilised to prevent erosion or sediment mobilisation. No clearing, grading, spoil storage, or vegetation removal would occur within the Wilson River bed or banks and is limited to the northern HDD entry point within the CC-SEA.
Pipeline installation	Crossing method – HDD The HDD method allows the pipeline to be installed at depth beneath the Wilson River without physical construction activities occurring within the bed or banks of the Wilson River and limited construction activities within the CC-SEA. An indicative overview of the HDD process is provided in Figure 4.1. HDD entry and exit locations The southern HDD exit point, pipe laydown area, etc. would be located outside the CC-SEA boundary and outside the mapped riparian corridor. The HDD entry point and associated temporary construction area will be located on the northern side of Wilson River within the CC-SEA. However, no works are proposed within the bank or bed of the Wilson River and there will be limited surface disturbance associated with the drill rig pad only. Temporary disturbance associated with HDD activities, including the drill rig pads, pipe laydown area, and mud-return line (MRL), would be confined to approved construction areas and fully reinstated following completion of works. Horizontal directional drilling methodology HDD is a trenchless construction technique used where open-cut methods are unsuitable or where avoidance of surface disturbance is required. The HDD process involves the following steps: – A specialised HDD rig is positioned at the entry site and drills an inclined pilot hole beneath the Wilson River along a precisely engineered and surveyed bore path to a designated exit point. – The pilot hole is continuously monitored and steered to ensure it remains within the approved design alignment and depth. – Once the pilot hole is completed, it is enlarged through a series of reaming passes to achieve the diameter required to safely accommodate the pipeline. – The prefabricated pipe string is then pulled back through the reamed borehole from the exit side to the entry side. – Drilling fluids, consisting primarily of water and bentonite, are used throughout the HDD process to cool and lubricate the drill head, stabilise the borehole and transport drill cuttings to the surface via the borehole. – A mud-return line would be installed on the existing ground surface to convey drilling fluids and entrained cuttings to a containment and recycling system. The mud-return line would be laid without additional ground disturbance and removed following completion of HDD works. – Drilling fluids and cuttings would be managed in closed-loop systems to prevent uncontrolled discharge. Spill response measures and frac-out contingency plans would be implemented to manage any unplanned events. Use of existing access track for mud-return line installation An existing access track that crosses the Wilson River will be utilised for the installation, monitoring and removal of the temporary above-ground MRL associated with HDD activities. The existing track will be used as-is, with no widening, upgrading, vegetation clearing or ground disturbance required. The MRL will be temporarily laid along the previously cleared exploration track surface to convey drilling fluids and entrained cuttings between the HDD exit point and the drilling fluid containment and recycling system. The line will be secured as required for safety and operational integrity but will not require trenching, anchoring that disturbs soil, or modification of the track structure. The existing access track will also be used for routine inspection, monitoring and maintenance of the MRL during HDD operations. Upon completion of drilling activities, the MRL will be fully removed and the access track left in its pre-existing condition, with no residual works or alteration. Use of the existing access track ensures that HDD-related activities, including mud-return management, are generally confined to previously disturbed areas and limits any new disturbance within the Wilson River channel, riparian vegetation or CC-SEA values.

Activity	Details
	Pipeline string fabrication Pipeline construction generally involves a repetitive sequence of activities undertaken as a continuous production process along the pipeline alignment. However, for the Wilson River crossing, pipeline stringing, welding and preparation would be undertaken out of sequence and confined to a dedicated stringing area located outside the CC-SEA and riparian corridor (Refer to Figure 4.2 showing works area). Pipe strings would be fabricated, welded, hydrostatically pre-tested, coated and inspected at this designated area prior to HDD installation. No pipeline assembly activities would occur within the CC-SEA.
Pipeline testing	Hydrostatic testing Hydrostatic testing would be undertaken in accordance with AS 2885 to verify pipeline integrity. Hydrostatic testing would involve filling defined test sections of the pipeline with water and pressurising them to the specified test pressure for the required duration. Hydrostatic testing infrastructure, including water abstraction points, pumping equipment and discharge locations (if required), would be located outside the CC-SEA and away from the Wilson River. There would be no direct interaction between hydrotest water and the Wilson River or riparian zone. Hydrotest water would be tested and either beneficially reused where practicable or treated and disposed of in accordance with the project Construction Environmental Management Plan (CEMP). Biocides or corrosion inhibitors may be added if required, consistent with industry standards. Once hydrotesting is completed and the pipeline has been dewatered, and drying has been completed, commissioning activities would proceed.
Reinstatement	As soon as practicable following completion of HDD activities, all temporary construction areas would be rehabilitated. Reinstatement would include: – removal of all construction equipment, materials and waste – decommissioning of temporary access tracks and work pads – re-contouring to reinstate natural landforms and drainage patterns – replacement of topsoil – installation of erosion and sediment controls where required – promotion of natural regeneration through scarification and reuse of cleared vegetation where appropriate. All disturbed areas would be rehabilitated to achieve stable landforms and support the re-establishment of pre-existing vegetation communities.
Pipeline commissioning	Pipeline commissioning would be undertaken in accordance with the consent to commence operation requirements under the <i>Petroleum and Gas (Production and Safety) Act 2004</i> and would include: – instrument calibration – system and valve testing – pipeline inspection gauge runs – pipeline drying – controlled introduction of gas. A detailed commissioning program would be prepared and subject to appropriate safety and risk assessments prior to commencement.

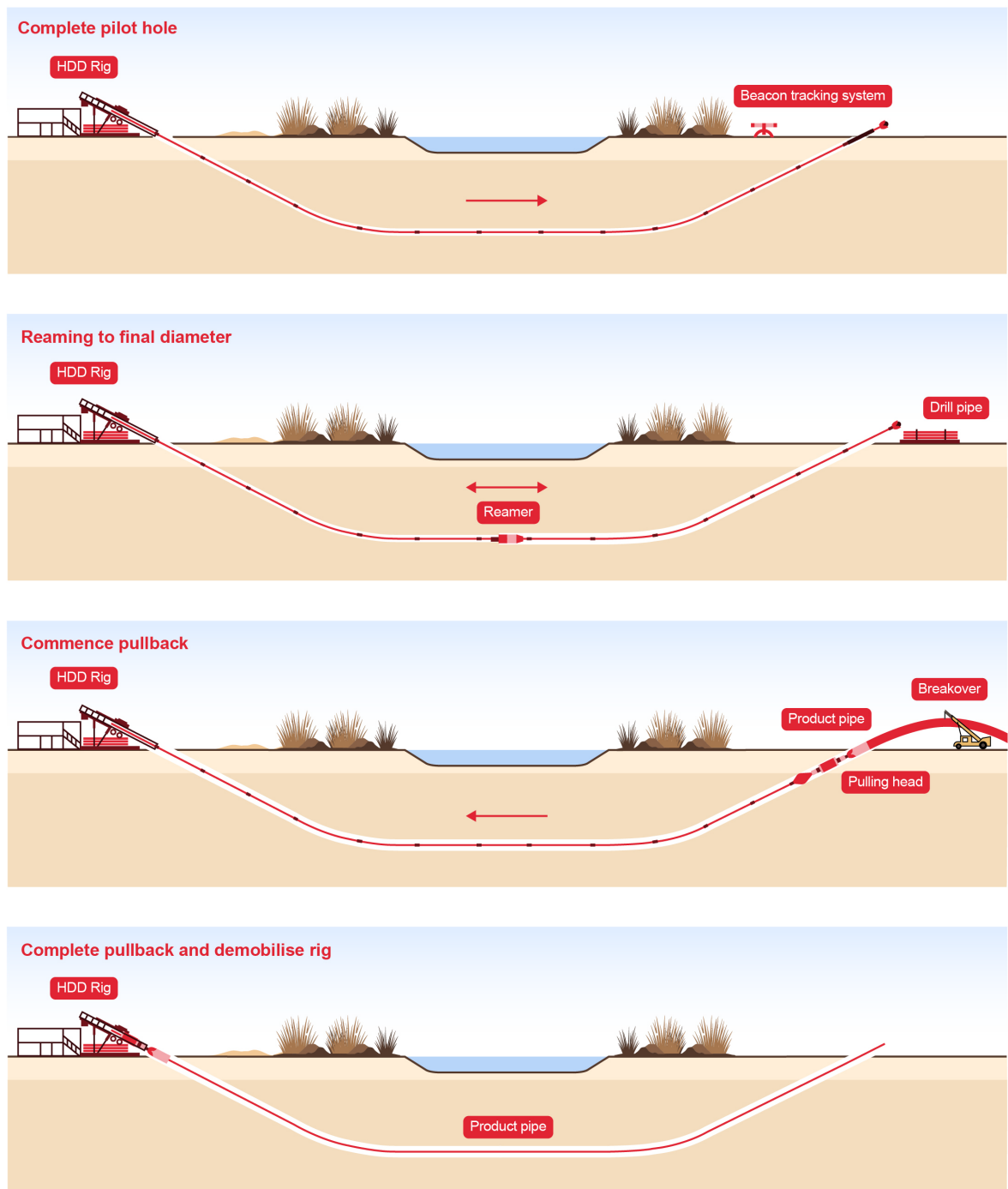


Figure 4.1 Indicative HDD process

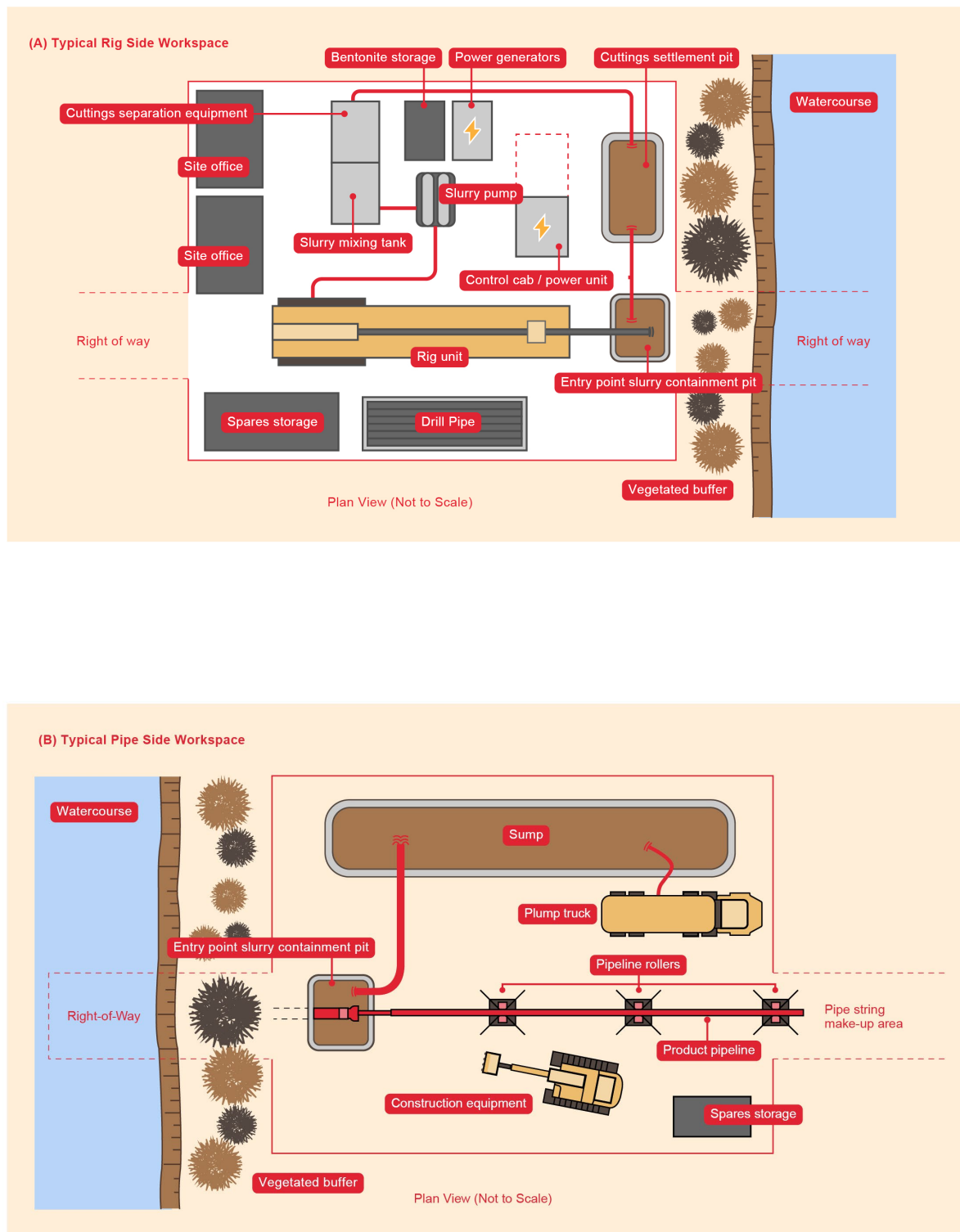


Figure 4.2 HDD – indicative workspace layout

4.5 Construction program and timing

Construction is proposed to commence (pending approvals) in mid-2027, with operation expected to commence in mid-2028. HDD works within the CC-SEA will be of short duration relative to overall construction, limiting the temporal exposure of environmental attributes. The HDD is expected to take approximately three months to complete, including mobilisation and demobilisation.

4.6 Reinstatement, rehabilitation and commissioning

4.6.1 Reinstatement and rehabilitation

Reinstatement and rehabilitation activities for the Wilson River crossing are limited to the temporary HDD-related works associated with installing the pipeline beneath the river using HDD. As the pipeline is installed entirely at depth, no open-cut trenching, pipe laying or backfilling occurs within the CC-SEA.

As soon as practicable following completion of HDD activities, all temporary disturbance associated with the crossing will be removed and reinstated, including the CRoW and at the HDD entry point within the CC-SEA on the northern side of the Wilson River and the removal of the above-ground HDD MRL and any minor disturbance associated with its placement along an existing access track.

The objectives of reinstatement and rehabilitation at the Wilson River crossing are to:

- return any temporarily disturbed areas to their pre-existing condition as soon as practicable
- maintain existing landform, topography and surface drainage patterns
- ensure ground surfaces are stable and erosion-resistant
- support natural regeneration of any vegetation where minor disturbance has occurred.

Reinstatement and rehabilitation activities will typically include:

- removal of all temporary HDD infrastructure, materials and waste from within the CC-SEA
- inspection and reinstatement of the existing access track surface, where used for the MRL, to its pre-construction condition
- installation of erosion control measures if required to stabilise disturbed ground
- monitoring of reinstated areas to confirm stability and recovery.

Reinstatement measures will be undertaken in consultation with the landholder to ensure compatibility with existing land use.

Following completion of reinstatement works, no permanent above-ground infrastructure will remain within the CC-SEA, other than standard pipeline marker signage installed in accordance with AS 2885.1, where required.

4.6.2 Commissioning

Commissioning activities would be undertaken in accordance with the consent to commence operation requirements outlined in the *Petroleum and Gas (Production and Safety) Act*.

Commissioning activities will be undertaken in accordance with relevant approvals and standards and will not result in additional disturbance within the CC-SEA.

4.7 Operation and maintenance

Operation of the pipeline is expected to commence in mid-2028. Operational activities will be undertaken in accordance with relevant approvals and standards and will not result in additional disturbance within the CC-SEA.

4.8 Decommissioning

Once the pipeline has come to the end of its useful life all surface facilities will be removed. Within the CC-SEA surface facilities are limited to standard pipeline marker signage installed in accordance with AS 2885.1, if required.

The pipeline will then be decommissioned in accordance with relevant legislation and guidelines including the legislative requirements of the day (currently the *Petroleum and Gas (Production and Safety) Act 2004*), relevant Australian Standards (AS) (currently AS 2885) and in consultation with relevant regulatory authorities.

It is anticipated at this point in time that decommissioning would involve retiring the pipeline, with the majority of the underground pipeline expected to remain in place. Leaving the pipeline underground minimises the need to disturb land and re-establish vegetation, which would otherwise be required to excavate and remove the pipeline.

5. Existing environment of the subject area

5.1 Land use and tenure

The subject area consists of a network of braided ephemeral channels and floodplains within the riparian corridor of the Wilson River, bordered by areas of grazing land to the northwest and southeast.

The subject area does not encroach upon any Priority Agricultural Areas, Strategic Cropping Areas, or Priority Living Areas.

The tenure of Lot 3 on BI22 is land lease tenure for the operation of Nockatunga Station, a cattle grazing property. The landowner of Lot 3 on BI22 is Bobs Flat Pty Ltd.

An owner of land is defined under the RPI Act as:

- the person for the time being entitled to receive the rent for the land or who would be entitled to receive rent for if it were let to a tenant at a rent or
- the lessee of a lease issued under the *Land Act 1994* for agricultural, grazing or pastoral purposes.

5.2 Easements and encumbrances

The subject area is not burdened by any easements.

5.3 Access

Access to the HDD north and south entry and exit pads is from Warri Gate Road, a Council managed road within the Bulloo Shire LGA which provides access to rural and pastoral properties in the Noccundra locality. Warri Gate Road forms a connection between Bulloo Developmental Road and surrounding pastoral land holdings and is primarily used for low-volume rural traffic, including pastoral operations and service vehicles.

Warri Gate Road is sealed, with a narrow pavement width of approximately 5 m and no formed or sealed shoulders. Warri Gate Road is unlit and generally lacks formal pavement markings and delineation. Sections of the road are known to be susceptible to flooding during significant rainfall events due to the absence of formal drainage infrastructure, with semi-frequent road closures during flood conditions.

Warri Gate Road is suitable for low-frequency light and heavy vehicle movements associated with rural land use and is identified as the primary access route for nearby rural developments where no alternative sealed access is available.

5.4 Surrounding land uses

Land uses surrounding the subject area predominantly consists of grazing land and areas of native vegetation (utilised for extensive cattle and sheep grazing) for the operation of Nockatunga Station.

The closest settlement is the rural township of Noccundra is located approximately 3.2 km southwest of the subject area. Noccundra is described as an outback town and locality centred around the heritage listed Noccundra Hotel, serving primarily as a service point providing accommodation, food and fuel to local residents and tourists. The Noccundra Airstrip (YNCD) is an unsealed landing strip located immediately adjacent to Noccundra and provides direct access to the locality for light aircraft. The Nockatunga Homestead is a larger settlement located approximately 13 km northwest of the subject area which also has an unsealed airstrip.

There are no protected areas present within the subject area. The Bulloo Downs Nature Refuge is located southeast of the subject area.

5.5 Channel Country Strategic Environmental Area environmental attributes

This section discusses the environmental attributes of the CC-SEA as relevant to the subject area informed through desktop assessment and targeted field investigations for the BIL. A summary of technical investigations is provided in Appendix C.

5.5.1 Vegetation mapping

Vegetation communities

The subject area is mapped as containing least concern Category B – Remnant Vegetation on the Regulated Vegetation Map under the *Vegetation Management Act 1999* (VM Act). On-ground vegetation community mapping was undertaken using quaternary level vegetation surveys in accordance with Nelder et al. (2023). Surveys ground-truthed the boundaries of all vegetation communities within the survey area (including wetlands and groundwater dependent ecosystems (GDEs) and were undertaken with the intensity required by Nelder et al. (2023) with additional point surveys undertaken to extrapolate vegetation mapping to areas with consistent vegetation.

Field-verified REs which are present within the subject area are described in Table 5.1 and shown in Figure 5.1.

Table 5.1 Field-verified regional ecosystems within the subject area

Regional ecosystem	VM Act class	Regulated vegetation	Description
5.3.5 – <i>Eucalyptus coolabah</i> open woodland +/- <i>Duma florulenta</i> shrubland on braided channel systems.	Least concern	Category B	The community was observed occurring on loamy alluvial substrates on braided alluvial plains of the Wilson River.
5.5.1x2 – <i>Acacia cambagei</i> low open woodland on Quaternary sediments	Least concern	Category B	The community was observed occurring on weathered loamy clay plains and broadly undulating downs with minor drainage features

Essential habitat

A review of the latest essential habitat mapping confirms that no essential habitat is mapped within the project site. The nearest patch of essential habitat is located approximately 2 km to the west.



5.5.2 Riparian and wildlife corridors

Riparian biodiversity corridors

The subject area is located in a riparian biodiversity corridor under the Queensland Government's Statewide Biodiversity Corridor mapping (Figure 5.3). Riparian biodiversity corridors were established in the Channel Country bioregion with the intention of connecting permanent waterholes. The mapping identifies the area as forming part of a broader landscape-scale ecological linkage associated with minor and major watercourses and riparian vegetation.

Terrestrial biodiversity corridors

The subject area is not located within a terrestrial biodiversity corridor. The closest terrestrial biodiversity corridor is located approximately 38.2 km southeast of the subject area, with the associated buffer approximately 28.4 km to the southeast. Terrestrial biodiversity corridors in the Channel Country bioregion aim to maximise connectivity and ecological linkage between tracts of remnant vegetation.

Fauna habitat types

Fauna habitats within the subject area are described in Table 5.2 and shown in Figure 5.2.

Table 5.2 Terrestrial fauna habitat types within the project site

Fauna habitat type	Description of habitat type	Photos
Riparian woodlands on ephemeral creek beds and floodplains	Associated REs: 5.3.2, 5.3.4, 5.3.5 Description: Occurs along ephemeral creek lines, levees, and braided drainage channels, often dominated by <i>Eucalyptus camaldulensis</i>, <i>E. coolabah</i>, and associated Acacias spp. Dense mid-storey patches and chenopod shrubs occur where grazing pressure is low. Large hollow-bearing eucalypts, coarse woody debris, and moisture-retentive alluvial soils provide important shelter and nesting habitat. Fauna values: Movement corridors for woodland birds (honeyeaters, woodswallows, parrots) and arboreal reptiles. Foraging habitat for raptors including red goshawk, brown falcon, and black falcon. Seasonal amphibian breeding habitat in inundated areas. Target species: Painted honeyeater, pink cockatoo, blue-winged parrots, migratory shore/wetland birds.	Refer to ID 1 and ID 3 in Figure 5.2

Fauna habitat type	Description of habitat type	Photos
Gidgee and mulga woodlands on alluvial plains	Associated REs: 5.3.9, 5.5.1, 5.6.2 Description: Low to open woodland dominated by <i>Acacia</i> spp, (e.g., <i>Acacia cambagei</i>). Occasional <i>Eucalyptus coolabah</i> on braided channels. Occurring largely on cracking clay plains and minor drainage lines. Understorey varied from chenopod shrubland to sparse tussock grasses. Mistletoe (<i>Amyema preissii</i>) common in some patches, supporting specialised nectar- and fruit-eating birds. Fauna values: Foraging and shelter for woodland birds including rufous whistler, hooded robin, and honeyeater species. Fallen timber may support reptiles and small mammals (e.g., plains rat). Seasonal productivity pulses after rain provide food for nomadic granivores. Target species: Painted honeyeater, blue-winged parrot, plains rat, plains wanderer, red goshawk, grey falcon.	Refer to ID 1 and ID 4 in Figure 5.2.
Seasonal wetlands and floodplains	Associated REs: 5.3.2, 5.3.4, 5.3.5, 5.3.21 Description: Seasonally inundated channels, floodplains, and depressions holding water after significant rainfall events. Substrate varies from sandy to heavy clays with fringing vegetation. Fauna values: Breeding and foraging habitat for waterbirds (teals, herons, stilts) and migratory shorebirds. Seasonal small mammal/amphibian boom-bust cycles. High productivity pulses attracting raptors and scavengers. Target species: Migratory wetland birds, plains rat, dusky hopping mouse. Note: photo taken following a recent rain event.	Refer to ID 2 in Figure 5.2.

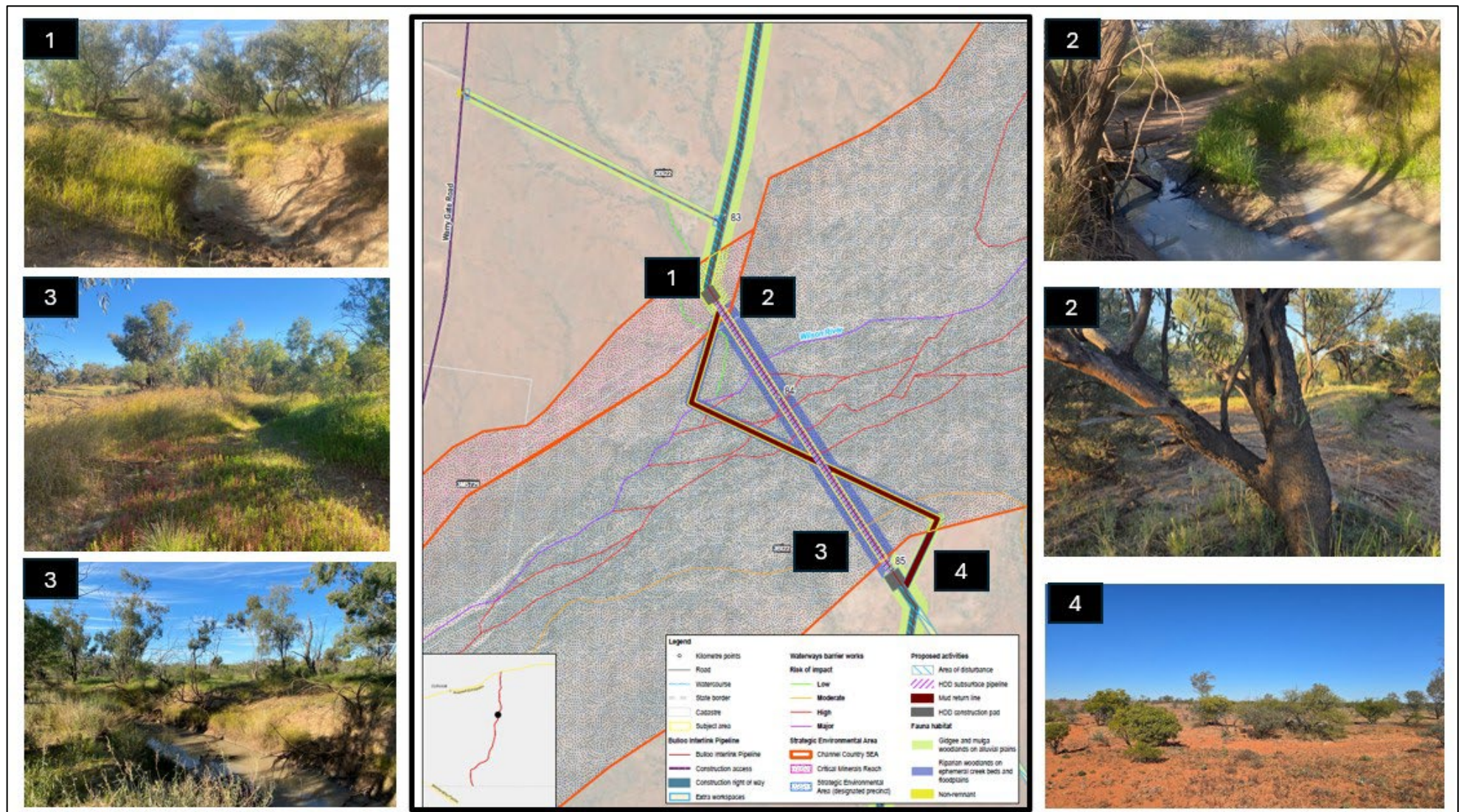
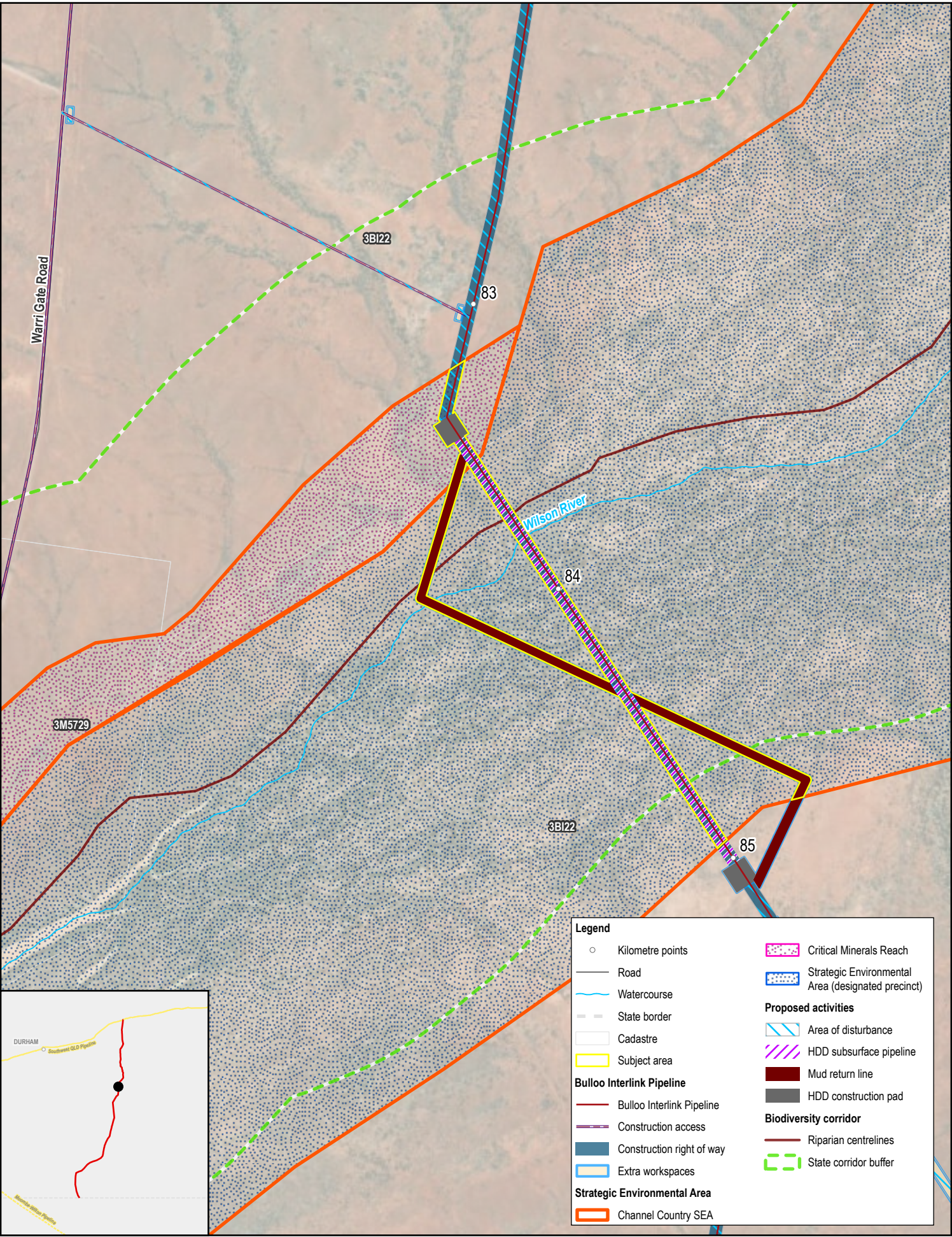
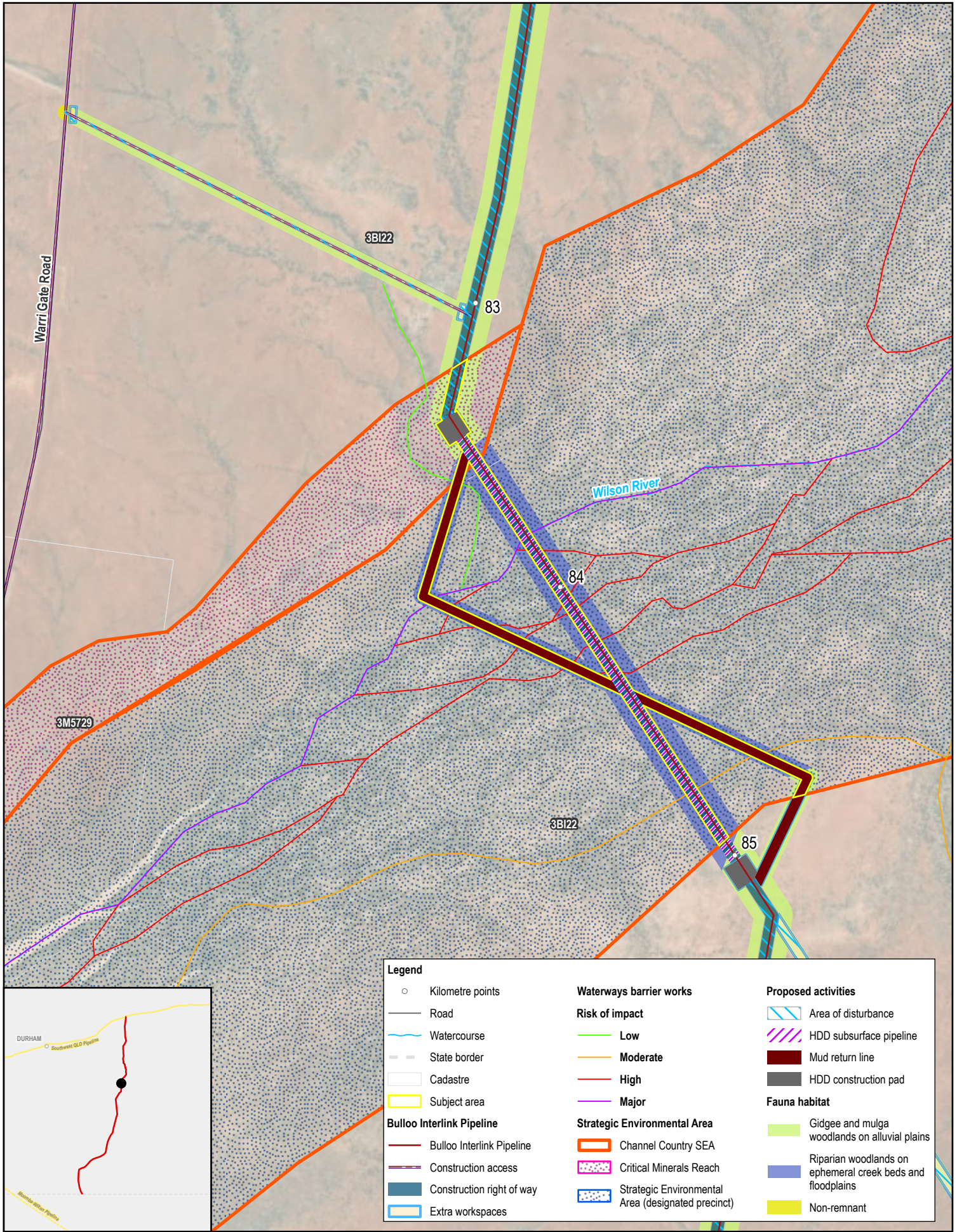


Figure 5.2 Photos showing the terrestrial fauna habitat types within the project site





Paper Size ISO A4
0 0.075 0.15 0.225 0.3
Kilometres
Map Projection: Transverse Mercator
Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 54



APA



APA Group
Bulloo Interlink Pipeline

Fauna habitat types

Project No. 12661648
Revision No. 0
Date 12/06/2026

Figure 5.4

Aquatic habitat within, upstream and downstream of the project site

In the Channel Country, channel morphology is highly variable due to its extremely low gradients, variable flow regimes, and fine sediment loads, which cause channels to shift, braid, and reform across wide floodplains during episodic flood and dry cycles.

Within the subject area, substrates were typically reflective of the Channel Country, comprising a generally uniform composition dominated by clay, sand, and minor silt, with little to no coarse material such as cobbles or boulders. Even at wetted sites, coarse substrate was scarce, suggesting low interstitial space available for aquatic fauna. At times, the channel bed contained sand slugs, temporary accumulations of sand likely deposited during high-flow events.

Waterway banks consisted mainly of cracking clays, appearing unstable and weakly consolidated due to limited vegetation cover. Bank slopes ranged from gently graded (indicative of slow overland flow channels) to steep and eroded sections (associated with faster flows). More established channels tended to be deeper, with noticeably eroded banks, although the surrounding landscape remained flat.

Aquatic habitat exhibited significant disturbance, primarily due to historic riparian vegetation clearing and cattle access to the channels. Cattle grazing has likely contributed to elevated nutrient inputs from surrounding agricultural land, resulting in localised eutrophication observable at several wetted sites where dense algae was growing.

The assessment of the Wilson River crossing location indicated evidence of bank instability. Where riparian vegetation was present, it consisted primarily of *Acacia* species, with some *Eucalyptus* species also present. Two aquatic flora species were identified during field surveys; sedge (*Cyperus victoriensis*) and common rush (*Juncus usitatus*). This vegetation may provide temporary aquatic habitat for fauna and flora during flow periods, including shading, detritus, root overhang and trailing bank vegetation.

Overall, there was minimal aquatic habitat present in waterways surveyed within, upstream and downstream of subject area. Where aquatic habitat was present, it was of relatively low quality and quantity, but comprised woody debris, varied substrates and overhanging vegetation. This was expected, as the broader Lake Eyre and Bulloo region is known to have sparse in-stream habitats (DETSI, 2013).

There was minimal to no aquatic flora or fauna present, and any aquatic flora present was largely desiccated. This lack of habitat, combined with the absence of aquatic species, indicates the waterways are unlikely to support aquatic species, and instead waterways are likely used as transient habitat during periods of high flow for moving to more suitable aquatic habitat refugia such as waterholes and wetlands.

There were no major barriers to fauna passage observed at the Wilson River survey site at the subject area.

Information that was collected during the habitat assessment for the Wilson River is summarised in Table 5.3.

Table 5.3 Aquatic habitat assessment for Wilson River

Site ID:	Approximate KP:	Bioassessment Condition Score:	Waterway barrier work classification:
Aquatic site 15 (Wilson River)	84	63 (fair)	Main channel: Major Risk (Purple) Braided channels: High Risk (Red)
Habitat characteristics:	The waterway is ephemeral and was reduced to an isolated pool at the time of the survey following recent rain events. Site comprised an irregular channel with substrate dominated by clay. There was evidence of woody debris in-stream with some trailing bank and overhanging vegetation. Banks were steep with moderate levels of instability. Riparian vegetation was disturbed due to cattle grazing and historic clearing. Two aquatic flora species were identified during field surveys; sedge (<i>Cyperus victoriensis</i>) and common rush (<i>Juncus usitatus</i>). There were no existing barriers to fauna movement within the surveyed reach.		
Photographs:	 Upstream (post-wet)  Downstream (post-wet)  Upstream (pre-wet)  Downstream (pre-wet)		
Waterway determination:	The waterway is unmapped under the <i>Water Act 2000</i> watercourse identification layer. The waterway had evidence of flow during the field survey in the post-wet season but was not flowing. Water was still present in the dry season with no flow. The waterway was found to have defined bed and banks and would be considered to meet the definition of a 'watercourse' as relevant to the <i>Water Act 2000</i>.		

5.5.3 Hydrological processes and beneficial flooding

Regional surface water hydrology

The Wilson River lies entirely within the Lake Eyre Basin. The Drainage Division is further divided into three basins (Cooper Creek – Bulloo River, Diamantina – Georgina rivers, and Lake Eyre). The BIL alignment is within the Cooper Creek – Bulloo River basin which comprises of several major and minor tributaries.

Catchments

The subject area is located in Channel Country, on the Wilson River within the Cooper Creek drainage basin. Cooper Creek Catchment is one of the largest internally draining basins in Australia, characterised by ephemeral braided networks of river and creek channels, with extensive floodplains, wetlands, riparian areas and overflows. Being located in arid or semi-arid regions, this basin is typically dry year-round, with highly variable rainfall typically occurring during summer months (Capon, 2004).

In Queensland, the Cooper Creek Catchment covers an area of approximately 243,868 km² (14.1% of the total catchment area (DETSI, 2016)). This area comprises primarily of natural palustrine wetlands in the form of floodplain swamps, connected by riverine systems during high flows. The area also features saline lacustrine wetlands, with fresh surface waters interacting and recharging the shallow, saline groundwater table (Cendón et al., 2010).

Local surface water hydrology

The Wilson River forms part of the Cooper Creek catchment and flows south-west into the Cooper Creek–Wilson River Junction wetland, where it meets Cooper Creek. From there, Cooper Creek continues westward through a network of braided channels and associated wetlands before eventually entering South Australia. The project site traverses the Wilson River at approximately KP 84 along the pipeline alignment.

Wilson River is also classified as a waterway on the Queensland Waterways for Waterway Barrier Works mapping as detailed in Figure 5.5. The intersected waterways are associated with the Wilson River and are classified below:

- moderate risk of impact (orange)
- high risk of impact (red)
- major risk of impact (purple).

The Wilson River is classified as a watercourse under the Water Act.

Wetlands

There are no wetlands of international importance (Ramsar wetlands) within the project site. The closest Ramsar-listed wetland is Caryapundy Swamp in NSW, located approximately 130 km south of the subject area and hydrologically associated with Bulloo Lake. While hydrologic connectivity exists at a regional scale via Bulloo Lake, the separation distance and use of HDD means indirect impacts are not expected.

The subject area intersects a riverine wetland. This wetland is classified as having General Ecological Significance (GES) under the EP Act.



Fish passage

The Channel Country is characterised by complex braided, anastomosing and anabranching river systems, such that multiple Waterway Barrier Works (WWBW) designations may occur within a single watercourse. Waterways classified as high or major risk under the WWBW framework generally support larger fish biomass and species with relatively weaker swimming abilities and are therefore more sensitive to the creation of instream barriers to fish movement (DAF, 2018).

The BIL is required to cross the Wilson River, which is mapped as a 'purple' waterway under the Department of Primary Industries WWBW spatial layer, indicating a high risk of potential impact to fish passage if instream works were to occur (refer Figure 5.4). However, the Wilson River crossing will be constructed using HDD, with the pipeline installed beneath the river channel at depth.

Use of HDD avoids direct disturbance to the riverbed, banks and flow, and does not involve instream excavation, placement of structures, flow modification or temporary barriers within the channel. As a result, the crossing will not create a physical or hydraulic impediment to fish movement, and natural longitudinal and lateral fish passage will be maintained during both construction and operation.

Accordingly, despite the Wilson River being mapped as a high-risk waterway for WWBW, the selected HDD construction method ensures that the proposed activities do not constitute a barrier to fish passage.

Regional groundwater hydrology

The regional groundwater conditions within the project site are dominated by shallow, unconsolidated Quaternary to Tertiary sediments associated with floodplains, watercourses and aeolian landforms, overlying Tertiary and Cretaceous sedimentary bedrock. The deeper Great Artesian Basin (GAB) aquifers occur well below the subject area and are hydraulically separated from near-surface units by low-permeability strata.

Local groundwater hydrology

There are no registered groundwater bores in proximity to the subject area.

5.5.4 Water quality

The nearest long-term water-quality monitoring site to the subject area is gauging station 011202A, Bulloo River at Autumnvale and is located approximately 130 km to the east, refer to Table 5.4.

As part of the Aquatic Ecology Technical Report, water quality monitoring was undertaken during the post-west season (July 2025) and pre-wet season (October 2025) at a number of sites, including at the Wilson River crossing within the subject area. Details of the survey location are detailed in Table 5.5.

Data collected during the field survey for the subject area (Aquatic site 15) is detailed in Table 5.6 In-situ water quality results for Aquatic site 15.

Table 5.4 Surface water quality monitoring data (existing condition) for Bulloo River at Autumnvale Station

Parameter	Total Count as at 09/02/2026	Median value	ANZG/ANZECC Guideline Value	Assessment
pH	66	7.055	6.0–8.0 (ecosystem protection)	Meets guideline
Turbidity (NTU)	48	887	2-25	Exceeds guideline (expected for Bulloo)
TDS (mg/L)	61	72	No DGV; stock water <500–1000 mg/L	Within acceptable range
Total Nitrogen (mg/L)	43	1.1	0.25–0.30 mg/L	Exceeds guideline
Total Phosphorus (mg/L)	45	0.3958	0.02–0.05 mg/L	Exceeds guideline

Table 5.5 Summary of survey effort for Aquatic site 15

Site name	Date(s)	Season	Hydrological condition	Assessment type	Location	Latitude	Longitude
Aquatic site 15	14/07/2025 15/07/2025 13/10/2025	Post-wet Pre-wet	Pool	Comprehensive	Wilson River, ~83.7 km point of alignment	-27.803786	142.617606

Table 5.6 In-situ water quality results for Aquatic site 15

Season	Date and time	Depth (m)	Temperature (°C)	Electrical conductivity (µS/cm)	pH	DO (% sat)	Turbidity (NTU)
Post-wet survey (July 2025)	14/07/2025 11:48	0.2	9.60	87.30	7.71	79.60	418.00
Pre-wet survey (October 2025)	13/10/2025 13:09	0.3	24.50	171.30	8.22	94.10	37.00

5.5.5 Geomorphic processes

Regional

The Wilson River is part of the Cooper Basin which becomes part of the Bulloo Basin. Both basins form part of the arid inland drainage systems of western Queensland. These basins are characterised by very low relief, extensive alluvial plains and highly variable, event-driven hydrological regimes and geomorphic processes. Long periods of negligible flow are punctuated by short, high-energy floods that transport sediment, reshape channels and deposit fine material across floodplains. Channel banks, typically composed of cohesive silts and clays, are prone to slumping and lateral adjustment during large events but remain relatively stable during extended dry periods.

Over geological timescales, repeated cycles of floodplain inundation, overbank deposition and localised erosion have produced a diverse mosaic of geomorphic units including levees, backswamps, abandoned channels, claypans and shallow depressions. These landforms are characteristic of arid-zone river systems in central Australia and underpin the ecological values associated with episodic wetland inundation.

Local

RE mapping indicates the dominant land zone within and surrounding the subject area is land zone 3 (Cainozoic alluvial plains and piedmont fans).

The dominant soils within and surrounding the subject area as mapped by the Atlas of Living Australian Soils (1:2,000,000 scale) are CC97 (cracking clay soil landscape) and BE14 (sandy and loamy soils developed on aeolian and alluvial materials).

5.5.6 Groundwater

Geology and hydrogeological units

The surface geology within the subject area is characterised by widespread Quaternary-age and Quaternary/Tertiary-age unconsolidated sediments comprising alluvium (including floodplain deposits) associated with water courses, dune sands (aeolian deposits) and colluvium (including gravel and sandy soils).

The Tertiary-age Glendower Formation (sandstone, sandy siltstone, minor conglomerate and mudstone) overlies the Late Cretaceous-age Winton Formation (sandstone, siltstone, mudstone, minor coal), which are mapped at outcrop and assumed to underlie the unconsolidated sediments in this area. Beneath the Winton Formation, the underlying geology includes the layered sedimentary aquifers of the Great Artesian Basin, which are hydraulically separated from the Winton Formation by the low permeability Allaru Mudstone aquitard.

Groundwater recharge and discharge

The following groundwater recharge mechanisms are anticipated for the geological units along and around the proposed pipeline:

- Unconsolidated sediments and alluvial deposits – recharge will primarily occur from downward infiltration of surface water from ephemeral watercourses during flow events, and across surrounding floodplains during flood events.
- Sedimentary units – recharge will primarily occur from downward infiltration of groundwater stored in the overlying unconsolidated sediments and alluvial deposits (along river channels and across floodplains).

Anticipated discharge mechanisms for groundwater around the proposed pipeline are as follows:

- Evapotranspiration of riparian vegetation from shallow groundwater in alluvial deposits/unconsolidated sediments.
- Evaporation from permanent and semi-permanent waterholes associated with watercourses, such as permanent waterholes on Wilson River.
- Short duration discharge of groundwater to watercourses from alluvium if the water table is higher than the bed of the watercourse, such as after a flood or significant rainfall event.

Groundwater levels and flows

The potential presence of shallow groundwater has been inferred from mapped GDE areas/lines, and along main watercourses. Depth to groundwater is anticipated to be within a few metres of the ground surface along and close to watercourses where denser vegetation is present, with groundwater likely to be perched on the underlying bedrock. Away from these areas, the presence of groundwater in alluvium/unconsolidated sediments is more likely to be short-lived.

Depth to groundwater in the underlying sedimentary rock is highly variable and has been recorded in the range of 20 to 100 m for the Glendower Formation and in the range of 5 to 80 m for the Winton Formation, but is largely indicated to be greater than 10 m below ground level.

Groundwater flow through unconsolidated sediments and alluvial deposits is anticipated to follow the overall fall in topography and direction of watercourses. Inferred groundwater flow is generally towards the south and the Wilson River across the northern part of the proposed route, towards the north and the Wilson River across the central part of the proposed route, and towards the south and Bulloo Lake across the southern part of the proposed route.

Calculated groundwater levels for the Winton Formation and Glendower Formation show overall higher groundwater elevations north of the Wilson River, and lower elevations south of the Wilson River and west of Bulloo Lake, indicating an overall general groundwater flow towards the south, except for the northern end of the pipeline where flow is inferred to be in a northerly direction.

Groundwater dependent ecosystems

GDEs are defined as ecosystems that rely on either permanent or intermittent access to groundwater to sustain themselves (Eamus et al., 2016). Desktop mapping indicates the potential presence of derived terrestrial GDEs and potential GDE aquifers associated with unconsolidated alluvial sediments within parts of the subject area. These mapped features are derived from regional-scale datasets and have not been field-verified.

No confirmed aquatic, terrestrial or subterranean GDEs have been identified within the subject area. No springs, permanent groundwater discharge features or cave ecosystems are present. Shallow groundwater, where present, is expected to be localised, intermittent and associated with alluvial deposits adjacent to watercourses.

The deeper Great Artesian Basin aquifers occur well below the subject area and are hydraulically separated from shallow units by low-permeability strata. The proposed pipeline alignment and HDD depth beneath the Wilson River are not expected to directly interact with groundwater systems that support GDEs.

Groundwater quality

Groundwater quality is naturally variable and influenced by geology, soils, recharge processes and residence time, as well as land use. In the absence of defined water quality objectives (WQOs), default guideline values for relevant environmental values (EVs) apply, including:

- *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZG, 2018) (for aquatic ecosystems, crop irrigation, farm supply/use, stock watering, aquaculture)
- *Australian Drinking Water Guidelines* (NHMRC, 2011), updated November 2018 (for drinking water).

The Wilson River is located within the Cooper Creek Basin, for which formal EVs and WQOs have not yet been established. Given the similar geology and predominantly grazing land use across the project area, groundwater EVs applicable to the adjacent Bulloo River Basin have been adopted for assessment purposes.

Groundwater within alluvium and unconsolidated sediments is generally expected to be fresh to brackish due to the seasonal/intermittent recharge of rainfall, run-off and surface water/flood water from infiltration in a low recharge/high evaporation climate. Regional mapping and aquatic ecosystem WQOs indicate groundwater quality within weathered alluvial deposits may range from fresh to saline (DES, 2020).

Groundwater in the vicinity of the Wilson River crossing near Noccundra is typically brackish to saline within the Winton Formation, although localised potable groundwater may occur. Deeper groundwater within the underlying Glendower Formation is generally brackish to saline (DES, 2020).

6. Potential impacts and proposed mitigation and management measures

This section describes the potential impacts on environmental attributes of the CC-SEA arising from the HDD installation of the BIL beneath the Wilson River, and the measures adopted to avoid, minimise and mitigate those impacts.

Detailed technical assessments have been undertaken where required and are documented in the Terrestrial Ecology Assessment Report, Aquatic Ecology Environmental Assessment Report and Water Technical Report. These assessments inform the impact characterisation and mitigation measures described below.

6.1 Vegetation, habitat and fauna

Potential impacts to vegetation, habitat and fauna within Wilson River within the CC-SEA are expected to be low as a consequence of the selected HDD construction method. As described in Section 4, the Wilson River crossing will be constructed by installing the pipeline entirely beneath the river channel and floodplain at depth, thereby avoiding direct disturbance to the riverbed, banks and riparian vegetation. No open-cut trenching, surface pipe laying or permanent construction footprint occurs within the CC-SEA.

Within the CC-SEA, surface activity is limited to:

- The temporary use of an existing access track to install, monitor and subsequently remove an above-ground HDD MRL. This activity does not involve vegetation clearing, ground disturbance, or modification of the track surface and is fully reversible.
- The HDD entry point on the northern side of the Wilson River including the temporary construction area that will be reinstated to its preconstruction condition following completion of works. Accordingly, any potential impacts to vegetation, habitat and fauna are expected to be localised, temporary and reversible, with no long-term effects.

The potential impacts to vegetation, habitat and fauna are detailed below:

- **Vegetation clearing and habitat disturbance:**
No planned vegetation clearing is required within the bed or banks of the Wilson River within the CC-SEA for the Wilson River crossing. The HDD method avoids disturbance to riparian, floodplain and aquatic vegetation within the active river channel. Any minor, incidental disturbance associated with temporary HDD management activities along the existing access track is expected to be negligible and will not affect vegetation structure or function. There will be limited vegetation clearing associated with the HDD entry point on the northern side of Wilson River including the temporary construction area, which will be reinstated to its preconstruction condition following completion of works.
- **Loss of habitat features:**
There will be limited vegetation clearing associated with the HDD entry point on the northern side of Wilson River including the temporary construction area within the CC-SEA. However, the works will be sited in previously disturbed areas where possible and set back from the Wilson River. Therefore, it is anticipated that there will be very limited to no loss of habitat features such as hollow-bearing trees, logs, groundcover or nesting habitat within the CC-SEA. Habitat availability, shelter resources and foraging opportunities for fauna will therefore be maintained.
- **Edge effects and habitat fragmentation:**
The Wilson River riparian corridor and associated wildlife movement pathways will be maintained, as HDD avoids surface disturbance and does not create linear clearings or barriers. Consequently, no edge effects or fragmentation of wildlife corridors are expected, either during construction or operation.
- **Fauna injury, mortality and displacement:**
The risk of fauna injury, mortality or displacement within the CC-SEA is low due to the limited vegetation clearing, and absence of trenching or heavy vehicle movements within the area. Fauna movement along the riparian corridor and floodplain is expected to continue unimpeded during HDD construction.

– **Invasive species and biosecurity risks:**

The limited extent of disturbance within the CC-SEA significantly reduces the risk of weed or pest species introduction. Standard biosecurity and hygiene measures will nevertheless be implemented in accordance with the project's environmental management framework to prevent the introduction or spread of invasive species.

6.1.1 Proposed mitigation and management measures

Avoidance, mitigation and management measures for vegetation, habitat and fauna within the CC-SEA are detailed in Table 6.1 below.

Table 6.1 *Proposed mitigation and management measures – vegetation, habitat and fauna*

Potential impact	Avoidance, mitigation and management measures	Timing
Vegetation clearing, habitat disturbance and loss of habitat features	– HDD selected to avoid direct disturbance to the Wilson River bed, banks and riparian vegetation. – No planned vegetation clearing within the bed or banks of the Wilson River within the CC-SEA. – HDD exit point, laydown areas and construction compounds located outside the CC-SEA. – Temporary use of existing access track only; no new disturbance or track modification. – All temporary HDD infrastructure (e.g. MRL) removed immediately following completion of HDD works. – Any minor disturbance reinstated to pre-existing condition in consultation with the landholder. – The HDD entry point on the northern side of Wilson River including the temporary construction area, will be located within cleared and disturbed areas as far as practicable and reinstated to its preconstruction condition following completion of works.	Design Pre-construction Construction
Edge effects and habitat fragmentation	– Subsurface HDD installation avoids creation of linear clearings or surface barriers. – Riparian vegetation structure and continuity maintained. – No fragmentation of wildlife corridors within the CC-SEA. – No permanent above-ground infrastructure within the CC-SEA (other than standard AS 2885 signage, where required).	Design Pre-construction Construction
Fauna injury, mortality and displacement	– HDD beneath the Wilson River avoids vegetation clearing, trenching and heavy vehicle movements within the CC-SEA, reducing risk to fauna. – The HDD entry point on the northern side of Wilson River including the temporary construction area, which will be located within previously disturbed area where possible and will be reinstated to its preconstruction condition following completion of works. – Construction activity within the CC-SEA limited to temporary, low-intensity HDD management activities. – Workforce inductions to include fauna awareness and reporting procedures. – Adverse wildlife interaction response procedures implemented if required.	Pre-construction Construction
Introduction and/or spread of invasive species	– Implement biosecurity and hygiene procedures for vehicles and equipment entering and exiting the site. – Use weed-free materials where required.	Construction Operation

Potential impact	Avoidance, mitigation and management measures	Timing
	– Inspect and clean equipment prior to entering the CC-SEA. – Monitor disturbed areas following reinstatement to confirm absence of weed establishment.	

6.2 Hydrological processes and water quality

Hydrological processes within the CC-SEA are characterised by ephemeral and event-driven flow regimes, broad and shallow inundation during flood events, and strong connectivity between river channels, floodplains, wetlands and downstream waterholes. As described in Section 4, the Wilson River crossing will be constructed using HDD, with the pipeline installed beneath the river channel and floodplain at depth.

The HDD construction method avoids direct disturbance to the riverbed, banks and riparian corridor and does not involve in-channel works, open-cut excavation or alteration of surface drainage within the CC-SEA. Accordingly, the potential for impacts to hydrological processes and water quality is considered low, with any residual risks being localised, temporary and reversible.

The potential impacts to hydrological processes and water quality are detailed below:

- **Alteration of surface water flow paths:**
No planned earthworks, trenching, spoil placement or surface re-profiling will occur within the bed or banks of the Wilson River within the CC-SEA. The HDD method maintains existing surface landform and drainage patterns and therefore does not alter floodplain sheetflow or overland flow connectivity. Temporary surface activity is limited to use of an existing access track for HDD management and the HDD entry point on the northern side of Wilson River including the temporary construction area, which will be reinstated to its pre-construction condition following completion of works.
- **Flood behaviour and wetland connectivity:**
The Wilson River crossing will not obstruct or redirect surface flows, nor alter channel conveyance or overbank flooding processes, as the pipeline is installed entirely beneath the channel at depth. By avoiding disturbance to the river bed, banks and adjacent floodplain, HDD ensures that natural flood behaviour and hydraulic connectivity between floodplains, wetlands and downstream waterholes are maintained.
- **Sedimentation, erosion and turbidity:**
The avoidance of in-channel works and floodplain excavation significantly reduces the risk of sediment mobilisation, erosion and turbidity associated with construction. Standard erosion and sediment control measures will be implemented at HDD management locations outside the CC-SEA to prevent sediment transport during rainfall events. As a result, impacts to downstream aquatic habitats from sedimentation or increased turbidity are unlikely.
- **Water quality risks:**
Potential water quality risks are primarily associated with HDD drilling fluid management, accidental spills of fuels or lubricants from support equipment and the HDD entry point on the northern side of Wilson River including the temporary construction area. These risks will be mitigated through closed-loop drilling fluid systems, continuous monitoring of drilling pressures and returns, implementation of spill prevention and response procedures, and appropriate storage and handling of fuels and chemicals in accordance with the project environmental management framework. No routine discharges to surface waters within the CC-SEA are proposed. Erosion and sediment controls at HDD support areas will be implemented.
- **Aquatic fauna movement and refuge connectivity:**
Installation of the pipeline using HDD avoids disturbance to aquatic habitat and does not introduce physical or hydraulic barriers within the Wilson River. As no instream works or temporary barriers are required, aquatic fauna movement and refuge connectivity will be maintained during construction and operation. The risk of indirect effects on aquatic fauna due to temporary surface activities is considered negligible.

6.2.1 Proposed mitigation and management measures

Avoidance, mitigation and management measures for hydrological processes and water quality within the CC-SEA are specific to the HDD crossing of the Wilson River. The selection of HDD as the construction method

fundamentally avoids direct impacts to hydrological processes and water quality by eliminating in-channel works and open-cut excavation within the CC-SEA.

Mitigation measures focus on managing residual and indirect risks associated with HDD support activities, including drilling fluid management, spill prevention and temporary use of existing access tracks. Refer to Table 6.2.

Table 6.2 *Proposed mitigation and management measures – hydrological processes and water quality*

Potential impact	Avoidance, mitigation and management measures	Timing
Alteration of surface flow paths	– Use HDD to install the pipeline beneath the Wilson River channel and floodplain at depth, avoiding surface disturbance and maintaining existing drainage patterns. – No trenching or re-profiling within the CC-SEA. – Temporary use of existing access tracks only for the MRL; reinstate track surfaces to pre-construction condition following completion of HDD works.	Design Pre-construction Construction
Flood behaviour and wetland connectivity	– HDD avoids obstruction or redirection of surface flows and does not alter channel conveyance or overbank flooding. – No placement of materials or infrastructure within the river channel or floodplain that could affect floodplain connectivity. – Emergency weather and flood contingency procedures implemented during HDD works.	Pre-construction Construction
Sedimentation, erosion and turbidity	– HDD avoids in-channel excavation and floodplain earthworks, significantly reducing erosion and sedimentation risk. – Implement erosion and sediment controls at HDD support areas inside and outside the CC-SEA in accordance with the project ESCP. – Maintain ground cover at HDD management locations and stabilise any minor disturbed surfaces following completion of works.	Construction
Water quality risks (including drilling fluids and spills)	– Implement a Drilling Fluid Management Plan, including closed-loop fluid circulation and frac-out contingency measures. – Continuous monitoring of drilling pressures and returns during HDD operations. – Store fuels, oils and chemicals in appropriately bunded areas outside the CC-SEA. – Maintain spill kits on site and implement spill prevention and response procedures. – No routine discharges to surface waters within the CC-SEA.	Construction
Disturbance of aquatic fauna movement and refuge connectivity	– HDD will be adopted beneath the Wilson River channel to avoid direct disturbance to the channel bed and banks and maintain natural flow and aquatic connectivity.	Pre-construction Construction

6.3 Geomorphic processes

Geomorphic processes within the CC-SEA are driven by episodic, high-energy flow events, sediment transport and deposition across low-gradient river channels, floodplains and channel margins. As described in Section 4, the Wilson River crossing will be constructed using HDD, with the pipeline installed beneath the river channel and floodplain at depth.

The HDD construction method avoids direct disturbance to Wilson River bed, banks and riparian corridor and does not involve open-cut excavation, spoil placement or modification of surface landforms within the CC-SEA. Consequently, potential impacts to geomorphic processes are considered low, with any residual risks being localised, temporary and reversible.

Potential interactions with geomorphic processes are described below:

- **Soil disturbance and alteration of microtopography:**
No trenching or stockpiling are proposed within the CC-SEA for the Wilson River crossing. Surface

disturbance is limited to the temporary use of an existing access track for HDD management activities and the HDD entry point on the northern side of Wilson River and temporary construction area. This limits disturbance to soil horizons, microtopographic features (e.g. gilgai), infiltration characteristics and surface roughness associated with floodplain geomorphic function.

- **Bank and floodplain stability:**
Installation of the pipeline using HDD avoids disturbance to the Wilson River bed and banks and eliminates the risk of bank slumping, scour or destabilisation associated with open-cut crossings. Floodplain surfaces and drainage pathways will remain unchanged, maintaining natural geomorphic stability during and after construction.
- **Sediment transport and deposition:**
The absence of in-channel works and floodplain excavation significantly reduces the potential for sediment mobilisation and altered sediment transport or deposition patterns. Standard erosion and sediment controls will be applied at HDD support locations inside and outside the CC-SEA to ensure sediments are not mobilised during rainfall events.
- **Surface water quality interaction:**
Potential geomorphic-related water quality effects are limited to accidental spills or drilling fluid releases associated with HDD operations. These risks will be managed through closed-loop drilling fluid systems and appropriate spill prevention and response measures. No routine discharges to surface waters within the CC-SEA are proposed.
- **Groundwater dependent ecosystems:**
The HDD alignment passes beneath the Wilson River at depth and avoids disturbance to shallow alluvial sediments and groundwater discharge zones. As a result, no interaction with shallow groundwater systems or groundwater dependent ecosystems within the CC-SEA is anticipated.

6.3.1 Proposed mitigation and management measures

Avoidance, mitigation and management measures for geomorphic processes within the CC-SEA are specific to the HDD construction method at the Wilson River crossing. These measures are summarised in Table 6.3.

Table 6.3 *Proposed mitigation and management measures – geomorphic processes*

Potential impact	Avoidance, mitigation and management measures	Timing
Soil disturbance and alteration of microtopography	– Adopt HDD to install the pipeline beneath the river channel and floodplain at depth, avoiding surface soil disturbance. – No trenching or stockpiling within the CC-SEA. – Temporary use of previously cleared exploration track only; reinstate track surfaces to pre-construction condition following HDD completion. – Limit the temporary construction area associated with HDD entry point on the northern side of Wilson River.	Design, Pre-construction Construction
Bank and floodplain stability	– HDD avoids disturbance to Wilson River banks and floodplain surfaces, maintaining natural channel form and stability. – No reshaping, armouring or stabilisation works required within the CC-SEA. – Monitor HDD operations to confirm no inadvertent surface instability occurs.	Design Construction
Sediment transport and deposition	– Avoid in-channel works and floodplain excavation to minimise sediment mobilisation. – Implement erosion and sediment controls at HDD support areas in accordance with the project ESCP. – Promptly stabilise any minor disturbed surfaces inside and outside the CC-SEA.	Construction
Surface water quality	– Implement a Drilling Fluid Management Plan, including frac-out prevention and contingency procedures. – Use closed-loop drilling fluid systems and continuous monitoring of drilling pressures and returns. – Store fuels, oils and chemicals in bunded areas outside the CC-SEA and maintain spill kits on site.	Construction

Potential impact	Avoidance, mitigation and management measures	Timing
Alteration of groundwater dependent ecosystems	– HDD alignment avoids shallow alluvial sediments and groundwater discharge zones. – Use drilling fluids and additives in accordance with project specifications to avoid groundwater interaction. – No dewatering or groundwater abstraction required within the CC-SEA.	Design Construction

7. Conclusion

This report has been prepared in support of a RIDA for the HDD installation of the BIL beneath the Wilson River, within the CC-SEA on Lot 3 BI22. The scope of the application is confined to the following proposed activities within the CC-SEA:

- Approximately 1.4 km subsurface section of pipeline beneath the Wilson River, constructed using HDD. No disturbance to the Wilson River.
- Limited surface disturbance associated with the entry point of the HDD and associated temporary construction area on the northern side of Wilson River. No surface disturbance is proposed within the banks or bed of Wilson River.
- Use of existing access tracks for installation and removal of an above-ground HDD MRL, with no new ground disturbance or vegetation clearing.

Having regard to the existing land use, environmental setting and sensitivity of the CC-SEA, the proposed HDD crossing represents a highly constrained, low-impact activity that is consistent with the character and function of the local area. The selection of HDD avoids direct disturbance to the river channel, banks, riparian corridor and floodplain, and ensures the preservation of natural hydrological, geomorphic and ecological processes.

The application has been informed by targeted technical assessments and supported by management commitments that directly address the requirements of the RPI Act and RPI Regulation, including the Schedule 2 assessment criteria applicable to activities within a SEA. The proposal has been demonstrably designed to prioritise impact avoidance, with any residual risks being localised, temporary and reversible, and reduced to as low as reasonably practicable (ALARP) through established industry controls.

In particular, this report has demonstrated:

- a clear definition of the subject area and the limited nature of the project's interaction with the CC-SEA.
- the existing condition and value of relevant environmental attributes, including hydrological processes and beneficial flooding, riparian processes and wildlife corridors, geomorphic stability, water quality and aquatic connectivity
- the selection of HDD as the only practicable construction method capable of enabling the QLD to NSW pipeline connection while avoiding direct impacts to the Wilson River and CC-SEA values
- that the construction and operational footprint has been minimised to the greatest extent possible
- that the activity does not compromise the preservation of environmental attributes for which the CC-SEA is designated
- that required State and Commonwealth approvals will be progressed in parallel, ensuring integrated regulatory oversight.

On this basis, and subject to the implementation of the proposed management measures and relevant statutory approvals, the proposed HDD crossing is consistent with the intent and outcomes of the Regional Planning Interests framework. The activity enables essential linear infrastructure to proceed without compromising the environmental integrity of the CC-SEA.

Accordingly, it is concluded that the proposed Wilson River HDD crossing of the BIL is suitable for approval under the RPI Act and RPI Regulation.

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Appendix A

Pre-lodgement meeting minutes

Pre-application Meeting Summary

Proposed application for Regional Interests Development Approval (RIDA)

Bulloo Interlink Pipeline

Date	Tuesday, 14 October 2025
Time	11:30 -12:30am
Location	Teams
Attendees	Daniela Walker (DW) – Department of State Development, Infrastructure and Planning (DSDIP) Morag Elliott (ME) – DSDIP Rachel Mackriell (RM) – Department of the Environment, Tourism, Science and Innovation (DETSI) Michael Thouard – DETSI Helena Braye – DETSI Daniel Larsen - Department of Local Government Water and Volunteers (DLWV) Laura Shobbrook (LS) – GHD Rebecca Clemmy (RC) – GHD Kym Davis (KD) – APA Shannon Ireland (SI) – APA
Apologies	Darren Brewer – DSDIP (apology)
Project details	<u>Location:</u> the pipeline crosses the Strategic Environment Area on 3/BI22 (Nockatunga Station), approximately 120 km west of Thargomindah <u>Proposal:</u> Construction of a high-pressure gas pipeline across approx. 1.4 km of Strategic Environment Area (SEA).
Area of regional interest	Strategic Environment Area (SEA Channel Country)

Summary of discussions

Project overview

- The proposed Bulloo Interlink pipeline forms part of the five-year East Coast Gas Grid (ECGG) Expansion Plan. This project aims to provide energy security and supporting energy needs to QLD and NSW by the winter of 2028.
- Proposed pipeline to connect the South-West Queensland Pipeline, in Queensland to the Moomba to Wilton Pipeline, in New South Wales. It is approximately 340km – 235 km in length in the Queensland border.
- The proposed alignment of the pipeline crosses the Wilson River, which is identified as an area of Regional Interest (Channel Country Strategic Environment Area).

Proposed work within SEA Channel Country

KD noted that the proposed works within the SEA Channel Country will:

- use a horizontal directional drill (HDD) to minimise surface disturbance within the SEA
- use drilling muds and maintaining the hole until the pipeline can be put in place
- locate the mud return line on the surface between the HDD entry and exit points – no avoid disturbance.

Questions

1. How to describe impact area for sub-surface infrastructure?
2. What level of detail is required for the proposed activity (disturbance occurs outside of the SEA)?

Item 1

- RM - advised that shapefiles should be submitted to illustrate:
 - Planned disturbance areas (e.g., HDD entry/exit points)
 - Infrastructure locations (e.g., mudlines, sub-surface pipelines)
 - Ground-truthed ecological data relevant to the SEA Channel Country.
- RM also noted that the impact, including sub-surface effects, should be demonstrated through:
 - A detailed plan and cross-sectional diagrams
 - Clear representation of directional gas drilling and its implications for the SEA Channel Country.
- DW – informed that the RPI Act and the various RPI guidelines on the Department's website set out the requirements for an application for a RIDA (<https://www.planning.qld.gov.au/planning-issues-and-interests/areas-of-regional-interest#helpful-information>).

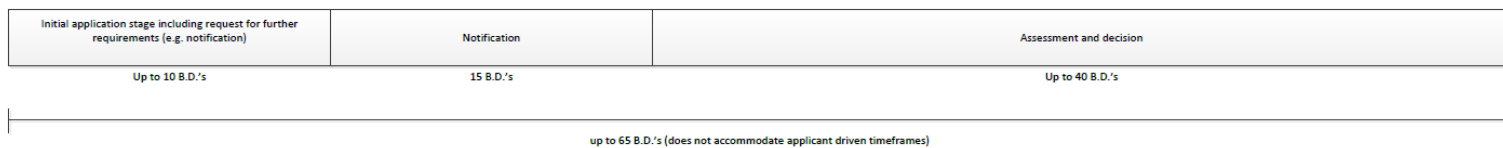
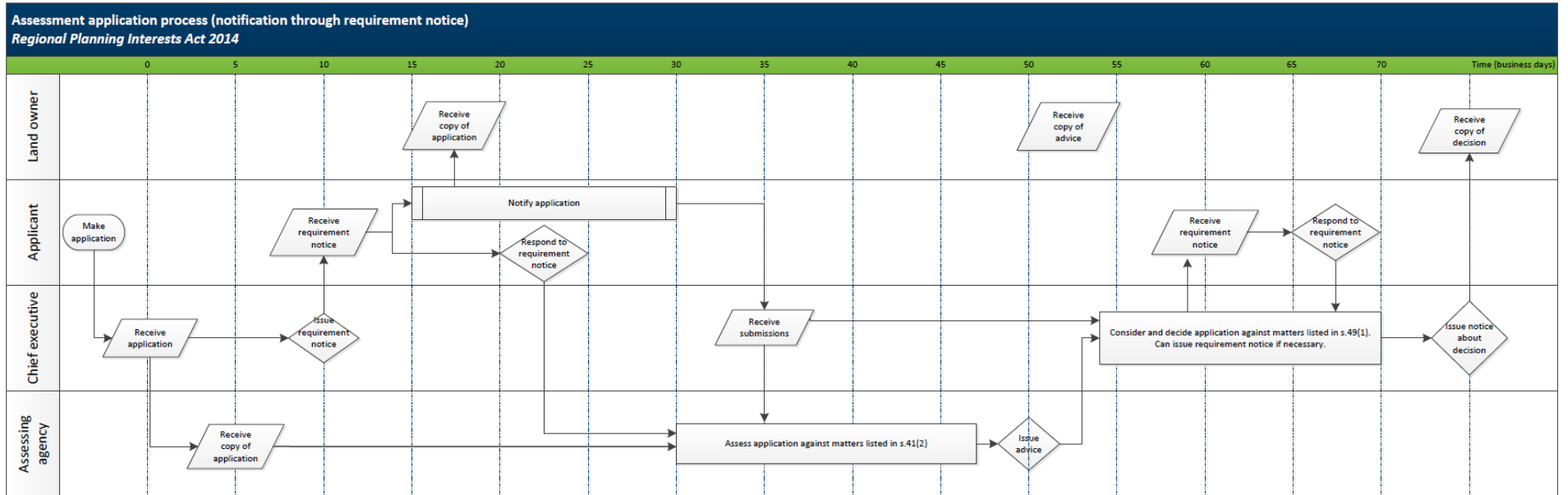
Item 2

- RM – advised that some detail of attributes bordering the SEA Channel Country may be required in the RIDA application but would confirm of the level of detail required.
- DW – advice that the application must:
 - identify the environmental attributes relevant to the land that is the subject of the application
 - identify any impacts on the environmental attributes as a result of the proposed activity
 - provide evidence that the impacts of the resource activity (there is no difference between construction and operational disturbance – it is the cumulative area of both) will not compromise the preservation of the environmental attributes for the SEA Channel Country.
- DW – informed the fees (schedule 4) and assessment criteria (schedule 2) are detailed in the Regional Planning Interests Regulation 2014 (RPI Regulation 2014). She also advised that public notification is likely to be required for the RIDA application.
- DW – asked that it would be preferable if the application provided EA and Licence approval, if available.

Further advice

- A RIDA is subject to an assessment of the extent of the expected impact of the resource activity on the area of regional interest only. The assessment does not extend outside the area of regional interest. The assessment of those broader impacts is undertaken during the assessment of the Environment Authority.
- Please consider the environmental attributes defined in Part 3, Section 7 of the RPI Regulation 2014 and any RIDA application addresses any direct or indirect impacts on the environmental attributes identified in the SEA Channel Country.
- Attachment 1 provides a process flowchart of the RIDA process, noting the timeframes are indicative, as response periods can be extended, etc.

Attachment 1 – RPI Process Diagram



Appendix B

Current title search

Appendix C

Summary of technical investigations

Aquatic ecology assessment

Aquatic ecology investigations were undertaken to identify and characterise aquatic environmental values within the subject area, including relevant upstream and downstream environments where impact pathways may occur. The assessment was based on aquatic habitat assessments conducted during field surveys to confirm the presence and condition of key aquatic habitat features within the project site and characterised wetlands and waterholes. Field surveys were completed under both post-wet and pre-wet seasonal conditions to capture variability in hydrology and habitat availability. The assessment incorporated aquatic habitat and bioassessments, aquatic flora and fauna surveys, and in-situ water quality measurements, providing a baseline understanding of aquatic ecosystem condition and informing the evaluation of potential impacts from the proposed activities.

At the Wilson River crossing (approximately KP 84), these investigations were supplemented by targeted assessments within the CC-SEA. The aquatic assessment identified habitat values associated with braided channels, isolated pools and riparian features, which provide refuge and connectivity for aquatic fauna. As the crossing of the Wilson River adopts HDD beneath the channel, this avoids direct disturbance to aquatic habitats, maintaining fish passage and refuge connectivity, and minimises risks associated with sediment mobilisation and water quality degradation within the CC-SEA.

Aquatic ecology information from the assessment relevant to the Wilson River and CC-SEA area has been included in the assessment.

Terrestrial ecology assessment

Terrestrial ecology investigations were undertaken to identify flora, fauna and habitat values across the BIL, including within the subject area, and surrounding areas potentially affected by construction and operation. Surveys included baseline habitat assessments, targeted searches for conservation significant species, fauna detection methods, and assessment of habitat features such as habitat trees and water-dependent features. Survey effort spanned multiple seasons to capture ecological variability, with targeted refinement surveys completed to further characterise high-value features and inform avoidance and impact minimisation during project design.

At the Wilson River crossing (KP 84), the terrestrial assessment specifically informed the refinement of the pipeline alignment and crossing methodology to avoid high-value riparian habitat and hollow-bearing trees. The adoption of trenchless crossing (HDD) and location of HDD entry and exit points to avoid the need for clearing within the riparian corridor and limits impacts to habitat features and wildlife corridors associated with the Wilson River system within the CC-SEA.

Vegetation and habitat information from the assessment relevant to the Wilson River and CC-SEA area has been included.

Water assessment

Surface water and groundwater assessments were undertaken to characterise hydrological processes, water quality, and water-dependent environmental values for the BIL. The assessment considered natural flow regimes, geomorphic processes, groundwater systems and waterholes that support ecological function across the landscape, consistent with relevant state and national guidelines.

The Wilson River crossing (approximately KP 84) represents a key hydrological feature within the study area. Detailed assessment confirmed that installation of the pipeline using HDD beneath the river channel avoids disturbance to the bed, banks and floodplain, maintaining natural flow conveyance, flood behaviour and hydraulic connectivity. The avoidance of in-channel works significantly reduces risks of sedimentation, erosion and turbidity, while water quality risks associated with construction are managed through controlled drilling systems and spill prevention measures. As a result, the crossing is not expected to result in material changes to surface water processes or water quality within the Wilson River system.

Hydrological, geomorphological and groundwater information relevant to the Wilson River from the assessment has been included in the assessment.



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