

Flora and Fauna Assessment

Rosehill Recycled Water Scheme Extension

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GLOSSARY

Abbreviation	Definition
asl	Above sea level
BAM	Biodiversity Assessment Method 2020
BC Act	<i>Biodiversity Conservation Act 2016 (NSW)</i>
BDAR	Biodiversity Development Assessment Report
BOM	Bureau of Meteorology
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DPE	Department of Planning and Environment
DPHI	Department of Planning, Housing and Infrastructure
DPI	Department of Primary Industries
DPIE	Department of Planning, Industry and Environment
Construction Corridor	The land depicted in Figure 1 and Figure 2
EEC	Endangered Ecological Community
ECE	East Coast Ecology
EP&A Act	<i>Environmental Planning & Assessment Act 1979 (NSW)</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
FM Act	<i>Fisheries Management Act 1994</i>
ha	Hectares
KFH	Key Fish Habitat
km	Kilometres
LGA	Local Government Area
Locality	The same meaning when describing a local population of a species or local occurrence of an ecological community.
m	metres
mm	millimetres
MNES	Matters of National Environmental Significance
NSW	New South Wales
PCT	Plant Community Type
SEPP	State Environmental Planning Policy
SIS	Species Impact Statement
TEC	Threatened Ecological Community

1. INTRODUCTION

1.1 The Proposed Activity

The coNEXA group owns and operates the Rosehill Recycled Water Scheme (also referred to within the group as the AquaNet Recycled Water Scheme), comprising a recycled water plant at Fairfield (owned by AquaNet Sydney Pty Ltd (ACN 131 234 124) (AquaNet)) and a recycled water reticulation network (owned by Rosehill Network Pty Ltd (ACN 131 213 691) (Rosehill)).

The scheme was initially approved as a major project (MP07_0121) under the now-repealed Part 3A of the NSW Environmental Planning and Assessment Act 1979 (EP&A Act)

The scheme receives treated effluent from Sydney Water and includes a recycled water treatment plant and an extensive pipeline network, producing high-quality non-potable water suitable for industrial use, supplying the Smithfield, Rosehill and Camellia precincts of Western Sydney.

NEXTDC Ltd (NEXTDC) is an established national developer and operator of data centres and is currently developing a network of facilities to achieve more than 3 gigawatts of data storage capacity. As part of its strategy, NEXTDC are currently seeking State significant development (SSD) consent to construct and operate the 'Western Sydney S4 facility' at Horsley Park, which will be capable of delivering up to 300 megawatts of data storage capacity.

While modern data centres implement advanced efficiency measures, they still require substantial cooling, with evaporative towers being the most effective. However, their reliance on large volumes of make-up water risks overdependence on Sydney's potable water supply, which could strain the water network and create vulnerabilities during drought or restrictions.

coNEXA SYD Pty Ltd (coNEXA), in partnership with NEXTDC, are developing an extension to the scheme to provide recycled water supply to cater for the demand of NEXTDC's facility (the 'proposal').

coNEXA has identified the opportunity to extend the scheme to supply the NEXTDC S4 data centre with 16.6 megalitres per day of recycled water. Technical assessments have confirmed the viability of this supply, which will be engineered to meet the data centre sector's stringent reliability requirements, targeting 99.999% supply resilience compared to the 98% standard for traditional potable water systems. The network will incorporate redundancy and adaptive capacity to ensure continuity in the face of climate variability, peak demand, and emergency conditions.

The existing scheme terminates at VISY Recycling (VISY) at 2 Herbert Street, Smithfield. A concept design alignment has been developed for the proposal, extending the network from the existing termination at Smithfield to the NEXTDC S4 facility in Horsley Park and includes:

- A 800 mm diameter high-density polyethylene (HDPE) pipeline to transfer treated effluent from the Fairfield recycled water plant from the existing VISY connection at 2 Herbert Place, Smithfield to a proposed booster pump station at 46 Victoria Street, Smithfield.
- A 800 mm diameter HDPE pipeline to transfer treated effluent from the pump station to a proposed reservoir site at 156-166 Walworth Road, Horsley Park.

- Dual HDPE pipelines (one 560 mm and one 800 mm diameter) supplying water from the reservoir to the NEXTDC facility via gravity.

East Coast Ecology Pty Ltd (ECE) was engaged by coNEXA c/- Element Environment to prepare a Flora and Fauna Assessment (FFA), for the proposed activity.

1.2 The Construction Corridor

The areas assessed within this report (the ‘Construction Corridor’) stretches from Johnston Cr, Horsley Park in the west through Wetherill Park and terminates east of Oxford St, Smithfield, spanning approximately 15km. The Construction Corridor is depicted in **Figure 1** and **Figure 2**.

1.3 Scope of Assessment

The overarching objective of this assessment was to evaluate the ecological values that occur within the Construction Corridor and identify how the proposal satisfies the relevant planning framework.

The full scope of the assessment included:

- Background research to determine the likelihood for NSW and/ or Commonwealth threatened biota to occur within the Construction Corridor during any point of their lifecycles
- Assess any potential impacts to species and/ or communities listed under the *Biodiversity Conservation Act 2016* (NSW) (BC Act) and the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- Establishing the likelihood of occurrence of any threatened entities (i.e. ecological communities and species) listed under the BC Act, the EPBC Act and the FM act
- Identifying and mapping the distribution of vegetation communities within the Construction Corridor
- Recording presence and the extent of any known or potential fauna habitat features such as nests, dreys, caves, crevices, culverts, pools, soaks, flowering trees, fruiting trees or hollow-bearing trees and provide recommendations for on-going management of these habitat features and any fauna present
- Recording presence and the extent of any priority weed infestations that require management by law
- Determining potential ecological impacts or risks that may result due to the proposed activity, and
- Recommendation of any controls or additional actions to be taken to protect or improve environmental outcomes of the proposed activity.

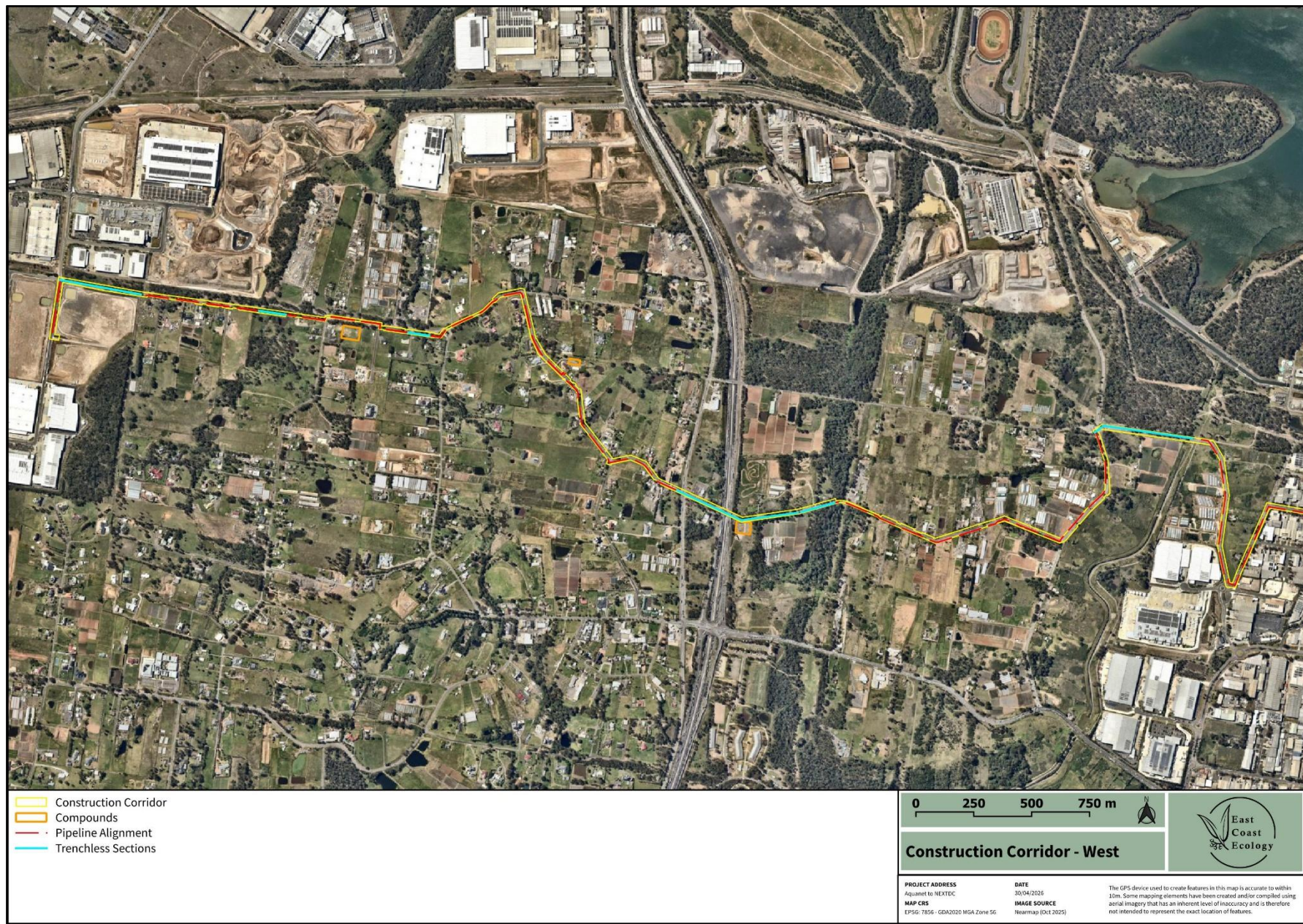


Figure 1. The location of the Construction Corridor (West).

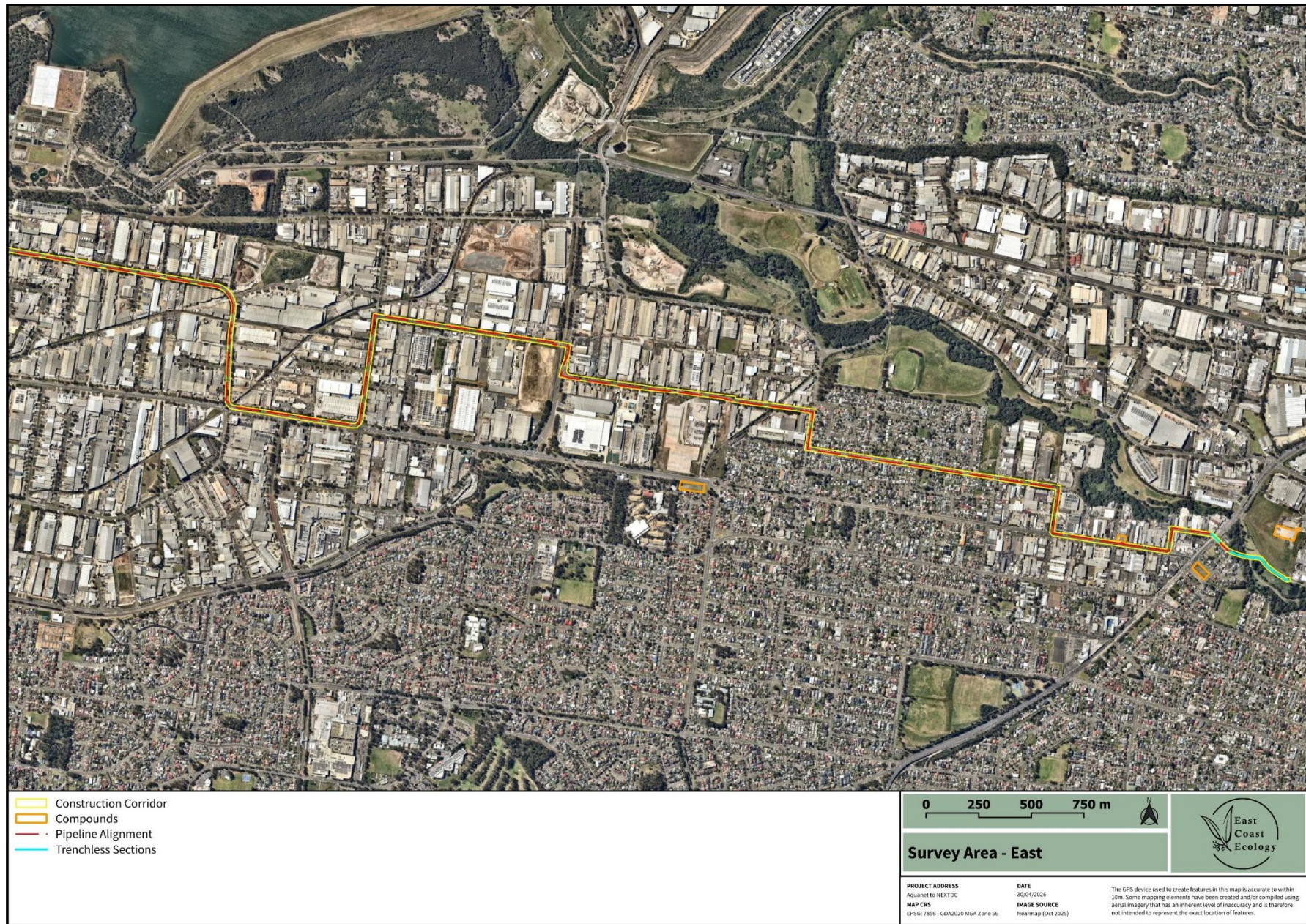


Figure 2. The location of the Construction Corridor (East).

2. LEGISLATIVE CONTEXT

2.1 *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*

The Commonwealth EPBC Act provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places which are considered Matters of National Environmental Significance (MNES). The EPBC Act identifies eight (8) MNES:

1. World Heritage properties
2. National Heritage places
3. Wetlands of international importance (those listed under the Ramsar Convention)
4. Listed threatened species and communities
5. Migratory species listed under international agreements
6. Great Barrier Reef Marine Park
7. Commonwealth marine areas, and
8. Nuclear actions.

The Protected Matters Search Tool identified the following as potentially occurring within the Construction Corridor (or within the area):

- 8 Threatened Ecological Communities
- 68 threatened species, and
- 14 Migratory species.

No EPBC Act listed species were identified within the Construction Corridor.

No EPBC Act listed threatened ecological communities (TEC) or migratory species were identified during the site assessment nor are likely to be impacted. The proposed activity will not result in a 'significant impact' on any MNES and a referral to the Commonwealth Minister for the Environment and Water will not be required.

2.2 *Environmental Planning and Assessment Act 1979 (NSW)*

The *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act) establishes the system of environmental planning and assessment in NSW. The EP&A Act is the principal planning legislation for NSW, providing a framework for the overall environmental planning and assessment of development proposals. The EP&A Act places a duty on the determining authority to adequately address a range of environmental matters including maintenance of biodiversity and the likely impact to threatened species, populations or ecological communities (under the BC Act).

2.3 *Biodiversity Conservation Act 2016 (NSW)*

The BC Act (NSW) seeks to conserve biological diversity and promote ecologically sustainable development, to prevent extinction and promote recovery of threatened species, populations and ecological communities and to protect areas of outstanding biodiversity value.

Several BC Act listed threatened species and threatened ecological communities are known to occur, or have the potential to occur within the Construction Corridor. The BC Act requires that the significance of

the impact on threatened species, populations and threatened ecological communities is assessed using the test listed in Section 7.3 of the BC Act. Where a significant impact is likely to occur, a Species Impact Statement (SIS) must be prepared in accordance with the Environment Agency Head's requirements, or a Biodiversity Development Assessment Report (BDAR) must be prepared by an accredited assessor in accordance with the Biodiversity Assessment Method (BAM) (DPIE, 2020a).

The proposed activity will not result in a 'significant impact' on any threatened entities and therefore the Biodiversity Offset Scheme is not triggered (**Appendix B**). As such, an SIS or a BDAR is not required. The Construction Corridor is not located within any Areas of Outstanding Biodiversity Value.

2.4 Biosecurity Act 2015 (NSW)

The *Biosecurity Act 2015* (NSW) provides a framework for the prevention, elimination and minimisation of biosecurity risks posed by an activity as a matter of biosecurity. As defined in Part 3, section 23 of this Act, any non-conformance by an individual is defined as guilty of an offence. Nine (9) priority weeds for the Greater Sydney region (DPI, 2026b) were identified within the Construction Corridor:

- African boxthorn (*Lycium ferocissimum*)
- African olive (*Olea europaea* subsp. *cuspidata*)
- Blackberry (*Rubus fruticosus* species aggregate)
- Bridal creeper (*Asparagus asparagoides*)
- Fireweed (*Senecio madagascariensis*)
- Ground asparagus (*Asparagus aethiopicus*)
- Lantana (*Lantana camara*)
- Prickly pear (*Opuntia* species)

Priority weeds must be managed in accordance with the *Biosecurity Act 2015* (NSW). Suitable mitigation measures (**Section 8.2**) have been provided to appropriately manage weeds within the impact areas in accordance with the Act.

2.5 Water Management Act 2000 (NSW)

The main objective of the *Water Management Act 2000* (NSW) (WM Act) is to manage NSW water in a sustainable and integrated manner that will benefit today's generations without compromising future generations' ability to meet their needs. Section 91E of the Act establishes an approval regime for controlled activities within waterfront land. However, Part 4, Division 2, Clause 64 of the Water Management (General) Regulation 2025 provides an exemption for public authorities in relation to all controlled activities on waterfront land. Therefore, approval under the WM Act is not required.

Despite four first order and three second order streams intersecting the Construction Corridor, the proposed activity will install pipeline through Horizontal Directional Drilling (HDD) in these areas and thus negligible impacts will occur to watercourses.

2.6 Fisheries Management Act 1994 (NSW)

The *Fisheries Management Act 1994* (NSW) (FM Act) aims to conserve, develop and share the fishery resources of NSW for the benefit of present and future generations including conserving fish stocks and key fish habitats and promoting ecologically sustainable development.

The closest Key Fish Habitat (KFH) occurs adjacent the eastern end of the Construction Corridor forming part of Prospect Creek in Kaluna Reserve (**Figure 3**). KFH also occurs 800m north of the western end of the Construction Corridor, within Reedy Creek. The proposed activity does not require works in KFH, nor did marine vegetation protected under the FM Act occur within the Construction Corridor. As such, the activity would not impact upon KFH.

Under Section 199 a public authority must, before it carries out or authorises the carrying out of dredging work give the Minister written notice of the proposed work and consider any matters raised by the Minister.

Dredging is defined under the FM Act as any work that involves excavating ‘water land’, which includes land which is intermittently submerged by water.

Recent advice from NSW Department of Primary Industry and Regional Development – Fisheries (DPIRD - Fisheries) confirms that notification under Section 199 is only required when work on ‘water land’ is within areas classified as key fish habitat. In general, this includes wetlands, enclosed natural water bodies, freshwater streams of third order or higher and tidal waters.

The proposed activity will involve working within a flood prone area which may intermittently be submerged by water and the pipeline will traverse an area adjacent to mapped coastal wetland, which is a KFH, near Prospect Creek. The open trench pipeline will avoid the mapped KFH but fall within the proximity boundary of the coastal wetland and will use HDD methods under Prospect Creek. As confirmed by consultation with DPIRD Fisheries, the proposed activity would not trigger any dredging and reclamation notification or permit requirement under Part 7 of the FM Act.

2.7 State Environmental Planning Policies

2.7.1 State Environmental Planning Policy (Resilience and Hazards) 2021

The State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards SEPP) commenced on the 1st of March 2022 and replaces the following former SEPPs:

- State Environmental Planning Policy (Coastal Management) 2018
- State Environmental Planning Policy 33 – Hazardous and Offensive Development, and
- State Environmental Planning Policy 55 – Remediation of Land.

Chapter 2 (Coastal management) of the State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards SEPP) aims to manage development in the coastal zone in a manner consistent with the objectives of the *Coastal Management Act 2016*, including the management objectives for each coastal management area.

The Construction Corridor is situated within areas defined as ‘Proximity to Coastal Wetlands’ and ‘Coastal Wetlands’ and is therefore subject to the relevant controls (**Figure 4**).

The area mapped as Coastal Wetlands and Coastal Wetlands Proximity Area adjoining the Construction Corridor consisted of exotic grassland (manicured lawn) with overhanging native canopy, which will not be impacted (All Arbor Solutions, 2026). The Construction Corridor occurs above the bank of the wetland and no inundation was observed in the site assessment. The proposed activity will not impact coastal wetland.

2.7.1.1 Development on certain land within coastal wetlands and littoral rainforests area

(1) The following may be carried out on land identified as “coastal wetlands” or “littoral rainforest” on the Coastal Wetlands and Littoral Rainforest Areas Map only with development consent—

- (a) the clearing of native vegetation within the meaning of Part 5A of the *Local Land Services Act 2013*
- (b) the harm of marine vegetation within the within the meaning of Division 4 of Part 7 of the *Fisheries Management Act 1994*
- (c) the carrying out of any of the following—
 - (i) earthworks (including the deposition of material on land),
 - (ii) constructing a levee,
 - (iii) draining the land,
 - (iv) environmental protection works
- (d) any other development.

(2) Development for which consent is required by subsection (1), other than development for the purpose of environmental protection works, is declared to be designated development for the purposes of the Act

The Construction Corridor is mapped as containing ‘Coastal Wetlands. As per the Arboricultural Impact Assessment (All Arbor Solutions, 2026) the proposed activity does not require the clearing of native vegetation within coastal wetlands areas, nor marine vegetation therefore, clause 2.7(a) and 2.7(b) are not applicable. Clauses 2.7(c) and 2.7(d) are addressed within the Review of Environmental Factors (REF) (Element, 2026).

2.7.1.2 Development on land in proximity to coastal wetlands or littoral rainforest

(1) Development consent must not be granted to development on land identified as “proximity area for coastal wetlands” or “proximity area for littoral rainforest” on the Coastal Wetlands and Littoral Rainforests Area Map unless the consent authority is satisfied that the proposed activity will not significantly impact on—

- (a) the biophysical, hydrological or ecological integrity of the adjacent coastal wetland or littoral rainforest, or
- (b) the quantity and quality of surface and ground water flows to and from the adjacent coastal wetland or littoral rainforest.

The Construction Corridor is mapped as containing ‘Coastal Wetlands Proximity Area’. However, the proposed activity will not impact the integrity of the coastal wetland or impact ground water levels of the coastal wetland, therefore clause 2.8(a) and 2.8(b) are not applicable.

3. METHODOLOGY

3.1 Desktop Review

A thorough literature review of local information relevant to the Construction Corridor was undertaken. Searches using NSW Wildlife Atlas (BioNet) (NSW DCCEEW, 2026a) and the Commonwealth Protected Matters Search Tool (PMST) (DCCEEW, 2026) were conducted to identify all current threatened flora and fauna, as well as migratory fauna records, within a 5km radius of the Construction Corridor. These data were used to assist in establishing the presence or likelihood of any ecological values as occurring on or adjacent to the Construction Corridor. Soil landscape and geological mapping, as well as existing vegetation mapping, were examined to assist in determining whether any threatened flora or ecological communities could be present.

The following technical resources were utilised in the preparation of this report:

- State and Commonwealth datasets:
 - EPBC Protected Matters Search Tool (DCCEEW, 2026)
 - NSW BioNet. The website of the Atlas of NSW Wildlife (NSW DCCEEW, 2026a)
 - NSW BioNet. Threatened Biodiversity Data Collection (NSW DCCEEW, 2026b)
 - NSW BioNet. Vegetation Classification System (NSW DCCEEW, 2026c)
 - NSW Government Spatial Services: Search and Discovery - Historical, Aerial and Satellite Imagery (Spatial Services, 2026a)
 - NSW Government Spatial Services: Six Maps Clip & Ship (Spatial Services, 2026b)
 - BAM Important Habitat Maps
 - Key Fish Habitat Maps – Hawkesbury-Nepean (DPI, 2026b)
- Vegetation and soil mapping:
 - The NSW State Vegetation Type Map (NSW DCCEEW, 2026d)
 - eSPADE v2.2.0 (NSW DCCEEW, 2026e)
- NSW State guidelines:
 - Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method (DPIE, 2020b)
 - Threatened Species Survey and Assessment: Guidelines for developments and activities. Working Draft (DEC, 2004b)

Species from the BioNet online search tool were used to produce a list of threatened species, populations and communities that are likely to occur within the Construction Corridor.

3.2 Ecological Site Assessment

Site assessments were undertaken by East Coast Ecology in November 2025 and March 2026. During the site assessments, the following activities were undertaken:

- Identification of the vegetation communities present on the Construction Corridor, with a focus on identifying any Threatened Ecological Communities (TEC)

- Recording a list of flora species encountered on the Construction Corridor, with a focus on species diagnostic of TECs and priority weeds
- Identification of the habitat of any threatened and regionally significant fauna including:
 - Tree hollows (habitat for threatened forest owls, parrots and mammals)
 - Caves and crevices (habitat for threatened reptiles and mammals)
 - Termite mounds (habitat for threatened reptiles)
 - Soaks (habitat for threatened frogs)
 - Wetlands and drainage lines (habitat for threatened fish, frogs and water birds)
 - Fruiting and flowering trees (food for threatened birds and mammals)
 - Trees and shrubs supporting nest structures (habitat for threatened birds and arboreal mammals)
 - Logs, bark and debris (habitat for threatened frogs, reptiles and snails).
- Identification of the locations of notable fauna habitat such as important nesting, roosting or foraging microhabitats, and
- Assessment of the connectivity and quality of the vegetation within the Construction Corridor and surrounding area.

3.3 Native Vegetation and Threatened Ecological Communities Methods

3.3.1 Review of Existing Information

A review of the State Vegetation Type Map (NSW DCCEEW, 2026d) was used to assist in the identification of Plant Community Types (PCTs) within and surrounding the Construction Corridor.

3.3.2 Field Surveys

The extent of native vegetation within the Construction Corridor was determined through a field assessment with the aid of a GPS-enabled tablet. The PCT of 'best-fit' was determined based on the floristic descriptions within the Vegetation Classification System database (NSW DCCEEW, 2026c).

3.4 Threatened Flora Survey Methods

3.4.1 Review of Existing Information

Threatened flora with potential to occur within the Construction Corridor and immediate surrounds were identified following review of BioNet and the PMST. Soil mapping (NSW DCCEEW, 2026e) and topography (Google Earth) were also used to provide further context on habitat constraints for threatened flora.

3.4.2 Field Surveys

To determine whether any threatened flora or their habitats were present, a survey was undertaken by meandering throughout the Construction Corridor and in areas of native vegetation, using parallel field traverses in accordance with the 'Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method' (DPIE, 2020b).

3.5 Threatened Fauna Survey Methods

3.5.1 Review of Existing Information

Threatened fauna with potential to occur within the Construction Corridor and immediate surrounds were identified following review of BioNet and the PMST. Soil mapping (NSW DCCEEW, 2026e) and topography (Google Earth) were also used to provide further context on habitat constraints for threatened fauna.

3.5.2 Habitat Constraints

A field survey was undertaken to identify any habitat constraints (e.g. waterbodies, rocky areas, tree hollows), including microhabitat, present within the Construction Corridor and immediate surrounds. Potential habitat constraints within the broader area (500m buffer) were assessed using Google Earth, historical aerial imagery (Spatial Services, 2026a), soil landscape mapping (NSW DCCEEW, 2026e) and recent vegetation mapping (NSW DCCEEW, 2026d).

3.5.3 Field Surveys

Targeted surveys were limited to Cumberland Plain Land Snails (**Section 3.5.3.1**). To determine whether other threatened fauna species were likely to occur, targeted habitat surveys were undertaken during parallel field traverses throughout the Construction Corridor.

3.5.3.1 Cumberland Plain Land Snail

The Cumberland Plain Land Snail (CPLS) is listed as Endangered under the BC Act. This terrestrial snail species primarily inhabits Cumberland Plain Woodland, west of Sydney from Richmond in the north, south to Picton and from Liverpool in the east to the base of the Blue Mountains. They are often found under litter of bark and leaves, sheltering in loose soil around grass clumps or occasionally under debris.

Targeted surveys for Cumberland Plain Land Snail involved meandering through the Construction Corridor and searching preferred microhabitats for the species, including under logs and other debris, amongst leaf and bark accumulations around bases of trees and under grass clumps, in line with the recommended survey methods (NSW DCCEEW, 2026a). Preferred microhabitat was generally absent from the Construction Corridor and the majority of preferred microhabitat identified adjoining the Construction Corridor will not be impacted by the proposed activity.

3.5.4 Permits and Licences

The biodiversity assessment was conducted under the terms of ECE's Scientific Licence issued by the NSW Department of Planning and Environment (SL102667). Fauna survey was conducted under approval RVF22/2367 from the NSW Animal Care and Ethics Committee.

3.6 Weather Conditions

Surveys were undertaken in November 2025 and March 2026. Weather conditions recorded at the nearest weather station (Horsley Park Equestrian Centre AWS (station 067119)) in the lead up and during the field survey are outlined in **Table 1** (BOM, 2026a).

Table 1. Weather conditions taken from the nearest weather station (station 067119) in the lead up and during the field survey (BOM, 2026a).

Timing/activities	Date	Day	Temperature		Rainfall (mm)
			Min	Max	
Lead up to the field survey	31/10/2025	Friday	13.0	26.8	0
	01/11/2025	Saturday	14.3	22.1	15.0
	02/11/2025	Sunday	13.7	26.1	0
Field survey	03/11/2025	Monday	16.0	34.2	0.2
	04/11/2025	Tuesday	16.6	22.2	3.2
	05/11/2025	Wednesday	11.2	26.4	0
Lead up to the field survey	06/03/2026	Friday	20.4	31.0	0.2
	07/03/2026	Saturday	22.5	29.5	0
	08/03/2026	Sunday	19.8	24.4	14.6
Field survey	09/03/2026	Monday	18.0	23.7	6.8

3.7 Study Limitations

This study was not intended to provide a complete inventory of all flora and fauna species with potential to occur within the Construction Corridor. The timing of the survey may not have coincided with emergence times of some species of flora and fauna, such as seasonally flowering herbs, seasonal migratory fauna or nocturnal fauna. To account for those species that could not be identified during the site assessment, detailed habitat assessments were combined with desktop research and local ecological knowledge to establish an accurate prediction of the potential for such species to occur on or adjacent the Construction Corridor.

For the purposes of this assessment, it is assumed mitigation measures will be implemented during construction to ensure that all trees growing in private property, but overhanging the road reserve will not be impacted. These trees are therefore not assessed in this report.

4. SITE CONTEXT

4.1 Landscape Features

4.1.1 IBRA Bioregion and subregion

The Construction Corridor is situated within the Cumberland and Fairfield City Council Local Government Areas (LGA) within Horsley Park, Wetherill Park and Smithfield. The Construction Corridor occurs within the 'Cumberland' Biogeographic Regionalisation for Australia (IBRA) Subregion, within the Sydney Basin IBRA Bioregion (**Figure 3**).

4.1.2 Rivers, streams, estuaries and wetlands

The Construction Corridor is bifurcated by four first order and four second order streams (**Figure 3**). One farm dam is located within the Construction Corridor. One area outlined as a coastal wetland is located at the eastern termination of the Construction Corridor, forming part of Prospect Creek in Kaluna Reserve (**Figure 4**). None of these aquatic areas will be impacted by the proposed activity.

4.1.3 Topography, Geology and Soils

The elevation within the Construction Corridor grades from approximately 88m above sea level (asl) in the western extent to approximately 25m asl in the eastern extent. The Construction Corridor is situated within the Blacktown, Luddenham and South Creek Soil Landscapes (NSW DCCEEW, 2026e). The Blacktown Soil Landscape is characterised by gently undulating rises on Wianamatta Group shales occurring extensively on the Cumberland Lowlands. The Luddenham Soil Landscape is characterised by undulating to rolling low hills on Wianamatta Group shales, occurring mainly in the southwest of the Cumberland Lowland. The South Creek Soil Landscape is characterised by floodplains, valley flats and drainage depressions on the Cumberland Plain, comprising the present floodplain of many drainage networks of the Cumberland Plain.

4.1.4 Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance

The Construction Corridor contains no areas of geological significance (karsts, caves, cliffs and crevices).

The Construction Corridor, or surrounding area, was not mapped as occurring on acid sulfate soils nor mapped as having risk/ probability of exhibiting occurrence of acid sulfate soils.

4.1.5 Areas of Outstanding Biodiversity Value

No Areas of Outstanding Biodiversity Value occur within the Construction Corridor or surrounding area.

4.1.6 NSW (Mitchell) Landscapes

Mitchell Landscapes (Mitchell, 2002) groups ecosystems into meso-ecosystems representing larger natural entities based on topography and geology. The naming of ecosystems and meso-ecosystems was standardised so that each name provided location information and a meaningful descriptive landscape term. The majority of the Construction Corridor occurs within the 'Cumberland Plain' Mitchell Landscape Ecosystem, with the eastern edge of the Construction Corridor within the mapped extent of the 'Georges River Alluvial Plain' Mitchell Landscape Ecosystem (**Figure 3**).

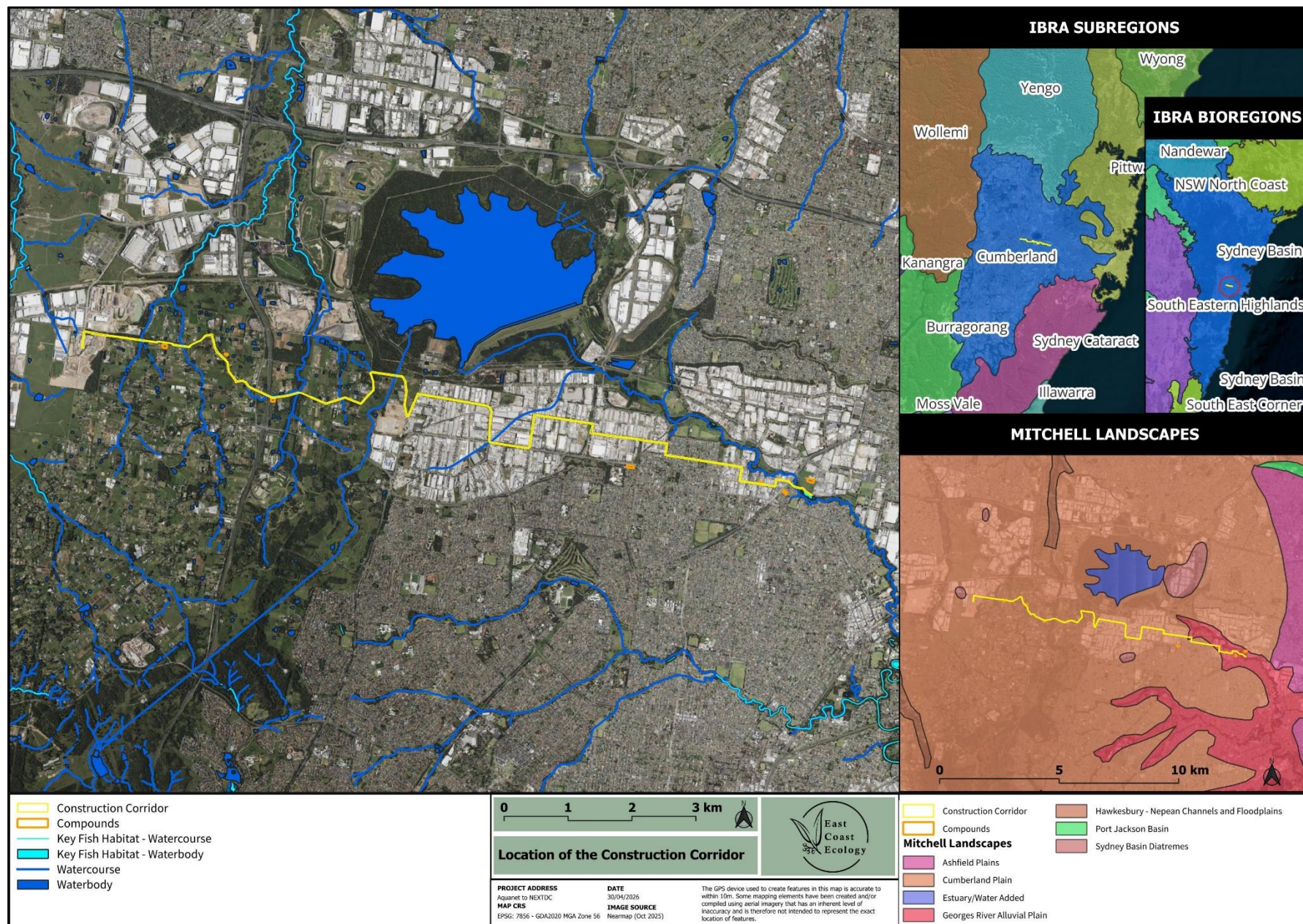


Figure 3. The location of Construction Corridor within the broader context.

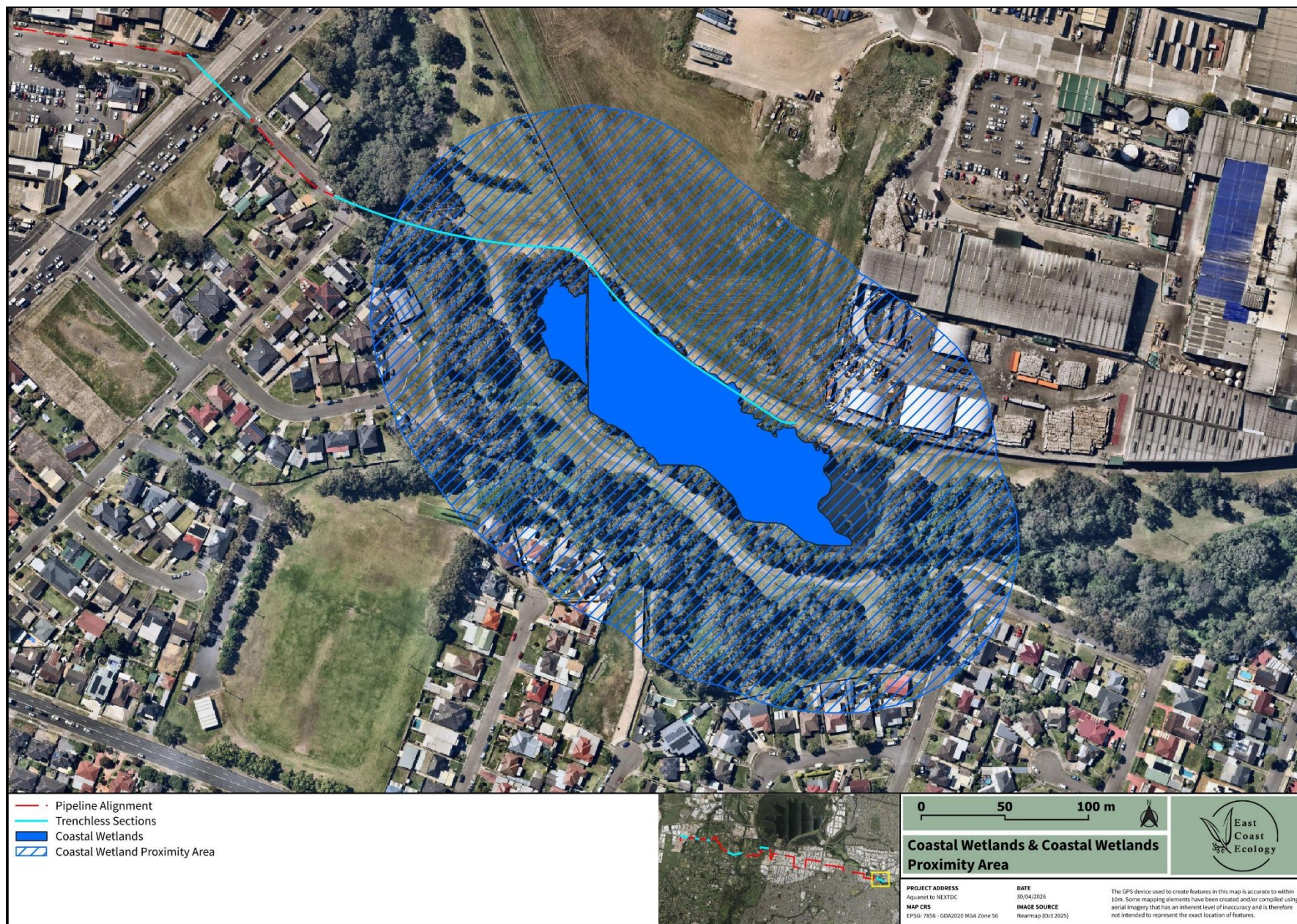


Figure 4. Location of Coastal Wetlands and Coastal Wetland Proximity Area in relation to the proposed activity.

5. RESULTS: NATIVE VEGETATION

5.1 The State Vegetation Type Map

The State Vegetation Type Map (NSW DCCEEW, 2026d) indicated the presence of eight (8) Plant Community Types (PCT) within or in proximity to the Construction Corridor:

- PCT 3318: Cumberland Moist Shale Woodland
- PCT 3319: Cumberland Shale Hills Woodland
- PCT 3320: Cumberland Shale Plains Woodland
- PCT 3448: Castlereagh Ironbark Forest
- PCT 3972: Sydney Creekflat Wetland
- PCT 4023: Coastal Valleys Riparian Forest
- PCT 4024: Cumberland Blue Box Riverflat Forest, and
- PCT 4025: Cumberland Red Gum Riverflat Forest.

These PCTs have associations with the following Threatened Ecological Communities (TEC):

- PCT 3318 is associated with the BC Act listed Endangered Ecological Community (EEC) Moist Shale Woodland in the Sydney Basin Bioregion, and the EPBC act listed Critically Endangered Ecological Community (CEEC) Western Sydney Dry Rainforest and Moist Woodland on Shale,
- PCT 3319 is associated with the BC Act listed CEEC Cumberland Plain Woodland in the Sydney Basin Bioregion, and the EPBC act listed CEEC Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest,
- PCT 3320 is associated with the BC Act listed CEEC Cumberland Plain Woodland in the Sydney Basin Bioregion, and the EPBC act listed CEEC Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest,
- PCT 3448 is associated with the BC Act listed EEC Cooks River/Castlereagh Ironbark Forest in the Sydney Basin Bioregion, and the EPBC act listed CEEC Cooks River/Castlereagh Ironbark Forest of the Sydney Basin Bioregion,
- PCT 3972 is associated with the BC Act listed EEC Sydney Freshwater Wetlands in the Sydney Basin Bioregion,
- PCT 4023 is associated with the BC Act listed EEC Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions, and the EPBC act listed EEC Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland ecological community,
- PCT 4024 is associated with the BC Act listed EEC River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions, and the EPBC act listed CEEC River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria, and
- PCT 4025 is associated with the BC Act listed EEC River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions, and the EPBC act listed CEEC River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria.

The State Vegetation Type Map is presented in **Figure 5**.

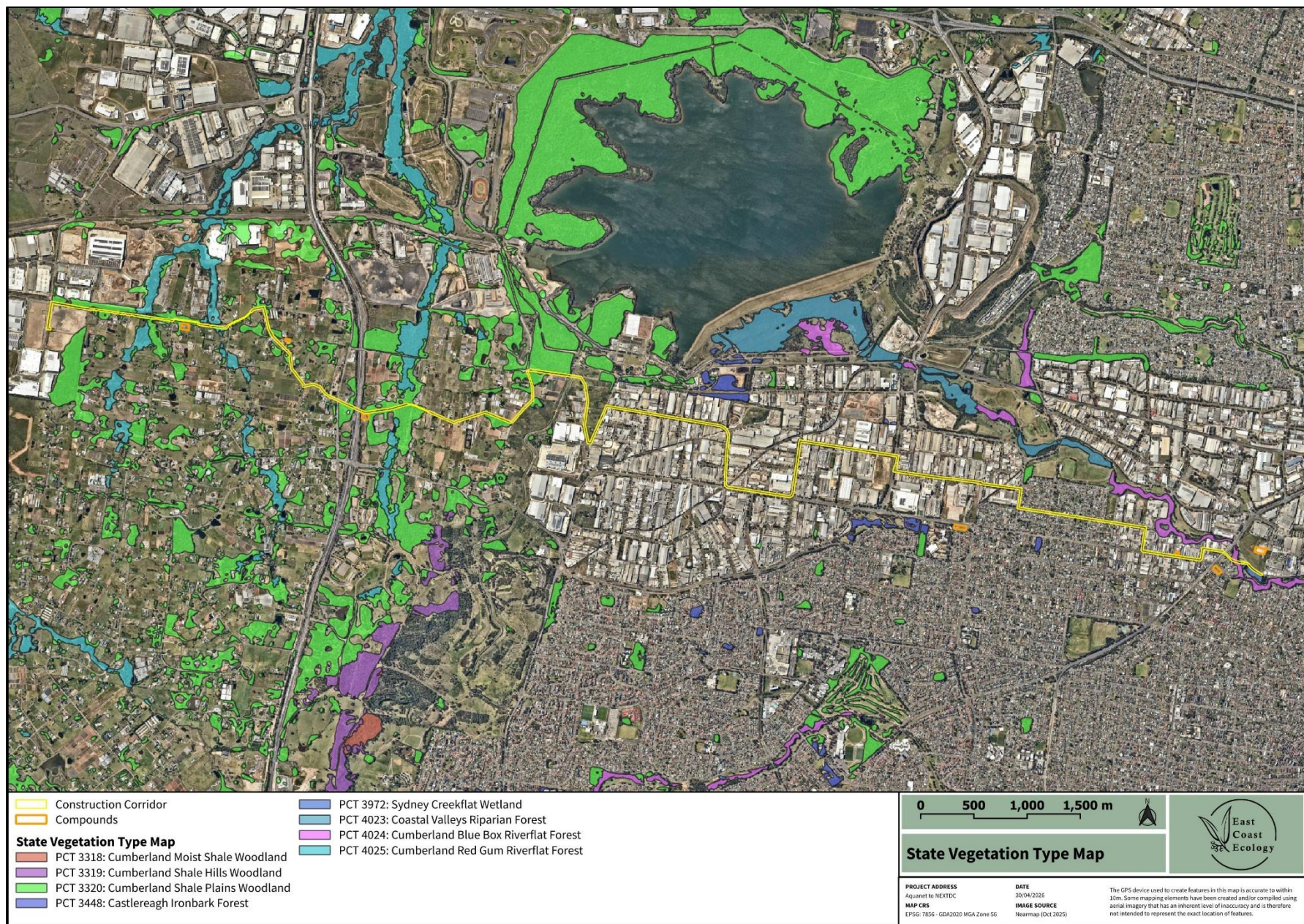


Figure 5. Vegetation communities surrounding the Construction Corridor.

5.2 Field-validated Vegetation

PCT selection for native vegetation was determined using information and databases provided in the BioNet Vegetation Classification System (NSW DCCEEW, 2026c).

Site assessment by ECE confirmed the presence of three PCTs within the Construction Corridor:

- PCT 3320: Cumberland Shale Plains Woodland
- PCT 4024: Cumberland Blue Box Riverflat Forest, and
- PCT 4025: Cumberland Red Gum Riverflat Forest.

In addition, ECE have assigned the following novel community types:

- Planted Native Vegetation, and
- Exotic Vegetation.

Native vegetation within the Construction Corridor has been assessed as aligning with the BioNet Vegetation Classification PCTs identified within **Figure 5**. A detailed description of the PCTs is provided in **Table 3 - Table 7** and displayed in **Figure 6 - Figure 10**.

Table 2. Native vegetation identified within the Construction Corridor.

PCT ID	PCT Scientific Name	Impacted Area (ha)
3320	Cumberland Shale Plains Woodland	1.29
4024	Cumberland Blue Box Riverflat Forest	0
4025	Cumberland Red Gum Riverflat Forest	0.14
-	Planted Native Vegetation	0.02
Total		1.45

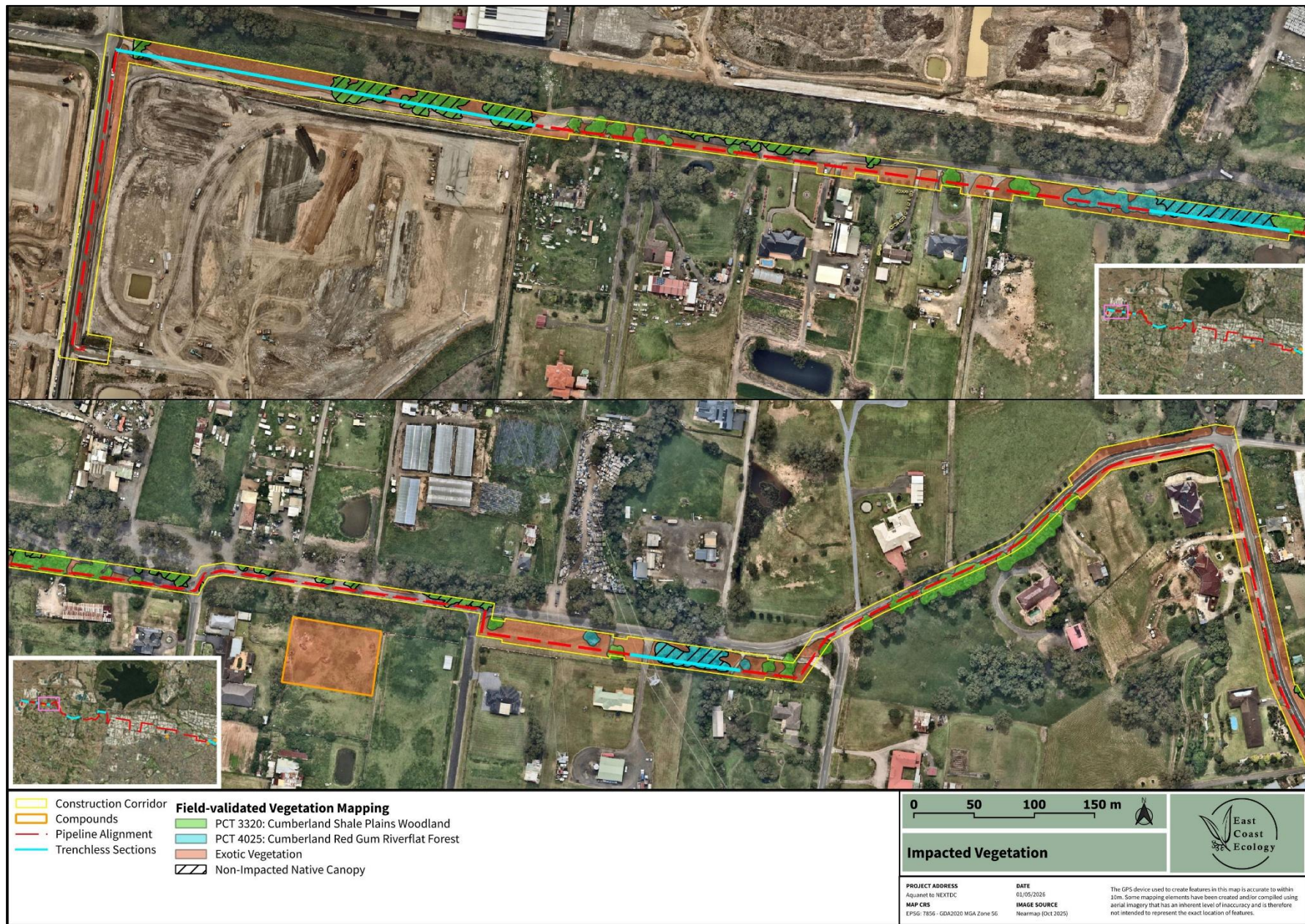


Figure 6. Field-validated vegetation communities in the Construction Corridor (1/5).

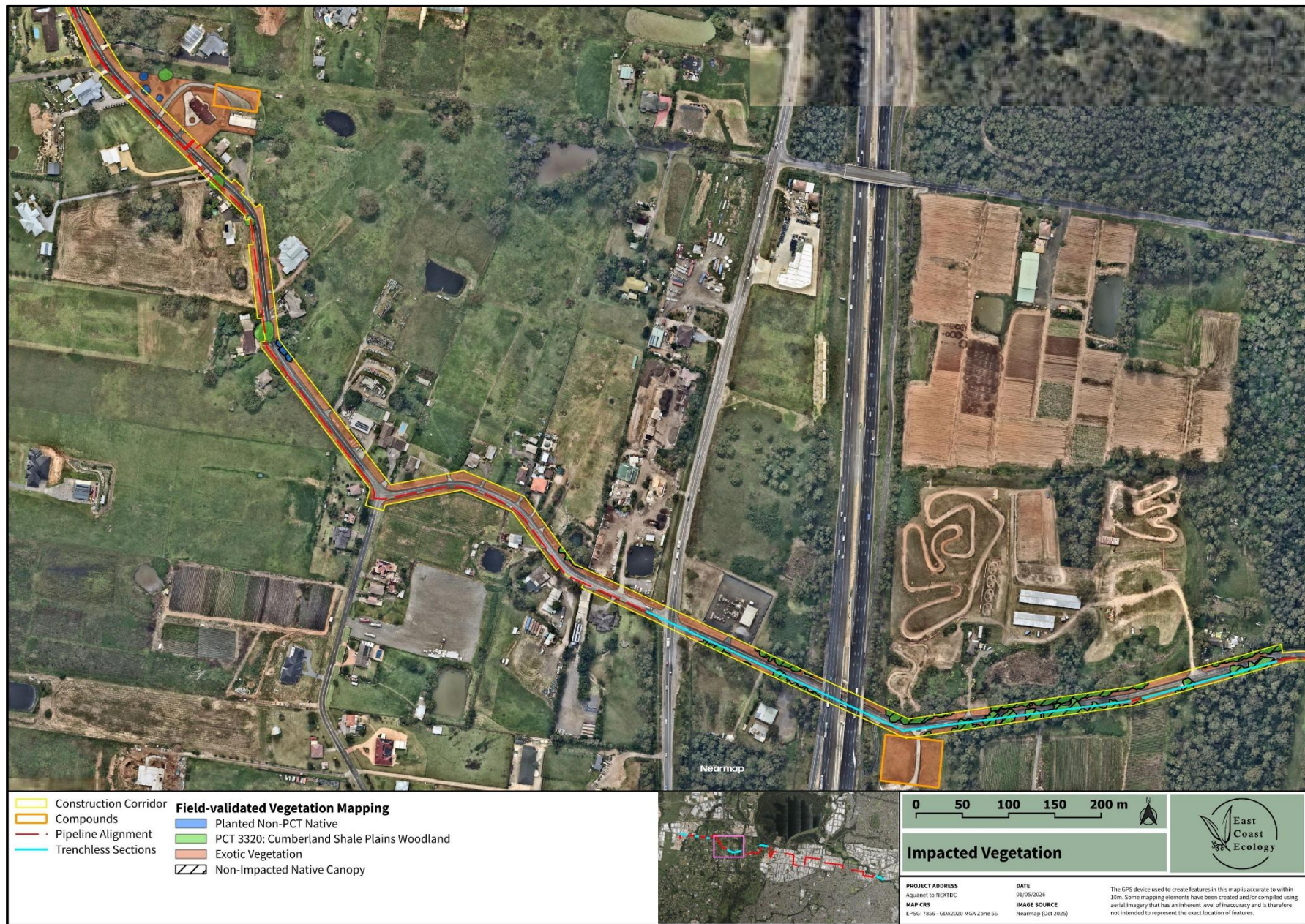


Figure 7. Field-validated vegetation communities in the Construction Corridor (2/5).

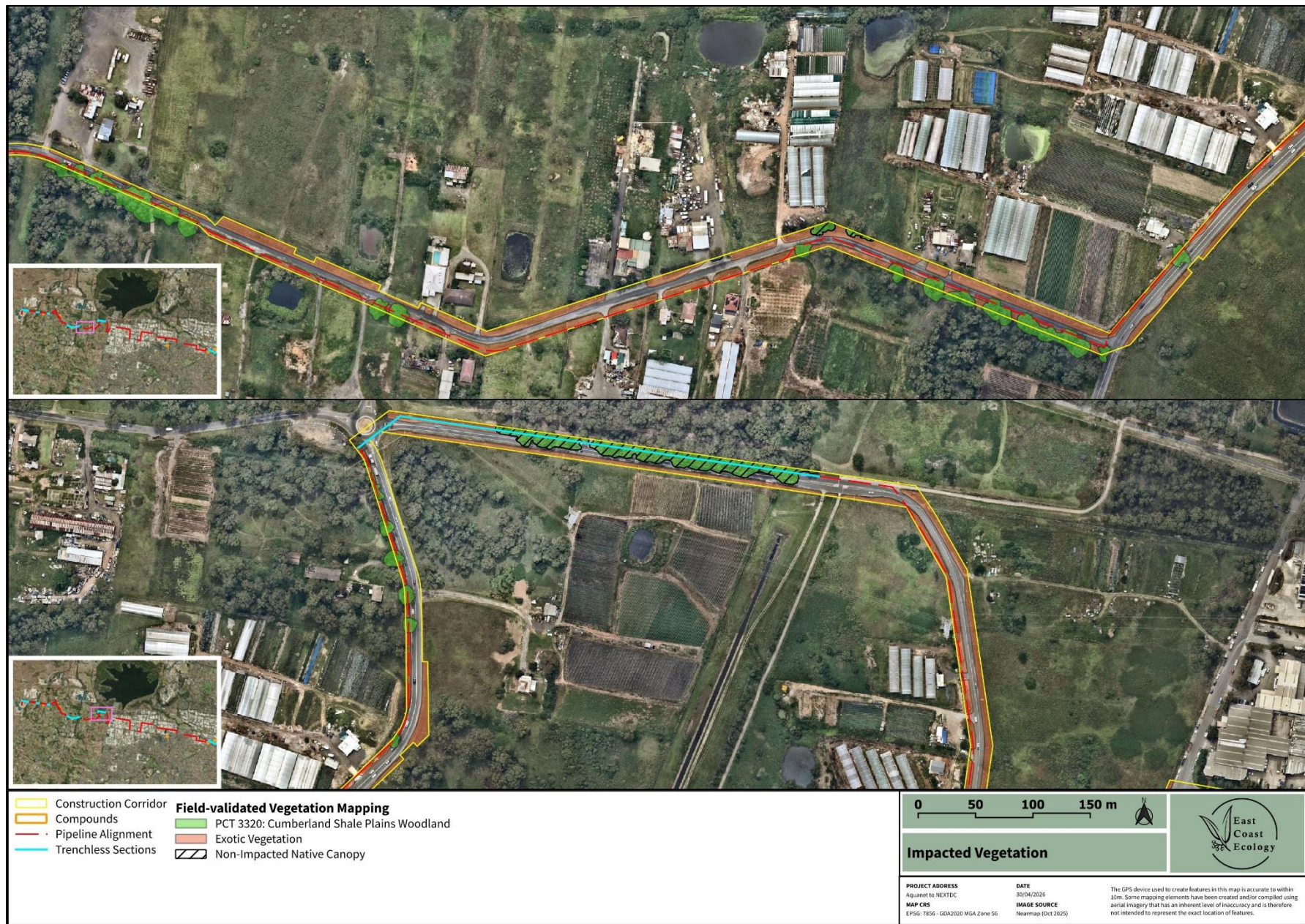


Figure 8. Field-validated vegetation communities in the Construction Corridor (3/5).

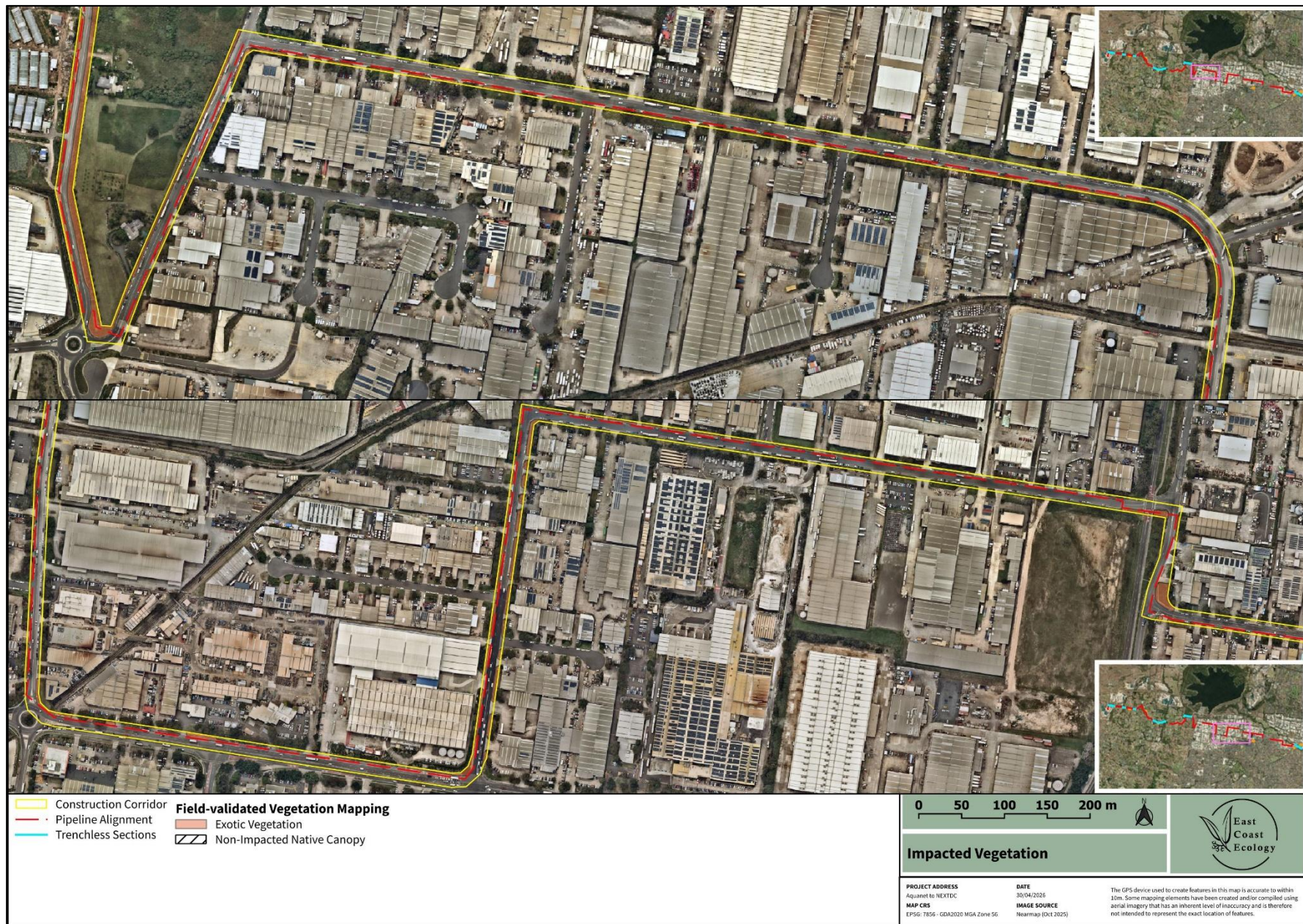


Figure 9. Field-validated vegetation communities in the Construction Corridor (4/5).



Figure 10. Field-validated vegetation communities in the Construction Corridor (5/5).

Table 3. Description of PCT 3320 within the Construction Corridor.

PCT 3320: Cumberland Shale Plains Woodland	
	
Vegetation Formation	Grassy Woodlands
Extent of Impact (approximate)	1.29ha
Description of PCT 3320 within the Construction Corridor	
The canopy within this vegetation community was dominated by <i>Eucalyptus moluccana</i> and <i>Eucalyptus tereticornis</i>. Native representation in the mid-story was predominantly absent, but where present consisted of <i>Bursaria spinosa</i> with occasional <i>Acacia falcata</i> and <i>Indigofera australis</i>. The understory was predominantly weed infested, but where present, native ground cover species included <i>Dichondra repens</i>, <i>Microlaena stipoides</i> and <i>Cynodon dactylon</i>. PCT 3320 within the Construction Corridor contained a predominantly weed infested understory. Dominant exotic species included <i>Eragrostis curvula</i>, <i>Chloris gayana</i>, <i>Lolium perenne</i>, <i>Verbena bonariensis</i>, <i>Plantago lanceolata</i> and <i>Hypochaeris radicata</i>, which were particularly frequent on road verges. The priority weeds <i>Olea europaea</i> subsp. <i>cuspidata</i> and <i>Lantana camara</i> were common within PCT 3320.	

PCT 3320: Cumberland Shale Plains Woodland

Description of PCT 3320 in BioNet

A tall sclerophyll open forest or woodland with a sparse mid-stratum of soft-leaved shrubs and small trees with a grassy ground cover on the undulating Wianamatta Group shale plains of western Sydney. The canopy very frequently includes *Eucalyptus tereticornis* and *Eucalyptus moluccana*, with ironbarks (*Eucalyptus crebra* and *Eucalyptus fibrosa*) occasionally present and sometimes prominent in localised areas. The sparse shrub to small tree layer very frequently includes *Bursaria spinosa* and one or more species of *Acacia*, of which *Acacia parramattensis*, *Acacia decurrens* and *Acacia falcata* are the most frequent and abundant. Presence of these *Acacia* species helps to distinguish this PCT from the related PCT 3319 on rises of the southern Cumberland Plain which typically includes *Acacia implexa*. The mid-dense ground layer typically includes grasses, forbs, twiners and hardy small ferns. *Microlaena stipoides* is almost always present and *Themeda triandra*, *Dichondra repens*, *Brunoniella australis*, *Cheilanthes sieberi* subsp. *sieberi*, *Desmodium varians*, *Aristida vagans* and *Glycine tabacina* are very frequent. This is the most widespread PCT on the Cumberland Plain, occupying much of the plain between Bankstown and the Hawkesbury and Nepean rivers. It typically occurs in a warm, moist climate below 120 metres asl however can occur up to 200 metres asl on the undulating terrain between Douglas Park and Campbelltown to the east of the Nepean River. A northern outlier occurs near Maroota on a small remnant on a narrow shale ridge. While widespread on the main part of the plain, this PCT primarily occurs in small, often disturbed patches within a rural or urban matrix. In the hilly country to the west of the Nepean River, this PCT is replaced by PCT 3319. On thinner shales above sandstone around the periphery of the Cumberland Plain, it grades into PCT 3321. Ironbarks are very frequent and *Eucalyptus punctata* is common in the canopy of PCT 3321, and *Eucalyptus moluccana* and *Eucalyptus tereticornis* are both rare.

Groundwater Dependent Ecosystems (GDE)	Assessment of the potential for the Construction Corridor to support groundwater dependent ecosystems was carried out using the Commonwealth's Bureau of Meteorology Groundwater Dependent Ecosystems Atlas (BOM, 2026a). A portion of this PCT is mapped as a high potential groundwater dependent ecosystem within the Construction Corridor.
BC Act 2016 Status	Cumberland Plain Woodland in the Sydney Basin Bioregion – critically endangered ecological community listing (Section 5.4.1.1).
EPBC Act 1999 Status	Does not meet eligibility criteria (Section 5.4.2.1).

Table 4. Description of PCT 4024 within the Construction Corridor.

PCT 4024: Cumberland Blue Box Riverflat Forest	
	
Vegetation Formation	Forested Wetlands
Extent of Impact (approximate)	0ha
Description of PCT 4024 within the Construction Corridor	
Vegetation within the Construction Corridor that conformed to PCT 4024 was situated along the floodplains of drainage lines and creeks. The canopy within this vegetation community was dominated by <i>Eucalyptus baueriana</i> and <i>Angophora floribunda</i>. The mid-story predominantly consisted of <i>Casuarina glauca</i>, with <i>Melaleuca nodosa</i> and <i>Melaleuca styphelioides</i> also fairly common. The understory was mostly weed infested. Where present, native ground cover species included <i>Microlaena stipoides</i>, <i>Entolasia marginata</i>, <i>Lobelia purpurascens</i>, <i>Oplismenus aemulus</i> and <i>Commelina cyanea</i>. PCT 4024 within the Construction Corridor contained a predominantly weed infested understory. Dominant exotic species included <i>Eragrostis curvula</i>, <i>Chloris gayana</i>, <i>Sida rhombifolia</i>, <i>Tradescantia fluminensis</i> and <i>Ipomoea purpurea</i>.	

PCT 4024: Cumberland Blue Box Riverflat Forest

Description of PCT 4024 in BioNet

A tall sclerophyll open forest with soft-leaved shrubs, small trees and *Melaleucas* with a grassy ground cover situated on the alluvial flats below 30 metres asl alongside the Georges River near Voyagers Point with smaller occurrences at Cobbitty and Richmond on the Hawkesbury-Nepean river systems. The canopy very frequently includes *Eucalyptus baueriana* and *Angophora floribunda*, commonly associated with *Eucalyptus tereticornis*. The open to mid-dense mid-stratum is layered and almost always includes acacias and very frequently melaleucas, the most frequent of which are *Acacia decurrens*, *Melaleuca nodosa*, *Melaleuca decora* and *Melaleuca styphelioides*. Scattered individuals of *Casuarina glauca*, *Exocarpos cupressiformis*, *Bursaria spinosa* and *Ozothamnus diosmifolius* commonly complete the mid-stratum. The ground layer is typically characterised by a dense cover of grasses, soft-leaved forbs and ferns that almost always includes *Microlaena stipoides* and *Entolasia marginata*. Common ground covers include *Cynodon dactylon*, *Echinopogon ovatus*, *Lobelia purpurascens*, *Pteridium esculentum*, *Dichondra repens*, *Einadia hastata*, *Glycine clandestina*, *Lomandra longifolia* and *Echinopogon caespitosus*. This PCT typically occurs at elevations of below 30 metres asl in a warm, moist climate, often in small, disturbed patches situated in an urban matrix. It has floristic overlap with PCT 4025 however *Eucalyptus baueriana* and species such as *Casuarina glauca* and *Cynodon dactylon* are rare in that PCT.

Groundwater Dependent Ecosystems (GDE)	Assessment of the potential for the Construction Corridor to support groundwater dependent ecosystems was carried out using the Commonwealth's Bureau of Meteorology Groundwater Dependent Ecosystems Atlas (BOM, 2026a). This PCT is not mapped as a groundwater dependent ecosystem.
BC Act 2016 Status	River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (Section 5.4.1.2).
EPBC Act 1999 Status	Does not meet eligibility criteria (Section 5.4.2.2).

Table 5. Description of PCT 4025 within the Construction Corridor.

PCT 4025: Cumberland Red Gum Riverflat Forest	
	
Vegetation Formation	Forested Wetlands
Extent of Impact (approximate)	0.14ha
Description of PCT 4025 within the Construction Corridor	
Vegetation within the Construction Corridor that conformed to PCT 4025 was predominantly situated along the floodplains of drainage lines and creeks. The canopy within this vegetation community was dominated by <i>Eucalyptus tereticornis</i> with occasional <i>Casuarina glauca</i>. The mid-story was sparse and predominantly consisted of <i>Melaleuca styphelioides</i>, <i>Acacia parramattensis</i> and <i>Acacia decurrens</i>. The understory was mostly weed infested. Where present, native ground cover species included <i>Dichondra repens</i>, <i>Microlaena stipoides</i> and <i>Centella asiatica</i>. PCT 4025 within the Construction Corridor was comprised of a predominantly exotic understory. Dominant exotic species included <i>Eragrostis curvula</i>, <i>Chloris gayana</i>, <i>Tradescantia fluminensis</i>, <i>Brassica oleracea</i>, <i>Verbena bonariensis</i>, <i>Sonchus oleraceus</i> and <i>Bidens pilosa</i>. The priority weeds <i>Olea europaea</i> subsp. <i>cuspidata</i> and <i>Senecio madagascariensis</i> were common within PCT 4025.	

PCT 4025: Cumberland Red Gum Riverflat Forest

Description of PCT 4025 in BioNet

A tall to extremely tall sclerophyll open forest with a mid-stratum of soft-leaved shrubs and small trees and dense, grassy ground layer situated on the alluvial flats alongside streams that drain the Cumberland Plain or more rarely the broad alluvial flats of the Hawkesbury and Nepean river systems to the west of Sydney. The canopy almost always includes red gums (*Eucalyptus tereticornis*, *Eucalyptus amplifolia*), occasionally associated with an apple (*Angophora floribunda*, *Angophora subvelutina*), which may be locally prominent. A sparse mid-stratum almost always includes *Bursaria spinosa* and one or more *Acacia* species, of which *Acacia parramattensis* is the most frequent and abundant. The ground layer is typically characterised by a dense cover of grasses along with soft-leaved forbs and ferns. A high cover of *Microlaena stipoides* is almost always present with more scattered *Dichondra repens*, *Oplismenus aemulus* and *Solanum prinophyllum* being very frequent. The largest remaining areas are situated along the smaller streams and, while widespread, this PCT primarily occurs in small, often disturbed patches and is threatened by ongoing weed invasion following flood events. It typically occurs in a warm, moist climate at low elevation with a mean of 60 metres asl, however may occur up to 320 metres in southern parts of the Cumberland Plain. Where saline soils occur on the floodplain, this PCT grades into PCT 4023 which includes *Casuarina glauca* in its canopy. Where the floodplain narrows in valleys with sandstone escarpments upslope, it grades into PCT 4058 which includes a wider range of shrubs and scramblers including *Sigesbeckia orientalis* subsp. *orientalis*, *Breynia oblongifolia* and *Rubus parvifolius*. As elevation or distance from the margin of the floodplain increases, this PCT grades into grassy woodlands of the Cumberland Plain (PCT 3320) in which *Eucalyptus moluccana* is common.

Groundwater Dependent Ecosystems (GDE)	Assessment of the potential for the Construction Corridor to support groundwater dependent ecosystems was carried out using the Commonwealth's Bureau of Meteorology Groundwater Dependent Ecosystems Atlas (BOM, 2026a). A significant portion of this PCT is mapped as a high potential groundwater dependent ecosystem within the Construction Corridor.
BC Act 2016 Status	River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (Section 5.4.1.2).
EPBC Act 1999 Status	Does not meet eligibility criteria (Section 5.4.2.2).

Table 6. Description of Planted Native Vegetation within the Construction Corridor.

Planted Native Vegetation	
	
Description of Planted Native Vegetation within the Construction Corridor	
This vegetation type within the Construction Corridor was heavily modified from its original state to the point that it is not recognisable as a native vegetation community. Native species present in these areas were not necessarily endemic to the region and included <i>Corymbia maculata</i>, <i>Corymbia citriodora</i>, <i>Lophostemon confertus</i>, <i>Ficus macrophylla</i>, <i>Grevillea robusta</i> and <i>Callistemon viminalis</i>. The ground cover in these areas consisted predominantly of exotic grasses used in lawns, namely <i>Stenotaphrum secundatum</i> and <i>Cenchrus clandestinus</i>.	
Extent of Impact (approximate)	0.02ha
BC Act 2016 Status	Not listed
EPBC Act 1999 Status	Not listed

Table 7. Description of Exotic Vegetation within the Construction Corridor.

Exotic Vegetation	
	
Description of Exotic Vegetation within the Construction Corridor	
This vegetation type within the Construction Corridor was heavily modified from its original state to the point that it is not recognisable as a native vegetation community. This vegetation type was dominated by the exotic grasses, <i>Eragrostis curvula</i>, and <i>Chloris gayana</i>, <i>Cenchrus clandestinus</i> and <i>Paspalum dilatatum</i>, with exotic forbs <i>Verbena bonariensis</i>, <i>Plantago lanceolata</i> and <i>Hypochaeris radicata</i> also common. Other exotic species in these areas were predominantly ornamental, including <i>Fraxinus angustifolia</i> and <i>Lagerstroemia indica</i>. Small, rare patches of native grass (mixed with exotics) were present, which were dominated by <i>Cynodon dactylon</i>.	
Extent of Impact (approximate)	9.38ha
BC Act 2016 Status	Not listed
EPBC Act 1999 Status	Not listed

5.4 Threatened Ecological Communities

5.4.1 Listings under the *Biodiversity Conservation Act 2016*

5.4.1.1 Cumberland Plain Woodland in the Sydney Basin Bioregion - critically endangered ecological community listing

The NSW Scientific Committee (2009) has determined that the critically endangered ecological community, Cumberland Plain Woodland in the Sydney Basin, is associated with:

- clay soils derived from Wianamatta Group geology, or more rarely alluvial substrates, on the Cumberland Plain, a rainshadow area to the west of Sydney's Central Business District, and
- an upper-storey that is usually dominated by *Eucalyptus moluccana* (Grey Box) and *E. tereticornis* (Forest Red Gum), often with *E. crebra* (Grey Ironbark), *E. eugenioides* (Narrow-leaved Stringybark), *Corymbia maculata* (Spotted Gum) or other less frequently occurring eucalypts, including *Angophora floribunda*, *A. subvelutina* (Broad-leaved Apple), *E. amplifolia* (Cabbage Gum) and *E. fibrosa* (Broad-leaved Ironbark).

The vegetation within the Construction Corridor is co-dominated by Grey Box and Forest Red Gum and occurs on Wianamatta Group shales, therefore it has been determined to form a part of the critically endangered ecological community.

5.4.1.2 River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions – endangered ecological community listing

The NSW Scientific Committee (2009) has determined that the endangered ecological community, River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions, is associated with:

- silts, clay-loams and sandy loams, on periodically inundated alluvial flats, drainage lines and river terraces associated with coastal floodplains, and
- an upper-storey that is usually dominated by *Eucalyptus tereticornis* (forest red gum), *E. amplifolia* (cabbage gum), *Angophora floribunda* (rough-barked apple), *A. subvelutina* (broad-leaved apple), *Eucalyptus baueriana* (blue box), *E. botryoides* (bangalay) and *E. elata* (river perppermint). A layer of small trees may be present, including *Melaleuca decora*, *M. styphelioides* (prickly-leaved teatree) and *C. glauca* (swamp oak).

The vegetation within the Construction Corridor is co-dominated by Forest Red Gum and Swamp Oak and occurs on silts, clay-loams and sandy loams, on periodically inundated alluvial flats, therefore it has been determined to form a part of the endangered ecological community.

5.4.2 Listings under the *Environmental Protection and Biodiversity Conservation Act 1999*

5.4.2.1 Cumberland Plain Shale Woodlands and Shale Gravel Transition Forest– critically endangered ecological community

Due to the lack of native species within the understory (<30%), the patch of vegetation within the Construction Corridor was not consistent with the EPBC condition criteria for the nationally-listed ecological community, Cumberland Plain Shale Woodlands and Shale Gravel Transition Forest ecological

community (**Plate 1, Table 8**). The understory was determined to only be comprised of <10% native perennial species.



Plate 1. Typical groundcover throughout Cumberland Plain Shale Woodlands and Shale Gravel Transition Forest in the Construction Corridor (dominated by weeds).

Table 8. Condition thresholds for patches of Cumberland Plain Shale Woodlands and Shale Gravel Transition Forest (Threatened Species Scientific Committee, 2009).

Category and rationale	Thresholds
A. Core thresholds that apply under most circumstances: patches with an understory dominated by natives and a minimum size that is functional and consistent with the minimum mapping unit size applied in NSW.	Minimum patch ³ size is ≥ 0.5 ha; AND $\geq 50\%$ of the perennial understory vegetation cover ⁴ is made up of native species.
OR	
B. Larger patches which are inherently valuable due to their rarity.	The patch size is ≥ 5 ha; AND $\geq 30\%$ of the perennial understory vegetation cover is made up of native species.
OR	
C. Patches with connectivity to other large native vegetation remnants in the landscape.	The patch size is ≥ 0.5 ha; AND $\geq 30\%$ of the perennial understory vegetation cover is made up of native species; AND The patch is contiguous ⁵ with a native vegetation remnant (any native vegetation where cover in each layer present is dominated by native species) that is ≥ 5 ha in area.
OR	
D. Patches that have large mature trees or trees with hollows (habitat) that are very scarce on the Cumberland Plain.	The patch size is ≥ 0.5 ha in size; AND $\geq 30\%$ of the perennial understory vegetation cover is made up of native species; AND The patch has at least one tree with hollows per hectare or at least one large tree (≥ 80 cm dbh) per hectare from the upper tree layer species outlined in the Description and Appendix A.

5.4.2.2 River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria– critically endangered ecological community

Due to the lack of native species within the understory (<30%), the patch of vegetation within the Construction Corridor was not consistent with the EPBC condition criteria for the nationally-listed ecological community, Cumberland Plain Shale Woodlands and Shale Gravel Transition Forest ecological community (**Plate 2, Table 9**). The understory was determined to contain <10% native perennial species.



Plate 2. Typical groundcover throughout River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria in the Construction Corridor (dominated by weeds).

Table 9. Condition thresholds for patches of River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria (Threatened Species Scientific Committee, 2009).

Biotic thresholds → Patch size thresholds ↓	High condition⁵	Good condition	Moderate condition
	≥ 80% of its total understorey vegetation cover ¹ is comprised of native species (exotic annuals are excluded from this assessment) AND ≥ 20 large trees ² or tree hollows per ha AND Ground cover richness ≥ 10 native species per 0.04 ha sample plot ⁶ OR Evidence of 2 or more particular species of arboreal mammal ³ detected in the patch ⁴	≥ 50% of its total understorey vegetation cover ¹ is comprised of native species (exotic annuals are excluded from this assessment) AND At least ten large trees ² or tree hollow per ha AND Ground cover richness ≥ 6 native species per 0.04 ha sample plot ⁶	≥ 30% of its total understorey vegetation cover ¹ is comprised of native species (exotic annuals are excluded from this assessment) AND Ground cover richness ≥ 4 native species per 0.04 ha sample plot ⁶
Large patch Patch size ≥ 2 ha	CATEGORY A	CATEGORY B2	CATEGORY C2
Small contiguous patch Patch size ≥ 0.5 ha within a patch of native vegetation ≥ 5 ha	Large or contiguous patch in high condition	Large or contiguous patch in good condition	Large or contiguous patch in moderate condition
Small patch Patch size ≥ 0.5 ha	CATEGORY B1 Small patch in high condition	CATEGORY C1 Small patch in good condition	

6. RESULTS: THREATENED SPECIES

6.1 Threatened Flora

Database searches revealed 16 threatened flora have been recorded within a ~5km radius of the Construction Corridor (**Table 10**, **Figure 11** and **Figure 12**).

Table 10. Threatened flora with potential to occur within the Construction Corridor.

Scientific Name	Common Name	BC Act	EPBC Act	Records within 5km
<i>Acacia pubescens</i>	Downy Wattle	V	V	298
<i>Callistemon linearifolius</i>	Netted Bottle Brush	V	-	1
<i>Cynanchum elegans</i>	White-flowered Wax Plant	E	E	1
<i>Dillwynia tenuifolia</i>	-	V	-	48
<i>Eucalyptus nicholii</i>	Narrow-leaved Black Peppermint	V	V	5
<i>Eucalyptus scoparia</i>	Wallangarra White Gum	E	V	10
<i>Grevillea juniperina</i> subsp. <i>juniperina</i>	Juniper-leaved Grevillea	V	-	144
<i>Isotoma fluviatilis</i> subsp. <i>fluviatilis</i>	-	-	EX	7
<i>Macadamia tetraphylla</i>	Rough-shelled Bush Nut	V	V	2
<i>Marsdenia viridiflora</i> subsp. <i>viridiflora</i>	<i>Marsdenia viridiflora</i> R. Br. subsp. <i>viridiflora</i> population	E	-	100
<i>Persoonia nutans</i>	Nodding Geebung	E	E	10
<i>Pimelea curviflora</i> var. <i>curviflora</i>	-	V	V	2
<i>Pimelea spicata</i>	Spiked Rice-flower	E	E	270
<i>Pterostylis saxicola</i>	Sydney Plains Greenhood	E	E	1
<i>Pultenaea parviflora</i>	-	E	V	116
<i>Pultenaea pedunculata</i>	Matted Bush-pea	E	-	15

V – Vulnerable; E – Endangered; CE – Critically Endangered; EX – Extinct

No threatened flora species have previously been recorded within the Construction Corridor (NSW DCCEEW, 2026a). Field surveys within the Construction Corridor undertaken by ECE did not identify any threatened flora species:

Based on the lack of suitable available habitat and following a targeted survey, no threatened flora species were considered likely to occur within the Construction Corridor. In the event that any of these species existed nearby to the Construction Corridor, it is not expected that the activity would pose a significant

impact to a viable local population on the basis that all mitigation measures proposed in this report are adhered to (**Section 8.2**). Further assessment is provided in **Appendix A** of this report.

6.2 Threatened Fauna

Database searches revealed 31 threatened fauna have been recorded within a ~5km radius of the Construction Corridor (**Table 11**, **Figure 11** and **Figure 12**).

Table 11. Threatened fauna with potential to occur within the Construction Corridor.

Scientific Name	Common Name	BC Act	EPBC Act	Records within 5km
<i>Anthochaera phrygia</i>	Regent Honeyeater	CE	CE	18
<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	V	-	13
<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	E	E	2
<i>Calyptorhynchus lathami lathami</i>	South-eastern Glossy Black-Cockatoo	V	-	1
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	E	E	2
<i>Daphoenositta chrysoptera</i>	Varied Sittella	V	-	10
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V	E	2
<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	V	-	16
<i>Gallinago hardwickii</i>	Latham's Snipe	V	V	7
<i>Glossopsitta pusilla</i>	Little Lorikeet	V	-	6
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	V	-	2
<i>Hieraaetus morphnoides</i>	Little Eagle	V	-	16
<i>Hirundapus caudacutus</i>	White-throated Needletail	V	V	1
<i>Lathamus discolor</i>	Swift Parrot	E	CE	16
<i>Litoria aurea</i>	Green and Golden Bell Frog	E	V	24
<i>Lophoictinia isura</i>	Square-tailed Kite	V	-	4
<i>Meridolum corneovirens</i>	Cumberland Plain Land Snail	E	-	294
<i>Micronomus norfolkensis</i>	Eastern Coastal Free-tailed Bat	V	-	45
<i>Miniopterus australis</i>	Little Bent-winged Bat	V	-	7
<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	V	-	61
<i>Myotis macropus</i>	Southern Myotis	V	-	27
<i>Neophema pulchella</i>	Turquoise Parrot	V	-	2

Scientific Name	Common Name	BC Act	EPBC Act	Records within 5km
<i>Ninox connivens</i>	Barking Owl	V	-	2
<i>Ninox strenua</i>	Powerful Owl	V	-	8
<i>Oxyura australis</i>	Blue-billed Duck	V	-	1
<i>Phascolarctos cinereus</i>	Koala	E	E	5
<i>Pluvialis squatarola</i>	Grey Plover	V	V	1
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	V	616
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail-bat	V	-	8
<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	V	-	17
<i>Tyto novaehollandiae</i>	Masked Owl	V	-	4

V – Vulnerable; E – Endangered; EP – Endangered Population; CE – Critically Endangered

One (1) threatened fauna species, *Daphoenositta chrysoptera* (Varied Sittella) was recorded within the Construction Corridor during the site assessment (**Figure 11**). This species has been recorded previously in the area (NSW DCCEEW, 2026b).

Based off habitat constraints, historical records and field survey, several highly-mobile threatened fauna species were determined to have a moderate or higher likelihood of occurrence within the Construction Corridor. None of these species are likely to be reliant on vegetation or other habitats within the Construction Corridor as a part of their lifecycle. Further assessment is provided in **Appendix A** of this report.

Details of the threatened fauna habitat recorded within the Construction Corridor are included in **Table 12**.

Table 12. Fauna habitat values identified within the Construction Corridor.

Habitat component	Construction Corridor
Coarse woody debris	Present. No impacts predicted.
Rock outcrops and bush rock	Absent.
Caves, crevices and overhangs	Absent.
Culverts, bridges, mine shafts, or abandoned structures	Present. Predominantly inundated with no visible microbat habitat or signs of usage.
Nectar/lerp-bearing Trees	Present throughout – <i>Eucalyptus</i> spp.
Nectar-bearing shrubs	Present – <i>Acacia</i> spp. Rare in Construction Corridor and minimal impacts expected.
Koala Use Trees	Present throughout – <i>Eucalyptus</i> spp.
Large stick nests	Absent.

Habitat component	Construction Corridor
Sap and gum sources	Present throughout – <i>Eucalyptus</i> spp.
She-oak fruit	Present – <i>Casuarina</i> spp. Rare in Construction Corridor and minimal impacts expected.
Seed-bearing trees and shrubs	Present throughout – <i>Eucalyptus</i> spp., <i>Acacia</i> spp.
Soft-fruit-bearing trees/shrubs	Present. Rare in Construction Corridor and minimal impacts expected.
Dense shrubbery and leaf litter	Present. Rare in Construction Corridor and minimal impacts expected.
Tree hollows	Present – 2 x small hollows and 2 x medium hollows
Decortivating bark	Present. No impacts predicted.
Wetlands, soaks, and streams	Present. No impacts predicted.
Open water bodies	Present. No impacts predicted.
Estuarine, beach, mudflats, and rocky foreshores	Absent.
Termite mounds	Absent.

6.2.1 Wildlife Connectivity Corridors

Three distinct wildlife corridors intersect with the Construction Corridor (**Figure 13**). These wildlife corridors are fragmented by existing infrastructure and development, however, are important for maintaining wildlife movement given the disturbed surrounding landscape.

6.3 Migratory Species

Database searches revealed four migratory terrestrial species, or their habitat, are known to occur within the Construction Corridor (**Table 13**). These species do not breed in Australia.

Table 13. Migratory terrestrial species with potential to occur in the Construction Corridor.

Species	EPBC Act Status
<i>Actitis hypoleucos</i> (Common Sandpiper)	Migratory,
<i>Cuculus optatus</i> (Oriental Cuckoo)	Migratory, CAMBA, JAMBA, ROKAMBA
<i>Hirundapus caudacutus</i> (White-throated Needletail)	Vulnerable, Migratory, CAMBA, JAMBA, ROKAMBA
<i>Motacilla flava</i> (Yellow Wagtail)	Migratory, CAMBA, JAMBA, ROKAMBA

CAMBA = China-Australia Migratory Bird Agreement, JAMBA = Japan-Australia Migratory Bird Agreement, ROKAMBA = Republic of Korea-Australia Migratory Bird Agreement and Bonn = Convention on the Conservation of Migratory Species of Wild Animals.

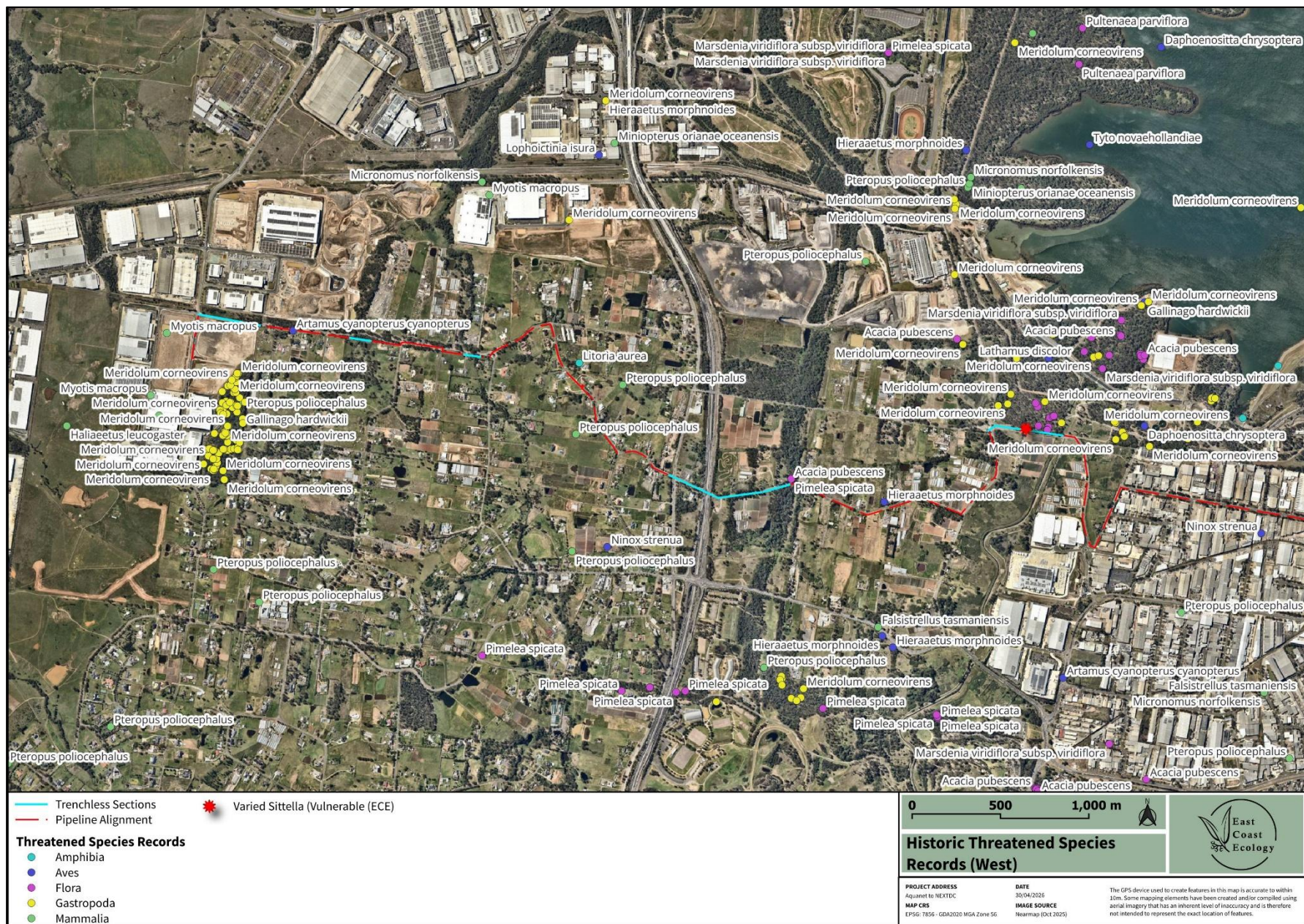


Figure 11. Threatened species records (historical) within proximity to the western half of Construction Corridor.

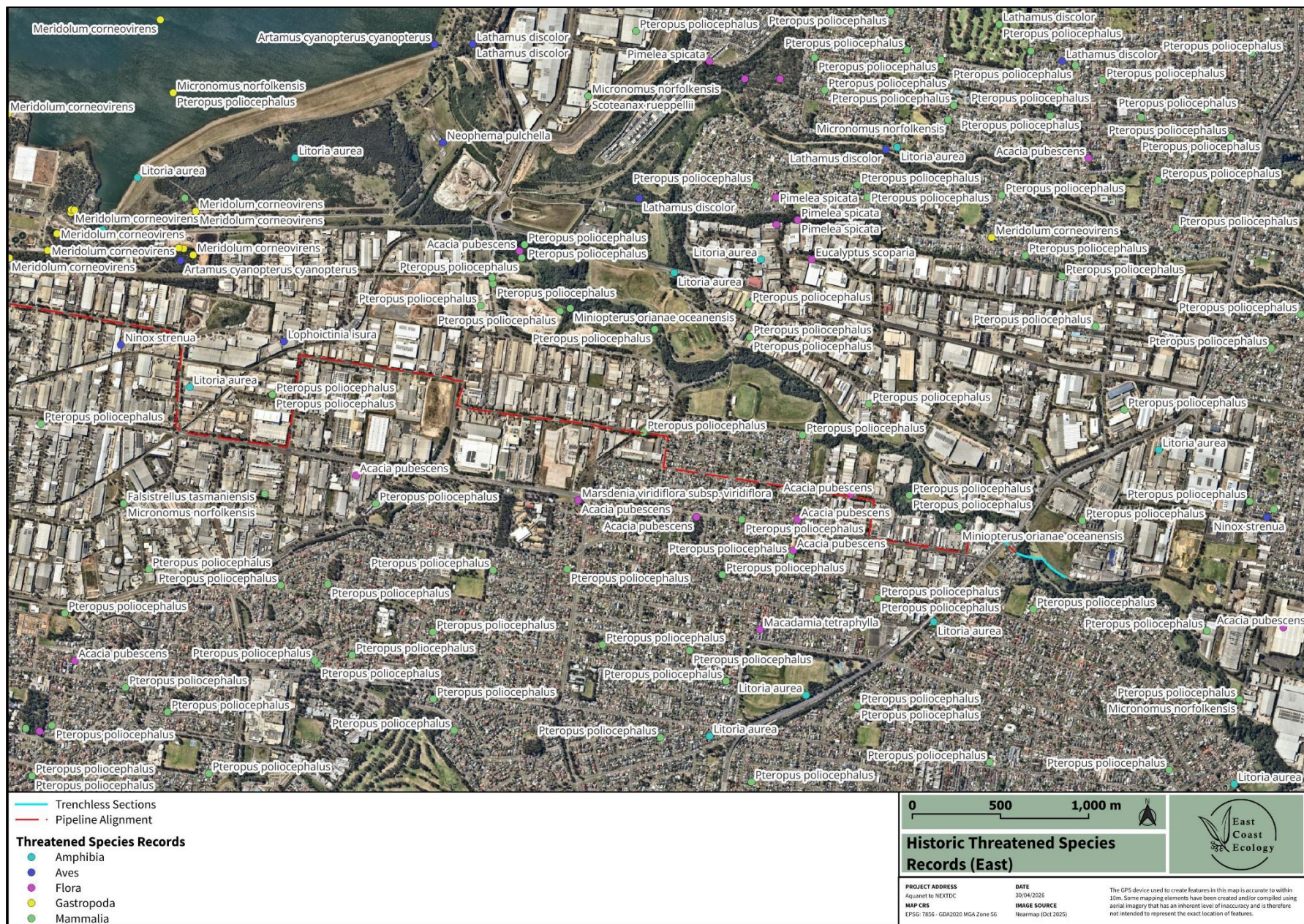


Figure 12. Threatened species records (historical) within proximity to the eastern half of Construction Corridor.

7. IMPACT SUMMARY

7.1 Impacts to Plant Community Types

The proposed activity will result in the removal (worst-case) of up to 1.45ha of native vegetation, including:

- 1.29ha of PCT 3320: Cumberland Shale Plains Woodland
- 0.14ha of PCT 4025: Cumberland Red Gum Riverflat Forest

The extent of predicted vegetation clearing is depicted in **Figure 6 - Figure 10**.

It is the expectation of coNEXA that via the implementation of non-destructive excavation techniques in the dripline of trees, the actual impacts will be lower than that of the conservative predicted worst-case impacts assessed in this report.

Plant Community Types impacted by the proposed activity are generally limited to native canopy only. Native midstory and understory is occasional to rare throughout and generally located in the western half of the Construction Corridor. Invasion of environmental and priority weeds is common throughout the Construction Corridor, and the groundcover is heavily dominated by exotic graminoids, typical of a roadside in Western Sydney.

7.2 Impacts to Threatened Ecological Communities

The proposed activity will result in the removal (worst-case) of up to 1.45ha of TECs, including:

- 1.29ha of Cumberland Plain Woodland in the Sydney Basin Bioregion (BC Act: Critically Endangered), and
- 0.14ha of River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (BC Act: Endangered).

The result of a Test of Significance (5-Part Test) was that the proposed activity is not likely to result in a 'significant impact' to either TECs and therefore the BOS is not triggered (**Appendix B**). As such, a SIS or a BDAR is not required. The proposed activity will not result in a 'significant impact' on any MNES and a referral to the Australian Government Minister for the Environment is not required.

7.3 Impacts to Threatened Species

7.3.1 Threatened Flora

No threatened flora were identified in the Construction Corridor nor were deemed to have a moderate or higher likelihood of occurrence within the Construction Corridor.

7.3.2 Threatened Fauna

One threatened fauna species was recorded during field surveys within the Construction Corridor:

- *Daphoenositta chrysoptera* (Varied Sittella).

Six (6) threatened fauna species were determined to have a moderate or higher likelihood of occurrence within the Construction Corridor:

- *Daphoenositta chrysoptera* (Varied Sittella)
- *Gallinago hardwickii* (Latham's Snipe)
- *Glossopsitta pusilla* (Little Lorikeet)
- *Micronomus norfolkensis* (Eastern Coastal Free-tailed Bat)
- *Pteropus poliocephalus* (Grey-headed Flying-fox), and
- *Saccolaimus flaviventris* (Yellow-bellied Sheath-tail-bat).

While these species have a moderate likelihood of occurring within the Construction Corridor, no sensitive or specialist habitat for these species (e.g. flying-fox camps, or large numbers of hollows) will be impacted by the proposed activity and thus have been excluded from further assessment. Due to the degraded nature of the Construction Corridor (i.e. proximity to roadways) these species may be occasional visitors but are unlikely to rely on habitat within the Construction Corridor. Habitat of similar or better quality for these species will continue to occur in the broader locality.

Based on a lack of habitat and/ or historical records, no other threatened fauna were considered likely to be impacted by the activity.

A likelihood of occurrence table for threatened species within the Construction Corridor is provided in **Appendix A**. A 5-part test (BC Act) was prepared to assess whether the impacts to threatened species could constitute a significant impact. The result of these assessments was that a significant impact is not likely (**Appendix B**).

7.4 Impacts to Fauna Habitat

All vegetation proposed for removal provides minor foraging habitat for a suite of protected fauna species. Sensitive and/ or specialist fauna habitats that may be directly impacted by the activity include:

- Hollow-bearing trees (four hollow-bearing trees identified within the Construction Corridor have the potential to be directly impacted - the four hollow-bearing trees collectively contain two 5-10cm hollows and two 10-15cm hollows) (**Figure 13**)

Within the context of the surrounding landscape, it is not considered likely that any threatened species would be reliant on these habitats as a part of their lifecycle. The ongoing operational impacts of adjoining roads makes specialist habitats (e.g. hollows) less likely to be used by threatened species, particularly in preference of better condition surrounding habitats (e.g. Prospect Reservoir).

7.5 Impacts to Wildlife Corridors

Impacts to wildlife corridors are avoided by the proposed activity, where pipeline installation is planned through trenchless horizontal directional drilling, retaining vegetation without impact. The proposed activity is not likely to significantly increase fragmentation beyond existing levels (**Figure 14**).

7.6 Impacts to Groundwater Dependent Ecosystems (GDE)

The likely degree of groundwater dependence of the PCTs within the Study Area has been assessed using the Atlas of GDEs (BOM 2026a). The Atlas of GDEs (**Figure 14**) identifies areas of the Study Area that are modelled to contain moderate to high potential terrestrial GDEs. There are no mapped aquatic GDEs within the Study Area.

While there are vegetation communities considered to have moderate to high likelihood to be a GDE at the locations in **Figure 14**, they are unlikely to be obligate and entirely dependent on groundwater. These vegetation communities are not restricted to locations of groundwater discharge or located within aquifers and are likely to be opportunistic facultative GDEs.

A review of the Hydrogeology Map of Australia (Geoscience Australia) indicated the site is underlain by porous, extensive aquifers of low to moderate productivity. No data or information pertaining to groundwater flow direction was available. Generally, groundwater is inferred to flow conforming with local topography. Based on a review of available data, it is anticipated that groundwater within the proposal area may be encountered between 0.8 – 19 m below ground level (bgl).

Earthworks are to be expected to extend to a depth of 5 m for the pipeline trenches; the works are and not anticipated to intercept the underlying aquifer or groundwater resources. However, perched groundwater may be encountered during earthworks, especially after prolonged rainfall, leading to seepage into excavations. Dewatering of excavations may therefore be necessary; however, quantities are not expected to be significant and are unlikely to exceed the three megalitre (ML) threshold, ordinarily requiring a water access licence under the WM Act prior to any exemptions. If the groundwater is saline, acidic, or contains heavy metals, discharge to the environment may cause adverse impacts to waterways and aquatic biota.

7.7 Indirect Impacts

Indirect impacts occur when the proposed activity or activities relating to the construction or operation of the proposed activity affect native vegetation, threatened ecological communities and threatened species habitat beyond the Construction Corridor. Indirect impacts may also result from changes to land-use patterns, such as an increase in vehicular access and human activity on native vegetation, threatened ecological communities and threatened species habitat. The indirect impacts relevant to the proposed activity are outlined in **Table 14**.

Table 14. Indirect impacts associated with the proposed activity.

Potential Indirect Impact	Nature, extent and duration
Inadvertent impacts on adjacent habitat or vegetation	Impacts to adjacent vegetation can be prevented or minimised through appropriate exclusion fencing, implementation of a site-specific Construction Environmental Management Plan detailing best practice environmental protection measures, strict water quality practices and stormwater controls, and by ensuring any lighting is directed towards the developed area, rather than towards the adjacent vegetation. It is unlikely that the proposed activity would impact any nearby groundwater dependent ecosystems as it is not expected to require any deep soil cuts/

Potential Indirect Impact	Nature, extent and duration
	excavation nor are any other activities requiring groundwater drawdown required.
Reduced viability of adjacent habitat due to edge effects	Adjacent habitats are currently subject to a degree of edge effects due to prior clearing and existing land use. Subject to appropriate controls, potential spread of weeds can be prevented. Edge effects to adjacent habitats are unlikely to be exacerbated by the proposed activity.
Reduced viability of adjacent habitat due to noise, dust or light spill	It is predicted that adjacent habitat outside the Construction Corridor is likely to experience a minor increase to indirect impacts created by noise, dust and light spill during construction, and negligible increase during occupation. Site lighting will be designed to minimise glare and light spillage into adjoining properties and vegetation and be consistent with the requirements of Australian Standards and Guidelines 4282-2019 Control of the obtrusive effects of outdoor lighting. Additional control measures can be installed to minimise glare and light spillage into adjoining vegetation to minimise potential impacts to fauna species and lighting can be installed in a direction oriented away from sensitive habitats. These indirect impacts will be managed via best practices outlined in an approved Construction Environmental Management Plan. These impacts are not likely to substantially increase due to the proposed future development. Any potential impacts are not considered significant as it is highly unlikely that species abundance would be diminished.
Transport of weeds and pathogens from the site to adjacent vegetation	Weeds occurring within the Construction Corridor are common with those occurring within adjacent vegetation to be retained. Increased transport of pathogens and weeds is unlikely to occur, however this would be managed by biosecurity measures outlined in the Construction Environmental Management Plan.
Increased risk of starvation, exposure and loss of shade or shelter	It is highly unlikely that any threatened fauna would be exposed to increased risks from starvation, exposure, and loss of shade and shelter beyond the Construction Corridor as a result of the proposed activity. Disturbance from noise during construction and utilisation may deem the limited habitat within the Construction Corridor unsuitable for certain species.

Potential Indirect Impact	Nature, extent and duration
Loss of breeding habitats	No breeding habitat features (e.g., hollows, nests, caves) were identified immediately adjacent to the Construction Corridor. It is therefore considered unlikely that the proposed activity would result in a loss of breeding habitats.
Trampling of threatened flora species	No threatened flora species were identified within and outside of the Construction Corridor. It is therefore considered unlikely that the proposed activity would cause risk of trampling of threatened flora species.
Increase in predatory species populations	It is likely that predatory species, such as foxes and cats, already inhabit areas surrounding the Construction Corridor. The vegetation clearance proposed by the development, and proposed land use, is unlikely to increase predatory species populations.
Increase in pest animal populations	The Construction Corridor occurs in an area that likely has pest animal populations (e.g. feral cats, foxes, rabbits). The proposed activity would not result in an increase in available habitat for these species and is unlikely to lead to an increase in pest animal populations. Suitable waste disposal implemented during and post construction would further reduce the resources available for pest species.
Disturbance to specialist breeding and foraging habitat, e.g., beach nesting for shorebirds.	No specialist breeding and foraging habitat was identified adjacent to the Construction Corridor. It is therefore not expected that the proposed activity will disturb any specialist breeding and foraging habitat.

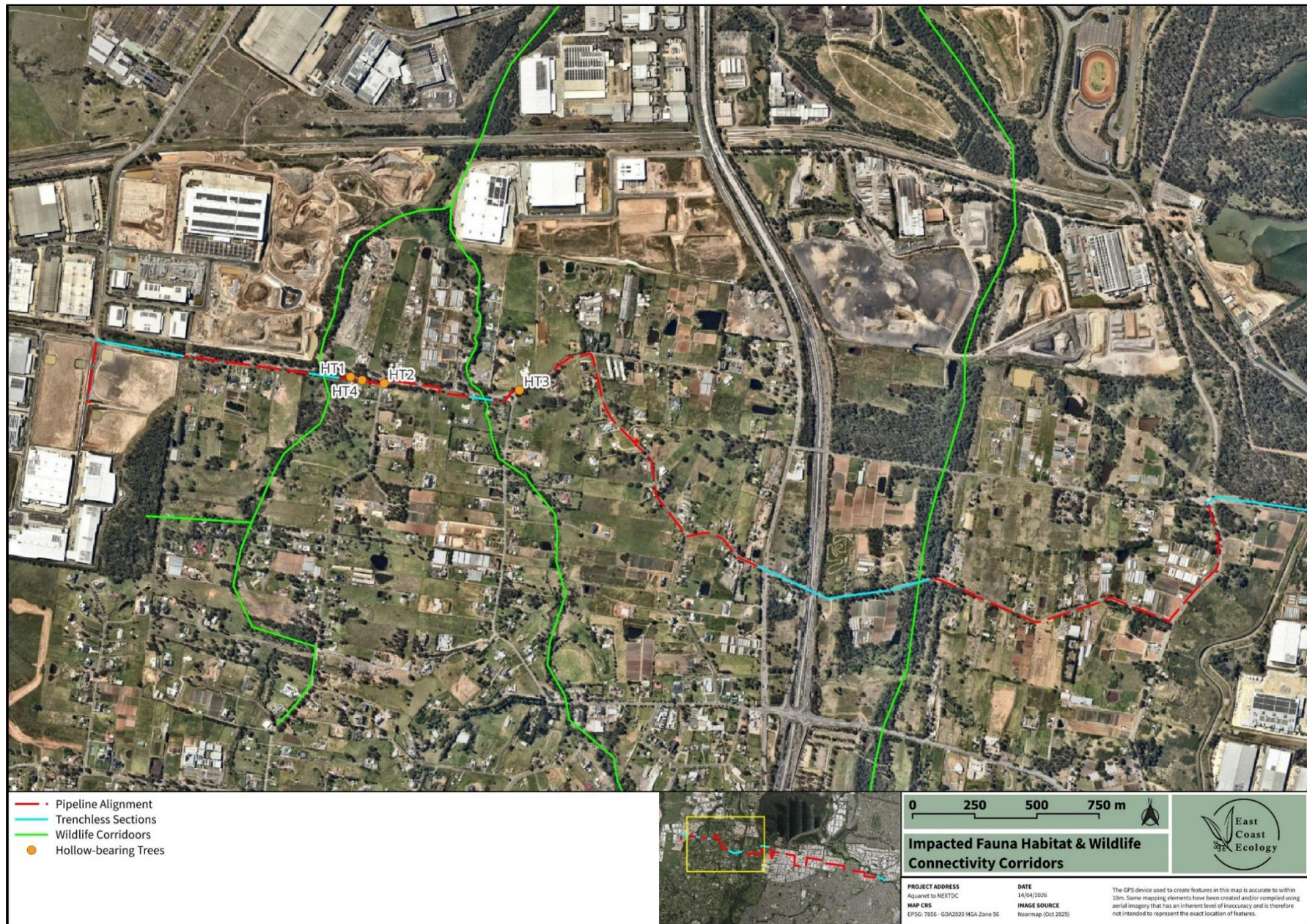


Figure 13. Impacts to Fauna Habitat and Wildlife Connectivity Corridors.

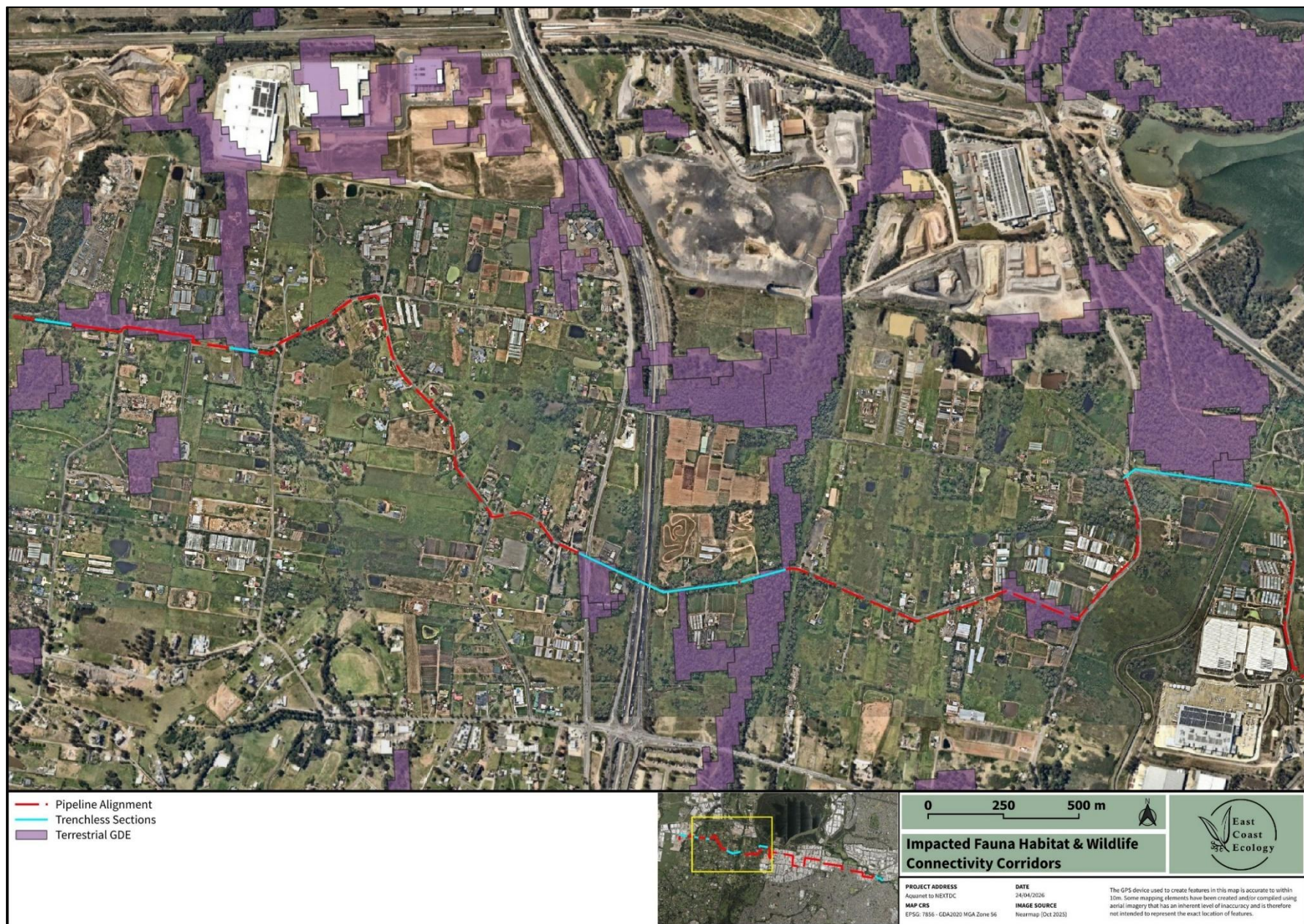


Figure 14. Impacts to Terrestrial Groundwater Dependent Ecosystems.

8. AVOIDANCE, MINIMISATION & MITIGATION

8.1 Avoidance and Minimisation

When assessing the biodiversity impacts of a proposed activity there are three key considerations. These three approaches are listed in a descending order of best biodiversity outcomes:

- Avoid: measures taken by a proponent such as careful site selection, or actions taken through the design, planning, construction and operational phases of the development to completely prevent impacts on biodiversity values, or certain areas of biodiversity
- Minimise: a process applied throughout the development planning and design life cycle that seeks to reduce the residual impacts of development on biodiversity values
- Compensate: measures in a proposed activity to compensate for the biodiversity values lost. This can be achieved through offsets (financial or not).

Avoidance and minimisation measures undertaken during the scoping and design phase include:

- HDD under creeks and wildlife corridors
- Extension and additional HDD in additional areas identified as high constraint by ECE
- Relocating pipeline alignment into the existing roadway to avoid areas identified as high constraint by ECE
- Narrowing of construction corridor to 10-15m to avoid additional tree impacts
- Laydown and storage areas will be positioned outside of native vegetation to avoid any additional impacts to native vegetation beyond the unavoidable impacts associated with pipeline alignment.

Previous design iterations resulted in a predicted (worst case) impact of 2.86ha of the BC Act listed Critically Endangered Ecological Community: Cumberland Plain Woodland in the Sydney Basin Bioregion and 0.66ha of the BC Act listed Endangered Ecological Community River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions.

It is the expectation of coNEXA that the actual impacts will be lower than that of the predicted impacts assessed in this report. Where possible, further tree retention will be explored following engagement of the delivery contractor. Where possible, hollow-bearing trees and areas of TEC will be retained as a priority.

Impact mitigation measures are detailed in **Table 15**.

8.2 Impact Mitigation and Minimisation Recommendations

This section of the report details recommended efforts to avoid and minimise impacts on biodiversity values associated with the proposed activity. Measures to be implemented before, during, and post construction are detailed in **Table 15**.

Table 15. Measures to be implemented before, during, and after construction to avoid and minimise the impacts of the proposed activity.

Mitigation Measure	Requirement	Timing and duration	Responsibility
Micro-siting	Native vegetation removal will be minimised through construction planning. Threatened fauna habitat removal will be minimised through construction planning.	During construction	coNEXA / delivery contractor
Pre-clearing surveys	Pre-clearing surveys should be undertaken at least one week prior to clearing, the ecologist should: - Confirm the locations of biodiversity features identified in the environmental assessment, including delineating the boundary of threatened ecological communities (TECs) as appropriate and any clearing limits prescribed in any approval conditions/environmental safeguards. - Identify any fauna that have the potential to be disturbed, injured or killed as a result of clearing activities (e.g. nesting birds, native bees). - Check for the presence of threatened flora and fauna species that were identified in the environmental assessment as likely to occur. This check should be: undertaken during optimal weather conditions, season and time of day/night for identifying targeted flora and fauna species. - Record the details of all hollow-bearing trees and/or trees/other habitat features containing threatened fauna and threatened flora. Details to be collected (where applicable) include GPS location, tree species, type of habitat feature (e.g. nest, hive, bushrock), estimate diameter of hollow entrance (e.g.30cm), and type of hollows (e.g. branch, limb, trunk). - Mark habitat features to be protected during construction. Use suitable methods (e.g. flagging tape and/or spray paint) to mark: - All hollow-bearing trees or habitat features.	Prior to construction	coNEXA / ecologist

Mitigation Measure	Requirement	Timing and duration	Responsibility
	- Any trees found to contain threatened fauna. - The location of any threatened flora. - Confirm the location of pre-determined habitat identified for the release of any fauna encountered on site. - Repeat surveys should clearing be delayed for longer than one week (e.g. due to rain).		
Clearing supervision	The ecologist will be present on site during the removal of all habitat features to capture and relocate any fauna species that may be encountered. Supervision of habitat removal also reduces potential injury or death of threatened species during clearing activities. All vegetation clearing should incorporate a 'two-stage' habitat removal process. Stage 1 – Under scrubbing and non-habitat tree removal: - Where no habitat has been identified, clearing can be undertaken including the under-scrubbing and pruning of non-habitat trees, shrubs and other vegetation. - The implementation of Stage 1 clearing allows respite between the initial disturbance and the final removal and/or pruning of habitat. The changed environment along with the disturbance should encourage potential resident fauna that were not able to be relocated during the rapid pre-clearance inspection to self-relocate without any need for handling. - The timing should allow remaining fauna at least 24 hours, after removal of non-habitat trees, to vacate remaining habitat trees. Canopy separation	During construction	coNEXA / delivery contractor / ecologist

Mitigation Measure	Requirement	Timing and duration	Responsibility
	between habitat trees and non-habitat trees is required before the 24hr timeframe commences. Stage 2 – Habitat tree removal ▪ The ecologist must be present during the removal of all habitat trees to capture and relocate protected fauna. ▪ Habitat will be left for at least 24 hours after removing non-habitat vegetation (stage 1) to allow fauna to self-relocate. ▪ Habitat trees that require removal are to be felled and pruned with extreme care to avoid injury to any fauna. The ecologist, may recommend soft-felling, habitat agitation or other means to carefully displace fauna prior to tree removal. ▪ Where appropriate, habitat trees may be mechanically agitated prior to felling to encourage any remaining animals to either leave the tree or alert the ecologist to their presence. ▪ The equipment used to fell trees should be appropriately sized to handle the majority of trees onsite and the operator skilled in removing habitat trees and the two-stage clearing procedure, and once felled or pruned, habitat trees will be further inspected.		
Habitat replacement	Habitat will be replaced or re-instated by an ecologist or relevant contractor with necessary experience and relevant qualifications.	During construction	coNEXA / delivery contractor / ecologist

Mitigation Measure	Requirement	Timing and duration	Responsibility
Exclusion zones	Exclusion zones will be set up at the limits of clearing and where ecological features that have been identified for retention may require protection during the construction/implementation phase. This could include: - Vegetation outside of the assessed and approved clearing limits including individual trees. - Individual native and amenity trees to be retained within clearing limits. - Threatened flora. - Threatened ecological communities. - Hollow-bearing trees. - Aquatic habitats. - Areas of bushrock. - Areas that are infected by pathogens or areas that need to be protected from pathogens. - Conservation areas and habitat features identified as being of ecological significance including vegetation required to support proposed connectivity structures. Options for fencing of exclusion zones include: - Chain wire fencing. - Temporary fencing. - Para-web fencing. - Reflective bunting.	During construction	coNEXA / delivery contractor
Fauna handling procedure	Fauna should only be handled when absolutely necessary. It is preferable to avoid fauna handling unless the life of the animal is at risk. Fauna handling should be	During construction	coNEXA / ecologist

Mitigation Measure	Requirement	Timing and duration	Responsibility
	undertaken either by an ecologist or licensed handler skilled in handling the type of fauna encountered. To reduce potential of fauna injury: ▪ Site manager and environment staff are to be notified when unexpected animals are found. ▪ Potentially harmful works cease in the vicinity of the animal. ▪ Fauna should be allowed to leave an area without intervention and handling of the animal is to be avoided wherever possible. ▪ Fauna must only be handled by appropriately licensed ecologists under the Biodiversity Conservation Act 2016 unless this cannot be practically avoided, in which case appropriate safety considerations need to be applied. Under no circumstances, however, are unlicensed personnel to handle bats. ▪ Veterinarian advice should be sought for any injured animals as required. ▪ Contact details of an Ecologist and/or licensed handlers and/or available vet services are available to the site manager, displayed in the site office and included in the Construction Environmental Management Plan (CEMP). For fauna handling related to frogs: ▪ Wear disposable gloves when handling frogs and change gloves for each individual frog. ▪ Place only one frog in each plastic bag. Do not re-use plastic bags. ▪ Disinfect any handling equipment and boots when moving between waterbodies. ▪ Wash hands thoroughly with disinfectant/change gloves after handling frogs from one waterbody.		

Mitigation Measure	Requirement	Timing and duration	Responsibility
	- Frogs or tadpoles/spawn should not be moved between catchments. For fauna handling related to mammals and birds: - To protect against bites and scratches, gloves should be worn when handling mammals and birds. - Transfer small animals to a small cloth bag after capture and before release. Larger animals may require a large pillow case or hessian bag. - To reduce risk of contracting Australian Bat Lyssavirus (ABLV), which is a form of rabies, an Ecologist or licensed handler should be vaccinated prior to handling bats. - Contact or exposure to bat faeces, urine or blood do not pose a risk of exposure to ABLV, or does working near bat roosting areas, as long as microbats are not handled. Fauna release: - Release fauna into pre-determined habitat identified for fauna release. This habitat would have been identified by an Ecologist and marked on maps for the project during the pre clearing process. Release fauna into similar habitats, as near as possible to their capture location. - Release nocturnal fauna at or after dusk. Nocturnal fauna can be released during the day if there is suitable refuge for them, (e.g. artificial or natural hollow). - Select trees with the appropriate features for the species being released, e.g. trees with rough or peeling bark and refuge/hollows for bats and gliders. - Details of all captured and relocated fauna should be kept by the ecologist, including the following information:		

Mitigation Measure	Requirement	Timing and duration	Responsibility
	- Species. - Location and time captured. - Location and time released. - Behaviour and condition upon release. - Details of any injury or deaths that occurred. - Contact details and location of the licensed handler or vet if the animal was transferred into their care.		
Weed management	An ecologist or person trained in weed management and identification will conduct a site weed assessment before works begin. Control and removal of weeds must be undertaken in accordance with the <i>Biosecurity Act 2015</i> (NSW).	During construction	coNEXA / delivery contractor
Pathogen management	Pathogens can be spread on footwear, infested plant material, vehicles and machinery, particularly during wet weather or in wet conditions. Strict precautions are necessary to prevent the spread of some pathogens. Some pathogens cannot be eradicated from infected sites so controlling their introduction and spread is a high priority. Several pathogens in NSW have the potential to impact on the environment and biodiversity. These may be introduced and spread during the construction of transport infrastructure and include: - Phytophthora (<i>Phytophthora cinnamomi</i>). - Chytrid fungus (<i>Batrachochytrium dendrobatidis</i>). - Myrtle rust (<i>Uredo rangelli</i>). - Fusarium wilt / Panama disease (<i>Fusarium oxysporum</i>).	During construction	coNEXA / delivery contractor

Mitigation Measure	Requirement	Timing and duration	Responsibility
	Before using machinery, plant or equipment near or within areas of bushland or waterways, the following controls should be considered: - Know where biosecurity matter infestations occur in your local area – this would involve contacting your local Council Weeds Officer and checking DPI information Managing Biosecurity in NSW. Previous local weed management plans or protocols may also be a good source of information. - Identify any planned activities with the potential to spread biosecurity matter – this includes movement of people, plant and machinery to/from/through infected areas. - Ensure vehicles, plant and machinery are clean prior to accepting on site. Where contact with biosecurity matter is unavoidable, follow the below vehicle hygiene ‘clean down’ process: - Use a designated clean bay which should be monitored for weed emergence and treated regularly. - Clean all soil and plant material from vehicle (inside and out), equipment and clothing. - Brush off/vacuum/use a blower to clean inside of vehicle and under the hood. - Clean from top of the vehicle down. - Remove any seed and plant material from clothing. - Use a pressure washer, where available, to remove debris from vehicle, paying particular attention to high-risk areas that have been in contact with weeds such as tyres. - If adequate cleaning facilities are unavailable onsite, clean the vehicle at a suitable wash-down facility before proceeding to another site.		

Mitigation Measure	Requirement	Timing and duration	Responsibility
CEMP implementation	The following should be implemented as part of the CEMP: - Plans showing areas to be cleared and areas to be protected, including exclusion zones, protected habitat features and revegetation areas - Pre-clearing survey requirements - Clearing supervision requirements - Procedures for unexpected threatened species finds and fauna handling. - Protocols to manage weeds, pathogens and pest species.	During construction	coNEXA / ecologist

9. CONCLUSION

The proposed activity will result in the removal (worst-case) of up to 1.45ha of native vegetation, including:

- 1.29ha of PCT 3320: Cumberland Shale Plains Woodland, and
- 0.14ha of PCT 4025: Cumberland Red Gum Riverflat Forest

This includes the removal (worst-case) of up to 1.45ha of TECs, including:

- 1.29ha of Cumberland Plain Woodland in the Sydney Basin Bioregion (BC Act: Critically Endangered), and
- 0.14ha of River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (BC Act: Endangered)

All vegetation proposed for removal provides minor foraging habitat for a suite of protected fauna species. Sensitive and/ or specialist fauna habitats that may be directly impacted by the activity include:

- Hollow-bearing trees (four hollow-bearing trees identified within the Construction Corridor have the potential to be directly impacted - the four hollow-bearing trees collectively contain two 5-10cm hollows and two 10-15cm hollows).

Within the context of the surrounding landscape, it is not considered likely that any threatened species would be reliant on these habitats as a part of their lifecycle. Based off habitat constraints, historical records and field survey, several highly-mobile threatened fauna species were determined to have a moderate or higher likelihood of occurrence within the Construction Corridor. None of these species are likely to be reliant on vegetation or other habitats within the Construction Corridor as a part of their lifecycle.

The result of a Test of Significance (**Appendix B**) determined that no significant impact to threatened species or TECs would be likely as a result of the proposed activity. This assessment demonstrates that the relevant provisions of the *Environmental Planning and Assessment Act 1979*, *Biodiversity Conservation Act 2016* and the *Environment Protection and Biodiversity Conservation Act 1999* have been satisfied. If the appropriate recommendations in this report are followed, the proposed activity will have a non-significant impact to protected biodiversity and is unlikely to significantly impact any threatened ecological community or species.

10. REFERENCES

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APPENDICES

Appendix A. Assessment of likely occurrence of threatened species within the Construction Corridor.

Appendix B. 5-Part Tests (Tests of Significance) under the BC Act.

Appendix A. Assessment of likely occurrence of threatened species within the Construction Corridor.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
Flora					
<i>Acacia pubescens</i> (Downy Wattle)	V	V	Concentrated around the Bankstown-Fairfield-Rookwood area and the Pitt Town area, with outliers occurring at Barden Ridge, Oakdale and Mountain Lagoon. Occurs on alluviums, shales and at the intergrade between shales and sandstones. The soils are characteristically gravelly soils, often with ironstone. Grows in open woodland and forest, in a variety of plant communities, including Cooks River-Castlereagh Ironbark forest, Shale-Gravel Transition forest and Cumberland Plain woodland.	298	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Construction Corridor. No further assessment required.
<i>Callistemon linearifolius</i> (Netted Bottle Brush)	V	-	Recorded from the Georges River to Hawkesbury River in the Sydney area, and north to the Nelson Bay area of NSW. Recorded in 2000 at Coalcliff in the northern Illawarra. For the Sydney area, recent records are limited to the Hornsby Plateau area near the Hawkesbury River. Grows in dry sclerophyll forest on the coast and adjacent ranges.	1	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Construction Corridor. No further assessment required.
<i>Cynanchum elegans</i> (White-flowered Wax Plant)	E	E	Recorded from rainforest gullies scrub and scree slopes from the Gloucester district to the Wollongong area and inland to Mt Dangar.	1	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Construction Corridor. No further assessment required.
<i>Dillwynia tenuifolia</i>	V	-	The core distribution is the Cumberland Plain from Windsor to Penrith east to Deans Park. Other populations in western Sydney are recorded from Voyager Point and Kemps Creek in the Liverpool LGA, Luddenham in the Penrith LGA and South Maroota in the Baulkham Hills Shire. Disjunct localities include: the Bulga Mountains at Yengo in the north, Kurrajong Heights and Woodford	48	Low. Although the surveys did not take place within the recognised survey period, no species from this genus were identified, therefore this species was

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			in the Lower Blue Mountains. In western Sydney, may be locally abundant particularly within scrubby-dry heath areas within Castlereagh Ironbark forest and Shale Gravel Transition forest on tertiary alluvium or laterised clays. May also be common in transitional areas where these communities adjoin Castlereagh Scribbly Gum woodland. At Yengo, is reported to occur in disturbed escarpment woodland on Narrabeen sandstone.		considered absent from the Construction Corridor. No further assessment required.
<i>Eucalyptus nicholii</i> (Narrow-leaved Black Peppermint)	V	V	Typically grows in dry grassy woodland, on shallow soils of slopes and ridges. Found primarily on infertile soils derived from granite or metasedimentary rock. Seedling recruitment is common, even in disturbed soils, if protected from grazing and fire.	5	Nil. Outside of natural distribution. No further assessment required.
<i>Eucalyptus scoparia</i> (Wallangarra White Gum)	E1	V	In NSW it is known from only three locations near Tenterfield. Found in open eucalypt forest and woodland on well-drained granite hilltops, slopes and rocky outcrops, typically at high altitudes. At lower elevations can occur in less rocky soils in damp situations.	10	Nil. Outside of natural distribution. No further assessment required.
<i>Grevillea juniperina</i> subsp. <i>juniperina</i> (Juniper-leaved Grevillea)	V	-	Endemic to Western Sydney, centred on an area bounded by Blacktown, Erskine Park, Londonderry and Windsor with outlier populations at Kemps Creek and Pitt Town. Recorded from Cumberland Plain woodland, Castlereagh Ironbark woodland, Castlereagh Scribbly Gum woodland and Shale-Gravel Transition forest. Grows on reddish clay to sandy soils derived from Wianamatta Shale and Tertiary alluvium (often with shale influence), typically containing lateritic gravels.	144	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Construction Corridor. No further assessment required.
<i>Isotoma fluviatilis</i> subsp. <i>fluviatilis</i>	-	EX	Known from only two adjacent sites on a single private property at Erskine Park in the Penrith LGA. Previous sightings are all from western Sydney, at Homebush and at Agnes Banks. Grows in damp places, on the Cumberland Plain, including freshwater wetland, grassland/alluvial woodland and an alluvial woodland/shale plains woodland (Cumberland Plain Woodland) and related vegetation	7	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Construction Corridor.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			types/. May be an early successional species that benefits from some disturbance. Possibly out competed when overgrown by some species such as <i>Cydon dactylon</i> .		No further assessment required.
<i>Macadamia tetraphylla</i> (Rough-shelled Bush Nut)	V	V	Confined chiefly to the Richmond and Tweed Rivers in north-east NSW, extending just across the border into Queensland. Found in subtropical rainforest, usually near the coast.	2	Nil. Outside of natural distribution. No further assessment required.
<i>Marsdenia viridiflora</i> subsp. <i>viridiflora</i> (Marsdenia viridiflora R. Br. subsp. viridiflora population in the Bankstown, Blacktown, Camden, Campbelltown, Fairfield, Holroyd, Liverpool and Penrith local government areas)	E	-	Grows in vine thickets and open shale woodland.	100	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Construction Corridor. No further assessment required.
<i>Persoonia nutans</i> (Nodding Geebung)	E	E	Confined to aeolian and alluvial sediments and occurs in a range of sclerophyll forest and woodland vegetation communities, with the majority of individuals occurring within Agnes Banks woodland or Castlereagh Scribbly Gum woodland. Restricted to the Cumberland Plain in western Sydney, between Richmond in the north and Macquarie Fields in the south.	10	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Construction Corridor. No further assessment required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
<i>Pimelea curviflora</i> var. <i>curviflora</i>	V	V	Confined to the coastal area of Sydney between northern Sydney in the south and Maroota in the north-west. Former range extended south to the Parramatta River and Port Jackson region including Five Dock, Bellevue Hill and Manly. Occurs on shaley-lateritic soils over sandstone and shale-sandstone transition soils on ridgetops and upper slopes amongst woodlands.	2	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Construction Corridor. No further assessment required.
<i>Pimelea spicata</i> (Spiked Rice-flower)	E	E	Once widespread on the Cumberland Plain, the Spiked Rice-flower occurs in two disjunct areas; the Cumberland Plain (Narellan, Marayong, Prospect Reservoir areas) and the Illawarra (Landsdowne to Shellharbour to northern Kiama). In both the Cumberland Plain and Illawarra environments this species is found on well-structured clay soils. On the inland Cumberland Plain sites it is associated with grey box and Ironbark. In the coastal Illawarra it occurs commonly in Coast Banksia open woodland with a better developed shrub and grass understory.	270	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Construction Corridor. No further assessment required.
<i>Pterostylis saxicola</i> (Sydney Plains Greenhood)	E	E	Restricted to western Sydney between Freemans Reach in the north and Picton in the south. Most commonly found growing in small pockets of shallow soil in depressions on sandstone rock shelves above cliff lines. The vegetation communities above the shelves where <i>Pterostylis saxicola</i> occurs are sclerophyll forest or woodland on shale-sandstone transition soils or shale soils.	1	Low. This species has not been recorded within the locality in the last 10 years on BioNet. No further assessment required.
<i>Pultenaea parviflora</i>	E	V	Endemic to the Cumberland Plain. May be locally abundant, particularly within scrubby-dry heath areas within Castlereagh Ironbark forest and Shale Gravel Transition forest on tertiary alluvium or laterised clays. May also be common in transitional areas where these communities adjoin Castlereagh Scribbly Gum woodland.	116	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Construction Corridor. No further assessment required.
<i>Pultenaea pedunculata</i>	E	-	<i>Pultenaea pedunculata</i> occurs in a range of habitats. NSW populations are generally among woodland vegetation but plants	15	Low. A targeted survey was undertaken during the recognised

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
(Matted Bush-pea)			have also been found on road batters and coastal cliffs. It is largely confined to loamy soils in dry gullies in populations in the Windellama area.		survey period and this species was absent from the Construction Corridor. No further assessment required.
Amphibia					
<i>Litoria aurea</i> (Green and Golden Bell Frog)	E	V	Inhabits a very wide range of water bodies including marshes, dams and streams, particularly those containing emergent vegetation such as bullrushes or spikerushes. It also inhabits numerous types of man-made water bodies including quarries and sand extraction sites. Optimum habitat includes water-bodies that are un-shaded, free of predatory fish such as Plague Minnow, have a grassy area nearby and diurnal sheltering sites available.	24	Low. Although there is potential foraging and breeding habitat for this species within the Construction Corridor, populations of this species are well documented in Sydney; the nearest known population occurs approximately 20km from the Construction Corridor. This species has not been recorded within the locality in the last 10 years on BioNet. Preferable habitat is present within the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods) on habitats in the Construction Corridor. The proposed activity will not involve removal of vegetation along creeks or in dams, which form habitat for this species. No further assessment required.
Aves					

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
<i>Anthochaera phrygia</i> (Regent Honeyeater)	CE	CE	The Regent Honeyeater mainly inhabits temperate woodlands and open forests of the inland slopes of south-east Australia. Birds are also found in drier coastal woodlands and forests in some years. The distribution of the species has contracted dramatically in the last 30 years to between north-eastern Victoria and south-eastern Queensland. There are only three known key breeding regions remaining: north-east Victoria (Chiltern-Albury), and in NSW at Capertee Valley and the Bundarra-Barraba region. In NSW the distribution is very patchy and mainly confined to the two main breeding areas and surrounding fragmented woodlands. In some years flocks converge on flowering coastal woodlands and forests.	18	Low. Potential foraging habitat for this species is present within the Construction Corridor. This highly mobile species may be an occasional visitor, but similar habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor. No further assessment required.
<i>Artamus cyanopterus cyanopterus</i> (Dusky Woodswallow)	V	-	The Dusky Woodswallow is widespread in eastern, southern and southwestern Australia. In New South Wales it is widespread from coast to inland, including the western slopes of the Great Dividing Range and farther west. It is sparsely scattered in, or largely absent from, much of the Upper Western region. The Dusky Woodswallow is often reported in woodlands and dry open sclerophyll forests, usually dominated by eucalypts, including mallee associations. It has also been recorded in shrublands and heathlands and various modified habitats, including regenerating forests; very occasionally in moist forests or rainforests. At sites where Dusky Woodswallows are recorded the understory is typically open with sparse eucalypt saplings, acacias and other shrubs, including heath. The ground cover may consist of grasses, sedges or open ground, often with coarse woody debris (Higgins and Peter 2002). Birds are also often observed in farm land, usually at the edges of forest or woodland or in roadside remnants or wind breaks with dead timber.	13	Low. Potential foraging habitat for this species is present within the Construction Corridor. This highly mobile species may be an occasional visitor, but similar habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor. No further assessment required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
<i>Callocephalon fimbriatum</i> (Gang-gang Cockatoo)	E	E	In summer, occupies tall montane forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests. Also occur in subalpine snow gum woodland and occasionally in temperate or regenerating forest. In winter, occurs at lower altitudes in drier, more open eucalypt forests and woodlands, particularly in box-ironbark assemblages, or in dry forest in coastal areas. It requires tree hollows in which to breed.	2	Low. This species has not been recorded within the locality in the last 10 years on BioNet. Potential habitat for this species is present within the Construction Corridor. This highly mobile species may be an occasional visitor, but similar habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor. No further assessment required.
<i>Calyptorhynchus lathami lathami</i> (South-eastern Glossy Black-Cockatoo)	V	-	Inhabits forest with low nutrients, characteristically with key Allocasuarina spp. Tends to prefer drier forest types with a middle stratum of Allocasuarina below Eucalyptus or Angophora. Often confined to remnant patches in hills and gullies. Breed in hollows stumps or limbs, either living or dead. Endangered population in the Riverina.	1	Low. Potential habitat for this species is present within the Construction Corridor. This highly mobile species may be an occasional visitor, but similar habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor. No further assessment required.
<i>Climacteris picumnus</i>	V	V	Found in eucalypt woodlands (including box-gum woodland) and dry open forest of the inland slopes and plains inland of the Great	1	Low. Potential habitat for this species is present within the

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
<i>victoriae</i> (Brown Treecreeper (eastern subspecies))			Dividing Range; mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understory, sometimes with one or more shrub species; also found in mallee and river red gum forest bordering wetlands with an open understory of acacias, saltbush, lignum, cumbungi and grasses; usually not found in woodlands with a dense shrub layer; fallen timber is an important habitat component for foraging; also recorded, though less commonly, in similar woodland habitats on the coastal ranges and plains.		Construction Corridor. This highly mobile species may be an occasional visitor, but similar habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor. No further assessment required.
<i>Daphoenositta chrysoptera</i> (Varied Sittella)	V	-	Inhabits wide variety of dry eucalypt forests and woodlands, usually with either shrubby under storey or grassy ground cover or both, in all climatic zones of Australia. Usually in areas with rough-barked trees, such as stringybarks or ironbarks, but also in paperbarks or mature Eucalypts with hollows.	10	Known. This species has been recorded within the locality in the last 5 years on BioNet. Field surveys undertaken by ECE in February 2025 identified 1 individuals within the Construction Corridor.
<i>Gallinago hardwickii</i> (Latham's Snipe)	V	V	Latham's Snipe is a non-breeding migrant to the south east of Australia including Tasmania, passing through the north and New Guinea on passage. Latham's Snipe breed in Japan and on the east Asian mainland. seen in small groups or singly in freshwater wetlands on or near the coast, generally among dense cover. They are found in any vegetation around wetlands, in sedges, grasses, lignum, reeds and rushes and also in saltmarsh and creek edges on migration.	7	Moderate. There is potential foraging habitat for this species within the Construction Corridor. However, preferable habitat is present within the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods) on habitats in the Construction Corridor. The proposed activity will not involve removal of vegetation

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
					along creeks, which form habitat for this species. No further assessment required.
<i>Glossopsitta pusilla</i> (Little Lorikeet)	V	-	Distributed in forests and woodlands from the coast to the western slopes of the Great Dividing Range in NSW, extending westwards to the vicinity of Albury, Parkes, Dubbo and Narrabri. Mostly occur in dry, open eucalypt forests and woodlands. They feed primarily on nectar and pollen in the tree canopy. Nest hollows are located at heights of between 2 m and 15 m, mostly in living, smooth-barked eucalypts. Most breeding records come from the western slopes.	6	Moderate. There is potential foraging and breeding habitat for this species within the Construction Corridor. However, preferable habitat is present within the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods) on habitats in the Construction Corridor. No further assessment required.
<i>Haliaeetus leucogaster</i> (White-bellied Sea-Eagle)	V	-	Inhabits coastal and near coastal areas, building large stick nests, and feeding mostly on marine and estuarine fish and aquatic fauna.	2	Low. This species has not been recorded within the locality in the last 10 years on BioNet. Potential foraging habitat for this species is present within the Construction Corridor. This highly mobile species may be an occasional visitor, but similar habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
					No further assessment required.
<i>Hieraaetus morphnoides</i> (Little Eagle)	V	-	Most abundant in lightly timbered areas with open areas nearby. Often recorded foraging in grasslands, crops, treeless dune fields, and recently logged areas. May nest in farmland, woodland and forest in tall trees.	16	Low. Potential foraging habitat for this species is present within the Construction Corridor. This highly mobile species may be an occasional visitor, but similar habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor. No further assessment required.
<i>Hirundapus caudacutus</i> (White-throated Needletail)	V	V	An aerial species found in feeding concentrations over cities, hilltops and timbered ranges.	1	Moderate. Potential foraging habitat for this species is present within the Construction Corridor. This highly mobile species may be an occasional visitor, but similar habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor. No further assessment required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
<i>Lathamus discolor</i> (Swift Parrot)	E	CE	The Swift Parrot occurs in woodlands and forests of NSW from May to August, where it feeds on eucalypt nectar, pollen and associated insects . The Swift Parrot is dependent on flowering resources across a wide range of habitats in its wintering grounds in NSW . This species is migratory, breeding in Tasmania and also nomadic, moving about in response to changing food availability.	16	Low. Potential foraging habitat for this species is present within the Construction Corridor. This highly mobile species may be an occasional visitor, but similar habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor. No further assessment required.
<i>Lophoictinia isura</i> (Square-tailed Kite)	V	-	Typically inhabits coastal forested and wooded lands of tropical and temperate Australia. In NSW it is often associated with ridge and gully forests dominated by Eucalyptus longifolia, Corymbia maculata, E. elata or E. smithii. Individuals appear to occupy large hunting ranges of more than 100km ² . They require large living trees for breeding, particularly near water with surrounding woodland -forest close by for foraging habitat. Nest sites are generally located along or near watercourses, in a tree fork or on large horizontal limbs.	4	Low. Potential foraging habitat for this species is present within the Construction Corridor. This highly mobile species may be an occasional visitor, but similar habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor. No further assessment required.
<i>Neophema pulchella</i> (Turquoise Parrot)	V	-	The Turquoise Parrot's range extends from southern Queensland through to northern Victoria, from the coastal plains to the western slopes of the Great Dividing Range. Lives on the edges of eucalypt woodland adjoining clearings, timbered ridges and creeks in	2	Low. Potential habitat for this species is present within the Construction Corridor. This highly mobile species may be an

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			farmland. Nests in tree hollows, logs or posts, from August to December. It lays four or five white, rounded eggs on a nest of decayed wood dust.		occasional visitor, but similar habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor. No further assessment required.
<i>Ninox connivens</i> (Barking Owl)	V	-	Generally found in open forests, woodlands, swamp woodlands and dense scrub. Can also be found in the foothills and timber along watercourses in otherwise open country.	2	Low. This species has not been recorded within the locality in the last 10 years on BioNet. Potential habitat for this species is present within the Construction Corridor. This highly mobile species may be an occasional visitor, but similar habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor. No further assessment required.
<i>Ninox strenua</i> (Powerful Owl)	V	-	Occupies wet and dry eucalypt forests and rainforests. Can occupy both un-logged and lightly logged forests as well as undisturbed forests where it usually roosts on the limbs of dense trees in gully areas. It is most commonly recorded within red turpentine in tall open forests and black she-oak within open forests. Large mature trees with hollows at least 0.5 m deep are required for nesting. Tree	8	Low. Potential habitat for this species is present within the Construction Corridor. This highly mobile species may be an occasional visitor, but similar habitat is widely distributed in the

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			hollows are particularly important for the Powerful Owl because a large proportion of the diet is made up of hollow-dependent arboreal marsupials. Nest trees for this species are usually emergent with a diameter at breast height of at least 100 cm.		locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor. No further assessment required.
<i>Oxyura australis</i> (Blue-billed Duck)	V	-	Widespread in NSW, but most common in the southern Murray-Darling Basin area. Birds disperse during the breeding season to deep swamps up to 300 km away. It is generally only during summer or in drier years that they are seen in coastal areas. The Blue-billed Duck prefers deep water in large permanent wetlands and swamps with dense aquatic vegetation.	1	Low. Potential foraging habitat for this species is present within the Construction Corridor. This highly mobile species may be an occasional visitor, but similar habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor. No further assessment required.
<i>Pluvialis squatarola</i> (Grey Plover)	V	V	In Australia, Grey Plovers occur almost entirely in coastal areas, where they usually inhabit sheltered embayments, estuaries and lagoons with mudflats and sandflats, and occasionally on rocky coasts with wave-cut platforms or reef-flats, or on reefs within muddy lagoons. They also occur around terrestrial wetlands such as near-coastal lakes and swamps, or salt-lakes. The species is also very occasionally recorded further inland, where they occur around wetlands or salt-lakes.	1	Low. Potential foraging habitat for this species is present within the Construction Corridor. This highly mobile species may be an occasional visitor, but similar habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
					resources) on habitats in the Construction Corridor. No further assessment required.
<i>Tyto novaehollandiae</i> (Masked Owl)	V	-	Inhabits a diverse range of wooded habitat that provide tall or dense mature trees with hollows suitable for nesting and roosting. Mostly recorded in open forest and woodlands adjacent to cleared lands. Nest in hollows, in trunks and in near vertical spouts or large trees, usually living but sometimes dead. Nest hollows are usually located within dense forests or woodlands. Masked owls prey upon hollow-dependent arboreal marsupials, but terrestrial mammals make up the largest proportion of the diet.	4	Low. Potential habitat for this species is present within the Construction Corridor. This highly mobile species may be an occasional visitor, but similar habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor. No further assessment required.
Gastropoda					
<i>Meridolum corneovirens</i> (Cumberland Plain Land Snail)	E	-	Primarily inhabits Cumberland Plain woodland (an EEC). This community is a grassy, open woodland with occasional dense patches of shrubs. Lives under litter of bark, leaves and logs, or shelters in loose soil around grass clumps. Occasionally shelters under rubbish.	294	Low. Suitable microhabitat is generally absent from the Construction Corridor and the majority of habitat will not be impacted by the proposed activity. A targeted survey was undertaken during the recognised survey period and this species was absent from the Construction Corridor.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
					No further assessment required.
Mammalia					
<i>Cercartetus nanus</i> (Eastern Pygmy-possum)	V	-	Inhabits rainforest through to sclerophyll forest and tree heath. Banksias and myrtaceous shrubs and trees are a favoured food source. Will often nest in tree hollows, but can also construct its own nest . Because of its small size it is able to utilise a range of hollow sizes including very small hollows. Individuals will use a number of different hollows and an individual has been recorded using up to 9 nest sites within a 0.5ha area over a 5 month period .	1	Low. This species has not been recorded within the locality in the last 10 years on BioNet. Potential habitat for this species is present within the Construction Corridor. However, this species may be an occasional visitor, but similar habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor. No further assessment required.
<i>Chalinolobus dwyeri</i> (Large-eared Pied Bat)	E	E	Located in a variety of drier habitats, including the dry sclerophyll forests and woodlands to the east and west of the Great Dividing Range. Can also be found on the edges of rainforests and in wet sclerophyll forests. This species roosts in caves and mines in groups of between 3 and 37 individuals.	2	Low. Potential foraging habitat for this species is present within the Construction Corridor. This highly mobile species may be an occasional visitor, but similar habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
<i>Dasyurus maculatus</i> (Spotted-tailed Quoll)	V	E	Spotted-tailed Quoll are found on the east coast of NSW, Tasmania, eastern Victoria and north-eastern Queensland. Only in Tasmania is it still considered common. Recorded across a range of habitat types, including rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline.	2	No further assessment required. Low. This species has not been recorded within the locality in the last 10 years on BioNet. Potential habitat for this species is present within the Construction Corridor. This highly mobile species may be an occasional visitor, but similar habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor. No further assessment required.
<i>Falsistrellus tasmaniensis</i> (Eastern False Pipistrelle)	V	-	Inhabit sclerophyll forests, preferring wet habitats where trees are more than 20 m high. Two observations have been made of roosts in stem holes of living eucalypts. There is debate about whether or not this species moves to lower altitudes during winter, or whether they remain sedentary but enter torpor. This species also appears to be highly mobile and records showing movements of up to 12 km between roosting and foraging sites.	16	Low. Potential foraging habitat for this species is present within the Construction Corridor. This highly mobile species may be an occasional visitor, but similar habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor. No further assessment required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
<i>Micronomus norfolkensis</i> (Eastern Coastal Free-tailed Bat)	V	-	Most records are from dry eucalypt forests and woodlands to the east of the Great Dividing Range. Appears to roost in trees, but little is known of this species' habits.	45	Moderate. There is potential foraging and breeding habitat for this species within the Construction Corridor. However, habitat similar to the Construction Corridor is present within the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods) on habitats in the Construction Corridor. No further assessment required.
<i>Miniopterus australis</i> (Little Bent-winged Bat)	V	-	Coastal north-eastern NSW and eastern Queensland. Little Bent-wing Bat is an insectivorous bat that roost in caves, in old mines, in tunnels, under bridges, or in similar structures. They breed in large aggregations in a small number of known caves and may travel 100s km from feeding home ranges to breeding sites. Little Bent-wing Bat has a preference for moist eucalypt forest, rainforest or dense coastal banksia scrub where it forages below the canopy for insects.	7	Low. Potential foraging habitat for this species is present within the Construction Corridor. This highly mobile species may be an occasional visitor, but similar habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor. No further assessment required.
<i>Miniopterus orianae oceanensis</i> (Large Bent-winged Bat)	V	-	Eastern Bent-wing Bats occur along the east and north-west coasts of Australia. Caves are the primary roosting habitat, but also use derelict mines, storm-water tunnels, buildings and other man-made structures. Form discrete populations centred on a	61	Low. Potential foraging habitat for this species is present within the Construction Corridor. This highly mobile species may be an occasional visitor, but similar

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			maternity cave that is used annually in spring and summer for the birth and rearing of young.		habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor. No further assessment required.
<i>Myotis macropus</i> (Southern Myotis)	V	-	The Large-footed Myotis is found in the coastal band from the north-west of Australia, across the top-end and south to western Victoria. Generally roost in groups of 10 - 15 close to water in caves, mine shafts, hollow-bearing trees, storm water channels, buildings, under bridges and in dense foliage.	27	Low. Potential foraging habitat for this species is present within the Construction Corridor. This highly mobile species may be an occasional visitor, but similar habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor. No further assessment required.
<i>Phascolarctos cinereus</i> (Koala)	E	-	Inhabits eucalypt forests and woodlands. The suitability of these forests for habitation depends on the size and species of trees present, soil nutrients, climate and rainfall .	5	Low. Koala feed trees are present within the Construction Corridor. However, preferable habitat with more mature Eucalypt growth is present within the locality. No further assessment is required.
<i>Pteropus poliocephalus</i>	V	V	This species is a canopy-feeding frugivore and nectarivore of rainforests, open forests, woodlands, melaleuca swamps and	616	Moderate. Potential foraging habitat for this species is present

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
(Grey-headed Flying-fox)			banksia woodlands. Bats commute daily to foraging areas, usually within 15 km of the day roost although some individuals may travel up to 70 km.		within the Construction Corridor but no breeding habitat (i.e. breeding camps) was seen in the Construction Corridor. This highly mobile species may be an occasional visitor, but similar habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor. No further assessment required.
<i>Saccolaimus flaviventris</i> (Yellow-bellied Sheath-tail-bat)	V	-	Roosts singly or in groups of up to six, in tree hollows and buildings; in treeless areas they are known to utilise mammal burrows. When foraging for insects, flies high and fast over the forest canopy, but lower in more open country. Forages in most habitats across its very wide range, with and without trees; appears to defend an aerial territory.	8	Moderate. There is potential foraging and breeding habitat for this species within the Construction Corridor. However, habitat similar to the Construction Corridor is present within the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods) on habitats in the Construction Corridor. No further assessment required.
<i>Scoteanax rueppellii</i> (Greater Broad-nosed Bat)	V	-	Prefer moist gullies in mature coastal forests and rainforests, between the Great Dividing Range and the coast. They are only found at low altitudes below 500 m. In dense environments they utilise natural and human-made opening in the forest for flight	17	Low. Potential foraging habitat for this species is present within the Construction Corridor. This highly mobile species may be an

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			paths. Creeks and small rivers are favoured foraging habitat. This species roosts in hollow tree trunks and branches.		occasional visitor, but similar habitat is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Construction Corridor. No further assessment required.

Appendix B. 5-Part Tests (Tests of Significance) under the BC Act.

Biodiversity Conservation Act 2016 – Test of Significance (5-part Test) for Threatened Ecological Communities		
Cumberland Plain Woodland in the Sydney Basin Bioregion (Critically Endangered)		
(a) in the case of a threatened species, whether the proposed activity or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,	Not applicable.	
(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed activity or activity:	(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or	No. The proposed activity is unlikely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction. A maximum of 1.29ha of degraded Cumberland Plain Woodland in the Sydney Basin Bioregion may be removed to facilitate the proposed activity, however vegetation clearing will be avoided wherever possible by using existing roads for access and under-boring trees where possible. Removal of 1.29ha Cumberland Plain Woodland in the Sydney Basin Bioregion would constitute removal of 0.77% of the CEEC in the surrounding locality (1km buffer).

**Biodiversity Conservation Act 2016 – Test of Significance (5-part Test)
for Threatened Ecological Communities**

Cumberland Plain Woodland in the Sydney Basin Bioregion (Critically Endangered)

		As such, surrounding vegetation to be retained will remain connected to areas of equal and higher quality habitat within the locality.
	(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,	The proposed activity is not likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction. The proposed activity will involve removal of up to 1.29ha of Cumberland Plain Woodland in the Sydney Basin Bioregion. Potentially influenced vegetation species are well represented in areas surrounding the Construction Corridor. It is not expected that the proposed activity will cause the permanent loss of any complexity or unique floristic components of the ecological community, such that it is likely to be placed at risk of extinction.
(c) in relation to the habitat of a threatened species or ecological community:	(i) the extent to which habitat is likely to be removed or modified as a result of the proposed activity or activity, and	The proposed activity will require the removal of a maximum of 1.29ha of habitat within Cumberland Plain Woodland in the Sydney Basin Bioregion. Disturbance to the topsoil and other vegetation outside the construction corridor

**Biodiversity Conservation Act 2016 – Test of Significance (5-part Test)
for Threatened Ecological Communities**

Cumberland Plain Woodland in the Sydney Basin Bioregion (Critically Endangered)

		is to be avoided as to retain the CEEC within the area.
	(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed activity or activity, and	No increased fragmentation will occur as a result of the proposed activity. Connectivity will remain to areas of equal and higher quality habitat outside of the Construction Corridor.
	(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,	All areas which support viable patches are important. The habitat exists as in a heavily degraded and fragmented state. It is not likely that the habitat to be impacted will reduce the long term survival of the CEEC.
(d) whether the proposed activity or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),	The proposed activity is not likely to have an adverse effect on any declared area of critical habitat, directly or indirectly.	
(e) whether the proposed activity or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.	The following Key Threatening Processes (KTPs) are documented to impact upon the survival of the ecological community: • Clearing of native vegetation • Loss of hollow-bearing trees	

Conclusion

There will be no significant impact on this ecological community therefore the proposed action should not warrant the preparation of a Species Impact Statement (SIS) or Biodiversity Development Assessment Report (BDAR).

**Biodiversity Conservation Act 2016 – Test of Significance (5-part Test)
for Threatened Ecological Communities**

River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (Endangered)

(a) in the case of a threatened species, whether the proposed activity or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,	Not applicable.	
(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed activity or activity:	(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or	No. The proposed activity is unlikely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction. A maximum of 0.14ha of degraded River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions may be removed to facilitate the proposed activity, however vegetation clearing will be avoided wherever possible by using existing roads for access and under-boring trees where possible. Removal of 0.14ha of River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions would constitute removal of 0.21% of

**Biodiversity Conservation Act 2016 – Test of Significance (5-part Test)
for Threatened Ecological Communities**

River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (Endangered)

		the EEC in the surrounding locality (1km buffer). As such, surrounding vegetation to be retained will remain connected to areas of equal and higher quality habitat within the locality.
	(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,	The proposed activity is not likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction. The proposed activity will involve removal of up to 0.14ha of River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions. Potentially influenced vegetation species are well represented in areas surrounding the Construction Corridor. It is not expected that the proposed activity will cause the permanent loss of any complexity or unique floristic components of the ecological community, such that it is likely to be placed at risk of extinction.
(c) in relation to the habitat of a threatened species or ecological community:	(i) the extent to which habitat is likely to be removed or modified as a result of the proposed activity or activity, and	The proposed activity will require the removal of a maximum of 0.14ha of habitat within PCT 4025. Disturbance to the topsoil and other vegetation

**Biodiversity Conservation Act 2016 – Test of Significance (5-part Test)
for Threatened Ecological Communities**

**River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney
Basin and South East Corner Bioregions (Endangered)**

		within the area is to be avoided as to retain the EEC within the area.
	(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed activity or activity, and	No increased fragmentation will occur as a result of the proposed activity. Connectivity will remain to areas of equal and higher quality habitat outside of the Construction Corridor.
	(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,	All areas which support viable patches are important. The habitat exists as in a heavily degraded and fragmented state. It is not likely that the habitat to be impacted will reduce the long term survival of the EEC.
(d) whether the proposed activity or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),	The proposed activity is not likely to have an adverse effect on any declared area of critical habitat, directly or indirectly.	
(e) whether the proposed activity or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.	The following Key Threatening Processes (KTPs) are documented to impact upon the survival of the ecological community: • Clearing of native vegetation • Loss of hollow-bearing trees	

Conclusion

There will be no significant impact on these species therefore the proposed action should not warrant the preparation of a Species Impact Statement (SIS) or Biodiversity Development Assessment Report (BDAR).

**Biodiversity Conservation Act 2016 – Test of Significance (5-part Test)
for *Daphoenositta chrysoptera* (Varied Sittella)**

BC Act Status: Vulnerable

(a) in the case of a threatened species, whether the proposed activity or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,	The proposed activity is not likely to have an adverse effect on the life cycle of this species such that a viable local population is likely to be placed at risk of extinction. Three <i>Daphoenositta chrysoptera</i> were identified within the Construction Corridor during the site assessment. The proposed activity includes the removal of approximately 1.45ha (worst case) of native vegetation which constitutes potential suitable foraging or breeding habitat for this species. It is not expected that a viable local population would be likely to be placed at risk of extinction due to the activity, given the large areas of suitable habitat remaining in the broader locality. It is possible that this species will suffer from indirect impacts (e.g. noise or vibration) during construction. These indirect impacts will be controlled through standard mitigation measures and are not likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	
(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed activity or activity:	(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or	Not Applicable.
	(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,	Not Applicable.
(c) in relation to the habitat of a threatened species or ecological community:	(i) the extent to which habitat is likely to be removed or modified as a result of the	Approximately 1.45ha of potential habitat for this species will be impacted as a result of the proposed activity. The

**Biodiversity Conservation Act 2016 – Test of Significance (5-part Test)
for *Daphoenositta chrysoptera* (Varied Sittella)**

BC Act Status: Vulnerable

	proposed activity or activity, and	location of habitat this species was observed utilising will not be impacted by the proposed activity, due to the use of HDD. Although Varied Sittella maintain sedentary populations, they were observed on the fringe of Prospect Reservoir, where they are likely to make use of the superior, less edge effected vegetation within the reservoir.
	(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed activity or activity, and	An increase in fragmentation is not likely to occur for this species given the proposed activity will retain the area of feeding habitat the species was observed using. The species is highly mobile and was identified on the periphery of a large area of suitable habitat in Prospect Reservoir.
	(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,	The habitat to be impacted is unlikely to be of high importance to this species. Higher-quality habitat, not subject to edge effects will continue to persist in the broader locality at Prospect Reservoir, which will support the long-term survival of this species.
(d) whether the proposed activity or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),	The activity proposed is not likely to have an adverse effect on any declared area of critical habitat, directly or indirectly.	

**Biodiversity Conservation Act 2016 – Test of Significance (5-part Test)
for *Daphoenositta chrysoptera* (Varied Sittella)**

BC Act Status: Vulnerable

(e) whether the proposed activity or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

The following Key Threatening Processes (KTPs) have the potential to impact upon the survival of these species:

- Clearing of native vegetation

Suitable habitat will remain adjacent to the Construction Corridor and in the broader locality.

Conclusion

There will be no significant impact on *Daphoenositta chrysoptera* therefore the proposed action should not warrant the preparation of a Species Impact Statement (SIS) or Biodiversity Development Assessment Report (BDAR).



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