



**SQUADRON  
ENERGY**

# Port Kembla Power Station

**Scoping Report**

**October 2021**

**→ The Power of Commitment**



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# 1 Introduction

## 1.1 Overview

Australian Industrial Power (AIP) proposes to develop a power station at Berth 101 in Port Kembla south of Wollongong, New South Wales (NSW) (the project). The power station would generate power from natural gas supplied by the Port Kembla Gas Terminal at Berth 101 with an ultimate generation capacity of nominally 635 megawatts. The power station will also be designed to be fuelled by a mixture of green hydrogen and natural gas up to 50% by volume. A subsequent approval/mod will be applied for once the green hydrogen source and supply chain are better understood.

The project will also incorporate a power transmission line from the power station to connect to the existing electricity network via a switching station at Kembla Grange and a cut-in tower connecting to the existing 330 kilovolt Sydney South to Dapto Transmission Line.

The entire project would involve a capital investment of about \$1.3 billion and create about 600 to 700 jobs over the duration of construction and between 25 - 35 ongoing jobs throughout its operation. It would also support the estimated 300,000 manufacturing jobs in NSW that are directly reliant on a secure and price competitive supply of electricity. The project is described further in section 2.

## 1.2 Proponent details

AIP is part of Tattarang's energy division, Squadron Energy Pty Ltd (Squadron Energy), which has investments in wind, solar and natural gas infrastructure.

The proponent details are as follows:

Australian Industrial Power  
171–173 Mounts Bay Road  
Perth WA 6000  
ABN: 31 645 593 497

Squadron Energy seeks to invest in initiatives, research technologies and projects that support and accelerate the transition to a low carbon economy.

## 1.3 Purpose and structure

The purpose of this report is to provide preliminary information on the project and identify relevant environmental matters and impacts in accordance with the Department of Planning, Industry and Environment's guideline *Scoping an Environmental Impact Statement* (DPIE 2021) in support of a request for the Secretary's Environmental Assessment Requirements (SEARs).

The structure of this report is as follows:

- Section 2 – provides a description of the project, the site and surrounds.
- Section 3 – describes the strategic context of the project.
- Section 4 – describes the statutory context of the project.
- Section 5 – identifies the relevant environmental matters and impacts.
- Section 6 – describes stakeholder engagement for the project.
- Section 7 – provides a summary of report findings and conclusion.

## 2 Project details

### 2.1 Overview

AIP proposes to develop the power station at Berth 101 in Port Kembla south of Wollongong, NSW. The final project will comprise a single H-class combined cycle gas turbine with a capability of supplying approximately 635 megawatts (nominal) of gas fired power generation. The project will also incorporate a 330 kilovolt power transmission line connecting the power station to the existing electricity network via a switching station at Kembla Grange and a cut-in tower connecting to the existing 330 kilovolt Sydney South to Dapto Transmission Line. The project would include the following key components:

- Power station.
- Power transmission line.
- Power transmission switching station.

The project is being developed to address the increasing pressure on the NSW electricity market due to the rapid growth in renewable energy and planned retirement of state's ageing coal fired power generators. This will address both the short-term challenges to grid stability posed by the rapid growth in renewable energy, as well as the longer term requirement to secure low emission large-scale dispatchable electricity to further decarbonise the economy.

The project is therefore proposed to be phased to commence operation as a smaller scale (circa 435MW) open cycle unit to provide short-term dispatchable peaking capacity. The transition to the full 635 MW combined cycle design configuration will subsequently be undertaken based upon the rate at which coal fired power exits the market.

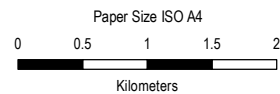
The power station would be dual fuel enabled, with the capability to run on a blend of 50% natural gas and 50% green hydrogen by volume at commencement of operations. Accordingly, allowance has been made for a hydrogen receiving station within the power station footprint to allow the project to be readily adaptable to utilise hydrogen as supply becomes available. The current technology development pathway indicates that operation on 100% hydrogen fuel may be possible by the end of the decade. The design of the project is ongoing and, as such, the precise elements and specifications of the key components and supporting infrastructure are under development.

The description of the project within this scoping report is, therefore, indicative and would likely be refined throughout the environmental assessment and approval process for the project. The indicative layout of the project is shown in Figure 2.1. It is noted that a number of options are still under consideration for the final transmission line and switching station cut-in to the existing transmission network. A preferred alignment will be determined through the design process based upon ongoing liaison with land-owners and consideration of environmental, physical and stakeholder constraints.

### 2.2 Site and surrounds

The project is broadly situated within the Illawarra region about 80 kilometres south of Sydney. The main centre in the region is Wollongong which is located approximately three kilometres north of the project site. Regional features include the Illawarra Escarpment to the west and Lake Illawarra to the south. Major transport infrastructure includes Princes Motorway and the South Coast Rail Line.

The site and surrounds of the project include the localities of Port Kembla, Spring Hill, Unanderra and Kembla Grange. Port Kembla is a deep water harbour with a range of port-related and other industrial uses including steel-making, vehicle import, grain and coal export, dry bulk, bulk liquid and general cargo facilities. The port is split into the inner harbour and an outer harbour by "the Cut". The power station is proposed to be located adjacent to Berth 101 in the inner harbour. The land is leased by NSW Ports on a 99 year lease from the NSW Government and would be held by AIP under a sublease arrangement from NSW Ports. To the west of Port Kembla is Spring Hill and Unanderra which are also characterised by commercial and industrial uses with areas of low-density residential development to the north and south. Kembla Grange is largely characterised by open space with areas of low-density residential development and some limited light industrial areas.



Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 56



Australian Industrial Power  
Port Kembla Power Station Scoping Report

Project No. 12542715  
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Project Overview

**FIGURE 2.1**

Data source: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community. Created by: afoddy



## 2.3 Power station

The power station is proposed to include a combined cycle gas turbine in a multi shaft configuration with a nominal generation capacity of 635 megawatts (Note: the power station can operate at up to 660 megawatts generation under peak ambient meteorological conditions).

The project is proposed to be phased to commence operation as a smaller scale (circa 435MW) open cycle unit to provide short-term dispatchable peaking capacity before transitioning to the full 635 MW combined cycle configuration. The combined cycle plant incorporates a heat recovery steam generator and associated infrastructure to utilise heat generated during the gas combustion process and produce steam for additional energy production through a steam turbine. In addition to the combined cycle power block, the power station would include administration, control, storage and workshop buildings, a switchyard connecting to the underground transmission cable, a dedicated gas offtake from the Port Kembla Gas Terminal, natural gas and hydrogen receiving stations, water treatment plant and various maintenance and laydown areas. It would also include infrastructure for supply of seawater to be used as cooling water for the power station during combined cycle operations. An indicative design layout of the power station is shown in Figure 2.2.

The cooling water systems would include a seawater intake, cooling water pumps and seawater outfall for use during the final combined cycle power station configuration. It is planned that the seawater intake would utilise cooler water either drawn from the cold water mixing zone for the import terminal in the Port Kembla Inner Harbour or directly from the adjoining floating storage regassification unit (FSRU).

Seawater would be drawn at a rate of nine cubic metres per second through the cooling water pumps and used to condense steam from the steam turbine as well as provide auxiliary cooling within the power station. Water would be drawn from the inner harbour through an open ocean intake structure located at the southern end of the Berth 101 docking area. The intake would incorporate a coarse bar screening system and likely be arranged in a semi-circular shape to increase the intake surface area to transfer water to an intake chamber incorporating drum screens to filter water prior to being passed through the cooling water system.

The water would then be released from a seawater outfall via an approximately 400 metre pipeline extending into offshore marine waters and fitted with a diffuser to minimise potential impacts.

The power station would include a dedicated gas offtake and short pipeline from the FSRU . The length of the pipeline would be in the order of 400 metres and would connect to a gas receiving station at the power station. The gas receiving station would primarily function to provide gas metering, pressure reduction and heating of the gas to a suitable specification for use in the power station.

The power station would be dual-fuelled enabled, with the capability to operate on a blend of natural gas and hydrogen. Using the latest gas turbine technology, the project would be capable of using up to 50 per cent hydrogen by volume at the commencement of operations. Once the required gas turbine technology becomes available which is projected to be around 2030, the power station may be retrofitted to use 100 per cent hydrogen..

The design has incorporated a hydrogen receiving station within the power station footprint to allow the project to be readily adaptable to utilise hydrogen as supply becomes available and provide a core customer to support the development of the Hydrogen industry in Port Kembla. However, there is no currently identified local source of green hydrogen available, so the power station would commence operation based upon natural gas sourced from the adjoining Port Kembla Gas Terminal. As soon as a local, price competitive source of green hydrogen is identified, a modification to consent may be required to enable a change in operation to the relevant hydrogen mix and/or any transportation / storage requirements that are not consistent with the currently proposed development.



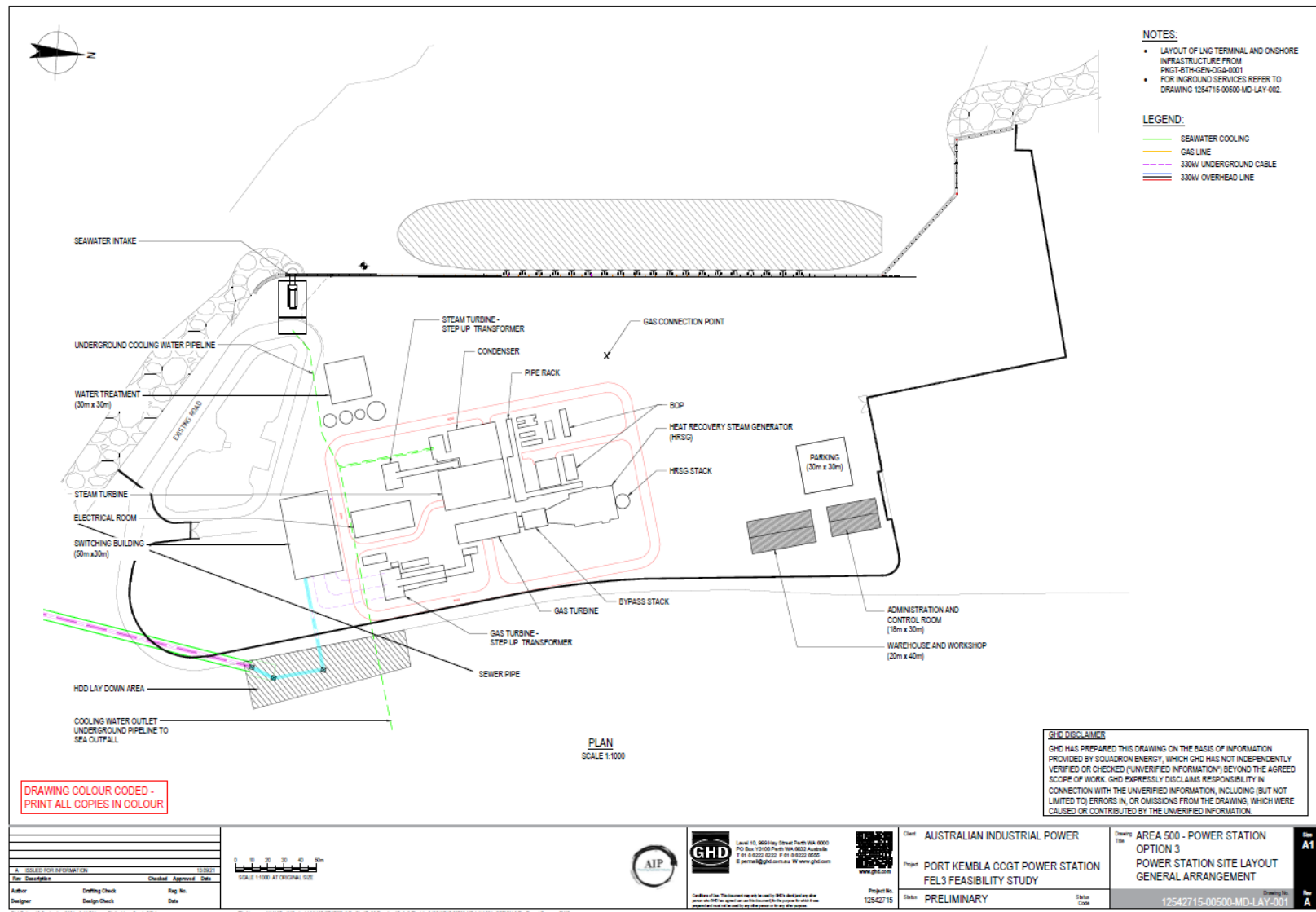


Figure 2.2 Indicative design layout of power station

## 2.4 Power transmission line

The 330 kilovolt power transmission line would run approximately 15.5 kilometres from the power station to the power transmission switching station at Kembla Grange and then connect to the existing 330 kilovolt Sydney South to Dapto Transmission Line via a cut in tower.

A preferred alignment has been identified to the south of Port Kembla incorporating a horizontal directional drill beneath “the Cut” located between the inner and outer harbours and then primarily following the road verge and carriageway along Christy Drive, Old Port Road, Flinders Street and Five Islands Road and within the Unanderra Industrial area to Kembla Grange.

The approximate 10 kilometre section of the transmission line from the power station to Kembla Grange would be underground and comprise three, single core insulated copper cables with a diameter of approximately 140 millimetres, subject to further investigation and procurement.

The transmission line connection to the west of the Princes Highway through to the switching station and existing transmission network is proposed to be primarily above ground, although sections of underground transmission cable may be considered based upon environmental, physical and stakeholder constraints.

The above ground section would comprise a combination of monopole and steel lattice towers within a maximum span length of up to 500 metres and an easement about 60 metres wide. It is expected that about 17 towers would be required to provide connection ranging from approximately 45 metres to 65 metres in height. A specialised cut in tower would be required at the connection to the existing transmission line.

## 2.5 Power transmission switching station

The power transmission switching station would be situated in close proximity to the connection to the Sydney South to Dapto Transmission Line. Three potential locations in close proximity to the existing transmission network are currently under consideration as part of the final options analysis.

The switching station would provide circuit breakers for security against transmission faults. It would include a number of structures including transmission line gantries, support structures and a control building.

The above key components are shown in Figure 2.1 with more detailed mapping in Appendix B.

## 2.6 Ancillary infrastructure

The project would also require potable water supply connection to the existing potable water main and a wastewater pipeline connecting to the existing sewer system, both of which are situated to the north of Berth 101. The indicative potable water pipeline route is approximately 1.5 kilometres along an existing road and the indicative wastewater pipeline route is approximately 3 kilometres along existing roads. The indicative routes are shown in Figure 2.1.

## 2.7 Construction

The works required at the site of the power station to provide a suitable surface for construction are subject to ongoing geotechnical investigations but may require some excavation and filling and potential piling among other activities to prepare the site. The power station itself would be constructed via conventional methods with materials transported to the site by road and/or via barge. Further detail on construction activities will be provided in the EIS.

Design and constructability assessments are currently being undertaken for the ocean outfall which is expected to comprise either a single 2.7 metre diameter pipeline or twin pipes installed either through micro-tunnelling, horizontal directional drilling with some trenching required at the end of the outfall for retrieval of the tunnelling machine and to connect the pipeline to a diffuser or diffuser array.

The below ground power transmission line would be installed primarily by open trenching along road carriageways or verges with use of directional drilling to traverse the Port Kembla Harbour and key infrastructure such as the Princes Highway and South Coast Rail Line. The above ground section of the power transmission line would be constructed between the cut in point and underground/ overhead (UGOH) transition with progressive construction

of towers and stringing of the power transmission line. The underground section would be constructed by progressive installation of a polyvinyl chloride (PVC) based conduit, installation of the power transmission cable and backfilling along the cable route. The construction corridor width for the length of the transmission line would be minimised as far as practicable to limit disturbance.

The power transmission switching station would require the establishment of a bench area to provide a stable and constructible surface. The switching station structures would be largely prefabricated and transported to the site for installation and connection to the power transmission line.

## 2.8 Operation

The initial operation of the project would involve receiving gas from the Port Kembla Gas Terminal, burning the gas in the gas turbine to generate electricity and transmitting that electricity via the power transmission line to the existing transmission network at Kembla Grange. The power station would be dual-fuel enabled, with the capability to run on a blend of 50% natural gas and 50% green hydrogen by volume should a local source of green hydrogen develop in the coming years. Estimates of technology development indicate that operation on 100 % green hydrogen fuel may be possible by the end of the decade. The design has incorporated a hydrogen receiving station within the power station footprint to allow the project to be readily adaptable to utilise hydrogen as supply becomes available.

As noted above, depending on the rate at which coal-fired power exits the market, the power station is proposed to commence as a smaller scale (435MW) open-cycle unit to provide short-term dispatchable peaking capacity, before moving to the final full 635 MW combined cycle design.

The open cycle power station configuration generates electricity through combustion of natural gas and hydrogen. The combined cycle plant includes the addition of a heat recovery steam generator to utilise heat generated during the gas combustion process to produce steam for additional energy production through a steam turbine.

The transition to a combined cycle operation would require the ongoing use of seawater from the intake structure in the inner harbour and release of seawater after it has been used for cooling at the offshore seawater outfall. The flow of cooling water is indicatively expected to be up to 9 cubic metres per second ( $\text{m}^3/\text{s}$ ) and a nominal intake velocity of 0.15 metres per second ( $\text{m/s}$ ). Water will be drawn from the inner harbour in the vicinity of the cold water discharge of the FSRU to improve thermal efficiency of the power station and result in a maximum temperature increase from intake to outfall of about 10 degrees Celsius ( $^{\circ}\text{C}$ ) subject to further refinement of the project design.

Water for both open-cycle and closed-cycle operations would be required for systems including the gas turbine evaporative cooler, make up water to the condenser, and auxiliary cooling. These requirements would be supplied using potable water and, in the case of the condenser and auxiliary cooling, would require demineralised water produced by treating potable water on site. This potable water would be transferred via the pipeline connecting to the existing potable water network to the north of Berth 101.

Potable water supply to the power station would also be required for cleaning and fire protection as well as water for amenities and consumption. The peak volume of potable water that would need to be reticulated to the power station is estimated at 35 kilolitres per hour ( $\text{kL/hr}$ ).

The use of potable water would generate a wastewater stream including waste process water, oily wastewater, grey water and sewage. It is planned that the wastewater stream would be sent to the existing sewer system via the wastewater pipeline, subject to trade waste agreements.

## 2.9 Alternatives considered

The preferred project is the outcome of a multi-criteria analysis that assessed a number of potential locations for the power station and transmission alignments against a set of environmental and engineering criteria (GHD 2020).

Four potential locations for the power station were considered including two locations at Port Kembla, Kembla Grange and Spring Hill. The environmental and engineering criteria considered included, but were not limited to site topography, geology, flora and fauna, heritage, flooding and drainage, proximity to residential areas, and

supporting infrastructure needs such as gas supply, power transmission lines and pipelines to supply water to the power station.

The multi-criteria analysis determined that Berth 101 was the preferred site for the power station for number of reasons, including:

- Suitability of the site and absence of any significant environmental constraints.
- Significant separation distance between the site and nearest residential areas.
- Proximity to the Australian Industrial Energy's new Port Kembla Gas Terminal.
- Proximity to the waters of Port Kembla and the coast that could be utilised for cooling.

A northern and southern transmission line alignment were initially investigated with the southern alignment preferred as a result of a more direct connection and minimising disruption to key roads and infrastructure. The final transmission line alignment and switching station location for the proposed connection to the existing Sydney South to Dapto Transmission Line (TransGrid Line 11) is still under investigation with a broad assessment corridor and several options still under consideration.

## 3 Strategic context

### 3.1 Strategic need for the project

The NSW Government's *Electricity Infrastructure Roadmap* (DPIE 2020) recognises the need for long-term investment in natural gas as a key enabler for the transition to renewable energy. It outlines an ambitious and rapid transition to a low carbon future. To support grid stability and supply reliability during the rapid decommissioning of coal fired generators to come, NSW will need to increase its large-scale, highly efficient, and rapidly dispatchable electricity generation capabilities. At the same time NSW is going through this rapid transition, the introduction of large quantities of solar in particular is causing very low minimum electricity demand on the grid throughout the day, followed by a rapid rise in demand towards peak times. This demand volatility is becoming increasingly difficult to manage.

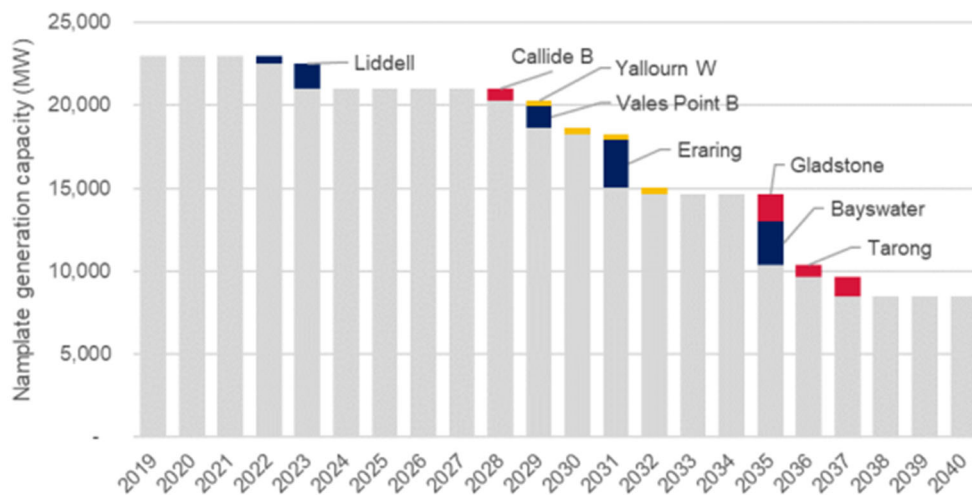
With the progressive shutdown of coal generators it will become increasingly difficult to manage this demand volatility. While the *Electricity Infrastructure Roadmap* (DPIE 2020) involves the development of battery and pumped storage, the quantity of stored power is limited, and it will be necessary to have a secure source of generation that can operate flexibly and efficiently.

The recent Australian Energy Market Operator (AEMO) Electricity Statement of Opportunities (ESOO) 2021 highlights the trend of decreasing reliability of coal fired generation and supply scarcity risk. The accelerated exit of coal and growing risk of plant failures is increasing the need for dispatchable generation projects and transmission to carry energy to supply centres.

In recognition of the project's potential contribution to large-scale, low emission generation to replace exiting coal-fired generation, the project has been short listed to the Commonwealth Governments Underwriting New Generation Investments Program (DISER 2020). Negotiations are well advanced, and are expected to be complete in 2021.

In the short to medium-term, NSW's reliance on coal means that it is vulnerable to either planned or unplanned coal generation retirement. Figure 3.1 highlights the current order of retirement of coal in NSW with Liddell Power Station closing as early as 2023. Given the ambitious drive to replace the NSW coal fleet, retirement of the coal plants may not be so orderly. Coal plant operators will be reluctant to spend money on maintenance now that their plants have a much shorter economic life. When coal units inevitably fail, which is highly unpredictable, there will be little incentive to spend money to bring them back into service. Given the high potential for significant disruption and disorder in the electricity market as a result of the above, it is critical NSW has large-scale, highly efficient, and rapidly dispatchable electricity generation capabilities no later than 2024 / 2025.





Data from 2019 Input and Assumptions Workbook (AEMO 2019)

Figure 3.1 Expected retirement of NSW coal fired power generation

## 3.2 Strategic benefits of the project

The project would involve the generation of power from natural gas initially supplied by the Port Kembla Gas Terminal at Berth 101 with a planned generation capacity of nominally 635 megawatts. The project is currently the only proposed natural gas fired power station that would be located adjacent to a new competitive supplier of natural gas, thus ensuring there is no drain on the increasingly dwindling supplies of domestic gas and also avoiding expensive over-land gas transmission costs. The powerstation is anticipated to consume in the order of 16.5 petajoules (PJ) of gas per year, if operating 100% on natural gas and as combined cycle. This consumption will decline over time as green hydrogen sources are identified and secured.

At nominally 635 megawatts, the project is of significant scale that can respond to large changes in the supply/demand balance and will act to cap electricity prices. This will support economic growth and improve economic viability for businesses and energy users across NSW.

The project will also be highly flexible, capable of frequent start-stop cycles, low minimum loads, and high ramp rates. These capabilities will support the influx of intermittent renewables and rapid ramping down of coal fired power generation. In addition, the project will provide a new and increasingly rare source of real inertia, which buffers the power system against rapid change and without which the system can become unstable.

The project can deliver a timely, practical and flexible solution that will assist in NSW's management of the retirement of coal fired generation and which can:

- Deliver around 5 per cent of NSW's peak electricity needs.
- Provide a source of mid-merit electricity to support the changing electricity profile supporting the more rapid development of renewable electricity.
- Put downward pressure on wholesale and retail electricity prices and improving customer choice in NSW's energy markets.
- Introduce new competitive forces (price and term of contract) in the electricity supply market which is currently highly concentrated.
- Support the diversification and future growth of Port Kembla through the establishment of Australia's largest mid-merit "hydrogen ready" power station.
- Support a local green hydrogen economy by providing a significant potential off-take for emerging producers
- Contribute to the decarbonisation of the NSW economy
- Result in approximately \$1.3 billion capital investment, associated construction jobs (est. 600-700) and ongoing jobs (est. 25 – 35).
- Contribute to the investment attractiveness, workforce diversification and skills-base of the Wollongong area in line with local government and community plans for the area.

The project is also expected to contribute to the realisation of a number of NSW State and local Government policy and program commitments, including the following:

- *Net Zero 2050* — which aims to enhance the prosperity and quality of life of the people of NSW, while helping the state to deliver a 35% cut in emissions by 2030 compared to 2005 levels. It supports initiatives for electricity and energy efficiency, electric vehicles, hydrogen, primary industries, coal innovation, organic waste and carbon financing.
- *NSW Electricity Strategy* — the NSW Government's plan for a reliable, affordable and sustainable electricity future that supports a growing economy. The strategy encourages an estimated \$8 billion of new private investment in NSW's electricity system.
- *NSW Electricity Infrastructure Roadmap* — delivering a coordinated approach to new generation, transmission and storage across NSW to provide secure, reliable electricity, lower electricity bills and around 90 million tonnes in carbon emission reductions.
- *NSW Net Zero Industry and Innovation Program* – NSW Government's plan to support and partner with industry to reduce emissions and help NSW businesses prosper in a low carbon world.
- *Forthcoming NSW Hydrogen Strategy and Hydrogen Hub Strategy* – the NSW Government's vision and plan for a hydrogen industry to 2030 and beyond, including the establishment of a Hydrogen Hub in the Illawarra.
- *The Final report from the Energy Security Taskforce* — which recommended the NSW Government be more proactive in managing risks to NSW's energy security, including new sources of generation and new fuel sources.
- *Navigating the Future NSW Ports' 30 Year Master Plan* — to diversify Port activity.
- The NSW Government's *Regional Development Framework* — which notes the importance of fast-tracking infrastructure projects that supports business confidence, private sector investment and job creation in regional areas.
- *Illawarra–Shoalhaven Regional Plan 2041 and Wollongong Economic Development Strategy 2019–2029* — which both note the need for diversification of the regional economy and activities at Port Kembla, including the importance of advanced manufacturing to the region and the establishment of a hydrogen hub.
- *COVID-19 Recovery Plan* — with a focus on jobs and economic resilience supported by infrastructure, advanced manufacturing and industries and skills of the future.
- *NSW 2040 Economic Blueprint* — which includes a focus on a sustainable environment with reliable and affordable energy.
- *NSW Energy Package — NSW-Commonwealth memorandum of understanding 2020* — ensuring emissions reduction in the electricity sector stays on track, supporting new generation investment in NSW and supporting the development/commercialisation of hydrogen technologies.
- *AEMO Integrated System Plan (ISP)* — a whole-of-system plan that provides an integrated roadmap for the efficient development of the National Electricity Market (NEM) over the next 20 years and beyond.
- *AEMO Electricity Statement of Opportunities (ESOO)* — provides technical and market data that informs the decision-making processes of market participants, new investors, and jurisdictional bodies as they assess opportunities in the National Electricity Market (NEM) over a 10-year outlook.

Subject to timely planning approvals, the project could be constructed and able to supply electricity directly to NSW customers by the summer of 2024/25. The scale and rapid ramp-up rates of this project ensures it will have a significant competitive impact on the price of electricity in NSW, thus bringing down the price of delivered energy for families and households, increasing business and community confidence, and improving the security of the power system in NSW.

## 4 Strategic and statutory context

### 4.1 Environmental Planning and Assessment Act 1979

#### 4.1.1 Overview

The *Environmental Planning and Assessment Act 1979* (EP&A Act) is the principal legislation regulating development in NSW. It establishes a regime for the making of development applications, assessment of their environmental impacts, and the determination of those applications. It also allows for the making of environmental planning instruments such as the state environmental planning policies and local environmental plans discussed below.

Part 5, Division 5.2 of the EP&A Act provides for declaration, assessment and approval of State Significant infrastructure (SSI) and Critical State Significant Infrastructure (CSSI). The process for environmental assessment and approval of SSI and CSSI is also set out as follows:

- Application for approval of the Minister to carry out development.
- Development of Planning Secretary's environmental assessment requirements.
- Preparation of an environmental impact statement.
- Public exhibition of the environmental impact statement.
- Response to submission received during public exhibition.
- Preparation of Planning Secretary's assessment report.
- Determination by Minister regarding the development.

The project has been declared CSSI under Part 5, Division 5.2 of the EP&A Act and will therefore be subject to the environmental assessment and approval process outlined above including the preparation of an environmental impact statement (EIS) for the project.

The relevant environmental planning instruments are discussed below, however it is noted that section 5.22(2) of the EP&A Act provides that they do not apply to or in respect of CSSI.

#### 4.1.2 Environmental Planning Instruments

##### 4.1.2.1 State Environmental Planning Policy (State and Regional Development) 2011

State Environmental Planning Policy (State and Regional Development) 2011 provides for the declaration of State significant development and State significant infrastructure including CSSI.

Clause 16 provides that development specified in Schedule 5 of the policy is CSSI and that it may be carried out without consent under part 4 of the EP&A Act.

As discussed in section 4.1, the project has been declared CSSI.

##### 4.1.2.2 State Environmental Planning Policy (Three Ports) 2013

State Environmental Planning Policy (Three Ports) 2013 provides a consistent planning regime that applies to land at Port Botany, Port of Newcastle and Port Kembla. It aims to ensure that land within the lease area at the ports is maintained for port-related and industrial uses.

Part 2 of the policy defines land use zones and specifies the types of development that are permitted and prohibited in each zone. The land use zones defined in the policy include SP1 Special Activities, IN1 General Industrial, IN3 Heavy Industrial and RE1 Public Recreation.

Parts of the project, and the power station specifically, are within SP1 Special Activities.

The objectives of the zone include providing for special land uses that are not provided for in other zones, facilitate development that is in keeping with the special characteristics of the site or existing or intended special use, to maximise the use of waterfront areas to accommodate industrial premises that benefit from being close to port facilities. The project is consistent with the above objectives as it would be a special use that is not provided for in other zones and would be in keeping with, and complementary to, the other intended special use of the site being the Port Kembla Gas Terminal.

The objectives of the zone also included minimising adverse impacts on surrounding land and facilitating development that by its nature or scale requires separation from residential areas and other sensitive land uses. The large separation distance of the site from land uses that would be sensitive to the project such as residential areas is consistent with these objectives.

The objectives also include enabling the efficient movement and operation of commercial shipping and efficient handling of freight, providing for port related facilities and development that support the operations of Port Kembla, and to encourage employment opportunities. The project would be compatible with existing operations at Port Kembla, would benefit from being close to the Port Kembla Gas Terminal, and would create additional employment at the site.

The land use table for SP1 Special Activities is reproduced below in Table 4.1. The power station would not be permissible without consent or prohibited and therefore is permissible with consent. The power transmission line is also partly within IN3 Heavy Industrial. The land use table for IN3 Heavy Industrial is reproduced below in Table 4.2. The power transmission line is a utility which is included in the definition of Port facilities under the Three Ports SEPP and is permissible with consent.

**Table 4.1** *SP1 Special Activities — land uses*

Item	Development
Permitted without consent	Jetties, Moorings, Roads
Permitted with consent	Capital dredging, Environmental facilities, Environmental protection works, Maintenance dredging, Navigation and emergency response facilities, Neighbourhood shops, Port facilities, Wharf or boating facilities, Any other development not specified as permitted without consent or prohibited
Prohibited	Artisan food and drink industries; Business premises; Caravan parks; Cemeteries; Centre-based child care facilities; Crematoria; Educational establishments; Entertainment facilities; Function centres; Funeral homes; Garden centres; Hardware and building supplies; Medical centres; Office premises; Places of public worship; Recreation facilities (indoor); Registered clubs; Residential accommodation; Respite day care centres; Restricted premises; Shops; Specialised retail premises; Tourist and visitor accommodation; Vehicle sales or hire premises

**Table 4.2** *IN3 Heavy Industrial*

Item	Development
Permitted without consent	Environmental protection works
Permitted with consent	Depots, Food and drink premises, Freight transport facilities, Heavy industries, Port facilities, Roads, Transport depots, Warehouse or distribution centres, Waste or resource management facilities
Prohibited	Any development not specified as permitted without consent or permitted with consent

The seawater outfall also traverses Unzoned Land under the Three Ports SEPP located to the east of the rock revetment and north of the northern breakwater to the east of the inner harbour. Under Clause 15 of the Three Ports SEPP, development may be carried out on unzoned land only with development consent and the consent authority must consider whether the development will impact on adjoining zoned land and consider the objectives for development in the zones of the adjoining land. The consent authority must also be satisfied that the development is appropriate and compatible with permissible land uses in adjoining land.



#### **4.1.2.3 State Environmental Planning Policy (Coastal Management) 2018**

State Environmental Planning Policy (Coastal Management) 2018 aims to promote an integrated and co-ordinated approach to planning within coastal management areas. The coastal management areas defined in the policy include coastal wetlands, littoral rainforests, the coastal vulnerability area, the coastal environment area, the coastal use area.

Clause 7 of the policy states that the Coastal Management SEPP does not apply to land within the lease area of the Three Ports SEPP, which includes the power station and a portion of the transmission alignment.

Clause 10 and 11 of the policy sets out controls of development within coastal wetlands, littoral rainforests and on land in proximity to those areas. It provides that development in those areas is declared to be designated development for the purposes of the EP&A Act.

The project does not intersect any coastal wetlands, littoral rainforests or land in proximity to those areas.

Clause 12 of the policy sets out controls on development within the coastal vulnerability area. It states development consent must not be granted within the coastal vulnerability area unless the consent authority is satisfied it is able to withstand coastal hazards, is unlikely to alter coastal processes to the detriment of the environment, is not likely to reduce public amenity and incorporates appropriate measures to manage risk to public safety from coastal hazards.

While it is noted that there is currently no map available of the coastal vulnerability area (NSW Government 2020) it could reasonably be expected that the project would partly intersect this area. The impacts of the project on the coastal environment, including coastal vulnerabilities and hazards, would be assessed through the environmental assessment and approval process.

Clause 13 of the policy sets out controls on development within the coastal environment area. It states development consent must not be granted within the coastal environment area unless the consent authority has considered whether the development would cause an adverse impact on the area including its biophysical, hydrological, environmental and cultural values.

The project, including the power station and part of the power transmission line, is partly within the coastal environment area. The potential impacts of the project on the coastal environment areas would be assessed through the environmental assessment and approval process.

Clause 14 of the policy sets out controls on development within the coastal use area. It states development consent must not be granted within the coastal use area unless the consent authority has considered whether the development would cause an adverse impact on the access, amenity and cultural value of the area and it satisfied those impacts can be managed.

The project, including the power station and part of the power transmission line, is partly within the coastal use area. The potential impacts of the project on the coastal use area and its values would be assessed through the environmental assessment and approval process.

#### **4.1.2.4 State Environmental Planning Policy (Infrastructure) 2007**

State Environmental Planning Policy (Infrastructure) 2007 aims to facilitate the effective delivery of infrastructure across the state by establishing a planning regime for infrastructure. It establishes development controls and permissibility for a range of infrastructure types.

Part 3, Division 4 deals with electricity generating works. It defines electricity generating works as a building or place used for the purpose of making or generating electricity or electricity storage.

Clause 34(1) states development for the purpose of electricity generating works may be carried out by any person with consent on land in a prescribed rural, industrial or special use zone. Prescribed rural, industrial or special use zones include RU1 Primary Production, RU2 Rural Landscape, RU3 Forestry, RU4 Primary Production Small Lots, IN1 General Industrial, IN2 Light Industrial, IN3 Heavy Industrial, IN4 Working Waterfront, SP1 Special Activities, SP2 Infrastructure. The project, and specifically the power station, classifies as electricity generating works and would be situated on land in a prescribed zone being SP1 Special Activities.

Part 3, Division 5 deals with electricity transmission or distribution networks. It defines this infrastructure as above or below ground electricity transmission or distribution lines as well as above or below ground electricity switching

stations and substations. Clause 41(1) states that development for the purpose of this infrastructure may be carried out by or on behalf of an electricity supply authority or public authority without consent on any land. The project, and specifically the power transmission line and power transmission switching station would classify as electricity transmission or distribution networks but would not be carried out on behalf of an electricity supply authority or public authority. As such these provisions do not apply to the project. Consent would be sought through approval process under the EP&A Act for CSSI.

Part 3, Division 5 also deals with development likely to affect an electricity transmission or distribution network. Clause 45(1) states that such development includes penetration of the ground within 2 metres of an underground electricity power line or electricity distribution pole, within 10 metres of an electricity tower, within or adjacent to easements for electricity purposes, adjacent to an electricity substation or within 5 metres of an exposed overhead electricity power line. Clause 45(2) states before determining an application for such development the consent authority must give written notice to the electricity supply authority and take into consideration any response that is given within 21 days. The project would classify as development likely to affect an electricity distribution network as it will cut in to the Sydney South to Dapto Transmission Line and would be in proximity to the Dapto to Spring Hill Transmission Line and the Dapto to Bellambi Transmission Line. As such these provisions would apply to the project. The supply authority would be consulted through approval process under the EP&A Act for CSSI.

Part 3, Division 12A deals with development in a pipeline corridor. A pipeline corridor is defined as land in a licence area for a gas, petroleum or other liquid fuel pipeline under the *Pipelines Act 1967*, or within 20 metres of the centreline or easement of specific pipelines listed in the policy. Clause 66C(1) states before determining a development application in a pipeline corridor the consent authority must be satisfied that pipeline safety and integrity risks have been identified, take those risks into consideration, and give written notice to the pipeline operator and take in consideration any response that is given within 21 days. Parts of the project, and specifically the power transmission line, would be in proximity to the proposed gas pipeline for the Port Kembla Gas Terminal as well as the Eastern Gas Pipeline and associated laterals connecting to the Port Kembla which would be licensed under the *Pipelines Act 1967*. As such these provisions would apply to the project. Hazards and risks posed by the project including its interaction with the pipeline would be addressed through the environmental assessment and approval process.

Part 3, Division 15 deals with development in or adjacent to rail corridors. Clause 85 and clause 86 detail the relevant developments which include any development likely to have an adverse effect on rail safety, involving the use of a crane in air space above any rail corridor, located within 5 metres of an exposed overhead electricity power line used or the purpose of powering railways or related facilities, or any excavation within 25 metres of any rail corridor. The clauses state that before determining an application for such development the consent authority must give notice to the rail authority and take into consideration any response that is given within 21 days. For excavation within 25 metres of any rail corridor, the consent authority must not grant consent without concurrence of the rail authority. In providing concurrence, the rail authority is required to consider the potential impacts of the development on the safety or structural integrity of the rail infrastructure facilities. Parts of the project, and specifically the power transmission line, would be in or adjacent to the rail corridor for the South Coast Rail Line. As such these provisions would apply to the project. Potential impacts on rail infrastructure facilities would be addressed through the environmental assessment and approval process.

Part 3, Division 17 deals with development adjacent to a classified road. Clause 101 states a consent authority must not grant consent to a development that has frontage to classified road unless it is satisfied that the safety, efficiency and ongoing operation of the road would not be adversely affected. Parts of the project, and specifically the power transmission line, would be near Princes Motorway which is a classified road. As such these provisions may apply to the project depending on the layout of the transmission line infrastructure. Potential impacts on roads would be addressed through the environmental assessment and approval process.

It is noted that section 5.22(2) of the EP&A Act provides that environmental planning instruments do not apply to or in respect of State significant infrastructure.

#### **4.1.2.5 State Environmental Planning Policy No 33—Hazardous and Offensive Development**

State Environmental Planning Policy No 33—Hazardous and Offensive Development defines hazardous and offensive industries and provides that the development assessment process for such industries considers measures to minimise or reduce any potential adverse impacts.

Clause 3 defines potentially hazardous industry as any development that, without employing any measures, would pose a significant risk to human health, life or property, or the biophysical environment. It also defines potentially offensive industry as any development that, without any measures in place, would have emissions with a significant adverse impact on the locality.

The process for identifying and assessing potentially hazardous and offensive industries is set out in *Hazardous and Offensive Development Application Guidelines Applying SEPP 33* (NSW Government 2011). Hazards and risks posed by the project would be addressed through the environmental assessment and approval process which would include the preparation of a preliminary hazard analysis in accordance with the requirements of the guideline.

#### **4.1.2.6 State Environmental Planning Policy No 55—Remediation of Land**

State Environmental Planning Policy No 55—Remediation of Land provides a state-wide approach to the remediation of land to reduce the risk of harm to humans and the environment.

Clause 7 states that a consent authority must not consent to carrying out of any development unless it has considered whether the land is contaminated and, if it is contaminated, whether it is suitable for development in its current state or requires remediation. It states if development involves a change of the use of the land a preliminary investigation must be carried out in accordance with the guideline *Consultants reporting on contaminated land* (EPA 2020).

Contamination investigations would be carried out in accordance *Consultants reporting on contaminated land* (EPA 2020) through the environmental assessment and approval process.

#### **4.1.2.7 Wollongong Local Environmental Plan 2009**

*Wollongong Local Environmental Plan 2009* sets out the environmental planning provisions administered by Wollongong City Council within the Wollongong local government area.

Part 2 of the plan defines land use zones and specifies the types of development that are permitted and prohibited in each zone. The land use zones defined include a range of primary production, rural, residential, commercial, industrial, recreational and environmental zones.

The power station site and sections of the power transmission line are located on land administered under SEPP Three Ports and therefore not subject to planning controls under the Wollongong LEP.

However, the power transmission line and power transmission switching station specifically, intersect a number of zones including SP2 Infrastructure, RE1 Public Recreation, IN2 Light Industrial, IN3 Heavy Industrial, E2 Environmental Conservation, E3 Environmental Management and R2 Low Density Residential. The land use tables are reproduced in Table 4.3 through Table 4.9. As shown, the land use tables do not deal directly with electricity generation or transmission.

It is noted that section 5.22(2) of the EP&A Act provides that environmental planning instruments do not apply to or in respect of State significant infrastructure.

**Table 4.3** *SP2 Infrastructure*

Item	Development
Permitted without consent	Building identification signs
Permitted with consent	Aquaculture, Purpose on the Land Zoning Map, including any development that is ordinarily incidental or ancillary to development for that purpose, Advertising structures, Business identification signs, Centre-based child care facilities, Community facilities, Recreation areas, Recreation facilities (indoor), Recreation facilities (major), Recreation facilities (outdoor), Respite day care centres, Roads
Prohibited	Any development not specified as permitted without consent or permitted with consent

**Table 4.4** *RE1 Public Recreation*

Item	Development
Permitted without consent	Nil
Permitted with consent	Aquaculture, Boat sheds, Camping grounds, Caravan parks, Centre-based child care facilities, Community facilities, Environmental facilities, Environmental protection works, Extensive agriculture, Helipads, Information and education facilities, Kiosks, Markets, Recreation areas, Recreation facilities (indoor), Recreation facilities (major), Recreation facilities (outdoor), Respite day care centres, Restaurants or cafes, Roads, Signage, Take away food and drink premises, Water recreation structures
Prohibited	Any development not specified as permitted without consent or permitted with consent

**Table 4.5** *IN2 Light Industrial*

Item	Development
Permitted without consent	Building identification signs, Business identification signs
Permitted with consent	Advertising structures, Agricultural produce industries, Animal boarding or training establishments, Boat building and repair facilities, Community facilities, Crematoria, Depots, Freight transport facilities, Garden centres, Hardware and building supplies, Helipads, Industrial retail outlets, Industrial training facilities, Kiosks, Landscaping material supplies, Light industries, Mortuaries, Neighbourhood shops, Oyster aquaculture, Places of public worship, Plant nurseries, Recreation areas, Recreation facilities (indoor), Roads, Self-storage units, Service stations, Sex services premises, Take away food and drink premises, Tank-based aquaculture, Transport depots, Vehicle body repair workshops, Vehicle repair stations, Vehicle sales or hire premises, Veterinary hospitals, Warehouse or distribution centres, Waste or resource management facilities, Water treatment facilities
Prohibited	Pond-based aquaculture, Any development not specified as permitted without consent or permitted with consent

**Table 4.6** *IN3 Heavy Industrial*

Item	Development
Permitted without consent	Building identification signs, Business identification signs
Permitted with consent	Advertising structures, Boat building and repair facilities, Depots, Freight transport facilities, General industries, Hazardous storage establishments, Heavy industrial storage establishments, Heavy industries, Helipads, Industrial retail outlets, Kiosks, Light industries, Offensive storage establishments, Oyster aquaculture, Recreation areas, Recreation facilities (indoor), Roads, Rural industries, Service stations, Storage premises, Take away food and drink premises, Tank-based aquaculture, Transport depots, Truck depots, Vehicle body repair workshops, Vehicle repair stations, Warehouse or distribution centres, Water supply systems
Prohibited	Pond-based aquaculture, Any development not specified as permitted without consent or permitted with consent



**Table 4.7** *E2 Environmental Conservation*

Item	Development
Permitted without consent	Nil
Permitted with consent	Environmental facilities, Environment protection works, Extensive agriculture, Oyster aquaculture, Recreation areas
Prohibited	Business premises, Hotel or motel accommodation, Industries, Multi dwelling housing, Pond-based aquaculture, Recreation facilities (major), Residential flat buildings, Restricted premises, Retail premises, Seniors housing, Service stations, Tank-based aquaculture, Warehouse or distribution centres, Any development not specified as permitted without consent or permitted with consent

**Table 4.8** *E3 Environmental Management*

Item	Development
Permitted without consent	Home occupations
Permitted with consent	Animal boarding or training establishments, Bed and breakfast accommodation, Building identification signs, Business identification signs, Community facilities, Dwelling houses, Environmental facilities, Environment protection works, Extensive agriculture, Farm buildings, Farm stay accommodation, Forestry, Home-based child care, Oyster aquaculture, Pond-based aquaculture, Recreation areas, Roads, Secondary dwellings, Tank-based aquaculture
Prohibited	Industries, Multi dwelling housing, Residential flat buildings, Retail premises, Seniors housing, Service stations, Warehouse or distribution centres, Any development not specified as permitted without consent or permitted with consent

**Table 4.9** *R2 Low Density Residential*

Item	Development
Permitted without consent	Home occupations
Permitted with consent	Attached dwellings; Bed and breakfast accommodation; Boarding houses; Boat launching ramps; Centre-based child care facilities; Community facilities; Dual occupancies; Dwelling houses; Environmental facilities; Exhibition homes; Exhibition villages; Group homes; Health consulting rooms; Home-based child care; Hospitals; Hostels; Information and education facilities; Jetties; Multi dwelling housing; Neighbourhood shops; Oyster aquaculture; Places of public worship; Pond-based aquaculture; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor); Residential flat buildings; Respite day care centres; Roads; Semi-detached dwellings; Seniors housing; Shop top housing; Signage; Tank-based aquaculture; Veterinary hospitals
Prohibited	Any development not specified as permitted without consent or permitted with consent

## 4.2 Other NSW Legislation

### 4.2.1 Biodiversity Conservation Act 2016

The *Biodiversity Conservation Act 2016* (BC Act) aims to maintain a healthy, productive and resilient environment consistent with the principals of ecologically sustainable development and in particular conserve biodiversity at bioregional and state scales, among other specific aims.

Part 4 of the BC Act provides for the listing of threatened species and threatened ecological communities. Part 6 of the BC Act provides for a biodiversity offsets scheme for biodiversity values. Part 7 of the BC Act provides for biodiversity assessment and approvals under the EP&A Act.

Section 7.9 of the BC Act states an application for State significant infrastructure, including CSSI, under the EP&A Act is to be accompanied by a biodiversity development assessment report (BDAR). Section 7.14 of the BC Act states the Minister, in making a determination, must take into account the likely impact of the development on biodiversity values assessed in the BDAR, and may require biodiversity offsets through the biodiversity offsets scheme.

A BDAR would be carried out through the environmental assessment and approval process.

## 4.2.2 Biosecurity Act 2015

The *Biosecurity Act 2015* provides the statutory framework to protect the NSW economy, environment and community from the negative impact of pests, diseases and weeds.

The primary object of the Act is to provide a framework for the prevention, elimination and minimisation of biosecurity risks posed by biosecurity matter, dealing with biosecurity matter, carriers and potential carriers, and other activities that involve biosecurity matter.

In NSW, all plants are regulated through a general biosecurity duty to prevent, eliminate or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable. Any biosecurity matters encountered during the carrying out of the project would need to be managed in accordance with this duty.

## 4.2.3 Fisheries Management Act 1994

The objectives of the *Fisheries Management Act 1994* are to conserve, develop and share the fisheries resources of NSW for the benefit of present and future generations. Part 7 of the FM Act requires a permit for a number of activities, including dredging and reclamation work and those involving harm to marine vegetation. It should be noted that under the provisions of the EP&A Act, a permit under section 201, 205 or 219 of the FM Act is not required for CSSI.

## 4.2.4 Pipelines Act 1967

The *Pipelines Act 1967* establishes a licensing regime for pipelines within NSW.

Section 5 of the Act states that nothing in the Act requires a person to hold a licence in respect of a pipeline of the prescribed class for the conveyance of dangerous goods within the meaning of the *Dangerous Goods (Road and Rail Transport) Act 2008*. A prescribed class means a pipeline of a length of less than 10 kilometres or other length specified by the Minister. Natural gas with high methane content is a dangerous goods under the dangerous goods code.

The project will involve a small 350m gas pipeline that will connect the Port Kembla Gas Terminal to the power station. The pipeline would classify as a prescribed pipeline and would convey dangerous goods within the meaning of the dangerous goods code and is located wholly within the boundary of the site occupied by the Port Kembla Gas Terminal and proposed power station.

A licence under the *Pipelines Act 1967* is therefore not required, however it is noted that there is nothing that restricts AIP from applying for a licence and the Minister may, by notification published in the Government Gazette declare the pipeline to be a pipeline requiring a licence under the Pipelines Act.

## 4.2.5 Heritage Act 1977

The *Heritage Act 1977* is concerned with all aspects of the conservation of heritage places and items. Items of state significance are listed on the State Heritage Register under the Act.

Under Part 4 of the Act, an approval must be obtained for works that have the potential to interfere with an item on the State Heritage Register or subject to an interim heritage order. It is noted that section 5.23(1) of the EP&A Act provides that an approval is not required for CSSI.

The project is in proximity to a number of items on the State Heritage Register but is not expected to require any works within the curtilage of those items. As such, without considering the operation of section 5.23(1) of the EP&A Act, approval under Part 4 would not be required.

## 4.2.6 National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act) provides for the protection of Aboriginal objects and places in NSW. An Aboriginal object includes any deposit, object or material relating to habitation of an area. An Aboriginal place is defined under the NPW Act as an area which has been declared by the Minister administering the Act as a place of special significance for Aboriginal culture. An Aboriginal place may or may not contain physical Aboriginal objects.

It is an offence under section 86 of the NPW Act to harm an Aboriginal object. Harm is defined to mean destroying, defacing, damaging or moving an object from the land. Section 87 of the NPW Act provides a number of defences to the offence of harming an Aboriginal object which include that the harm was carried out under an Aboriginal heritage impact permit (AHIP). It is noted that section 5.23(1) of the EP&A Act provides that an AHIP is not required for CSSI.

The project is in proximity to a number of Aboriginal heritage objects under the NPW Act. Potential impacts on Aboriginal heritage are discussed further in section 5 and would be assessed further through the environmental assessment and approval process. Consultation with Registered Aboriginal Parties (RAPs) in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 has commenced and initial field surveys have been undertaken.

## 4.2.7 Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (POEO Act) aims to protect, restore and enhance the quality of the environment. It prescribes offences mainly regarding pollution of the environment and establishes a regime for the licensing of certain scheduled activities.

The POEO Act establishes general environmental duties regarding disposal of waste (section 115), leaks or spill (section 116), emissions to air (section 117), pollution of water (section 120) and land (section 142A). The project would be carried out in accordance with these duties.

Scheduled activities requiring a licence under the POEO Act are listed in Schedule 17. Clause 17 of Schedule 1 provides electricity generation being general electricity works with capacity to generate more than 30 megawatts of electrical power is a scheduled activity requiring a licence.

The project would classify as electricity generation and require a licence under the POEO Act.

## 4.2.8 Roads Act 1993

The *Roads Act 1993* regulates the carrying out of various activities on public roads in NSW. It establishes NSW Roads and Maritime Services (RMS) as the roads authority for certain classified roads and the relevant local councils as roads authorities for local roads.

Section 138 of the Roads Act 1993 states that a person must not carry out work in, on or over a public road without the prior approval of the appropriate roads authority. The project, and the power transmission line specifically, would intersect a number of roads and will require approval.

## 4.2.9 Water Management Act 2000

The *Water Management Act 2000* (WM Act) controls the extraction and use of water, construction works such as dams and weirs, and the carrying out of activities in or near water sources in NSW. Water sources are defined very broadly and include any river, lake, estuary or place where water occurs naturally on or below the surface of the ground, and NSW coastal waters. Water sources in NSW are managed via Water Sharing Plans (WSPs): The *Greater Metropolitan Region Unregulated River Water Sources 2011* WSP applies to the project.

Part 2 of the WM Act requires a licence for the taking of water from a water source. A licence entitles its holder to specified shares in the available water within a defined water management area or from a specified water source. It enables the licence holder to take water from the environment in accordance with specified rates and conditions in the terms of the licence.

Part 3 of the WM Act specifies approval requirements for water use, water management works approvals and activity approvals. There are two kinds of activity approvals including controlled activity approvals and aquifer interference approvals.

Controlled activity approvals confer a right for the holder to carry out a specified controlled activity on waterfront land which is defined as land within 40 metres of a river, lake, estuary or shoreline. An aquifer interference approval may be required for any works that involve:

- The penetration of an aquifer.
- The interference with water in an aquifer.
- The obstruction of the flow of water in an aquifer.
- The taking of water from an aquifer in the course of carrying out mining, or any other activity prescribed by the regulations.
- The disposal of water from an aquifer referred to above.

It is noted that section 5.23(1) of the EP&A Act provides that approvals under the WM Act including a water use approval, water management work approval or activity approval (other than aquifer interference approval) is not required for CSSI. Further, Schedule 4 of the Water Management (General) Regulation 2018 (WM Regulation) provides that an aquifer interference approval is not required for any person lawfully engaged in an aquifer interference activity carried out in connection with an authorised project if take is equal to or less than 3 mega litres.

The project would involve works within 40 metres of the shoreline and has the potential to intercept water within an aquifer during excavation or directional drilling but is not expected to require any major dewatering. The project is not expected to trigger the need for approval under the WM Act due to the operation of section 5.23(1) of the EP&A Act and Schedule 4 of the WM Regulation.

## **4.3 Environment Protection and Biodiversity Conservation Act 1999**

The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) is the principal Commonwealth environment law. It protects nine matters of national environmental significance:

- World heritage properties.
- National heritage places.
- Wetlands of international importance.
- Listed threatened species and ecological communities.
- Migratory species protected under international agreements.
- Commonwealth marine areas.
- The Great Barrier Reef Marine Park.
- Nuclear actions (including uranium mines).
- A water resource, in relation to coal seam gas or coal mining.

The EPBC Act also protects other matters including the environment in general where an action is on, or will affect, Commonwealth land, or where it is proposed by a Commonwealth agency.

An action that is likely to have a significant impact on matters of national environmental significance must be referred to the Minister responsible for the administration of the EPBC Act. After receiving a referral, the Minister decides whether the action is a controlled action.

Initial biodiversity surveys have identified areas of endangered ecological communities and threatened species listed under the EPBC Act in some of the current transmission line alignment options. Biodiversity surveys are continuing to identify opportunities to avoid or minimise impacts to listed communities and determine the need for an EPBC referral.

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# 5 Matters and impacts

## 5.1 Overview

A preliminary assessment has been carried out to identify the relevant environmental matters and potential impacts for consideration and the appropriate level of assessment in an EIS. The matters and impacts have been assigned an appropriate level of assessment, generally being either:

- Key issue – assessment in EIS.
- Other issue – assessment in EIS.
- Scoping issue – no further assessment.

The key issues that have been identified for further assessment include the following:

- Amenity – including potential noise impacts and visual impacts.
- Air quality – including operational emissions and greenhouse gases.
- Biodiversity – including both terrestrial and marine biodiversity values.
- Land – including potential contamination and acid sulfate soils around Berth 101.
- Water – including water quality impacts from construction activities in and around the inner harbour and the coastal environment as well as operation of cooling water pipelines.
- Hazards and risks – including industrial hazards posed by the operation of the power station and their relationship to hazards posed by the nearby Port Kembla Gas Terminal.

These key issues, as well as various other issues that have been identified as requiring further environmental assessment including amenity, access, built environment, heritage, community impacts and economic impacts, are discussed in further detail in Table 5.1.

**Table 5.1**      **Matters and impacts**

Issue	Sub Issue	Discussion	Scope
Amenity	Acoustic	<p>The construction of the project would include the use of equipment, vehicles and machinery, clearing and excavation that would generate noise with the potential to affect sensitive receivers such as residences in surrounding residential areas at Port Kembla, Spring Hill, Unanderra and Kembla Grange. The operation of the project would also have the potential to generate noise noticeable at sensitive receivers however the large separation distance between the power station and the nearest residential areas would be a significant mitigating factor.</p> <p>While potential noise and vibration impacts would be expected to be short term during construction and limited during operation, a detailed noise and vibration assessment would be carried out to further define these impacts and identify measures to avoid, mitigate and manage impacts during construction and operation.</p>	Key issue — Assessment in EIS
	Visual	<p>The construction of the project would have the potential to create temporary visual impacts at sensitive visual receptors such as residences, roads, and open areas. These impacts would be limited in their extent and duration.</p> <p>The operation of the project would also have the potential to create longer lasting visual impacts. The power station would be visually integrated with the existing industrial character of Port Kembla. The power transmission line, particularly sections that would be above ground, would have potential to create visual impacts for nearby receivers. A detailed visual impact assessment would be carried out including identifying measures to avoid, mitigate and manage the potential impacts during construction and operation.</p>	Key issue — Assessment in EIS
	Odour	The project is not expected to generate odour, however, this would be confirmed through a detailed air quality assessment discussed below.	Other issue — Assessment in EIS
	Microclimate	The operation of the power station has the potential to generate a thermal plume that would require further assessment including its potential to interact with aviation activities in the region.	Other issue — Assessment in EIS
Access	Access to property	Construction activities around roads, residences and businesses would have the potential to temporarily affect access. Impacts would be limited in extent and duration given the relatively isolated location of the power station and the progressive construction of the power transmission line. The project would not be expected to have any impact on access during operation.	Other issue — Assessment in EIS
	Utilities	Construction activities around roads and utility easements would have potential to cause temporary disruption or relocation of utilities. These impacts would be avoided as far as reasonably practicable through the design and construction methodology of the project. The project would not be expected to have any impact on existing utilities during operation.	Other issue — Assessment in EIS

Issue	Sub Issue	Discussion	Scope
	Road and rail network	<p>Construction activities around roads and railways would have the potential to affect their operation, efficiency and safety. As far as practicable the construction of the project would be carried out in a manner to minimise impacts to roads and railways including the implementation of trenchless construction methods for crossings, if necessary.</p> <p>The construction of the project and to a lesser extent the operation of the project would also generate additional vehicle movements on the road network including mobilisation of the workforce and delivery of construction materials. A detailed transport assessment would be carried out to further define these impacts and identify measures to avoid, mitigate and manage impacts during construction and operation.</p>	Other issue — Assessment in EIS
	Offsite parking	The project is not expected to affect offsite parking as it would not intersect any dedicated parking areas. It is expected that construction vehicles would be largely contained to construction sites and corridors. The operation of the project would have the potential to affect Seawall Road and any associated roadside parking as discussed below.	Other issue — Assessment in EIS
Built environment	Public domain	<p>The project would have limited potential to significantly impact the public domain. The power station would be situated within a working port with limited public access. The adjacent Seawall Road is a private road that is intermittently open to the public and may require closure for access and/or safety reasons. The extent and duration of closure would be subject to further consultation and findings of the preliminary hazard analysis, as discussed below. The power transmission line and switching station would largely parallel existing road corridors and would have a small operational footprint that would be unlikely to significantly affect public access to land or the use of land in the broader regional context.</p> <p>Mapping of land use zoning is provided in Appendix B.</p>	Other issue — Assessment in EIS
	Public infrastructure	See utilities and road and rail network above.	Other issue — Assessment in EIS
	Other built assets	The project is not expected to affect other built assets.	Scoping issue — No further assessment
Heritage	Natural	The project is near a number of cultural heritage items including some that have natural heritage values. The items are discussed below.	Other issue — Assessment in EIS
	Cultural	<p>The project is near a number of cultural heritage items listed under the <i>Wollongong Local Environmental Plan 2009</i> including Station Masters Residence, Unanderra Public School, Former Unanderra Council Chambers, Kembla Grange Racecourse Railway Station, Cemetery, Moreton Bay Fig and Hoop Pines. It is not expected that the project would necessitate any material impact to these heritage items. A detailed heritage assessment would be carried out to assess potential impacts to these items and potential impacts on archaeological heritage including the potential for unexpected finds.</p> <p>Mapping of cultural heritage items is provided in Appendix B.</p>	Other issue — Assessment in EIS

Issue	Sub Issue	Discussion	Scope
	Aboriginal cultural	The project is near a number of Aboriginal cultural heritage items recorded on the Aboriginal heritage information management system under the <i>National Parks and Wildlife Act 1974</i> . It is not expected that the project would impact these known heritage items, however, this would be confirmed through a detail heritage assessment including consideration of potential unexpected finds.	Other issue — Assessment in EIS
	Built	The project is near a number of cultural heritage items including some that have natural heritage values. The items are discussed above.	Other issue — Assessment in EIS
Community	Health	The main potential health impact of the project would be emissions to air during construction and operation which are discussed below.	Other issue — Assessment in EIS
	Safety	The key safety risks would be associated with the release or combustion of gas or other failures at the power station in particular which are discussed further below. The operation of the power transmission line would also have potential safety impacts in relation to potential for fires, electrocution and electromagnetic fields which may present a real or perceived risk to people and property.	Other issue — Assessment in EIS
	Services and facilities	Construction activities in the vicinity of community services and facilities have the potential to temporarily disrupt these services and facilities. Based on a preliminary review, community services and facilities in the vicinity of the project include a number of schools, health or aged care facilities, open space or sporting areas, childcare facilities and other facilities. While direct impacts on these facilities are not expected to occur, indirect impacts such as noise or air emissions could occur mainly during construction of the power transmission line.	Other issue — Assessment in EIS
	Cohesion, capital and resilience	The project is not expected to cause impacts that would significantly affect social cohesion, capital and resilience. The social impacts of the project would be assessed in a social impact assessment.	Other issue — Assessment in EIS
	Housing	Construction of the project would require a workforce that may require temporary accommodation in and around Port Kembla. The workforce would, therefore, have the potential to temporarily affect availability of housing or other forms of accommodation during construction.	Other issue — Assessment in EIS
Economic	Natural resource use	The construction of the project would involve the use of resources embodied in construction materials. It would also use seawater and potable water discussed in section 2.	Other issue — Assessment in EIS
	Waste	The construction, and to a lesser degree, the operation of the project would have the potential to generate waste materials including waste excavated material, waste cleared material, and general construction and demolition waste. All waste generated during the construction and operation of the project would be appropriately classified, transported, and managed by suitably licensed waste contractors and facilities.	Other issue — Assessment in EIS
	Livelihood	<p>The construction and operation of the project would generate a number of temporary and permanent jobs with the potential to result in improvement to livelihood prospects in the region. The project would support the estimated 300,000 manufacturing jobs throughout NSW reliant on a secure and price competitive supply of electricity.</p> <p>The project is not expected to limit livelihood prospects in other industries. It would have the potential to support new and emerging industries such as the potential hydrogen hub at Port Kembla.</p>	Other issue — Assessment in EIS



Issue	Sub Issue	Discussion	Scope
	Opportunity cost	The project is not expected to create significant impacts or otherwise preclude other developments that would create an opportunity cost.	Scoping issue — No further assessment
Air	Particulate matter	<p>Construction activities, particularly earthworks, have the potential to generate dust that could affect sensitive receivers such as residences in surrounding residential areas at Port Kembla, Spring Hill, Unanderra and Kembla Grange. These impacts would be limited in their extent and duration given the relatively isolated location of the power station and the progressive construction of the power transmission line.</p> <p>The operation of machinery during construction would also have the potential to generate emissions from exhaust, however, these emissions would be minimal and would have a negligible impact at sensitive receptors.</p> <p>During operation, the main source of particulate matter emissions to air would be from the power station. Further assessment would be required to determine the predicted emission concentrations at sensitive receptors, however, the large separation distance between the power station and the nearest residential areas would be a significant mitigating factor.</p>	Key issue — Assessment in EIS
	Gases	<p>The operation of the power station would generate gaseous emissions such as oxides of nitrogen and carbon monoxide. Further assessment would be required to determine predicted concentrations at sensitive receptors. The large separation distance between the power station and the nearest residential areas would again be a mitigating factor.</p> <p>The project would involve the reticulation of natural gas from the Port Kembla Gas Terminal to the power station and, as such, there is potential for losses of gas to occur within the short transfer pipeline and at the power station. The day-to-day operation of the project would involve such releases of gas. Losses of gas would occur rarely, if ever, and would be the result of leaks or similar operations issues and would be resolved if detected.</p>	Key issue — Assessment in EIS
	Atmospheric emissions	<p>The emissions to air from the project, and particularly during the operation of the power station, would have the potential to be classified as greenhouse gases. A greenhouse gas inventory for the construction and operation of the project would be prepared to quantify this impact.</p> <p>Natural gas is considered to be a transition fuel between emissions intensive fossil fuels and renewables. Accordingly, the project may assist in this transition including the move toward renewable energy.</p> <p>As discussed in section 2, the power station would be dual-fuel with the capability to run on a combination of natural gas and hydrogen and utilise state of the art, high efficiency, low emission, H class turbines.</p>	Key issue — Assessment in EIS
Biodiversity	Native vegetation	<p>The majority of the project footprint is located within cleared and urbanised areas, however the proposed overhead power transmission line including the final cut in to the Sydney South to Dapto Transmission Line is located in areas containing native vegetation.</p> <p>Initial biodiversity surveys have been undertaken for the project focussing on currently accessible land in the western portion of the study area and identified several plant community types (PCTs) in the vicinity of the project. These PCTs are in varying condition, and include heavily degraded patches subject to high weed invasion, as well as areas in better condition. Three endangered ecological communities (EECs) listed under the BC Act and two critically endangered ecological communities (CEECs) listed under the EPBC Act may be</p>	Key issue — Assessment in EIS

Issue	Sub Issue	Discussion	Scope
		<p>impacted depending on the final transmission alignment. Two TECs are also subject to serious and irreversible impacts (SAII) under the BAM. The relevant PCTs and potential TECs include the following:</p> <ul style="list-style-type: none"> <li>– PCT 694 Blackbutt - Turpentine - Bangalay moist open forest on sheltered slopes and gullies, southern Sydney Basin Bioregion</li> <li>– PCT 715 Coastal freshwater lagoons of the Sydney Basin Bioregion and South East Corner Bioregion <ul style="list-style-type: none"> <li>• Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions EEC (BC Act)</li> </ul> </li> <li>– PCT 838 Forest Red Gum - Thin-leaved Stringybark grassy woodland on coastal lowlands, southern Sydney Basin Bioregion and PCT 1326 Woollybutt - White Stringybark - Forest Red Gum grassy woodland on coastal lowlands, southern Sydney Basin Bioregion and South East Corner Bioregion <ul style="list-style-type: none"> <li>• Illawarra Lowlands Grassy Woodland in the Sydney Basin Bioregion — EEC/SAII (BC Act) and CEEC (EPBC Act).</li> </ul> </li> <li>– PCT 906 Lilly Pilly - Sassafras - Stinging Tree subtropical/warm temperate rainforest on moist fertile lowlands, southern Sydney Basin Bioregion <ul style="list-style-type: none"> <li>• Illawarra Subtropical Rainforest in the Sydney Basin Bioregion – EEC/SAII (BC Act) and CEEC (EPBC Act)</li> </ul> </li> <li>– PCT 1245 Sydney Blue Gum x Bangalay - Lilly Pilly moist forest in gullies and on sheltered slopes, southern Sydney Basin Bioregion</li> <li>– Other vegetated areas mapped as urban and weedy vegetation, fig trees, artificial wetlands and acacia scrub. Areas of these will be assigned to the relevant PCTs above in accordance with the BAM.</li> </ul> <p>A number of threatened flora species have also been recorded in the vicinity of the project and have the potential to occur on site. One threatened species has been recorded on site during surveys to date:</p> <ul style="list-style-type: none"> <li>– <i>Rhodamnia rubescens</i> (Scrub Turpentine) — critically endangered/SAII (BC Act) and critically endangered (EPBC Act).</li> </ul> <p>Mapping of the PCTs is provided in Appendix B.</p> <p>The final transmission line alignment and switching station location for the proposed connection to the existing TransGrid Line 11 - Sydney South to Dapto Transmission Line will likely impact native vegetation and potential habitat for threatened flora species. The results of field surveys will feed into the selection of the preferred option, with impacts on native vegetation and threatened species habitat minimised where possible, however some impact is likely. The BDAR will include an assessment of measures taken during the options assessment and design of the project to avoid and minimise impacts and a detailed assessment of impacts on SAI entities. The impact of the project on native vegetation and threatened species habitat will be assessed. The BAM calculator will be used to calculate the number and type of ecosystem and species credits required to offset residual impacts of the project. Mitigation measures will be proposed to minimise impacts on biodiversity values during construction and operation.</p>	

Issue	Sub Issue	Discussion	Scope
	Native fauna	<p>The project is generally within cleared and urbanised areas but is within/adjacent to areas of natural vegetation and other environmental features that could provide potential habitat for native fauna. A number of species have been recorded during surveys or are known to occur:</p> <p>A number of threatened fauna have been recorded in the vicinity of the project including:</p> <ul style="list-style-type: none"> <li>– Greater Glider – vulnerable under the EPBC Act – recorded on site during surveys</li> <li>– Grey-headed flying-fox — vulnerable under the BC Act and vulnerable under the EPBC Act – temporary roost camp known from near the site.</li> <li>– Green and golden bell frog — endangered under the BC Act and vulnerable under the EPBC Act – key population known to occur in the Port Kembla area.</li> <li>– Little Eagle — vulnerable under the BC Act – known to occur in the project site.</li> <li>– Large-eared Pied Bat – vulnerable under the BC Act and vulnerable under the EPBC Act – likely to breed on the Illawarra Escarpment and may forage in the project site. Breeding habitat for this species is an SAI.</li> <li>– Southern myotis — vulnerable under the BC Act - likely to forage over waterways and dams in the project site.</li> <li>– Swift parrot - endangered under the BC Act and critically endangered under the EPBC Act – impacts on mapped important habitat for this species have been purposefully avoided.</li> </ul> <p>A range of other threatened species may also occur, including forest owls, doves, microbats, possums and gliders.</p> <p>Further surveys will be undertaken to confirm presence or absence of threatened and migratory fauna. The impact of the project on threatened fauna habitat will be assessed. The BAM calculator will be used to calculate the number and type of ecosystem and species credits required to offset residual impacts of the project. Mitigation measures will be proposed to minimise impacts on biodiversity values during construction and operation.</p>	Key issue — Assessment in EIS
	Marine ecology	<p>The project would involve the construction and operation of water pipelines connecting the power station to the coastal waters and the inner harbour. Water would be extracted from the inner harbour for use in the cooling of the power station in combined cycle mode and would ultimately be released to the coastal waters. The construction and the operation of the pipelines would have potential impacts on the marine environment generally, and potentially on specific marine ecology values such as threatened fauna. Potential impacts could include impacts to marine and benthic habitat during construction, and entrainment of marine fauna or similar impacts at the seawater intake, and the release of warmer than ambient water at the outfall during operation. These and other potential impacts would be assessed through a detailed marine ecology assessment, including numerical modelling of the release of cooling water at the outfall.</p>	Key issue — Assessment in EIS

Issue	Sub Issue	Discussion	Scope
Land	Stability and/or structure	The project would generally be on relatively flat terrain and involve relatively limited excavation, meaning risks surrounding land stability and/or structure would be low. Some more substantial excavation may be required at Berth 101 and/or directional drilling beneath the inner harbour (if this is the preferred method of installation of the power transmission line) which would require management to ensure stability is maintained.	Other issue — Assessment in EIS
	Soil chemistry	The project would involve excavation, stockpiling and backfilling of soil with the potential to affect the pre-existing soil chemistry and profile. This is less likely to be an issue on industrial land in and around Port Kembla where significant prior disturbance has occurred but would require management in the relatively undisturbed areas including open areas such as those around Kembla Grange that would be traversed by the power transmission line and power transmission switching station.	Other issue — Assessment in EIS
	Capability	As above, with regard to soil chemistry, the project would involve excavation, stockpiling and backfilling of soil with the potential to affect capability more so in relatively undisturbed areas. The project would not intersect areas that are used for agriculture or other activities that would be highly dependent on land capability.	Other issue — Assessment in EIS
	Topography	The project would generally be on relatively flat terrain and involve relatively limited excavation, meaning impacts to topography would be very limited. Areas that would be excavated for construction would be restored to similar to pre-existing condition, as far as practicable.	Other issue — Assessment in EIS
	Contamination	The project, particularly during construction, has the potential to encounter contaminated material including contaminated material that may have been used in the original reclamation of Berth 101. The levels of contamination detected during investigations to date indicate that the level of contamination is low, and the overall risk to receptors given the extent of excavation required would also be low. Further investigations would be carried out to better characterise this issue.	Key issue — Assessment in EIS
	Acid sulfate soils	The project, particularly during construction, has the potential to encounter acid sulfate soils. Estuarine sediments within the inner harbour are considered high risk to be acid sulfate soils. Sediments within the harbour are also understood to have been used in the original reclamation of Berth 101. As such, excavation at Berth 101 as well as directional drilling beneath the inner harbour may encounter acid sulfate soils. Any such soils encountered would require careful management.	Key issue — Assessment in EIS
Water	Water quality	<p>The project would be near a number of water sources including the inner harbour and coastal waters as well Dapto Creek, and some other minor waterways. The project has the potential to impact water quality in these areas during construction due to erosion and sedimentation, excavation of contaminated material, drilling beneath the inner harbour, and accidental leaks or spills.</p> <p>The operation of the project would also have potential to cause impacts on water quality due to the intake of cooling water from the inner harbour and release of that water into offshore marine waters.</p> <p>These, and other potential impacts on water resources, would be assessed through a detailed water assessment. A key aspect of the assessment would be dispersion modelling to further characterise the potential impacts of the release of cooling water into marine waters.</p>	Key issue — Assessment in EIS

Issue	Sub Issue	Discussion	Scope
	Water availability	The project would involve the use of water for activities such as dust suppression during construction, as necessary, and potable water for the operation of power station systems, as described in section 2.8. While the project is not expected to materially affect the availability of water, it would be assessed as part of the detailed water assessment.	Other issue — Assessment in EIS
	Hydrological flows	The project would largely be outside of existing waterways or flood prone areas. The power transmission line would partly intersect some flood prone areas particularly toward Kembla Grange. The power transmission switching station would also be in close proximity to, though outside of, flood prone areas. While the project is not expected to materially affect existing hydrological flows and flood conditions, this would be assessed further in the detailed water assessment.	Other issue — Assessment in EIS
Hazards and risks	Coastal hazards	As discussed in section 4.1.2, the project is partly within the coastal vulnerability area, the coastal environment area, and the coastal use area. The power station and parts of the power transmission line near the coast, near Berth 101 in particular, would be the most vulnerable components of the project to coastal hazards. The project would be designed to be at a level that would be resilient to coastal hazards including consideration of the potential effects of climate change.	Other issue — Assessment in EIS
	Flood waters	See above with regard to hydrological flows.	Other issue — Assessment in EIS
	Bushfire	The construction of the project would potentially involve hot works that could lead to the ignition of a bushfire. The operation of the power transmission line would also present a risk of ignition. The risk is considered relatively low given the limited extent of vegetation.	Other issue — Assessment in EIS
	Undermining	The project would have relatively limited potential to result in undermining of other land or developments. Directional drilling beneath the inner harbour (if this is the preferred method of installation of the power transmission line) would have limited potential to cause undermining due to the likely construction method and limited volume of material excavated.	Other issue — Assessment in EIS
	Steep slopes	The project would generally be constructed on relatively flat terrain and involve relatively limited excavation meaning risks or potential impacts in relation to steep slopes such as stability would be very limited.	Other issue — Assessment in EIS
	Industrial hazard	The construction, and to a greater degree, operation of the project would have the potential to represent an industrial hazard. The key hazards would potentially include failure of equipment within the power station resulting in projectile debris or other failure leading to a fire. These risks would also need to be considered in combination with existing hazards at Berth 101 including those from the Port Kembla Gas Terminal. As discussed in section 4.1.2, hazards and risks posed by the project would be assessed in a preliminary hazard analysis in accordance with the requirements of the <i>Hazardous and Offensive Development Application Guidelines Applying SEPP 33</i> (NSW Government 2011).	Key issue — Assessment in EIS

## 5.2 Cumulative impacts

The key areas with potential for cumulative impacts based on the preliminary assessment include impacts to air quality, biodiversity, water quality (particularly in regard to the marine environment), and hazards and risks.

Consideration would need to be given in the air quality assessment to potential cumulative emissions of the power station with background emissions and other industrial facilities including the Port Kembla Gas Terminal.

Potential cumulative impacts on the marine environment would largely relate to the operation of the cooling water intake and outfall structures. Appropriate design of the intake structure including coarse bar screens and drum screens within an intake chamber is proposed to assist in mitigating impacts.

The key cumulative impact with regard to hazard and risk would be the operation of the power station in proximity to the Port Kembla Gas Terminal. This would also require further assessment through a preliminary hazard analysis. These, and other cumulative impacts identified, would be assessed within relevant specialist assessments.

## 6 Stakeholder engagement

Stakeholder engagement for the project is ongoing and would be undertaken in accordance with the following stakeholder engagement objectives:

- Clearly communicate the objectives (including strategic drivers) of the project.
- Proactively engage with identified stakeholders early and often in the EIS.
- Satisfy the engagement requirements stipulated in the SEARs.
- Effectively and openly consult with stakeholders to inform the EIS.
- Establish rigor to the engagement process through quality systems and protocols that support the community and stakeholder contact and timely follow up.

Planned stakeholder engagement activities include meeting with government agencies, key industry stakeholders, community interest groups, and directly impacted landholders.

Other stakeholder engagement tools would be used to engage with the community more broadly and would include emails, newsletters, a virtual room and advertised community information sessions. Newsletters have been distributed throughout the local community and community information sessions have commenced in September.

Key stakeholders identified to date for consultation include:

- Various regulatory agencies and relevant government ministers at the local, State and Commonwealth level.
- Energy market bodies such as Australian Energy Market Operator (AEMO)
- Peak industry and commercial bodies such the Australian Industry Group, Business Illawarra, Illawarra Innovation Industry Network, and numerous local businesses
- Local environment groups including Port Kembla Harbour Environment Group and Port Kembla Pollution Meeting Group.
- Indigenous organisations including Illawarra Local Aboriginal Land Council and registered aboriginal parties.
- Directly impacted landholders and the local community.

It is expected that the EIS would be placed on public exhibition for at least the minimum public exhibition period for State significant infrastructure required under the EP&A Act during which public submissions may be made. Public submissions made during this time would be summarised and responded to in a response to submissions report prior to determination.

## 7 Conclusion

The purpose of this report is to provide preliminary information on the project and to identify relevant environmental matters and impacts in support of a request for SEARs under the EP&A Act. It has identified a number of relevant environmental matters and impacts for assessment including the following key issues:

- Amenity — including potential noise impacts and visual impacts.
- Air quality — including operational emissions and greenhouse gases.
- Biodiversity — including both terrestrial and marine biodiversity values.
- Land — including potential contamination and acid sulfate soils around Berth 101.
- Water — including water quality impacts from construction activities in and around the inner harbour and the coastal environment as well as operation of cooling water pipelines.
- Hazards and risks — including industrial hazards posed by the operation of the power station and their relationship to hazards posed by the nearby Port Kembla Gas Terminal.

Other issues for assessment in the EIS would include potential impacts of the project on amenity, access, built environment, heritage, the community and economic issues.



## 8 References

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# **Appendix A**

## **Scoping worksheet**

Environmental Impact Statement (EIS) scoping worksheet for: Port Kembla Power Station													Date: 17/12/2020		
What matters might be impacted?			What activities might cause an impact?			What are the characteristics of the impact?					How will the impact be managed?	What are the community and other stakeholder views?	What level of assessment and engagement is required in the EIS preparation phase?		
Social and environmental matters I.e. natural or human assets or values aggregated at the level most appropriate for informing management and assessment requirements  Click on the matter for a description, or the link above for full glossary			Without any mitigation, is the proposal likely to impact on the matter?  (Select from list)	If there is a 'likely' impact: 1. list the activities expected to cause the impact; and 2. if applicable, list the receptor being impacted and its status. E.g. construction noise will be heard at nearby school  If 'unlikely', briefly explain why. Has the impact been actively avoided through project design or site location?  (Manual entry)	Is the impact, without mitigation, expected to cause a material effect with regard to its...  (Answer 'Y', 'N' or '?') Click on characteristic for description, or the link above for further detail				Does the impact need assessment in the EIS?  (Auto fills)	Is the impact, without mitigation, expected to have a material cumulative effect with other impacts (including from other projects)?  (Select from list)	What safeguards and management measures are expected to be required to address the impact?  (Select from list)	Are there community or other stakeholder concerns regarding the impact or activity?  (Based on engagement with community and other stakeholders)  (Select from list)	Expected level of assessment and/or engagement required  (Auto fills)	Relevant section in Scoping Report  (Manual entry)	
					extent?	duration?	severity?	sensitivity?							
What does the proposal mean for people?	AMENITY	Acoustic	Likely	Construction and operation noise heard in residential areas.	Y	Y	Y	Y	Yes	No	Standard	Yes	Key Issue	Section 5	
		Visual	Likely	Construction and surface infrastructure during operation.	Y	Y	Y	Y	Yes	No	Standard	Yes	Key Issue	Section 5	
		Odour	Likely	Potential for odour generated during operation.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue	Section 5	
		Microclimate	Likely	Potential for thermal plume during operation.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	Section 5	
	ACCESS	Access to property	Likely	Potential disruption of access during construction.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue	Section 5	
		Utilities	Likely	Potential disruption of utilities during construction.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	Section 5	
		Road and rail network	Likely	Potential disruption of road and rail during construction.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	Section 5	
		Offsite parking	Likely	Potential disruption of parking including on Seawall Road.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	Section 5	
	BUILT ENVIRONMENT	Public domain	Likely	Potential use of land in public domain during construction.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	Section 5	
		Public infrastructure	Likely	Potential disruption of infrastructure' during construction.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	Section 5	
		Other built assets	Unlikely	—	—	—	—	—	No	—	—	No	Scoping Report	Section 5	
		Natural	Unlikely	Potential indirect impacts on natural heritage items.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue	Section 5	
	HERITAGE	Cultural	Likely	Potential indirect impacts on cultural heritage items.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue	Section 5	
		Aboriginal cultural	Likely	Potential indirect impacts to Aboriginal cultural heritage items.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue	Section 5	
		Built	Unlikely	Potential indirect impacts on built cultural heritage items.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue	Section 5	
		Health	Likely	Emissions to air during construction and operation.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue	Section 5	
	COMMUNITY	Safety	Likely	Safety issues such as release or combustion of gas, fires, electrocution, electromagnetic fields.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue	Section 5	
		Services and facilities	Likely	Potential indirect impacts on services and facilities.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue	Section 5	
		Cohesion, capital and resilience	Likely	Potential social impacts of workforce.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue	Section 5	
		Housing	Likely	Potential demand for housing during construction.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue	Section 5	
	ECONOMIC	Natural resource use	Likely	Consumption of materials during construction	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	Section 5	
		Waste	Likely	Generating of waste during construction and operation.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	Section 5	
		Livelihood	Likely	Job creation during construction and operation.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue	Section 5	
		Opportunity cost	Unlikely	—	—	—	—	—	No	—	—	No	Scoping Report	Section 5	
What does the proposal mean for the natural environment?	AIR	Particulate matter	Likely	Particulate emissions during construction and operation.	Y	Y	Y	Y	Yes	No	Standard	Yes	Key Issue	Section 5	
		Gases	Likely	Gaseous emissions during construction and operation.	Y	Y	Y	Y	Yes	No	Standard	Yes	Key Issue	Section 5	
		Atmospheric emissions	Likely	Greenhouse gas emissions particularly during operation.	Y	Y	Y	Y	Yes	No	Standard	Yes	Key Issue	Section 5	
		Native vegetation	Likely	Potential clearing of vegetation during construction.	Y	Y	Y	Y	Yes	No	Standard	Yes	Key Issue	Section 5	
	BIODIVERSITY	Native fauna	Likely	Potential clearing of fauna habitat during construction.	Y	Y	Y	Y	Yes	No	Standard	Yes	Key Issue	Section 5	
		Marine ecology	Likely	Potential impacts to inner harbour and coastal waters.	Y	Y	Y	Y	Yes	No	Standard	Yes	Key Issue	Section 5	
		Stability and/or structure	Likely	Potential stability and/or structure around excavations.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	Section 5	
		Soil chemistry	Likely	Potential impact on soil chemistry on undisturbed land.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	Section 5	
	LAND	Capability	Likely	Potential impact on capability of undisturbed land.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	Section 5	
		Topography	Likely	Potential impacts on topography due to excavation.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	Section 5	
		Contamination	Likely	Potential to encounter existing land contamination.	Y	Y	Y	Y	Yes	No	Standard	No	Key Issue	Section 5	
		Acid sulfate soils	Likely	Potential to encounter acid sulfate soils in sediments.	Y	Y	Y	Y	Yes	No	Standard	No	Key Issue	Section 5	
	WATER	Water quality	Likely	Potential impacts to water quality of waterways, the inner harbour and coastal waters during construction and operation.	Y	Y	Y	Y	Yes	No	Standard	No	Key Issue	Section 5	
		Water availability	Likely	Demand for water during construction and operation.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	Section 5	
		Hydrological flows	Likely	Potential impacts of surface infrastructure on flooding.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	Section 5	
		Coastal hazards	Likely	Potential interaction of project with coastal hazards.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	Section 5	
What risks does the proposal face?	RISKS	Flood waters	Likely	Potential impacts of surface infrastructure on flooding.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	Section 5	
		Bushfire	Likely	Potential ignition sources during construction and operation such as hot works, operation of the power transmission line.	Y	Y	Y	Y	Yes	Unknown	Standard	No	Other Issue	Section 5	
		Undermining	Likely	Potential impacts of directional drilling construction methods.	Y	Y	Y	Y	Yes	Unknown	Standard	No	Other Issue	Section 5	
		Steep slopes	Likely	Potential stability and/or structure around excavations.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	Section 5	
		Industrial hazards	Likely	Potential hazard events during operation of power station.	Y	Y	Y	Y	Yes	No	Standard	No	Key Issue	Section 5	

# Appendix B

## Mapping



Paper Size ISO A4  
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Metres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 56



Australian Industrial Power  
Port Kembla Power Station Scoping Report

Project No. 12542715  
Revision No. -  
Date 14/10/2021

Project overview

FIGURE C-1

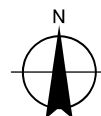
Data source: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community. Created by: thompson2





Paper Size ISO A4  
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Metres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
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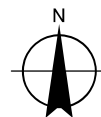
**FIGURE C-2.1**





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Project layout

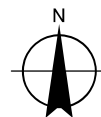
**FIGURE C-2.2**





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Grid: GDA 1994 MGA Zone 56



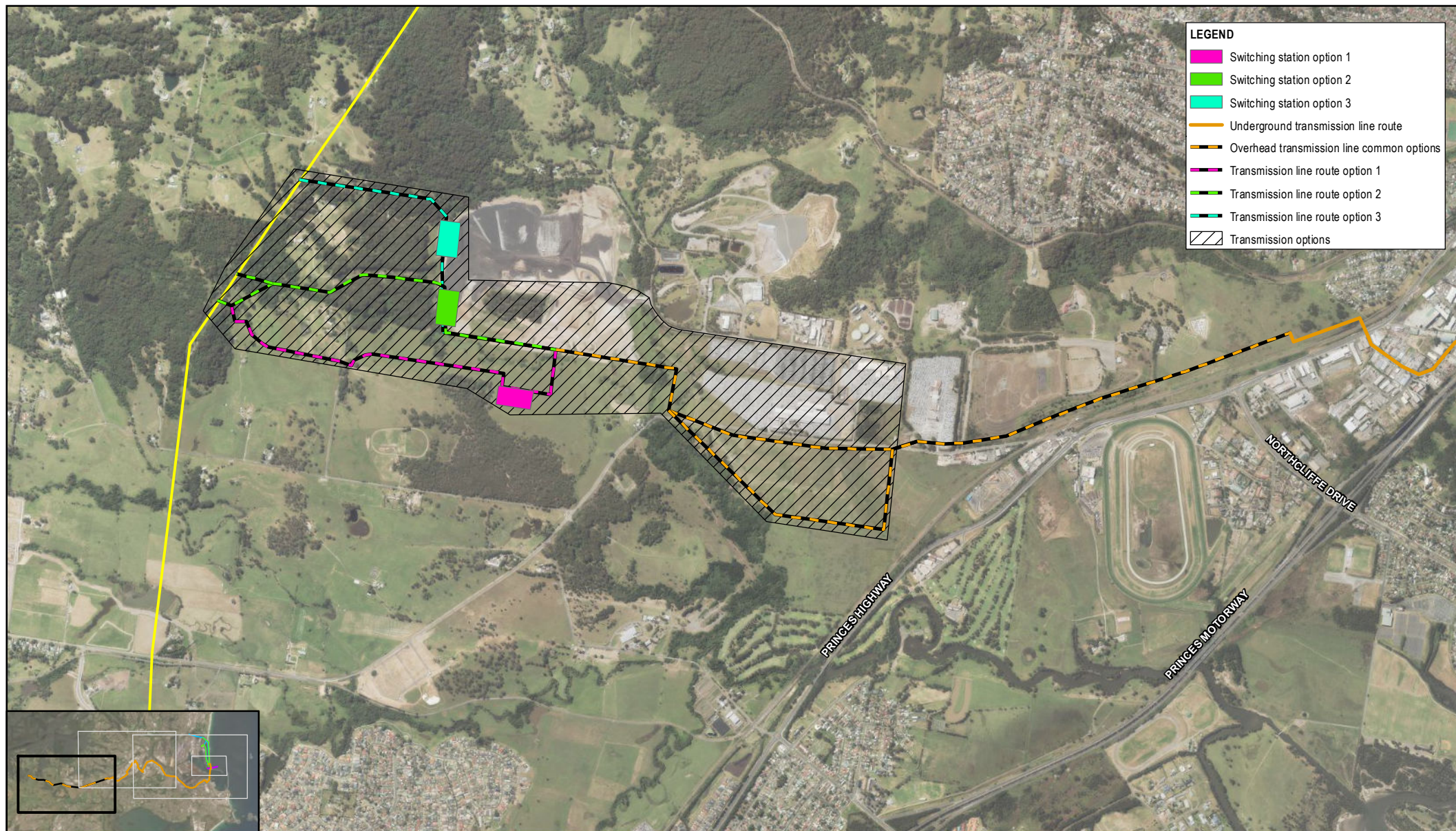
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Revision No. -  
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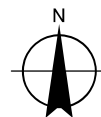
**FIGURE C-2.3**





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Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 56



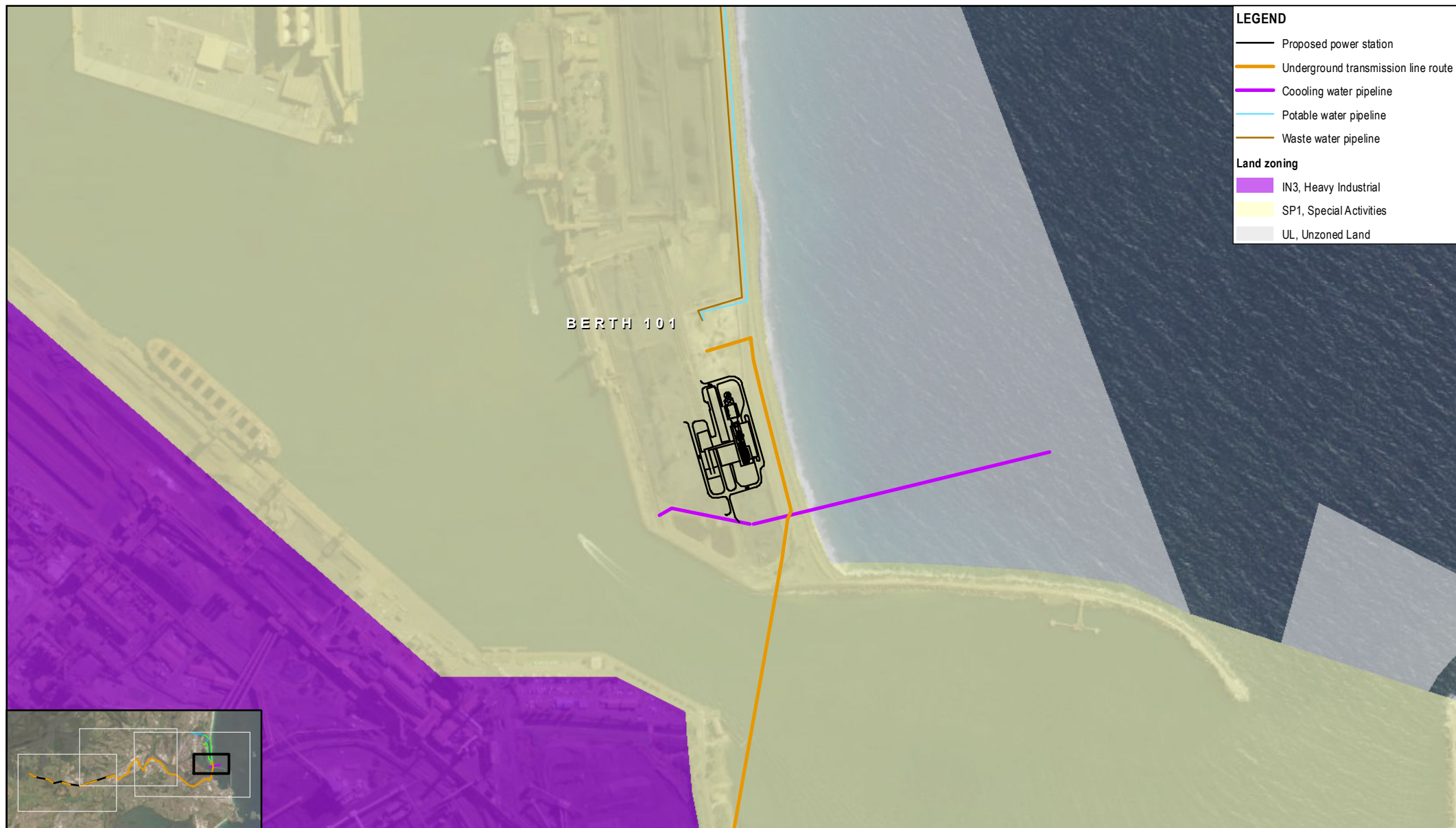
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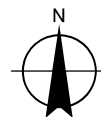
Project layout

**FIGURE C-2.4**





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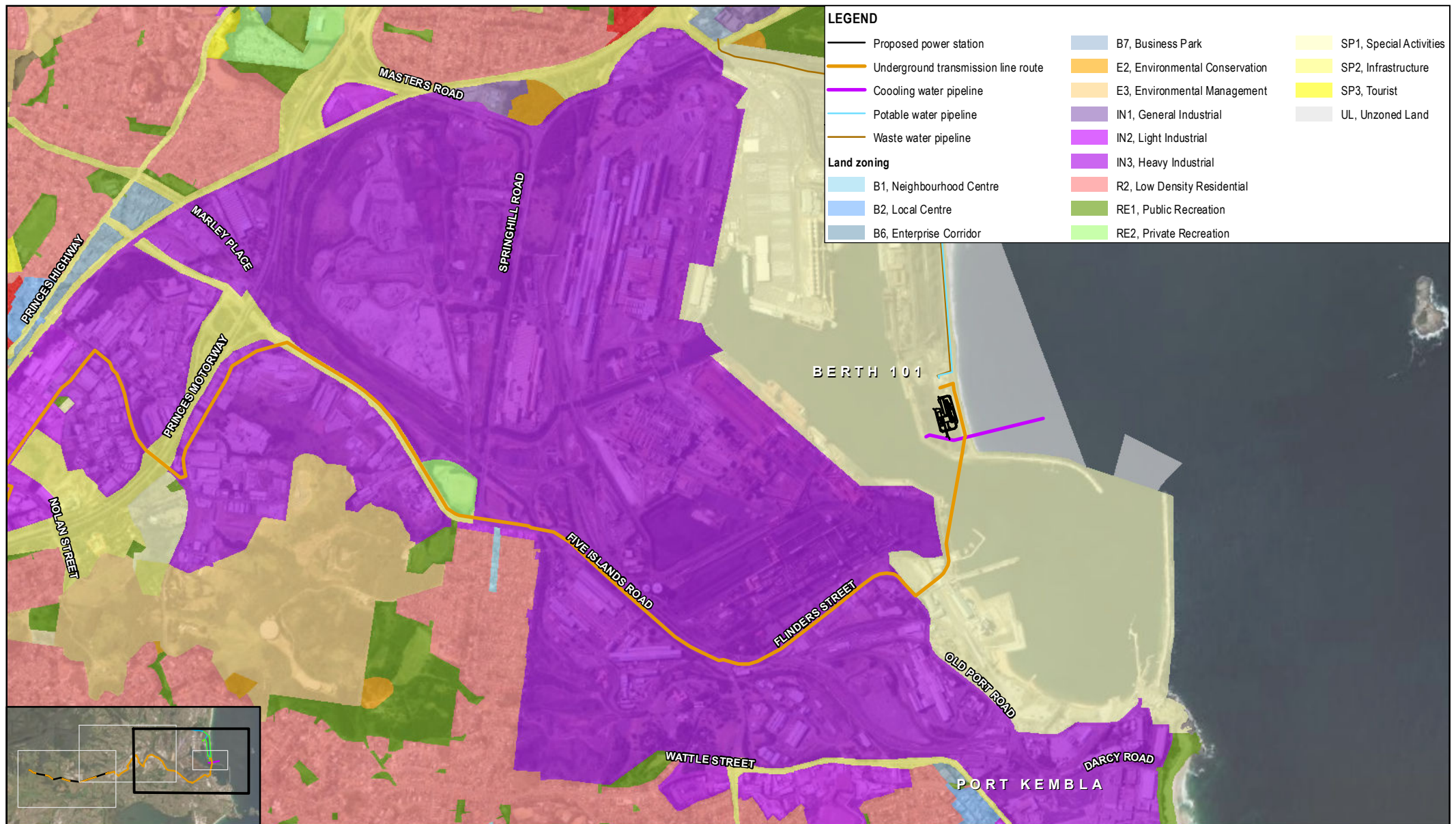
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**Land zoning**

**FIGURE C-3.1**

Data source: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community. Created by: thompson2



Paper Size ISO A4  
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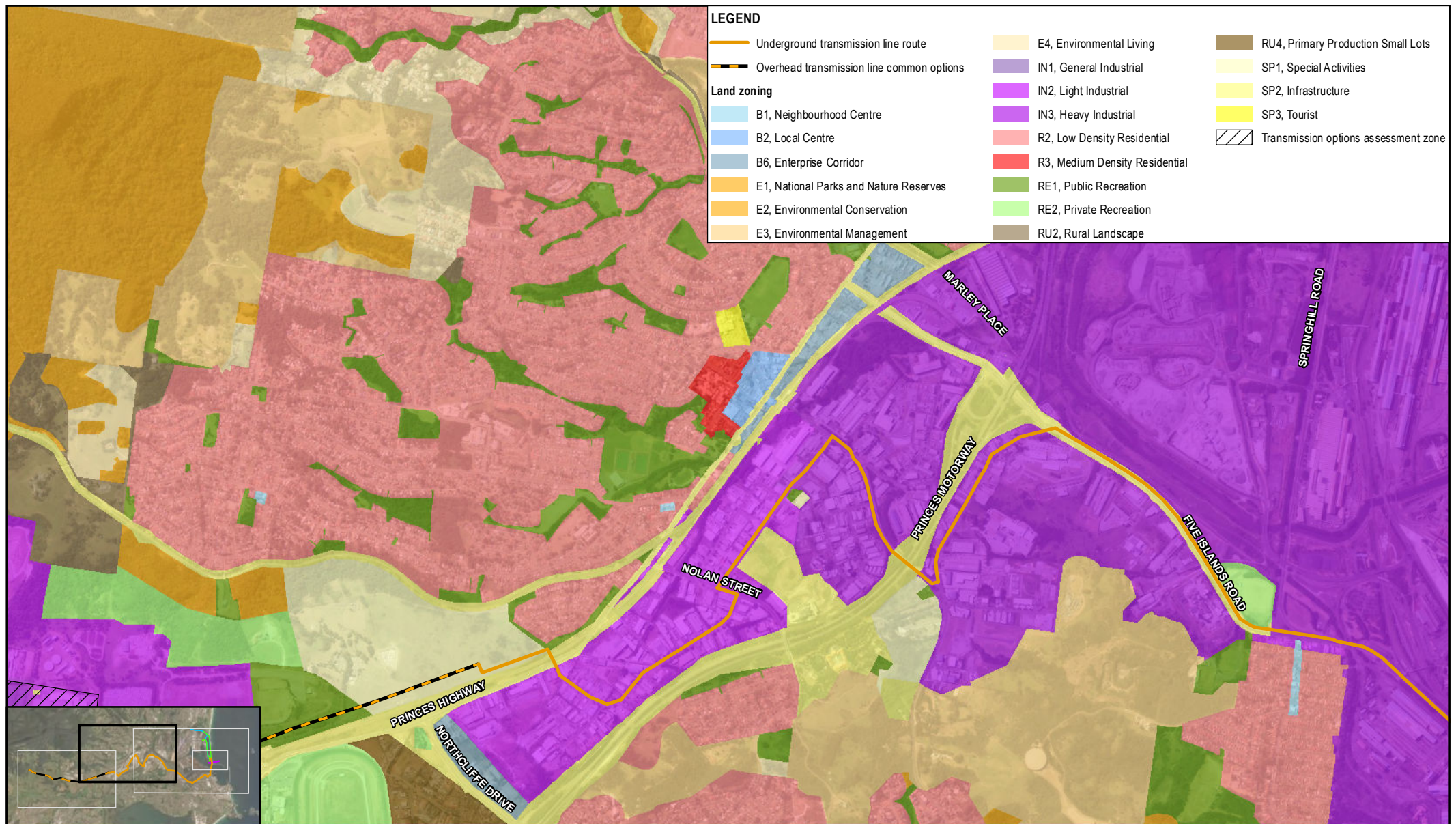
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Revision No. -  
Date 14/10/2021

Land zoning

FIGURE C-3.2

Data source: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community. Created by: thompson2





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Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 56



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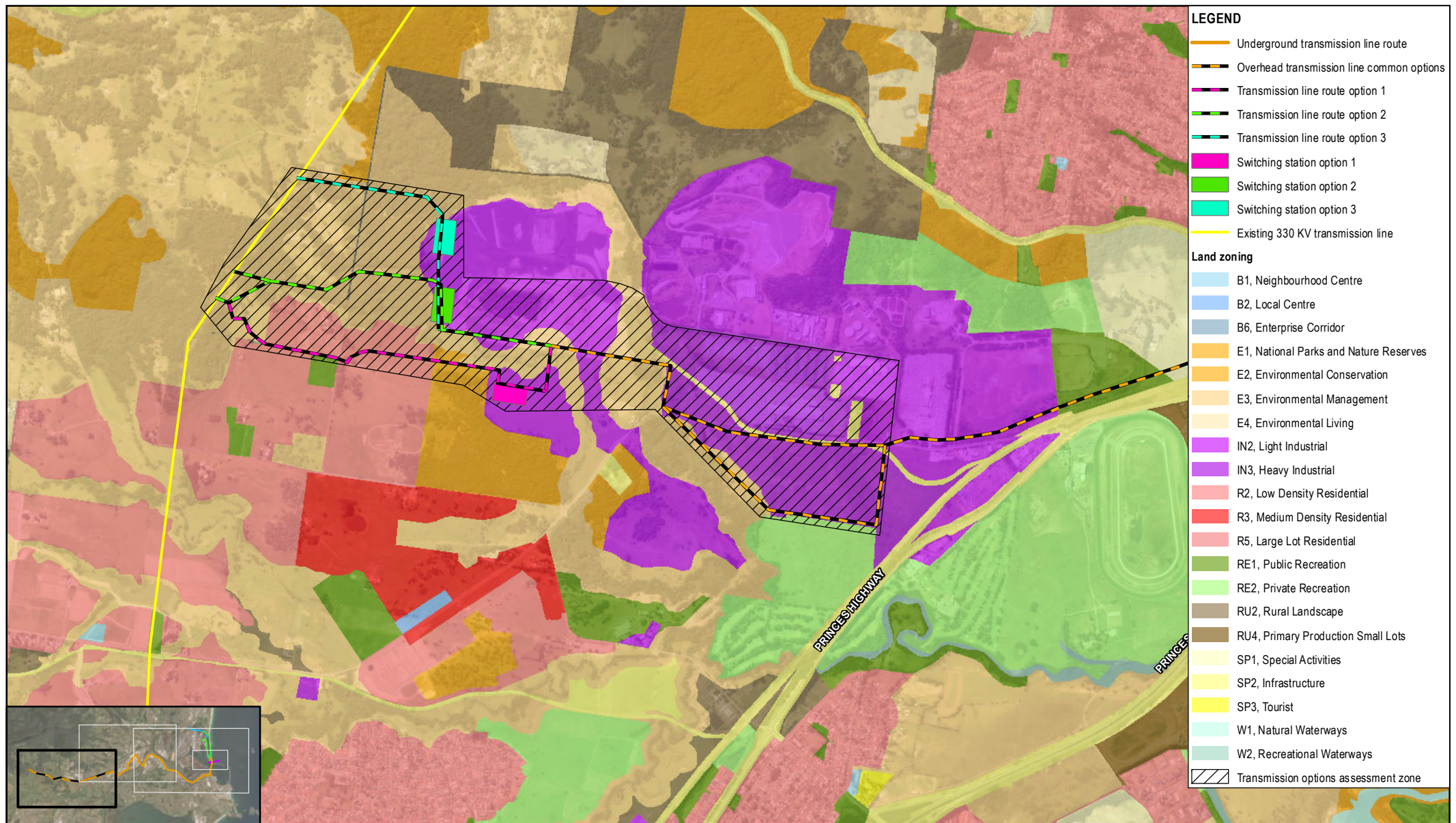
Project No. 12542715  
Revision No. -  
Date 14/10/2021

Land zoning

**FIGURE C-3.3**

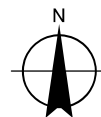
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Map Projection: Transverse Mercator  
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Land zoning

**FIGURE C-3.4**

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 Date **14/10/2021**

**Heritage values**

**FIGURE C-4.1**

Data source: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community. Created by: thompson2

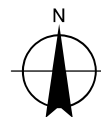




Paper Size ISO A4

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Map Projection: Transverse Mercator  
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Heritage values

**FIGURE C-4.2**

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Paper Size ISO A4

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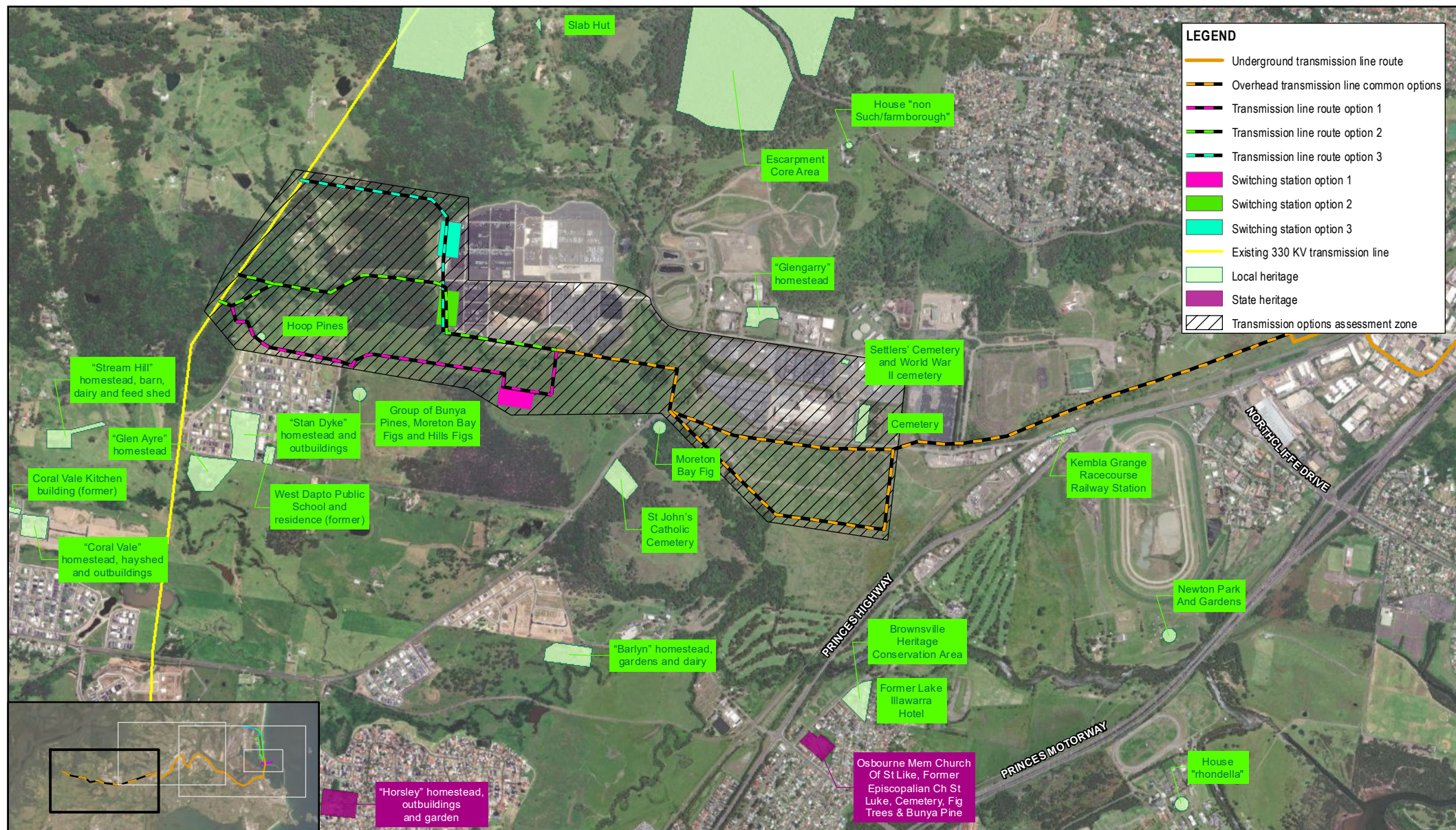
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Heritage values

**FIGURE C-4.3**

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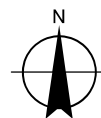




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Australian Industrial Power  
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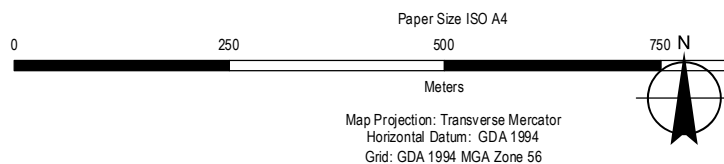
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Heritage values

**FIGURE C-4.4**

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Port Kembla Power Station Scoping Report**

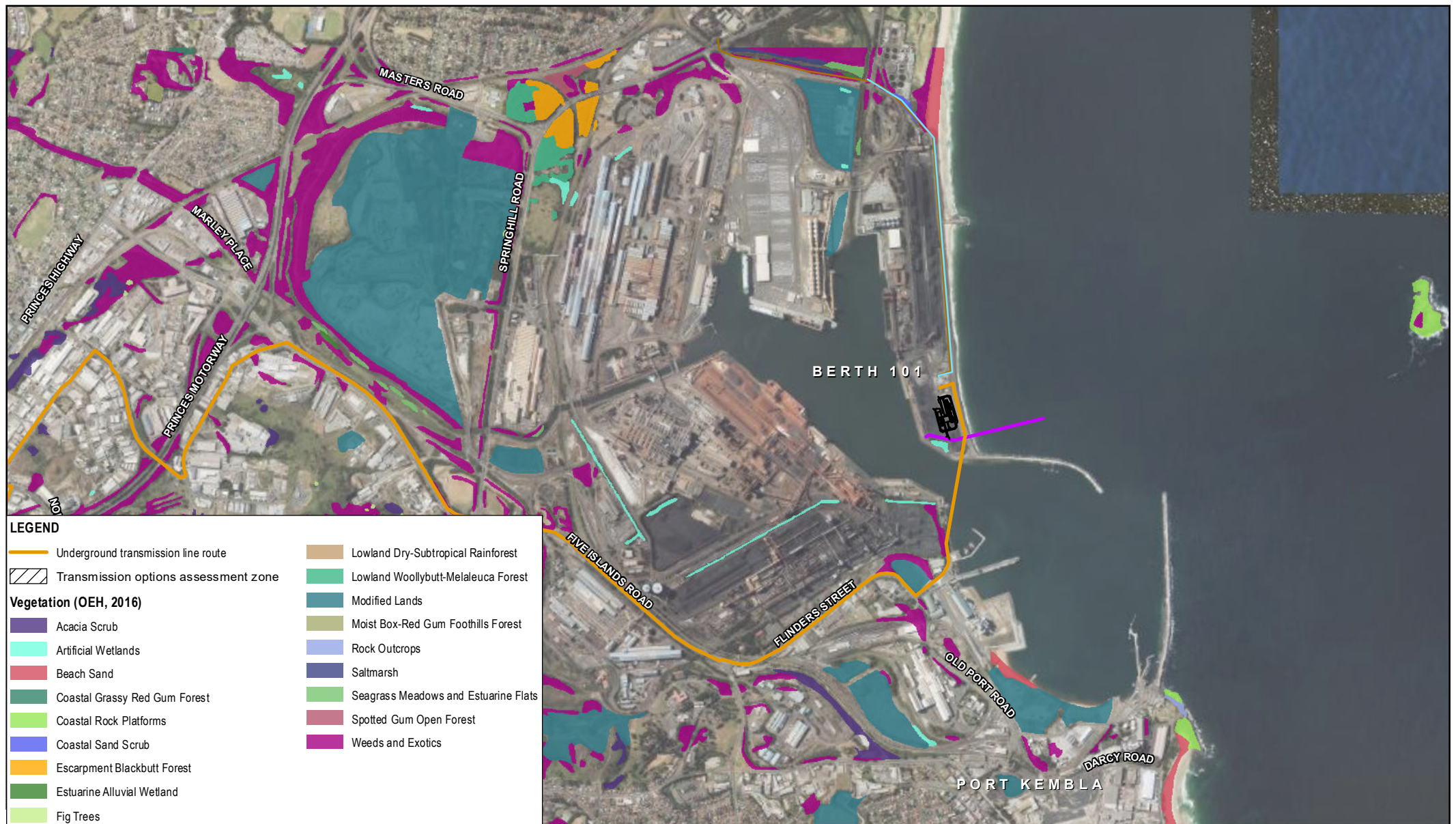
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Revision No. **-**  
Date **14/10/2021**

**Biodiversity values**

**FIGURE C-5.1**

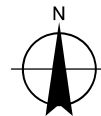
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Map Projection: Transverse Mercator  
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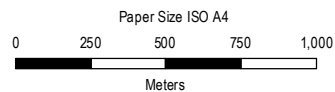
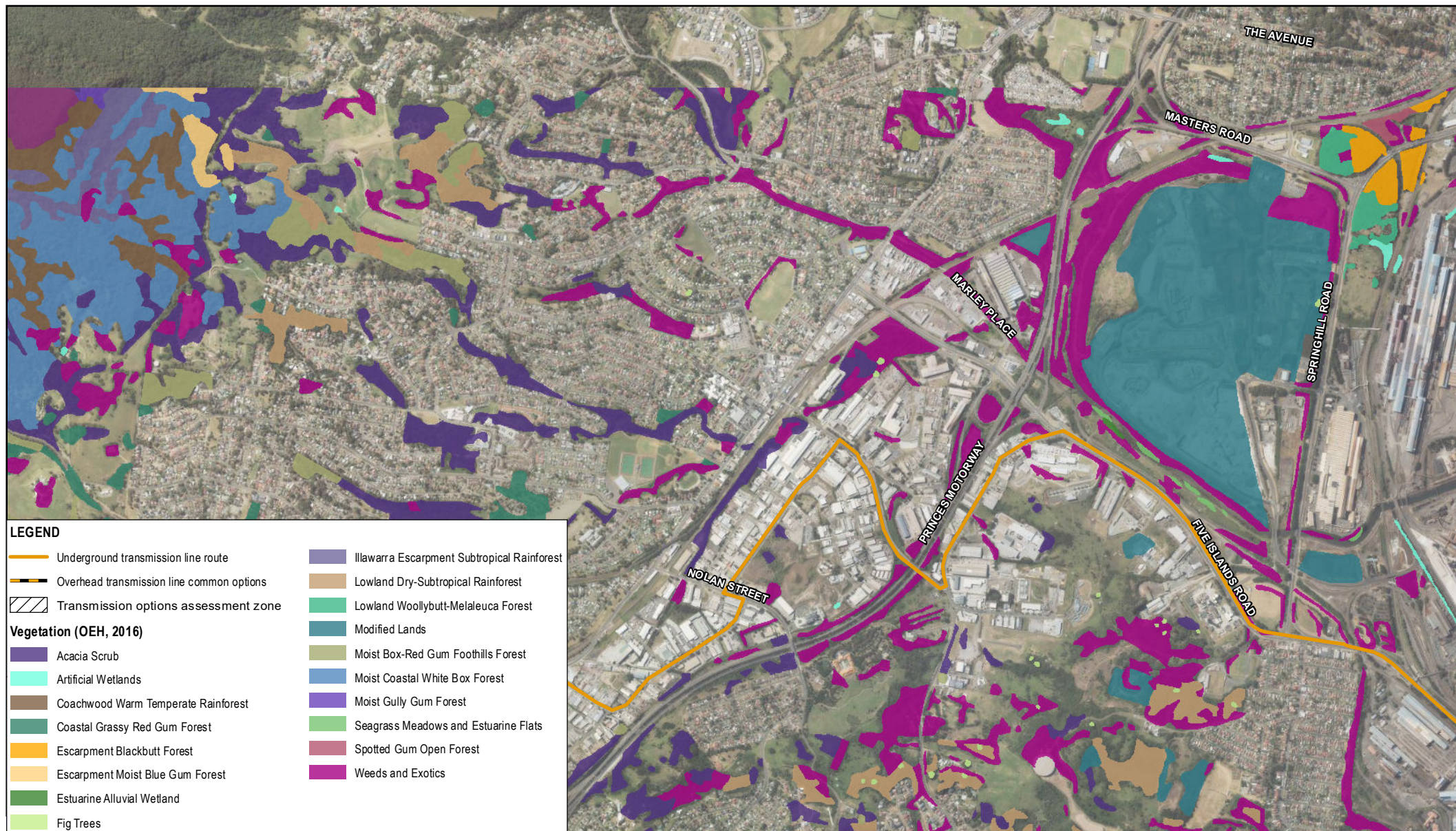
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Biodiversity values

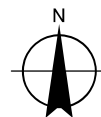
**FIGURE C-5.2**

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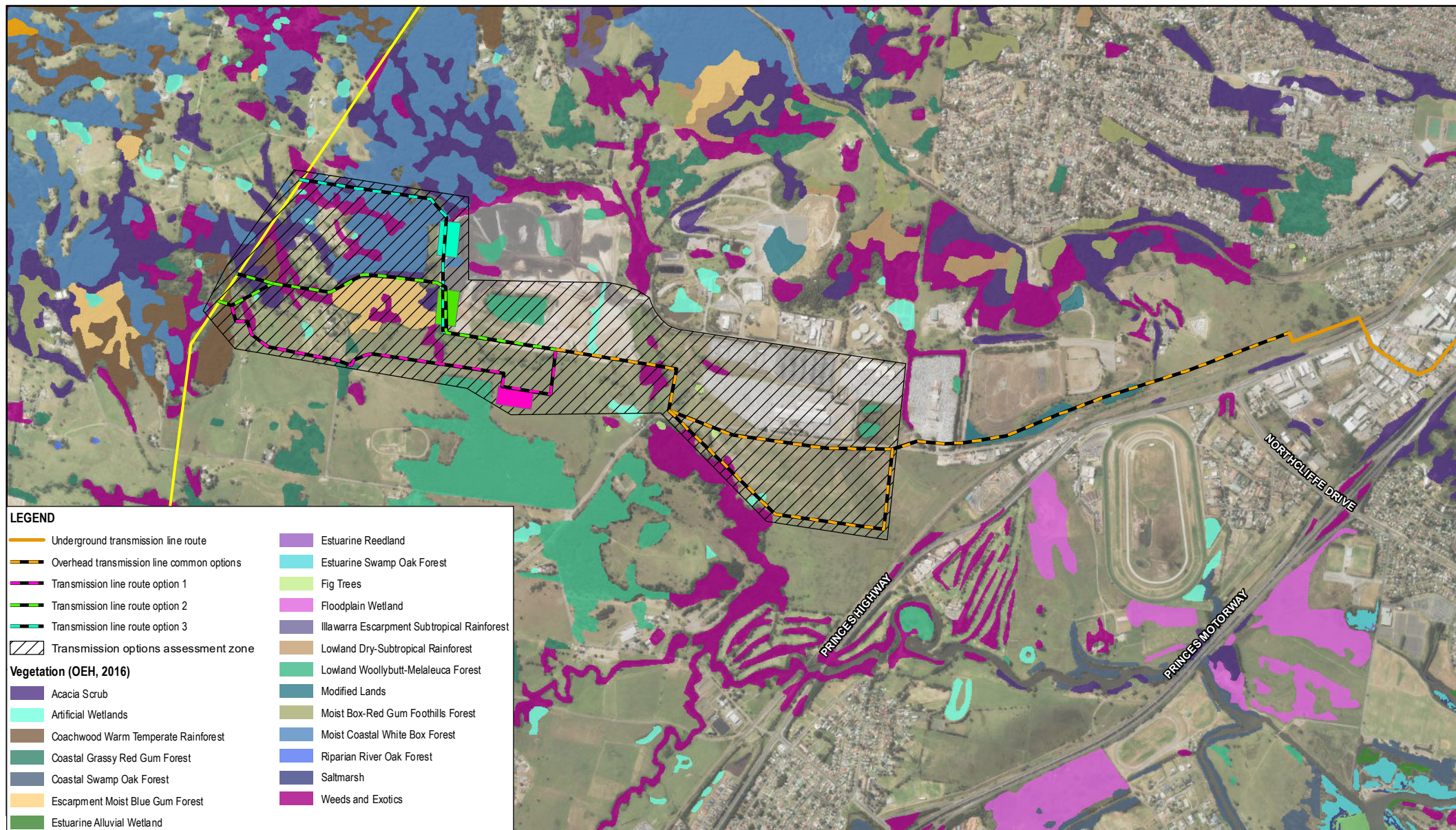
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Date 14/10/2021

Biodiversity values

**FIGURE C-5.3**

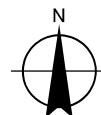
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Biodiversity values

**FIGURE C-5.4**

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