Waratah Super Battery Project Munmorah

Critical State Significant Infrastructure

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Cover image: *Indicative layout of the Waratah Super Battery* Source*: GHD*

Executive Summary

The NSW Government, through Energy Corporation of NSW (EnergyCo), proposes to develop the Waratah Super Battery, an 850 megawatt (MW) / 1,680 MW hour (MWh) standby network battery within the landholding of the decommissioned Munmorah Power Station in the Central Coast local government area.

The Waratah Super Battery is designed to be a System Integrity Protection Scheme (SIPS), dedicated to supporting the transmission grid by providing reserve transmission capacity and stability. It is essentially designed to act as a 'shock absorber' in the event of any sudden power surges. Together with other minor transmission upgrades, the project would allow Sydney, Newcastle, and Wollongong consumers to access more energy from renewable electricity generation across the State.

The project site is located within the broader landholding of the decommissioned Munmorah Power Station. Given the area's historic use for electricity generation, the site is not located near sensitive receivers and is largely clear of natural constraints.

The Department exhibited the Environmental Impact Statement for the project and received seven submissions (1 in support, 4 providing comment and 2 objections) and advice from Central Coast Council (Council). In addition, 13 government agencies provided advice.

The key assessment considerations are energy transition and land use compatibility. However, the Department has also undertaken a comprehensive assessment of the full range of other potential impacts, including transport, noise, water, visual amenity, biodiversity, land contamination, hazards, heritage, waste management, project decommissioning and social and economic impacts.

The Department has recommended a range of detailed conditions, developed in conjunction with agencies and Council, to ensure all potential impacts are effectively minimised, managed or offset.

Overall, the Department considers the former power station site to be suitable for the project as it is in close proximity to the existing electricity network, has few environmental constraints, and would ensure NSW continues to have reliable energy supplies, particularly with the accelerating retirement of traditional fossil fuel energy generators and following the planned early closure of the Eraring Power Station in 2025.

The project is consistent with the Commonwealth's Renewable Energy Target and NSW's Climate Change Policy Framework and the Net Zero Plan Stage 1: 2020 – 2030, as it is a critical early component of the Sydney Ring Project, which is designed to increase transfer capacity into Sydney, Newcastle, and Wollongong. The project would free up reserve transmission capacity and increase grid stability and energy security.

The project would also provide other flow-on benefits to the local community, including up to 150 construction jobs, as well as other broader benefits to the State including reducing the price of electricity and injecting over $1 billion in capital investment into the NSW economy.

The Department considers the project would not result in any significant impacts on the local community or the environment, and any residual impacts can be managed through the implementation of the recommended conditions.

The project would result in benefits to the State of NSW and is therefore in the public interest.

Contents

1 Introduction

The Energy Corporation of NSW (EnergyCo) proposes to develop a new State significant infrastructure standby network battery within the landholding of the decommissioned Munmorah Power Station, approximately 40 kilometres (km) southwest of Newcastle in the Central Coast local government area (LGA) (see **Figure 1**). The landholding is currently owned by Generator Property Management Pty Ltd (GPM) who are undertaking rehabilitation, remediation and maintenance works at the site.

The Munmorah Power Station began operating in the 1960s and, prior to its closure in 2012, had a generation capacity of 600 MW.

Figure 1 | Project Location

2 Project

The project involves the development of a grid-scale standby network battery designed to be a System Integrity Protection Scheme (SIPS), dedicated to supporting the transmission grid by providing reserve transmission capacity and stability. It is essentially designed to act as a 'shock absorber' in the event of any sudden power surges, such as from bush fires or lightning strikes.

The Waratah Super Battery would have a storage capacity of up to 850 megawatts (MW) / 1,680 MW-hours (MWh) and includes a new 330 kilovolt (kV) overhead transmission line connection to the existing Transgrid Munmorah substation, located approximately 650 m northwest of the site (see **Figure 4**). The project also involves the upgrading and maintenance of equipment over time and decommissioning.

The key components of the project are summarised in **Table 1**, shown in **Figure 4**, and described in detail in the Environmental Impact Statement (EIS) (see **Appendix B**) and Submissions Report (see **Appendix D**).

Table 1 | Main Components of the Project

Aspect	Description
Project summary	• up to 2,600 containerised lithium-ion type batteries (up to 3.3 m high) with integrated control systems, inverters, transformers, ventilation and air conditioning units (see **Figure 3**); • a 330 kV switchyard, including three high voltage transformers; • site infrastructure, including a permanent site office, roads, parking, lighting and fencing; • site establishment works and temporary laydown/construction compound; and • 650 m long above-ground 330 kV transmission line connecting to Munmorah substation.
Project area	• project site (disturbance footprint): 16.65 ha
Access route, site entry and road upgrades	• access route: Newcastle Port, Pacific Highway, Scenic Drive and Station Road; • site access would be via Station Road, connecting with existing internal access roads within the Munmorah Power Station landholding; and • minor regrading and earthworks within the project site to facilitate construction access across the former power station to the north.
Construction, Employment and Capital Investment Value	• construction period: 18 months with construction hours of Monday to Friday 7 am to 6 pm and Saturday 8 am to 1 pm; • up to 150 construction jobs and up to 15 operational jobs; and • capital investment value of approximately $1 billion.

Aspect	Description
Decommissioning and rehabilitation	• the expected operational life of the battery units is 20 years. However, progressive upgrading and replacement of the units may extend this timeline; and • should the project be decommissioned, the land would be rehabilitated to an appropriate standard.
Operation	• 24 hours a day, seven days a week.

Figure 2 | Project site: aerial view

Figure 3 | Example of a battery storage cabinet

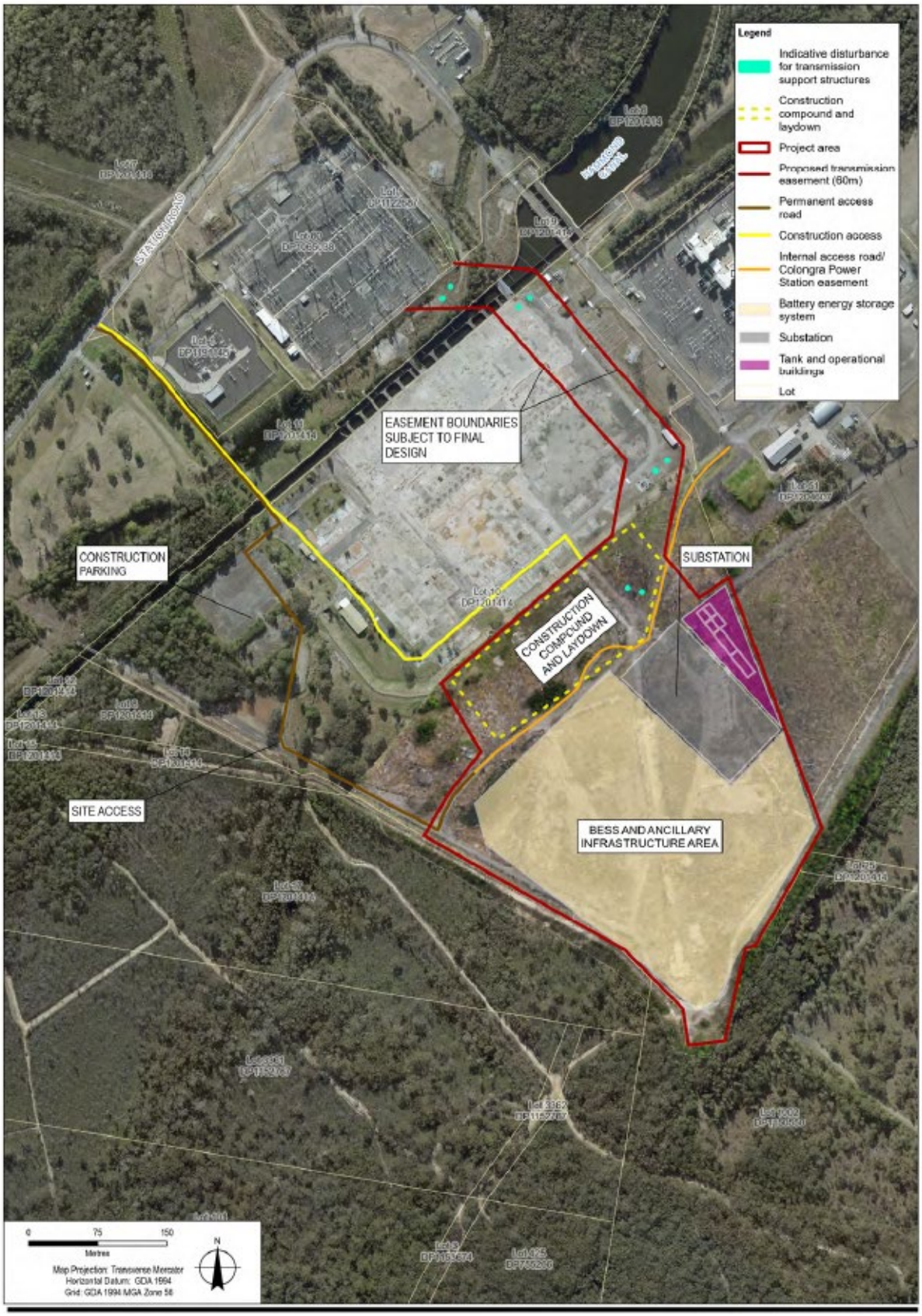

Figure 4 | Project Layout

3 Strategic context

3.1 Energy Context

As the transition from coal-fired power to renewable energy sources accelerates in NSW, constraints on intra-regional transmission infrastructure are predicted to limit renewable energy transfer between the outer and inner sub-regions of NSW.

The Waratah Super Battery is a critical early component of the Sydney Ring Project, a transmission upgrade designed to increase transfer capacity into Sydney, Newcastle, and Wollongong. The northern network option of the Sydney Ring project is known as the Hunter Transmission Project, and aligns with current Commonwealth and State policies and strategies as summarised in **Table 2** below.

Table 2 | Energy Context

Policy / Year	Summary
Australia's Long Term Emissions Reduction Plan (2021)	Sets a pathway to net zero emissions by 2050 and affirms Australia's commitment to meeting its revised 2030 target (43% below 2005 levels).
Australian Energy Market Operator's (AEMO) 2022 Integrated System Plan (ISP)	Identifies the Sydney Ring Project (including the Waratah Super Battery) as an actionable project that should commence immediately to support REZ development in the NSW Electricity Infrastructure Roadmap.
NSW: ***Climate Change Policy Framework (2016),*** ***Transmission Infrastructure Strategy (2018),*** ***Electricity Strategy (2019),*** ***Electricity Infrastructure Roadmap (2020),*** ***Net Zero Plan Stage 1: 2020 – 2030 (2020) and Implementation update (2022)*** ***- Central Coast Regional Plan 2041***	Relevant aspects of these policy documents include: - aims to achieve net zero emissions in NSW by 2050 and reduce emissions by 70% below 2005 levels by 2030 - notes that all coal fired power plants in NSW are scheduled for closure within the next twenty years - identifies Renewable Energy Zones (REZ) across NSW aimed at encouraging investment in new electricity infrastructure and unlocking additional generation capacity in order to ensure secure and reliable energy in NSW - notes the need to expand transmission infrastructure into REZs to open new parts of the grid for renewable energy projects - notes current limitations for Sydney, Newcastle and Wollongong to access existing generation capacity due to transmission constraints and note that the Waratah Super Battery would act as a 'shock absorber' to free up reserve transmission capacity, which can then be supplied to consumers - notes the early scheduled closure for Eraring Power Station in 2025 and the accelerated delivery of the Electricity Infrastructure Roadmap, and - identifies opportunities for repurposing retired power stations, including Munmorah Power station, for renewable energy and batteries, supporting new industry investment.

3.2 Local Context

The site is located within a broader 720 ha landholding of the former Munmorah Power Station. The area surrounding the site forms part of the former power station buffer lands and is zoned *SP2 Infrastructure*. Other infrastructure surrounding the site includes a telecommunications tower immediately to the north-west, Colongra Power Station approximately 250 m to the north-east and transmission lines and electrical distribution infrastructure to the north, including Munmorah substation.

Approximately 300 m north-west of the project site is Hammond Canal, which is a man-made canal that links Lake Munmorah to the east with Budgewoi Lake to south-west of the site. Approximately 400 m to the north-west is Koala Park (recreational park) and 650 m to the north-east is Colongra Swamp Nature Reserve. Beyond the buffer lands (600 m), the wider area includes residential suburbs of Doyalson, San Remo, Buff Point, Budgewoi and Halekulani.

The project is consistent with the Central Coast Council's Local Strategic Planning Statement, which supports an increase in large scale renewable energy generation; and the project also aligns with Council's Community Strategic Plan, by incorporating renewable energy in future planning, and providing for adequate sustainable infrastructure to meet energy demands.

4 Statutory Context

4.1 Critical State Significance Infrastructure and Permissibility

The project is declared Critical State Significant Infrastructure (CSSI) under section 5.12(4) and 5.13 of the *Environmental Planning and Assessment Act 1979 (EP&A Act)* and is included in Schedule 5 of *State Environmental Planning Policy (Planning Systems) 2021* (Planning Systems SEPP). Consequently, the Minister for Planning (the Minister) is the approval authority. The project is permissible without development consent under section 2.15 of the Planning Systems SEPP.

4.2 Administrative and Procedural Requirements

Under the EP&A Act and the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation), there are several administrative and procedural requirements that must be met before the Minister may determine the application, including EnergyCo applying to the Minister for approval, preparing an Environmental Impact Statement (EIS) and responding to submissions, and the Department exhibiting the EIS and making key documents available on its website. The Department is satisfied that all requirements have been met and that the Minister may now determine the application.

4.3 Application of the Biodiversity Conservation Act 2016

The EIS was accompanied by a biodiversity development assessment report (BDAR) in accordance with section 7.9 of the *Biodiversity Conservation Act 2016* (BC Act). The Minister must consider the likely impact of the project on biodiversity values as assessed under the BDAR in accordance with section 7.14 of the BC Act. The Department has considered the findings of the BDAR (including revisions) and the advice from the Biodiversity, Conservation and Science Directorate (BCS) (see **Appendix C** and **Section 6.3**).

4.4 Exempt Approvals

Under section 5.23 of the EP&A Act, the following approvals are not required for CSSI projects:

- a permit under section 201, 205 or 219 of the *Fisheries Management Act 1994*;
- various approvals for State Conservation Areas and heritage under the *National Parks and Wildlife Act 1974* and *Heritage Act 1977*;
- a bushfire safety authority under section 100B of the *Rural Fires Act 1997*; and
- various water-related approvals under sections 89-91 of the *Water Management Act 2000*.

However, the assessment of these matters has been integrated with the assessment of all other matters under the EP&A Act. The Department has considered all the relevant matters associated with these in its assessment (see **Section 6**), consulted with the agencies responsible for administering these (see **Section 5**), and included conditions in the recommended project approval (see **Appendix F**) to ensure EnergyCo minimises the biodiversity, heritage, bushfire and water impacts of the project.

4.5 Environmental Planning Instruments

Although environmental planning instruments do not apply to CSSI projects under section 5.22 of the EP&A Act, the Department has assessed the project against the provisions of several instruments and concluded that the land is suitable for the project.

4.6 Mandatory Matters for Consideration

When deciding whether or not to approve the carrying out of the project under section 5.19 of the EP&A Act, the Minister is required to consider the reports, advice and recommendations contained in this report, which includes the EIS, public submissions, agency advice, the Department's whole-of government assessment, and the recommended conditions of approval. The Department has considered these matters in its assessment, as summarised in **Section 6** of this report.

4.7 Objects of the EP&A Act

The Department has assessed the project against the objects in section 1.3 of the EP&A Act, including incorporating ecologically sustainable development principles and promoting the social and economic welfare of the community and a better environment (see **Appendix H**).

5 Engagement

5.1 Department's engagement

The Department publicly exhibited the EIS from 11 November 2022 until 8 December 2022, advertised in the *Coast Community News* and notified surrounding landowners in proximity to the project site. The Department also consulted with Council and relevant government agencies throughout the assessment and inspected the site on 2 February 2023.

5.2 EnergyCo's Engagement

EnergyCo's engagement with the local community included a dedicated project webpage, enquiries hotline and email address, a community newsletter, publications in local newspapers and letterbox drops. EnergyCo also consulted with the Department, Council and agencies during the assessment.

5.3 Submissions and Submissions Report

During the exhibition of the EIS, the Department received seven public submissions on the project (2 objecting, 4 comments and 1 in support) and comments from Council. Advice was received from 13 government agencies. Full copies of the agency advice and public submissions are attached in **Appendix C**.

EnergyCo provided a response to all matters raised in submissions on the project (see **Appendix D**) and also provided additional information during the Department's assessment (see **Appendix E**).

The Submissions Report also detailed some minor refinements to the project, including the project layout (including arrangement of BESS and ancillary infrastructure) and the transmission easement.

5.4 Key Issues – Community

The key matters raised in the submissions included:

- community consultation and project justification; and
- noise impacts, electromagnetic field impacts, biodiversity impacts and increased bushfire risk.
- land and groundwater contamination, traffic and access, and potential operational impacts on Colongra Power Station.

5.5 Key Issues – Government Agencies, Council and Utility Providers

Council provided comment on the project and none of the government agencies objected to the project. A summary of the key matters raised in the government agency submissions and subsequent advice is provided in **Table 3**.

The Department's consideration of the matters raised in provided in **Section 6** of this report.

Table 3 | Summary of Agency Advice

Agency	Key Issues
Council	• Requested further information regarding potential traffic impacts and raised concerns on stormwater runoff and water use, visual impacts, noise impacts, bushfire risk, biodiversity and subdivision, which was addressed in the Submissions Report and additional information.
Transport for NSW	• Requested further information including details of traffic volumes and mitigation strategies, construction timeframes, intersection capacity, traffic modelling and cumulative impacts, which was addressed in the Submissions Report, additional information, and recommended conditions of approval.
Department of Regional NSW	• Supported the potential for the project to contribute to growth in the local region and delivery of regional planning strategies.
Biodiversity, Conservation and Science Directorate (BCS)	• Recommended that the mitigation, management and offset measures identified in the Biodiversity Development Assessment Report (BDAR) are conditioned to the project approval.
Fire & Rescue NSW	• Requested an Emergency Plan and Fire Safety Study.
Department of Environment – Water	• Requested clarification on the water supply of the project and consideration of the *Guidelines for Controlled Activities on Waterfront Land* which was addressed in the Submissions Report.
NSW Rural Fire Service (RFS)	• Provided recommendations regarding bushfire safety measures in accordance with relevant bushfire safety requirements stipulated under *Planning for Bushfire Protection 2019*, including the provision of asset protection zones and preparation of a Bush Fire Emergency Management Plan consistent with *A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan*.
Transgrid	• Raised no concerns and provided information on the network connection process.

The Crown Lands Group (DPI Crown Lands), the Department's Primary Industries Fisheries Group (DPI Fisheries), Environmental Protection Authority, Regional NSW – Mining, Exploration & Geoscience, Heritage NSW and Subsidence Authority NSW raised no concerns or provided no comments.

6 Assessment

The Department has undertaken a comprehensive assessment of the merits of the project. This report provides a detailed discussion of the key assessment issues, namely energy transition and land use compatibility.

The Department has also considered a full range of potential impacts associated with the project and has included a summary of the conclusions in **Section 6.3**. A list of the key documents that informed the Department's assessment is provided in **Appendix A**.

6.1 Energy Transition

The project aligns with a range of national and state policies (see **Table 2**), which identify the need to diversify the energy generation mix and reduce the carbon emissions intensity of the grid while providing energy security and reliability.

The project would support the State's continued transition away from traditional power generation derived from fossil fuels, which is largely dispatchable (able to quickly ramp up or down depending on electricity demands), to renewable energy generation such as wind and solar, which is inherently variable.

Importantly, with the announced early closure of the Eraring Power Station in 2025, the Waratah Super Battery is designed to be a System Integrity Protection Scheme (SIPS), dedicated to supporting the transmission grid by providing reserve transmission capacity and stability, rather than just additional electricity storage capacity. Consequently, the project would facilitate greater access to existing and emerging renewable energy generation for Sydney, Newcastle and Wollongong.

6.2 Compatibility of Proposed Land Use

The project site is located within the broader landholding of the decommissioned Munmorah Power Station. The site and surrounds are zoned *SP2 Infrastructure* and include a number of infrastructure uses including telecommunications and transmission infrastructure, the Munmorah substation and Colongra Power Station.

The land use zoning of the precinct and surrounds is shown in **Figure 5**.

The Department considers the operation of the proposed development is suitable within the land use context of the locality, aligns with the historical use of the broader Munmorah Power Station site for electricity generating purposes and would not be inconsistent with the established character of the area. The Department also considers that the project has been designed to minimise impacts and is sited appropriately and in close proximity to the existing Munmorah substation, with ease of access to existing transport networks.

Having evaluated the impacts of the development, the Department considers that the development would not result in any land use conflicts, and any amenity impacts of the development could readily be managed through the application of EnergyCo's mitigation measures and the recommended conditions. The Department's assessment of off-site amenity impacts considered the impact of noise, construction and operational traffic generation, flooding, and visual impacts, and concludes that the impacts would be minor subject to the recommended conditions (see **Section 6.3**).

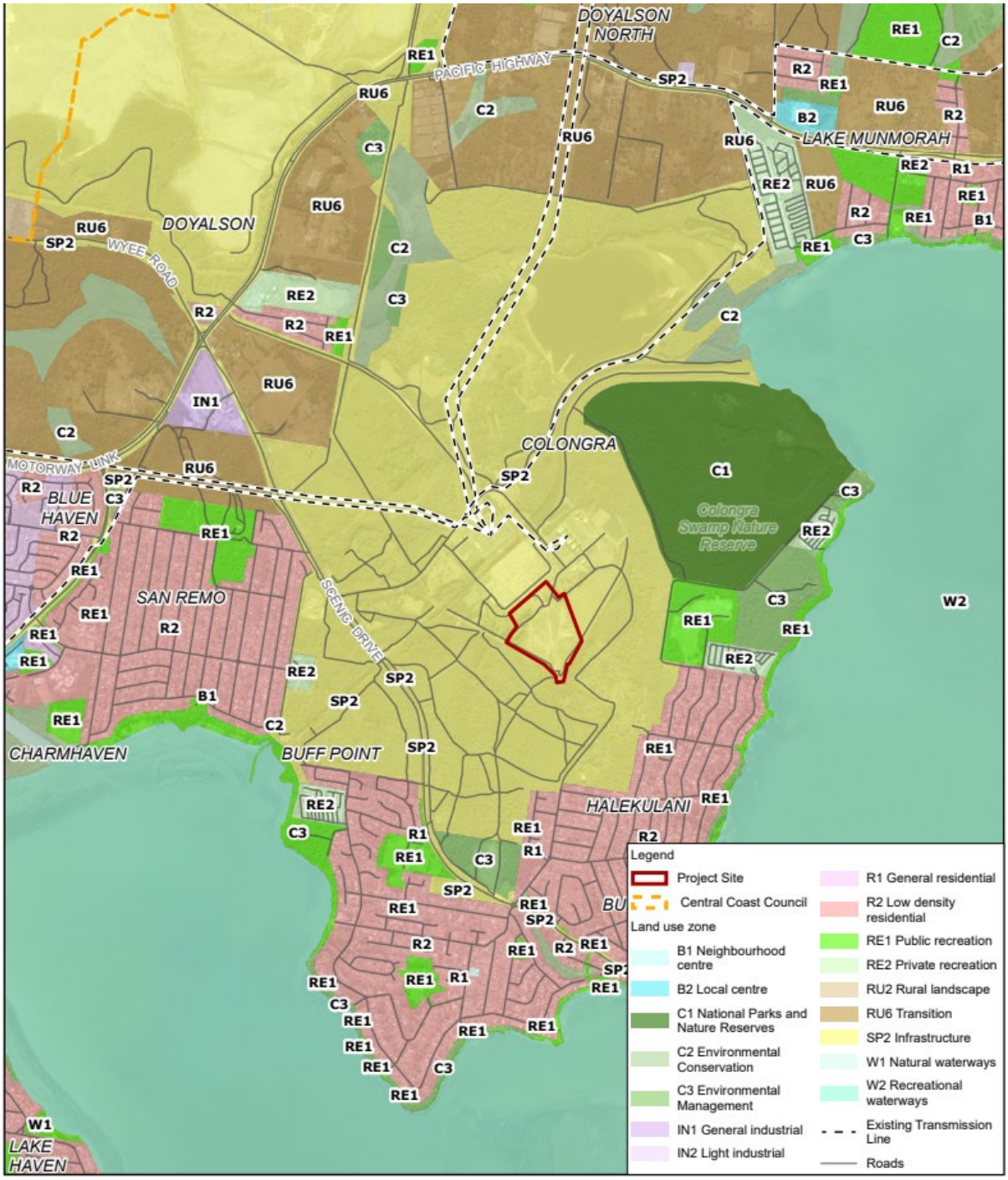

Figure 5 | Land use zoning

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6.3 Other issues

The Department's consideration of other issues is summarised in **Table 4** below.

Table 4 | Other Issues

Findings	Recommendations
Transport	
• The main increase in traffic would occur over the 18-month construction phase generating up to 120 light vehicle movements per day, 65 heavy vehicles movements per day, and a total of 12 over-dimensional vehicle movements. • The transport route to be used by heavy vehicles (including over-dimensional vehicles) during construction is from Newcastle Port via the State road network using the Pacific Highway and Scenic Drive, and connecting with Station Road, which is a private road providing direct access to the site. All roads are approved B-double routes. • Light vehicle access for construction workers would be from several routes, with the construction workforce likely based on the Central Coast, or in Sydney or Newcastle. • The project includes an on-site laydown area for construction vehicles, and an existing constructed carpark within the former power station adjacent to the project site, and would provide sufficient parking for the construction workforce. • Operational traffic would be significantly less than construction traffic, with fewer than 15 staff required for maintenance and operations, and heavy vehicle access would be negligible. • While Transport for NSW (TfNSW) and Council initially raised concern regarding capacity challenges for the Pacific Highway/Scenic Drive/Wyee Road intersection, traffic modelling (including cumulative impacts) indicates the Level of Service (measuring intersection performance) would not change as a result of the project, and no road upgrades are required. • Transport for NSW (TfNSW) and Council have recommended a range of conditions including the preparation of a Traffic Management Plan (TMP), which has been incorporated into the recommended conditions of consent.	• Restrict the number and size of vehicles during construction to peak volumes identified in this report. • Restrict access to the designated transport route. • Ensure the length of vehicles (excluding over-dimensional vehicles) does not exceed 26 m. • Require a Traffic Management Plan (TMP) to be prepared in consultation with Council and TfNSW. • Undertake road dilapidation surveys of Station Road and repair any damage identified, to the satisfaction of Council.

Findings	Recommendations
• The Department has also recommended conditions requiring EnergyCo to undertake pre-construction and post-construction dilapidation surveys of Station Road, and to repair any damage as a result of construction traffic. • Noting the above, and with the implementation of a TMP, the Department, TfNSW and Council are satisfied that the project would not result in significant additional impacts on the road network capacity, efficiency or safety.	
Noise and Vibration	
• The nearest sensitive receivers are approximately 600 m south of the site beyond the vegetated buffer lands of the former Munmorah power station. • Noise generated by construction activities is predicted to be below the 'highly noise affected' criterion of 75 dB(A) at all representative sensitive receiver locations (receivers) under EPA's *Interim Construction Noise Guideline* (ICNG). • Construction noise would also be generally below the 'noise affected' criterion under the ICNG at most receivers, except for minor exceedances of up to 2 dB(A) at three receivers (RO2, RO6 & RO7) to the east and south of the site. However, these exceedances would only occur through site preparation works (approximately 3 months) and represent a 'worst case scenario', assuming the loudest equipment operates simultaneously, at maximum capacity, and in a location within the site nearest to receivers, which would be very unlikely to occur in practice. • EnergyCo has committed to implementing construction noise mitigation measures in accordance with the ICNG, including use of lower noise plant and equipment, regular maintenance of machinery and limiting construction to standard daytime hours. • Daytime and evening operational noise levels are predicted to comply with Project Noise Trigger Levels (PNTLs) under the NSW *Noise Policy for Industry* (EPA, 2017), meaning project operations are not expected to impact any receivers, and therefore do not trigger the need for further investigation or noise mitigation. • Night time operational noise would also comply with PNTLs, excepting possible minor variations of up to 4 dB(A) under extreme ambient conditions, where night time temperatures exceed 35°C. However, temperature history (5 years) indicates that this has never occurred, and EnergyCo has committed to the preparation of an Operational Noise Management Plan, including final equipment selection and detailed design to ensure PNTLs would not be exceeded at any time.	• Minimise the noise generated by any construction, upgrading or decommissioning activities on site in accordance with best practice requirements outlined in the ICNG. • Comply with the project noise trigger levels as derived from the NSW *Noise Policy for Industry* (EPA, 2017) at any non-associated residence and take all reasonable and feasible steps to minimise operational noise. • Restrict construction hours to Monday to Friday 7 am - 6 pm, and Saturday 8 am - 1

Findings	Recommendations
• No vibration impacts are predicted at any vibration sensitive receivers based on separation distances substantially exceeding the minimum of 73 m separation requirement. • Contributions to road traffic noise are predicted to be negligible, and no receivers are located on Station Road. • The Department has recommended conditions requiring EnergyCo to minimise noise during construction, upgrading or decommissioning, and limiting operational noise. With these measures, the Department and the EPA are satisfied that project construction noise can be appropriately managed and operational noise would not impact the amenity of the locality.	pm unless inaudible at non-associated receivers
Water	
• Water demand for construction is estimated at 30 megalitres (ML), principally for dust suppression and compaction, and would be sourced from existing onsite dams or carted to site from external sources, and potentially supplemented by the existing reticulated supply. • The site would be drained via the existing drainage system, conveying runoff via a detention pond into Hammond Canal, which drains to Lake Munmorah. • Stormwater treatment measures would manage water quality during construction and operation, including the preparation of soil and water management plan. • The project site is not flood prone, being substantially above the Probable Maximum Flood (PMF) level of the Tuggerah Lake system, and flood impacts on the site or on downstream properties is not anticipated. • EnergyCo has committed to developing detailed design plans in consultation with Council to manage flow rates and stormwater in accordance with Council requirements. • With these measures, the Department and DPE Water are satisfied there would be no significant flooding, drainage and water quality impacts resulting from the project.	• Require compliance with Guidelines for Controlled Activities (NRAR 2018). • Ensure the battery is designed, constructed and maintained to reduce impacts on surface water, localised flooding and groundwater. • Prepare and implement a Soil and Water Management Plan.

Findings	Recommendations
Visual	
• Visual impacts on the closest residential developments surrounding the site were assessed as negligible noting the separation distance of a minimum of 700 m, mature vegetation surrounding the project site and that the project would be viewed within the context of other energy infrastructure existing on the site. • Subject to the use of appropriate inobtrusive colours, non-reflective surfaces, and the sensitive use of security lighting, the Department considers the visual impacts of the project are acceptable.	• Minimise visual impacts by selection of less obtrusive colours and reflective surfaces. • Security lighting is directed away from surrounding receivers.
Biodiversity	
• The 16.65 ha site is highly disturbed and predominantly cleared of vegetation, containing 13 ha of exotic vegetation (predominantly exotic grass) and only 0.46 ha of native vegetation cover, in moderate condition. • Native vegetation impacted by the project comprises 0.20 ha of Scribbly gum woodland (PCT 1636) and 0.26 ha Paperbark swamp forest (PCT 1724). • Scribbly gum woodland (PCT 1636) does not align with any Threatened Ecological Community (TEC) listed under the *Biodiversity Conservation Act 2016* (BC Act) or the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act). • Paperbark swamp forest (PCT 1724) contains plant species associated with the BC Act listed Swamp Sclerophyll Forest TEC and the EPBC listed Coastal Swamp Sclerophyll Forest endangered ecological community (EEC). However, the EEC is fragmented and does not meet the relevant threshold for further assessment under the EPBC Act. The project is therefore not considered to be a 'controlled action' under the EPBC Act. • No threatened biodiversity at risk of serious and irreversible impacts under the BC Act are known or considered likely to occur within the site. • A total of seven ecosystem credits and 74 species credits are required to offset biodiversity impacts as a result of the project. The final credit requirement would be retired in accordance with the *NSW Biodiversity Offset Scheme*.	• Retire the applicable biodiversity offset credits in accordance with the NSW Biodiversity Offsets Scheme. • Prepare and implement a Biodiversity Management Plan in consultation with BCS, including measures to protect and manage vegetation and fauna habitat outside the approved disturbance area.

Findings	Recommendations
• With these measures, both BCS and the Department consider that the project is unlikely to result in a significant impact on the biodiversity values of the locality.	
Contamination	
• A NSW EPA-accredited Site Auditor has been engaged to oversee the remediation of the site following its previous use as a power station. Contaminants, including residual coal, PFAS and asbestos in soil and groundwater, were found to be generally at low levels and unlikely to constrain the development of the project. • A Remedial Action Plan would be developed setting out the works required to remediate the site, and following completion of these works, a Site Audit Statement prepared in accordance with the *Contaminated Land Management Act 1997* would be issued by the Site Auditor confirming the suitability of the site for its future use. • The Remedial Action Plan would include the preparation of Construction Environmental Management Plan (CEMP) and an Operational Environmental Management Plan (OEMP) detailing mitigation measures and controls to manage the risk of migration of contaminants via surface water and groundwater flows or release into the atmosphere. • With the implementation of the Remedial Action Plan, the Department and the EPA consider that the site would be suitable to accommodate the project, and contamination risks during construction and operation would be minimal.	• Prepare and implement a Remedial Action Plan with appropriate validation. • Prepare unexpected finds procedure for contaminated land and groundwater.
Hazards	
Preliminary Hazard Analysis • EnergyCo's Preliminary Hazard Analysis (PHA) considered risk associated with transport and storage of dangerous goods, as well as operation of the battery itself, in accordance with *State and Environmental Planning Policy (Resilience and Hazards) 2021* (Hazards SEPP), *Applying SEPP 33*, and the relevant Hazardous Industry Planning Advisory Papers. • No significant off-site impacts risks were identified, subject to recommendations including adequate separation distances between battery components and between the site and surrounding land, installation and maintenance	• Implement the recommendations of the PHA. • Prepare and implement a Fire Safety Study and an Emergency Plan.

Findings	Recommendations
of engineering controls (such as fire-fighting equipment) and appropriate management processes during construction and operations. • The Department considers that the hazard risk for the development can be managed subject to the recommendations of the PHA and recommended conditions of consent. *Electromagnetic fields* • One public submission raised concerns regarding electromagnetic fields (EMF) from the project. • The Department considers that the project is unlikely to result in any significant EMF risk as all predicted levels are well below the relevant *International Commission on Non-Ionizing Radiation Protection* (ICNIRP) EMF criteria for general public exposure to high voltage power lines and other electrical infrastructure. *Bushfire* • An asset protection zone would be established and maintained along the southern and western boundary of the site to actively manage bushfire risk; • Vegetation clearance underneath the overhead transmission line would be maintained in accordance with the relevant industry guidelines and internal roads would be established to meet property access standards under *Planning for Bush Fire Protection 2019*. • The Department considers the bushfire risk manageable during operation and has recommended conditions for the preparation of an Emergency Plan, consistent with the advice from the RFS and Fire and Rescue NSW.	• All chemicals, fuels and oils to be stored and handled in accordance with Australian Standards and EPA requirements. • Comply with the applicable EMF limits and criteria. • Ensure that the development complies the RFS's Planning for Bushfire Protection 2019 and Standards for Asset Protection Zones. • Incorporate bush fire management requirements into a detailed Emergency Plan.
Heritage	
• Site surveys undertaken in consultation with Registered Aboriginal Parties (RAPs) did not identify any Aboriginal heritage items or site. No previously recorded Aboriginal heritage sites have been recorded within the site. • The site is not subject to any historic heritage listings. • Subject to the preparation of an unexpected finds protocol, the Department considers that impacts to any heritage items are unlikely.	• Prepare an unexpected finds protocol.

Findings	Recommendations
Social and Economic	

• The project would generate direct and indirect benefits to the local and broader community, including:
  ○ around $1 billion capital investment into the NSW economy;
  ○ up to 150 construction jobs during the peak construction period, and up to 15 operational jobs; and
  ○ increased patronage at local businesses and local procurement of construction materials.
• The project is unlikely to result in increased demand on community services and infrastructure noting EnergyCo's commitment to repair any damage to local roads resulting from the construction, and relatively low number of operational and maintenance staff.
• Amenity impacts resulting from construction would be limited and temporary in nature and project operations are not expected to impact on surrounding sensitive receivers including recreational users of Koala Park and Colongra Swamp Nature Reserve.
• Noting the above and EnergyCo's commitment to prepare and implementation a Community and Stakeholder Engagement Strategy, the Department considered the project would have an overall positive social and economic impact.
	• No specific conditions

Waste	

• The project is not expected to generate large volumes of waste during construction, operation or decommissioning and EnergyCo has committed to preparation of a waste management plan, including commitment to recycling batteries where practicable.
• The Department has also imposed conditions requiring EnergyCo to reduce waste, recycle where possible, and to dispose of unrecyclable waste at a licenced facility.
• Noting the above, the Department considers that the waste generated by the project would be appropriately managed.
	• Waste would be dealt with in accordance with the following priorities:
	  ○ avoid or reduce where possible;
	  ○ re-use, recycle and recover;
	  ○ treat or dispose of to a licenced facility.

Findings	Recommendations
Decommissioning and Rehabilitation	
• The Department has developed standard conditions for battery projects to cover this stage of the project life cycle, including clear decommissioning triggers and rehabilitation objectives. • With the implementation of these measures, the Department considers that the battery would be suitably decommissioned at the end of the project life, or within 18 months if operations cease unexpectedly, and that the site be would repurposed for other industrial uses (subject to separate approval).	• Include rehabilitation objectives requiring the site to be rehabilitated within 18 months of cessation of operations.
Subdivision	
• Subdivision of the site would create a separate land parcel for the battery component of the project, and easements would be created over adjoining parcels for site access, ancillary infrastructure (including transmission) and to secure legal access to maintain asset protection zones, if required.	• Subdivision of the land in accordance with the requirements of the EP&A Act and the Conveyancing Act 1919.

7 Evaluation

The Waratah Super Battery was declared to be Critical State significant infrastructure (CSSI) by the then Minister for Planning.

The Department recognises that project, an early component of the Sydney Ring Project, is a priority transmission infrastructure project as set out under the *Electricity Infrastructure Investment Act 2020*, is an actionable plan under the *2022 Integrated System Plan* and is consistent with the AEMO's roadmap for the National Electricity Market and relevant strategic NSW planning and policy documents, including the *Transmission Infrastructure Strategy* and the *Electricity Strategy.*

The Department considers that the project is critical for energy security and reliability in Sydney, Newcastle and Wollongong, and would also play a significant role in supporting the transition of the energy system.

It would also deliver significant economic benefits to NSW including a capital investment of $1 billion and creation of up to 150 construction jobs.

The Department has worked closely with key government agencies throughout the assessment process to reduce the residual impacts of the project and EnergyCo has made refinements to the project to address key issues and reduce impacts to address stakeholder feedback.

The project site is located within the broader landholding of the decommissioned Munmorah Power Station, in close proximity to the electricity infrastructure and is largely clear of natural constraints. Densely vegetated, extensive buffer lands separate the site from the nearest sensitive receivers, and the project is a compatible land use in this location noting the area's historic use for electricity generation.

The project layout largely avoids key constraints, including noise and visual impacts, remnant vegetation, Aboriginal and historic heritage sites, and bushfire risk. Any residual impacts would be minor and can be managed through the recommended conditions of approval.

The Department considers that there would be no significant visual impacts on surrounding residences, with distance, intervening topography and existing vegetation providing screening from these residences.

The Department has carefully weighed the impacts of the project against the benefits. The project would have immediate benefits in supporting the transmission grid by providing reserve transmission capacity and stability and long-term benefits for the transmission of electricity in NSW and the broader NEM. The project would also support the transition of the NEM away from long-standing reliance on coal-fired power stations and would facilitate inter-regional transfer of energy from renewable energy sources across the State.

Based on its evaluation, the Department considers that the benefits of the Waratah Super Battery outweigh its costs, and the project is in the public interest and approvable, subject to strict conditions.

8 Recommendation

It is recommended that the Minister for Planning:

- **considers** the findings and recommendations of this report;
- **accepts and adopts** all of the findings and recommendations in this report as the reasons for making the decision to approval to the application;
- **agrees** with the key reasons for approval listed in the notice of decision;
- **grants approval** for the application in respect of the Waratah Super Battery Energy Storage System (SSI 48492458); and
- **signs** the attached project approval and recommended conditions of approval (see **Appendix F**).

Prepared by:
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Recommended by:

17/2/23

Nicole Brewer
Director
Energy Assessments

Recommended by:

20/02/2023

Clay Preshaw
Executive Director
Energy, Resource and Industry Assessments

9 Determination

The recommendation is **Adopted / Not adopted** by:

The Hon. Anthony Roberts MP
Minister for Planning

Appendices

Appendix A – List of referenced documents

Waratah Super Battery – Munmorah – Environmental Impact Statement, GHD Pty Ltd (November 2022)

Waratah Super Battery – Munmorah – Response to Submissions Report, GHD Pty Ltd (January 2023)

EnergyCo – Waratah Super Battery Additional information, 16 February 2023

Appendix B – Environmental Impact Statement

https://www.planningportal.nsw.gov.au/major-projects/projects/waratah-super-battery-energy-storage-system

Appendix C – Submissions

https://www.planningportal.nsw.gov.au/major-projects/projects/waratah-super-battery-energy-storage-system

Appendix D – Submissions Report

https://www.planningportal.nsw.gov.au/major-projects/projects/waratah-super-battery-energy-storage-system

Appendix E – Additional Information

https://www.planningportal.nsw.gov.au/major-projects/projects/waratah-super-battery-energy-storage-system

Appendix F – Recommended Conditions of Approval

https://www.planningportal.nsw.gov.au/major-projects/projects/waratah-super-battery-energy-storage-system

Appendix G – Notice of Decision

https://www.planningportal.nsw.gov.au/major-projects/projects/waratah-super-battery-energy-storage-system

Appendix H – Consideration of the Objects of the Act

Table 5 | Consideration of the project against the relevant Objects of the EP&A Act

Aspect	Summary
Objects of the EP&A Act	The objects of most relevance to the Minister's decision on whether to approve the project are found in Section 1.3(a), (b), (c), (e) and (f) of the EP&A Act. The Department considers the project encourages the proper development of natural resources (Object 1.3(a)) and the promotion of orderly and economic use of land (Object 1.3(c)), particularly as the project: • would support the transmission grid by providing reserve transmission capacity and stability; • is a permissible land use on the subject land; • is located in a logical location within an established industrial buffer zone in close proximity to the TransGrid Munmorah substation; • is able to be managed such that the impacts of the project could be adequately minimised, managed, or at least compensated for, to an acceptable standard; • would generate up to 150 construction jobs; • would not fragment or alienate resource lands in the LGA; and • is consistent with the goals of NSW's Climate Change Policy Framework and Net Zero Plan Stage 1: 2020 – 2030 and Implementation update (2022) and would assist in meeting Australia's renewable energy targets whilst reducing greenhouse gas emissions. The Department has considered the encouragement of ESD (Object 1.3 (b)) in its assessment of the project. This assessment integrates all significant socio-economic and environmental considerations and seeks to avoid any potential serious or irreversible environmental damage, based on an assessment of risk-weighted consequences. Consideration of environmental protection (Object 1.3(e)) is provided in **section 6** of this report. Following its consideration, the Department considers that the project could be undertaken in a manner that would at least maintain the biodiversity values of the locality over the medium to long term and would not significantly impact threatened species and ecological communities of the locality. The Department is also satisfied that any residual biodiversity impacts could be managed and/or mitigated by imposing appropriate conditions and retiring the required biodiversity offset credits. Consideration of the sustainable management of built and cultural heritage (Object 1.3(f)) is also provided in **section 6** of this report. Following its consideration, the Department considers the project would not significantly impact the built or cultural heritage of the locality, and any residual impacts can be managed and/or mitigated by imposing appropriate conditions.