

Appendix F

Statement of Heritage Impact

Statement of Heritage Impact

08-Dec-2021
Great Western Battery

Statement of Heritage Impact

Client: Neoen Australia Pty Ltd

Prepared by

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Executive Summary

Neoen Australia Pty Ltd (Neoen) is seeking development consent to construct, operate and maintain a battery energy storage system (BESS) of approximately 500 megawatts (MW) and approximately 1000 megawatts per hour (MWh), as well as a new transmission line that would connect the BESS to the existing Transgrid 330 kilovolt (kV) substation at Wallerawang (the Project).

The proposed location of the BESS is at 173 Brays Lane, Wallerawang, New South Wales (NSW) 2845 (the Site), being Lot 4 Deposited Plan (DP) 751651. The Site is located approximately 1.25 kilometres (km) north west of the Transgrid Wallerawang 330 kV substation. The Transgrid substation is located at Main Street, Wallerawang 2845 (Lot 91 DP 1043967).

This report has assessed the potential heritage and historical archaeological impacts from the Project. The Project has been assessed as having no potential impact on known or potential heritage sites or potential historical archaeological deposits. The Site does not appear to have been developed, with the property used for grazing or other agricultural purposes only. Archaeological potential associated with this use is considered to be nil to low. Additionally, six dams have been excavated on the Site, causing localised impacts. The proposed alignment of the transmission line would be predominantly situated on disturbed land. The property to the east of the Brays Lane appears to have been highly disturbed from previous construction works. The proposed transmission line would then continue to the substation via an existing rail easement, with the rail easement also highly disturbed.

While the proposed transmission line would be constructed near the St John the Evangelical Church (listed on the State Heritage Register), in order to avoid cosmetic damage impacts to this item, high vibratory methods would not be used within 50 m of the Church, as much as is reasonably feasible. Would high vibratory methods be used within 50 m of the Church, vibratory measurements would be done to ensure the works undertaken comply with relevant regulations.

This assessment has identified there would be no impacts to any known heritage or historical archaeological site. It has also been assessed there is not likely to be any potential historical archaeology across the Brays Lane property or within the proposed transmission line easement. The portion of the Project Area that will utilise the existing rail easement has previously been disturbed. As such, the Project is not likely to have any impacts to either known or potential historical heritage.

In the event that the project design changes, including the location of the proposed transmission easement, this may require additional assessment and an update of this report.

An archaeological stop works procedure should be prepared and included as part of a Construction Environmental Management Plan (CEMP) in the unlikely event that historical archaeological relics are identified during works. This procedure would detail what to look for and who to contact in the event that an unexpected find is encountered.

Key Recommendations

ID	Mitigation and management measure	Applicable area
Construction		
HH1	The Construction Environmental Management Plan would include a stop works procedure for unexpected finds related to historic heritage.	Construction footprint
HH2	To avoid damage occurring, where feasible high vibratory construction methods would not be used within 50 m of St John the Evangelical Church. Should high vibratory methods be used within 50 m of the church, these will not proceed within the minimum working distances unless a permanent vibration monitoring system is installed around 1 m, from the building footprint, to warn operators (e.g.	Within 50 m of St John the Evangelical Church.

ID	Mitigation and management measure	Applicable area
	via flashing light, audible alarm, SMS) when vibration levels are approaching the peak particle velocity objective.	

1.0 Introduction

1.1 Project Background

Neoen Australia Pty Ltd (Neoen) is seeking development consent to construct, operate and maintain a battery energy storage system (BESS) of approximately 500 megawatts (MW) and approximately 1000 megawatts per hour (MWh), as well as a new transmission line that would connect the BESS to the existing Transgrid 330 kilovolt (kV) substation at Wallerawang (the Project).

The proposed location of the BESS is at 173 Brays Lane, Wallerawang, New South Wales (NSW) 2845 being Lot 4 Deposited Plan (DP) 751651 (the Site). The Site is located approximately 1.25 kilometres (km) north west of the Transgrid Wallerawang 330 kV substation. The Transgrid substation is located at Main Street, Wallerawang 2845 (Lot 91 of DP 1043967).

The Project would involve the installation of a transmission line connection between the Site and the Transgrid Wallerawang 330 kV substation. The alignment of the new transmission line would traverse:

- Lot 8 and Lot 9 DP 252472
- Lot 2 DP 108089
- Lot 1 DP 108089
- Lot 10 DP 1168824
- Lot 1115 DP 1204803
- Lot 91 DP 1043967.

Other key components of the Project would include:

- Site establishment, including installation of fencing, environmental controls, grading and other civil works
- Establishment of a new driveway located at the southern boundary of the Site, providing access to the Site from Brays Lane
- Establishment of internal access roads and car parking
- Installation, commissioning, and operation of a large-scale BESS including battery enclosures, inverters, and transformers
- Construction of two permanent operations buildings, including staff amenities
- Construction of lighting and installation of security devices around the perimeter of the BESS compound
- Establishment of noise walls, landscaping and screening vegetation
- Above ground and / or underground transmission line connections from the BESS to the existing Wallerawang substation switchyard
- Upgrades to the Wallerawang 330 kV substation switchyard

- Subdivision of Lot 4 DP 751651 to separate the existing residence in the south east portion of the lot from the proposed BESS.

The purpose of the Project is to store energy in chemical form and generate electrical energy on demand in discharge mode.

1.2 This Report

The objective of this Statement of Heritage Impact (SoHI) is to assess the impact of the Project on the heritage significance of the local area, including potential impacts to historical archaeological deposits.

The overarching objectives of this SoHI are as follows:

- To investigate and assess the archaeological potential and historical heritage significance of the Project in accordance with the Heritage Branch's guidelines: *Assessing Heritage Significance* (NSW Heritage Office, 2001) and *Levels of Heritage Significance* (NSW Heritage Office, 2008)
- To prepare a SoHI, including an archaeological assessment, assess impacts from the Project on all known and potential heritage items within and close to the Project Area
- To provide, on the basis of the significance assessment and the SoHI, appropriate management and mitigation strategies for the Project.

1.3 Project Area identification

The land encompassing the Site, transmission line easement and connection to the substation is referred to as the Project Area and is shown on **Figure 1**. The Site is located off Brays Lane and consists of a largely cleared plot of land with a series of small dams scattered across it.

The proposed transmission line would exit from the eastern boundary of the Site, cross Brays Lane and enter into the vegetated area to the east of Brays Lane. From here, it would travel in a north easterly direction, before passing under Pipers Flat Creek and into the existing rail corridor. The transmission line would then travel south east along the rail corridor (including its crossing of Main Street) to connect to the north western portion of the Transgrid Wallerawang 330 kV substation.

The land immediately to the west of the Site consists of an elevated range just south of the Ben Bullen mountain range. The Coxs River runs north-south approximately 920 metres (m) east of the Project Area where a man-made dam forms Lake Wallace (1.9 km south).

The town of Lidsdale is approximately 2.5 km north and approximately 1 km to the south is the town of Wallerawang. A train line runs through Wallerawang, where it forks and runs south and north towards the Project Area (approximately 900 m away) then continues east, before also heading south through Marrangaroo towards Lithgow, then on to the Blue Mountains.

The surrounding area is characterised by coal mining industry with collieries located 400 m to the south east and 1.25 km to the east.

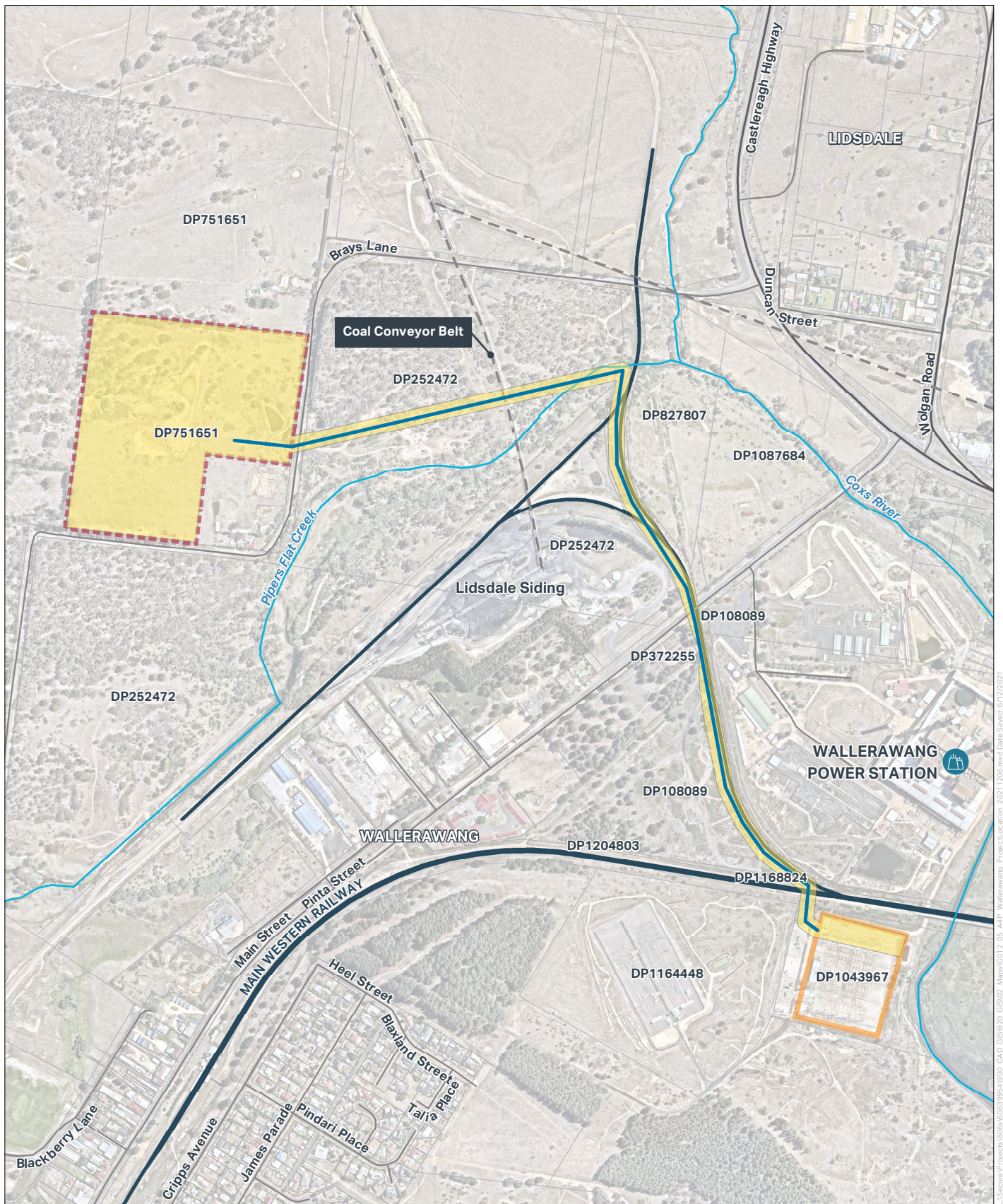


Figure 1
The Project Area



Legend

- The Site
- Transgrid 330kV Wallerawang Substation
- The Project Area
- Cadastre Boundaries
- Transmission Line
- Railway
- Watercourse

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1.4 Methodology

This heritage assessment has been undertaken in accordance with the NSW Heritage NSW documents *Assessing Heritage Significance* (NSW Heritage Office, 2001) and *Statements of Heritage Impact* (NSW Heritage Office & Department of Urban Affairs & Planning, 2002). It includes:

- Desktop searches of relevant heritage registers
- Review of Project Area and all proposed works
- Review of the following key documents:
 - heritage register listings for the Project Area
 - historical research from primary and secondary resources
 - previous reports and other relevant documentation provided by the Department of Planning, Industry and Environment (DPIE) (now referred to as Department of Planning and Environment (DPE))
 - background research into the historical development of the area using historical plans, historical photographs and other primary and secondary historical sources as relevant.
- A site inspection was undertaken on 4 March 2021 by AECOM staff assessing the Site and the existing character of the Project Area and surrounding land uses. All photographs within this report were taken during the site inspection unless otherwise stated.

1.5 Report limitations

The purpose of this report is to identify and assess historical heritage and archaeological potential that might be impacted within the Project Area. Predictions have been made within this report about the probability of subsurface archaeological materials occurring within the Project Area, based on surface indications and environmental contexts. However, it is possible that materials may occur in areas without surface indications and in any environmental context. Should subsurface archaeological materials be uncovered during construction, these would be addressed in accordance with a stop works procedure and methodology for managing such finds.

It is noted that during detailed design, details of the Project may change or be refined. If changes are made, further heritage assessment may be required to assess the potential additional impacts to heritage values for works within the Project Area.

A summary of the statutory requirements regarding historical heritage is provided in **Section 2.0**. The summary is provided based on the experience of the authors with the heritage system in Australia and does not purport to be legal advice. It should be noted that legislation, regulations and guidelines change over time and users of the report should satisfy themselves that the statutory requirements have not changed since the report was written.

1.6 Punctuation note

Please note that references are made in this report to Coxs River, a water course located close to the Project Area. The name of the river does not contain an apostrophe, however the State Heritage Register (SHR) listing incorrectly uses an apostrophe in the registered item name 'Wallerawang rail bridges over Cox's River'. For accuracy in listing the SHR item, the use of the apostrophe has been retained in those instances in this report, but is rendered correctly as Coxs Creek in all other instances.

2.0 Statutory context

A number of planning and legislative documents govern how heritage is managed in NSW and Australia. The following section provides an overview of the requirements under each as they apply to the historic heritage component of the Project.

2.1 Commonwealth Legislation

Environment Protection and Biodiversity Conservation Act 1999

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) took effect on 16 July 2000. Under Part 9 of the EPBC Act, any action that is likely to have a significant impact on a Matter of National Environmental Significance (known as a controlled action under the Act), may only progress with the approval of the Commonwealth Minister for the Environment. An action is defined as a project, development, undertaking, activity (or series of activities), or alteration. An action will also require approval if:

- It is undertaken on Commonwealth land and will have or is likely to have a significant impact on the environment on Commonwealth land; and
- It is undertaken by the Commonwealth and will have or is likely to have a significant impact.

The EPBC Act defines 'environment' as both natural and cultural environments and therefore includes Aboriginal and non-Aboriginal historical cultural heritage items. Under the EPBC Act protected heritage items are listed on the National Heritage List (items of significance to the nation) or the Commonwealth Heritage List (items belonging to the Commonwealth or its agencies). These two lists replaced the Register of the National Estate (RNE). The RNE has been suspended and is no longer a statutory list; however, it remains as an archive. The heritage registers mandated by the EPBC Act have been consulted; the Project Area is not listed or included in any listings on the National Heritage List or the Commonwealth Heritage List.

2.2 State Legislation

Environmental Planning and Assessment Act 1979

The NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) and its associated regulation provide the framework for assessing environmental impacts and determining planning approvals for developments and activities in NSW. The EP&A Act also establishes State Environmental Planning Policies (SEPPs) and Local Environmental Plans (LEPs) which may include provisions relevant to the Project. The Project requires development consent under Part 4 of the EP&A Act and is classified as State Significant Development.

Section 89J of the EP&A Act provides that for projects approved as SSD under Part 4, an excavation permit under Section 140 of the Heritage Act 1977 is not required.

The EP&A Act also allows for the preparation of planning instruments to direct development within NSW. This includes LEPs, which are administered by local government, and principally determine land use, permissibility and the process for development applications. LEPs usually include clauses requiring that heritage be considered during development applications and a schedule of identified heritage items. The Project Area is located in the Lithgow LEP 2014.

The Heritage Act 1977

The *Heritage Act 1977* (as amended) was enacted to conserve the environmental heritage of NSW. Under Section 32, places, buildings, works, relics, moveable objects or precincts of heritage significance are protected by means of either Interim Heritage Orders (IHO) or by listing on the NSW State Heritage Register (SHR). Items that are assessed as having State heritage significance can be listed on the SHR by the Minister on the recommendation of the NSW Heritage Council.

Proposals to alter, damage, move or destroy places, buildings, works, relics, moveable objects or precincts protected by an IHO or listed on the SHR require an approval under Section 60. Demolition of whole buildings will not normally be approved except under certain conditions (Section 63). Some of the

sites listed on the SHR or on LEPs may either be 'relics' or have relics associated with them. In such cases, a Section 60 approval is also required for any disturbance to relics associated with a listed item. Archaeological relics (any relics that are buried) are protected by the provisions of Section 139.

Under Section 139 it is illegal to disturb or excavate any land knowing or suspecting that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed. In such cases an excavation permit under Section 140 is required. Note that no formal listing is required for archaeological relics; they are automatically protected if they are of local significance or higher.

No heritage items listed on the SHR are located within the Project Area. St John the Evangelist Church in Wallerawang is listed on the SHR and is adjacent to the Project Area.

2.3 Local Government

Lithgow Local Environmental Plan (LEP) 2014

Clause 5.10 of the Lithgow LEP 2014 deals with heritage conservation with heritage items listed on the LEP are included in Schedule 5 of the plan. Clause 5.10 states:

Objectives The objectives of this clause are as follows—

- (a) to conserve the environmental heritage of Lithgow,
- (b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,
- (c) to conserve archaeological sites,
- (d) to conserve Aboriginal objects and Aboriginal places of heritage significance.

Requirement for consent Development consent is required for any of the following—

- (a) demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance)—
 - i. a heritage item,
 - ii. an Aboriginal object,
 - iii. a building, work, relic or tree within a heritage conservation area,
- (b) altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,
- (c) disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,
- (d) disturbing or excavating an Aboriginal place of heritage significance,
- (e) erecting a building on land—
 - i. on which a heritage item is located or that is within a heritage conservation area, or
 - ii. on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,
- (f) subdividing land—
 - i. on which a heritage item is located or that is within a heritage conservation area, or
 - ii. on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.

2.4 Summary of statutory controls

There are three items listed on the State Heritage Register within the vicinity of the Project Area as described in Table 1, including:

- St John the Evangelist Church (also listed on the Lithgow LEP 2014 heritage register)
- Wallerawang Railway Station and yard group (also listed on the Lithgow LEP 2014 heritage register)
- Wallerawang rail bridges over Cox's River (a portion of this bridge – the 'Stone Viaduct' is also listed on the Lithgow LEP 2014 heritage register).

Two of these identified heritage items are located in the 250 m buffer area that was placed around the Project Area to denote the area that may have the potential to be subject to impacts as a result of the Project. These two items are the St John the Evangelist Church and the Wallerawang Rail Bridge over the Cox's River.

The church boundary is adjacent to the rail easement where the transmission line would be placed underground. While the Project Area is contained within the rail easement, given the close proximity of St John the Evangelist Church, it will be included for consideration in the impact assessment.

The Wallerawang Rail Bridge is located 50 m north east of the Transgrid Wallerawang 330 kV substation. Due to the distance of the site from the Project Area and the minor nature of works expected to occur within the Transgrid Wallerawang 330 kV substation (being the connection of the transmission line to the substation), this heritage site is not expected to have any direct or indirect impact from the works. As such, this item will not be assessed further in this report.

As the Wallerawang Railway Station and yard group is located over 700 m from the Project Area it has not been considered further in this report.

With the expectation of the above three items, no other item of local heritage significance, listed under the Lithgow LEP 2014 occurs within 250 m of the Project Area. Heritage sites beyond 250 m from the Project Area have not been considered further.

There are no heritage listed items or archaeological sites within the Project Area. **Table 1** below provides a summary of the listed historic heritage items within and close to the Project Area.

Table 1 Summary of listed heritage items within and close to the Project Area

Heritage list	Items within the Project Area	Items close to the Project Area	Level of significance	Distance to the closest Project feature (metres)
World Heritage List	None	N/A	N/A	N/A
National Heritage List	None	N/A	N/A	N/A
Commonwealth Heritage List	None	N/A	N/A	N/A
Register of the National Estate (non-statutory)	None	N/A	N/A	N/A
National Trust Historic Buildings Register	None	N/A	N/A	N/A
NSW State Heritage Register	None	St John the Evangelist Church (5053347)	Local	The curtilage of this item is about 10 m from the transmission line however the built structures are about

Heritage list	Items within the Project Area	Items close to the Project Area	Level of significance	Distance to the closest Project feature (metres)
				30 m from the transmission line
		Wallerawang Railway Station and yard group (5012260)	State	760 m south of the Site
		Wallerawang rail bridges over Cox's River (5012261)	State	50 m north east of the Transgrid Wallerawang 330 kV substation
Section 170 Heritage and Conservation Registers	None	N/A	N/A	N/A
Lithgow Local Environmental Plan 2014	None	Old Wallerawang School (Former National School) (also listed on the NSW State Heritage Register) (I113)	Local	The curtilage of this item is about 20 m from the transmission line however the built structures are about 130 m from the transmission line
		St John the Evangelist Church (also listed on the NSW State Heritage Register) (I112)	Local	As above
		Wallerawang Railway Station and yard group (also listed on the NSW State Heritage Register) (I208)	Local	As above
		Former Wallerawang Public School and Residence (I225)	Local	380 m west of the proposed transmission line
		Stone Viaduct Cox's River Wallerawang (I1439)	Local	100 m east of the proposed transmission line
		Braemai (I193)	Local	470 m east of the proposed transmission line
		Meadowside (I192)	Local	530 m north east of the proposed transmission line
		Uniting Church (I194)	Local	670 m north east of the proposed transmission line

Heritage list	Items within the Project Area	Items close to the Project Area	Level of significance	Distance to the closest Project feature (metres)
		Cottage (I195)	Local	710 m north east of the proposed transmission line
		Wallerawang Conservation Area and associated heritage items: Bottom Pub (I207), Surgery (I209), Wang Antiques Emporium (I210), Post Office (I211), and Former Commercial Banking Co. (I212)	Local	Located about 820 m south of the Site

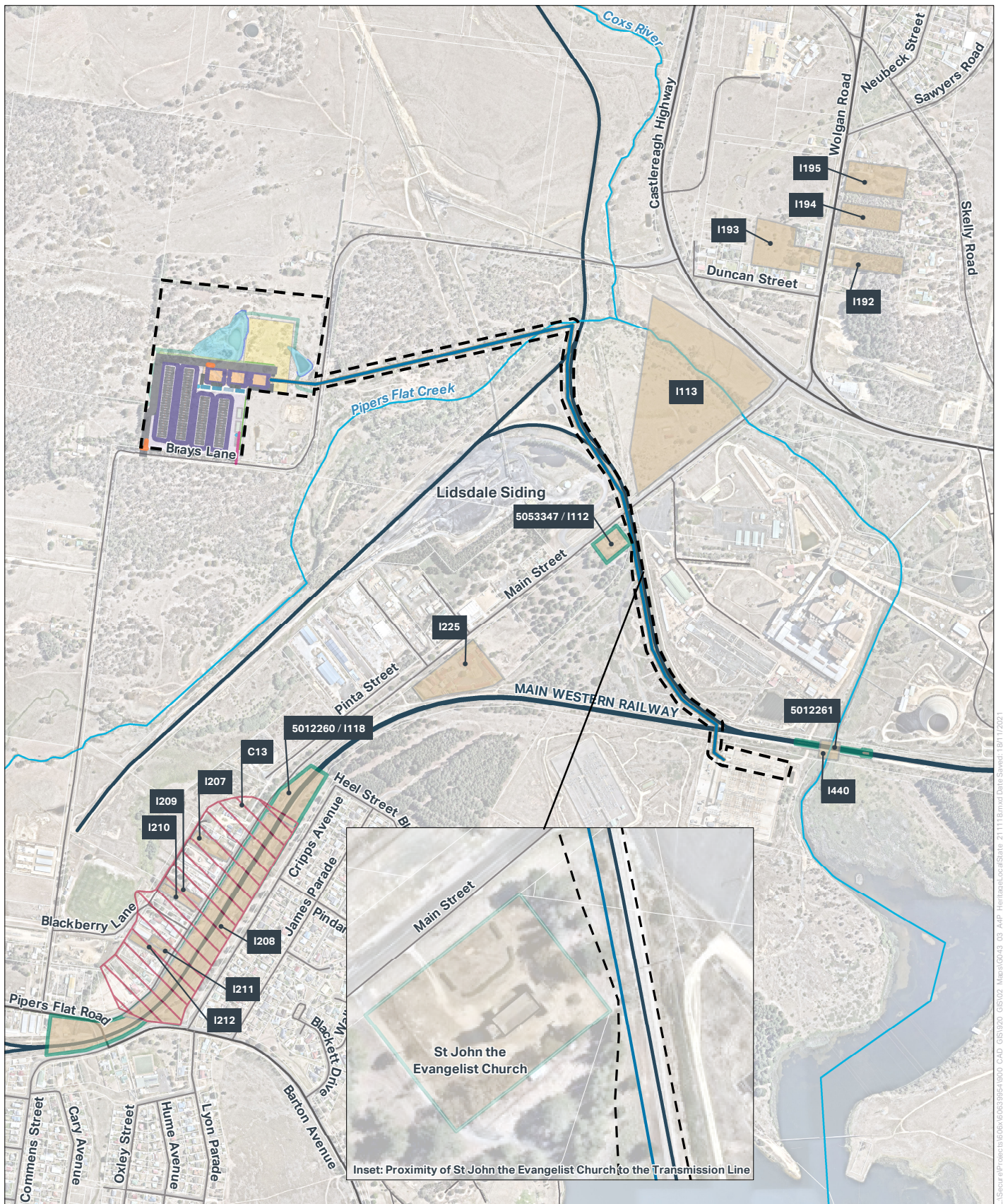


Figure 2
Lithgow LEP Local and State Heritage Areas near the Project Area

Legend

- Project Area
- State Heritage
- Lithgow LEP 2014 Heritage Item
- Lithgow LEP 2014 Heritage Conservation Zone
- Transmission Line
- Watercourse
- Railway
- Primary Road
- Local Road



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workers on Walker's farm were assigned convicts, with the majority of workers being migrants that James Walker had procured himself during his time visiting England in 1831-1838. James Walker and the Walker family (along with his brother William and nephews) became primary landholders in the area with 27 stations in the Bligh Valley alone (Crew, 1963:27).

There was also a shepherd's hut, light hurdles for a sheep-pen and a portable shelter for the night watchman. There was another wooden hut near the Walker homestead. The convict huts were also located nearby. The flat area near the river was cleared with a barn built to store grain (Crew, 1963:30).

The Barton and Walker families were united in 1865 when James' daughter Georgina Walker married Edwin Barton, an engineer who surveyed possible routes between Windsor and Bathurst. Georgina Walker established the first school in the area and commissioned the design and construction of St John the Evangelist Church (approximately 30 m south of the proposed transmission line) following Edwin Barton's death in 1876; the church opened in 1881 (Integrated Design Associates, 2005:10). During this time the Site was held by William Muller. This remained consistent through to the 1960s (Figure 7).

The Great Western Railway commenced in 1855 and in 1857 Edwin Barton came to the area to survey the route between Nepean and Bathurst. Construction on this part of the railway started in 1866 and included the Lithgow Zig Zag, noted as a remarkable section of the line. The railhead reached Wallerawang in 1870 and the former village grew rapidly into an important junction for the two main rail lines which led west to Bathurst and north to Mudgee by 1885 with the main rail line running from just near the church (Aitken, C. & Associates, 1998:11,27). Though the original track arrangement from the 1870s has changed significantly over time, initially the original alignment ran adjacent to the main street of the town of Wallerawang and the railway played a significant role in the population growth of the town in the 1880s (see Figure 4). This changed in the 1920s with an off-shoot north of the original alignment, approximately 2.5 km east of the Project Area (Figure 6).

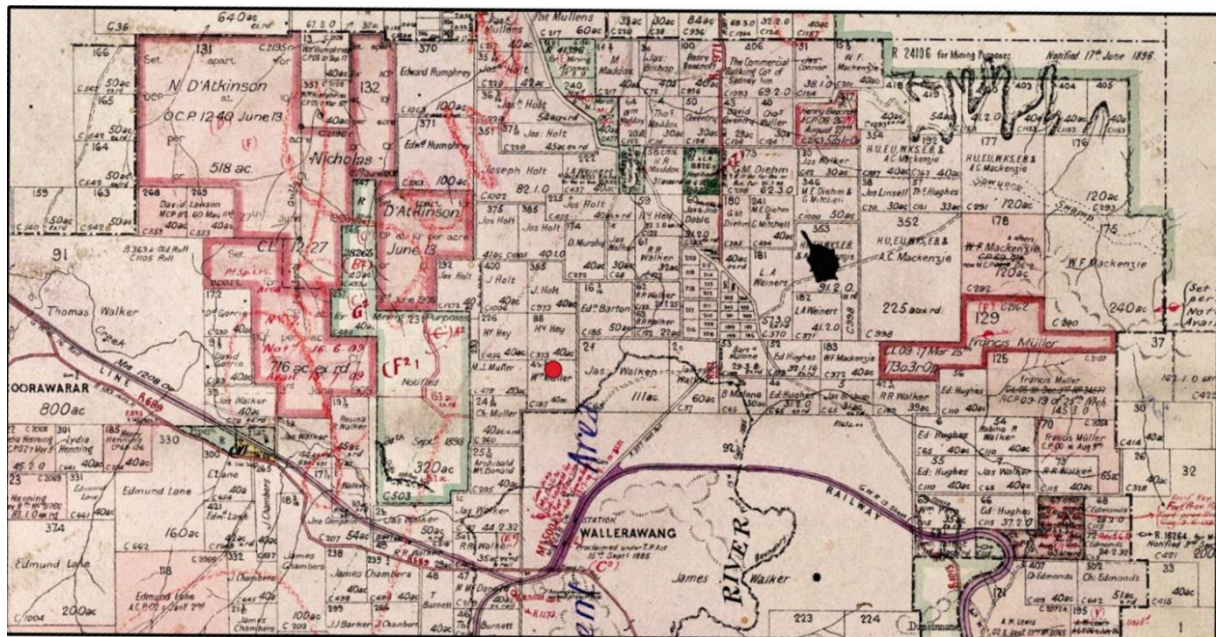


Figure 4 Lidsdale parish map, 1909, with the Site indicated in red (Source: NSW Historical Land Records Viewer)

There was a fall in the use of public transport in the 1980s and 1990s with a rise in operating costs to maintain the passenger freight rail system in NSW (Aitken, C. & Associates, 1998:29). Rail services in NSW were reduced in the 1980s then in the early 1990s the main line at Wallerawang was rebuilt and repositioned within the rail reserve area in order to cater for the new faster trains (Integrated Design Associates, 2005:11). Wallerawang Station was decommissioned as a passenger service in 1989 and the station closed. The stock yards were also demolished in 1996.

3.2 The Muller Family

As **Figure 3** shows, the plot of land taken up by the Project Area was granted to 'Muller' by 1892. This was Carl Muller who settled the area in the 1860s. Carl Muller was a German stonemason who built the first inn in the area, The Coach House with Thomas Lonergan (**Figure 6**). The area was popular with German migrants fleeing hardships in their own country in the mid-19th century. This plot of land is shown as having transferred to 'W Muller' by 1909, presumably William Muller, Carl's son (High Ground Consulting, 2014:28).



Figure 5 The Coach House constructed by Carl Muller in 1873

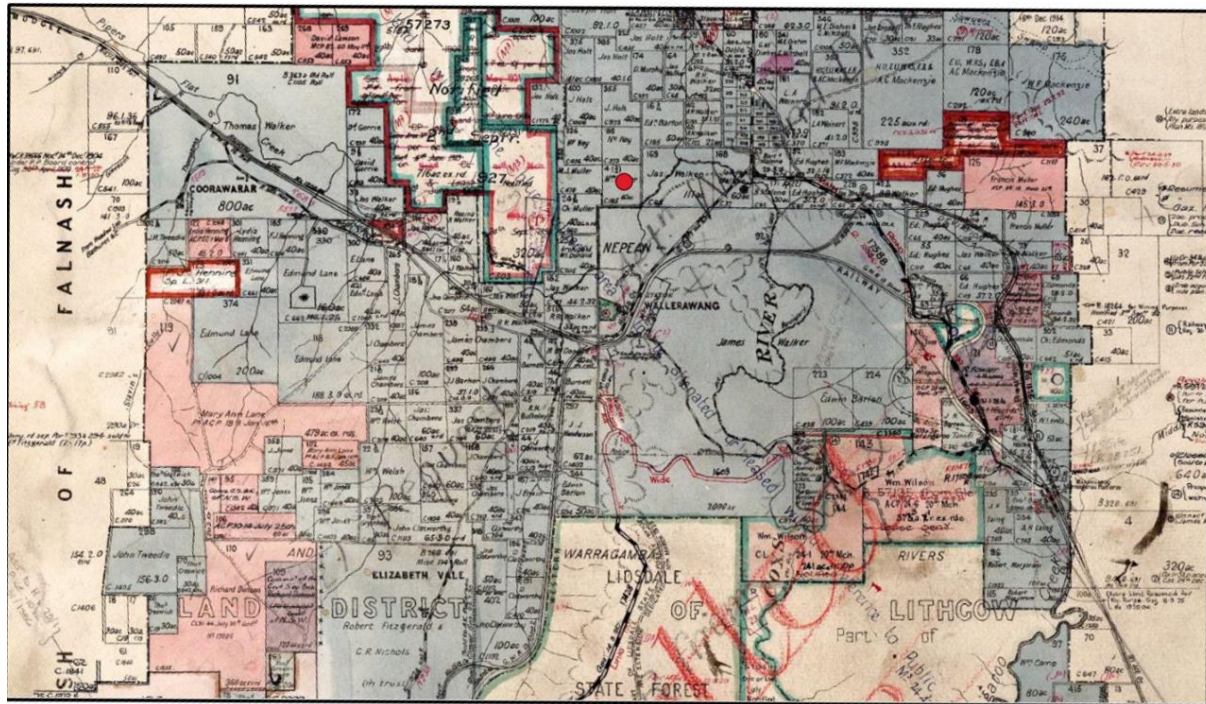


Figure 6 Lidsdale parish map, 1923, with the Site indicated by red dot (Source: NSW Historical Land Records Viewer)

3.3 Local Industry

From 1873 onwards the area saw an increase in coal mining with 15 collieries opening along the Lithgow seam at Mount Piper between Wallerawang and Lidsdale between 1880-1951. This is visible immediately south of the Project Area where a colliery opened between 1975 and 1984 (refer to **Figure 8** and **Figure 9**). Shale oil was also found in the area in 1900 with three shale oil works opening in the Wolgan Valley (1900), Newnes (1905) and Glen Davis (1937), though these were short-lived. With the Second World War, oil was in demand and Lidsdale Siding opened for the purpose of being an oil siding. Pine forests were planted around Wallerawang to supply local mills (Aitken, C. & Associates, 1998:29).

With the shift away from steam powered trains in the 1950s, Wallerawang became host to a power station (the Wallerawang Power Station) just behind St John the Evangelist Church (approximately 470 m east of the Project Area). During its operation, and prior to its closure in 2014 the power station was a coal fired power station, and its fuel was predominately sourced from local collieries, including those immediately south of the Project Area.

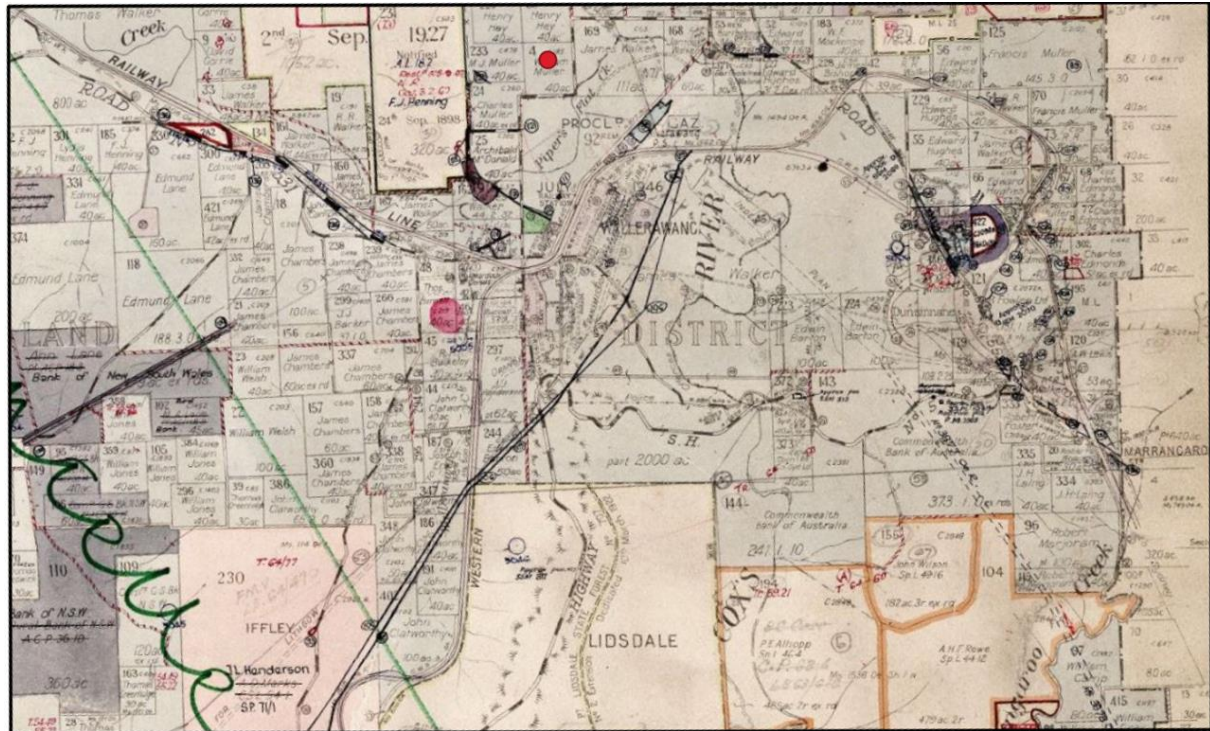


Figure 7 Lidsdale parish map, 1961, with the Site indicated in red (Source: NSW Historical Land Records Viewer)

3.4 Historic image analysis

Historic aerials detail the agricultural / industrial nature of the area with the power plant still functioning behind St John the Evangelist Church and the colliery south of the Project Area in 1975. The land within the Site can also be seen to be cleared for agricultural purposes (**Figure 8**). By 1984 Cocks River was dammed and the previous James Walker landholding / catchment area was partially flooded, becoming Lake Wallace (**Figure 9**). In the 1990s the land within the Site was partially excavated and two dams were created. These are still present today (**Figure 10**).



Figure 8 1975 aerial photograph of the study area (Source: Historical Imagery)



Figure 9 1984 aerial photograph of the study area (Source: Historical Imagery)



Figure 10 1998 aerial photograph of the study area (Source: Historical Imagery)

4.0 Physical Evidence

A site inspection was conducted of the Project Area on 4 March 2021. This was carried out by Chris Lewczak, Principal Heritage Specialist at AECOM, with Jess Zickar, Senior Environmental Planner at AECOM. Photographs, including panoramas were taken from various locations across the Project Area. As the Site and the Lot within which the Site is located was covered in tall grasses at the time of survey, the inspection covered as much ground as possible, including targeting the cleared sections, areas surrounding dams and any other notable features that were identified. The inspection photographs are presented in **Plates 1 to 20**, with **Figure 11** showing the location and orientation these photographs were taken from.

The focus of the site walkover was on the parts of the Project Area where there has been limited previous disturbance, namely the Lot which contains the Site and the area of land east of Brays Lane and west of Pipers Flat Creek.

The landscape at the Site slightly undulates and is predominantly cleared agricultural land covered in tall grass and scrub with occasional blackberry bushes (**Plate 1**) with some apple trees off the eastern boundary (**Plate 7**). There are two residences just outside the bounds of the Project Area, one in the south eastern corner of Brays Lane (**Plate 2**) and another just past the north eastern boundary of the Site. There are five dams in total within the Lot. The area surrounding all the dams is slightly higher due to upcast from the dam construction being deposited immediately around them (**Plate 5**).

One of the dams is in the south eastern corner of the Lot but outside of the Site (**Plate 3**) and has a deposit of modern building rubble on its western edge (**Plate 4**). The two larger dams in the centre of the Site (**Plate 6** and **Plate 8**) have a raised plateau area between them (**Plate 9**). Immediately north west of the two dams is a cluster of trees which takes up the majority of the north west corner of the Site (**Plate 11**). There is another small dam at the southern limit of these trees.

Immediately east of the Brays Lane field is the area surrounding the Pipers Flat Creek. There are access roads and paths through this area (**Plate 13**, **Plate 14** and **Plate 15**), which are similar in nature to the Brays Lane field. It is predominantly a cleared and highly disturbed agricultural landscape with grass, blackberry bushes and trees (**Plate 18**). Illegal dumping has occurred, as well as multiple 4WD tracks through the open areas.

The Wallerawang Power Station, the coal conveyor belt, and powerlines are present. The conveyer belt and powerlines generally run in a northwest – southeast alignment through the area, parallel to the rail corridor (**Plate 16** and **Plate 17**). The rail corridor was not inspected due to the high ground disturbance in the area.

When looking north from the Project Area, it can be seen to fit within the rural agricultural character of the surrounding landscape, with the unsettled landscape to the north west (**Plate 19**). When looking south from the Project Area, the industrial nature of the area is visible through the modern development onsite in the dams (added between 1984 and 1998), with the Wallerawang Power Station cooling towers visible to the south east (**Plate 20**). The power lines and conveyor belt through the Pipers Flat Creek area in the east also add to this mixed landscape character.



Plate 1 View from the south-eastern corner of site, looking north west



Plate 2 Dam and residential property just outside the south eastern corner of site



Plate 3 Small dam in south eastern corner of the Project Area



Plate 4 Modern building rubble on the western edge of the dam



Plate 5 Dam in south eastern corner of Lot 4 with elevated sides from modern deposits and spoil from the construction of the dam. Rural agricultural landscape in the background



Plate 6 Large dam in the middle of the Project Area, looking north west



Plate 7 Fence and tree line near the eastern border of the Project Area, looking north



Plate 8 The Project Area including two large dams in the centre and residence in the south eastern corner. Wallerawang Power Station visible in the east



Plate 9 Strip of land between the two dams in the centre of the Project Area, looking towards the unsettled landscape in the north



Plate 10 Dry and sparsely populated soil on the western edge of the larger dam in the centre of the Project Area, looking north



Plate 11 View of the trees and grassy area in the north western corner of the Project Area



Plate 12 Smaller dam in the centre of the Project Area with Wallerawang Power Station visible to the east



Plate 13 Track leading from the Brays Lane field towards the Pipers Flat Creek area



Plate 14 Landscape in the Pipers Flat Creek area, predominantly grass, some blackberry bushes and trees



Plate 15 Landscape in the Pipers Flat Creek area, predominantly grass, some and trees



Plate 16 Conveyor belt and power lines in the Pipers Flat Creek area, looking south east



Plate 17 Power lines in the Pipers Flat Creek area, looking north east



Plate 18 Tall grass, blackberry bushes and trees in the Pipers Flat Creek area, looking south east with Wallerawang Power Station visible



Plate 19 Panoramic view across the Project Area demonstrating the agricultural character of this part of the landscape. Looking from the residence in the south east corner, to the unsettled landscape in the west towards the dams in the centre of the site and cluster of trees in the north west corner



Plate 20 Panoramic view of the site showing the industrial landscape visible from the Project Area. Wallerawang Power Station is visible in the east, the residence in the south east corner, across to the more agricultural landscape to the west



Figure 11 Location and orientation of site inspection photographs

5.0 Archaeological Potential

Based on an understanding of the Project Area developed from historical research and the site inspection, the following statements regarding its archaeological potential can be made.

Based on the historical research, the Site appears to have been cleared for agricultural or agistment purposes. The Site does not appear to have been developed as part of a larger homestead or farming estate. No buildings were known to have been built on the Site, and it is likely that the use was limited to farming purposes. No evidence of any former buildings or other archaeological sites were recorded during the site inspection. The creation of the dams on the Site has also caused land disturbance in the areas around each dam where the spoil was placed.

No evidence of any former agricultural use of the property were present on the Site, including fence lines. The property boundary does not appear to have changed. No support or other ancillary works, including any drainage or water infrastructure (other than the previously mentioned dams), were recorded. If present, these features would be expected to have a minimal archaeological footprint, with nil to low potential for archaeological remains to be present.

The proposed route for the transmission line from the Site through to the existing rail corridor also appears to have been highly disturbed. This disturbance was likely caused by the construction of the existing coal conveyor and the electrical easement. No evidence of former buildings or other infrastructure, such as those relating to agricultural purposes, were recorded.

The existing rail easement and Transgrid Wallerawang 330 kV substation are considered to be highly disturbed and do not contain any known or potential heritage or historical archaeological potential.

6.0 Significance assessment

6.1 Introduction

In order to understand how a development would impact on a heritage item, it is essential to understand why an item is significant. An assessment of significance is undertaken to explain why a particular item is important and to enable the appropriate site management and curtilage to be determined. Cultural significance is defined in *The Australia ICOMOS Charter for Places of Cultural Significance 2013* (ICOMOS (Australia), 2013) as meaning "aesthetic, historic, scientific, social or spiritual value for past, present or future generations" (Article 1.2). Cultural significance may be derived from a place's fabric, association with a person or event, or for its research potential. The significance of a place is not fixed for all time, and what is of significance to us now may change as similar items are located, more historical research is undertaken, and community tastes change.

The process of linking this assessment with an item's historical context has been developed through the NSW Heritage Management System and is outlined in the guideline *Assessing Heritage Significance* (NSW Heritage Office, 2001), part of the NSW Heritage Manual (Heritage Branch, Department of Planning). The *Assessing Heritage Significance* guidelines establish seven evaluation criteria (which reflect four categories of significance and whether a place is rare or representative) under which a place can be evaluated in the context of State or local historical themes. Similarly, a heritage item can be significant at a local level (i.e., to the people living in the vicinity of the site), at a State level (i.e., to all people living within NSW) or be significant to the country as a whole and be of National or Commonwealth significance.

In accordance with the guideline *Assessing Heritage Significance*, an item would be considered to be of State significance if it meets two or more criteria at a State level, or of local heritage significance if it meets one or more of the criteria outlined in **Table 2**. The Heritage Council requires the summation of the significance assessment into a succinct paragraph, known as a Statement of Significance. The Statement of Significance is the foundation for future management and impact assessment.

There are no heritage listed heritage items or archaeological sites within the Project Area. Two previously identified heritage items located in the 250 m buffer area placed around the Project Area. These are the St John the Evangelist Church and the Wallerawang Rail Bridge over the Cox's River. The church boundary is adjacent to the rail easement where the transmission line would be placed underground. While the Project Area is contained within the rail easement, as it borders the heritage item, it will be included in the impact assessment.

As previously discussed, due to the distance of Wallerawang Rail Bridge from the Project Area and the minor nature of works expected to occur within the Transgrid Wallerawang 330 kV substation, this heritage site is not expected to be directly or indirectly impacted by the Project. As such, this item will not be assessed further in this report.

Table 2 Significance assessment criteria

Criterion	Inclusions / Exclusions
Criterion (a) – an item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area).	The site must show evidence of significant human activity or maintains or shows the continuity of historical process or activity. An item is excluded if it has been so altered that it can no longer provide evidence of association.
Criterion (b) – an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area).	The site must show evidence of significant human occupation. An item is excluded if it has been so altered that it can no longer provide evidence of association.
Criterion (c) – an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).	An item can be excluded on the grounds that it has lost its design or technical integrity or its landmark qualities have been more than temporarily degraded.

Criterion	Inclusions / Exclusions
Criterion (d) – an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.	This criterion does not cover importance for reasons of amenity or retention in preference to proposed alternative.
Criterion (e) – an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area). Significance under this criterion must have the potential to yield new or further substantial information.	Under the guideline, an item can be excluded if the information would be irrelevant or only contains information available in other sources.
Criterion (f) – an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area).	An item is excluded if it is not rare or if it is numerous, but under threat. The item must demonstrate a process, custom or other human activity that is in danger of being lost, is the only example of its type or demonstrates designs or techniques of interest.
Criterion (g) – an item is important in demonstrating the principal characteristics of a class of NSW's (or local area's): cultural or natural places cultural or natural environments.	An item is excluded under this criterion if it is a poor example or has lost the range of characteristics of a type.

6.2 Project Area Significance Assessment

The statement of significance for the Project Area is outlined below.

Table 3 Significance assessment

Significance Criteria	Application of Criteria (Existing Assessment)
Historical significance SHR criteria (a)	<i>The Project Area predominantly inhabits the historic land allotment of the Muller family at the Brays Lane property and the Walker Property at the eastern end. There is no evidence the former Muller property was used for any purposes other than for farming or agricultural purposes. The portion of the Project Area continues into the adjacent James Walker land allotment is not believed to have been actively utilised, other than for possible agricultural purposes. While James Walker was a prominent figure in the local community, there are no records to suggest this portion of land added to his original larger property holding, has any associated with the Walker Family. The Project Area does not meet the heritage threshold for inclusion under this criterion.</i>
Historical association significance SHR criteria (b)	<i>The Project Area would be located on properties owned by the former Muller and Walker Families. The Walker family is considered to have been prominent in the local community, however, there is no evidence this property was utilised by either families.</i>
Aesthetic significance SHR criteria (c)	<i>The Project Area does not meet the State or local listing threshold under this criterion.</i>
Social significance SHR criteria (d)	<i>The Project Area does not meet the State or local listing threshold under this criterion.</i>
Technical / Research significance SHR criteria (e)	<i>The Project Area does not meet the State or local listing threshold under this criterion.</i>
Rarity SHR criteria (f)	<i>The Project Area does not meet the State or local listing threshold under this criterion.</i>

Significance Criteria	Application of Criteria (Existing Assessment)
Representativeness SHR criteria (g)	<i>The Project Area does not meet the State or local listing threshold under this criterion.</i>

Statement of Significance:

The Project Area was associated with the Muller and Walker Families, with the Walker Family prominent locally, owning large tracks of land. The property the Project passes over, however, was one of the additional allotments James Walker purchased. There is no evidence the properties were used for purposes other than farming or agriculture. The Project Area does not fulfil the threshold for listing under any of the criteria.

7.0 Proposal description and impacts

7.1 Project overview

The Project comprises a BESS with a capacity of approximately 500 MW and up to 1000 MWh that would store energy from the grid, and a new underground transmission line that would connect the BESS to the existing Transgrid 330 kV substation at Wallerawang.

Key features of the Project are summarised in Table 4. These features comprise the proposed development for which development consent is sought under a State Significant Development Application (SSDA).

Table 4 Key features of the Project

Project	Great Western Battery
Key features of the Project	
Key features	<ul style="list-style-type: none"> Construction and operation of a BESS with a capacity of approximately 500 MW and 1000 MWh Connection of the BESS via a new underground transmission line (up to 330 kV) to the existing Transgrid 330 kV substation at Wallerawang.
Proposed development	<p>The Project would involve the following components:</p> <ul style="list-style-type: none"> Site establishment, including installation of fencing, environmental controls, grading and other civil works Rearrangement of existing dams on the Site to ultimately comprise two dams, with associated dam walls and spillways Construction of stormwater and flooding controls including a bioretention basin, and swales that would divert water towards the two dams and ultimately, convey water from the Site Establishment of a new driveway located at the southern boundary of the Site, providing access to the Site from Brays Lane Installation, commissioning, and operation of a large-scale BESS including battery enclosures, inverters, and transformers Construction of new 330/33 kV substation on the Site (including outdoor switchgear (up to 330 kV) and transformers) Construction of 10 m high noise walls around each battery row and around each transformer within the new 330/33 kV substation Inclusion of a 10 m buffer (or Asset Protection Zone (APZ)) around all battery storage infrastructure. This buffer area would comprise non-combustible ground cover with no vegetation present Installation of a new underground transmission line from the BESS to the existing Transgrid Wallerawang 330 kV substation. This would be constructed primarily using a trenching method, however underboring would be utilised where required to avoid areas of environmental sensitivity associated with waterways, biodiversity and Aboriginal heritage Connection of the new transmission line with the existing Wallerawang 330kV substation switchyard alongside minor upgrades to the switchyard Construction of two single-story permanent operations and management (O&M) buildings Construction of one control room and three switch rooms Establishment of a new driveway and access road (up to 10 m wide), located at the south-western boundary of the Site, providing access to the Site from Brays Lane Construction of a permanent car parking area with spaces for up to eight light vehicles Installation of lighting, security fencing and security devices around the perimeter of the BESS compound

Project	Great Western Battery
	<ul style="list-style-type: none"> • Installation of two 45 kL metal water tanks • Establishment of landscaping and screening vegetation • Provision of fire alert equipment • Vegetation trimming of trees located on Brays Lane, at the corner opposite the proposed Site entrance. Any vegetation trimming would be limited to that required to provide egress for oversized vehicles during construction • Subdivision of Lot 4 DP 751651 to separate the existing rural residential use of the Lot from the proposed BESS
Project layout	Refer to Figure 12 .
Access	<ul style="list-style-type: none"> • Access to the Site would be via Brays Lane • From the north, access to Brays Lane and the wider Project Area would be via the Castlereagh Highway • From the south, access to Brays Lane and the wider Project Area would be via the Great Western Freeway, Barton Avenue, and Pipers Flat Road • The new transmission line would be accessed via Brays Lane and / or Main Street, Wallerawang. Main Street can also be accessed from the Castlereagh Highway and the Great Western Freeway
Construction	
Construction activities	<p>Construction works would involve:</p> <ul style="list-style-type: none"> • Enabling works and prefabrication • Civil, structural, mechanical and electrical works • Installation of transmission line • Commissioning • Finishes and demobilisation <p>A construction laydown, stockpiling and parking area would also be provided on the Site.</p>
Plant and equipment	<p>A range of plant and equipment would be used during construction. The final equipment and plant requirements would be determined by the construction contractor. Indicative plant and equipment has been broadly categorised into the following activities:</p> <ul style="list-style-type: none"> • Enabling works and prefabrication <ul style="list-style-type: none"> - Front end loaders - Dump trucks - Road trucks to deliver materials, plant, equipment and pre-fabricated elements of the Project - Water Trucks - Excavators - Graders - Compactors - Light vehicles • Civil, structural, mechanical and electrical works: <ul style="list-style-type: none"> - Front end loaders - Bobcat - Dump trucks - Road trucks - Excavators - Graders - Scrapers - Compactors - Water trucks - Hydro Vacuum Excavator - Concrete trucks and pumps

Project	Great Western Battery
	<ul style="list-style-type: none"> - Elevated work platforms - Cranes - Concrete saws and grinders - Compactors and rollers - Scrapers - Backhoe - Generators (where connection to existing utilities is not available) - Light vehicles, heavy rigid and articulated trucks (including multi trailer) low loaders • Installation of transmission line: <ul style="list-style-type: none"> - Directional drilling rig truck and associated infrastructure (i.e. drilling fluid recovery and recycling unit) - Pump/s for dewatering - Hydro Vacuum Excavator - Telehandlers - Water Trucks - Excavators - Graders - Compactors - Light vehicles - Excavators - Concrete saws and grinders - Crane Truck - Tipper Truck - Cable installation kit: Rollers, crawlers, cable winches, synthetic draw ropes - Concrete supply • Commissioning: <ul style="list-style-type: none"> - Elevated work platforms - Cranes - Generators (where connection to existing utilities is not available) - Light vehicles • Finishes and demobilisation: <ul style="list-style-type: none"> - Heavy vehicles - Water trucks - Backhoe - Compactors - Light vehicles
Construction duration	<ul style="list-style-type: none"> • Construction of the Project will take approximately 12 months to complete
Construction workforce	<ul style="list-style-type: none"> • Up to 250 construction workers would be required at the busiest peak of construction for a period of about two months • Outside of this peak time, an average of about 50 workers a day would be required • These workers would be preferentially sourced locally where appropriate skill sets are economically available.
Construction hours	<p>The construction activities would be primarily carried out during standard construction hours, as defined by the NSW Environment Protection Authority's (EPA) <i>Draft Construction Noise Guideline</i> (2020), being:</p> <ul style="list-style-type: none"> • 7am to 6pm, Monday to Friday • 8am to 1pm, Saturdays • No work on Sundays or public holidays. <p>While it is anticipated that work would primarily take place during standard construction hours, some works may be required to be undertaken outside of</p>

Project	Great Western Battery
	standard hours. Where this would be required, this would occur Monday to Saturday, 6am to 6pm. Where work outside of standard hours may be required, the noisiest works would be scheduled to occur during standard hours listed above
Construction traffic volumes	On average, construction of the Project would require up to 50 light vehicles, and 20 heavy vehicles per day. During the two months that would comprise the peak construction period, up to 100 vehicle movements a day would be required. Oversized and over mass vehicles are expected to be required to deliver large pre-fabricated elements for the construction of the Project. This is likely to include eight (8) oversized vehicles to transport the transformers, crane, switch rooms and control rooms to the Site. The transformers are expected to weigh between 140 to 180 tonne (T) each. The switch rooms would be about 23 m long x 4.5 m wide x 4 m high and would weigh about 60T.
Operation	
Operational life expectancy	The Project has an initial design life of 20 years with components anticipated to be replaced or upgraded, as required with the potential to extend the life beyond 20 years.
Operational workforce	<ul style="list-style-type: none"> • The Project would be an unmanned facility that is managed remotely • Between five to six employees would be required to attend the Site periodically for maintenance activities.
Operation maintenance equipment	<ul style="list-style-type: none"> • Light vehicles • Lawn mowers • Assorted hand-held power-tools • Pressure washers.
Security	<ul style="list-style-type: none"> • Up to a 2.7-metre-high security fence would be constructed around the perimeter of the BESS • All access to the BESS would be controlled through an access point off Brays Lane • Areas within the Site not required for the operation of the BESS would be rehabilitated to as close to its existing condition as practical. This remaining land would be fenced with stock fencing or similar.
Typical operating scenario	<ul style="list-style-type: none"> • The BESS is expected to operate on a 24 hour per day, seven days per week basis • The BESS is expected to undergo approximately one charge and discharge cycle per day, averaging 365 full cycles per year.
Services and infrastructure	Existing services and utility infrastructure in the nearby vicinity would be extended, adapted and augmented to meet the demands of the Project. This would include a connection to the existing potable water supply and the existing 11 kV electricity line, located within Brays Lane. This connection would be made within Brays Lane (as shown on Figure 12) and would travel underground (using a trenching method) to connect with the new O&M building on the Site. A holding tank would be installed in the vicinity of the new O&M building to collect wastewater generated during the operation of the Project (from worker facilities). During operation, the holding tank would be periodically collected by a licenced operator, and wastewater would be appropriately disposed of offsite.

As noted in the above table, a new underground transmission line would be constructed to connect the BESS facility to the Transgrid Wallerawang 330 kV substation. The alignment of this proposed transmission line is shown on **Figure 1**. It is expected that the new transmission line would be approximately 1.5 km in length and would be located underground.

The transmission line could connect to the northern section of the Transgrid Wallerawang 330 kV substation. This would involve the following activities:

- Site establishment, including the temporary removal of existing security fencing at the northern end of the Transgrid Wallerawang 330 kV substation, installation of mobile security fencing to allow for construction access while restricting community access, establishment of erosion and sediment controls and location of lay down areas as required
- The transmission line would be installed underground using a combination of trenching and underboring methodologies. Underboring is proposed to be used to avoid areas of environmental sensitive that have been identified, including those related to Aboriginal heritage, biodiversity, Pipers Flat Creek, and rail crossing. All other areas of the new transmission line would be installed using trenching
- Underboring would take place using horizontal direction drilling (HDD). HDD is a trenchless construction method for installing conduits that is associated with less surface ground disturbance than trenching
- For HDD, a launch pit would be constructed to accommodate plant and equipment (including an area to layout the conduit, conduct pipe-stringing activities, and to set up a drill rig). A drill rig is used to bore an opening in the ground through which a pipe is passed through
- Where it would be located within the boundary of the Transgrid Wallerawang 330 kV substation, the new transmission line would transition to an above ground arrangement to allow for a connection point to be established
- The transmission line would be connected to the Transgrid Wallerawang 330 kV substation
- During this work, all trenched areas would be backfilled, any grassed areas would be re-established, and the permanent security fencing would be reinstalled.

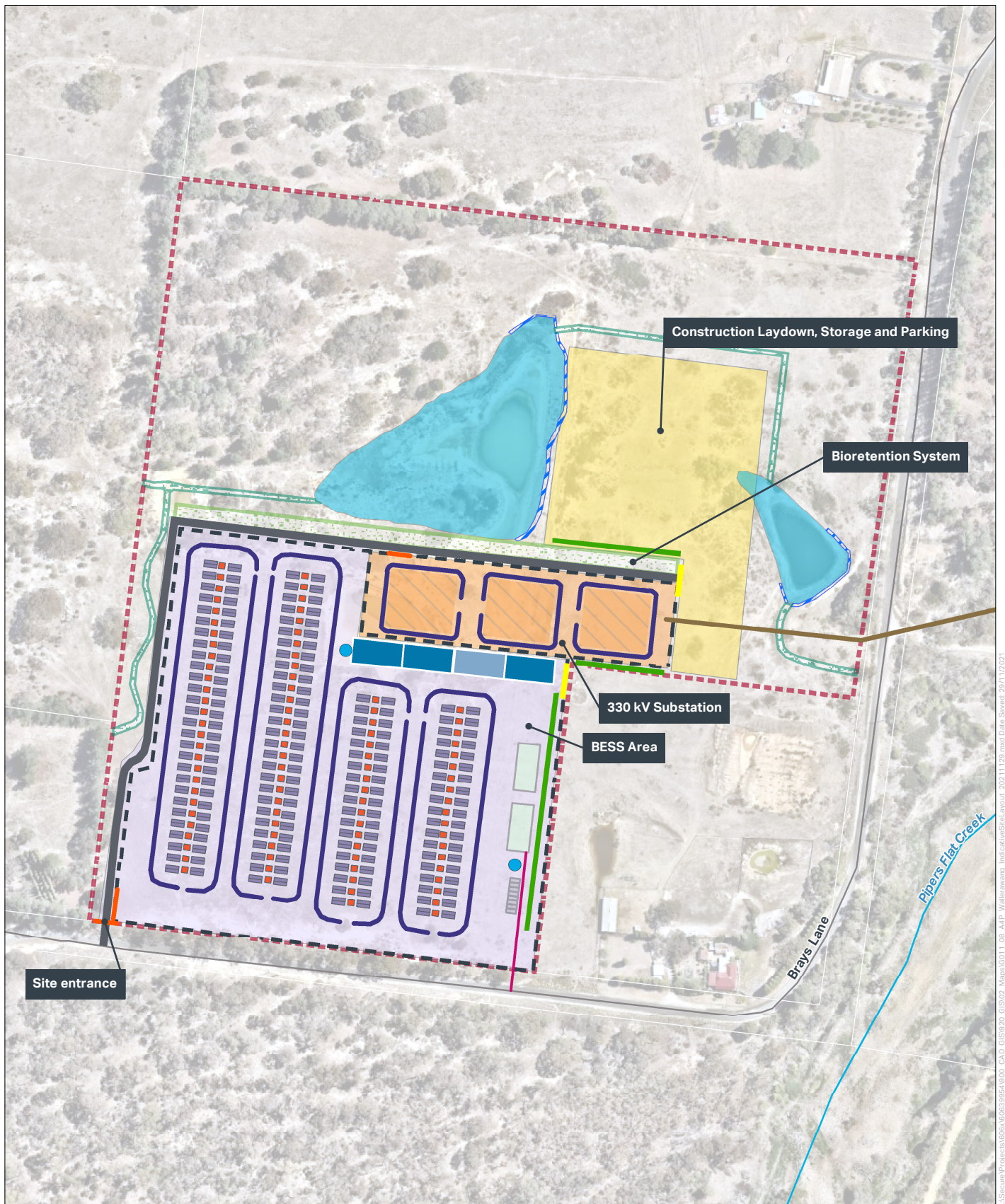


Figure 12 Indicative layout of

the Site

- ▬ The Site
- ▬ Substation
- ▬ Internal access road
- ▬ Noise wall
- ▬ Access Gate
- ▬ Security Fencing
- ▬ Water Connection Point
- ▬ Transmission Line Alignment

- ▬ Watercourse
- ▬ Local road
- Water Tank
- ▬ Large Transformers
- ▬ Battery and Inverter
- ▬ Transformers
- ▬ Bioretention System
- ▬ Dam Walls
- ▬ Swales
- ▬ 330 kV Substation

- ▬ Control Room
- ▬ Switch Rooms
- ▬ Landscape Planting
- ▬ O&M Building
- ▬ Carpark
- ▬ Approx Extent Of Dam Modification
- ▬ Construction Laydown, Storage And Parking
- ▬ BESS Area
- ▬ Emergency Exit



0 30 60 m

AECOM

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7.2 Project impacts

The proposed impact of the construction and operation of the BESS and transmission line is not expected to have any direct or indirect impacts to any known or potential heritage or historical archaeological sites. The historical research identified the Site was predominately used for agricultural purposes. Archaeological potential, if any, would be limited to historical fence lines, drainage or water furrows and / or other smaller ancillary works. These features would have a minimum archaeological footprint that would be easily disturbed from subsequent ground works. The creation of six dams on the property, through the excavation and placement of the spoil material, has disturbed large areas on the property, removing any archaeological potential.

The six dams on the Site were dug between 1984 and 1998, meaning they are all modern and not considered to be part of a former agricultural landscape associated with the historical use of the property.

The landscape around the Project Area has already been highly modified. The Project Area would have been similar to the surrounding agricultural properties. After the removal of trees from the Site, the allotment would have been maintained open grassed area for agistment. The surrounding properties to the north and west are similar to the current Project Area. However, the landscape has been modified through the construction of the coal storage and Wallerawang Power Station to the east, and urbanisation to the south. The Power Station chimneys are visible from multiple locations on the Site, as well as from the proposed transmission line alignment. There are also views to the coal conveyor and existing transmission lines. The Project Area, including the proposed battery location, are not considered to be part of, or form, a historical landscape.

The proposed transmission line alignment from the Site to the substation location would travel to the east, through an area that appears to have been highly disturbed from the construction of the existing transmission line easement and coal conveyor. Historical research and site inspections did not identify or locate any areas of potential historical archaeological deposits within this area. The route of the proposed works would be within this disturbed area and not expected to have any heritage or historical archaeological impacts.

There are not expected to be any heritage or historical archaeological potential within the existing rail corridor or substation at the eastern end of the Project Area as these areas have already been highly disturbed.

The rail corridor does pass immediately adjacent to the heritage listed St Johns the Evangelical Church, listed on the Lithgow LEP (2014). The heritage curtilage of the church contains the church along with the stone boundary walls and fences, and boundary plantings, including those that are located along the rail boundary. The distance from the proposed transmission line to St John the Evangelical Church building is about 30 m. The proposed underground transmission line would be constructed nearby this heritage item (albeit within the existing rail corridor) using a trenching methodology. When using high vibratory construction equipment, there may be potential for cosmetic damage to heritage structures. To avoid damage occurring, high vibratory equipment would not be used within 50 m of St John the Evangelical Church. As such, impacts to the St Johns the Evangelical Church are not expected during the construction of the Project.

During operation, BESS activities would be limited to occasional maintenance involving 5-6 employees visiting the Site. Employees would not access any heritage listed items. Therefore, impacts to the heritage values are not anticipated during operation of the Project.

Heritage impact assessment questions has been addressed in the section below in relation to potential impacts to the church. The relevant questions that have been asked related to the construction / new development adjacent to a heritage item.

7.3 Process Questions

How is the impact of the new development on the heritage significance of the item or area to be minimised?

Close to the curtilage of St Johns the Evangelical Church, the proposed works would occur within the existing rail corridor and the transmission line would be installed underground.

Once the transmission line is installed it would not be visible from St Johns the Evangelical Church property or Wallerawang rail bridges over Coss River. As such and is would not result in any indirect (visual) impacts to the heritage value of the church or the rail bridges.

Why is the new development required to be adjacent to a Heritage Item?

The route of the underground transmission line would be placed within the existing rail easement, an area previously disturbed from the construction and operation of the rail line. The route is being used as it would limit additional direct or indirect heritage impacts, or other amenity impacts if it were to be routed along current road easements.

How does the curtilage allowed around the heritage item contribute to the retention of its heritage significance.

St John the Evangelical Church heritage curtilage is limited to the current allotment associated with the church only. The existing curtilage contains the stone boundary walls and fences, and boundary plantings, including those that are located along the rail boundary.

How does the new development affect views to, and from, the heritage item? What has been done to minimise negative effects.

The transmission line would be constructed underground within the rail corridor. The works are not expected to have any effect on the aesthetics associated with the heritage listing of the church, or any views to or from the church across the existing rail corridor.

Is the development sited on any known, or potentially significant archaeological deposits? If so, have alternative sites been considered? Why were they rejected?

There are not expected to be any historical archaeological remains present within the rail corridor. The routing of the new transmission line underground within the existing rail corridor was deliberately chosen as the easement has been highly disturbed previously.

Based on our understanding of the historical uses of the Project Area, including the BESS and proposed transmission line easement, there are not expected to be any heritage or historical archaeological impacts from this Project (refer to **Table 5**).

Table 5 Summary of the nature of the direct and indirect impacts from construction and operation of the proposed Great Western Battery Project

Impact Type	Impact
Major negative impacts (substantially affects fabric or values of State significance)	N/A
Moderate negative impacts (irreversible loss of fabric or values of local significance; minor impacts on State significance)	N/A
Minor negative impacts (reversible loss of local significance fabric or where mitigation retrieves some value of significance; loss of fabric not of significance but which supports or buffers local significance values)	N/A

Impact Type	Impact
Negligible or no impacts (does not affect heritage values either negatively or positively)	BEES, including all supporting infrastructure, including transformer arrangement, on-site buildings, noise walls access roads, fences and gates, and construction laydown and storage areas. Transmission line
Minor positive impacts (enhances access to, understanding or conservation of fabric or values of local significance)	N/A
Major positive impacts (enhances access to, understanding or conservation of fabric or values of State significance)	N/A

8.0 Recommendations and mitigation measures

The proposed construction of the Project (including the BESS and associated transmission line) has been assessed as having no potential impact on known or potential heritage sites or potential historical archaeological deposits. The Site does not appear to have been developed, with the property used for grazing or other agricultural purposes only. Archaeological potential associated with this use is considered to be nil to low. Additionally, the Lot within which the Site is located has had six dams excavated, causing localised impacts across the Site. The proposed alignment of the transmission line would also be situated on mostly disturbed land. The property to the east of the Site appears to have been highly disturbed from previous construction works associated with the coal conveyor belt and an existing transmission line. The proposed transmission line would continue within the existing rail easement to the Transgrid Wallerawang 330 kV substation, with the rail easement also highly disturbed.

While the proposed transmission line would be constructed near the St John the Evangelical Church building, high vibratory equipment would not be used within 50 m of the church in order to avoid cosmetic damage impacts to this item.

This assessment has identified there would be no impacts to any known heritage or historical archaeological site. It has also been assessed there is not likely to be any potential historical archaeology across the Site or within the transmission line easement. As such, the Project is not likely to have any impacts on historical heritage.

An archaeological stop works procedure should be prepared as part of a Construction Environmental Management Plan (CEMP), in the unlikely event that historical archaeological relics are identified during works. This procedure would detail what to look for and who to contact in the event that an unexpected find is encountered.

8.1 Key Recommendations

The following consideration is recommended.

ID	Mitigation and management measure	Timing
HH1	The Construction Environmental Management Plan would include a stop works procedure for unexpected finds related to historic heritage.	Construction
HH2	To avoid damage occurring, where feasible high vibratory construction methods would not be used within 50 m of St John the Evangelical Church. Should high vibratory methods be used within 50 m of the church, these will not proceed within the minimum working distances unless a permanent vibration monitoring system is installed around 1m, from the building footprint, to warn operators (e.g. via flashing light, audible alarm, SMS) when vibration levels are approaching the peak particle velocity objective.	Construction

9.0 References

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