

CopperString 2.0

Cultural heritage

Volume 2 Chapter 15



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15. Cultural Heritage

15.1 Introduction

15.1.1 Project overview

The Project involves the construction and operation of approximately 1,060 km of extra high voltage overhead electricity transmission line that will extend from Mount Isa to the Powerlink transmission network, via a new connection point near Woodstock, south of Townsville.

The Project involves construction of seven new substations at Woodstock, Hughenden, Dajarra Road (Cloncurry), Mount Isa, Selwyn, Cannington Mine and Phosphate Hill Mine.

The CopperString transmission network is divided into the following eight sections as shown in Figure 15-1:

- 1. Woodstock Substation
- 2. Renewable Energy Hub
- 3. CopperString Core
- 4. Mount Isa Augmentation
- 5. Southern Connection
- 6. Cannington Connection
- 7. Phosphate Hill Connection
- 8. Kennedy Connection (option).

15.1.2 Objectives

This chapter aims to ensure that the planning, design, construction and operation of the Project appropriately avoids or manages impacts to Indigenous and non-Indigenous significant cultural heritage.

15.1.3 Purpose of chapter

The purpose of this chapter is to assess potential impacts of the Project on Indigenous and non-Indigenous cultural heritage values. This is achieved through a description of the known and potential historical cultural and landscape heritage values of the area and an assessment of the potential impacts of the Project, in the context of relevant legislation and other standards. Mitigation and management strategies to address impacts on cultural heritage values are included in this chapter, along with information about the development of Cultural Heritage Management Plans (CHMPs) and strategies for addressing unexpected archaeological discoveries.

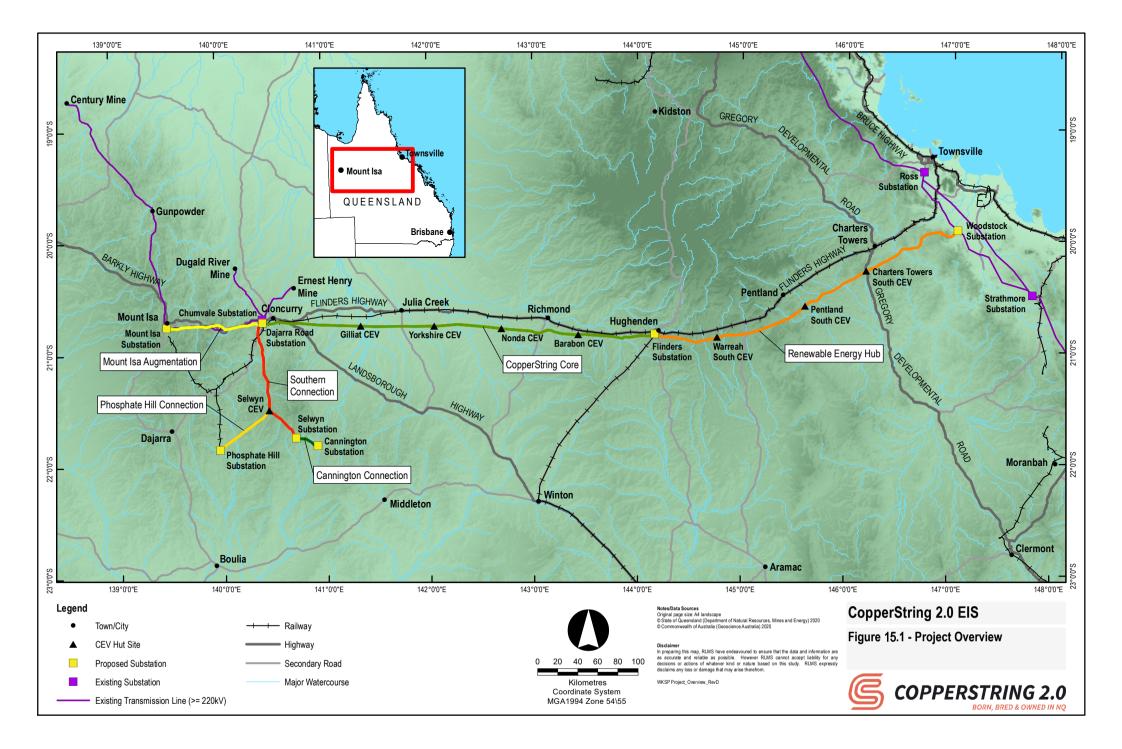
This assessment is required to address the Terms of Reference for the Project outlined in Volume 3 Appendix A Terms of reference with cross-reference table.



15.1.4 Defined terms

The following are a list of defined terms used throughout this chapter:

- 'Corridor selection' means the baseline investigation corridor of the transmission line (a nominal 1,060 km long corridor). The corridor selection is 120 m wide from Woodstock to Dajarra Road, and 60 m wide from Dajarra Road to Mount Isa, Dajarra Road to Selwyn, and Selwyn to Phosphate Hill and Cannington. The 4 km long section of the corridor selection from Dajarra Road Substation to Chumvale Substation is 60 m wide and a 3 km long section from Dajarra Road Substation to the Dugald River 220 kV overhead line is 80 m wide.
- **'Project area**' means the 120 m easement and associated infrastructure (including laydown areas, substations, CEV huts, access tracks, brake and winch sites and construction camps) and works referred to in the EIS Terms of Reference (ToR) (these include off-easement components).
- **'Cultural heritage significance**' means the aesthetic, architectural, historical, scientific, social, or other significance of a place or feature of a place, to the present generation or past or future generations.
- **'Archaeological artefact**' any artefact that is evidence of Queensland's history, where it is located in, on or below the surface of the land. Archaeological artefacts do not include Aboriginal or Torres Strait Islander cultural heritage.
- **'Indigenous cultural heritage**' means anything that is a significant Aboriginal or Torres Strait Islander area in Queensland, or a significant Aboriginal or Torres Strait Islander object, or evidence of archaeological or historic significance of Aboriginal or Torres Strait Islander occupation of an area of Queensland.
- **'Aboriginal cultural heritage'** for the purposes of this assessment has the same meaning as Indigenous cultural heritage but is generally used only in reference to the Queensland *Aboriginal Cultural Heritage Act 2003* (ACHA).
- **'Non-Indigenous cultural heritage**' anything of cultural heritage significance that is not Indigenous cultural heritage.





15.2 Methodology

15.2.1 Study area

Indigenous cultural heritage

For the purposes of the Indigenous cultural heritage assessment, the study area for the Project is 500 m either side of the centre of the proposed corridor selection. This study area has been selected because a broader context is important for the effective management of cultural heritage, and many registered Indigenous cultural heritage sites are recorded as a single geographical point but span across large surface areas.

Non-Indigenous cultural heritage

The study area for the non-Indigenous cultural heritage assessment included a broader regional scale to capture existing non-Indigenous cultural heritage sites to provide context for the types of cultural heritage that may be impacted or uncovered during construction of the Project. Searches of heritage registers were limited to a 5 km buffer of the corridor selection.

15.2.2 Legislative context and standards

Commonwealth legislation

The following Commonwealth legislation is relevant to identifying cultural heritage values:

- Environment Protection and Biodiversity Conservation Act 1999 This legislation includes provisions for protection of places that are listed on the National Heritage List because of their outstanding heritage value to Australia
- Australian Heritage Council Act 2003 This legislation established the Australian Heritage Council as the principle advisory body to the Australian Government for heritage matters, particularly in relation to administering heritage lists now created under the *Environment Protection and Biodiversity Conservation Act 1999*.
- Aboriginal and Torres Strait Islander Heritage Protection Act 1984 This legislation aims to preserve and protect places, areas and objects of particular significance to Aboriginal people, in accordance with Aboriginal traditions.

Queensland legislation

The following state legislation is relevant to protection of heritage in Queensland:

- *Queensland Heritage Act 1992* (QHA) This legislation provides for the conservation of Queensland's cultural heritage for the benefit of the community and future generations.
- Aboriginal Cultural Heritage Act 2003 (ACHA)
 This legislation provides effective recognition, protection and conservation of Aboriginal cultural heritage. Under the ACHA, a person who carries out an activity must take all reasonable and practicable measures to ensure the activity does not harm Aboriginal cultural heritage. This is known as the 'cultural heritage duty of care' and is described in the ACHA Duty of care guidelines (DATSIP, 2004). Where an environmental impact statement is required for a project, Part 7 of the ACHA requires a CHMP to be developed in consultation with the Aboriginal party/parties for the area of impact. CHMPs are discussed further in Section 15.2.3.

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Local government requirements

Local governments are required to identify places in their local government areas (LGAs) that are of cultural heritage significance under the QHA. Places of cultural heritage significance are kept in a local heritage register, generally included in the local government agency's planning scheme. These registers can include both non-Indigenous and Indigenous cultural heritage however Indigenous cultural heritage is offered more protection under the ACHA.

15.2.3 Indigenous cultural heritage study

Overview

The Indigenous cultural heritage values were identified through the following methods:

- A review of the regulatory framework relevant to Indigenous cultural heritage identification and management
- Desktop searches of relevant registers, databases and literature
- Consultation with relevant Aboriginal parties

A desktop study of Indigenous cultural heritage values was undertaken for the Project by Everick Heritage to identify, describe and assess previously recorded Indigenous cultural heritage sites that may be impacted.

A detailed cultural heritage survey of the proposed Project works areas will be undertaken in accordance with the requirements of the agreed CHMP.

Identification of Aboriginal parties

The ACHA provides a framework for the identification of an Aboriginal party for a particular area and stipulates the process for CHMP development where the identified Aboriginal party is given written notice and endorsed. The identified Aboriginal parties for the Project corridor selection are outlined in Table 15-1 and shown in Figure 15-2. The native title party status of the identified Aboriginal parties is also included in Table 15-1. The term 'determination' refers to a decision by an Australian court or other recognised body that native title does or does not exist. The determination area refers to the area that the determination applies to.

A portion of the study area near Julia Creek has no identified Aboriginal party. In this instance, the ACHA requires public notification to be undertaken to identify Aboriginal parties. Any respondents may be endorsed as Aboriginal parties to take part in the development of a CHMP. At the closure of the notification period, six responses had been received. All responses will be assessed and a confirmation of their validity will be made prior to finalising the Aboriginal parties that will be endorsed.

Table 15-1	Aboriginal parties identified in corridor selection
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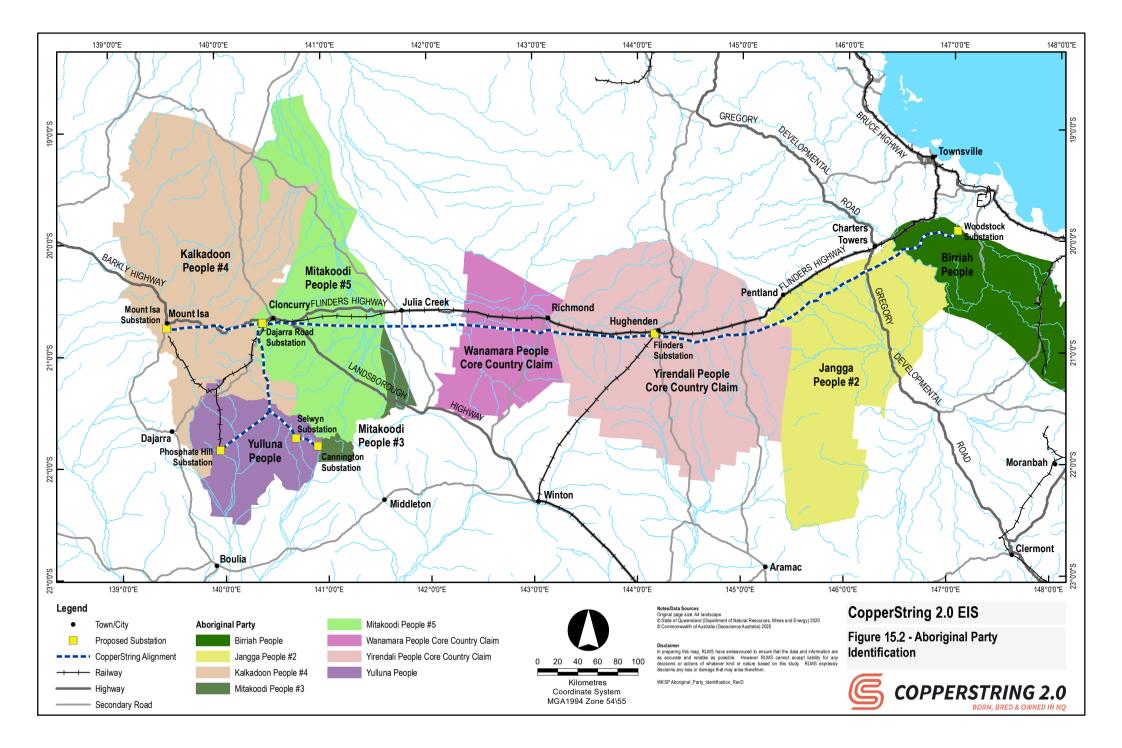
Aboriginal party	Native title party status
Birriah People	Determined native title exists
Jangga People #2	Native Title Claimant – accepted for registration and registered 22 November 2019
Yirendali People Core Country Claim	Determined native title does not exist
Wanamara People Core Country Claim	Previous Native Title Claimant – claim discontinued 9 April 2010



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Aboriginal party	Native title party status
Mitakoodi People #3	Dismissed 4 January 2010
Mitakoodi People #5	Native Title Claimant – claim accepted for registration 21 February 2020
Kalkadoon People #4	Determined native title exists in parts of the determination area
Yulluna People	Determined native title exists in parts of the determination area





Consultation with Aboriginal parties

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Engagement of Aboriginal parties will be undertaken through an agreed communication protocol where CuString will request formal meetings with the appropriate representatives of each Aboriginal party. The meetings will include representatives of the Aboriginal party and their technical or legal advisors. In these meetings, the Project and appropriate management and mitigation strategies for Indigenous cultural heritage will be discussed. The purpose of these meetings is to develop CHMPs with each Aboriginal party, which will also include provisions for ongoing engagement.

CuString understands that early and continued consultation is critical and that each consultation must be unique to the situation and the issues considered. Adequate time will be allowed to conduct the consultation and a balanced approach will be applied to negotiation processes. CuString is committed to providing comprehensive, balanced and accurate information during all phases of consultation and negotiations

In accordance with Part 7 of the ACHA, agreed and executed CHMPs will be submitted for approval to the Chief Executive of the Department of Aboriginal and Torres Strait Islander Partnerships (DATSIP).

Cultural heritage management plan development

CHMPs are being developed for the Project. CuString is committed to working with relevant Aboriginal parties to develop and implement agreed CHMPs that provide management strategies that are appropriate for the protection of identified Aboriginal cultural heritage. The CHMPs will include, but not be limited to, the following:

- Define the roles and responsibilities of the parties
- Define the process for undertaking a cultural heritage field survey and managing any identified Aboriginal cultural heritage
- Make provisions regarding the management of activities in and around the area immediately surrounding Aboriginal cultural heritage, including any Aboriginal cultural heritage identified during the survey, as well as contingency planning for new Aboriginal cultural heritage finds during implementation of the CHMP.

The process for developing CHMPs involves consideration of a range of matters to best determine how the Project may be managed to avoid or minimise harm to Aboriginal cultural heritage. The following matters may be discussed or agreed during consultation:

- The nature of activities within the CHMP area
- The extent of the Project area to be subject to the CHMP
- The identity and number of representatives (or committee) to attend meetings
- The number and location of future meetings and the method of communication (eg. telephone conferences, web-based video conferencing, email)
- Survey of the Project area to be subject to the CHMP if required, including timing for the cultural heritage survey
- The identity of a suitably qualified expert (such as an archaeologist) if one is required/requested
- Management of any land use activities in or around Aboriginal cultural heritage identified during the survey.

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Data sources

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The following data sources were consulted as part of the Indigenous cultural heritage study for the Project:

- Online resources, principally for heritage site databases and regional history
- Australian Heritage Database (includes World Heritage List, National Heritage List, Commonwealth Heritage List, Register of the National Estate closed in 2007)
- DATSIP's Aboriginal Cultural Heritage Register and Database
- Queensland Heritage Register (includes State Heritage Places and Protected Areas)
- Register of the National Trust of Queensland
- LGA planning schemes and heritage registers:
 - Burdekin Shire Local Heritage Register
 - Charters Towers Regional Town Plan 2019
 - Shire of Flinders Planning Scheme 2017
 - Planning Scheme for the Shire of Richmond
 - McKinlay Shire Local Heritage Register
 - Cloncurry Shire Council Planning Scheme 2016
 - Mount Isa City Council Local Heritage Register
- Data in heritage studies previously carried out in nearby areas
- Publicly available books and local histories.

15.2.4 Non-Indigenous cultural heritage study

A non-Indigenous cultural heritage study was completed by Holyoak Research for the Project. This study drew on the findings of the non-Indigenous cultural heritage assessment undertaken for the CopperString 1.0 Project in 2010, which included a field survey of the Project corridor selection. The technical assessment report from the Holyoak Research study is presented in Volume 3 Appendix AA Non-Indigenous cultural heritage.

Data sources consulted for the non-Indigenous cultural heritage assessment included the following:

- Australian Heritage Database
- Queensland Heritage Register
- LGA planning schemes and heritage registers:
 - Burdekin Shire Local Heritage Register
 - Charters Towers Regional Town Plan 2019
 - Shire of Flinders Planning Scheme 2017
 - Planning Scheme for the Shire of Richmond
 - McKinlay Shire Local Heritage Register
 - Cloncurry Shire Council Planning Scheme 2016
 - Mount Isa City Council Local Heritage Register

15.3 Existing environment

15.3.1 Indigenous cultural heritage

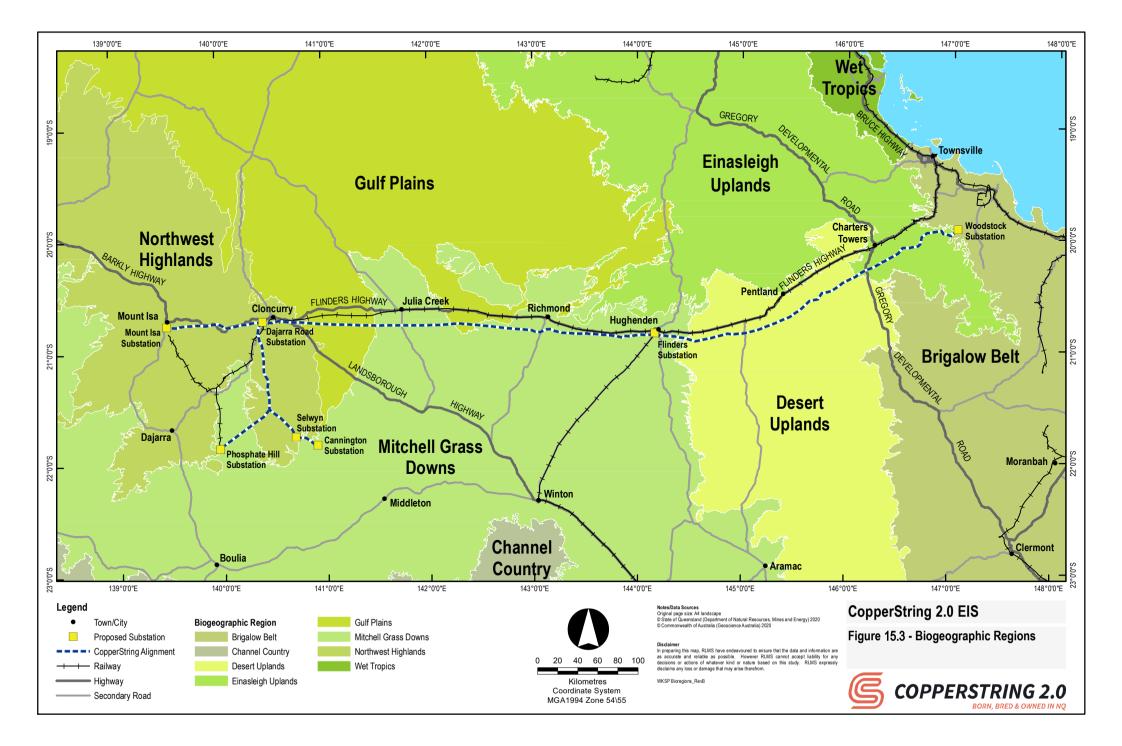
Archaeological context

The Project traverses a large area, comprising many different landscapes with varying levels of previous archaeological investigation. An index of dates from archaeological sites in Queensland indicates that occupation in north Queensland can be dated to at least 39,000 years ago in coastal areas, with occupation in inland areas for 19,000 to 28,000 years (Ulm and Reid, 2000; Wallis et al. 2009).

The archaeological profession generally adopts a correlation between the local environment (geology, landforms, soils, vegetation and climate) with the type, frequency, and preservation potential of Indigenous cultural heritage sites (Hughes & Sullivan, 1984).

The Project traverses six bioregions, shown in Figure 15-3 and described below:

- Brigalow Belt: undulating to rugged ranges and alluvial plains with primarily acacia open forest eucalypt woodlands. Semiarid to tropical climate.
- Einasleigh Uplands: rugged hills and ranges, dissected plateaus and alluvial and sand plains, dominated by eucalypt woodlands. Tropical climate.
- Desert Uplands: relic tertiary plateau with upland landforms (sandstone ranges and sand plains), vegetated with eucalypt woodland and spinifex understory, as well as acacia woodlands. Tropical climate with low rainfall and high temperatures semi-arid conditions (Rowland et al. 1994).
- Mitchell Grass Downs: largely treeless plains with occasional rivers and gorges, dominated by Mitchell tussock grasslands. Tropical climate with low rainfall and high temperatures arid to semi-arid conditions (Rowland et al. 1994).
- Gulf Plains: extensive alluvial plains and coastal areas (gulf) with tropical savanna vegetation of eucalypt and tea-tree open woodlands. Monsoonal climate.
- Northwest Highlands: linear ridges and uplands environment with eucalypt, corymbia and acacia open woodlands and low shrubs. Arid to semi-arid conditions with summer wet period.



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Rowland and Connolly (2002) created a distribution of archaeological sites according to bioregions, based on the record of registered sites in Queensland. Using this distribution, the dominant Indigenous heritage site attribute in all bioregions intersected by the Project is artefact scatters. The second most dominant heritage site attribute is art sites in all bioregions, with the exception of Mitchell Grass Downs, where hearths are the second most dominant attribute. This provides an indication of the types of sites that will reasonably be encountered in the study area.

Previous studies have found a much higher frequency of quarry sites, hearths, scarred trees, artefact scatters and stone arrangements in the Mitchell Grass Downs and Desert Uplands bioregions than what has been recorded in other areas of Queensland (Rowland et al, 1994). Rowland et al (1994) found that 51 percent of the sites found in the Mitchell Grass Downs were located within creek or river flat land systems, which is consistent with ethnographic accounts that suggest river and stream systems were the focus of economic activities. Extensive artefact scatters have also been found during surveys of creeks in the Richmond area supporting the conclusion that habitable lands immediately adjacent to waterways were the focus of Aboriginal occupation.

A significant number of archaeological assessments have previously been carried out in the Cloncurry-Mount Isa region (Mitchell Grass Downs, Gulf Plains and Northwest Highlands bioregions), mainly for large-scale mining development in the region. A wide variety of archaeological sites are known to exist in the Mount Isa region, including the Lake Moondarra Stone Axe Quarry, recorded aboriginal rock art and engravings, and a variety of sites ranging from single artefacts to large artefact scatters.

Numerous archaeological surveys have also been undertaken for the development and expansion of Cannington Mine including the identification of a large number of heritage sites in association with Hamilton River, adjacent to the mine in 2001 (Knuckey, 2001).

Desktop search results

Searches of the Australian Heritage Database and relevant LGA planning schemes and heritage registers did not reveal any Indigenous cultural heritage sites at risk of impact from the Project.

A search of the DATSIP Aboriginal Cultural Heritage Register identified 236 registered cultural heritage sites and one registered cultural heritage polygon. These results are shown in Table 15-2. The sites are located within the native title claim boundaries of the Birriah People, Yirendali People Core Country Claim, Mitakoodi People #5, Kalkadoon People #4 and Yulluna People. Figure 15-4 shows the locations of registered Aboriginal heritage sites and the boundaries of each relevant Aboriginal party.

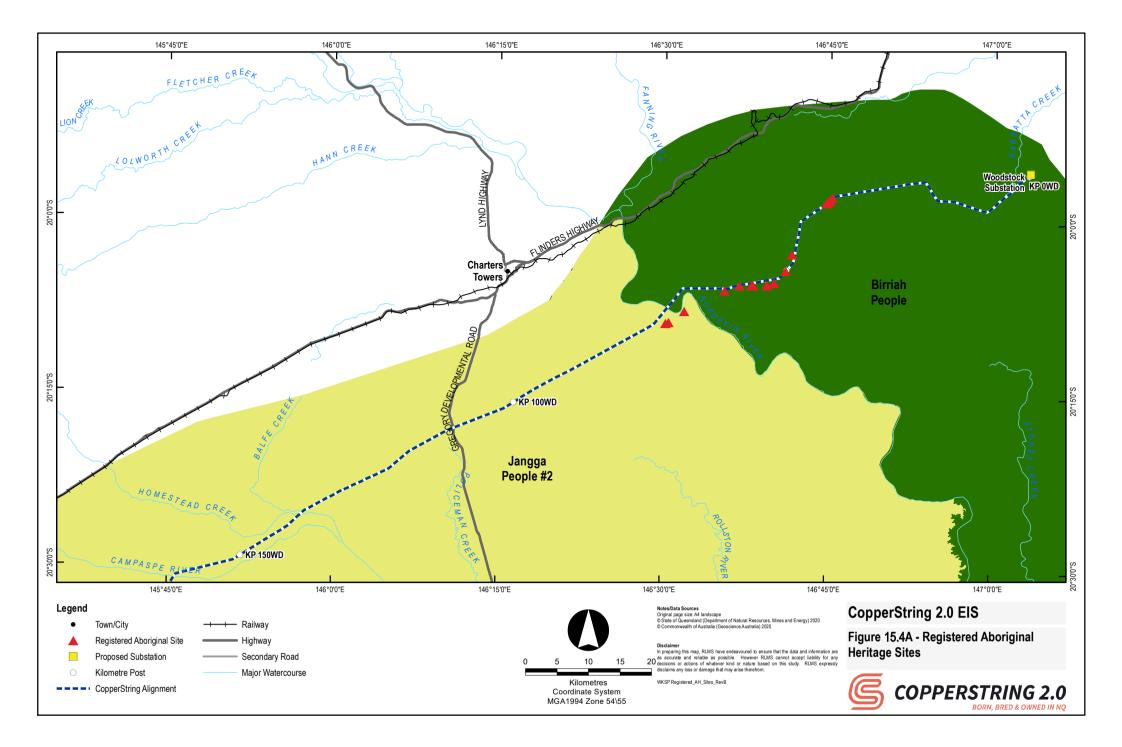


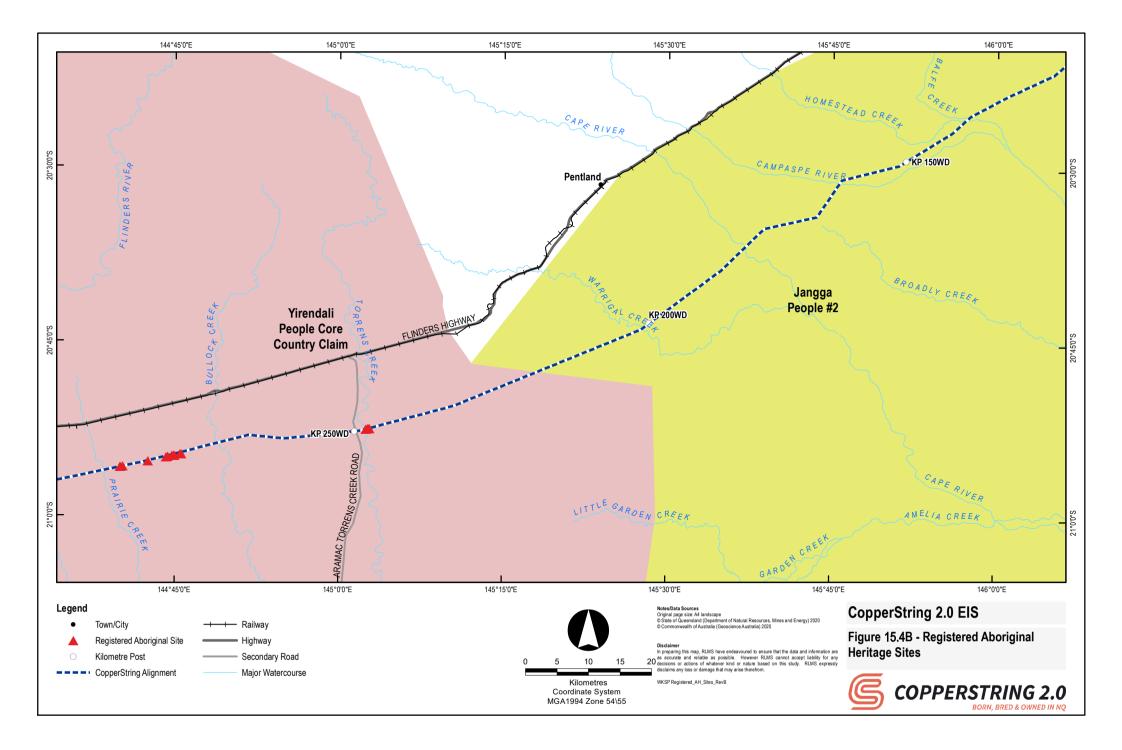
Table 15-2 Summary of DATSIP cultural heritage sites

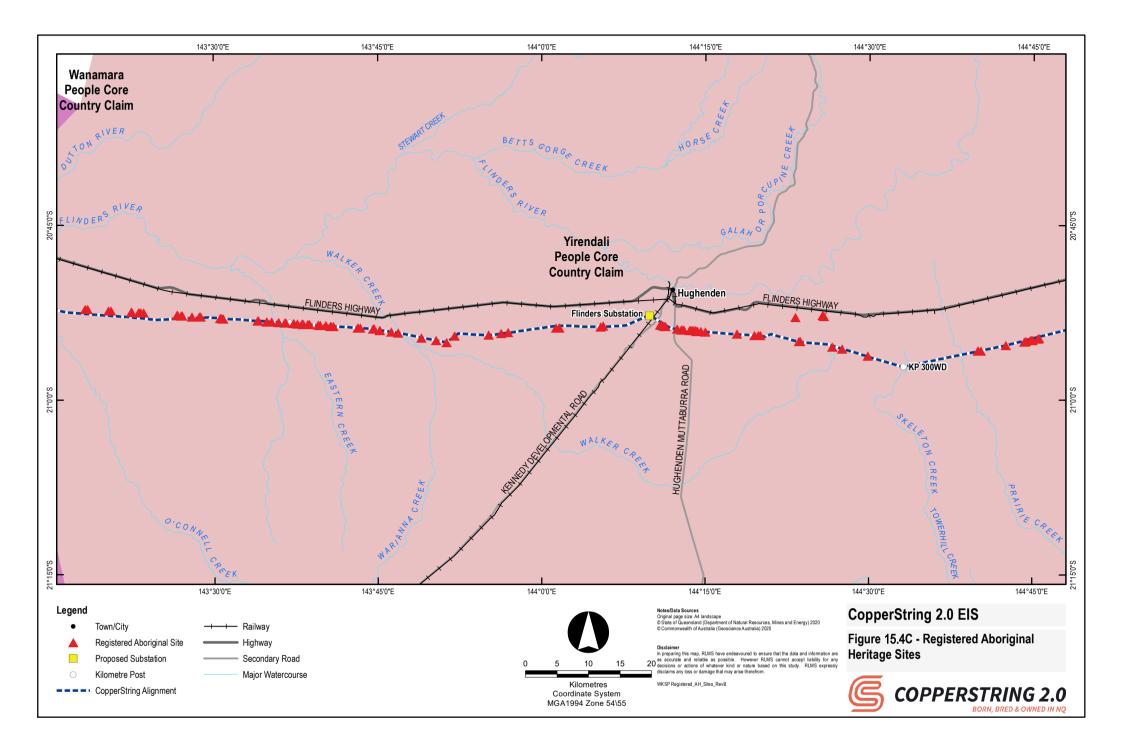
Aboriginal party	Site attribute	Count
Birriah People	Artefact scatter	19
	Cultural site	1
	Isolated find	3
	Quarry	6
	Total	29
Yirendali People Core	Artefact scatter	22
Country Claim	Grinding groove	2
	Hearth/oven	4
	Isolated find	27
	Quarry	1
	Resource area	39
	Scarred/carved tree	1
	Total	96
Mitakoodi People #5	Aboriginal intangible place	1
	Artefact scatter	29
	Cultural site	1
	Cultural site (polygon)	1
	Engraving	1
	Grinding groove	1
	Hearth/oven	1
	Isolated Find	8
	Quarry	6
	Resource area	2
	Rock art	1
	Stone arrangement	3
	Total	55
Kalkadoon People #4	Artefact scatter	12
	Cultural site	6

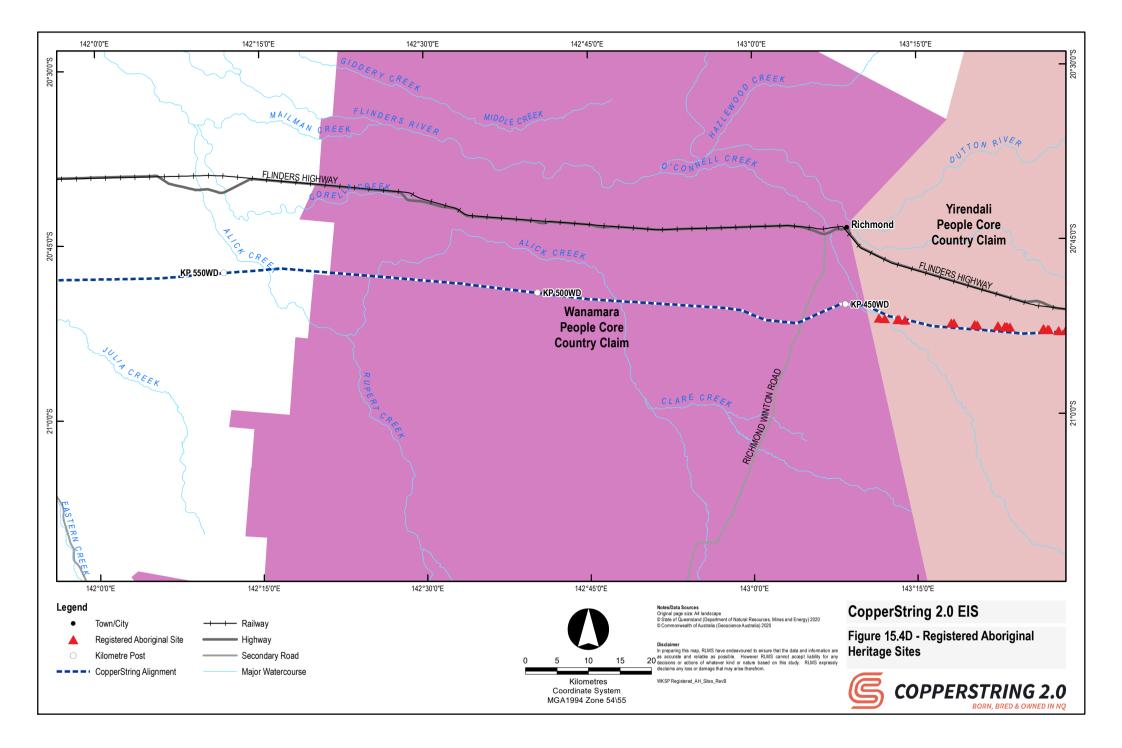


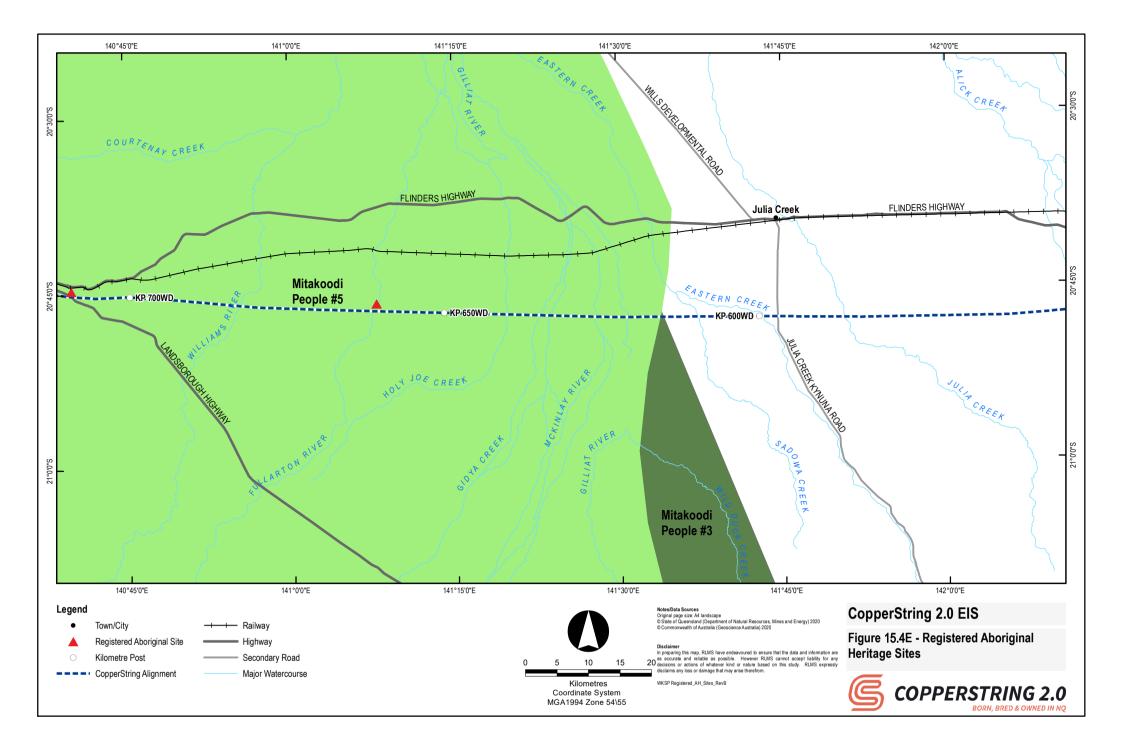
Aboriginal party	Site attribute	Count
	Engraving	6
	Hearth/oven	1
	Isolated find	1
	Quarry	1
	Scarred/carved tree	7
	Total	34
Yulluna People	Artefact scatter	8
	Hearth/oven	7
	Painting	2
	Quarry	4
	Well	1
	Total	22

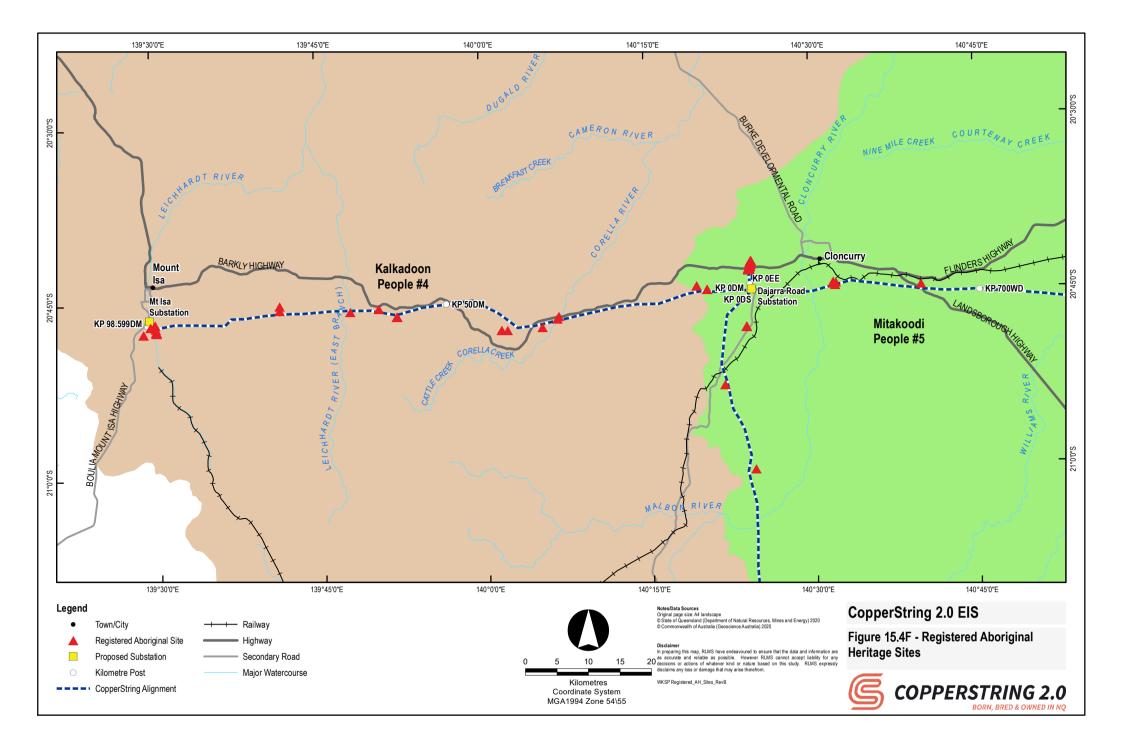


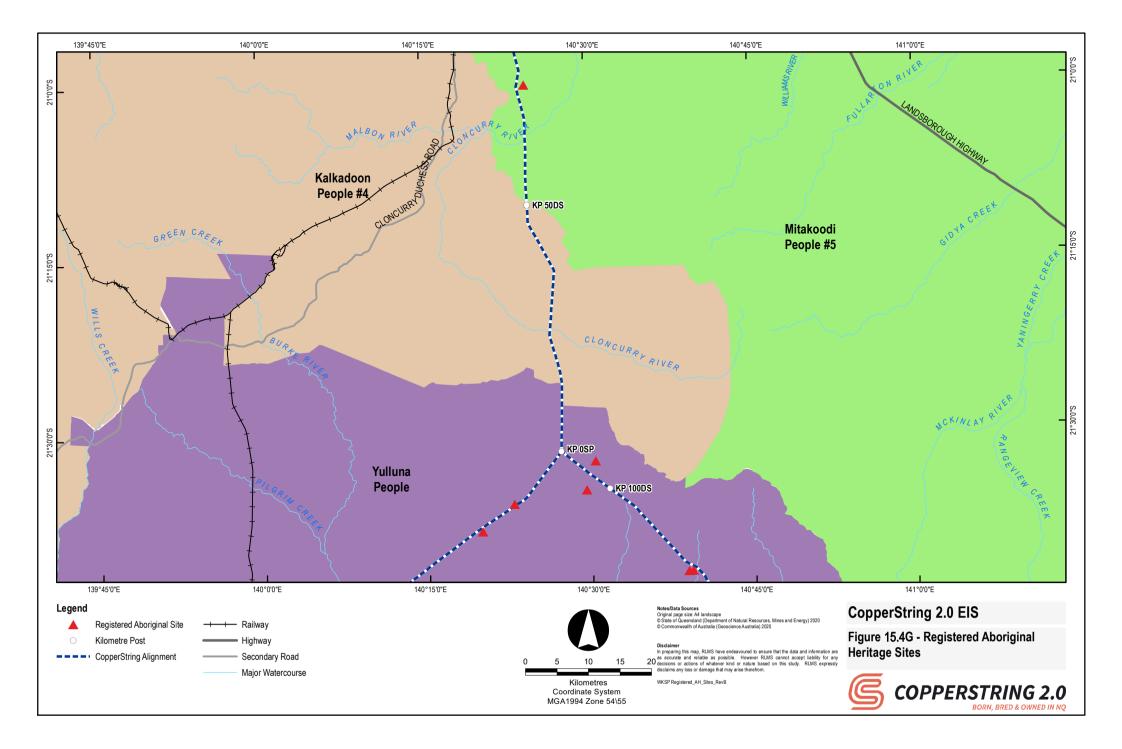


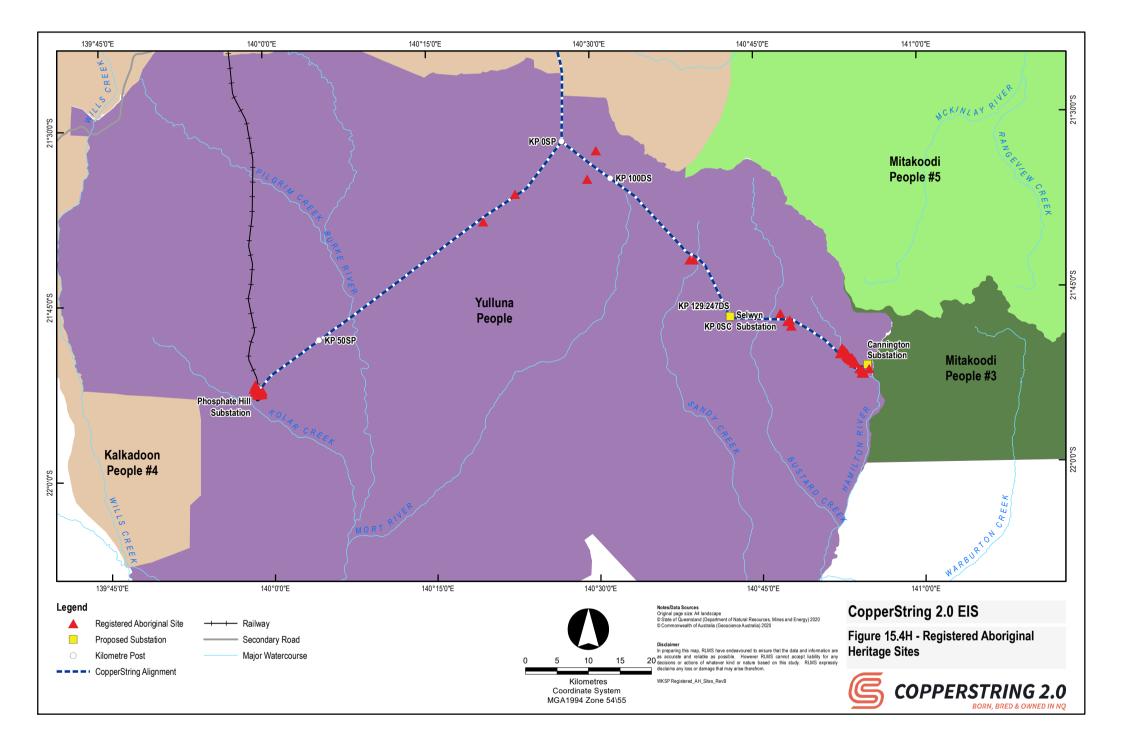














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Additional Indigenous cultural heritage sites are known to exist in the study area but are not registered on the DATSIP Aboriginal Cultural Heritage Register. Registered DATSIP Aboriginal cultural heritage sites are generally a reflection of where previous study has been conducted and not a reflection of the extent of heritage in the search area. It is certain that further cultural heritage field studies will identify more Indigenous cultural heritage sites. Known and new sites will be appropriately managed in consultation with the relevant Aboriginal parties under the CHMPs that will be developed for the Project.

15.3.2 Non-Indigenous cultural heritage

Historical context

The corridor selection traverses a region dominated by both current and historical mining and pastoral leases. Copper was first discovered near Cloncurry in 1867 and between 1910 and 1920 the region's mining industry was booming (Kennedy, 1979). Gold was first discovered in north Queensland at Ravenswood in 1868 and shortly after in Charters Towers (Charters Towers Regional Council, 2020). Today Cloncurry and Mount Isa continue to support the mining industry as the main centres of the North West Minerals Province, an area rich in copper, silver, lead and zinc, and mining operations continue in the Ravenswood and Charters Towers region.

Pastoral activities have been prevalent in north Queensland since 1860 when the newly formed Queensland Government allocated large tracts of land for pastoral activities (May, 1984). Beef cattle production has historically been the predominant pastoral activity and occurs along the full extent of the corridor selection, in addition to some cropping in areas such as Hughenden and Charters Towers.

Desktop search results

Desktop searches of the Australian Heritage Database and LGA heritage registers did not identify any sites of heritage value within the study area. Sites of local heritage value may not be listed on any heritage registers.

The field survey undertaken in 2010 for the CopperString 1.0 Project identified 74 sites along the corridor selection, of which 11 were classified as having possible local heritage significance. One site reviewed in the 2010 study was identified as having no significance but has subsequently been assessed as having likely local significance. These sites are listed in Table 15-3 and shown in Figure 15-5.

Site name	Location
Former Hampden railway line	-21.2176 E, 140.404 S Within the corridor selection in the eastern end of the CopperString Core and the Southern Connection
Mount Elliot Mine	-21.5821 E, 140.4921 S 1.3 km north-east of Cannington Connection
Mine remnants	-20.7294 E, 140.4239 S 1.6 km north of CopperString Core

Table 15-3 Local heritage within proximity of Project

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Site name	Location
Mine remnants – Salmon Mine	-20.7389 E, 140.4336 S
	385 m north of CopperString Core
Marathon South Homestead and shearing	-20.8997 E, 143.5843 S
shed	1.2 km south of CopperString Core
Winton Hughenden railway line	-20.8945 E, 144.1607 S
	Remnants located within the easement of the CopperString Core
Nicoleche homestead	-20.9017 E, 144.1669 S
	955 m south of CopperString Core
Disused telegraph line	-20.8973 E, 144.217 S
	435 m north of Renewable Energy Hub
Mount Leyshon Mine	-20.2859 E, 146.2587 S
	1.3 km south-east of Renewable Energy Hub
Dam	-20.1664 E, 146.4494 S
	15 m north-west of Renewable Energy Hub
Hadleigh Castle Mine - abandoned	-20.0971 E, 146.6141 S
	475 m south of Renewable Energy Hub
Silver Valley homestead	-20.0643 E, 146.6694 S
	1.7 km north-west of Renewable Energy Hub

A number of sites of heritage value listed on the Queensland Heritage Register were identified within the study area. These are described in Table 15-4 and shown in Figure 15-5.

Table 15-4 Queensland heritage sites in proximity to Project

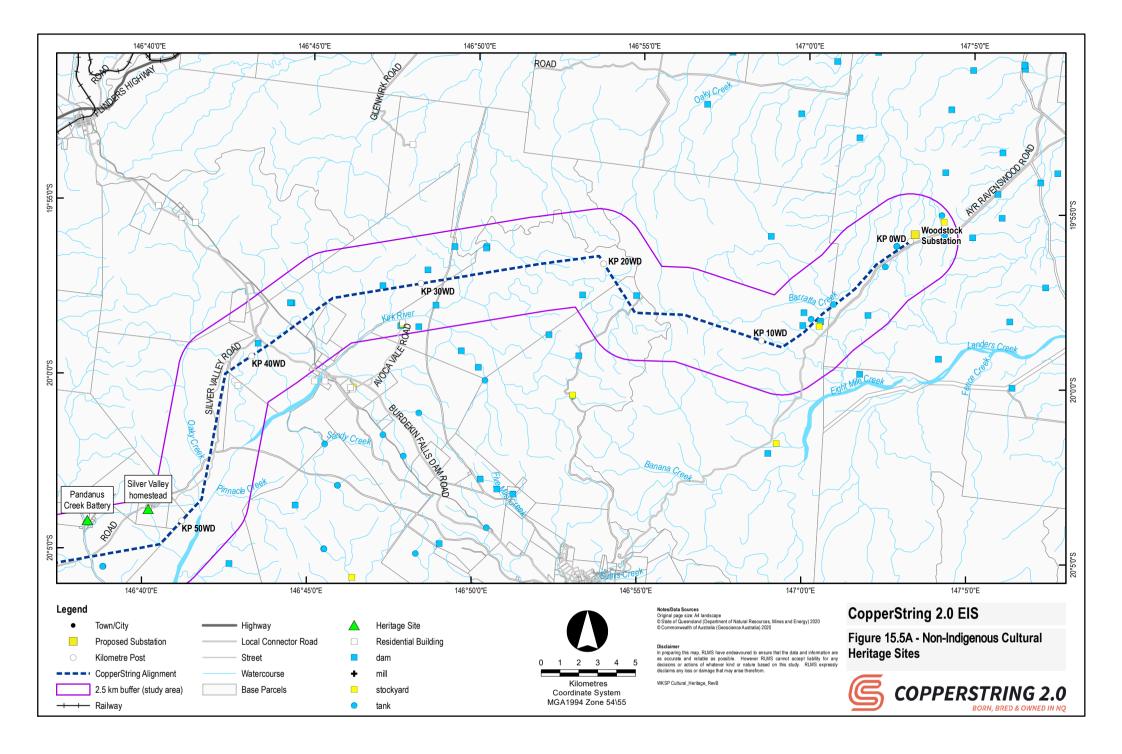
Ref no.	Name	Description	Location
601848	Pandanus Creek Battery (also known as Breitkreuz's Mill)	A stamper battery from the early 20 th century (1904) that demonstrates the evolution of gold mining practices in north Queensland and the technology of processing ore. One of very few surviving intact isolated stamp batteries in the Charters Towers Mining District.	Via Ravenswood to Mingela Road, Ravenswood -20.07012654 E, 146.63865093 S Approximately 1.8 km north of the Renewable Energy Hub

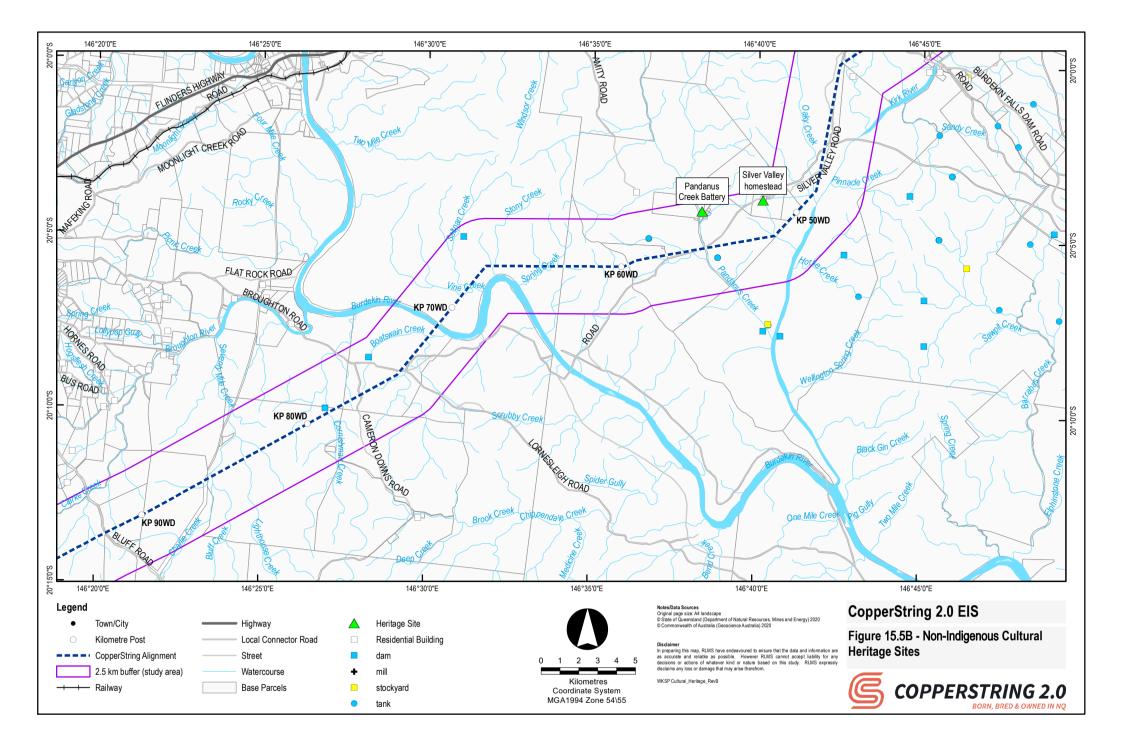


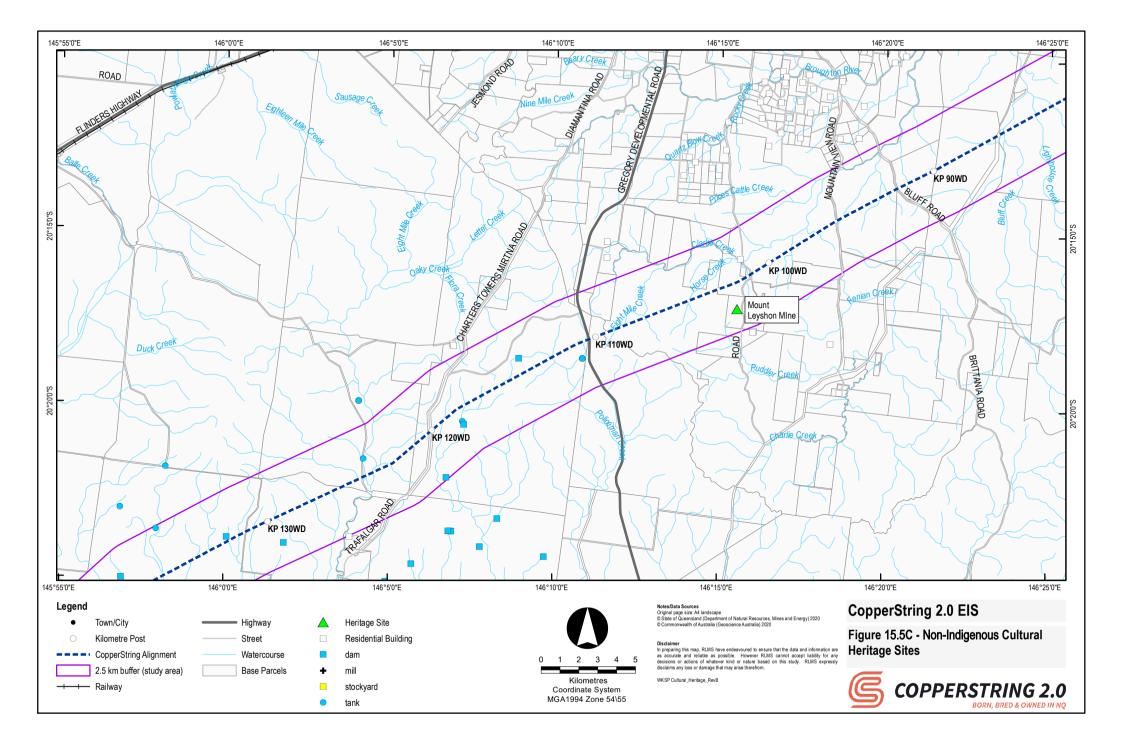
Ref no.	Name	Description	Location
602256	Mount Elliott Company Metallurgical Plant and Mill	The remains of an electrolytic reduction plant comprising five groups of structures. Constructed 1926-1927, significant as the only recorded surviving evidence of an early electrolytic plant	Via Sheaffe Street, Cloncurry -20.72006812 E, 140.49974056 S 2.8 km north of the CopperString Core
645604	Kuridala Township, Hampden Smelter and Mining Complex	A township site with surviving foundations and archaeological evidence of commercial and residential buildings. Constructed 1880-1920, the site is significant in revealing copper mining practices and pattern of settlement in north Queensland.	Approximately 65 km south of Cloncurry -21.27722094 E, 140.50633649 S 4.38 km east of the Southern Connection
645612	Mount Elliott Mining Complex	Mount Elliott Smelter (constructed 1908) and the abandoned remains of Selwyn township (constructed 1900+). Provides important information on early copper smelter practices and the people who lived and worked in the area.	Selwyn, via Cloncurry -21.53932021 E, 140.50160237 S 4.18 km east of the Southern Connection
600416	Cloncurry Post Office	Single storey timber building (constructed 1906). Illustrates the development of Cloncurry and district in early 20 th century	47 Scarr Street, Cloncurry -20.70537069 E, 140.50576384 S 4.7 km north of the CopperString Core
600415	Cloncurry Court House	Constructed in stages between 1897 and 1961, illustrates the development of Cloncurry and district in late 19 th and early 20 th century	42-48 Daintree Street, Cloncurry -20.70478945 E, 140.50595162 S 4.75 km north of the CopperString Core
601094	Casa Grande	Spanish Mission style house, constructed 1949-1970, demonstrates the development of Mount Isa as a mining town	7 Nettle Street, Mount Isa -20.74143507, 139.47522001 3.17 km north of Mount Isa Augmentation

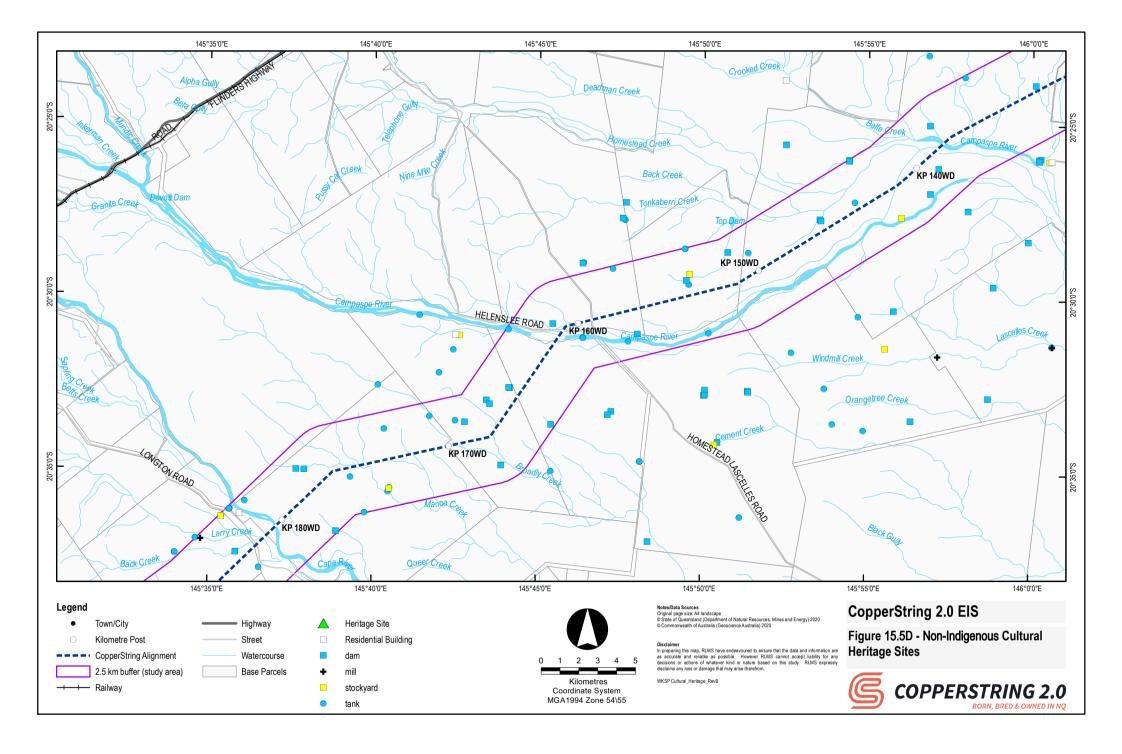


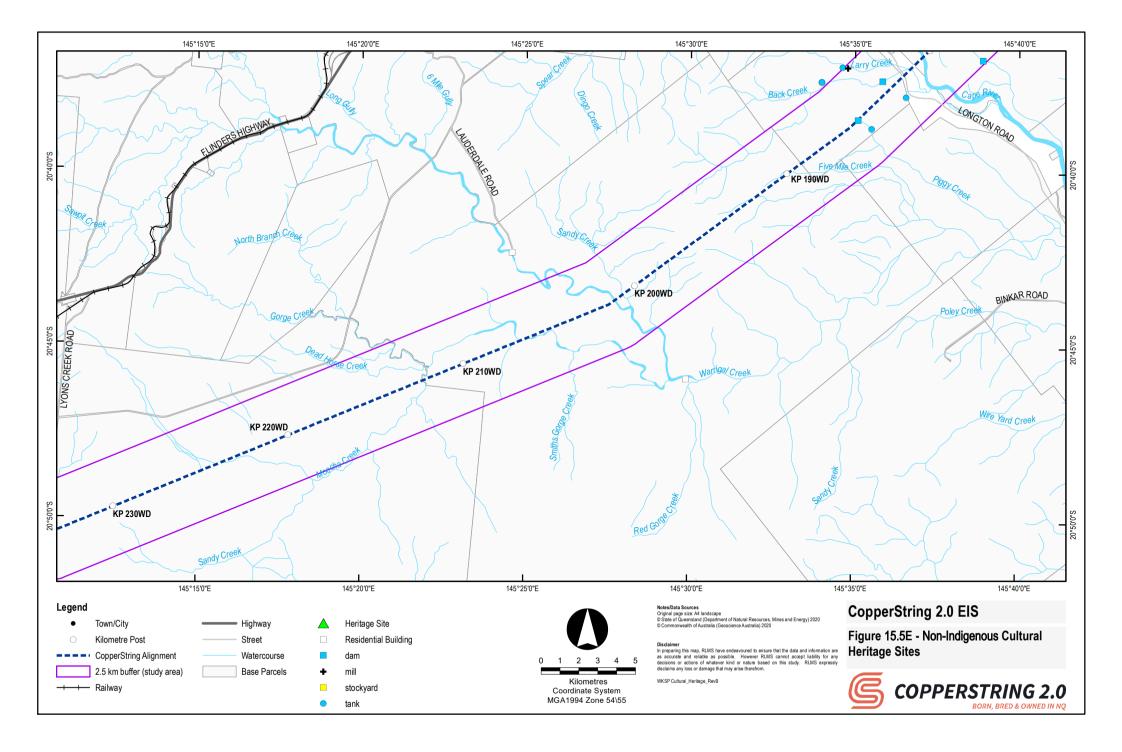
Ref no.	Name	Description	Location
601182	Mount Isa Mine Early Infrastructure	Important as surviving evidence from the establishment of large- scale mining in the 1920s	On Mount Isa Mine lease, Mount Isa -20.73920074 E, 139.47307808 S 3.55 km north-west of Mount Isa Augmentation
650065	Spinifex College State Junior Campus	Founded 1953 as Mount Isa State High School, demonstrates the evolution of education and its architecture in Queensland	6-12 Fifth Avenue, Mount Isa -20.73413923 E, 139.486595953 S 3.8 km north of Mount Isa Augmentation
600472	Tent House	Constructed in 1937, the last surviving tent house built to accommodate mining workers.	Camooweal Street, Mount Isa -20.731172 E, 139.495102 S 4.25 km north-west of Mount Isa Augmentation
601102	Former Underground Hospital	Underground series of tunnels that was constructed in 1942 in the grounds of the Mount Isa District Hospital in response to perceived threat of Japanese invasion in World War II.	Camooweal Street, Mount Isa -20.73156549 E, 139.49467321 S 4.3 km north-west of Mount Isa Augmentation

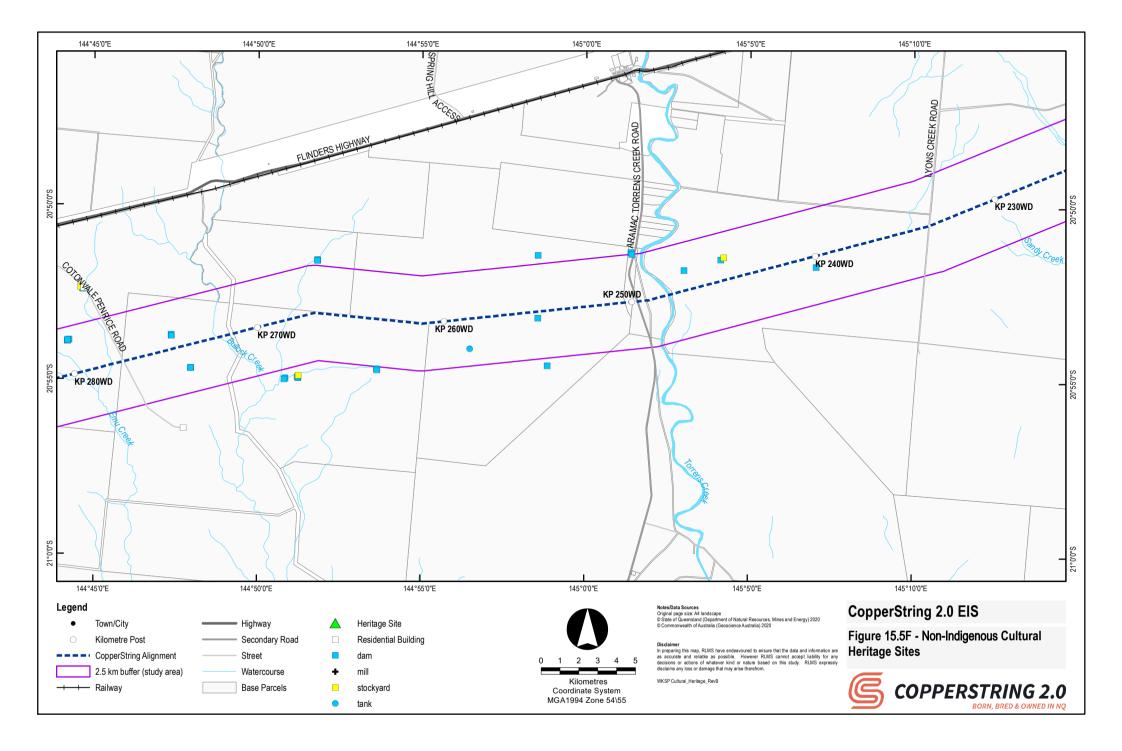


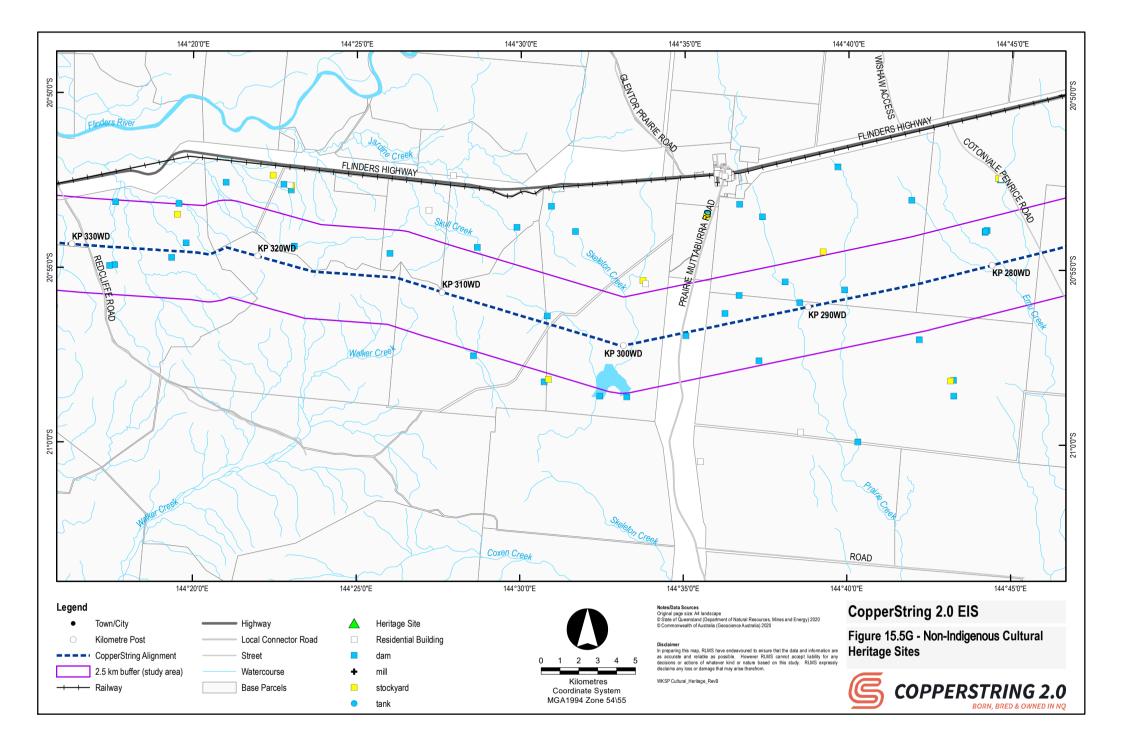


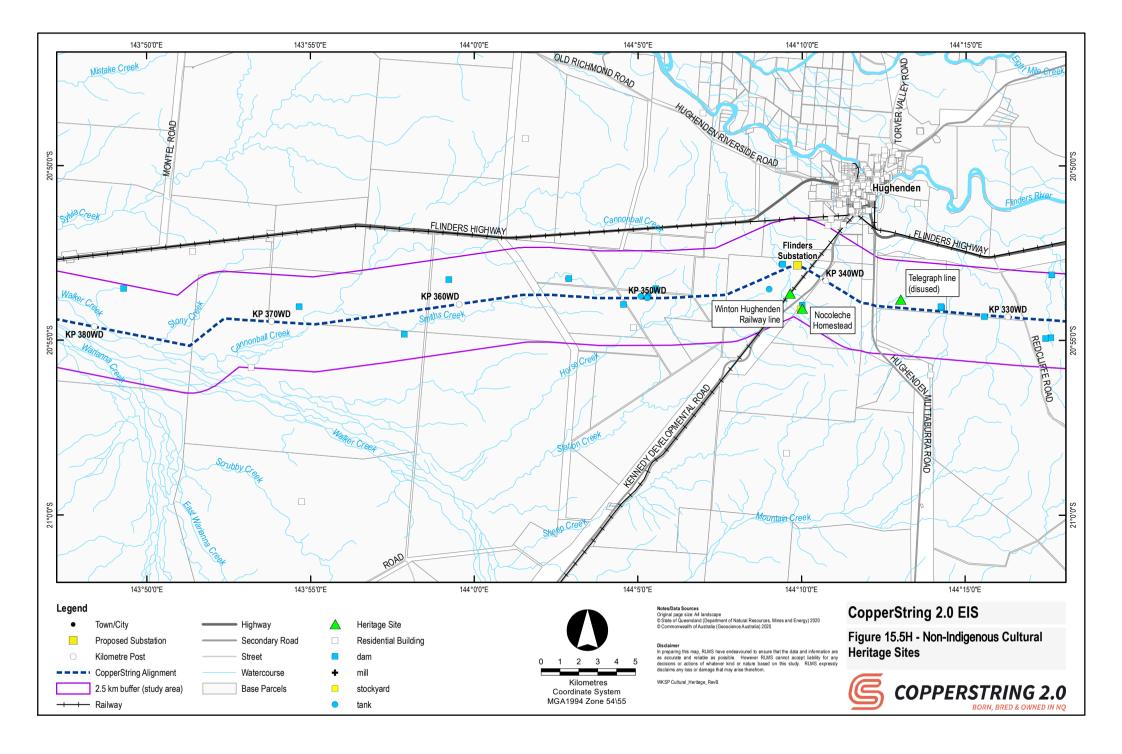


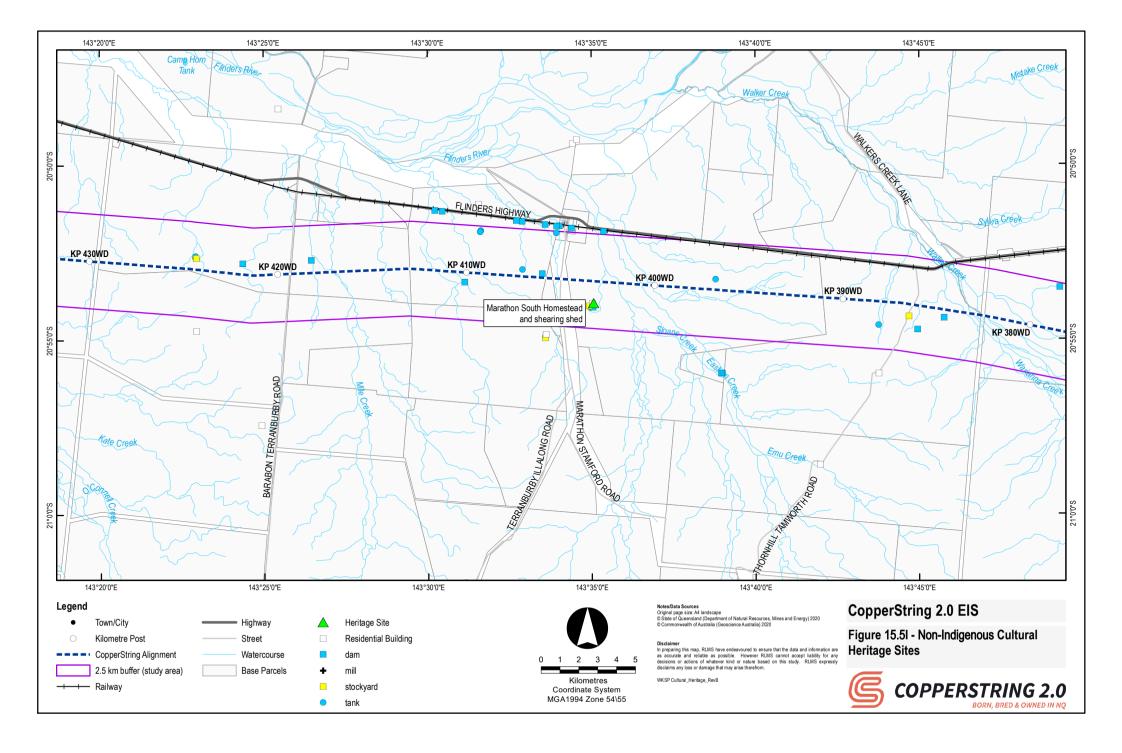


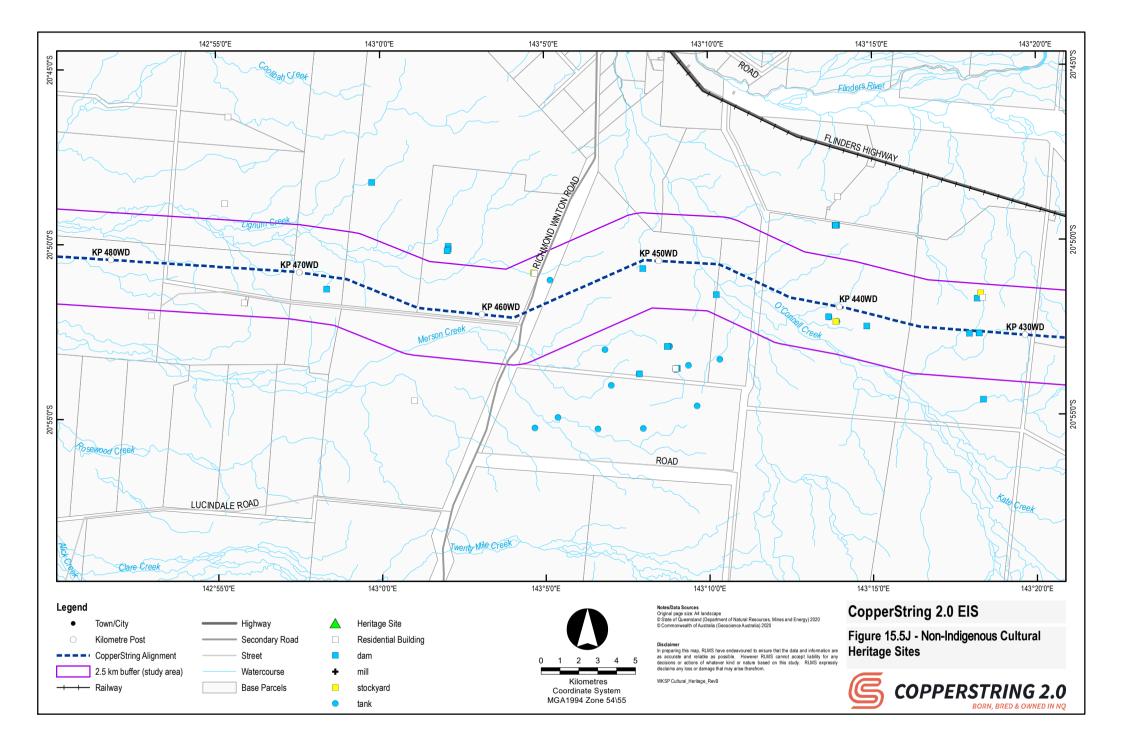


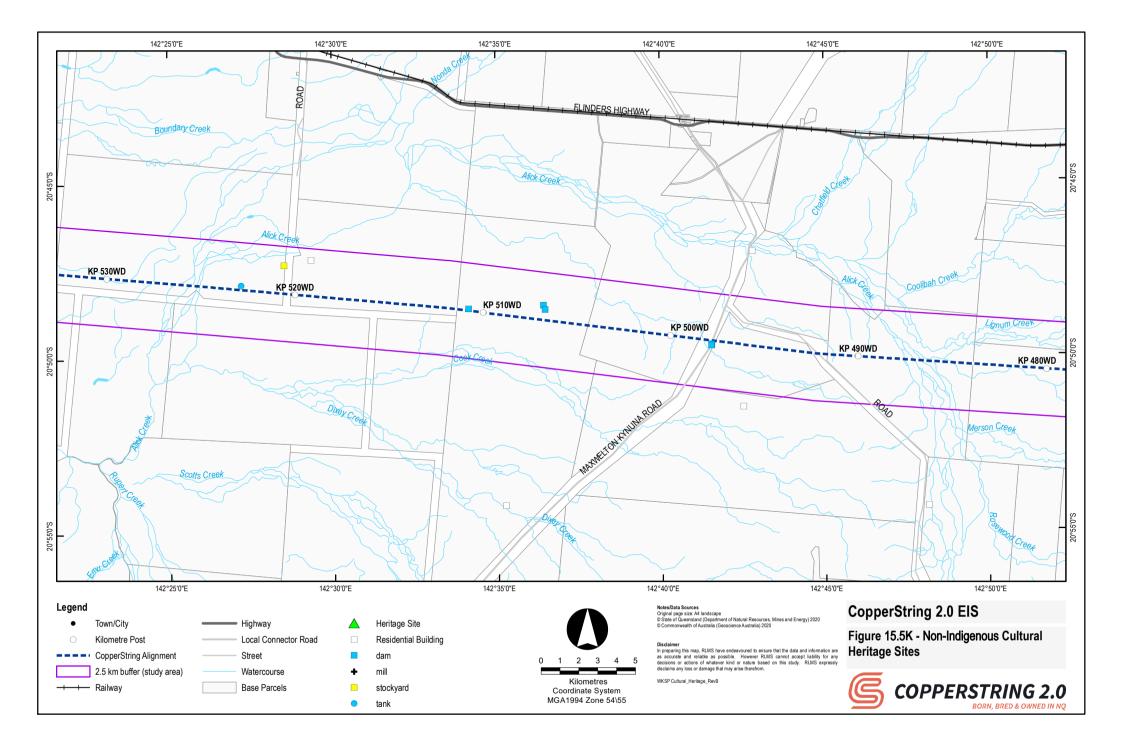


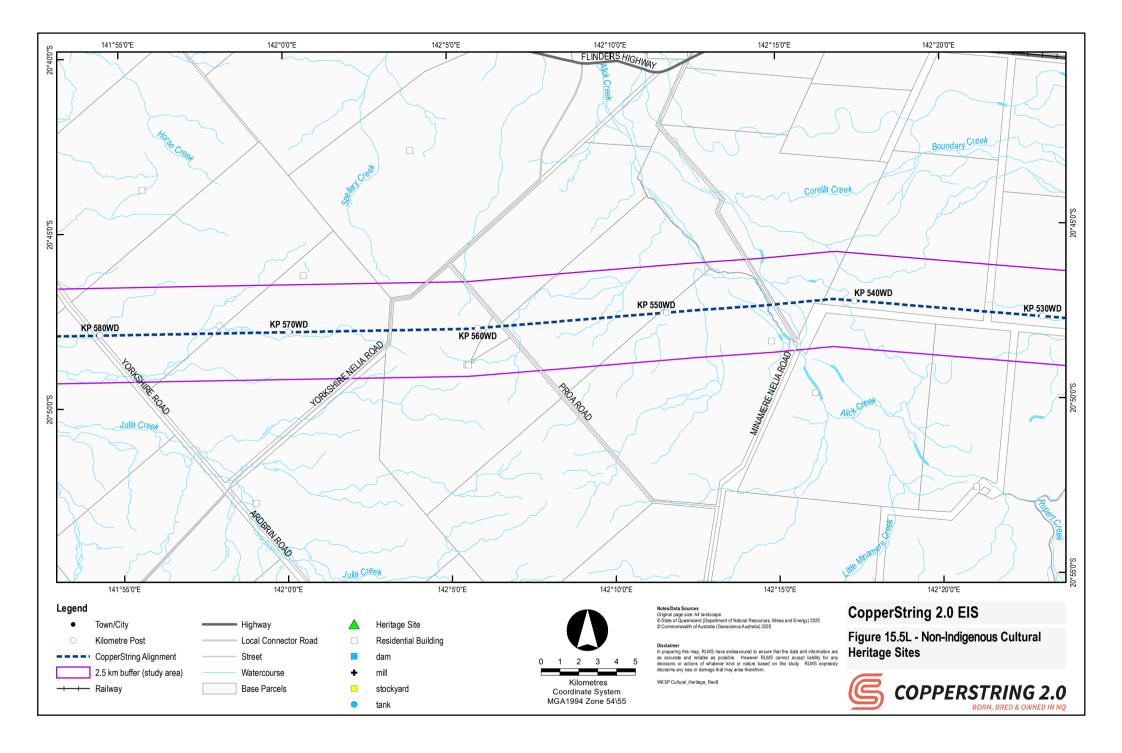


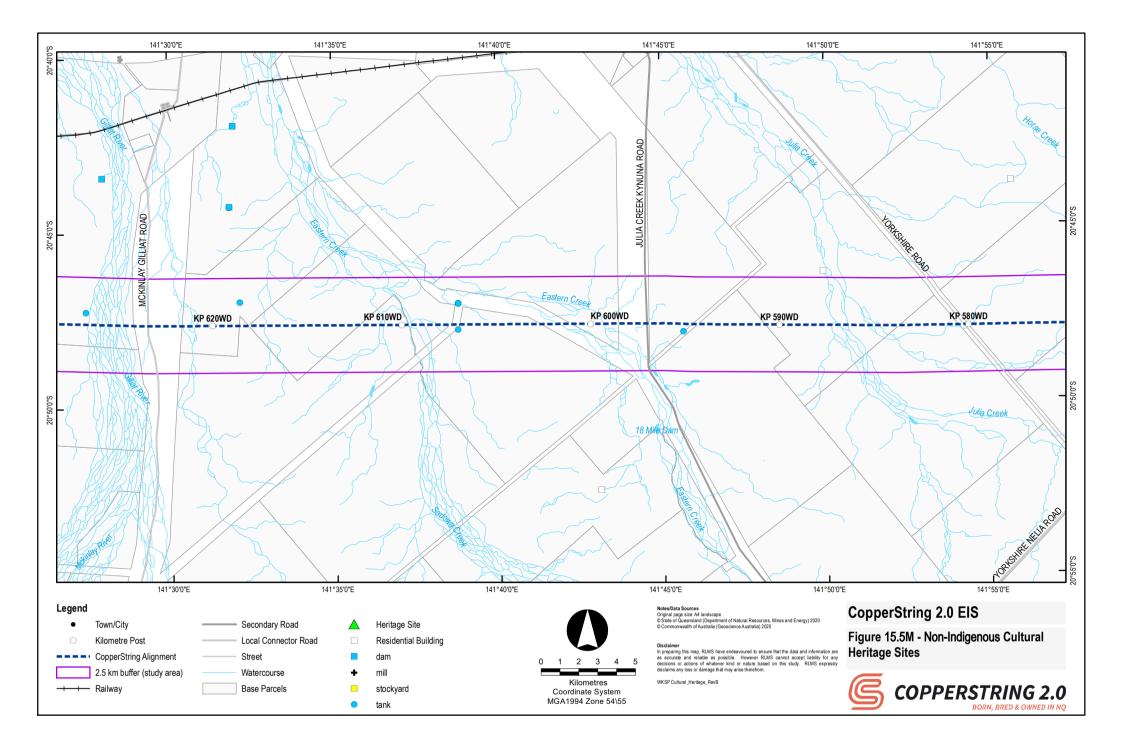


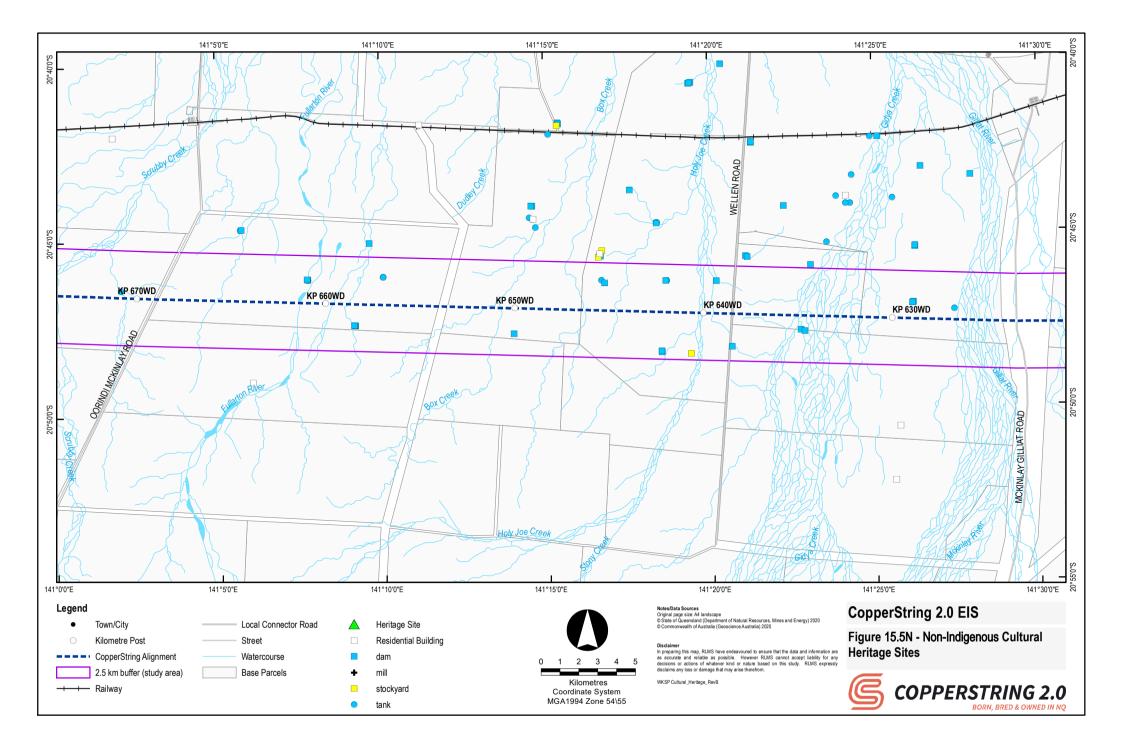


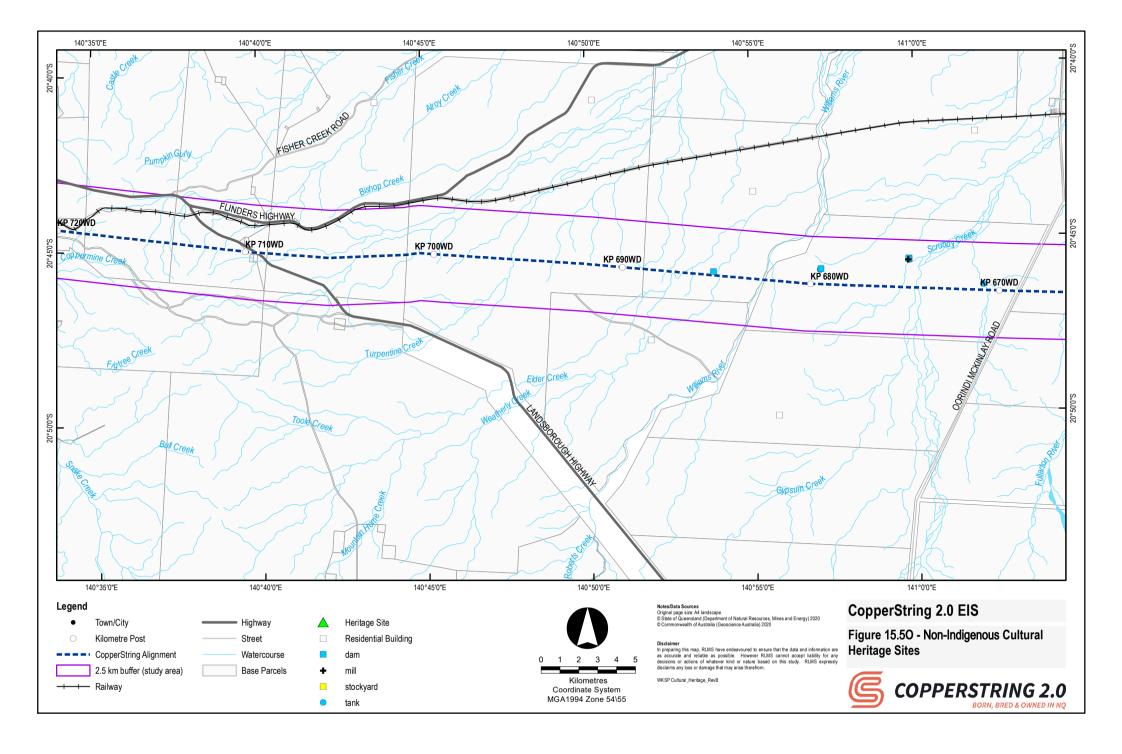


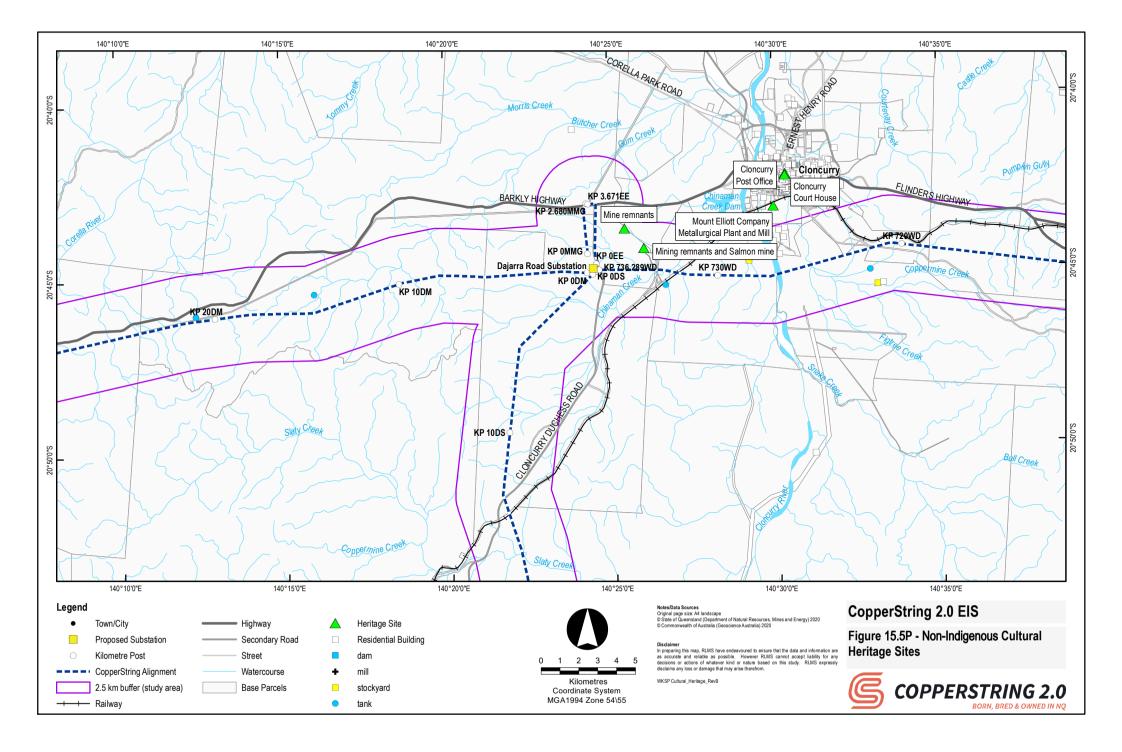


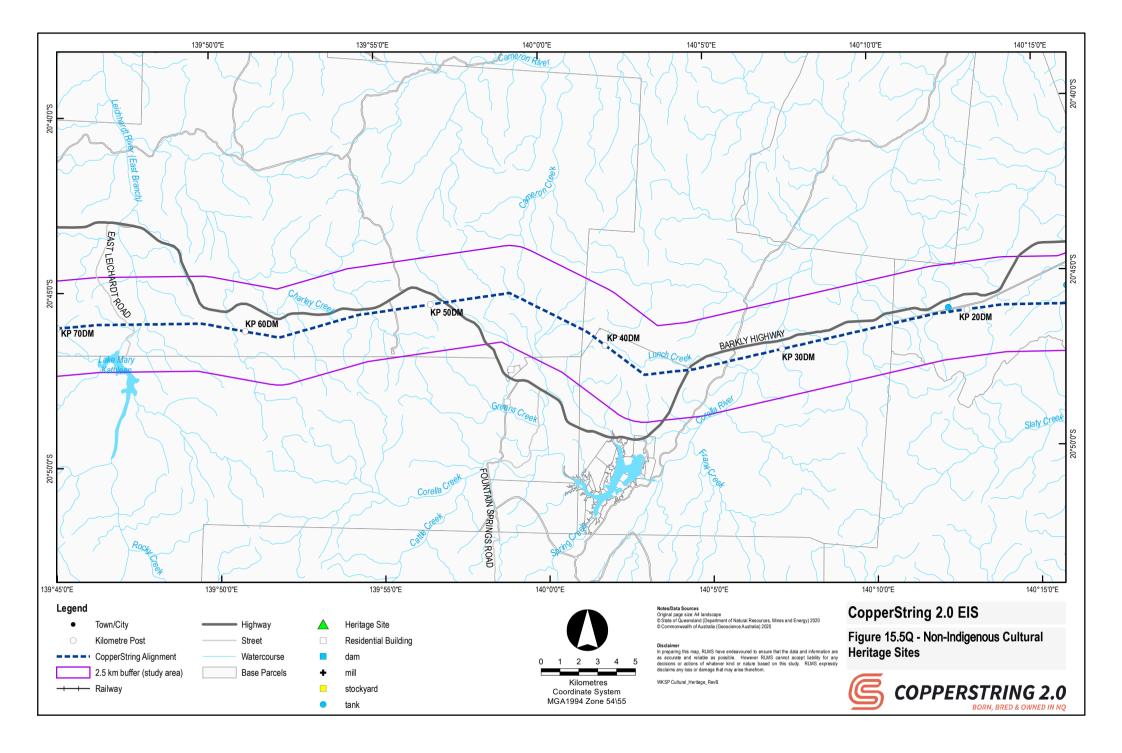


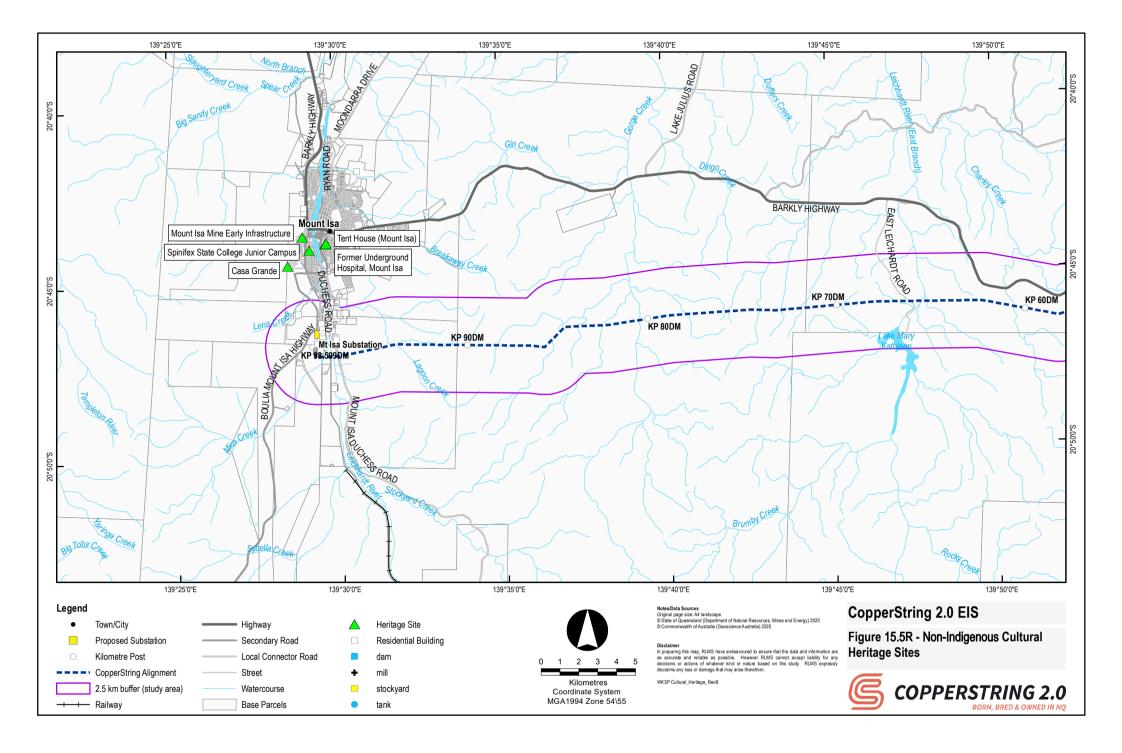


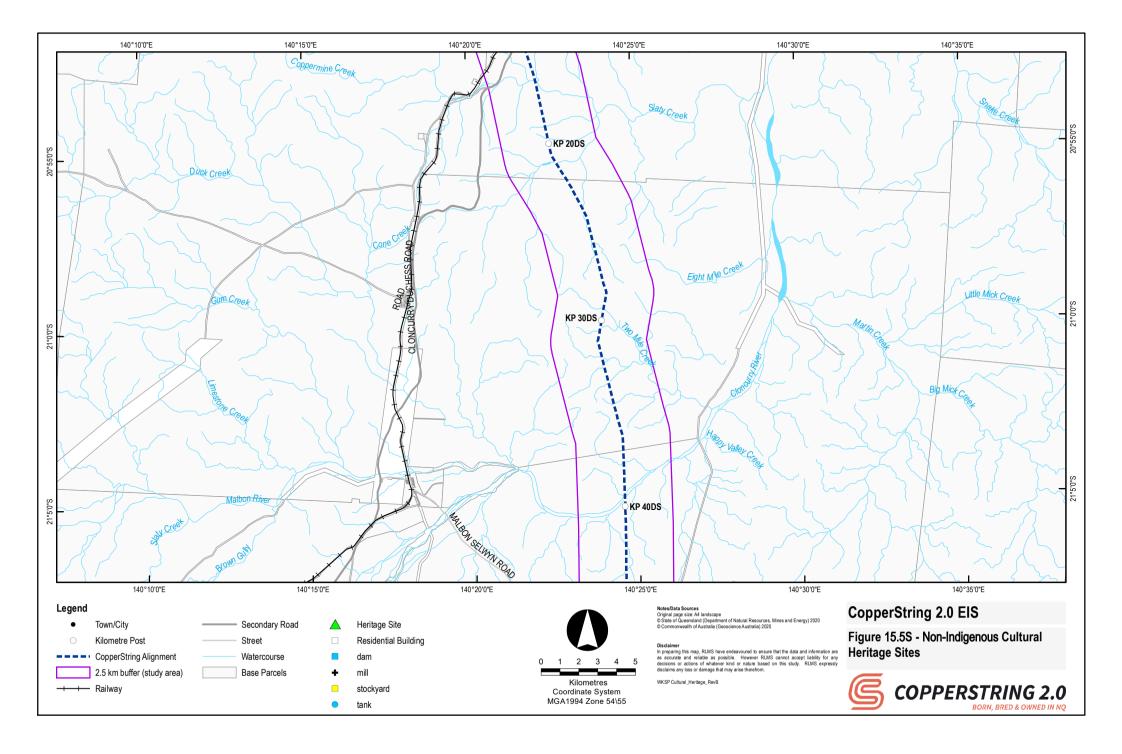


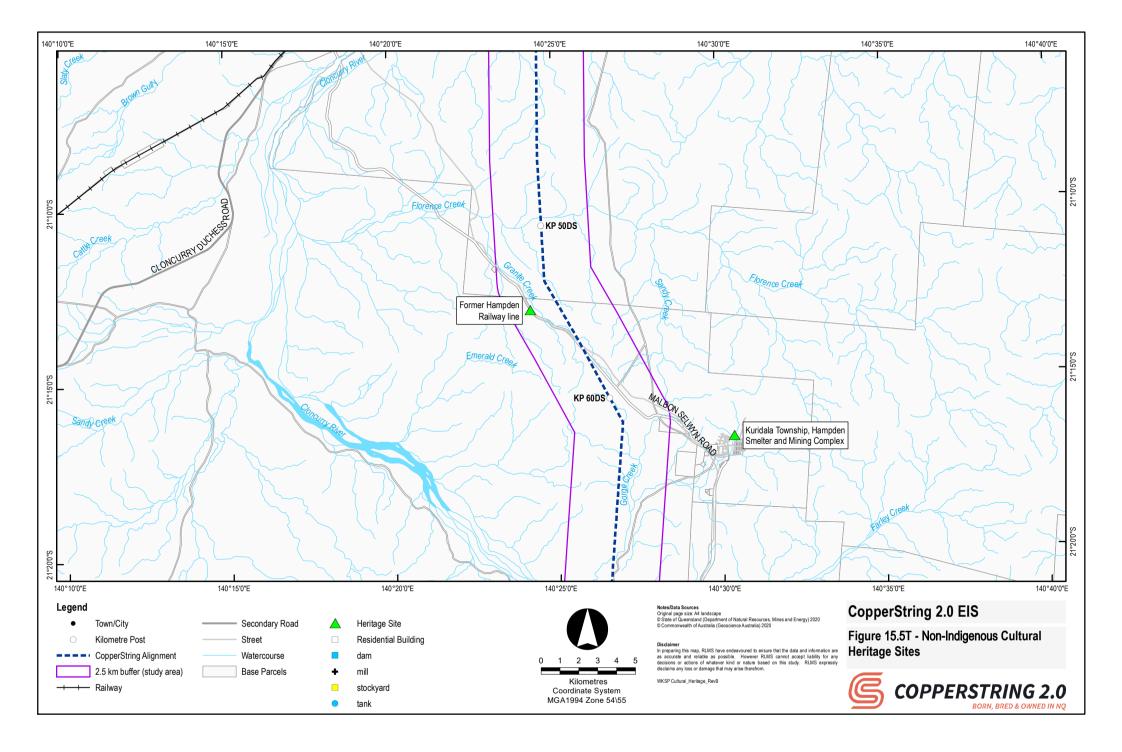


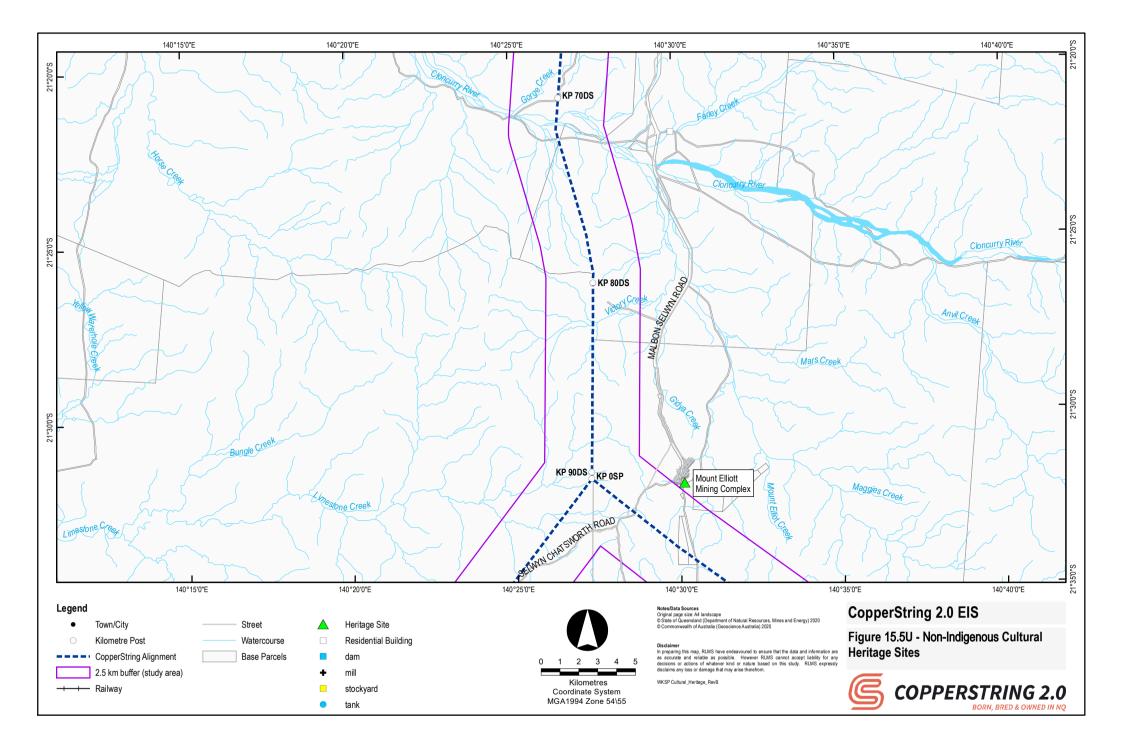


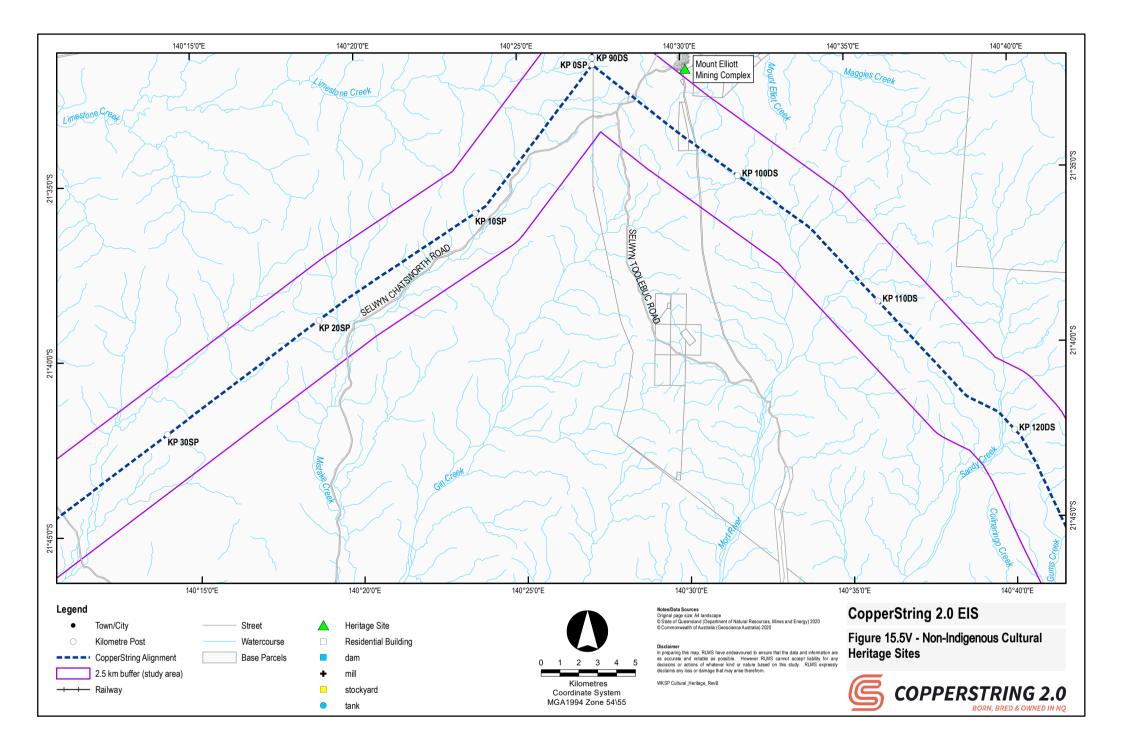


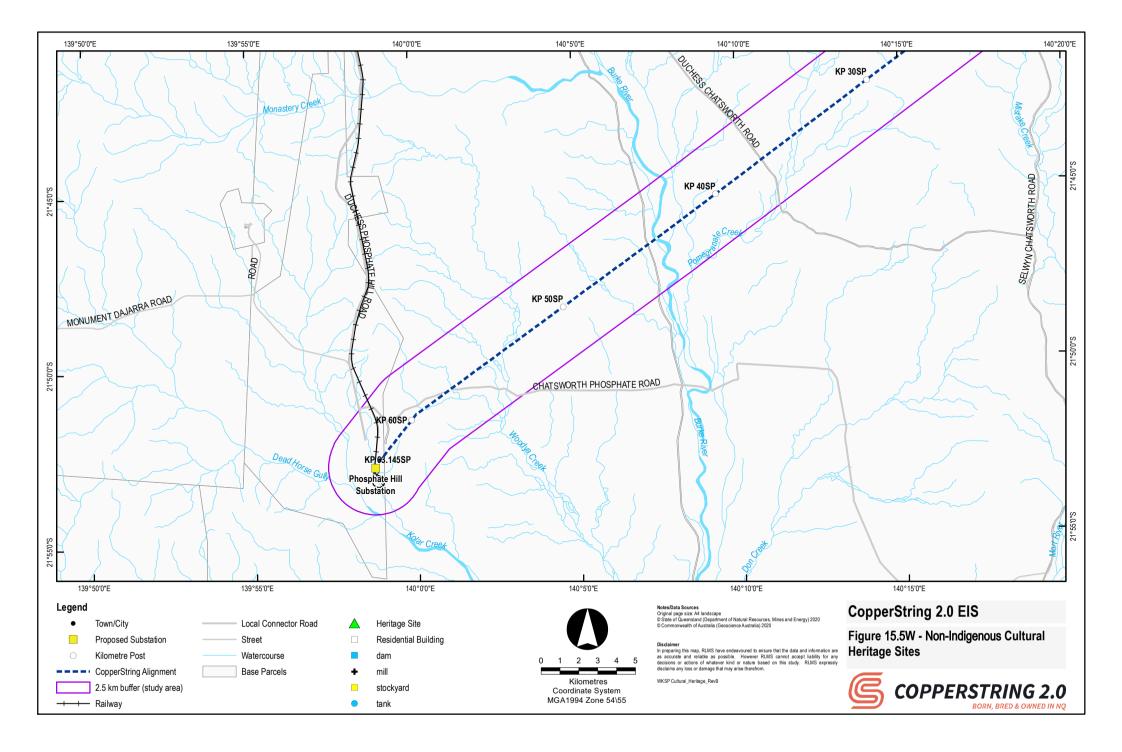


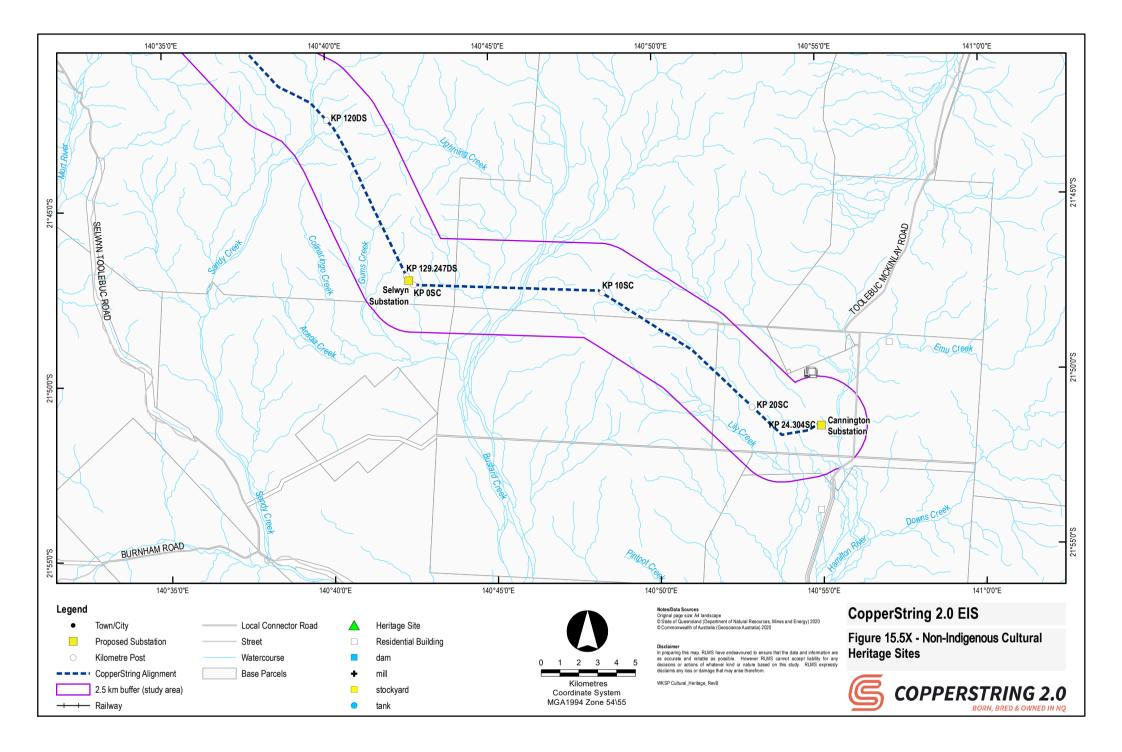












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The sites identified in Table 15-3 and Table 15-4 are evidence of the significance of the mining and pastoral industries in the development of the region. These sites are not expected to be impacted by the Project as they are generally located more than 100 m from the corridor selection. Three sites of local heritage significance were identified within 100 m of the corridor selection; a dam located approximately 15 m north-west of the Renewable Energy Hub, the former Hampden railway line, located within the CopperString Core and Southern Connection, and the Winton Hughenden railway line, located within the CopperString Core. These sites will be avoided by transmission towers and access tracks.

The sites listed in Table 15-3 and Table 15-4 are representative of the types of heritage sites in the region that may be uncovered during construction of the Project. Volume 3 Appendix AA Non-Indigenous cultural heritage includes examples of artefacts related to mining or rural settlements commonly used in north and western Queensland from the 1890s to the 1950s that are also indicative of potential archaeological finds.

15.3.3 Recommendations

Indigenous cultural heritage

The DATSIP Aboriginal Cultural Heritage Database identifies many significant sites within 5 km of the corridor selection and some that could be impacted by the Project. There is also potential for the Project to impact Aboriginal cultural heritage yet to be identified. Prior to construction, a full field survey will be undertaken of the corridor selection, with each Aboriginal party to re-identify known Aboriginal cultural heritage sites and identify new sites that may be impacted.

In instances where sites cannot be avoided, measures to mitigate and manage impacts will be agreed, in accordance with the CHMPs developed with each of the Aboriginal parties. Impact mitigation measures that may be required include:

- Avoiding highly sensitive areas
- Carrying out further field investigations, which may include:
 - Sub-surface testing
 - Collecting and relocating cultural heritage items

Non-Indigenous cultural heritage

Where heritage sites have been identified within the corridor selection, these sites should be avoided during design of the Project. By placing transmission towers, access tracks, brake and winch sites, and laydown areas away from these sites, impacts will be avoided. Given the significance of the mining and pastoral industries in developing the north and north-western regions of Queensland in the late 19th and early 20th centuries, it is recommended that procedures for artefact discovery are developed as part of the Construction Environmental Management Plan.

15.4 Impact assessment and mitigation measures

15.4.1 Design response

The current Project design requires a final easement width of 60 m for all transmission lines. Some sections consist of parallel lines, or include an allowance for parallel lines, where widths are multiples of 60 m, eg 120 m. This will limit the Project to a reasonably light footprint through the landscape. The transmission towers will have a proposed average spacing of 425 m for the 220 kV lines and 475 m for the 330 kV lines with some flexibility in the distance between towers, allowing them to span and minimise harm to particularly significant cultural heritage sites.

15.4.2 Construction

Indigenous cultural heritage

Anticipated impacts on Indigenous cultural heritage associated with the construction phase of the Project include, but are not limited to, the risks associated with vegetation clearing and the construction of:

- Access tracks (new tracks, upgraded tracks or continued use of existing tracks causing further erosion)
- Laydown areas
- Construction camps
- Temporary workshops and site offices
- Transmission line pads
- CEV huts and substations
- Concrete batching plants
- Pulling and tensioning sites
- Services and water supply infrastructure.

Non-Indigenous cultural heritage

The construction of the Project is unlikely to have any impact on identified non-Indigenous cultural heritage sites. Three sites of local heritage significance were identified as being within the corridor selection however the design of the Project will enable these sites to be avoided during construction. Given the long history of mining and pastoral operations in the region, there is potential that the construction phase will uncover buried fragments or complete artefacts or sites of non-Indigenous cultural heritage significance.

Under the QHA, a person who discovers a thing the person knows, or ought reasonably to know, is an archaeological artefact must give notice to the chief executive. Where items of potential cultural heritage significance are discovered during construction, the site manager/representative must be contacted and work temporarily stopped at that location. A suitably qualified cultural heritage practitioner should be contacted to assess the item for its cultural heritage significance. If the item is identified as being of cultural heritage significance, applicable records will be taken (eg. Photographing the artefact in situ, recording GPS coordinates of the location) and the item will be stored in a secure on-site location until completion of an assessment and report.

Previously all archaeological artefacts deemed significant were defined under the QHA as being the property of the state however changes to the QHA reveal this is not automatically the case and an individual assessment at the time of discovery is determined by the Department of



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Environment and Science. Upon completion of the assessment, the items will be returned to the identified owner. Items may be donated to local museums or reburied on site.

The following is a list of local museums that may accept artefacts:

- Museum of Tropical Queensland domestic/industrial artefacts and primary museum liaison for the Department of Environment and Science
- Army History Museum of North Queensland (Jezzine Barracks)
- Townsville RAAF Museum
- Charters Towers Zara Clark Museum.

15.4.3 Operation

Indigenous cultural heritage

The most potential significant impact to Indigenous cultural heritage will occur at the construction phase, with operation generally requiring continued use and maintenance of tracks and infrastructure. Additional impacts associated with operation of the Project include the construction of new access tracks, where required, and the construction of temporary towers in the event that a tower failure occurs. It is also possible that the continued use of tracks and infrastructure will cause erosion and further ground disturbance and gradually uncover Indigenous cultural heritage. Such potential impacts will be managed by new find procedures and associated processes in the CHMPs developed with each Aboriginal party. Indigenous cultural heritage management strategies will also be incorporated into the broader environmental management operation plan for the Project.

Non-Indigenous cultural heritage

The Project is unlikely to have any impact on non-Indigenous cultural heritage during operation. The transmission network will generally operate without any contact by personnel other than during inspections and maintenance activities.

It is unlikely that maintenance activities will uncover buried artefacts however there is the potential for non-Indigenous cultural heritage to be discovered during maintenance activities such as vegetation control.

15.4.4 Summary of potential mitigation and management measures

Indigenous cultural heritage

For the management and mitigation of impacts on Indigenous cultural heritage, CuString will use a range of cultural heritage management processes and proven procedures that have effectively been implemented throughout Queensland (refer Table 15-5). The overall strategy for the management of Indigenous cultural heritage will be to avoid harm where reasonably possible. Mitigation measures will be employed where harm cannot be reasonably avoided.

If appropriate and with the consent of the relevant Aboriginal parties, previously unrecorded Indigenous cultural heritage may be nominated to appropriate state and Commonwealth cultural heritage registers. Cultural heritage standards in Queensland generally require that cultural heritage items recovered prior to construction and objects identified and salvaged during construction be managed in consultation with the relevant Aboriginal party. This is often achieved through agreement of a safe keeping place between parties.



Table 15-5	Summary of mitigation and management measures –
Inc	ligenous cultural heritage

Timing	Mitigation and Management Measures	
Design	Agreeing and executing CHMPs with each Aboriginal party to identify a clear process for managing Aboriginal cultural heritage, including cultural heritage survey and management processes. These may be required to access land to perform geotechnical surveys during the design phase.	
	Cultural heritage inductions and clear communication of obligations under the CHMPs to construction contractors	
Pre-construction/ operational readiness	Development of cultural heritage inductions including clear communications of obligations under the CHMPs	
	Development of procedure for managing new Indigenous cultural heritage finds and potential human remains finds	
Construction, operation and maintenance	Implementation and maintenance of cultural heritage inductions and clear communication of obligations under the CHMPs to construction contractors and operations/maintenance personnel	
Operation and maintenance	Implementation and maintenance of procedure for managing new Indigenous cultural heritage finds and potential human remains finds	

Table 15-6 includes potential impacts to Indigenous cultural heritage during the construction phase of the Project with risk ratings for unmitigated and mitigated activities.

Table 15-6 Risk rating of potential construction impacts on Indigenous cultural heritage

Construction activities	Associated potential impacts	Unmitigated risk rating	Mitigated risk rating
Construction or upgrade or increased use of access tracks	Increased movement and disturbance near known cultural heritage sites	Moderate	Low
	Loss of items or places of cultural heritage significance	Moderate	Low
Earthmoving, general construction activities	Increased movement and disturbance near known cultural heritage sites	Moderate	Low
	Loss of items or places of cultural heritage significance	Moderate	Low
	Change in context of places of cultural heritage significance due to noise, visual impact	Low	Low
	Reduced cultural heritage record	Low	Low

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Construction activities	Associated potential impacts	Unmitigated risk rating	Mitigated risk rating
Vegetation clearing	Loss of items or places of cultural heritage significance	Moderate	Low
	Change in context of places of cultural heritage significance due to visual impact	Low	Low
	Reduced cultural heritage record	Low	Low
Construction vehicle traffic	Access impacts to heritage sites	Low	Low

Table 15-7 includes potential impacts to Indigenous cultural heritage during operation of the Project with risk ratings for both unmitigated and mitigated activities.

Table 15-7Risk rating of potential operational impacts on Indigenouscultural heritage

Operational activities	Associated Potential Impacts	Unmitigated Risk rating	Mitigated Risk rating
Transmission network operation	Change in context of places of cultural heritage significance due to visual impact	Low	Low
	Restricted access to places of cultural heritage significance	Low	Low
Inspections and maintenance	Loss of items or places of cultural heritage significance	Low	Low

Non-Indigenous cultural heritage

Table 15-8 includes measures for the mitigation and management of impacts to non-Indigenous cultural heritage. The main strategy for the management of non-Indigenous cultural heritage is to develop a procedure for dealing with unexpected archaeological finds. This requires the inclusion of cultural heritage awareness training in inductions and procedures for managing archaeological finds in the construction environmental management plan (CEMP).



Timing	Mitigation and Management Measures
Design	Undertake assessment to identify heritage sites that are within or in proximity of the corridor selection
	Corridor selection to avoid any identified heritage sites
	Cultural heritage inductions and clear communication of obligations under the QHA to construction contractors
Pre-construction/ operational readiness	Development of procedures for dealing with unexpected archaeological finds in the relevant environmental management plans
	Development of cultural heritage inductions to include clear communication of obligations under the QHA
Construction/operation/ maintenance	Implementation and maintenance of procedures for dealing with unexpected archaeological finds in the CEMP
	Cultural heritage inductions and clear communication of obligations under the QHA to construction contractors and operations/maintenance personnel

Table 15-8 Summary of mitigation and management measures – non-Indigenous cultural heritage

Table 15-9 describes potential impacts associated with construction activities and includes a risk rating for unmitigated activities and mitigated activities. As construction activities will not be undertaken near any heritage sites, the risk of potential impacts is low.

Table 15-9Risk rating of potential construction impacts on non-
Indigenous cultural heritage

Construction activities	Associated potential impacts	Unmitigated risk rating	Mitigated risk rating
Construction vehicle traffic	Increased movement and disturbance near remote heritage sites	Low	Low
Earthmoving, general construction activities	Loss of items or places of cultural heritage significance	Low	Low
Earthmoving, general construction activities	Reduced cultural heritage record	Low	Low
Vegetation clearing	Change in context of places of cultural heritage significance due to noise, visual impact	Low	Low
Construction vehicle traffic	Access impacts to heritage sites	Low	Low



Table 15-10 includes potential impacts to non-Indigenous cultural heritage during the operation of the Project with risk ratings for unmitigated and mitigated activities.

Operational activities	Associated Potential Impacts	Unmitigated Risk rating	Mitigated Risk rating
Transmission network operation	Change in context of places of cultural heritage significance due to visual impact	Low	Low
	Restricted access to places of cultural heritage significance	Low	Low
Inspections and maintenance	Loss of items or places of cultural heritage significance	Low	Low

 Table 15-10
 Risk rating of potential operational impacts

15.5 Conclusion

The cultural heritage assessment has identified a number of Indigenous and non-Indigenous cultural heritage sites within proximity of the corridor selection. Identified non-Indigenous sites are unlikely to be impacted by the Project due to their distance from the corridor selection. Indigenous cultural heritage sites will be managed through avoidance of known sites and development of CHMPs with relevant Aboriginal parties.

There is potential for significant cultural heritage items, both Indigenous and non-Indigenous, to be uncovered during the construction phase, particularly where earthworks and vegetation clearing is required. The commitments identified in this chapter for the management of potential impacts to Indigenous and non-Indigenous heritage during the construction and operation of the Project include:

- Development and implementation of CHMPs
- Development and implementation of a CEMP

Cumulative impacts (ie. combined effects from multiple activities) to Indigenous or non-Indigenous heritage are not anticipated to result from the Project.