

CHAPTER

17

INLAND
RAIL 

Cultural Heritage

INLAND RAIL—BORDER TO GOWRIE ENVIRONMENTAL IMPACT STATEMENT

 ARTC

The Australian Government is delivering
Inland Rail through the Australian
Rail Track Corporation (ARTC), in
partnership with the private sector.

Contents

17.	CULTURAL HERITAGE	17-1
17.1	Introduction	17-1
17.2	Terms of reference requirements	17-1
17.3	Policies, standards and guidelines	17-2
17.4	Methodology	17-2
17.4.1	Impact assessment area	17-2
17.4.2	Indigenous heritage	17-3
17.4.3	Non-Indigenous heritage	17-3
17.4.4	Consultation	17-14
17.5	Existing environment	17-16
17.5.1	Indigenous heritage	17-16
17.5.2	Non-Indigenous heritage	17-17
17.6	Potential impacts	17-30
17.6.1	Indigenous heritage	17-30
17.6.2	Non-Indigenous heritage	17-30
17.7	Mitigation measures	17-34
17.7.1	Mitigation through the reference design phase	17-34
17.7.2	Proposed mitigation measures	17-34
17.8	Impact assessment summary	17-37
17.8.1	Indigenous heritage	17-37
17.8.2	Non-Indigenous heritage	17-38
17.9	Cumulative impacts	17-39
17.9.1	Indigenous heritage	17-39
17.9.2	Non-Indigenous heritage	17-39
17.10	Conclusions	17-41

Figures

Figure 17.1a-f	Cultural heritage impact assessment area	17-4
Figure 17.2a-i	Non-Indigenous cultural heritage areas of interest	17-20

Tables

Table 17.1	Compliance against relevant sections of the terms of reference	17-1
Table 17.2	Cultural heritage regulatory context	17-2
Table 17.3	Areas of interest within the impact assessment area identified for site inspection	17-10
Table 17.4	Queensland State heritage significance assessment criteria	17-12
Table 17.5	Levels of cultural heritage significance thresholds	17-12
Table 17.6	Levels of cultural heritage sensitivity	17-13
Table 17.7	Determining magnitude of change	17-13
Table 17.8	Impact significance matrix	17-13
Table 17.9	Indigenous consultation summary	17-14
Table 17.10	Aboriginal Parties for the Project footprint	17-16
Table 17.11	Cultural Heritage Management Plans with ARTC	17-16
Table 17.12	Department of Aboriginal and Torres Strait Islander Partnerships sites within 1 km of the Project footprint	17-16
Table 17.13	Summary of register searches	17-17
Table 17.14	Local heritage places within 1 km of the Project footprint	17-17
Table 17.15	Non-statutory heritage places within 1 km of the Project footprint	17-17
Table 17.16	Non-Indigenous site inspection observations	17-18
Table 17.17	Summary assessment indicating cultural heritage significance threshold	17-29
Table 17.18	Sensitivity of identified heritage sites within the impact assessment area	17-31
Table 17.19	Heritage places at risk of direct impact	17-32
Table 17.20	Heritage places at risk of indirect impact	17-33
Table 17.21	Initial mitigation measures of relevance to cultural heritage	17-34
Table 17.22	Overarching mitigation and management measures of relevance to all heritage	17-35
Table 17.23	Indigenous heritage mitigation and management measures	17-36
Table 17.24	Non-Indigenous heritage mitigation and management measures	17-36
Table 17.25	Initial and residual impact significance assessment	17-38
Table 17.26	Projects considered for the cumulative impact assessment	17-39
Table 17.27	Assessment of cumulative impacts	17-40
Table 17.28	Summary of the cultural heritage significance and impact assessment	17-42

17. Cultural Heritage

17.1 Introduction

The purpose of this chapter is to assess the potential impacts of the Inland Rail—Border to Gowrie (B2G) Project (the Project) on cultural heritage values within the cultural heritage impact assessment area (the impact assessment area) and to identify appropriate mitigation measures to address any impacts. The impact assessment area is defined in Section 17.4.1.

Section 11 of the ToR states, '*The design, construction and operation of the Project should aim to ensure that the nature and scale of the Project does not compromise the cultural heritage significance of a heritage place or heritage area*'.

In accordance with the requirements of the ToR and relevant legislation, this cultural heritage assessment:

- ▶ Identifies known and potential cultural heritage values of the impact assessment area (refer Section 17.5)
- ▶ Assesses the significance of these values (refer Section 17.4.3)
- ▶ Assesses the Project's potential impacts on these values (refer Section 17.6 and Section 17.8)
- ▶ Recommends measures to manage or mitigate potential impacts on cultural heritage values (refer Section 17.7).

Indigenous cultural heritage will be managed under a Cultural Heritage Management Plan (CHMP). Cultural Heritage Management Plans (CHMPs) for the Project were developed between ARTC and the Bigambul People, Western Wakka Wakka People and the Endorsed Aboriginal Parties for the unclaimed area in 2018 (CLH017009) and approved under the *Aboriginal Cultural Heritage Act 2003* (ACH Act). Indigenous cultural heritage will be managed under the approved CHMPs. The scope of the CHMPs only covers the construction of new rail infrastructure and associated structures as well as the corridor that is owned or managed by ARTC; it does not cover Queensland Rail's (QR) maintenance of the existing rail corridor. Details of these CHMPs are confidential to the signatories and are not provided within this chapter.

17.2 Terms of reference requirements

This chapter has been prepared to address Sections 11.166 and 11.167 of the ToR. A compliance check of this chapter against each of the relevant components of the ToR is presented in Table 17.1. Compliance with the EIS against the full ToR is documented in Appendix B: Terms of Reference Compliance Table.

TABLE 17.1 COMPLIANCE AGAINST RELEVANT SECTIONS OF THE TERMS OF REFERENCE

Cultural heritage Terms of reference requirements		EIS section
Information requirements		
11.166	Unless section 86 of the <i>Aboriginal Cultural Heritage Act 2003</i> (ACH Act) applies, the proponent must develop a Cultural Heritage Management Plan (CHMP) in accordance with the requirements of Part 7 of the ACH Act. The EIS should provide details of the CHMP and any associated agreements that have been developed or reached or steps taken up to that point to develop or reach such a plan or agreement.	Section 17.4.2 Section 17.4.4 Section 17.5.1 Section 17.6.1
11.167	For non-Indigenous historical heritage, undertake a study of, and describe, the known and potential historical cultural and landscape heritage values of the area potentially affected by the Project. Any such study should be conducted by an appropriately qualified cultural heritage practitioner. Provide strategies to mitigate and manage any negative impacts on non-Indigenous cultural heritage values and enhance any positive impacts.	Section 17.5.2 Section 17.6.2 Section 17.7 Section 17.8.2 Appendix D: Study Team

In accordance with the requirements of the ToR Section 11.167, this assessment has been undertaken by qualified cultural heritage professionals, including:

- ▶ Dr Kate Quirk (Senior Heritage Specialist), PhD, BA(Hons): 12 years' experience
- ▶ Dr Susan Lampard (Principal Heritage Specialist), PhD, BA(Hons): 20 years' experience
- ▶ Luke Kirkwood (Principal Heritage Specialist), BSc/BA(Hons): 15 years' experience.

The study team involved in this assessment is also in Appendix D: Study Team.

17.3 Policies, standards and guidelines

The policies, standards and guidelines that regulate and guide the cultural heritage assessment are introduced and summarised in Table 17.2.

The Commonwealth and State legislation applicable to the Project is discussed in Chapter 3: Legislation and Project Approvals Process.

TABLE 17.2 CULTURAL HERITAGE REGULATORY CONTEXT

Policy, standard or guideline	Relevance to the Project
Toowoomba Regional Planning Scheme 2012 (TRC, 2012)—Heritage Overlay Code	This document identifies local heritage places and develops provisions for the management of such heritage. Although the Project is exempt from local planning scheme requirements, the benchmarks were considered to inform the management and mitigation measures recommended for the Project.
Goondiwindi Region Planning Scheme 2018 (GRC, 2018a)—Heritage Overlay Code and Planning Scheme Policy 2	Together these documents identify heritage places and develop provisions for the management of such heritage. Although the Project is exempt from local planning scheme requirements, the benchmarks were considered to inform the management and mitigation measures recommended for the Project.
<i>Guidance on Heritage Impact Assessments for Cultural World Heritage Properties</i> (International Council on Monuments and Sites (ICOMOS), 2011)	This document was prepared by the ICOMOS, the peak professional body working for the conservation of cultural heritage places and provides a comprehensive method for assessing impacts at all types of heritage places.
<i>The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance</i> (ICOMOS, 2013)	This is an internationally adopted standard for heritage conservation practice that underpins the assessment of heritage significance in both State and local instruments and informs the management and mitigation measures recommended for the Project.
<i>Assessing cultural heritage significance: Using the cultural heritage criteria</i> (Department of Environment and Heritage Protection (DEHP), 2013a)	This document was prepared by the then Queensland Department of Environment and Heritage Protection (now DES) to provide guidance on applying the <i>Queensland Heritage Act 1992</i> criteria to significance assessments of State and local heritage places.
<i>Aboriginal Cultural Heritage Act 2003: Cultural Heritage Management Plan Guidelines</i> (Department of Aboriginal and Torres Strait Islander Partnerships (DATSIP), 2005)	This document was prepared by the department of Aboriginal and Torres Strait Islander Partnerships (DATSIP) to provide guidance on the development of CHMPs. This guidance has been referenced when developing the CHMPs for this Project.

17.4 Methodology

17.4.1 Impact assessment area

For the purposes of this assessment, locations of potential heritage interest have been identified within a 1 km radius of the Project footprint to provide a comprehensive appreciation of the creation and evolution of the historical landscape in which the Project is located. Impacts have then been assessed for heritage places, within 50 m of the Project footprint. This 50 m radius allows for potential direct and indirect impacts to heritage places to be considered. The cultural heritage impact assessment area is the Project footprint plus the 50 m radius and is shown in Figure 17.1a to Figure 17.1f.

Where heritage places have been assessed, these have been determined to be within the Project footprint, for direct impacts, or within the impact assessment area, for indirect impacts.

17.4.2 Indigenous heritage

The ToR requires that one or more CHMPs be developed with the relevant Aboriginal Party or Parties for the Project footprint. This process was undertaken in 2018 with CHMPs for the Project developed between ARTC and the relevant Aboriginal Parties in accordance with the requirements of Part 7 of the ACH Act and the Cultural Heritage Management Plan Guidelines (DATSIP, 2005). In developing the CHMPs, ARTC engaged with the relevant Aboriginal Parties to establish methods for investigating Indigenous cultural heritage that may be affected by the Project. Such methods included undertaking detailed surveys of the Project footprint to identify significant Aboriginal objects, significant Aboriginal areas or evidence of archaeological or historic significance of Aboriginal occupation of an area. Where identified, objects or areas of significance will be managed in accordance with the CHMPs.

A search of the DATSIP Aboriginal and Torres Strait Islander Cultural Heritage Database and Register was undertaken on the 3 April 2019 (Search ID 51584) to identify:

- ▶ Aboriginal Party or Parties and/or cultural heritage bodies for the impact assessment area
- ▶ Any registered Aboriginal cultural heritage within the impact assessment area.

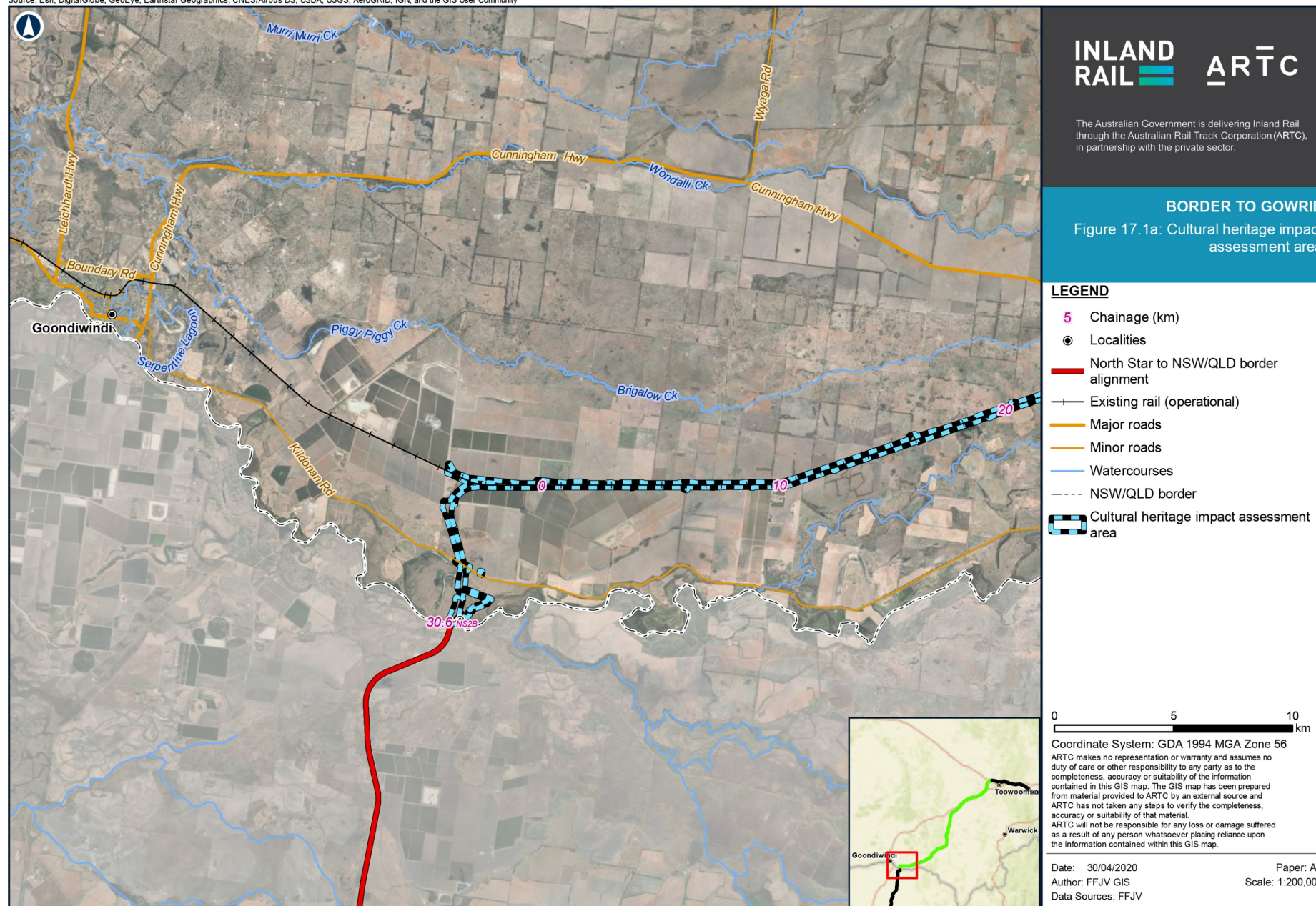
17.4.3 Non-Indigenous heritage

The historical (non-Indigenous) heritage assessment was undertaken to address legislative and ToR requirements, as well as the guideline *Assessing cultural heritage significance: Using the cultural heritage criteria* (DEHP, 2013a), which provides a framework for identifying and managing historical significance under the *Queensland Heritage Act 1992* (Qld) (QH Act). In keeping with this framework, the key elements of the assessment were:

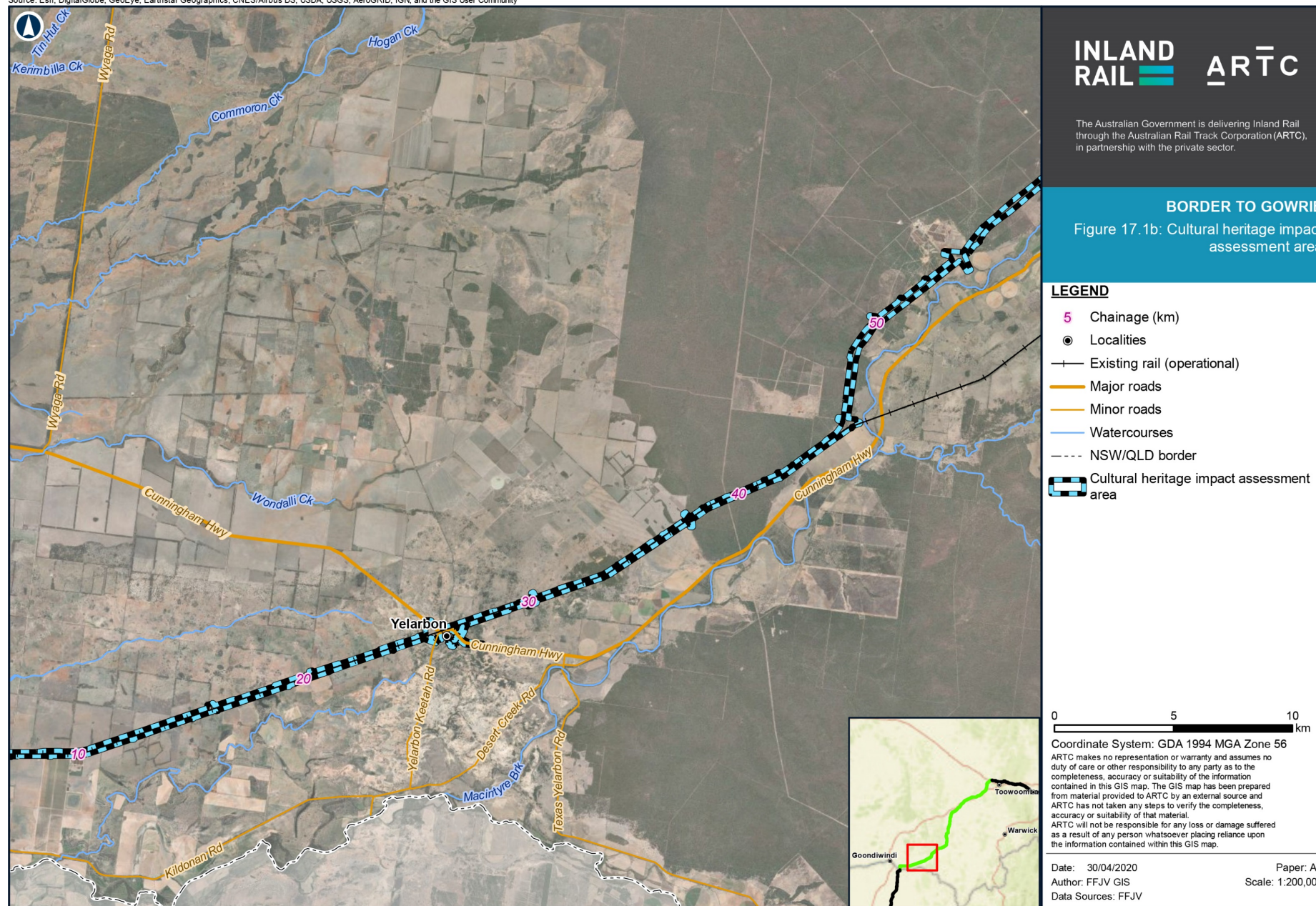
- ▶ Background research
- ▶ Non-Indigenous cultural heritage site inspections
- ▶ Significance assessment of heritage sites
- ▶ Impact assessment of heritage sites
- ▶ Recommendation of management measures.

More detail on the methodology of the non-Indigenous heritage assessment is in Appendix W: Non-Indigenous Cultural Heritage Survey Report.

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

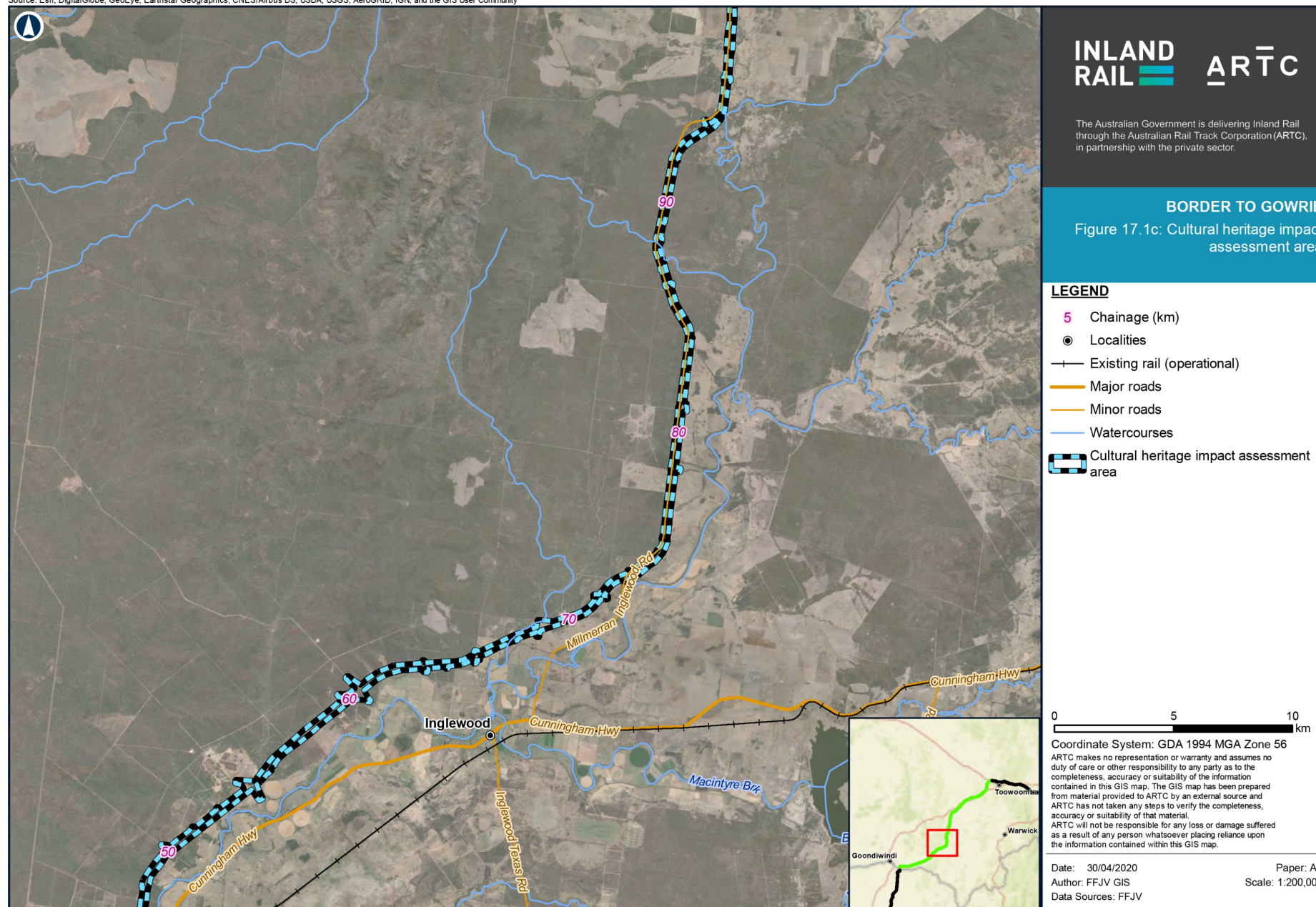


Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

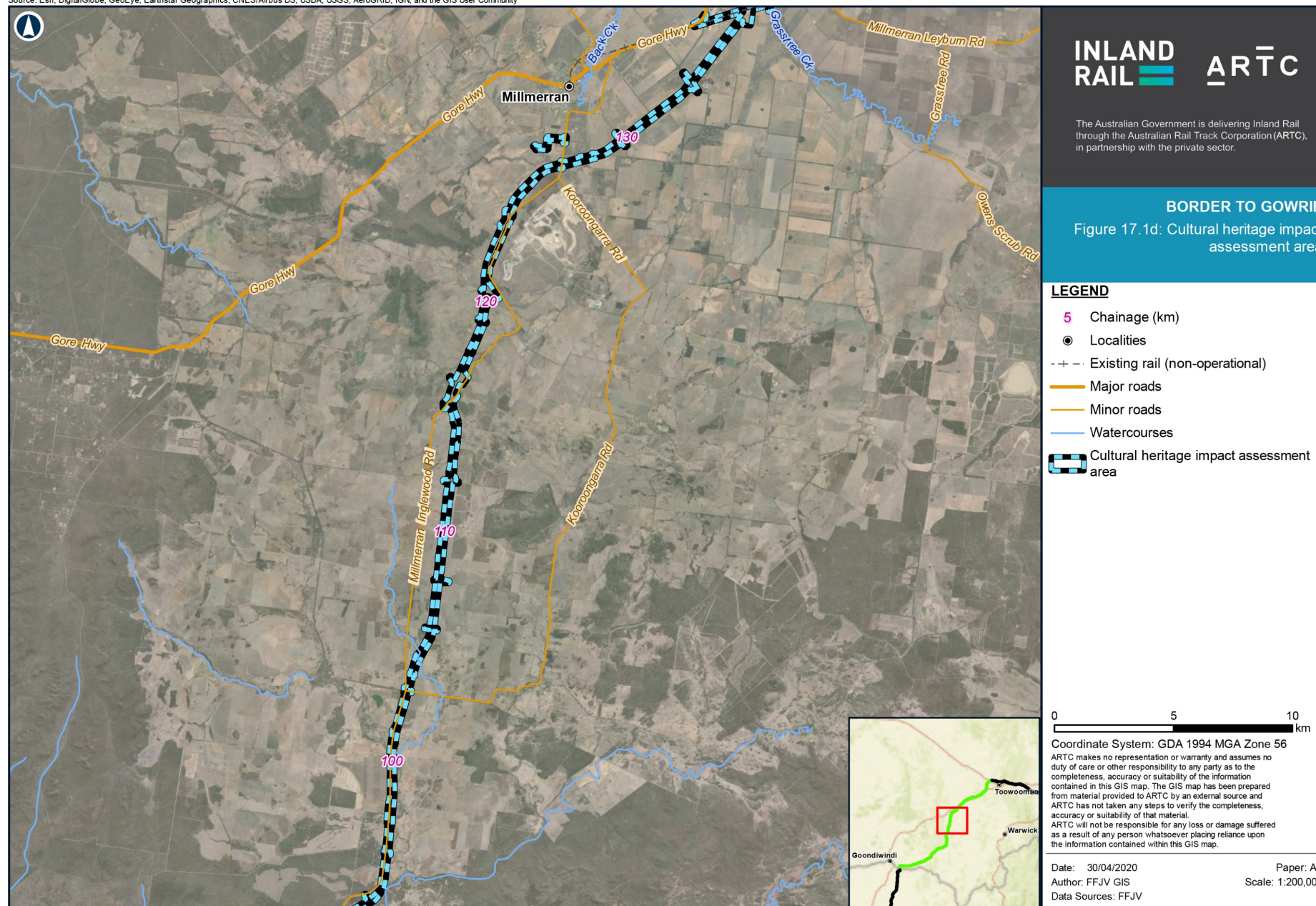


Map by: LCT/LS Z:\GIS\GIS_310_B2G\Tasks\310-ECH-201910221110_Cultural_heritage\310-ECH-201910221110_ARTC_Fig17.1_CulturalHeritage_ImpactAssessmentArea_V4.mxd Date: 6/05/2020 12:54

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

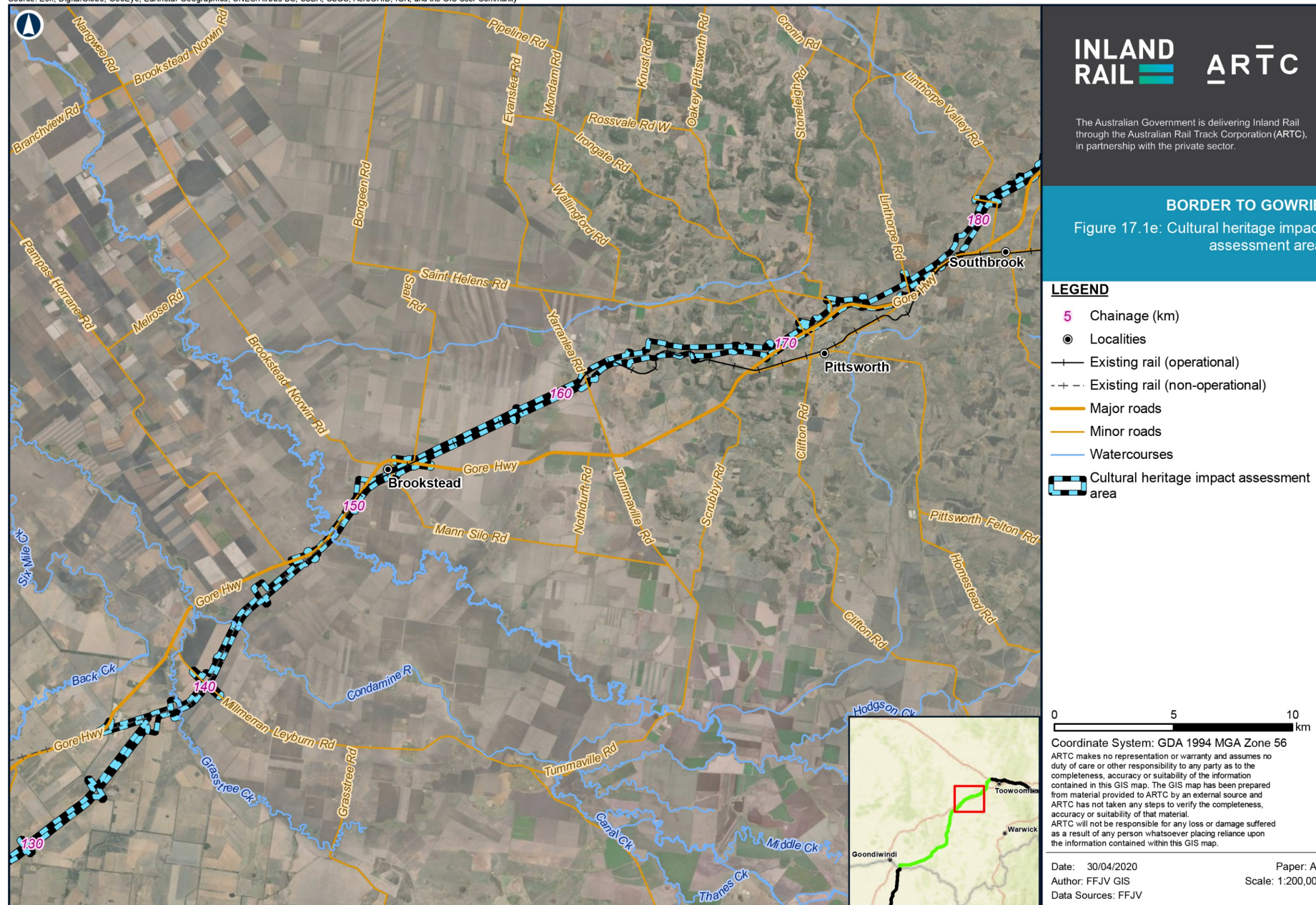


Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



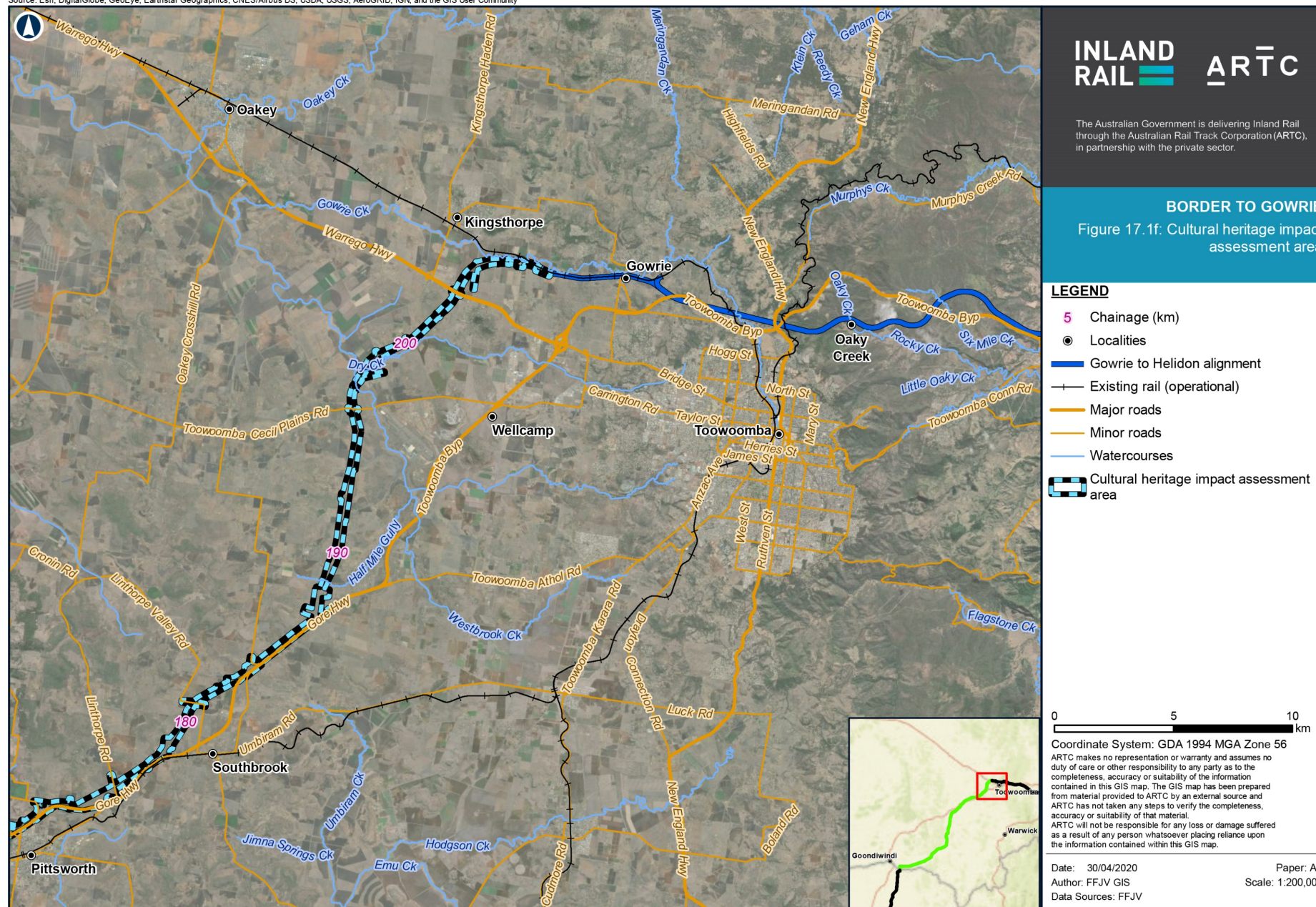
Map by: LCT\LS Z:\GIS\GIS_310_B2G\Tasks\310-ECH-201910221110_Cultural_heritage\310-ECH-201910221110_ARTC_Fig17.1_CulturalHeritage_ImpactAssessmentArea_V4.mxd Date: 6/05/2020 12:54

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map by: LCT/LS Z:\GIS\GIS_310_B2G\Tasks\310-ECH-201910221110_Cultural_heritage\310-ECH-201910221110_ARTC_Fig17.1_CulturalHeritage_ImpactAssessmentArea_V4.mxd Date: 6/05/2020 12:54

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



17.4.3.1 Background research

Background research carried out to inform the assessment of potential non-Indigenous heritage impacts consisted of:

- ▶ Review of the relevant Commonwealth, State and local heritage registers to identify previously registered heritage and archaeological sites within 1 km of the Project footprint, including:
 - ▶ World Heritage List
 - ▶ National Heritage List
 - ▶ Commonwealth Heritage List
 - ▶ Register of the National Estate (non-statutory)
 - ▶ Queensland State Heritage Register
 - ▶ *Toowoomba Regional Planning Scheme* Local Heritage Places (Toowoomba Regional Council (TRC), 2012)
 - ▶ *Goondiwindi Regional Council Planning Scheme* Local Heritage Places (Goondiwindi Regional Council (GRC), 2018a)
 - ▶ Queensland Rail Heritage Register
 - ▶ Queensland World War II Heritage Register (non-statutory)
- ▶ Collation and review of relevant previous heritage assessments and documents held by state and national repositories, such as the State Library of Queensland, Queensland State Archives and National Archives of Australia
- ▶ Examination and review of current and historical mapping and aerial imagery relevant to the impact assessment area.

17.4.3.2 Site inspections

Given the extent of the Project, it was considered neither practical nor desirable to inspect the entire Project footprint. Instead, a targeted survey strategy was adopted to focus on areas of highest heritage potential. These areas of interest (AOI) included:

- ▶ Registered heritage places (statutory and non-statutory)
- ▶ Previously identified but unregistered places
- ▶ New places identified during historical research or site inspections.

By applying these criteria, 34 AOI were identified within the impact assessment area and are listed in Table 17.3. Land access approval was obtained for 21 of the 34 identified AOI. Pedestrian inspections were conducted for each of the accessible AOIs and any standing structures, significant views, garden plantings, surface archaeological deposits or areas of subsurface archaeological potential were identified and recorded using global positioning system, written notes and photography.

The remaining 13 sites for which land access was not granted were viewed and photographed from adjacent public areas.

TABLE 17.3 AREAS OF INTEREST WITHIN THE IMPACT ASSESSMENT AREA IDENTIFIED FOR SITE INSPECTION

Site ID	Description	Lot and plan	Access approval obtained
B2G-19-H01	Kurumbul Station	481 SP119198	Yes
B2G-19-H02	Gibinbell shearing complex	31 MH567	No
B2G-19-H03	Gibinbell siding	413 SP119197	Yes
B2G-19-H04	Yelarbon & District Soldiers Memorial Hall	106 Y5691	No
B2G-19-H05	Anzac Memorial Garden	107 Y5692	Yes
B2G-19-H06	Cancer charity tree	Taloom Street, Yelarbon	Yes
B2G-19-H07	Church (former)	2 RP120829	No
B2G-19-H08	Yelarbon Mill 1	1 RP62008	No
B2G-19-H09	Yelarbon Mill 2	99 SP222802	Yes
B2G-19-H10	Petrol Station	8 Y56911 9 Y56911 10 Y56911	Yes

Site ID	Description	Lot and plan	Access approval obtained
B2G-19-H11	Yelarbon Railway Complex	20 SP120712 21 SP120712	Yes
B2G-19-H12	Tree trunk	110 SP171826	Yes
B2G-19-H13	Whetstone siding	352 SP116434	Yes
B2G-19-H14	Homestead complex	511 RP226715	No
B2G-19-H15	Homestead complex	107 MH808	No
B2G-19-H16	Structure	169 MH786	No
B2G-19-H17	Sheds	37 MH523	No
B2G-19-H18	Lookout	4 SP126840	Yes
B2G-19-H19	Outbuildings	1 RP99467 2 RP99468	No
B2G-19-H20	Grass Tree Creek bridge	4 RP16058	Yes
B2G-19-H21	Yandilla Station	202 SP124721	Yes
B2G-19-H22	Protest public art	2 RP61876	No
B2G-19-H23	Condamine River bridge	114 SP113906	Yes
B2G-19-H24	Pampas Station	23 SP124720	Yes
B2G-19-H25	Pampas Memorial Hall	84 SP109985	Yes
B2G-19-H26	Sheds	1 RP14242	No
B2G-19-H27	Condamine River Bridge 2	2 RP37132	Yes
B2G-19-H28	Brookstead Station	121 SP104977	Yes
B2G-19-H29	Brookstead Station building (relocated)	13 SP112652	Yes
B2G-19-H30	Cecilvale Station	2 RP14245	Yes
B2G-19-H31	Yarranlea Station	53 SP112651	Yes
B2G-19-H32	Murlaggan Station	2 RP7479	Yes
B2G-19-H33	Homestead complex	1 RP7470	No
B2G-19-H34	Archaeological site	11 SP285307	No

17.4.3.3 Significance assessment

The significance of historical heritage places has been assessed in accordance with the QH Act and *Assessing cultural heritage significance: Using the cultural heritage criteria* (DEHP, 2013a). In general, a place may be considered to be of heritage significance if it meets one or more of the criteria stipulated in Section 35 of the QH Act, as outlined in Table 17.4.

TABLE 17.4 QUEENSLAND STATE HERITAGE SIGNIFICANCE ASSESSMENT CRITERIA

Criteria	Description
A—Historical	The place is important in demonstrating the evolution or pattern of history
B—Rarity	The place demonstrates rare, uncommon or endangered aspects of cultural heritage
C—Research	The place has potential to yield information that will contribute to an understanding of history
D—Representativeness	The place is important in demonstrating the principal characteristics of a particular class of cultural places
E—Aesthetic	The place is important because of its aesthetic significance
F—Creative/technical	The place is important in demonstrating a high degree of creative or technical achievement at a particular period
G—Social	The place has a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons
H—Associational	The place has a special association with the life or work of a particular person, group or organisation of importance

These criteria may be fulfilled at different significance thresholds, ranging from ‘world’ to ‘local’, depending on the importance of the place, and the contribution it makes to our understanding of the past. Descriptions of the applicable significance thresholds, as defined in *Assessing cultural heritage significance: Using the cultural heritage criteria* (DEHP, 2013a), are in Table 17.5.

TABLE 17.5 LEVELS OF CULTURAL HERITAGE SIGNIFICANCE THRESHOLDS

Cultural heritage significance thresholds	Description
World	Heritage values contribute to our understanding of the pattern and evolution of world history and heritage and the place is considered to be of outstanding value to humanity
National	Heritage values make an outstanding contribution to our understanding of the pattern and evolution of Australia’s history and heritage
State	Heritage values contribute to our understanding of the wider pattern and evolution of Queensland’s history and heritage. This includes places that contribute significantly to our understanding of the regional pattern and development of Queensland
Local	Heritage values contribute to our understanding of the pattern and evolution of local history and heritage

17.4.3.4 Impact assessment

The potential impacts on the heritage values have been assessed using criteria developed from the *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties* (ICOMOS, 2011), in combination with the standard impact assessment methodology adopted for the Project (refer Chapter 4: Assessment Methodology).

Under the ICOMOS guidelines, two key elements are required to assess impacts on heritage places: the value of the place, and the extent of the change to this value. The value of the place is a measure of its importance, also referred to as its significance. As outlined in the Burra Charter (ICOMOS, 2013) and Section 17.4.3.3, places can be of local, state, national or world significance. Places of local significance are important only to their immediate community. Places of state significance are important to the wider region and places of national significance are important to the country as a whole. Places of world heritage significance are important to all of humanity, possessing one or more outstanding universal values. The more valuable a place is, the more vulnerable it is to change. Therefore, value, or significance as it is used here, is a measure of sensitivity. The differing significance of a place and its associated sensitivity to impact is summarised in Table 17.6.

TABLE 17.6 LEVELS OF CULTURAL HERITAGE SENSITIVITY

Sensitivity	Justification	Significance
Extreme	Attributes that convey outstanding universal values of a world heritage place	Fulfils criteria for local, state, national and international listing
Very high	Exceptional, rare or outstanding attributes demonstrating important themes in national or international history and heritage	Fulfils criteria for local, state, national or potentially international listing
High	Attributes demonstrating important themes in State history and heritage	Fulfils criteria for local and state listing.
Moderate	Attributes demonstrating important themes in local history and heritage	Fulfils criteria for local listing and may fulfil criteria for state listing
Low	Attributes demonstrating minor themes in local history and heritage	May fulfil criteria for local listing and does not fulfil criteria for state listing
Negligible	Attributes that have no heritage significance	Does not fulfil criteria for local or state listing

Source: Adapted from ICOMOS (2011): Appendix 3A

The degree of impact an activity will have on a heritage place is assessed in terms of the magnitude of change to the acknowledged heritage values of a place as summarised in Table 17.7. These impacts may be direct, such as the demolition of heritage buildings, or indirect, such as changes to the views or setting of a heritage place. In some cases, indirect impacts might also cause physical damage to a heritage place, such as excessive vibration causing structural damage, or excessive pollution causing damage to surfaces.

TABLE 17.7 DETERMINING MAGNITUDE OF CHANGE

Magnitude	Example criteria
Major	Change to all or most significant aspects of the place, such that its heritage values are substantially reduced or destroyed
Medium	Change to some significant aspects of the place, such that some of its heritage values are partially reduced
Low	Minor change to significant aspects of the place, such that some of its heritage values are slightly reduced
Negligible	Changes to insignificant aspects of the places, such that its heritage values are not reduced
No change	No change

Source: Adapted from ICOMOS (2011): Appendix 3B

The final assessment of the significance of impact on a heritage place is a factor of the cultural heritage sensitivity of the place, combined with the predicted magnitude of change, as outlined in Table 17.8. A prediction of impact significance can be made both before and after the implementation of identified mitigation measures, allowing the efficacy of the measures to be assessed and revealing residual impacts that need to be considered.

TABLE 17.8 IMPACT SIGNIFICANCE MATRIX

Significance of impact		Magnitude of change				
		Major	Medium	Low	Negligible	No change
Cultural heritage sensitivity	Extreme	Very large	Large	Moderate	Slight	Neutral
	Very high	Very large	Large	Moderate	Slight	Neutral
	High	Large	Moderate	Moderate	Slight	Neutral
	Moderate	Moderate	Moderate	Slight	Slight	Neutral
	Low	Moderate	Slight	Slight	Neutral	Neutral
	Negligible	Slight	Slight	Neutral	Neutral	Neutral

Source: Adapted from ICOMOS (2011): Section 5

17.4.4 Consultation

This section provides a summary of the consultation that has been undertaken with regulatory agencies, Aboriginal Parties, landowners and local community groups to inform the cultural heritage and social impact assessments for the Project (refer Chapter 15: Social). Information from all these discussions have been integrated into this assessment.

17.4.4.1 Agency consultation

The approach adopted for the purpose of cultural heritage assessment was presented to and discussed with representatives from state government agencies, including Department of Environment and Science (DES), on 9 October 2019. The assessment method for cultural heritage assessment had previously been presented at the Toowoomba Regional Council Environmental Impact Statement forum on 3 September 2019 (in addition to assessment methods for other disciplines) in response to a specific request from council.

17.4.4.2 Indigenous heritage consultation

Aboriginal community consultation acknowledges the right of Aboriginal Parties associated with the area to be involved, through direct participation, on matters that directly affect their heritage. Involving Aboriginal Parties in all facets of the assessment process ensures that they are given adequate opportunity to share information about cultural values, and to actively participate in the development of appropriate management and/or mitigation measures. The successful identification, assessment and management of Aboriginal cultural heritage values are dependent on an inclusive and transparent consultation process.

Consultation with the local Aboriginal community was undertaken in accordance with DATSIP's *Cultural Heritage Management Plan Guidelines* (DATSIP, 2005). Consultation has included negotiating CHMPs with the aim of identifying:

- ▶ A process for undertaking cultural heritage surveys for the Project
- ▶ A process for including the Traditional Owners, associated with the area, in assessment of Indigenous cultural heritage values and the protection and management of Indigenous cultural heritage
- ▶ A process for mitigating, managing and protecting identified cultural heritage and objects during construction.

Details of these CHMPs are confidential to the signatories and are not provided within this chapter. The scope of the CHMPs only covers the construction of new rail infrastructure and associated structures as well as the corridor owned/managed by ARTC and does not cover QR maintenance of the existing rail corridor.

A summary of consultation undertaken for the CHMPs is provided in Table 17.9.

TABLE 17.9 INDIGENOUS CONSULTATION SUMMARY

Aboriginal Parties	Response received	Method	Summary
Bigambul People	Yes	Meetings and written public notices	Consultation and negotiation completed in accordance with Part 7 of the ACH Act resulting in an approved CHMP for each group
Endorsed Aboriginal Parties for the unclaimed area ¹	Yes	Meetings and written public notices	
Western Wakka Wakka People	Yes	Meetings and written public notices	

Table note:

¹ Area between the Plan Areas for the Bigambul People and Western Wakka Wakka People CHMPs. Refer Section 17.5.1.

In addition to consultation to develop the CHMPs, Traditional Owners have been consulted by ARTC through the cultural heritage process with respect to Indigenous employment and training opportunities. A meeting with the Bigambul Native Title Aboriginal Corporation (BNTAC) Board, an interview with a Western Wakka Wakka Elder and an interview with another Aboriginal Party provided information for the social impact assessment (refer Chapter 15: Social). Key issues raised through these discussions are summarised below.

17.4.4.3 Bigambul

Key issues raised in consultation with the BNTAC identified the following key issues:

- ▶ The need for more comprehensive engagement in the EIS process
- ▶ The need to ensure access to job-readiness programs (e.g. White Card training, health and safety training) and skills training, noting that BNTAC has an existing workforce development strategy
- ▶ Interest in business opportunities, noting that BNTAC has a business development strategy and is developing a business register
- ▶ The potential to affect cultural heritage sites and values
- ▶ The need for cultural immersion training for all Project personnel working on Bigambul Country
- ▶ Potential for erosion during construction or operations to affect Country
- ▶ Potential for changes to flooding patterns or to surfaced or groundwater to affect cultural water flows
- ▶ Effects on physical fabric of shared cultural heritage.

17.4.4.4 Western Wakka Wakka

Issues raised in an interview with a Western Wakka Wakka Elder included:

- ▶ Concern about the impact of infrastructure projects on cultural landscapes and the stories bound to them
- ▶ Gowrie Creek and Gowrie Mountain hold creation stories and are culturally important areas
- ▶ Concern that local job commitments should be honoured, and include employment targets for local Aboriginal people
- ▶ Concern about safety and delays for children needing to cross the alignment at level crossings
- ▶ Risk of the Project reducing housing availability and affordability, with the likelihood that Aboriginal people would be particularly vulnerable to housing shortages
- ▶ Need for early engagement with the Indigenous community regarding job and supply opportunities so they have time to build capacity.

Potential opportunities identified included:

- ▶ Aboriginal people are ready to seize opportunities, but need timely engagement to be able to participate effectively
- ▶ Engagement with Indigenous businesses with existing capacity, formed through joint ventures
- ▶ Adopting the historical precedent for naming rail sidings after Aboriginal people
- ▶ Creating a legacy by addressing the need for an effective keeping place for Indigenous history, art and culture.

17.4.4.5 Endorsed Aboriginal Parties for the unclaimed area

Two Aboriginal people connected to the area between Inglewood and Pampas participated in an interview for the social impact assessment (refer Chapter 15: Social). Issues identified included:

- ▶ Worry that the storyline that stretches from the NSW/QLD border to the Bunyas has been damaged by existing infrastructure and that the Project would represent a further 'cut' to the storyline
- ▶ Need for culturally appropriate training and capacity building programs
- ▶ Aboriginal people's greater vulnerability to displacement from housing.

17.4.4.6 Non-Indigenous heritage consultation

Non-Indigenous cultural heritage consultation was primarily undertaken during site inspections between 3 February and 8 February 2019. This consultation comprised discussions with landowners, representatives of QR and local community groups, including the Pittsworth & District Historical Society.

17.5 Existing environment

This section includes a description of each relevant Indigenous and non-Indigenous value or condition, informed by desktop research and field investigations.

17.5.1 Indigenous heritage

A search of the DATSIP database was completed on 3 April 2019 (Search ID 51584). Database records of Aboriginal Parties for the Project footprint are provided in Table 17.10. Details of registered CHMPs with coverage across the Project footprint are provided in Table 17.11, all of which have been entered into by ARTC for this Project.

TABLE 17.10 ABORIGINAL PARTIES FOR THE PROJECT FOOTPRINT

Reference number	QUD ref number	Name	Project chainage
QCD2016/012	QUD101/2009	Bigambul People Part A	Ch 31.4 to 37.0 (NS2B) km, Ch 0.0 to 62.0 km
QC19999/004	GUD6004/99	Western Wakka Wakka People	Ch 148.0 to 206.9 km

TABLE 17.11 CULTURAL HERITAGE MANAGEMENT PLANS WITH ARTC

Reference number	Sponsor	Party	Approved
CLH017009	ARTC Inland Rail	Bigambul People	9 April 2018
CLH017009	ARTC Inland Rail	Endorsed Party s35(7)	4 October 2018
CLH017009	ARTC Inland Rail	Western Wakka Wakka People	19 November 2018

There are no 'automatic' Aboriginal parties in respect of the unclaimed area between the Plan Areas for the Bigambul People and Western Wakka Wakka People CHMPs. This is because there has not, since the commencement of the ACH Act on 16 April 2004, been a native title claim registered for this area. As a result, to develop the CHMP for this area, ARTC was required to publish a public notice in a local newspaper and then 'endorse' and deal with each of the respondents to that notice on the basis that they were 'traditional' Aboriginal Parties for the purposes of Section 35(7) of the ACH Act. There were five respondents representing groups claiming this area of the Southern Darling Downs as their traditional country. Each respondent is a party to ARTC's CHMP for Endorsed Party s35(7).

The DATSIP search indicated there are 18 reported Indigenous cultural heritage sites within 1 km of the Project footprint. A breakdown of these sites is provided in Table 17.12. The majority of these sites are artefact scatters, with the remainder being scarred/carved trees, a cultural site, shell middens and a burial. CHMPs with relevant Traditional Owners have been agreed and will establish the process to undertake CH surveys for the Project footprint.

TABLE 17.12 DEPARTMENT OF ABORIGINAL AND TORRES STRAIT ISLANDER PARTNERSHIPS SITES WITHIN 1 KM OF THE PROJECT FOOTPRINT

Site type	Count	Percent of the total
Artefact scatter	13	72.22%
Burial	1	5.56%
Cultural site	1	5.56%
Scarred/carved tree	2	11.10%
Shell midden	1	5.56%
Total	18	100.00%

Representatives of BNTAC completed their cultural heritage survey of the section of the Project footprint traversing Whetstone State Forest on 20–21 October 2020, with their archaeologist in attendance. Two artefacts were identified—one was located outside the Project footprint and the other was left in situ as it was located on the edge of the Project footprint. The results of the survey and requisite management arrangements will be documented in the cultural heritage assessment report to be submitted to DES to support Whetstone State Forest revocation.

A cultural heritage survey of the Bringalily State Forest section of the Project footprint will be completed and a cultural heritage assessment report will be submitted to DES to progress revocation of Bringalily State Forest.

17.5.2 Non-Indigenous heritage

17.5.2.1 Register searches

A search of all relevant statutory and non-statutory heritage registers, undertaken in May 2019, indicated that there are no Commonwealth or State-listed heritage places within 1 km of the Project footprint. There are four locally listed heritage places within 1 km of the Project footprint, one of which is also in the impact assessment area. Additionally, there is one non-statutory QR heritage place and three non-statutory DES Cultural Heritage Information Management System places within 1 km of the Project footprint, two of which are in the impact assessment area.

A summary of all register searches is in Table 17.13. Local heritage places and non-statutory heritage places within 1 km of the Project footprint are summarised in Table 17.14 and Table 17.15, respectively.

TABLE 17.13 SUMMARY OF REGISTER SEARCHES

Register	Outside the impact assessment area. Within 1 km of the Project footprint	Within the impact assessment area
World Heritage List	0	0
National Heritage List	0	0
Commonwealth Heritage List	0	0
Register of the National Estate (non-statutory)	0	0
State Heritage Register	0	0
Cultural Heritage Information Management System (non-statutory)	3	2
Queensland Rail Heritage Register (non-statutory)	1	0
Toowoomba Regional Council Local Heritage Register	1	0
Goondiwindi Regional Council Local Heritage Register	3	1
Queensland World War II Historic Places (non-statutory)	0	0

TABLE 17.14 LOCAL HERITAGE PLACES WITHIN 1 KM OF THE PROJECT FOOTPRINT

Place	Location	Source	Proximity to the Project
Railway Bridge	Whetstone	Goondiwindi Regional Council Local Heritage Register	Outside of the impact assessment area Within 1 km of the Project footprint
Yelarbon Soldiers Memorial Hall	Yelarbon	Goondiwindi Regional Council Local Heritage Register	Within the impact assessment area
Cemetery	Yelarbon	Goondiwindi Regional Council Local Heritage Register	Outside of the impact assessment area Within 1 km of the Project footprint
Gowrie Homestead	Kingsthorpe	Toowoomba Regional Council Local Heritage Register	Outside of the impact assessment area Within 1 km of the Project footprint

TABLE 17.15 NON-STATUTORY HERITAGE PLACES WITHIN 1 KM OF THE PROJECT FOOTPRINT

Place	Register	ID	Proximity to the Project
Site of former Brookstead Station building	Cultural Heritage Information Management System	2440	Within the impact assessment area
Brookstead Station building	Cultural Heritage Information Management System	22934	Within the impact assessment area
Macintyre Brook bridge, Whetstone	Cultural Heritage Information Management System	2425	Outside of the impact assessment area Within 1 km of the Project footprint
Macintyre Brook bridge, Whetstone	Queensland Rail	N/A	Outside of the impact assessment area Within 1 km of the Project footprint

17.5.2.2 Site inspection results

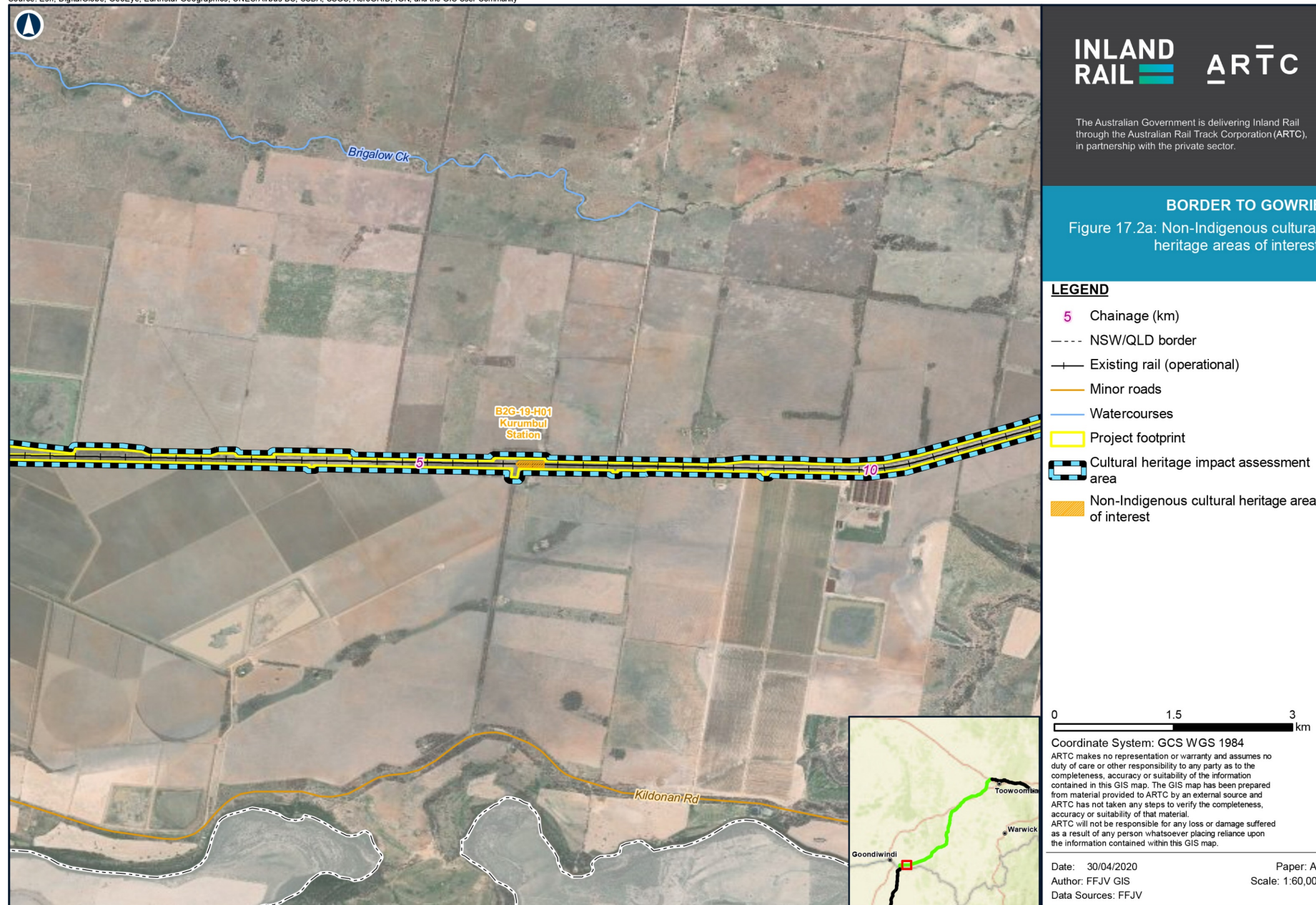
A total of 34 AOI were identified for inspection using the approach outlined in Section 17.4.3.2. Access was obtained for 21 of these AOI. The remaining 13 AOI for which access was not granted were viewed and photographed from adjacent public areas.

A summary of each AOI is presented in Table 17.16 and shown on Figure 17.2a to Figure 17.2i. A full description of each AOI is in Appendix W: Non-Indigenous Cultural Heritage Survey Report.

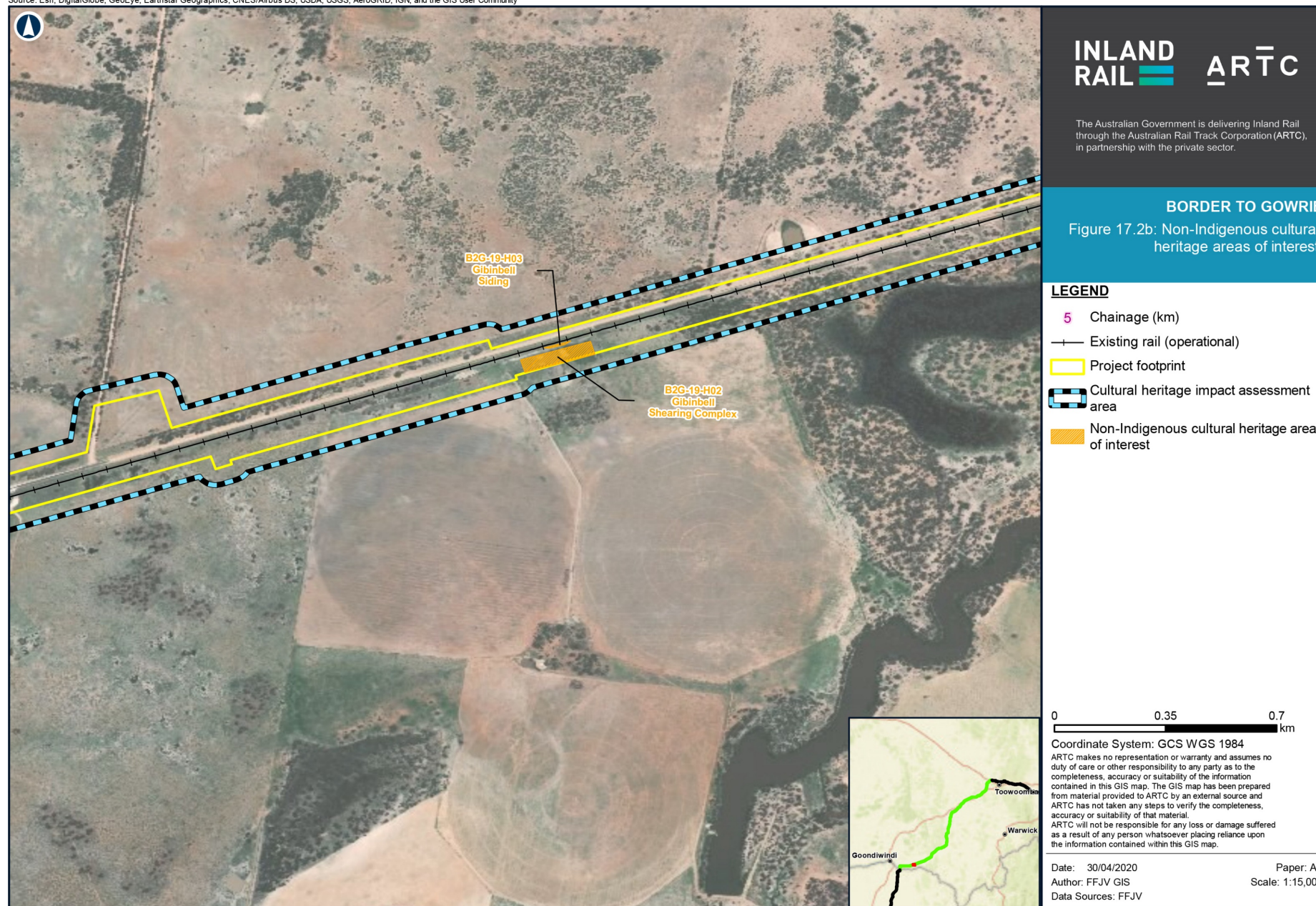
TABLE 17.16 NON-INDIGENOUS SITE INSPECTION OBSERVATIONS

Site ID	Site name	Site description	Lot and plan	Proximity to the Project
B2G-19-H01	Kurumbul Station	Railway station established in 1908 as a part the South Western Line. No original station buildings remain.	481 SP119198	Project footprint
B2G-19-H02	Gibinbell Shearing complex	Large significant shearing shed complex and associated structures	413 SP119197	Project footprint
B2G-19-H03	Gibinbell siding	Railway siding established in 1908 as a part the South Western Line. No original station buildings remain.	413 SP119197	Project footprint
B2G-19-H04	Yelarbon and District Soldiers Memorial Hall	Early 20th century timber community hall	106 Y5691	Impact assessment area
B2G-19-H05	Anzac Memorial Garden	Garden adjacent to the Yelarbon and District Soldiers Memorial Hall, features two war memorials and other commemorative plaques	107 Y5692	Impact assessment area
B2G-19-H06	Cancer charity tree	Tree planted for cancer charity	N/A	Project footprint
B2G-19-H07	Church (former)	Early 20th century timber church	2 RP120829	Impact assessment area
B2G-19-H08	Yelarbon Mill 1	Timber mill, likely dating to the early 20th century	1 RP62008	Impact assessment area
B2G-19-H09	Yelarbon Mill 2	Timber mill, likely dating to the mid-late 20th century	99 SP222802	Project footprint
B2G-19-H10	Petrol station	1950s commercial building, most likely a petrol station	8 Y56911 9 Y56911 10 Y56911	Impact assessment area
B2G-19-H11	Yelarbon Railway complex	Railway station established c.1908 as a part the South Western Line. No original station buildings remain	20 SP120712 21 SP120712	Project footprint
B2G-19-H12	Tree trunk	Trunk of a large felled tree. Likely a local landmark relating to the timber industry	110 SP171826	Within 1 km of the Project footprint
B2G-19-H13	Whetstone siding	Railway siding established in 1908 as a part the South Western Line. No original station buildings remain	352 SP116434	Impact assessment area
B2G-19-H14	Homestead complex	Homestead complex, including two houses and a number of outbuildings	511 RP226715	Project footprint
B2G-19-H15	Homestead	Homestead consisting of two linked dwellings. Likely colonial era	107 MH808	Impact assessment area
B2G-19-H16	Structure	Small timber structure	169 MH786	Project footprint
B2G-19-H17	Sheds	Two skillion roofed timber and corrugated iron sheds	37 MH523	Project footprint
B2G-19-H18	Lookout	Lookout and rest area	4 SP126840	Within 1 km of the Project footprint
B2G-19-H19	House and outbuildings	Hipped roof dwelling and a small, gable roofed timber outbuilding	1 RP99467 2 RP99468	Project footprint

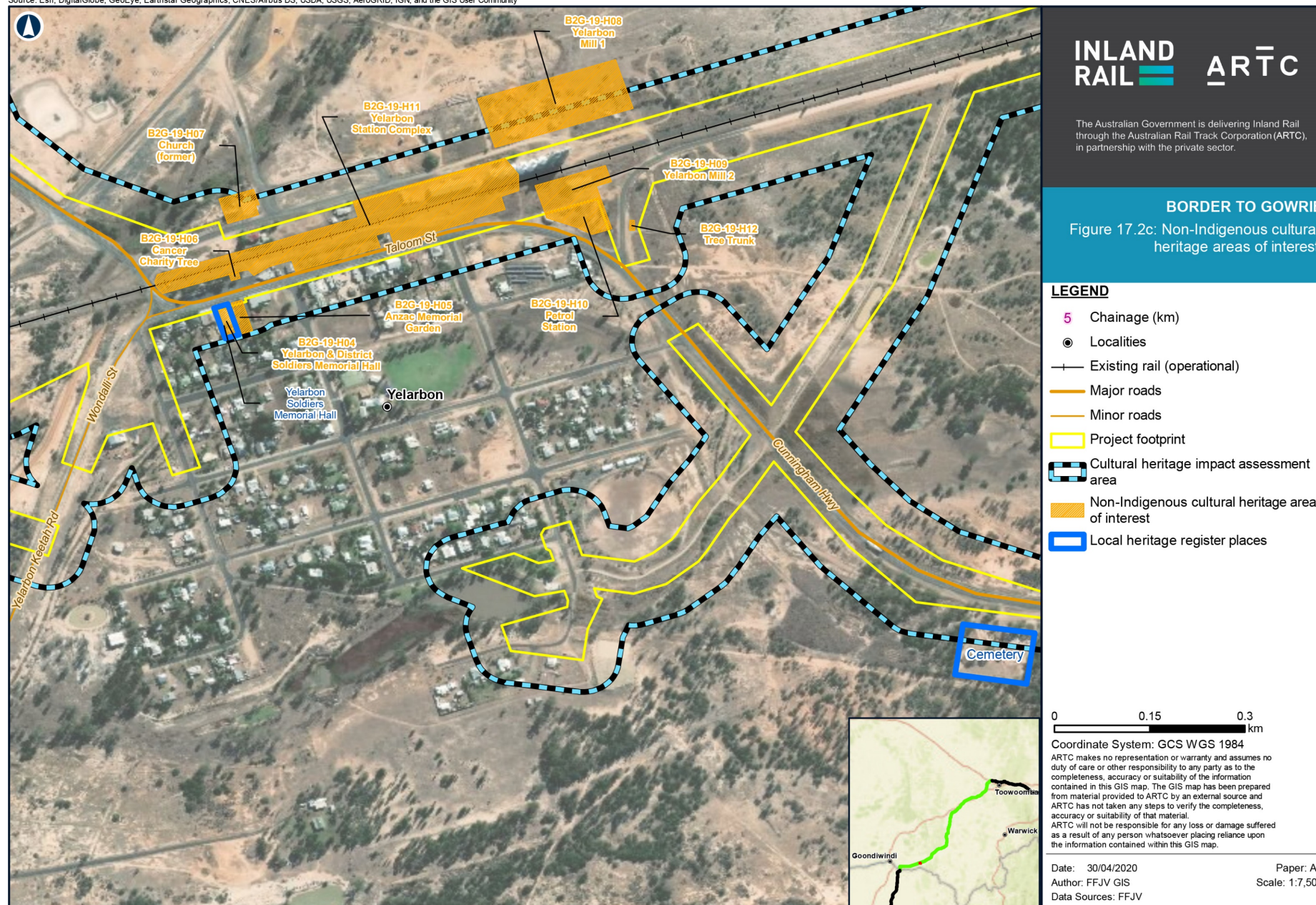
Site ID	Site name	Site description	Lot and plan	Proximity to the Project
B2G-19-H20	Grass Tree Creek Rail bridge	Low timber trestle and girder rail bridge over Grass Tree Creek	4 RP16058	Project footprint
B2G-19-H21	Yandilla Station	Railway station established c.1911 as a part the South Western Line. No original station buildings remain	202 SP124721	Project footprint
B2G-19-H22	Protest public art	Elaborate piece of public art protesting the implementation of the Inland Rail Project	2 RP61876	Project footprint
B2G-19-H23	Condamine River bridge	Low timber trestle and girder rail bridge over the Condamine River	114 SP113906	Project footprint
B2G-19-H24	Pampas Station	Railway station established c.1911 as a part the South Western Line. No original station buildings remain	23 SP124720	Project footprint
B2G-19-H25	Pampas Memorial Hall	Mid-20th century timber community hall	84 SP109985	Project footprint
B2G-19-H26	Sheds	Two corrugated iron and timber farm sheds	1 RP14242	Project footprint
B2G-19-H27	Condamine River bridge 2	Low timber trestle and girder rail bridge over the Condamine River (North Branch)	2 RP37132	Project footprint
B2G-19-H28	Brookstead Station	Railway station established 1911 as a part the South Western Line. No original station buildings remain (refer B2G-19-H30)	121 SP104977	Impact assessment area
B2G-19-H29	Brookstead Station building (relocated)	Relocated Brookstead Station Building in park adjacent to railway	13 SP112652	Impact assessment area
B2G-19-H30	Cecilvale Station	Railway station established 1911 as a part the South Western Line at Cecil Plains. No original station buildings remain	2 RP14245	Project footprint
B2G-19-H31	Yarranlea Station	Railway station established 1911 as a part the South Western Line. No original station buildings remain	53 SP112651	Impact assessment area
B2G-19-H32	Murlaggan Station	Railway station established 1911 as a part the South Western Line. No original station buildings remain	2 RP7479	Project footprint
B2G-19-H33	Homestead complex	Late 19th century homestead complex, with significant archaeological deposits of earlier structure	1 RP7470	Impact assessment area
B2G-19-H34	Archaeological site	Possible remains of late 19th century house or outbuildings	11 SP285307	Project footprint



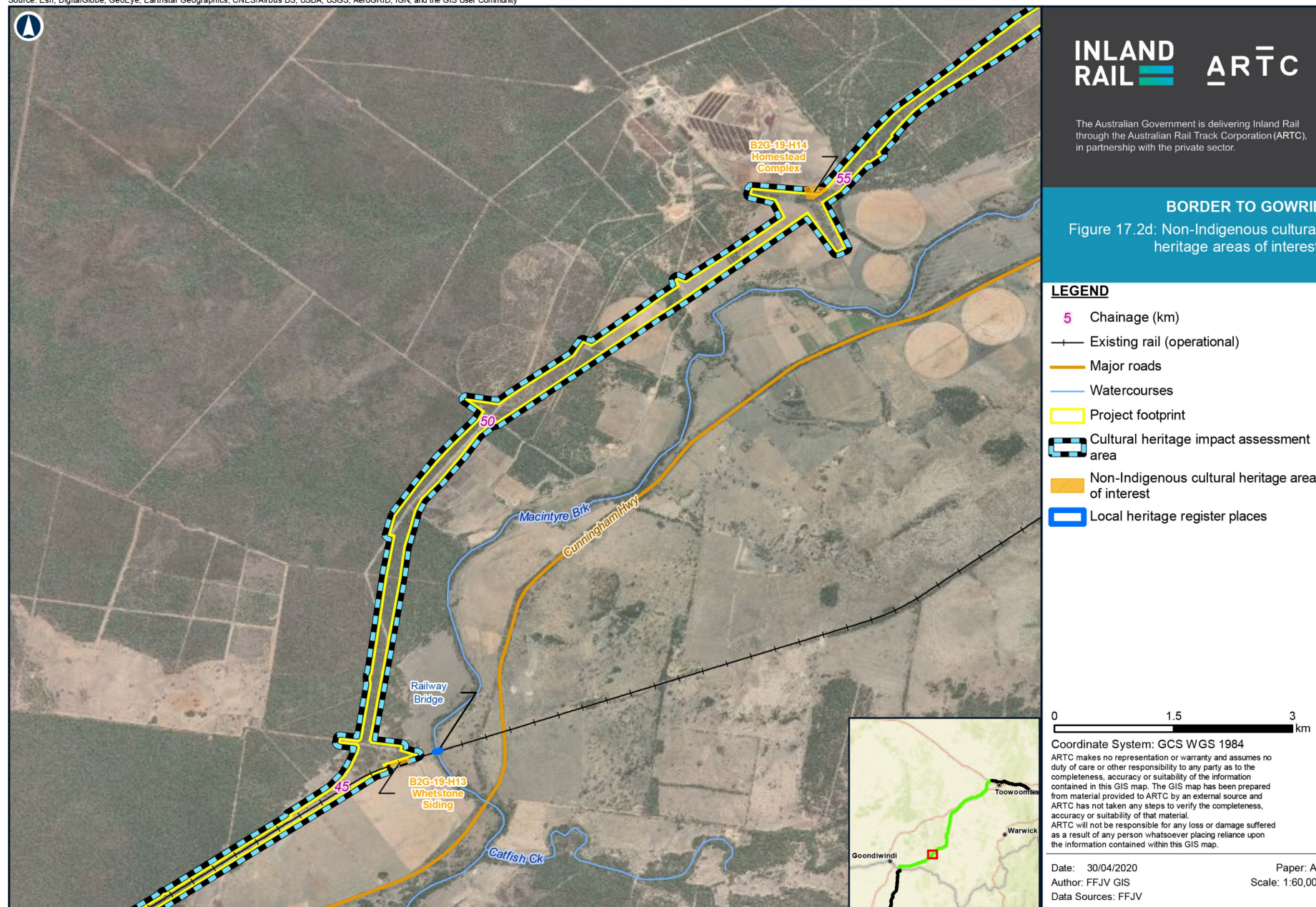
Map by: LS Z:\GIS\GIS_310_B2G\Tasks\310-ECH-201910221110_Cultural_heritage\310-ECH-201910221110_ARTC_Fig17.2_Non-Indigenous_cultural_heritage_areas_of_interes_v4.mxd Date: 6/05/2020 12:57



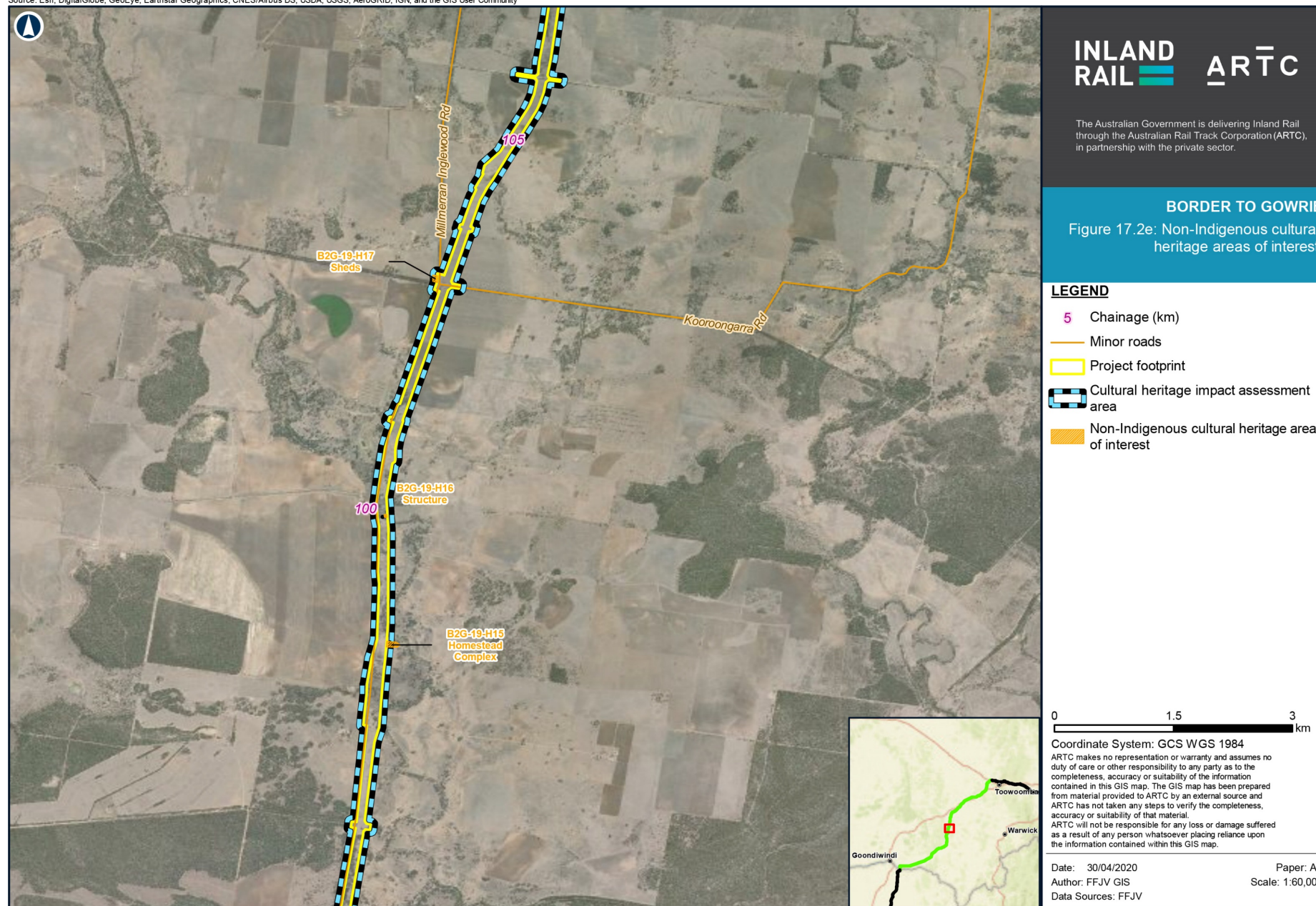
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



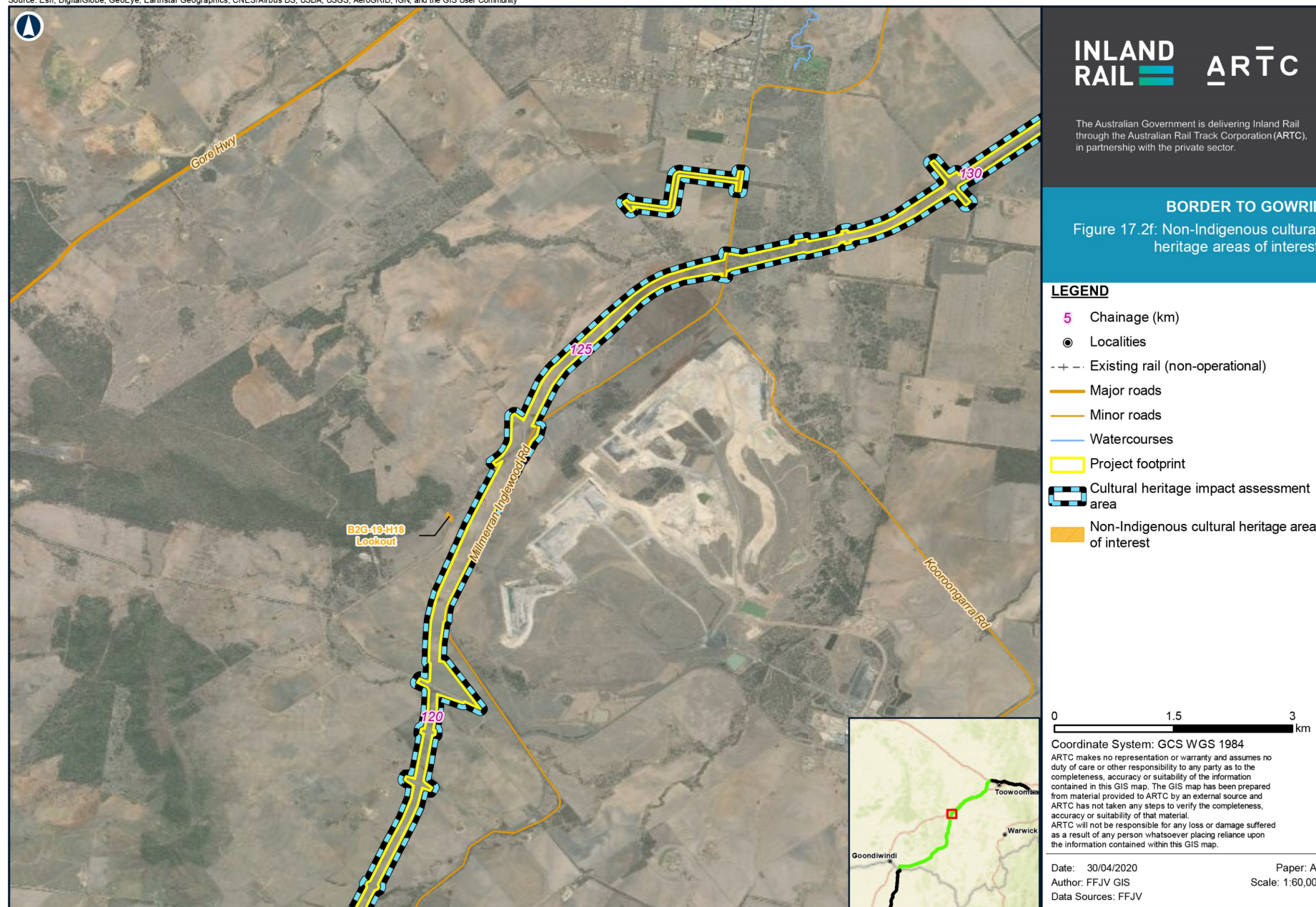
Map by: LS Z:\GIS\GIS_310_B2G\Tasks\310-ECH-201910221110_Cultural_heritage\310-ECH-201910221110_ARTC_Fig17.2_Non-Indigenous_cultural_heritage_areas_of_interes_v4.mxd Date: 6/05/2020 12:57



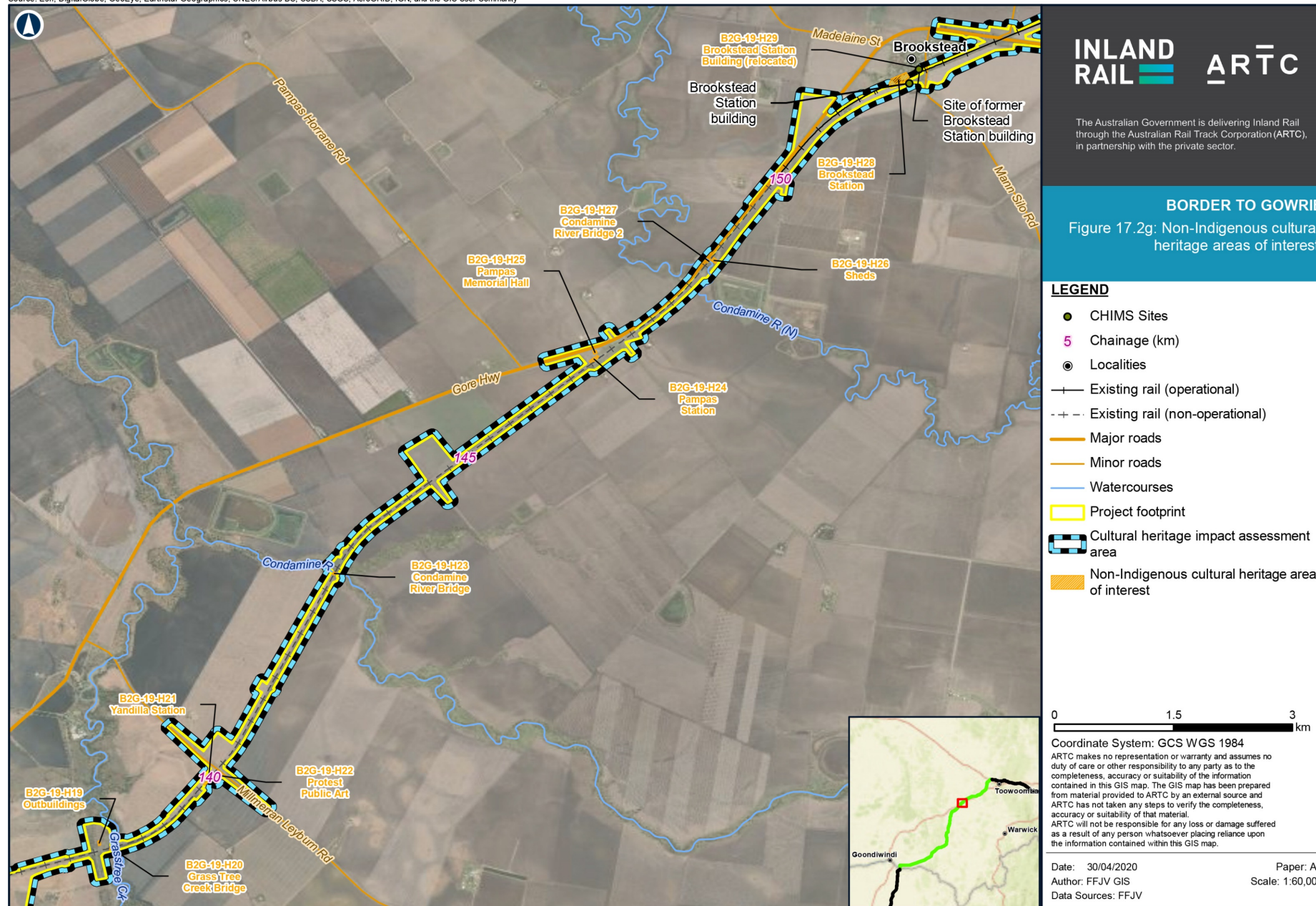
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map by: LS Z:\GIS\GIS_310_B2G\Tasks\310-ECH-201910221110_Cultural_heritage\310-ECH-201910221110_ARTC_Fig17.2_Non-Indigenous_cultural_heritage_areas_of_interes_v4.mxd Date: 6/05/2020 12:57



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



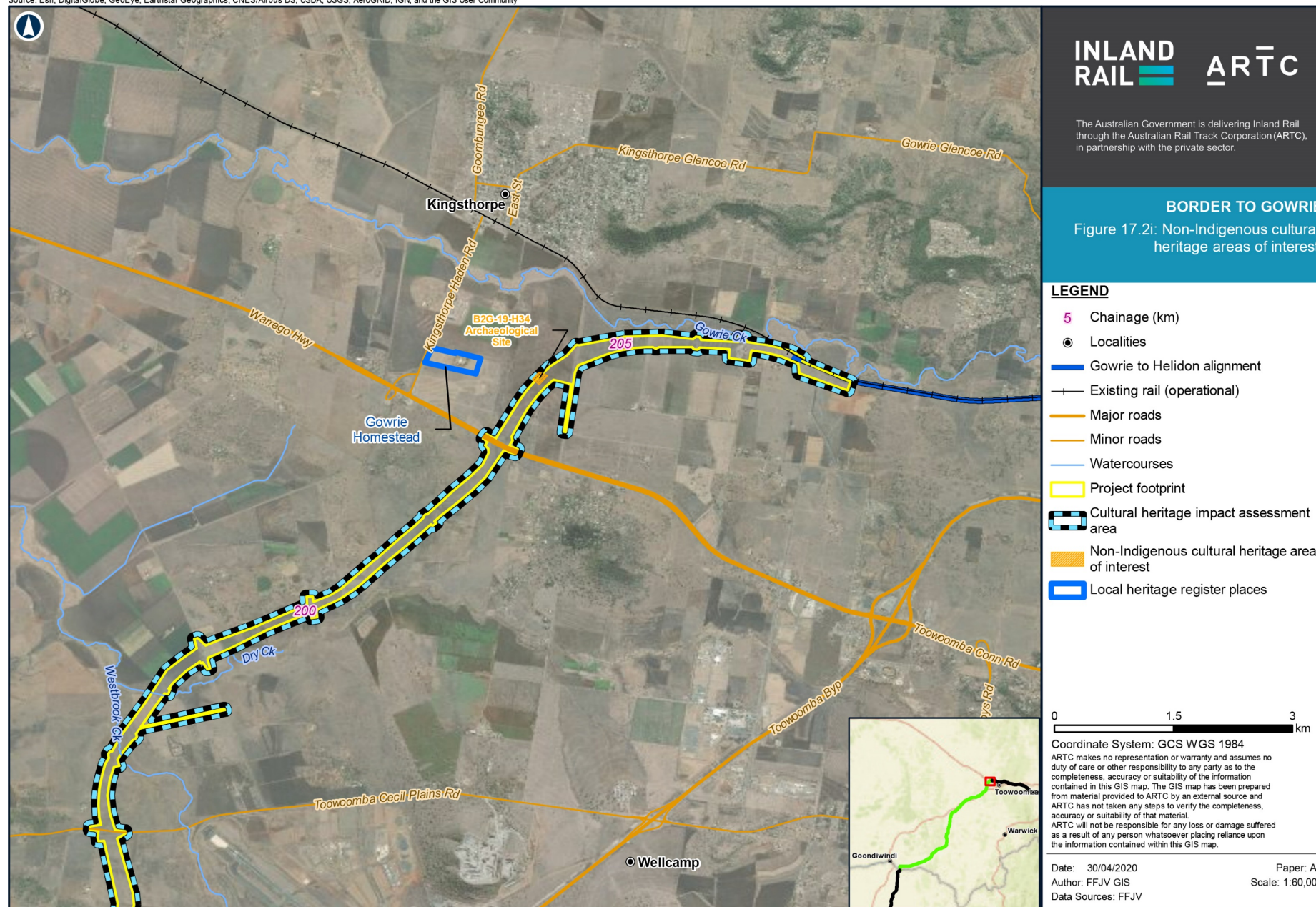
Map by: LS Z:\GIS\GIS_310_B2G\Tasks\310-ECH-201910221110_Cultural_heritage\310-ECH-201910221110_ARTC_Fig17.2_Non-Indigenous_cultural_heritage_areas_of_interes_v4.mxd Date: 6/05/2020 12:57

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map by: LS Z:\GIS\GIS_310_B2G\Tasks\310-ECH-201910221110_Cultural_heritage\310-ECH-201910221110_ARTC_Fig17.2_Non-Indigenous_cultural_heritage_areas_of_interes_v4.mxd Date: 6/05/2020 12:57

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map by: LS Z:\GIS\GIS_310_B2G\Tasks\310-ECH-201910221110_Cultural_heritage\310-ECH-201910221110_ARTC_Fig17.2_Non-Indigenous_cultural_heritage_areas_of_interes_v4.mxd Date: 6/05/2020 12:57

17.5.2.3 Significance assessment

An assessment of significance is undertaken to explain why a particular site is important and to enable the appropriate site management and curtilage to be determined. Cultural significance is defined in the Burra Charter (ICOMOS, 2013) as meaning 'aesthetic, historic, scientific or social value for past, present or future generations' (Article 1.1). 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.

As discussed in Section 17.4.3.3, the QH Act prescribes eight criteria that may be used to measure the heritage value of a place and determine its significance: historical, rarity, research, representativeness, aesthetic, creative/technical, social and associational. A place need only fulfil one of these criteria to be considered of heritage significance (DEHP, 2013a).

The relative heritage significance of places in Queensland is measured as a series of thresholds representing the importance of the place: world, national, state and local. As defined by DES (formerly DEHP, 2013a), local heritage places contribute to our understanding of important themes in local history, while State heritage places contribute to our understanding of themes and processes that are of broader relevance. Places need to be of at least regional relevance to be considered of State significance (DEHP, 2013a).

Significance assessment has been informed with consideration for feedback received from discussions with landowners, representatives of QR and local community groups, including the Pittsworth & District Historical Society.

A total of 34 non-Indigenous AOI were identified during background research and subsequently inspected. The significance of the heritage elements recorded at each of these sites was assessed against the QH Act criteria, and the threshold indicators provided by DES (DEHP, 2013a).

The results of these assessments are presented in Table 17.17. This assessment determined that 14 of the AOI are of local heritage significance and one is of regional, and State heritage significance. A full significance assessment of each AOI is provided in Section 7.0 of Appendix W: Non-Indigenous Cultural Heritage Survey Report.

TABLE 17.17 SUMMARY ASSESSMENT INDICATING CULTURAL HERITAGE SIGNIFICANCE THRESHOLD

Site	Cultural heritage significance criteria							
	A—Historical	B—Rarity	C—Research	D—Representativeness	E—Aesthetic	F—Creative/technical	G—Social	H—Associational
B2G-19-H01	Not met	Not met	Not met	Not met	Not met	Not met	Not met	Not met
B2G-19-H02	Local	Not met	Local	Not met	Not met	Not met	Not met	Not met
B2G-19-H03	Not met	Not met	Not met	Not met	Not met	Not met	Not met	Not met
B2G-19-H04	Local	Local	Not met	Local	Local	Not met	Local	Local
B2G-19-H05	Not met	Not met	Not met	Not met	Local	Not met	Local	Local
B2G-19-H06	Not met	Not met	Not met	Not met	Local	Not met	Local	Not met
B2G-19-H07	Local	Not met	Not met	Not met	Local	Not met	Not met	Not met
B2G-19-H08	Local	Not met	Not met	Not met	Not met	Not met	Local	Local
B2G-19-H09	Not met	Not met	Not met	Not met	Not met	Not met	Local	Local
B2G-19-H10	Not met	Not met	Not met	Not met	Not met	Not met	Not met	Not met
B2G-19-H11	Not met	Not met	Not met	Not met	Not met	Not met	Not met	Not met
B2G-19-H12	Not met	Not met	Not met	Not met	Not met	Not met	Not met	Not met
B2G-19-H13	Not met	Not met	Not met	Not met	Not met	Not met	Not met	Not met
B2G-19-H14	Local	Not met	Local	Not met	Not met	Not met	Not met	Not met

Cultural heritage significance criteria

Site	A—Historical	B—Rarity	C—Research	D—Representativeness	E—Aesthetic	F—Creative/technical	G—Social	H—Associational
B2G-19-H15	Local	Local	Local	Not met	Local	Not met	Not met	Not met
B2G-19-H16	Not met	Not met	Not met	Not met	Not met	Not met	Not met	Not met
B2G-19-H17	Not met	Not met	Not met	Not met	Not met	Not met	Not met	Not met
B2G-19-H18	Not met	Not met	Not met	Not met	Local	Not met	Local	Not met
B2G-19-H19	Local	Not met	Local	Not met	Not met	Not met	Not met	Not met
B2G-19-H20	Not met	Not met	Not met	Not met	Not met	Not met	Not met	Not met
B2G-19-H21	Not met	Not met	Not met	Not met	Not met	Not met	Not met	Not met
B2G-19-H22	State	State	Not met	Not met	State	Not met	State	State
B2G-19-H23	Not met	Not met	Not met	Not met	Not met	Not met	Not met	Not met
B2G-19-H24	Not met	Not met	Not met	Not met	Not met	Not met	Not met	Not met
B2G-19-H25	Local	Not met	Local	Not met	Not met	Not met	Local	Local
B2G-19-H26	Not met	Not met	Not met	Not met	Not met	Not met	Not met	Not met
B2G-19-H27	Not met	Not met	Not met	Not met	Not met	Not met	Not met	Not met
B2G-19-H28	Not met	Not met	Not met	Not met	Not met	Not met	Not met	Not met
B2G-19-H29	Local	Local	Not met	Local	Local	Not met	Not met	Not met
B2G-19-H30	Not met	Not met	Not met	Not met	Not met	Not met	Not met	Not met
B2G-19-H31	Not met	Not met	Not met	Not met	Not met	Not met	Not met	Not met
B2G-19-H32	Not met	Not met	Not met	Not met	Not met	Not met	Not met	Not met
B2G-19-H33	Local	Local	Local	Not met	Not met	Not met	Not met	Not met
B2G-19-H34	Not met	Not met	Not met	Not met	Not met	Not met	Not met	Not met

17.6 Potential impacts

This section provides a discussion of the potential impacts that may occur to heritage places or sites as a consequence of Project activities, as described in Chapter 5: Project Description.

17.6.1 Indigenous heritage

Impacts to Indigenous cultural heritage will be identified and managed in accordance with the CHMPs developed with the relevant Aboriginal Parties (CLH017009).

17.6.2 Non-Indigenous heritage

17.6.2.1 Assessing sensitivity

The degree of impact an activity will have on a heritage place is partly a factor of the nature of the place, the place's heritage significance and the potentially impacting process. An assessment of the sensitivity of each heritage place within the impact assessment area is provided in Table 17.18 in accordance with the methodology provided in section 17.4.3.3.

TABLE 17.18 SENSITIVITY OF IDENTIFIED HERITAGE SITES WITHIN THE IMPACT ASSESSMENT AREA

Site ID	Description	Significance ¹	Number of criteria met ²	Sensitivity ³
B2G-19-H01	Kurumbul Station	None	None	Negligible
B2G-19-H02	Gibinbell Shearing Complex	Local	2	Moderate
B2G-19-H03	Gibinbell Siding	None	None	Negligible
B2G-19-H04	Yelarbon & District Soldiers Memorial Hall	Local	6	Moderate
B2G-19-H05	Anzac Memorial Garden	Local	3	Moderate
B2G-19-H06	Cancer Charity Tree	Local	2	Low
B2G-19-H07	Church (former)	Local	2	Moderate
B2G-19-H08	Yelarbon Mill 1	Local	3	Moderate
B2G-19-H09	Yelarbon Mill 2	Local	2	Low
B2G-19-H10	Petrol Station	None	None	Negligible
B2G-19-H11	Yelarbon Railway Complex	None	None	Negligible
B2G-19-H12	Tree Trunk	None	None	Negligible
B2G-19-H13	Whetstone Siding	None	None	Negligible
B2G-19-H14	Homestead Complex	Local	2	Moderate
B2G-19-H15	Homestead Complex	Local	4	Moderate
B2G-19-H16	Structure	None	None	Negligible
B2G-19-H17	Sheds	None	None	Negligible
B2G-19-H18	Lookout	Local	2	Low
B2G-19-H19	Outbuildings	Local	2	Moderate
B2G-19-H20	Grass Tree Creek Bridge	None	None	Negligible
B2G-19-H21	Yandilla Station	None	None	Negligible
B2G-19-H22	Protest Public Art	State	5	High
B2G-19-H23	Condamine River Bridge	None	None	Negligible
B2G-19-H24	Pampas Station	None	None	Negligible
B2G-19-H25	Pampas Memorial Hall	Local	4	Moderate
B2G-19-H26	Sheds	None	None	Negligible
B2G-19-H27	Condamine River Bridge 2	None	None	Negligible
B2G-19-H28	Brookstead Station	None	None	Negligible
B2G-19-H29	Brookstead Station Building (relocated)	Local	4	Moderate
B2G-19-H30	Cecilvale Station	None	None	Negligible
B2G-19-H31	Yarranlea Station	None	None	Negligible
B2G-19-H32	Murlaggan Station	None	None	Negligible
B2G-19-H33	Homestead Complex	Local	3	Moderate
B2G-19-H34	Archaeological Site	None	None	Negligible

Table note:

1 As defined in Table 17.5.

2 As defined in Section 35 of the Queensland Heritage Act. Refer Table 17.4.

3 As defined in Table 17.6.

17.6.2.2 Potential impacts and magnitude of change

Potential impacts on cultural heritage can be divided into two main types, as follows:

- ▶ Direct impacts: occur if a cultural heritage place or site is located directly in a development area and/or would be physically impacted by development. Such impacts include the demolition or substantial alteration of a building, or the disturbance of an archaeological site.
- ▶ Indirect impacts: alter the surrounding physical environment in such a way that a cultural heritage place or site is affected. Indirect impacts may include extra vibration from construction activities or subsequent traffic load, as well as additional water runoff or sediment deposition due to changing hydrology.

The effects of direct or indirect impacts are measured in terms of the extent to which they alter the heritage values of a cultural heritage place.

Direct impacts

Direct impacts to cultural heritage places or sites are most likely to occur during site preparation as a part of the construction phase. At this time, clearing and stripping activities may require the demolition of heritage structures and the disturbance of archaeological sites. The heritage places that are within the Project footprint are listed in Table 17.19 along with the potential nature of impact and magnitude of change.

TABLE 17.19 HERITAGE PLACES AT RISK OF DIRECT IMPACT

Site ID	Description	Potential impact	Likely magnitude of change
B2G-19-H01	Kurumbul Station	Removal of any remaining station elements	Negligible
B2G-19-H02	Gibinbell shearing complex	Removal of shearing shed and associated yards	Major
B2G-19-H03	Gibinbell siding	Removal of any remaining siding elements	Negligible
B2G-19-H06	Cancer charity tree	Removal of tree	Major
B2G-19-H09	Yelarbon Mill 2	Removal of mill	Major
B2G-19-H11	Yelarbon railway complex	Removal of all remaining station elements	Low
B2G-19-H14	Homestead complex	Removal of house, disturbance of archaeological deposits	Major
B2G-19-H16	Structure	Removal of structure	Negligible
B2G-19-H17	Sheds	Removal of sheds	Negligible
B2G-19-H19	Outbuildings	Removal of structures, disturbance of archaeological deposits	Major
B2G-19-H20	Grass Tree Creek bridge	Removal of bridge	Negligible
B2G-19-H21	Yandilla Station	Removal of any remaining station elements	Negligible
B2G-19-H22	Protest public art	Removal of installation	Major
B2G-19-H23	Condamine River bridge	Removal of bridge	Negligible
B2G-19-H24	Pampas Station	Removal of any remaining station elements	Negligible
B2G-19-H25	Pampas Memorial Hall	Removal of building	Major
B2G-19-H26	Sheds	Removal of buildings	Negligible
B2G-19-H27	Condamine River bridge 2	Removal of bridge	Negligible
B2G-19-H30	Cecilvale Station	Removal of station	Negligible
B2G-19-H32	Murlaggan Station	Removal of buildings	Negligible
B2G-19-H34	Archaeological site	Disturbance of archaeological deposits	Major

Indirect impacts

Indirect impacts may occur during any phase of the Project if construction or operation activities result in alteration of view or generation of excessive dust, noise or vibration that affects heritage structures. Sites at risk of indirect impacts are listed in Table 17.20, along with the potential nature of impact and magnitude of change.

TABLE 17.20 HERITAGE PLACES AT RISK OF INDIRECT IMPACT

Site ID	Description	Potential impact	Likely magnitude of change
B2G-19-H04	Yelarbon & District Soldiers Memorial Hall	Dust and vibration from construction and operation may accelerate dilapidation	Medium
B2G-19-H05	Anzac Memorial Garden	Dust and vibration from construction and operation may impact gardens	Medium
B2G-19-H07	Church (former)	Dust and vibration from construction and operation may accelerate dilapidation. Structure is already in a poor condition and is vulnerable to damage	Medium
B2G-19-H08	Yelarbon Mill 1	Dust and vibration from construction and operation may accelerate dilapidation of buildings. However, buildings are already subject to such impacts as it is an operating industrial site	Negligible
B2G-19-H10	Petrol station	Dust and vibration from construction and operation may accelerate dilapidation of buildings	Low
B2G-19-H12	Tree trunk	May be subject to increased dust and vibration, but these are unlikely to have a noticeable impact	No change
B2G-19-H13	Whetstone siding	None. No heritage structures remain	No change
B2G-19-H14	Homestead complex	Dust and vibration from construction and operation may accelerate dilapidation of any remaining structures	Medium
B2G-19-H15	Homestead	Dust and vibration from construction and operation may accelerate dilapidation. Structure is already in a poor condition and is vulnerable to damage.	Medium
B2G-19-H18	Lookout	View may be altered. However, since the current view is of an industrial site, little substantive change is anticipated	Low
B2G-19-H19	Outbuildings	Dust and vibration from construction and operation may accelerate dilapidation of any remaining structures	Medium
B2G-19-H22	Protest public art	Dust and vibration from construction and operation may accelerate dilapidation of structure	Medium
B2G-19-H25	Pampas Memorial Hall	Dust and vibration from construction and operation may accelerate dilapidation of structure if left in place	Medium
B2G-19-H28	Brookstead Station	None. No heritage structures remain	No change
B2G-19-H29	Brookstead Station building (relocated)	Dust from construction and operation may accelerate dilapidation	Low
B2G-19-H31	Yarranlea Station	None. No heritage structures remain	No change
B2G-19-H33	Homestead complex	Dust and vibration from construction and operation may accelerate dilapidation. Some structures are already in a poor condition and are vulnerable to damage	Medium

17.7 Mitigation measures

The accepted approach for managing impacts on heritage places is to avoid wherever possible, minimise as far as is practical, and then mitigate where avoidance and minimisation is not possible (ICOMOS, 2011).

This section describes the measures that either have been, or will be, adopted by the Project to avoid, minimise or mitigate potential impacts on heritage places. In the case of local heritage places, it is recommended that regard be given to the provisions of the local planning scheme where possible. Although the Project is exempt from such requirements, planning schemes do provide a benchmark of the heritage protections expected by the local community.

17.7.1 Mitigation through the reference design phase

Development of the reference design for the Project has progressed in parallel with the impact assessment process. As a consequence, design solutions for avoiding, minimising or mitigating impacts have been incorporated into the reference design as appropriate and where possible.

Mitigation measures and controls that have been factored into the design, or otherwise implemented during the reference design phase for the Project, are summarised in Table 17.21.

TABLE 17.21 INITIAL MITIGATION MEASURES OF RELEVANCE TO CULTURAL HERITAGE

Aspect	Standard mitigation measures
All heritage	The Project has been aligned to be co-located with existing rail and road infrastructure where possible, minimising the need to develop land that has not previously been subject to disturbance for transport infrastructure purposes and minimise the number of impacts to existing structures.
	The assessment of alternative alignment options has been conducted using multi-criteria analysis, with the presence and proximity of known heritage places a criteria within the assessment.
	The Project footprint has been established to provide the minimum-sized area required to safely and efficiently construct and operate the Project.
Indigenous heritage	The alignment has been positioned to minimise the number of crossings of watercourses and areas of remnant vegetation, which are typically high-risk areas for Indigenous heritage.
	Three CHMPs have been developed and agreed for the Project in accordance with the requirements of Part 7 of the ACH Act and the <i>Cultural Heritage Management Plan Guidelines</i> (DATSIP, 2005).
	ARTC have commenced work with local Aboriginal Parties (Bigambul and Western Wakka Wakka) and Indigenous training and employment service providers to develop employment and training strategies for Indigenous job seekers.

17.7.2 Proposed mitigation measures

To manage and mitigate project risks, several mitigation measures have been proposed for implementation in future phases of Project delivery. These proposed mitigation measures have been identified to address Project-specific issues and opportunities, and are detailed in this section, separated into:

- ▶ Overarching mitigation measures (applicable to both Indigenous and non-Indigenous heritage)
- ▶ Indigenous heritage
- ▶ Non-Indigenous heritage.

Each section identifies the relevant Project phase and the proposed mitigation and management measures. The measures have then been factored into the assessment of residual significance, as outlined in Section 17.8.

Chapter 22: Outline Environmental Management Plan provides further context and the framework for implementing these proposed mitigation and management measures.

17.7.2.1 Overarching mitigation measures

A series of mitigation and management measures have been developed as part of a Project-wide response to potential heritage impacts. These overarching measures are summarised in Table 17.22.

TABLE 17.22 OVERARCHING MITIGATION AND MANAGEMENT MEASURES OF RELEVANCE TO ALL HERITAGE

Phase	Mitigation and management measures
Detail design	Design will be developed and refined in response to the outcomes of additional heritage surveys undertaken through the detail design phase to avoid direct impacts to identified items or sites of Indigenous, historic and natural heritage significance, where possible and practical to do so.
Pre-construction	<p>A Cultural Heritage Management Sub-plan will be developed as a component of the CEMP and will detail mitigation and management measures to be implemented during construction in relation to cultural heritage. The Cultural Heritage Management Sub-plan will be separate to the CHMPs for the Project and will relate to all heritage aspects of importance to all stakeholders. It will include:</p> <ul style="list-style-type: none"> ▶ Requirements for: <ul style="list-style-type: none"> ▶ Site induction ▶ Training ▶ Heritage monitors ▶ Inspections ▶ Audits ▶ Corrective actions ▶ Notification and classification of environmental incidents ▶ Record keeping ▶ Monitoring and performance objectives for handover on completion of construction. ▶ Specific management requirements for sites/items that cannot be avoided during construction, as agreed with owners or managers of each site/item, particularly the following sites that may experience a major magnitude of direct change (refer Table 17.19): <ul style="list-style-type: none"> ▶ Gibinbell shearing complex (B2G-19-H02) ▶ Cancer charity tree (B2G-19-H06) ▶ Yelarbon Mill 2 (B2G-19-H09) ▶ Homestead complex (B2G-19-H14) ▶ Outbuildings (B2G-19-H19) ▶ Protest public art (B2G-19-H22) ▶ Pampas Memorial Hall (B2G-19-H25) ▶ Archaeological site (B2G-19-H34). ▶ Communication protocols for informing staff and contractors of the nature and location of heritage items and need to avoid impacts, detailing the locations on site maps ▶ Appropriate measures to identify and respond to (avoid, minimise, mitigate) impacts on matters of non-Indigenous heritage ▶ An unexpected finds procedure, including assessment by a suitably qualified person and notification obligations under the applicable heritage legislation ▶ Procedures for responding to encounters with potential burial sites or potential human skeletal material in accordance with legislative requirements. <p>Clearing extents/site boundary/limit of works are consistent with the detail design requirements and marked with flagging or marking tape, signage or other suitable means to delineate 'no go areas'.</p> <p>Clearing extents are limited to that required to construct the works.</p>
Construction	<p>Temporary protective barricading will be installed around heritage places or artefacts that are located within the Project footprint and are to be retained.</p> <p>If a suspected Indigenous or historic heritage item or site is identified, any works that may impact the item or site will stop, and the Unexpected Finds Procedure in the Cultural Heritage Management Sub-plan will be followed.</p> <p>Any responses to chance finds will only be undertaken by archaeologists qualified and experienced in the relevant discipline.</p> <p>In the event of the discovery of human remains, all work in the area will cease, the find will be protected, the Queensland Police Service will be notified. All relevant Cultural Heritage Management Sub-plan processes for the notification and management of human remains will be instigated.</p>

17.7.2.2 Indigenous heritage

Indigenous cultural heritage will be protected and managed through agreed mitigation strategies after the survey of the Project footprint. This survey will be undertaken by the Traditional Owners in line with the terms and conditions of the CHMPs.

Table 17.23 specifies the mitigation and management that will be implemented to minimise the extent of impacts to Indigenous heritage.

TABLE 17.23 INDIGENOUS HERITAGE MITIGATION AND MANAGEMENT MEASURES

Phase	Mitigation and management measures
Detail design	The proposed locations of additional components of the Project, such as borrow pits and non-resident workforce accommodation camps, will be subject to assessment in accordance with the requirements of the CHMP and the ACH Act.
Pre-construction	Impacts to Indigenous heritage will be managed through the CHMPs, in accordance with the ACH Act, which includes the following management measures: <ul style="list-style-type: none">▶ A cultural heritage induction for Project staff▶ Developing a cultural heritage awareness program▶ Provisions for managing unexpected finds of cultural material or sites (including burials).
Construction	Impacts to previously unregistered and unassessed items or places of cultural heritage significance will be managed in accordance with the CHMPs.
Operation	Where possible, surface disturbance will be contained to areas that have been previously surveyed for cultural heritage. Where maintenance activities require surface disturbance beyond the previously surveyed Project footprint, assessment will be conducted in accordance with the requirements of the CHMPs and the ACH Act.

17.7.2.3 Non-Indigenous heritage

Table 17.24 specifies the mitigation and management measures that will be implemented to minimise the extent of impacts to non-Indigenous heritage.

TABLE 17.24 NON-INDIGENOUS HERITAGE MITIGATION AND MANAGEMENT MEASURES

Phase	Mitigation and management measures
Detail design	Undertake archaeological survey of heritage sites that are complexes within the Project footprint to map elements and identify areas of possible subsurface deposit. These complexes are identified in Table 17.19 and are: <ul style="list-style-type: none">▶ Gibinbell shearing complex (B2G-19-H02)▶ Yelarbon railway complex (B2G-19-H11)▶ Homestead complex (B2G-19-H14).
Pre-construction	Pre-construction and post-construction condition/dilapidation surveys to be undertaken at all heritage places at risk of vibration impact. These places are to be confirmed following the completion of detail design, but are expected to include: <ul style="list-style-type: none">▶ Yelarbon & District Soldiers Memorial Hall (B2G-19-H04)▶ Anzac Memorial Garden (B2G-19-H05)▶ Church (former) (B2G-19-H07)▶ Yelarbon Mill 1 (B2G-19-H08)▶ Petrol station (B2G-19-H10)▶ Homestead complex (B2G-19-H14)▶ Homestead (B2G-19-H15)▶ Outbuildings (B2G-19-H19)▶ Protest public art (B2G-19-H22)▶ Pampas Memorial Hall (B2G-19-H25)▶ Homestead complex (B2G-19-H33). If warranted by results of archaeological survey, undertake a two-stage archaeological excavation, including: <ul style="list-style-type: none">▶ Stage 1—Test excavation to confirm subsurface deposit▶ Stage 2—Salvage excavation of subsurface deposits (if required).

Phase	Mitigation and management measures
Pre-construction (continued)	<p>Undertake archival photographic recording of sites or places that will be directly impacted by the Project (refer Table 17.19) in accordance with the <i>Guideline: Archival Recording of Heritage Places</i> (DEHP, 2013b).</p> <p>Copies of archival records will be lodged with the John Oxley Library, and local libraries or historical societies, as appropriate.</p> <p>Relocation of heritage items is generally undesirable, as setting forms an intrinsic part of heritage value (ICOMOS, 2013); however, subject to site owner/manager agreement, it may be appropriate to relocate buildings or items of moveable heritage to an alternative location.</p> <p>Potential for vibration impacts to heritage sites to be re-assessed following confirmation of the location of activities, plant types and methods of construction.</p> <p>Building condition/dilapidation surveys will be undertaken at heritage buildings within 60 m of possible vibratory roller operation or when other activities may result in exceedance of the structural damage vibration criteria in DIN 4150.3 and recommended in CoP Vol 2 (DTMR, 2013).</p>
Construction	<p>The construction methodology will be tailored to limit vibration impacts to heritage-listed structures.</p> <p>Vibration at heritage places (refer above) to be kept below 2 mm/sec (in accordance with <i>DIN4150-3 Vibration in Buildings</i> (German Institute for Standardisation, 1999)).</p> <p>If warranted by results of archaeological survey, archaeologists will monitor groundbreaking works to identify any subsurface deposits.</p> <p>Vibration will be monitored at places where threshold exceedances are possible.</p> <p>Where vibration exceedances occur, the construction methodology will be modified, where possible, to reduce impact, such as:</p> <ul style="list-style-type: none"> ▶ Using damped tips on rock-breakers ▶ Using rock saws instead of blasting ▶ Using excavators with grabs and rake attachments instead of chainsaws during clearing ▶ Mulching cleared material at locations away from sensitive receptors ▶ Avoiding onsite fabrication work, where possible ▶ Using alternatives to impact-pile driving, where possible, such as continuous flight, auger-injected piles, pressed-in preformed piles, auger-bored piles, impact-bored piles, or vibratory piles ▶ When piling, avoiding dynamic compaction using large tamping weights near sensitive and critical receptors, where possible ▶ Reducing energy per blow when piling (consider first whether this may result in prolonged exposure with no realised reduction in community disturbance). <p>Plant and equipment selection will be reviewed with a preference for adopting quieter and non-vibratory plant items near sensitive receptors, where feasible and reasonable.</p> <p>Appropriately sized plant and equipment will be selected for each construction task, such as vibratory compactors and rock excavation equipment.</p> <p>Any damage to heritage structures will be repaired in a way that conserves the heritage values of the place (refer to the Burra Charter, Article 1.4).</p>
Operation	<p>Potential for vibration impacts to heritage sites will be assessed before maintenance activities are undertaken.</p> <p>Pre- and post-condition structural surveys will be undertaken at all heritage buildings and structures when maintenance activities may result in exceedance of the structural damage vibration criteria in DIN 4150.3 and recommended in CoP Vol 2.</p>

17.8 Impact assessment summary

17.8.1 Indigenous heritage

The location of pre-construction or early works, construction activities and permanent Project components will, where possible and practical, be positioned to avoid any known restricted area identified through further cultural heritage assessment. In doing so, ARTC will engage with the relevant Aboriginal Party to develop an approach to avoid, or otherwise manage works in proximity to the restricted area. This is more likely to be practical for pre-construction and early works and construction activities than for permanent Project components. Where ARTC considers it to be impractical to change the location of Project activities to avoid a known restricted area, the appropriate management measures set out in Table 17.23 and the relevant CHMPs will be implemented.

17.8.2 Non-Indigenous heritage

The significance of initial (reference design phase mitigations only) and residual (fully mitigated) impacts to each heritage place are assessed in Table 17.25 using the criteria established in the *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties* (ICOMOS, 2011) (refer Section 17.4.3.4).

TABLE 17.25 INITIAL AND RESIDUAL IMPACT SIGNIFICANCE ASSESSMENT

Site ID	Description	Sensitivity	Initial significance ¹		Residual significance ²	
			Magnitude	Significance	Magnitude	Significance
B2G-19-H01	Kurumbul Station	Negligible	Negligible	Neutral	Negligible	Neutral
B2G-19-H02	Gibinbell Shearing complex	Moderate	Major	Moderate	Low	Slight
B2G-19-H03	Gibinbell siding	Negligible	Negligible	Neutral	Negligible	Neutral
B2G-19-H04	Yelarbon & District Soldiers Memorial Hall	Moderate	Medium	Moderate	Low	Slight
B2G-19-H05	Anzac Memorial Garden	Moderate	Medium	Moderate	Low	Slight
B2G-19-H06	Cancer charity tree	Low	Major	Moderate	Low	Slight
B2G-19-H07	Church (former)	Moderate	Medium	Moderate	Low	Slight
B2G-19-H08	Yelarbon Mill 1	Moderate	Negligible	Slight	Negligible	Slight
B2G-19-H09	Yelarbon Mill 2	Low	Major	Moderate	Low	Slight
B2G-19-H10	Petrol Station	Negligible	Low	Neutral	Negligible	Neutral
B2G-19-H11	Yelarbon Railway complex	Negligible	Low	Neutral	Negligible	Neutral
B2G-19-H12	Tree trunk	Negligible	No change	Neutral	No change	Neutral
B2G-19-H13	Whetstone siding	Negligible	No change	Neutral	No change	Neutral
B2G-19-H14	Homestead complex	Moderate	Major	Moderate	Low	Slight
B2G-19-H15	Homestead complex	Moderate	Medium	Moderate	Low	Slight
B2G-19-H16	Structure	Negligible	Negligible	Neutral	Negligible	Neutral
B2G-19-H17	Sheds	Negligible	Negligible	Neutral	Negligible	Neutral
B2G-19-H18	Lookout	Low	Low	Slight	Negligible	Neutral
B2G-19-H19	Outbuildings	Moderate	Major	Moderate	Low	Slight
B2G-19-H20	Grass Tree Creek bridge	Negligible	Negligible	Neutral	Negligible	Neutral
B2G-19-H21	Yandilla Station	Negligible	Negligible	Neutral	Negligible	Neutral
B2G-19-H22	Protest public art	High	Major	Large	Medium	Moderate
B2G-19-H23	Condamine River bridge	Negligible	Negligible	Neutral	Negligible	Neutral
B2G-19-H24	Pampas Station	Negligible	Negligible	Neutral	Negligible	Neutral
B2G-19-H25	Pampas Memorial Hall	Moderate	Major	Moderate	Low	Slight
B2G-19-H26	Sheds	Negligible	Negligible	Neutral	Negligible	Neutral
B2G-19-H27	Condamine River bridge 2	Negligible	Negligible	Neutral	Negligible	Neutral
B2G-19-H28	Brookstead Station	Negligible	No change	Neutral	No change	Neutral
B2G-19-H29	Brookstead Station building (relocated)	Moderate	Low	Slight	Negligible	Slight
B2G-19-H30	Cecilvale Station	Negligible	Negligible	Neutral	Negligible	Neutral
B2G-19-H31	Yarranlea Station	Negligible	No change	Neutral	No change	Neutral
B2G-19-H32	Murlaggan Station	Negligible	Negligible	Neutral	Negligible	Neutral
B2G-19-H33	Homestead complex	Moderate	Medium	Moderate	Low	Slight
B2G-19-H34	Archaeological site	Negligible	Major	Slight	Low	Neutral

Table notes:

¹ Includes implementation of initial mitigation measures specified in Table 17.21.

² Assessment of residual significance once the mitigation measures identified in Table 17.22 and Table 17.24 have been applied.

17.9 Cumulative impacts

It is a requirement of the ToR for this Project that the potential for cumulative impacts be considered. This section provides a discussion on the potential for cumulative impacts in relation to cultural heritage.

Projects with spatial and/or temporal overlap can result in cumulative impacts. Cumulative impacts may:

- ▶ Differ from those of an individual project when considered in isolation
- ▶ Be positive or negative
- ▶ Differ in severity and duration depending on the spatial and temporal overlap of projects occurring in an area.

The potential for cumulative impacts emerges when concurrent or consecutive activities bring about incremental change to heritage places and values. These changes may not be captured in an assessment for any single project, and instead need to be considered on a wider physical and temporal scale (ICOMOS, 2011).

Further details on the potential for cumulative impacts to arise as a consequence of the Project, in combination with others, is presented in Chapter 21: Cumulative Impacts. Details on the assessment methodology for cumulative impacts is presented in Chapter 4: Assessment Methodology.

17.9.1 Indigenous heritage

The potential for impacts to Indigenous cultural heritage, including cumulative impacts, will be identified and managed under the CHMP for each Aboriginal Party.

17.9.2 Non-Indigenous heritage

Twenty-three projects were initially identified as having potential to contribute to cumulative impacts in combination with the Border to Gowrie Project. These projects are either currently operational, expected to undergo future expansion, are being constructed, or are currently going through an approval process. A full list of the 23 projects, with a description of each, is presented in Chapter 21: Cumulative Impacts.

The potential impacts to heritage sites and places that have been identified through this assessment are isolated in nature and generally within 50 m of the Project footprint. Consequently, the area of impact on heritage features of this Project is not expected to overlap with other non-Inland Rail projects. For the purposes of non-Indigenous heritage, the two adjoining Inland Rail projects, being North Star to NSW/Queensland Border (NS2B) and Gowrie to Helidon (G2H) are considered to have potential to result in cumulative impacts. The details of these projects are in Table 17.26.

TABLE 17.26 PROJECTS CONSIDERED FOR THE CUMULATIVE IMPACT ASSESSMENT

Projects	Location	Description	Construction dates
North Star to NSW/QLD Border (Inland Rail)	Rail alignment from North Star, NSW to the NSW/Queensland border Adjoins the Project at its southern limit	New 37.0 km rail corridor to connect North Star (NSW) to the Border to Gowrie Project on the NSW/Queensland border	2021 to 2024
Gowrie to Helidon (Inland Rail)	Rail alignment from Gowrie to Helidon, Queensland Adjoins the Project at its northern limit	New 26.0 km dual gauge track between Gowrie (northwest of Toowoomba) and Helidon (east of Toowoomba), extending through the LGAs of Toowoomba and Lockyer Valley. The Project includes a 6.38 km tunnel to create an efficient route through the steep terrain of the Toowoomba Range.	2021 to 2025

An assessment of cumulative impacts that may arise from these projects in combination with the Project is in Table 17.27.

Cumulative impacts on heritage are considered to be of medium significance. Initial controls for the management of these potential cumulative impacts are based on the implementation of the measures described in Table 17.22 and Table 17.24. Consultation with potentially affected landowners and other stakeholders may result in additional mitigation measures being identified during the detail design process. In such instances, additional mitigation measures will be incorporated into relevant components of the CEMP, if appropriate.

The results of cumulative impact assessments undertaken for cultural heritage sites and places must be interpreted with caution, because they are based (in part) on heritage datasets that are inevitably incomplete and contain various inconsistencies and errors. Godwin (2011) has questioned the value of cumulative impact assessments to cultural heritage management in Australia, arguing that the 'fundamentals' necessary for undertaking such assessments simply do not exist. The fundamentals Godwin is referring to are robust regional and national data sets for measuring proposed impacts and the determination of acceptable scientific and cultural impact thresholds.

TABLE 17.27 ASSESSMENT OF CUMULATIVE IMPACTS

Project	Potential cumulative impact	Aspect	Relevance factor	Sum of relevance factors	Impact significance	Comments and management measures
North Star to NSW/Queensland Border (Inland Rail)	Loss of cultural heritage sites	Probability of the impact	High (3)	9	Medium	Will be managed through: ▶ Development and implementation of a Cultural Heritage Management Sub-plan as a component of the CEMP for the Project ▶ ARTC to ensure that compatible management measures are applied across projects within the Inland Rail Program.
		Duration of the impact	High (3)			
		Magnitude/intensity of the impact	Medium (2)			
		Sensitivity of the receiving environment	Low (1)			
Gowrie to Helidon (Inland Rail)	Loss of cultural heritage sites	Probability of the impact	High (3)	9	Medium	Will be managed through: ▶ Development and implementation of a Cultural Heritage Management Sub-plan as a component of the CEMP for the Project ▶ ARTC to ensure that compatible management measures are applied across projects within the Inland Rail Program.
		Duration of the impact	High (3)			
		Magnitude/intensity of the impact	Medium (2)			
		Sensitivity of the receiving environment	Low (1)			

Table notes:

Relevance factors between 1 and 3 were determined using professional judgement to select the most appropriate relevance factor for each aspect and summing the relevance factors.
Sum of relevant factors definition:

- ▶ Low (1–6): Negative impacts need to be managed by standard environmental management practices. Monitoring to be part of general project monitoring program.
- ▶ Medium (7–9): Mitigation measures likely to be necessary and specific management practices to be applied. Targeted monitoring program required, where appropriate.
- ▶ High (10–12): Alternative actions should be considered and/or mitigation measures applied to demonstrate improvement. Targeted monitoring program required, where appropriate.

17.10 Conclusions

This chapter has been prepared to evaluate potential impacts of the Project on cultural heritage and addresses sections 11.166 and 11.167 of the ToR. This chapter addresses the Indigenous and non-Indigenous cultural heritage values of the Project, outlines the Project's existing environment, potential impacts, proposed mitigation measures and provides a significance impact assessment.

CHMPs for the Project have been developed between ARTC and the relevant Aboriginal Parties (CLH017009) and approved under the ACH Act. The scope of the CHMPs only covers the construction of new rail infrastructure and associated structures as well as the corridor owned or managed by ARTC, not QR maintenance of the existing rail corridor. Indigenous cultural heritage values and Project impacts to these values will be managed under the approved CHMPs, in accordance with the ToR and the ACH Act.

The assessment of non-Indigenous heritage values and impacts has been undertaken by a team of appropriately qualified heritage specialists and has used a combination of register searches and historical and archival research to identify areas of high cultural heritage potential within 1 km of the Project. Through this process, 34 AOI were identified, inspected, and assessed against standard significance criteria. Following this assessment, potential direct and indirect impacts to non-Indigenous heritage values were established.

The reference design has been developed in parallel with the EIS to avoid impacts to heritage values. Where avoidance has not been possible, design development has sought to minimise the likelihood and/or consequence of these impacts, as far as possible. Mitigation measures and controls that have been factored into the design, or otherwise implemented during the reference design phase for the Project, are summarised in Table 17.21.

Where potential impacts to heritage values have not been fully avoided or mitigated through the reference design phase, additional mitigation measures have been nominated for implementation in future phases of the Project. These proposed mitigation and management measures are detailed in Section 17.7.2.

Potential Project impacts on heritage places were assessed using ICOMOS standard guidelines (ICOMOS, 2011) both before (initial significance) and after the implementation of mitigation measures (residual significance) (refer Table 17.28). The assessment found that, with appropriate measure measures, Project impacts would be reduced to moderate for one heritage place (B2G-19-H22), and neutral or slight for the remainder.

TABLE 17.28 SUMMARY OF THE CULTURAL HERITAGE SIGNIFICANCE AND IMPACT ASSESSMENT

Site ID	Description	Significance	Significance of impact before mitigation ¹	Significance of impact after mitigation ²
B2G-19-H01	Kurumbul Station	None	Neutral	Neutral
B2G-19-H02	Gibinbell Shearing complex	Local	Moderate	Slight
B2G-19-H03	Gibinbell siding	None	Neutral	Neutral
B2G-19-H04	Yelarbon & District Soldiers Memorial Hall	Local	Moderate	Slight
B2G-19-H05	Anzac Memorial Garden	Local	Moderate	Slight
B2G-19-H06	Cancer charity tree	Local	Moderate	Slight
B2G-19-H07	Church (former)	Local	Moderate	Slight
B2G-19-H08	Yelarbon Mill 1	Local	Slight	Slight
B2G-19-H09	Yelarbon Mill 2	Local	Moderate	Slight
B2G-19-H10	Petrol Station	None	Neutral	Neutral
B2G-19-H11	Yelarbon Railway complex	None	Neutral	Neutral
B2G-19-H12	Tree trunk	None	Neutral	Neutral
B2G-19-H13	Whetstone siding	None	Neutral	Neutral
B2G-19-H14	Homestead complex	Local	Moderate	Slight
B2G-19-H15	Homestead complex	Local	Moderate	Slight
B2G-19-H16	Structure	None	Neutral	Neutral
B2G-19-H17	Sheds	None	Neutral	Neutral
B2G-19-H18	Lookout	Local	Slight	Neutral
B2G-19-H19	Outbuildings	Local	Moderate	Slight
B2G-19-H20	Grass Tree Creek bridge	None	Neutral	Neutral
B2G-19-H21	Yandilla Station	None	Neutral	Neutral
B2G-19-H22	Protest public art	State	Large	Moderate
B2G-19-H23	Condamine River bridge	None	Neutral	Neutral
B2G-19-H24	Pampas Station	None	Neutral	Neutral
B2G-19-H25	Pampas Memorial Hall	Local	Moderate	Slight
B2G-19-H26	Sheds	None	Neutral	Neutral
B2G-19-H27	Condamine River bridge 2	None	Neutral	Neutral
B2G-19-H28	Brookstead Station	None	Neutral	Neutral
B2G-19-H29	Brookstead Station building (relocated)	Local	Slight	Slight
B2G-19-H30	Cecilvale Station	None	Neutral	Neutral
B2G-19-H31	Yarranlea Station	None	Neutral	Neutral
B2G-19-H32	Murlaggan Station	None	Neutral	Neutral
B2G-19-H33	Homestead complex	Local	Moderate	Slight
B2G-19-H34	Archaeological site	None	Slight	Neutral

Table notes:

1 Prior to application of proposed mitigation measures presented in Section 17.7.2.

2 After application of proposed mitigation measures presented in Section 17.7.2.

All potential impacts to heritage values will be managed through adherence to the Outline EMP (Chapter 22: Outline Environmental Management Plan) and CHMPs.