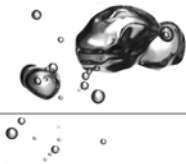


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## 15. Cultural Heritage

### 15.1 Introduction

This section provides an assessment of the potential Indigenous and non-Indigenous cultural heritage impacts of the proposed Emu Swamp Dam Project. For the purposes of this assessment, the cultural heritage study corridor will correspond to the 'Project area' including the proposed dam inundation area and the land area within 1 km of the proposed Urban and Irrigation Pipelines.

The purpose of the cultural heritage assessment is to identify existing cultural heritage values relevant to the study area, identify potential impacts of the Project on these values and recommend suitable measures to manage potential impacts. This section presents the findings of this assessment. It describes:

- the historical background of the Project area;
- results of the cultural heritage field survey;
- the nature of cultural heritage significance within the Project area and the potential impacts of the Project in relation to this significance; and
- specific management recommendations for the protection of potential areas of cultural heritage significance.

### 15.2 Indigenous Cultural Heritage

#### 15.2.1 Relevant Legislation

The following section discusses both National and State Legislation relevant to Aboriginal cultural heritage.

##### 15.2.1.1 Federal

At the national level, the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is now the key national heritage legislation, and is administered by the Department of the Environment Water, Heritage and the Arts (DEW). In addition to the EPBC Act, the following pieces of legislation are relevant to heritage:

- The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* provides Aboriginal people with the right to request the federal Minister for Aboriginal Affairs to intervene through an injunction in cases where they consider that their cultural heritage is at risk. The Act does not determine significance, or limit the type and place for which protection is being sought.
- The *Australian Heritage Council Act 2003* (AHC Act) provides for the establishment of the Australian Heritage Council, which is the principal advisory group to the Australian Government on heritage issues. The AHC Act also provides for registration of places considered of national significance on the Register of the National Estate or the Australian Heritage Places Inventory. Such places may include areas that could be terms "significant Aboriginal areas" pursuant to section 9 of the *Aboriginal Cultural Heritage Act 2003*.

##### 15.2.1.2 State (Queensland)

The paramount legislation in Queensland, with regard to Aboriginal cultural heritage issues, is the *Aboriginal Cultural Heritage Act 2003* (the ACH Act), which states that a person who carries out an activity must take all reasonable and practicable measures to ensure the activity does not harm Aboriginal cultural heritage (the "cultural heritage duty of care").

The ACH Act defines cultural heritage as:

- a significant Aboriginal area or Aboriginal object; or
- evidence, of archaeological or historic significance, of Aboriginal occupation of an area.

A significant Aboriginal area is “an area of particular significance to Aboriginal people” because of:

- Aboriginal tradition; and/or
- the history, including contemporary history, of any Aboriginal party for the area.

The ACH Act states that it is an offence for a person to harm, remove or possess cultural heritage if the person “knows or ought reasonably to know that the object is Aboriginal cultural heritage”.

In the case where cultural heritage issues exist, a proponent can move ahead with a mitigation program on the following basis.

- a) under the authority of another provision of this ACH Act; or
- b) under an approved Cultural Heritage Management Plan (CHMP); or
- c) under a native title agreement or another agreement with an Aboriginal party, unless Aboriginal cultural heritage is expressly excluded from being subject to the agreement; or
- d) in compliance with cultural heritage duty of care guidelines.

An approved Cultural Heritage Management Plan (CHMP) is required when an Environmental Impact Study (EIS) is initiated for a project. Registration of an approved CHMP is gained through formal notifications and responses, consultation and agreement between the sponsor and the Aboriginal parties, and finally through registration by the Chief Executive of the DNRW. If approval is not given, or agreement is not reached between parties, then an appeal period, mediation, and finally involvement of the Land Court may follow.

### 15.2.2 Register Searches

An on-line search of the Register of the National Estate was conducted to identify any registered significant Aboriginal areas that may be impacted by the Project. The Register of the National Estate is compiled by the Australian Heritage Council and is an inventory of Australia’s natural and cultural heritage places that are worth conserving for the future. No Aboriginal areas were registered in proximity to the Project area.

A search was conducted of the Indigenous Sites Register and Database maintained by the Department of Natural Resources and Water (DNRW). No areas were registered in proximity to the Project area. However, as stated in the DNRW letter regarding their database, “it is probable that the absence of recorded Aboriginal cultural heritage places reflects a lack of previous cultural heritage surveys of the area. Therefore, our records are not likely to reflect a true picture of the Aboriginal cultural heritage values of the area.”

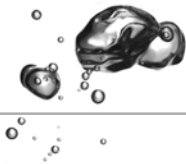
### 15.2.3 Development of CHMP

As the Project area is not within the external boundaries of a registered native title claim, the ACH Act directs that the intention to develop the CHMP should be publicly advertised. Public advertisements appeared on 7<sup>th</sup> and 8<sup>th</sup> August 2007 in the ‘Border Post’ (Stanthorpe), the ‘Tenterfield Star’ (Tenterfield) and the ‘Southern Free Times’ (Warwick). The notification date for response was 17<sup>th</sup> September 2007, allowing 35 days rather than the required 28 days notification.

In addition to the public notification, letters about SSC’s intention to develop a CHMP were sent to the Chief Executive of the DNRW and all landowners within the Project area.

Four people each indicated they are connected to the Project area by Aboriginal tradition and responded by the notification date. SSC then informed each of these people that they were the endorsed Aboriginal Parties who would assist in the development of the CHMP.

A meeting was held on 3 October 2007 with the endorsed Aboriginal Parties and other members of the families connected to the Project area by Aboriginal tradition. The meeting provided an opportunity to inform everyone about the project, and to discuss the way in which the ACH Act regulates the development of a CHMP. General



consensus was reached that the endorsed Aboriginal Parties (or their nominated proxies) and representatives of SSC would form a Liaison Committee, which would develop the CHMP and oversee all management of Aboriginal cultural heritage associated with the project area. A Terms of Reference for the development of the CHMP was agreed to at the Liaison Committee meetings on 12<sup>th</sup> October and 15<sup>th</sup> November 2007. Robert Paton, an archaeologist from Australian Archaeological Survey Consultants (AASC), acted as technical adviser to the Aboriginal Parties at the meeting of 15<sup>th</sup> November 2007.

Cultural heritage surveying of the Project area occurred between 26<sup>th</sup> November and 2<sup>nd</sup> December 2007. A draft cultural heritage survey report will be prepared in January 2008. Liaison Committee will then meet to finalise the report and a CHMP agreement. Once executed, the CHMP agreement will be registered with the Chief Executive of the DNRW. Expectations are that registration will have been achieved by March or April 2008.

### 15.3 Non-Indigenous Cultural Heritage

SSC commissioned Archaeo to prepare a cultural heritage survey for the purposes of the EIS. Further detail on the findings of the cultural heritage assessment is provided in the Supporting Technical Document – *Historical Cultural Heritage Survey Report* (Archaeo 2007).

#### 15.3.1 Methodology

The assessment of potential impacts on non-Indigenous cultural heritage involved a number of steps, including;

- review of existing research relating to the history and environment of the Project area;
- completion of a cultural heritage survey to identify cultural heritage places and areas within the Project area;
- an assessment of the cultural heritage significance of the Project area;
- identification of potential impacts of the Project on cultural heritage values in the Project area; and
- identification of mitigation measures to manage potential impacts on the Project area's cultural heritage values.

The survey was undertaken between June and September 2007 and involved consultation with leaseholders and landholders. The survey was carried out over portions of 32 properties, as outlined in Section 1.4 of the Supporting Technical Document (Archaeo 2007).

This cultural heritage assessment also considered relevant National and State Legislation including:

- *Environment Protection and Biodiversity Conservation Act 1999*;
- *Australian Heritage Council Act 2003*;
- *Queensland Heritage Act 1992* and subsequent amendments (including *Queensland Heritage and Other Legislation Amendment Act 2003*;

While cultural heritage is not discussed in the Stanthorpe Shire Planning Scheme, a Cultural Heritage Study was undertaken in 2003 for Stanthorpe Shire which put forward recommendations concerning the development of a register of sites for the Region.

This assessment also considered the outcomes of previous reports relating to the Project area including:

- *The Proposed Emu Swamp Dam Project, Stanthorpe, Queensland* (Bonhomme Craib & Associates 2000); and
- *A Thematic History and Field Survey Assessment of the Cultural Heritage, both Built and Natural, in the Stanthorpe Shire, Queensland* (Conservation Management Planners & Associates 2003).

#### 15.3.2 Existing Environment

This section describes the existing historical background and heritage values in Stanthorpe Shire which encompasses the Project area, and identifies sites and places detailed on State and Commonwealth heritage lists.

### 15.3.2.1 Historical Background

Stanthorpe's diverse lifestyle is a result of the historically varied settlement and land use patterns that have occurred throughout the region since European Settlement. The following provides a summary of the historical background of the Stanthorpe Shire and the Severn River Region. Archaeo (2007) provide a more detailed historical background in Section 2.2 in the Supporting Technical Document.

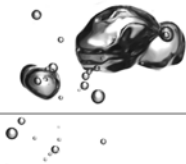
The first European to sight the area around modern Stanthorpe was Alan Cunningham, during his exploration of the Darling Downs in 1827 and 1828. Key phases in the development of the region include:

- early European settlement, in the 1840s which saw the Shire occupied by settlers on extensive pastoral runs and the development of Glen Aplin and Ballandean in the late 1860s following the establishment of the *Alienation of Crown Lands Act* and the subsequent land reforms;
- development of mining in the 1870s, which saw an influx of prospectors lured by the area's mineral deposits. This significantly boosted the area's growth and was accompanied by a number of other important commercial, industrial and infrastructure developments to service mining activities including the Southern Railway;
- development of fruit farming following the ending of the tin mining rush in the early 1880s. The most prominent orchard began in 1897 when the Smith family began to cultivate an orchard that by 1906 covered 45 acres of land that closely followed the railway line between Ballandean and Glen Aplin. The increasing cultivation of orchards was accompanied by a number of support industries, including the establishment of sawmills;
- Government sponsored soldier settlement program was introduced to the area following the end of World War I;
- large scale Italian settlement in the 1920s, which eventually contributed to the development of the wine industry in the 1930s and 1940s; and
- developments post World War II, which saw the region continue to be dominated by fruit and vegetable growing, grazing and mining.

### 15.3.2.2 Registered Sites and Places

On-line searches of the National and Commonwealth Heritage Lists, Register of the National Estate and the Queensland Heritage Register were conducted to identify places and sites of cultural heritage significance that may be impacted by the Project.

No sites of historic significance have been recorded for the Project area on the National and Commonwealth Heritage Register, the Register of the National Estate and the Register of the Queensland Branch of the National Trust. However, nine sites of historic significance were listed on the Queensland Heritage Register in the Stanthorpe Shire, as identified in **Table 15-1**.



■ **Table 15-1 Places Listed on the Queensland Heritage Register within Stanthorpe Shire**

Place ID	Name	Place Type	Address
600832	Ballandean Homestead	Homestead	Ballandean
600830	Central Hotel	Hotel/ Inn	140 High Street, Stanthorpe
<b>601633</b>	<b>El Arish</b>	<b>Garden/ Private</b>	<b>94 Greenup Street, Stanthorpe</b>
601552	Former Masel Residence	Detached House	98 High Street, Stanthorpe
<b>600829</b>	<b>Quart Pot Creek Rail Bridge</b>	<b>Bridge – Railway/ viaduct</b>	<b>Quart Pot Creek, Stanthorpe</b>
601632	Stanthorpe Soldiers Memorial	Memorial/ Monument – war	Lock Street, Stanthorpe
<b>602530</b>	<b>St Denys Anglican Church</b>	<b>Church</b>	<b>17 Trevethan Lane, Amiens</b>
602209	Sundown Tin and Copper Mine	Mine Site	Little Sundown Creek, Stanthorpe
601242	Wallangarra Railway Station and Complex	Railway Station	Woodlawn Street, Wallangarra

Note: The sites located within 1 km of the Project area are shown in bold.

There are three sites in Stanthorpe Shire in the vicinity (within 1 km) of the Project area. The nature of cultural heritage significance of these sites is provided below. Further detail is also provided in the Supporting Technical Document (Archaeo 2007).

### El Arish

El Arish, was originally a market garden and then a summer residence from the early 1920s and is one of the few surviving properties which reflects the contribution of both market gardening and tourism to the development of the town. Characteristic elements of the early market garden survive and are illustrated through the establishment of market gardens in and around Stanthorpe from the 1880s.

The garden at El Arish is an important and rare surviving example of a 1920s Queensland garden influenced by Arts and Crafts gardening ideals. It was designed by Isabella Chauvel and her son Charles. The garden displays significant creative achievement in its design, choice of plantings and utilisation of the site.

El Arish is also a characteristic and rare example of a summer residence established in Stanthorpe in the 1920s during a period of intense tourist activity which saw many buildings constructed to support this new industry. The timber residence was initially intended for use during the summer months. The name chosen for the property by the Chauvels means 'place of rest', and commemorates a town in the Sinai and recalled Allan Chauvel's involvement in the Middle East during World War I.

El Arish makes a significant aesthetic contribution to the Stanthorpe streetscape, and with its location at the base of the Stanthorpe Soldier's Memorial [601632] reserve, is a recognised local landmark. The separation of the garden into distinct areas provides a range of aesthetic experiences including formal plantings emphasising individual plants and diversity; geometric layouts of gardens, hedges and shrubs with defined boundaries; themed flowering displays; rustic stroll gardens inviting exploration; private and intimate spaces; tall specimen planting and obscured boundaries which give the impression of increased space with the garden seemingly extending over boundaries to the rugged landscape of the adjoining public space; natural rock surfaces; stone faced terracing; distant views; mass plantings in scale with garden spaces; and various garden structures.

The first kindergarten in the Stanthorpe district was operated at El Arish from 1957 until 1975. Many residents of Stanthorpe attended the kindergarten and the property has a special association with the community for this reason. El Arish is also associated with several people of importance to Queensland history, including the Chauvel family.

### Quart Pot Creek Rail Bridge

The Quart Pot Creek Rail Bridge is an important part of what was formerly the interstate link between Brisbane and Sydney. It is the fourth oldest bridge of its type in Queensland. The bridge demonstrates a robust engineering design, which has allowed it to be upgraded whilst retaining its essential character.

### St Denys Anglican Church

As a soldier settlement church with direct links to France, St Denys Anglican Church is important as evidence for the soldier settlement movement following the World War I and for the closer settlement of the Pikedale area. The church is significant for its association with those who took up property under this scheme and their descendants. It is directly linked to Australian war service in France through the dedication of the Church to St Denys, the Patron Saint of France, but also through the frontal cloth and altar ornaments, which originate from the Cathedral in Amiens, France and used in the military church at the Australian base at Le Harve. St Denys Church has a strong association with the people of Amiens and the surrounding area for spiritual and cultural reasons having provided pastoral care and social contacts in the region for over eighty years.

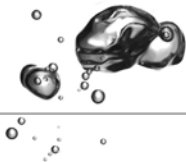
#### 15.3.2.3 Sites and Places Identified During Field Survey

The fieldwork undertaken for this assessment was based on universally understood and accepted forms of assessment that occur in a series of clearly defined steps: sampling, surveying, site evaluation, recording, impact assessment and management recommendations.

The survey methodology adopted included a pedestrian and vehicle inspection of the inundation area and a vehicle survey along the Urban and Irrigation Pipeline corridors. Survey data was recorded in field notebooks and locations of any items or place of historical cultural heritage significance were captured via a hand held global positioning system (GPS) receiver. This information was used to map the location of sites and features noted during the survey. Areas of interest were also photographed. Further detail is also provided in the Supporting Technical Document – *Historical Cultural Heritage Survey Report* (Archaeo 2007).

Items/places of historical cultural heritage located during the field survey within the inundation area and along the associated Urban and Irrigation Pipeline corridors are listed in **Table 15-2**, and shown on **Figure 15-1**. Historical sites of cultural heritage significance are identified by the prefix ESHAS (Emu Swamp Historical Archaeological Site). Locations of objects and/or places of historical interest are identified by the prefix HI (Historical Interest).





■ **Table 15-2 Items and/or Places of Historical Archaeological Value from Field Survey**

Site ID	Location	Description
ESHAS – 1	The precise location of the grave is to remain confidential by request of the current landowner. The grave is located outside the proposed inundation area and would not be directly impacted by the Project.	Historic grave
ESHAS – 2	Severn River at the western edge of Lot 2/ SP145917 (102 Sutton Lane).	Stone wall
ESHAS – 3	Severn River between the south western edge of Lot 470/ B3415 and the northern perimeter of Lot 2/ RP12336.	Waterhole
ESHAS – 4	366 Emu Swamp Road (Lot 31/ SP 183767)	Homestead complex
ESHAS – 5	365 Emu Swamp Road (Lot 132/ SP183767)	Homestead
ESHAS – 6	Approximately 2 km south of Stanthorpe and 150 m to the east of the New England Highway.	Timber rail bridge
<b>ESHAS – 7</b>	<b>17 Trevethan Lane, Amiens, QLD</b>	<b>St Denys Anglican Church</b> (refer to <b>Table 15-1</b> )
ESHAS – 8	The former railway station is located approximately 20 m east of the England Highway, in the town of Applethorpe (5 km north of Stanthorpe).	Former site of Applethorpe railway station
ESHAS – 9	South of Glen Aplin	Glen Aplin rail bridge
ESHAS – 10	Located to the east of the New England Highway in the town of Ballandean.	Ballandean railway station and associated grounds
HI - 1	Southern bank of the Severn River on Lot 1/ RP52709.	Cast iron pot
HI - 2	Across the Severn River between Lot 7/ RP222897 and Lot 2/ RP63905	Cement weir
HI - 3	Lot 7/ RP222897 along the southern bank of the Severn River.	Turkey nest dam
HI - 4	Mt Stirling Road, Glen Aplin	Additional railway elements

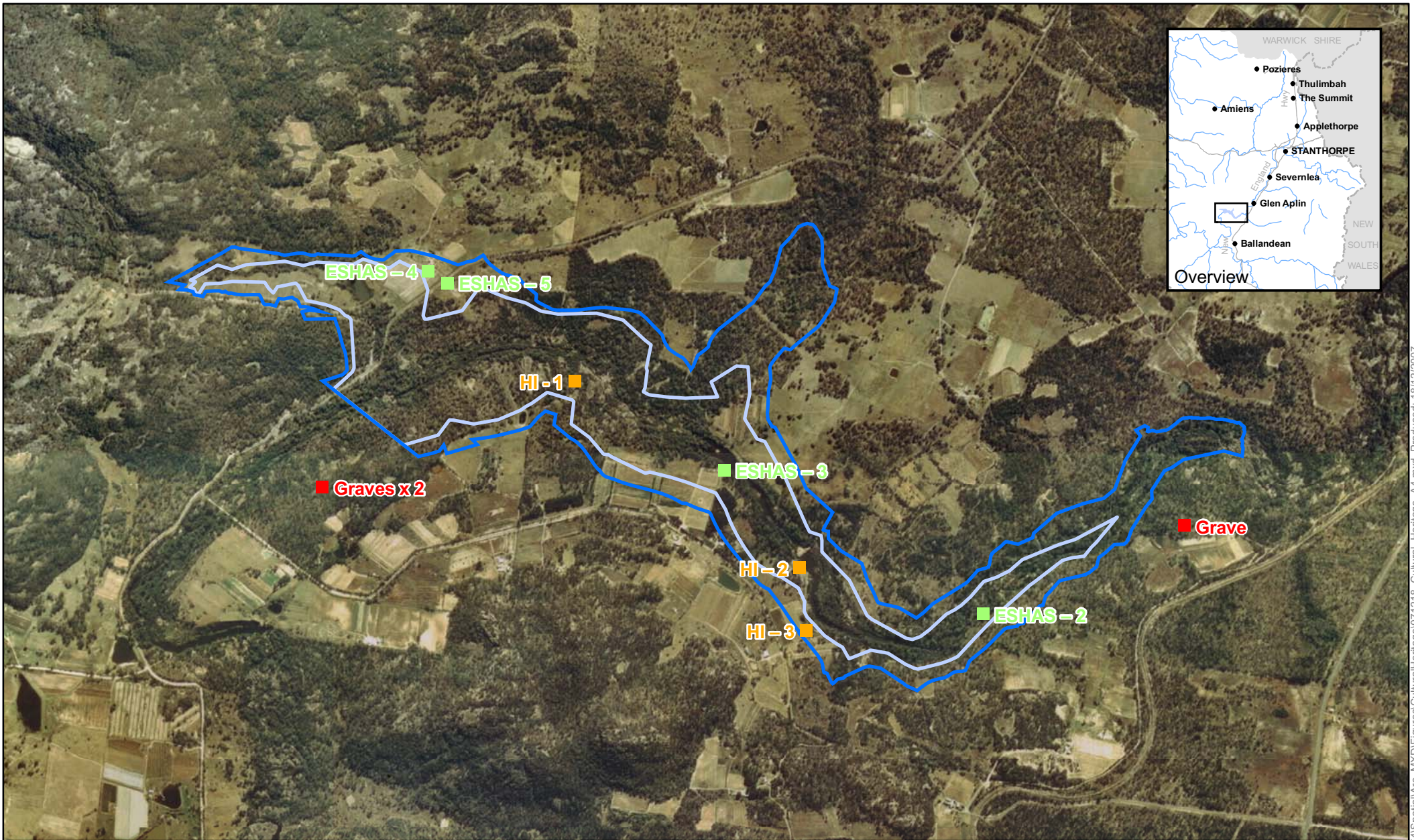
Note: bold denotes places already recognised on the State Heritage Register

Section 4 of the Supporting Technical Document (Archaeo 2007) provides more detailed information on the analysis of these sites.



Three grave sites in two separate locations had also been identified through previous investigations and community consultation in the Project area. Two graves were at one location and described by Bonhomme Craib & Associates (2000) as being “two rock cairns”. The location of these is shown on **Figure 15-1**. Two of the graves were unable to be located during the survey undertaken for this assessment, and further investigation is required to determine the true nature of these sites.




Several of the sites and places identified during the survey are best reported as a heritage precinct. For the purposes of this study, a heritage precinct is an area where there is a density of heritage sites and places of significance interrelated by common historical themes or design. Individual sites and places within a precinct may be of significance. Conversely, a range of sites and places within a precinct may not be individually of higher levels of heritage significance, but may, as part of the overall precinct, add to the precinct’s significance. Two heritage precincts were identified during these investigations as shown on **Figure 15-1**. These include:

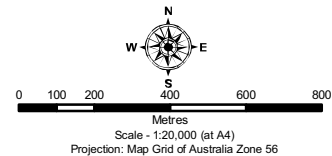
- Severn River Mining Precinct, which incorporates the graves along the Severn River, the original mining reserve and other sites likely to be associated with the early tin mining industry in the area (ESHAS 2, HI 1, and ESHAS 1); and
- Railway Precinct, which incorporates the rail corridor and sidings, the former station sites at Applethorpe and Ballandean, rail bridges, and additional rail elements that form part of the Southern railway line that once serviced the local community and brought workers and their families into the area (ESHAS 8, ESHAS 10, ESHAS 6, ESHAS 9, and HI 4).



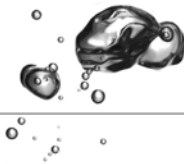
**Legend**

-  Full Supply Level 734.5m AHD
-  Full Supply Level 738m AHD

-  Sites of Historical Interest (HI)
-  Emu Swamp Historic Archaeological Sites of Significance (ESHAS)
-  Proposed Location of Historic Graves



**EMU SWAMP DAM EIS**  
 Emu Swamp Dam Site  
**Figure 15-1**  
**Places of Historical Archaeological Value in the Inundation Area**



There is potential for further historic places/ items to exist in the study area such as historic survey trees, and mining and/or camp remnants and burials. The area of greatest potential is most likely to be in the vicinity of the Severn River Mining Precinct.

Additional to items/ places of historic interest identified during this assessment, the following towns and villages in the vicinity of the pipeline corridors survive as evidence of the nature and function of these centres in historic times:

- Amiens;
- Poziers;
- Applethorpe;
- Glen Aplin;
- Severnlea; and
- Ballandean.

These towns and villages possess characteristics relating to settlement of the area and include churches, stores, warehouses, workshops, residences and green space. As the pipeline route is located within the road reserves that pass through these towns, the road reserve was the primary focus of the assessment. Conclusion of field survey results revealed that the towns and villages are not directly impacted by the Project.

#### 15.3.2.4 Cultural Heritage Significance

An assessment of the cultural heritage significance of the Project area was undertaken against set criteria, as outlined in Section 5 of the Supporting Technical Document (Archaeo 2007). The Project area is considered significant because:

- it represents settlement, mining, agricultural and pastoral pursuits within the district from early times, it demonstrates the evolution or pattern of the local areas history;
- it contains the Severn River Mining Precinct, the Railway Precinct series of homestead complexes and their associated remnants, it has potential to yield information that will contribute to an understanding of the local areas history;
- it survives today in a rural setting, including the historic environment associated with agricultural, pastoral and mining activities, the associated towns and villages, the railway corridor and the natural setting alongside the Severn River, it exhibits a level of aesthetic value considered important to the local community; and
- properties in the Project area retain local connections with those families who have lived and worked there, including any longstanding landowners, workers and their families. Descendents of Chinese tin miners who worked in the area may also have connections.

The Project area has been assessed to have the levels of cultural heritage significance outlined in **Table 15-3**.

■ **Table 15-3 Summary of Cultural Heritage Significance for the Project Area**

Value	Rating	Justification
Aesthetic	Moderate	Surviving today as what has remained a relatively rural setting, the Project area presents a level of aesthetic qualities related to natural and historic nature of the site.
Historic	Moderate	Representing historical activities including pastoral, mining and agricultural pursuits commonplace to the area since settlement.
Scientific	Moderate	Elements survive as remnants of the historic nature of the Project area, especially the pastoral, mining and agricultural pursuits, which collectively have potential to contribute to an understanding of the local areas history.
Social	Low-Moderate	Properties in the Project area have local connections with those families who have lived and worked there, including any longstanding landowners, workers and their families.

The levels of significance outlined in **Table 15-4** are attributed to the sites identified during the field survey. The level of significance for the historic precincts is described in **Table 15-5**.

■ **Table 15-4 Significance Ratings for Individual Sites and Places**

Site ID	Description	Individual Significance Rating	Comments
ESHAS – 1	Historic grave	Moderate	Most likely the grave of a Chinese tin miner, evidence of Chinese miner's in the area. Requires further assessment as part of the Severn River Mining Precinct
ESHAS – 2	Stone wall	Moderate	Stone wall most likely evidence of early tin mining activities. Requires further assessment as part of the Severn River Mining Precinct
ESHAS – 3	Waterhole	Low	Evidence of longstanding water source point for agricultural activities
ESHAS – 4	Homestead complex	Low-Moderate	Indicator of period in time when land selection began and it is in fair condition
ESHAS – 5	Homestead	Low	Limited outbuildings or associated infrastructure noted
ESHAS – 6	Timber rail bridge	Low-Moderate	Early rail bridge within the rail corridor. These bridges are becoming rarer.
<b>ESHAS – 7</b>	<b>St Denys Anglican Church</b>	<b>Moderate</b>	Registered on the Qld Heritage Register
ESHAS – 8	Former site of Applethorpe railway station	Low	Surviving former railway station site, limited infrastructure remaining.
ESHAS – 9	Glen Aplin rail bridge	Low-Moderate	Early rail bridge within the rail corridor. These bridges are becoming rarer.
ESHAS – 10	Ballandean railway station and associated grounds	Moderate	Early station complex which demonstrates characteristics within a agricultural community such as Ballandean. Now used as Tourist Information Centre.

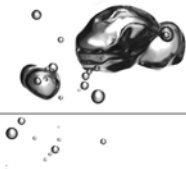
■ **Table 15-5 Significance Rating for Cultural Precincts**

Description	Rating	Comments
Severn River Mining Precinct	Moderate-High	True nature of Precinct is not adequately understood and requires further targeted investigation/survey. Results have the potential to lower this significance rating.
Railway Precinct	Moderate	Evidence of the former the interstate link between Brisbane and Sydney.

Additionally, there is some potential for further historic items to exist within the Project area as ground surface visibility, along with the size and nature of the survey did not allow for a complete survey of this area. In particular, there is the potential for archaeological sites associated with the mining industry to exist in and around the Severn River and associated waterways. There is also some potential for archaeological sites associated with agricultural, pastoral and settlement pursuits to exist throughout the Project area.

**15.3.3 Potential Impacts and Mitigation Measures**

This section provides an assessment of potential impacts of the Project on Non-Indigenous heritage places and sites in the Project area. Measures are also identified to managed impacts on identified areas and on possible unknown sites within the Project area.



### 15.3.3.1 Potential Impacts on Sites and Places of Cultural Heritage Significance

The field survey identified ten sites of low to moderate levels of cultural heritage significance within the Project area, of which four would be directly impacted by the Project. These are outlined in **Table 15-6**.

■ **Table 15-6 Impacted Sites**

Impact Type	Impacted Site(s)	Individual Significance Rating
Direct impact	ESHAS – 2 Stone Wall	Moderate
Direct impact	ESHAS – 3 Waterhole	Low
Direct impact	Homestead Complex	Low-Moderate
Direct impact	Homestead	Low

The field survey has identified two cultural precincts of moderate and moderate to high levels of cultural heritage significance within the Project area, of which one would be directly impacted by the Project as outlined in **Table 15-7**.

■ **Table 15-7 Impacted Precincts**

Impact Type	Impacted Precinct(s)	Individual Significance Rating
Direct impact	Severn River Mining Precinct	Moderate-High

It is concluded that there is some potential for further historic places/items to exist within the Project area as the nature of field survey did not allow for a comprehensive survey of 100% of the Project area. These are likely to be remnant sites relating to mining, pastoral and agricultural activities (i.e. graves, hand built stone weirs, historic survey trees and remnant boundary fence lines) that might exist across the Project area and in particular within the inundation area.

From a heritage perspective (and aside from the Emu Swamp Mining Precinct) it is concluded that the Project area is likely to contain, at best, moderate levels of local cultural heritage significance.

### 15.3.3.2 Mitigation Measures

A number of measures are recommended to manage potential impacts of the Project on identified areas and on possible unknown sites within the Project area. Assuming these recommendations are suitably implemented, the nature and level of impact by the Project would be manageable.

#### Recommendation 1 – Avoidance of Sites

The best form of cultural heritage management is avoidance of impact on sites and places of significance. It is recommended that the design of the Project take into account each of the heritage sites and places discussed in this report, and, where possible, avoids impact.

Of particular note is the Railway Precinct which adjoins the road reserve and subsequently the pipeline corridor in many places. Elements and sites within this Precinct therefore require special consideration throughout the life of the Project.

#### Recommendation 2 – Further Survey of Severn River Mining Precinct

The area identified as the Severn River Mining Precinct would be impacted by inundation as a result of the project. This Precinct includes the grave (ESHAS 1) and the stone wall (ESHAS 2).

Due to the potential for archaeological material to remain in situ in this vicinity of the Project area, it is recommended that a systematic assessment of this immediate area be conducted to ensure that the type and extent of any surviving archaeological material is researched, investigated, recorded and mitigated (if required) using acceptable archaeological methods prior to any development or impact on or below ground in this area.

This assessment can be carried out in stages according to the construction phases of the Project. On the conclusion of this investigation, recommendations would be made in relation to suitable management of the precinct. Depending on the results of this survey, recommendations could include:

- the preparation of a conservation management plan for the Precinct which includes a comparative analysis of the Precinct within the district and Queensland; or
- at minimum, management strategies will need to be implemented for the Precinct, especially for the grave and the stone wall.

### **Recommendation 3 – Recording of Sites**

The Homestead sites (ESHAS 4 and 5) and the waterhole (ESHAS 3) would be directly impacted as a result of the Project. It is recommended that a basic level of photographic recording is conducted prior to works commencing in the area, which captures the nature of the item and its context within the cultural environment within the Project area.

### **Recommendation 4 – Heritage Management Plan (HMP)**

A variety of management strategies would be required to mitigate identified cultural heritage values identified, such as unexpected cultural heritage material or sites found during the construction stage of the Project. A Heritage Management Plan (HMP) should be prepared for the entire Project area outlining a suitable strategy to protect sites and place of cultural heritage significance (completed prior to the construction phase of the Project commencing).

The HMP should provide suitable strategies for the inundation area and the Urban and Irrigation Pipelines especially in areas of historic heritage potential such as towns and villages and associated infrastructure. The HMP should also include policies and procedures for management of archaeological finds during the Project.

Additionally, it is recommended that diligence should be practiced during works conducted within the Project area, particularly during any clearing or construction phases associated with initial preparation of the project area. This diligence should include specifically instructing crews of their obligations to look for cultural heritage material, and handing out educational leaflets at Workplace Health and Safety meetings. These leaflets should inform the workers what archaeological material may look like, and give them clear instructions on what to do if they find anything.