

NEW BRIDGEWATER BRIDGE PROJECT
BURBURY CONSULTING ON BEHALF OF
THE DEPARTMENT OF STATE GROWTH
HERITAGE IMPACT STATEMENT
11 NOVEMBER 2021

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NEW BRIDGEWATER BRIDGE PROJECT

EXECUTIVE SUMMARY

INTRODUCTION

The Department of State Growth is proposing to renew the crossing of the River Derwent between Granton and Bridgewater. As part of this process, Purcell and Austral Tasmania were engaged by Burbury Consulting on behalf of The Department of State Growth, to prepare a preliminary Heritage Impact Statement to address the heritage related aspects of the Assessment Criteria for the New Bridgewater Bridge Major Project - May 2021. This Heritage Impact Assessment, prepared by Purcell, assesses the Chosen Design developed further to the previous Reference Design. The objective of this assessment is to assess the potential for impacts against AC 4.11.1 in relation to local historical heritage values and the Tasmanian Heritage Council's requirements under AC 5.4 in relation to places on the Tasmanian Heritage Register. This HIS has also been updated in response to the Panel's request for information in relation to local heritage places and the Tasmanian Heritage Council's request for a final Statement of Heritage Impact.

RESPONSE TO ASSESSMENT CRITERIA

The Assessment Criteria, May 2021 outlined specific requirements for Local historic heritage values (Section 4.11) and requirements of the Tasmanian Heritage Council (Section 5.4b). The following table summarizes the response to these requirements and the terms of Schedules 1 and 2 of the Assessment Criteria. A full and detailed assessment of each feature (place) within the study area is outlined in Section 3.6.

Furthermore, this Heritage Impact Statement accounts for the methodology in the State Heritage Office of Western Australia, Heritage Impact Statement – A Guide, 2012 and other best practice guidelines.

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| 4.11 Local historic heritage values | |
| 4.11.1 For development, including during construction, on or adjacent to, a local heritage place or within a local heritage precinct, provide a heritage impact statement. | This Heritage Impact Statement has been prepared in response to this Criterion. |
| 5.4 Tasmanian Heritage Council requirements | |
| Provide a heritage impact statement detailing how development, including during construction, will avoid or mitigate adverse impacts on the historic cultural heritage significance of each registered place, including: | |
| (a) an evaluation of the cultural heritage significance, including a comparative analysis of the significance, in order to understand the significance appropriately; | An evaluation of the historic cultural heritage significance of each place is outlined in Section 3.6 of this Statement, with the assessment methodology outlined within Section 3.4. Refer also to the separate report Bridgewater Bridge Comparative Analysis, prepared by Purcell with Mott Macdonald November 2021. |
| (b) options for full or partial retention of the Bridgewater Bridge, noting the high historic cultural heritage significance attributed to the structure; | Refer to the Bridgewater Bridge Retention Options Analysis, Burbury Consulting et al, November 2021. |
| (c) measures to protect archaeological values; and | See recommendations 3ii, 4, 5 and 6 of Section 4.2. |
| (d) recommendations to mitigate adverse impacts. | See Section 3.6 of this Statement for details of the significance of each place, potential impacts and recommended ameliorating measures. |
| Schedule 1 | |
| Term | Response |
| Heritage Impact Statement | |
| means a report prepared by a suitably qualified person using the methodology in the State Heritage Office of Western Australia, Heritage Impact Statement – A Guide, 2012 or other best practice guidelines relevant to the assessment of heritage impact, that must include: | |
| (a) details of, and signed by, the person who prepared or verified the report; | Lucy Burke-Smith Associate Partner, Purcell Asia Pacific Signature: For details on co-authors see Section 1.2. |
| (b) confirmation that the person has the appropriate qualifications and expertise; | Qualifications: B.Sc (Arch); BArch (Hons 1) Grad Cert Herts Cons Experience: 17 years' experience in built heritage conservation. |

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| (c) conclusions based on consideration of the proposed use and development that determine: | See Sections 4.1 and 4.2 of this Statement. |
| (i) whether a proposed use and development will impact on a place's historic cultural heritage values or local historic heritage significance; and | See Section 3.6 of this Statement for details of potential impacts to each place. |
| (ii) how those impacts might be avoided or ameliorated by addressing the following: | See Section 3.6 of this Statement for details of the significance of each place, potential impacts and recommended ameliorating measures. |
| a. what is significant about the place in terms of its heritage values and are some parts more significant than others; | |
| b. will the proposed works adversely affect the significance and if so how; | |
| c. what measures, if any, are proposed to avoid or ameliorate any adverse impacts; and | The Department of State Growth has purchased the Black Snake Inn and intends to implement appropriate protection measures including the preparation of a conservation management plan, protection measures and maintenance as part of the project. |
| d. will the proposal result in any heritage conservation benefits that might offset any adverse impacts. | |
| <p>Local historic heritage significance</p> | |
| <p>means significance in relation to a local heritage place or a local heritage precinct, and its historic heritage values as identified in the relevant list, in a planning scheme, because of:</p> | |
| <p>(a) its role in, representation of, or potential for contributing to the understanding of:</p> <ul style="list-style-type: none"> (i) local history; (ii) creative or technical achievements; (iii) a class of building or place; or (iv) aesthetic characteristics; or <p>(b) its association with:</p> <ul style="list-style-type: none"> (i) a particular community or cultural group for social or spiritual reasons; or (ii) the life or works of a person, or group of persons, of importance to the locality or region, | |
| <p>as identified in the relevant list in the planning scheme, or in a report prepared by a suitably qualified person, if not identified in the relevant list.</p> | |
| | <p>The above values are the basis of assessment methodology as outlined in Section 3.4 and detailed in each data sheet within Section 3.6.</p> |
| <p>Local heritage place</p> | |
| <p>means a place that is listed in a planning scheme and identified as having particular historic heritage significance.</p> | |
| <p>These places are identified within the mapping of Local and Registered Heritage Places, prepared by Burbury Consulting for the Department of State Growth, 2/11/2021 (See Section 1, Figures 2 through 10).</p> | |

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| <p>Brighton Local Provisions Schedule 2021</p> | <p>See Section 2.4.1 regarding BRI-Table C6.1</p> <p>Within Project Land:</p> <ul style="list-style-type: none"> – BRI-C6.1.1, Bridgewater Railway Station Wallace Street, Bridgewater, CT154431/1, CT154459/1, CT154468/1, CT154472/1 CT118026/2 & 3 and adjoining untitled parcels. – BRI-C6.1.24, St. Mary's Anglican Church and Cemetery, 20 Old Main Road, Bridgewater, CT139728/1& 2. <p>Adjacent to Project Land:</p> <ul style="list-style-type: none"> – BRI-C6.1.25, Coronation Hall, 25 Old Main Road, Bridgewater, CT 146756/1 – BRI-C6.1.69, Parholm, 314 Midland Highway, Bridgewater, CT's 170480/1; 166071/1; 156374/1 |
| <p>Derwent Valley Interim Planning Scheme 2015</p> | <p>See Section 2.4.2 regarding TE13.1</p> <p>Adjacent to Project Land:</p> <ul style="list-style-type: none"> – No. 14, Commandant's Cottage, Cnr Tarrants Road and Lyell Highway, Granton, CT 234735/1; and 210545/7 – No. 17, Watch House, 1 Lyell Highway, Granton, PID 5801827, – No. 18, Granton Convict Quarry, 3 Lyell Highway, Granton, CT 161930/1 |
| <p>Glenorchy Local Provisions Schedule 2021</p> | <p>See Section 2.4.3 regarding TE13.1</p> <p>Within Project Land:</p> <ul style="list-style-type: none"> – GLE-C6.1.179, Black Snake Inn, 650 Main Road Granton. General description: "dwelling and outbuildings", CTs 246061/1, 119210/1 – GLE-C6.1.181, Farm Outbuildings, 37 Black Snake Road, Granton, CT 156256/20 <p>Adjacent to Project Land:</p> <ul style="list-style-type: none"> – GLE-C6.1.182, Former Old Granton Railway Station, Part CT 134026/1 Part CT 118024/2 |
| <p>Local heritage precinct</p> <p>means an area that is listed in a planning scheme and identified as having particular historic heritage significance because of the collective heritage value of individual places as a group for their streetscape or townscape values.</p> | |
| <p>Brighton Local Provisions Schedule 2021</p> | <p>No listings of the Project Land within BRI-Table C6.2 Local Heritage Precincts.</p> |
| <p>Derwent Valley Interim Planning Scheme 2015</p> | <p>No listings of the Project Land within Table E13.2 Heritage Precincts.</p> |
| <p>Glenorchy Interim Planning Scheme 2015</p> | <p>No listings of the Project Land within GLE-Table C6.3 Local Heritage Precincts.</p> |
| <p>Registered place</p> <p>means a place as defined in the Historic Cultural Heritage Act 1995 and entered on the Tasmanian Heritage Register.</p> <p>These places are identified within the mapping of Local and Registered Heritage Places, prepared by Burbury Consulting for the Department of State Growth, 2/11/2021 (See Section 1).</p> | |

EXECUTIVE SUMMARY

| Schedule 2 | |
|--|--|
| 2.3 Tasmanian Heritage Council information requirements | |
| The following Information requirements and matters are to be addressed for clause 5.4 Tasmanian Heritage Council requirements: | |
| (a) an assessment of the cultural heritage significance of registered places directly impacted and those adjacent places to be impacted within the Project Land including a comparative analysis of registered places against other relevant Tasmanian and Australian heritage places; | See Section 3.6 of this Statement for an assessment of the cultural heritage significance of the registered places within the study area. Refer also to the separate report Bridgewater Bridge Comparative Analysis, prepared by Purcell with Mott Macdonald November 2021. |
| (b) the assessment of the cultural heritage significance should: (i) if demolition of the existing Bridgewater Bridge is proposed, provide: | The MPIS assumes demolition of the Bridgewater Bridge. |
| a. a comprehensive study explaining the full rationale for the proposed demolition that demonstrates all feasible options for full or partial retention of the bridge have been fully investigated; and | Refer to the separate Bridgewater Bridge Retention Options Analysis, Burbury Consulting et al, November 2021. |
| b. the study must include an assessment carried out in accordance to section 6 of the THC's <i>Works Guidelines for Historic Heritage Places</i> . | The assessment has been carried out in accordance with section 6 of the THC's <i>Works Guidelines for Historic Heritage Places</i> . See Section 4.3. |
| (c) a Statement of Archaeological Potential and an Archaeological Method Statement (AMS) for registered places within the Project Land, prepared by a suitably qualified archaeological consultant in accordance with the THC <i>Practice Note 2 Managing Historical Archaeological Significance</i> in the Works Process, including a commitment to enact the AMS; | Refer to the separate Statement of Archaeological Potential and Archaeological Method Statement, Praxis Environment, November 2021 included within Appendix 5. Refer also to Appendix 2: Austral Tasmania Pty Ltd, Bridgewater Causeway and Bridge. Historic Heritage Assessment and Archaeological Zoning Plan, AT0298, 12 November 2020. |
| (d) a heritage impact statement that: (i) refers to the assessment of heritage values, responds to the proposed scope of work, and provides strategies and recommendations for mitigating potential heritage impacts, including commitments to generate public benefits that offset any heritage impacts or loss of heritage values, inclusive of appropriate recording of all structures proposed for demolition, heritage interpretation and the provision of conservation plans for places of heritage significance; and | See Section 3.6 of this Statement for details regarding the values of each place, potential impacts and recommendations for mitigating these potential heritage impacts. State Growth have explored public benefits that may offset any heritage impacts, or loss of heritage values associated with the removal of the existing Bridgewater Bridge. These are outlined within the Project Rationale. These are in part addressed by the nominated mitigating measures outlined within Section 3.6. |
| (ii) includes a detailed assessment of the proposal against the THC's <i>Works Guidelines for Historic Heritage Places</i> and the provisions of the <i>Historic Cultural Heritage Act 1995</i> . | This Statement is provided in response to this Criterion. See Section 4.3. |

FINDINGS OF THE HERITAGE IMPACT STATEMENT

In total, 18 places or complexes have been identified within the Project Land, with an additional four places located adjacent to, but beyond the Project Land. Some of these are single sites (such as individual trees), whilst others may be complexes containing multiple elements, such as the causeway which includes the causeway itself, as well as evidence of previous road and rail bridges. These places range from sites having no significance, to local and State level significance. Statutory heritage management applies to the following six places within the Project Land:

1. The Bridgewater Causeway: included in the Tasmanian Heritage Register (THR) and subject to the Historic Cultural Heritage Act 1995 (HCHA 1995);
2. Remains of historic road and rail bridge infrastructure: included in the THR and subject to the HCHA 1995;
3. Current Bridgewater Bridge: included in the THR and subject to the HCHA 1995;
4. The Bridgewater Railway Station: included in BRI-Table C6.1 Local Heritage Places of the Brighton Local Provisions Schedule
5. The Black Snake Inn, 650 Main Road Granton: included in the THR and subject to the HCHA 1995; included in Table E13.1 of the Heritage Code of the Glenorchy Interim Planning Scheme 2015 (GIPS 2015);
6. Cypress Grove, 37 Black Snake Road: included in Table E13.1, GIPS 2015.

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Statutory heritage management applies to the following adjacent places:

1. Coronation Hall: included in BRI-Table C6.1 Local Heritage Places of the Brighton Local Provisions Schedule;
2. Parholm: included in BRI-Table C6.1 Local Heritage Places of the Brighton Local Provisions Schedule;
3. Commandant's Cottage: included in Table E13.1 of the DVIPS 2015;
4. Watch House: included in Table E13.1 of the DVIPS 2015;
5. Granton Convict Quarry: included in Table E13.1 of the DVIPS 2015;
6. Former Old Granton Railway Station: included in Table E13.1 of the GLE Table C6.1 of the Glenorchy Local Provisions Schedule.

In reviewing the potential for heritage impacts, a distinction can be drawn between those impacts that are likely to directly affect a place (e.g., requiring the removal, modification or subdivision of a place); and those impacts which may be indirect, such as changes to the setting of a place, impact during construction or important public views. For the purpose of this assessment works have been categorised as direct or indirect impacts.

To assist in decision making, the following Table summarises the key results of this Heritage Impact Statement. It identifies each site subject to statutory control, within and adjacent the Project Land any relevant statutory heritage provisions; the level of significance; direct and indirect impacts; and, if management of potential impacts are recommended. The datasheet for each feature, contained within Section 3.6 contains a suite of site-specific management recommendations.

| Site No. | Name | Heritage Listed? | Significance Level | Direct Impacts | Indirect Impacts | Management Recommended |
|----------|---|-----------------------------------|--------------------|----------------|------------------|-----------------------------|
| 1.00 | Bridgewater Causeway and Bridge – Listing Boundaries | THR 618 | State | Yes | Yes | Yes |
| 1.01 | Bridgewater Causeway | THR 618 | State | No | Yes | Yes |
| 2.01 | 1849 Bridgewater Bridge - area of archaeological potential | THR 618 | State | No | No | No |
| 2.02 | 1874 bridge abutments – south | THR 618 | State | No | No | No |
| 2.03 | 1874 bridge abutments – north | THR 618 | State | No | No | No |
| 2.04 | 1893 bridge abutments – south | THR 618 | State | No | No | Yes |
| 2.05 | 1893 bridge caisson | THR 618 | State | No | No | No |
| 2.06 | 1893 bridge abutments – north | THR 618 | State | No | No | No |
| 3.01 | Bridgewater Bridge | THR 618 | State | Yes | Yes | Yes |
| 4.00 | Bridgewater Railway Station - Listing Boundaries | BLPS 2021, BRI-C6.1.1 | Local | No | No | No |
| 4.01 | Bridgewater Railway Station | BLPS 2021, BRI-C6.1.1 | Local | No | No | No |
| 5.00 | Black Snake Inn – Listing Boundaries | THR 1612, GLPS 2021, GLE-C6.1.179 | State | Yes | Yes | Yes |
| 5.01 | Black Snake Inn | THR 1612, GLPS 2021, GLE-C6.1.179 | State | No | Yes | Yes |
| 5.02 | Black Snake Inn - Timber Outbuilding | THR 1612, GLPS 2021, GLE-C6.1.179 | State | No | Yes | Yes |
| 6.01 | Old Black Snake Lane | THR 1612, GLPS 2021, GLE-C6.1.179 | Local | Yes | Yes | Yes |
| 10.01 | Pioneer Avenue Elm | THR 618 | State | No | No | No |
| 11.01 | Area of Archaeological Sensitivity Associated with Convict Station Site | THR 618 (partial) | Potentially State | No | No | Yes, if inadvertent impacts |
| 15.01 | Existing Main Line Railway Alignment | THR 618 | State | Yes | No | Yes |

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| Site No. | Name | Heritage Listed? | Significance Level | Direct Impacts | Indirect Impacts | Management Recommended |
|----------|--|-------------------------------|-------------------------------|----------------|------------------|------------------------|
| 16.01 | St Mary's Church and Cemetery: Area of potential archaeological sensitivity | BLPS 2021 BRI-C6.1.24 | Potentially State significant | No | No | Yes |
| 18.00 | Cypress Grove, 37 Black Snake Lane – Listing Boundaries | GLPS 2021, GLE-C6.1.181 | Local | Yes | Yes | Yes |
| 18.01 | 37 Black Snake Lane - House | GLPS 2021, GLE-C6.1.181 | Local | Yes | Yes | Yes |
| 18.02 | 37 Black Snake Lane - Cottage | GLPS 2021, GLE-C6.1.181 | Local | Yes | Yes | Yes |
| 18.03 | 37 Black Snake Lane - Stable | GLPS 2021, GLE-C6.1.181 | Local | Yes | Yes | Yes |
| 18.04 | 37 Black Snake Lane - Railway Shed | GLPS 2021, GLE-C6.1.181 | Local | Yes | Yes | Yes |
| 18.05 | 37 Black Snake Lane - Blacksmith's Shop | GLPS 2021, GLE-C6.1.181 | Local | Yes | Yes | Yes |
| 18.06 | 37 Black Snake Lane - Worker's Cottages | GLPS 2021, GLE-C6.1.181 | Local | Yes | Yes | Yes |
| 18.07 | 37 Black Snake Lane - Old Coach House | GLPS 2021, GLE-C6.1.181 | Local | Yes | Yes | Yes |
| 18.08 | 37 Black Snake Lane - Culvert | GLPS 2021, GLE-C6.1.181 | Local | Yes | Yes | Yes |
| 18.09 | 37 Black Snake Lane - Cherry Tree | GLPS 2021, GLE-C6.1.181 | Local | Yes | Yes | Yes |
| 18.10 | 37 Black Snake Lane - Fig Tree | GLPS 2021, GLE-C6.1.181 | Local | Yes | Yes | Yes |
| 19.0 | Coronation Hall | BLPS 2021, BRI-C6.1.25 | Local | No | No | No |
| 20.0 | Commandant's Cottage | THR 1178 DVIPS 2015 | State | No | No | Yes |
| 21.0 | Watch House | THR 1182 DVIPS 2015 | State | No | Yes | Yes |
| 22.0 | Granton Convict Quarry | THR 7158 DVIPS 2015 | State | No | No | No |
| 23.0 | Former Old Granton Railway Station | GLPS 2021, GLE-C6.1.182 | Local | No | No | No |
| 24.0 | Parkholm | THR619, BLPS 2021 BRI-C6.1.69 | State | No | No | No |

Summary of heritage places, impacts and recommended actions

Those Registered Places and Local Heritage Places assessed as being adversely impacted are summarised as:

- Bridgewater Causeway and Bridge (THR 618)
- Black Snake Inn (THR 1612 GLPS 2021 GLE-C6.1.179)
- 37 Black Snake Lane (GLPS 2021 GLE-C6.1.181)
- Watch House (THR 1182 DVIPS 2015 Table E13.1 No.17)

EXECUTIVE SUMMARY

RECOMMENDATIONS AND MITIGATIONS

In addition to the specific mitigating measures outlined for effected places in Section 5.1 the following project wide mitigating measures are recommended:

Indirect Heritage Impacts:

- Prior to site establishment the Contractor should prepare a Construction Heritage Management Plan (CHMP) for approval by State Growth. This CHMP should include:
 - i. Reference to the Statement of Archaeological Potential and Archaeological Method Statement, Praxis Environment, November 2021 included within Appendix 5.
 - ii. Site Establishment Plan;
 - iii. Fabric protection measures to mitigate potential direct impacts arising from the undertaking of works;
 - iv. An unanticipated finds plan;
 - v. A materials conservation and salvage plan;
 - vi. landscape management plan to determine the extent of protective exclusion zones required to avoid root truncation and any other prescriptions to ensure trees are maintained in a safe, healthy state

- Carry out vibration risk assessments for built heritage places, within or adjacent to the study area. This includes (but may not be limited to):
 - i. the Black Snake Inn complex at 650 Main Road, Granton;
 - ii. The Granton Watch House, 1 Lyell Highway;
 - iii. The Granton Memorial Hall, Forest Road, Granton;
 - iv. The Commandant's Cottage, 4 Forest Road;
 - v. 6 Forest Road, Granton;
 - vi. 19 Tarrant's Road, Granton;
 - vii. St Mary's Anglican Church and Cemetery, 20 Old Main Road, Bridgewater; and
 - viii. Coronation Hall, 25 Old Main Road, Granton.

- Where road works may impact on significant trees, advice should be sought from a qualified arborist and/or arboriculturalist to determine the extent of protective exclusion zones required to avoid root truncation and any other prescriptions to ensure trees are maintained in a safe, healthy state.

Management of Specific Sites

- The results of this heritage assessment should inform the execution of works for the proposed upgrade of the Derwent River crossing. Sites or features assessed as having heritage significance at either State or local levels should be conserved where possible.
- Implement heritage management recommendations as per the individual site datasheets. The general management response is for the avoidance of impacts to places or features of heritage significance. Mitigation or management strategies have been proposed where impacts are unavoidable.

Archaeological Management, Planning and Implementation

- Implement site-specific recommendations requiring the preparation of Statements of Archaeological Potential, Archaeological Impact Assessments; and Archaeological Method Statements.
- Sufficient lead-time and resources should be provided to undertake planning work and any archaeological works to avoid critical path complications during construction. Works should be carried out by suitably qualified archaeologists.

EXECUTIVE SUMMARY

Managing Unanticipated Historical Archaeological Discoveries during Works:

- Ground disturbances and excavations occurring outside of areas of historical archaeological potential can proceed without further archaeological oversight. However, the Project Specifications should include notification protocols whereby archaeological advice is sought if historical archaeological features or deposits are uncovered during excavation or where doubt exists concerning the provenance of any strata revealed during excavations. This may include but not be limited to the exposure of any structural material made from bricks, stone, concrete or timber and forming walls or surfaces, or the presence of more than five fragments of artefacts such as ceramic, shell, glass or metal from within an area of no more than 1 m².
- In such instances, excavation should immediately cease pending attendance on site and receipt of advice from the archaeological consultant, at which point, depending on the findings, it may also be necessary to involve Heritage Tasmania, DPIPWE and the local planning authorities.

Further Work:

- It is recommended that sections of the existing Bridgewater Bridge be retained for interpretative purposes, with the Bridge being an integral part of a project wide interpretation program.
- Measures to mitigate indirect visual impacts should be developed once the design proposal is finalized. Such measures may include revision of landscape design, interpretation design, and refinement of materials and design detailing. In this respect the following are recommended:
- Reduction of the visual impact of the Chosen Design to its context and setting through design refinement. The bold colour palette should be revised to a more restrained design with opportunities sought to integrate interpretation within the urban planning and landscape design.
- Mitigation of the visual impacts to the Black Snake Inn through design development of the landscape proposal. This should extend to grass and shrub hydro-seed to embankments and opportunities to integrate interpretation to the southern abutment retaining wall to the west of the Black Snake Inn.

NEW BRIDGEWATER BRIDGE PROJECT

I.0 INTRODUCTION

I.1 CLIENT AND PROJECT DETAILS

The Department of State Growth is proposing to renew the crossing of the River Derwent between Granton and Bridgewater. As part of this process, Purcell and Austral Tasmania were engaged by Burbury Consulting on behalf of The Department of State Growth to prepare a Heritage Impact Statement to address the Assessment Criteria, May 2021.

For the purposes of this report, the study area has been identified by those Registered Places and Local Heritage Places within and adjacent to the Project Land, as outlined within Figures 1 through 10 below.

I.0 INTRODUCTION



Adjacent Cadastral Parcels New Bridgewater Bridge Project As at 8th September 2020

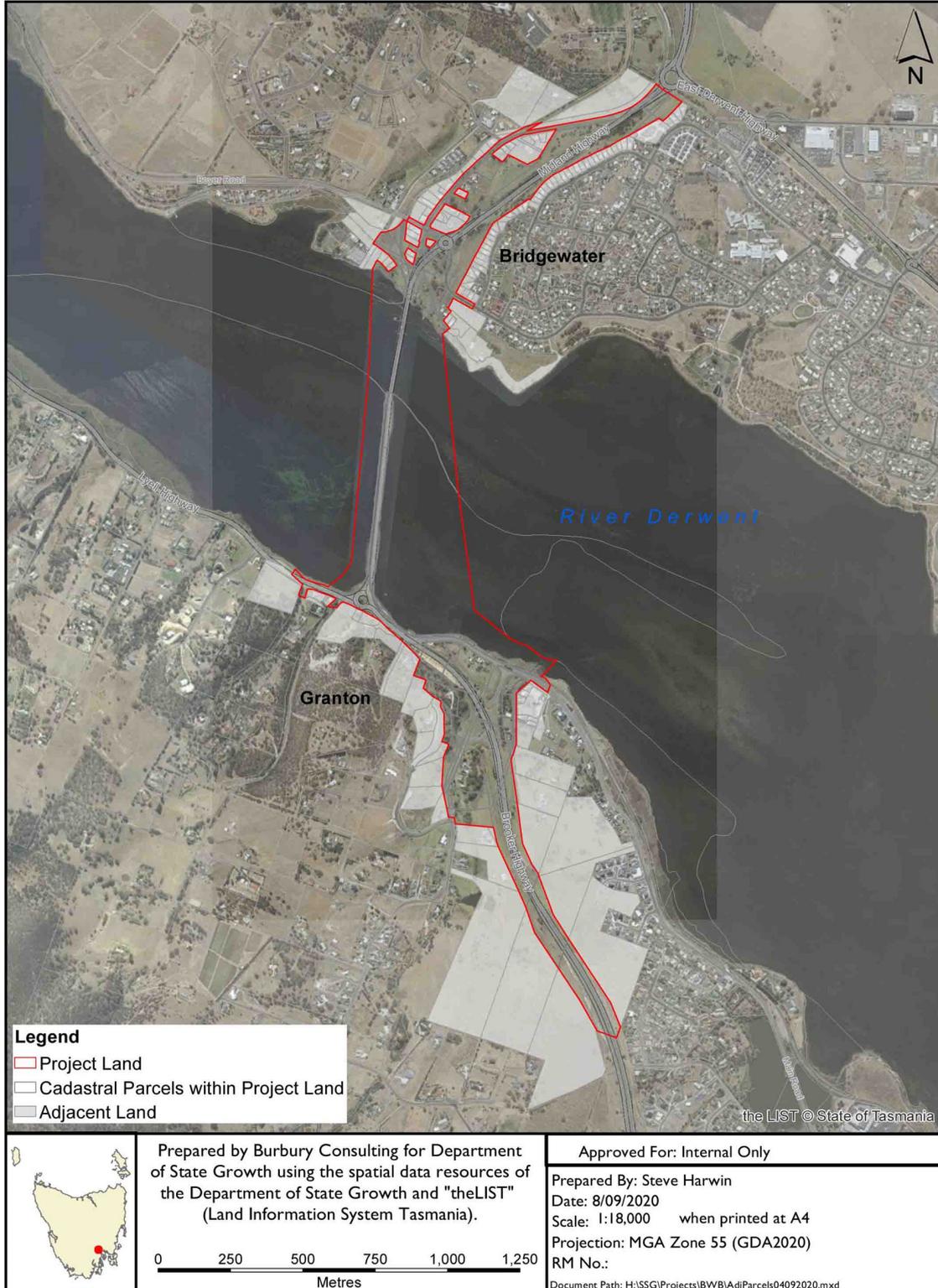


Figure 1: Study area overview (Burbury Consulting / Department of State Growth)

I.0 INTRODUCTION



Local and Registered Heritage Places New Bridgewater Bridge Project

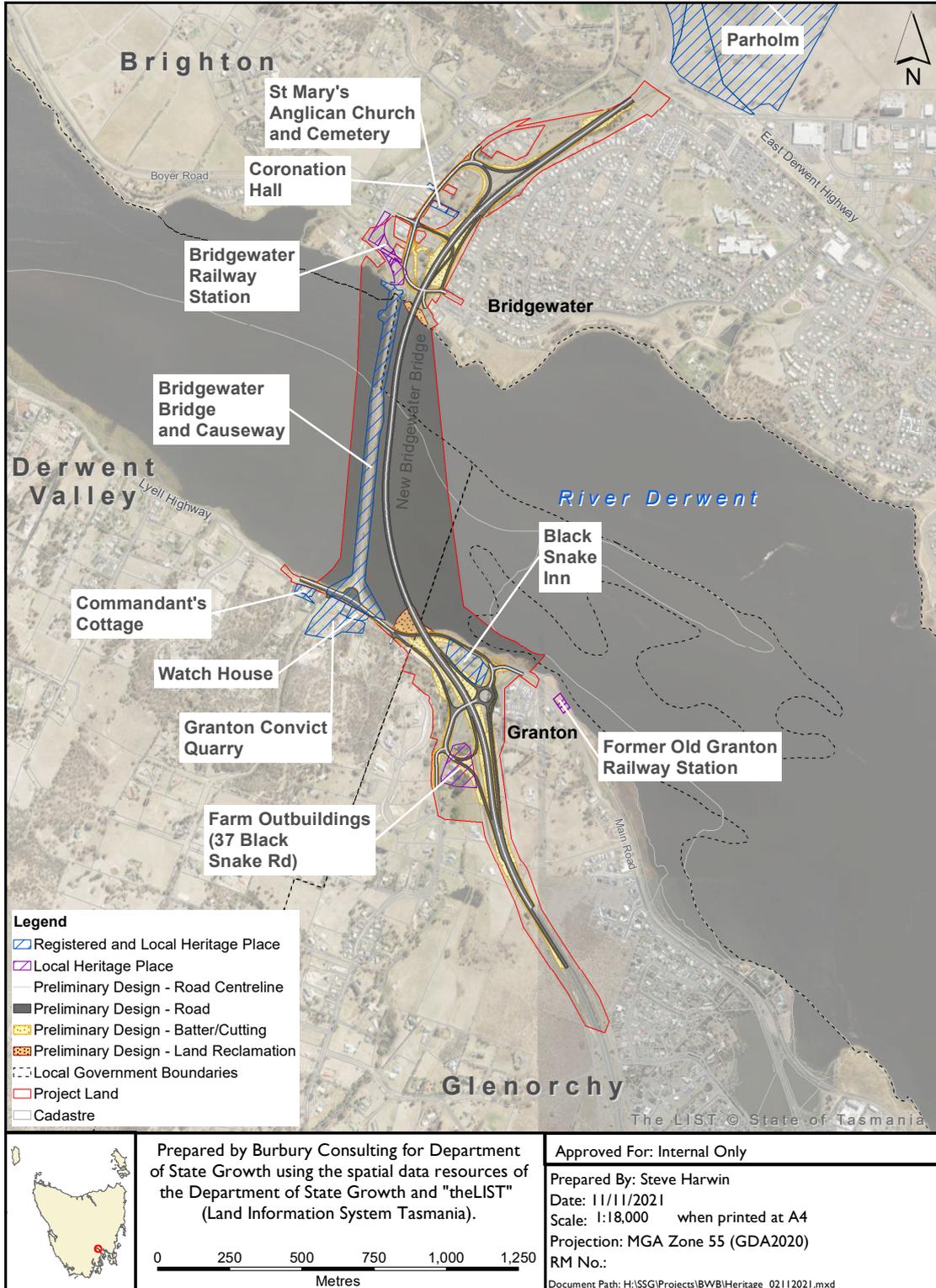


Figure 2: Local and Registered Places (Burbury Consulting/Department of State Growth)

I.0 INTRODUCTION



Heritage Place GLE-C6.1.179 (THR 1612): Black Snake Inn

New Bridgewater Bridge Project

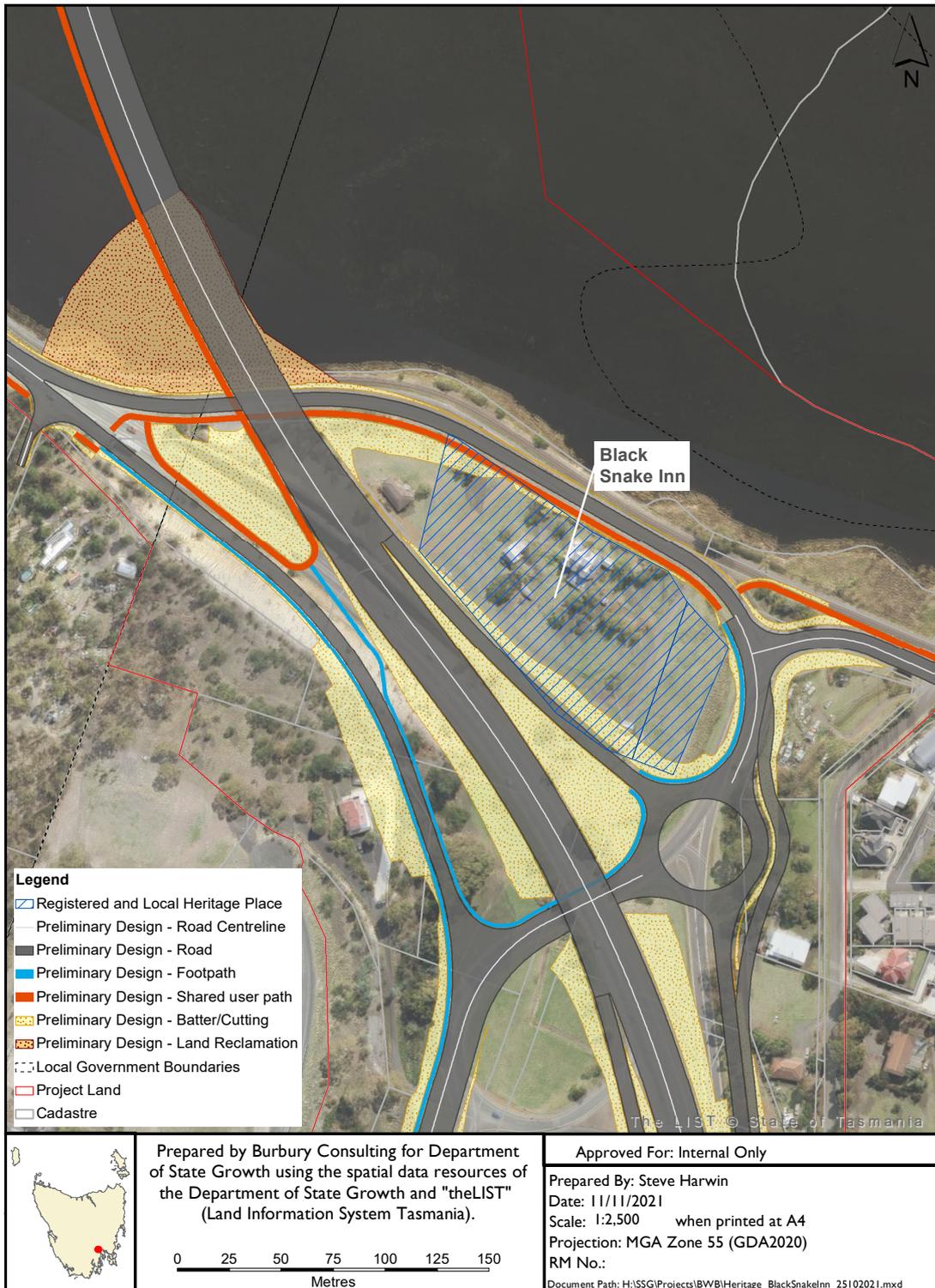


Figure 3: Black Snake Inn (Burbury Consulting/Department of State Growth)

I.0 INTRODUCTION

Heritage Place (THR 618): Bridgewater Bridge, Causeway and Abutments



New Bridgewater Bridge Project

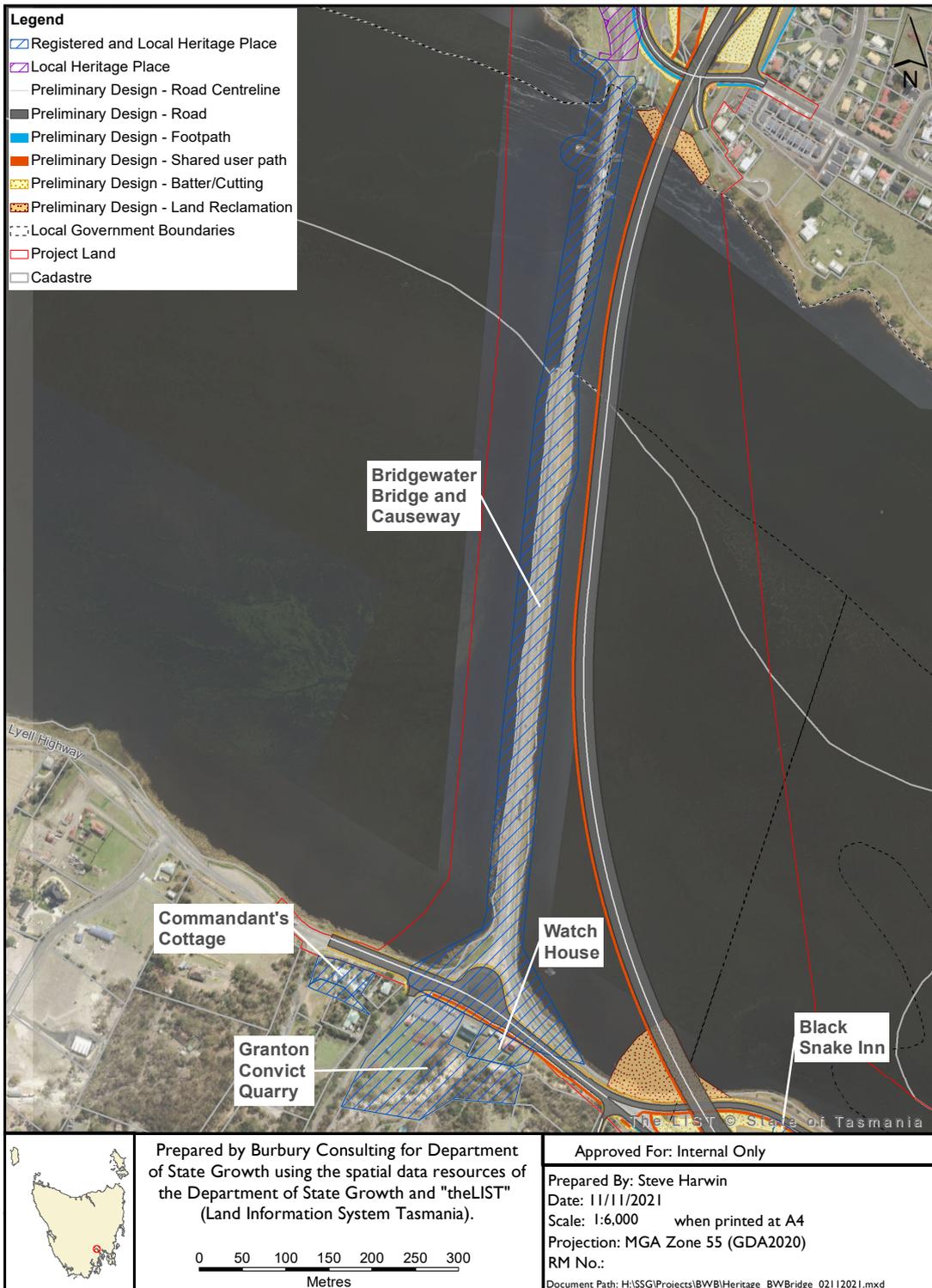


Figure 4: Bridgewater Bridge and Causeway (Burbury Consulting/Department of State Growth)

I.0 INTRODUCTION



Heritage Place BRI-C6.1.1: Bridgewater Railway Station

New Bridgewater Bridge Project

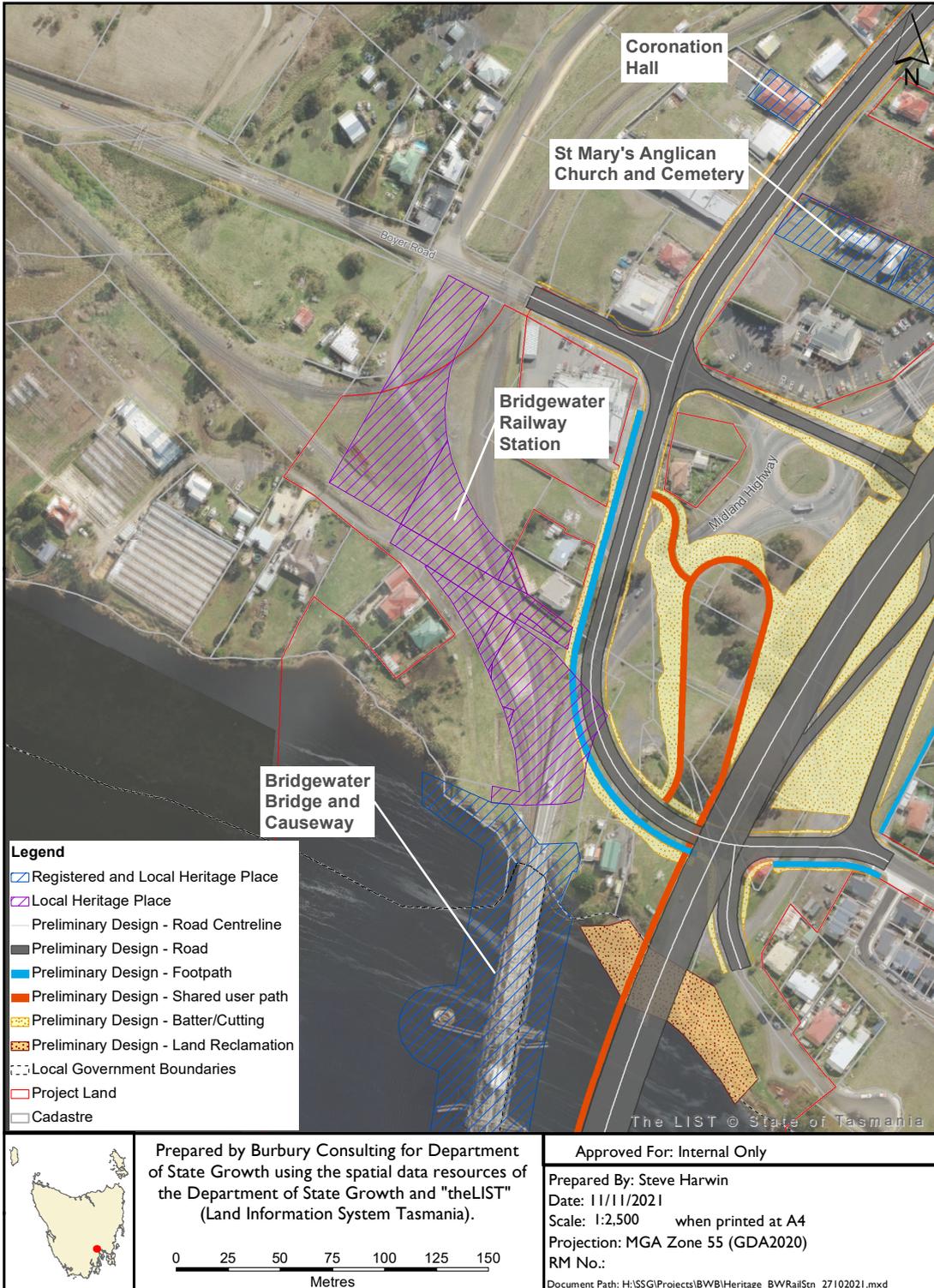


Figure 5: Bridgewater Railway Station (Burbury Consulting/Department of State Growth)



Heritage Places
BRI-C6.1.24 (THR 624): St Mary's Anglican Church and Cemetery
BRI-C6.1.25 (THR 625): Coronation Hall
New Bridgewater Bridge Project

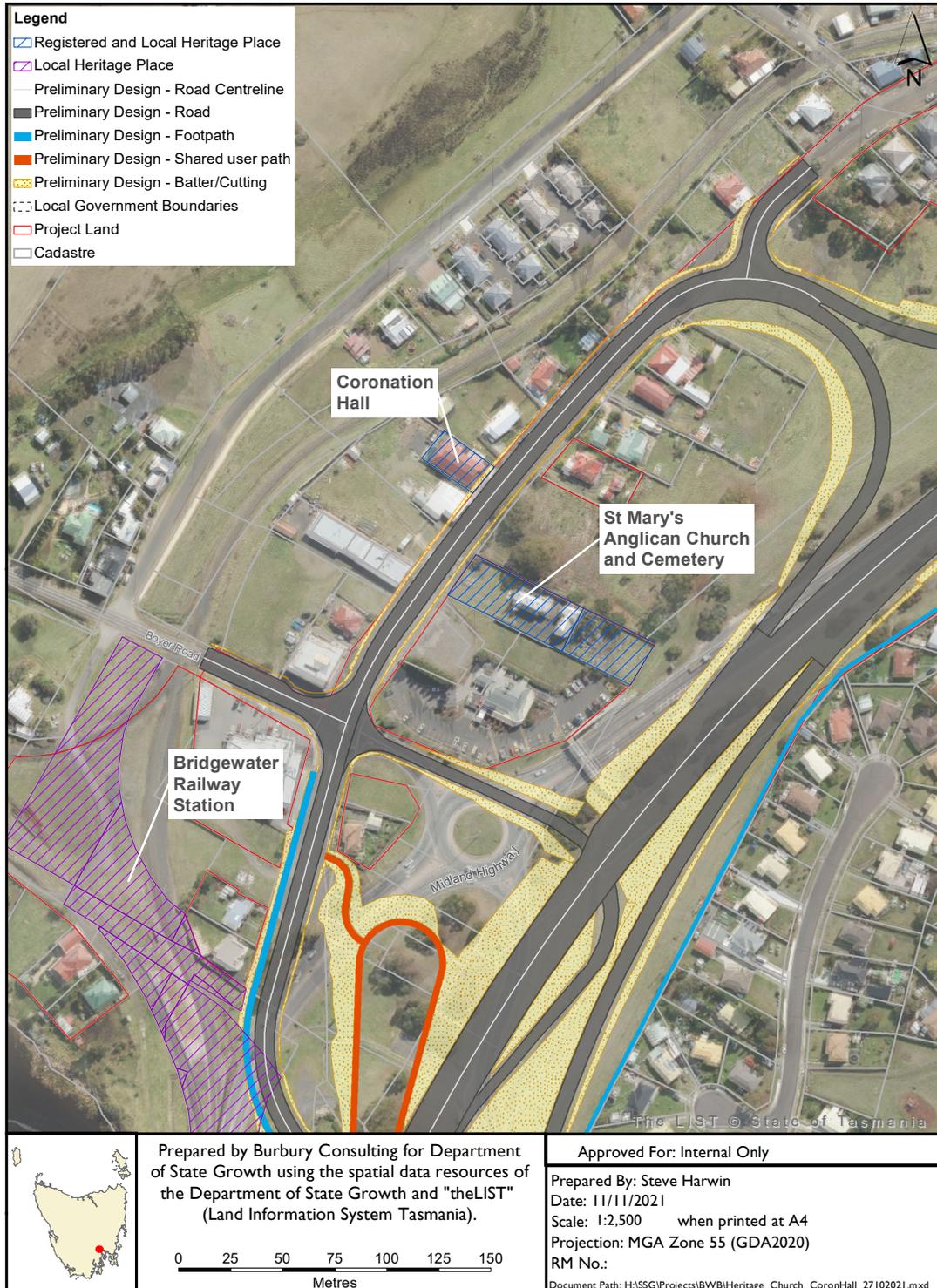


Figure 6: St Mary's Anglican Church and Cemetery and Coronation Hall (Burbury Consulting/Department of State Growth)

I.0 INTRODUCTION



Heritage Places

DV No.14 (THR 1178): Commandant's Cottage

DV No.17 (THR 1182): Watch House

DV No.18 (THR 7158): Granton Convict Quarry

New Bridgewater Bridge Project

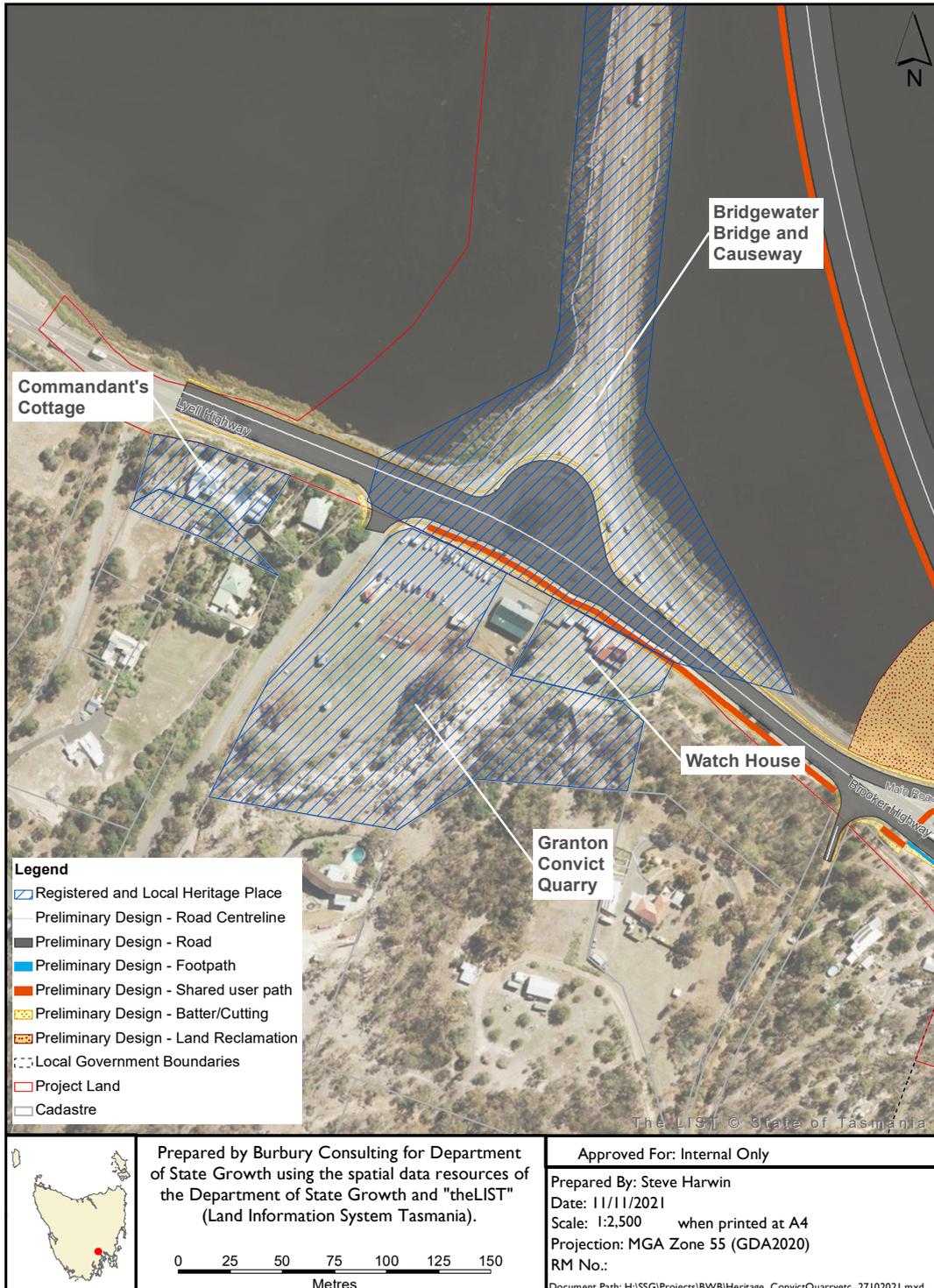


Figure 7: Commandant's Cottage, Watch House and Granton Convict Quarry (Burbury Consulting/Department of State Growth)

I.0 INTRODUCTION



Heritage Place GLE-C6.1.181: Farm Outbuildings (37 Black Snake Road) New Bridgewater Bridge Project

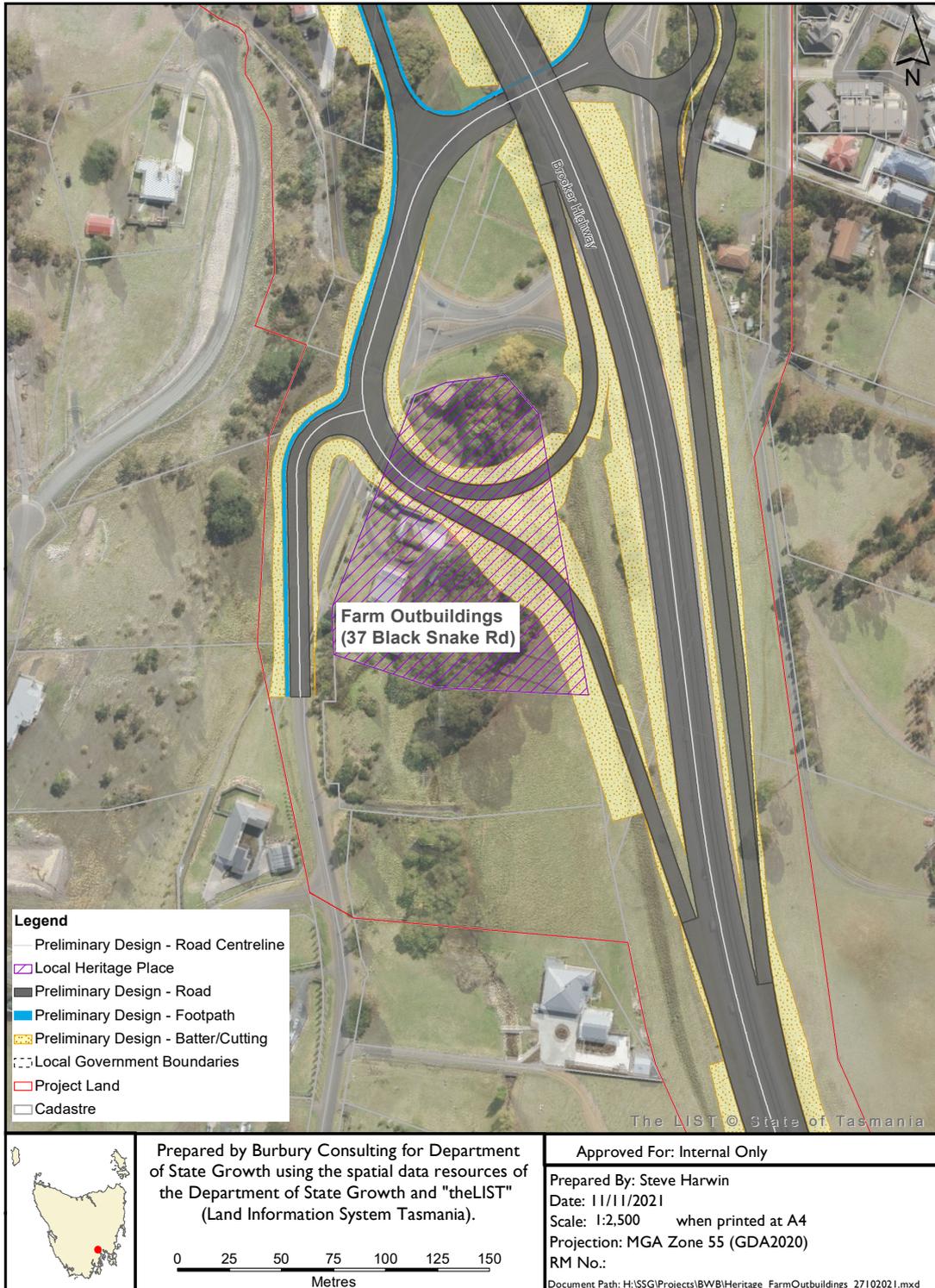


Figure 8: 37 Black Snake Road (Burbury Consulting/Department of State Growth)

I.0 INTRODUCTION



Heritage Place GLE-C6.1.182: Former Old Granton Railway Station

New Bridgewater Bridge Project

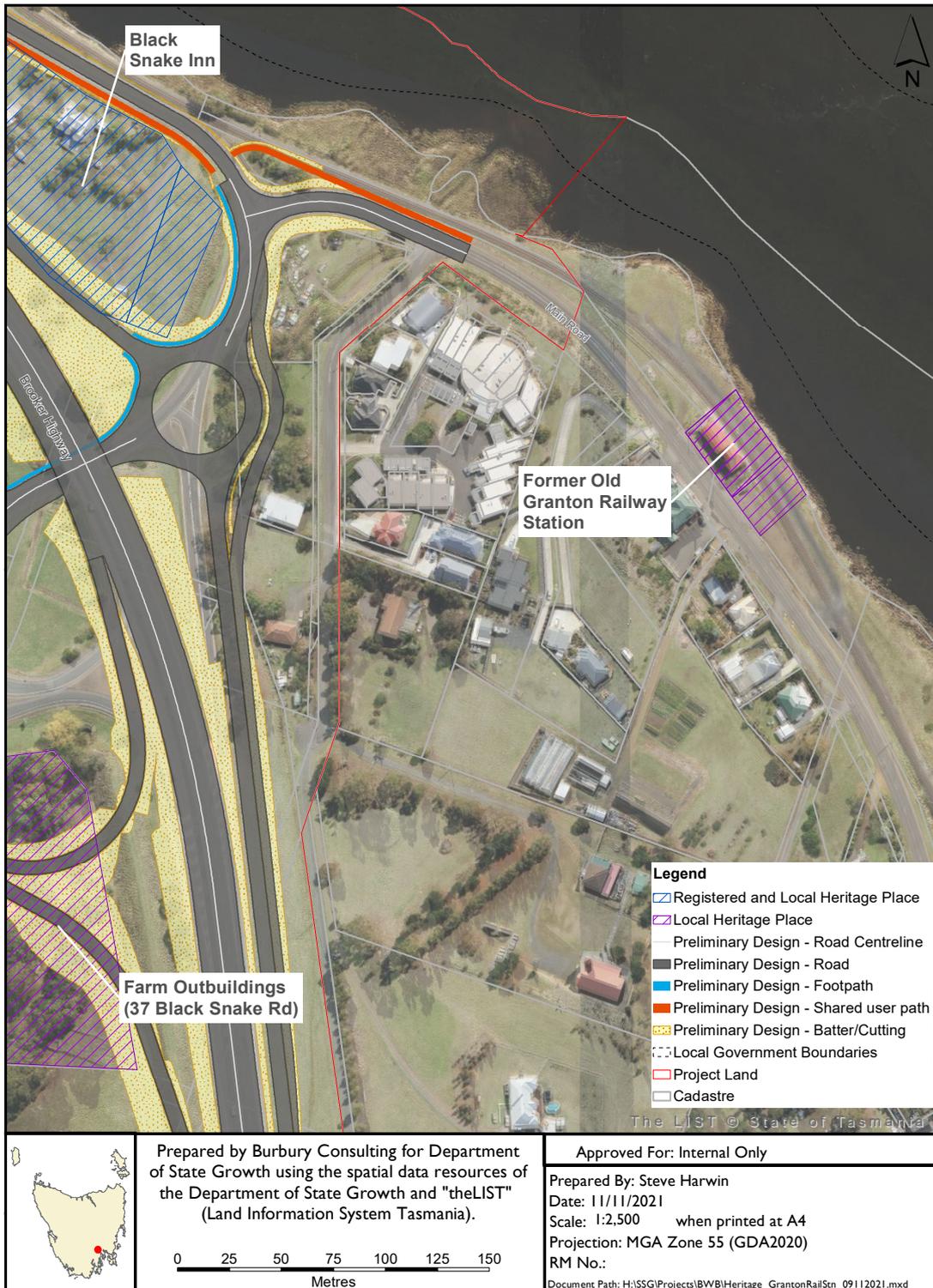


Figure 9: Former Old Granton Railway Station (Burbury Consulting/Department of State Growth)

I.0 INTRODUCTION



Heritage Places BRI-C6.1.69 (THR 619): Parholm

New Bridgewater Bridge Project

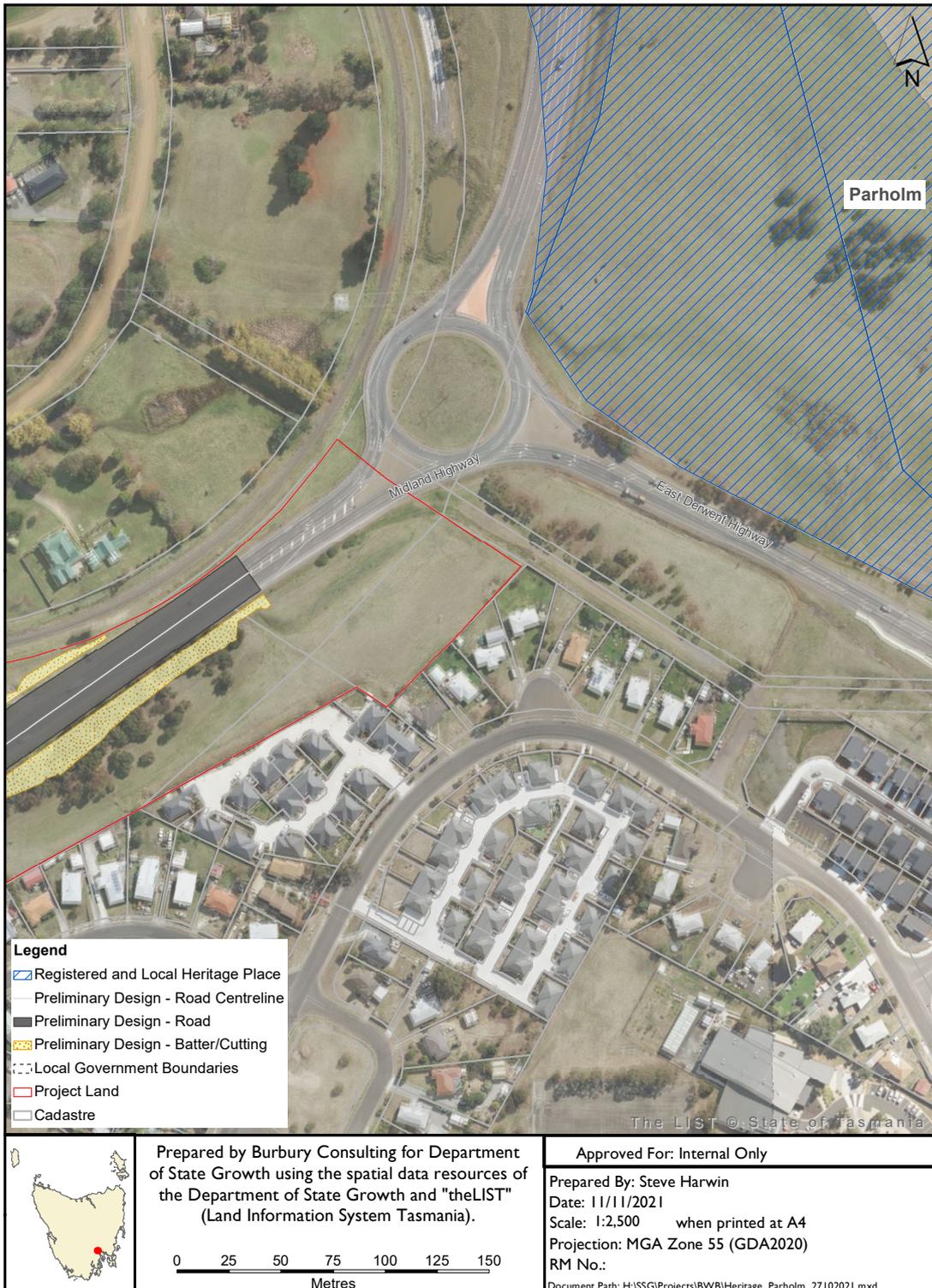


Figure 10: Parholm / Parkholm (Burbury Consulting/Department of State Growth)

I.0 INTRODUCTION

I.2 AUTHORSHIP

This report was initially written by Justin McCarthy and James Puustinen of Austral Tasmania and Lucy Burke-Smith of Purcell Asia Pacific. The most current revision has been prepared by Lucy Burke-Smith of Purcell Asia Pacific.

I.3 APPROACH AND METHODOLOGY

The methodology for this assessment accounts for the Assessment Criteria - New Bridgewater Bridge Major Project - 26 May 2021, specifically:

- Section 4.11 Local historic heritage values
- Section 5.4 Tasmanian Heritage Council requirements
- relevant definitions of Schedule 1 of the Assessment Criteria
- THC requirements under Schedule 2 of the Assessment Criteria.

Furthermore, this Heritage Impact Statement accounts for the methodology in the State Heritage Office of Western Australia, Heritage Impact Statement – A Guide, 2012 and other best practice guidelines.

The approach to this project has been to provide a systematic assessment of the study area with regard to established approaches advocated by the Burra Charter and the Works Guidelines. These are encapsulated by the Burra Charter process which advises an approach that commences with understanding the place: its history, use, associations and fabric, and assessment of cultural significance using relevant criteria.

The study area has been extensively investigated previously, culminating in a draft 2011 Heritage Impact Assessment and Management Plan prepared by GHD.⁰¹ In turn, the GHD report was largely informed by previous investigations carried out by Austral Archaeology and Austral Tasmania, namely:

- Austral Archaeology Pty Ltd, National Highway Approach to Hobart – Bridgewater Planning Study Heritage Assessment: Stage 1 – Volume 1 ,(Evolution of Road, Rail & Bridge Infrastructure), 1997;
- Austral Archaeology Pty Ltd, National Highway Approach to Hobart – Bridgewater Planning Study Heritage Assessment: Stage 1 – Volume 2 (Specialist Reports & Supporting Documentation), 1997
- Austral Archaeology Pty Ltd, National Highway Approach to Hobart – Bridgewater Planning Study Heritage Assessment: Stage 2 (Assessment of Heritage Values), 1997
- Austral Tasmania Pty Ltd, Bridgewater Crossing: Granton Interchange. Historic Heritage Assessment, report prepared for GHD Pty Ltd, 2 June 2011

Most recently, a site-specific heritage assessment report has been prepared solely looking at the causeway and existing Bridgewater Bridge.

- Austral Tasmania Pty Ltd, Bridgewater Causeway and Bridge. Historic Heritage Assessment and Archaeological Zoning Plan, report prepared for Purcell, AT0298, 12 November 2020

These background reports have been reviewed, and where relevant, provide much of the detail contained in this current report. A new heritage review was conducted of existing statutory requirements and previous reports, while site documentation was reviewed and summarised where relevant. This work assisted in defining the potential for historic heritage sites to exist within the study area, and identify locations for targeted investigations.

A pedestrian field survey was conducted on 26 February 2021 by James Puustinen. Written descriptions were made of identified sites; photographs were taken of sites and features; and spatial locations recorded with a hand held GPS unit referencing the GDA 94 datum. Accuracy in location details was available to +/- 3-4 m. Maps have been prepared in a GIS format. The spatial extent of heritage places have been taken from the dataset provided as part of the Bridgewater Causeway and Bridge Historic Heritage Assessment and Archaeological Zoning Plan (Final Report prepared for Purcell - AT0298 - 12 November 2020). This dataset referencing the GDA 94 (MGA Zone 55) datum. For heritage places not in that dataset, the boundaries were derived using cadastral parcel boundaries (theLIST) and the Local Historic Heritage Code of the Tasmanian Planning Scheme – Glenorchy. Maps have been prepared in a GIS format based on the supplied spatial data.

⁰¹ GHD, Department of Infrastructure, Energy and Resources. *The New Bridgewater Bridge. Heritage Impact Assessment and Management Plan, draft report, May 2011*

I.0 INTRODUCTION

The identified registered places have been assessed for their significance against the criteria of the *Historic Cultural Heritage Act 1995*. To assist in later management of values, the level of significance has been assessed against State thresholds using guidelines developed by Heritage Tasmania, DPIPWE.⁰² The significance of local historic heritage places identified within Brighton have been taken from the Brighton Local Provisions Schedule. The significance of local historic heritage places within the Glenorchy and Derwent Valley planning schemes have been outlined against the nominated criteria by Purcell, with this exercise being limited to a review of available source material. No primary research has been undertaken

While this study maps and identifies places of significance which are not subject to statutory controls (See 3.5 Inventory Datasheets - Reference Maps) the assessment is limited to those places subject to statutory controls either within, or adjacent to the Project Land. This methodology being consistent with Assessment Criteria AC4.11.1.

I.4 LIMITATIONS AND CONSTRAINTS

This assessment is limited to consideration of historic heritage values within the study area, and provides an update of the previous 2011 GHD study. No social values or Aboriginal heritage assessment has been carried out for this investigation. This report has been prepared to provide a high-level overview of historic heritage issues related to the crossing renewal.

The results and judgments contained in this report are constrained by the limitations inherent in overview type assessments (including accessibility of historical information, safety considerations and related access restrictions).

Whilst every effort has been made to gain insight to the historic heritage profile of the subject study area, the authors cannot be held accountable for errors or omissions arising from such constraining factors.

I.5 ACKNOWLEDGEMENTS

The assistance of the following people and organisations is gratefully acknowledged:

- Mr John Stephenson, Heritage Tasmania;

⁰² Department of Primary Industries, Water and Environment, *Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995*, October 2011

NEW BRIDGEWATER BRIDGE PROJECT

2.0 HISTORIC HERITAGE ASSESSMENT

2.1 DESKTOP REVIEW OF REGISTERED AND LISTED HERITAGE PLACES

Both Federal and State Acts of Parliament may have a bearing on the management of cultural heritage within or adjacent to the subject study area. Key legislation is summarised below. The summary is intended as a guide only and should be confirmed with the administering agency and, where necessary, specialist legal opinion.

Statutory heritage management applies at a State level under the *Historic Cultural Heritage Act 1995*, and also at a local level under the *Interim Planning Scheme 2015 for Derwent Valley and the Brighton and Glenorchy Local Provisions Schedules*.

2.2 NATIONAL HERITAGE MANAGEMENT PROVISIONS

2.2.1 World/National/Commonwealth Heritage Lists

There is an established framework for the identification, protection and care of places of significance to the nation and/or Commonwealth. Entry in the National and/or Commonwealth Heritage Lists triggers statutory processes under the terms and provisions of the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*. Actions which will or may have a significant impact upon the recognised values of a listed place are required to be referred to the Australian Government Minister for the Environment, after which a judgement will be made as to whether the proposed action will require formal assessment and approval. The *EPBC Act* also provides for consideration of actions that may occur outside of a listed place that may have significant impact upon national heritage values, or actions taken on Commonwealth land or by Commonwealth agencies that are likely to have a significant impact on the environment (anywhere). Listing occurs by nomination, which may be made by any one at any time. The *EPBC Act* also provides for emergency listing where National Heritage values are considered to be under threat.

As at January 2021, the study area is not included in or nominated to the World, National or Commonwealth Heritage Lists. Consideration has been given to the likelihood of the Bridgewater crossing meeting the criteria for the National Heritage List. This exercise took the form of a preliminary assessment undertaken by Purcell and Austral (Tasmania), and consultation between State Growth and the Department of Agriculture, Water and the Environment. The Australian Heritage Commission would not undertake a formal assessment of the place until such time as a nomination were to be received, however it is understood that in principle, there is general agreement that the Bridgewater crossing would not meet the threshold for inclusion on the National Heritage List.

2.3 STATE HERITAGE MANAGEMENT PROVISIONS

2.3.1 Historic Cultural Heritage Act 1995

The *Historic Cultural Heritage Act 1995 (HCH Act)* is the key piece of Tasmanian legislation for the identification, assessment and management of historic cultural heritage places.

The *HCH Act* establishes the THR as an inventory of places of State significance; to recognise the importance of these places to Tasmania; and to establish mechanisms for their protection. 'State historic cultural heritage significance' is not defined, however the amended Act allows for the production of 'Guidelines', which presumably will use the existing assessment guidelines for the purposes of defining State level significance.⁰³

A place of historic cultural heritage significance may be entered in the THR where it meets one of eight criteria. The criteria recognise historical significance, rarity, research potential, important examples of certain types of places, creative and technical achievement, social significance, associations with important groups or people, and aesthetic importance.

The Project renewal has been declared a Major Project under the *Land Use Planning and Approvals Act 1993*. This process includes assessment by the Tasmanian Heritage Council as a relevant regulator under the *HCH Act*.

As at January 2021 there are three places included in the THR that are within the Project Land:

1. THR 618, Bridgewater Bridge, Midland Highway, Brooker Highway, Granton and Bridgewater;
2. THR 624, St Mary's Anglican Church and Cemetery, 18-20 Old Main Road, Bridgewater; and
3. THR 1612, Former Black Snake Inn, 650 Main Road, Granton.

The registration datasheets for these places is included in Appendix I. Please note that St Mary's Anglican Church is a place adjacent to the study area, and not within the study area boundaries. However, it has been included in this report to account for the possibility of unmarked burials extending beyond the boundaries of the cemetery. The potential for indirect impacts on THR listed places that are outside but adjacent to the Project Land is not relevant to the THC's assessment against Assessment Criteria 5.4. However, to the extent that these places are locally listed under a planning scheme they are assessed in relation to Assessment Criteria 4.11.

⁰³ Assessing historic heritage significance for Application with the *Historic Cultural Heritage Act 1995*

2.0 HISTORIC HERITAGE ASSESSMENT

2.4 LOCAL HERITAGE MANAGEMENT

2.4.1 Brighton Local Provisions Schedule, 2021.

The northern shore of the River Derwent is located within the planning area of the *Brighton LPS 2021*. The Schedule includes a list of local heritage places. Table BRI-Table C6.1 contains the list of Heritage Places. It includes the following places:

1. BRI-C6.1.1 Bridgewater Railway Station Wallace Street, Bridgewater, CT154431/1, CT154459/1, CT154468/1, CT154472/1 CT118026/2 & 3 and adjoining untitled parcels. The general description notes that it is an "Island platform with lines intact and semaphore signals (last remaining of their type in working order in Tasmania). The brick station is intact. Internal rooms feature original hardwood lining around the walls. The station features a signal cabin made of concrete and plaster, which operates the Bridgewater existing Bridge. The station has original signs." This description is no longer current.
2. BRI-C6.1.24 St. Mary's Anglican Church and Cemetery, 20 Old Main Road, Bridgewater, CT139728/1& 2. The general description describes the place as: "A small rural church built in the Victorian Academic Gothic style. It is intact in almost every respect and is an excellent example of the style. The site also includes a graveyard."
3. BRI-C6.1.25 Coronation Hall, 25 Old Main Road, Bridgewater, CT 146756/1. The general description notes it as 'An unusual single storey weatherboard building with a combination gable, a pair of projecting hipped roofs and half-timber decoration in gable ends. On each of the projecting hips, which are either side of a covered entry, there is a fixed window of three squares high. There is a diamond motif with a vent in it in the centre of the gable end.'
4. BRI-C6.1.69 Parholm, 1 Parholme Drive, Bridgewater, CT's 170480/1; 166071/1; 156374/1. The general description notes it as 'A farm group of buildings, including main house and outbuildings. The main house is two storeys with a surrounding veranda. There is a single storey section to the rear with a hip roof.'

2.4.2 Derwent Valley Interim Planning Scheme 2015

The causeway and southern shore of the Derwent are located within the planning area of the Derwent Valley Interim Planning Scheme 2015. The Scheme includes a Historic Heritage Code, establishing heritage places; heritage precincts; cultural landscape precincts and places of archaeological potential. Surrounding places at Granton are identified as heritage places, but are not included in the Project Land.

The following places are outside but adjacent the Project Land:

1. No. 14, Commandant's Cottage, Cnr Tarrants Road and Lyell Highway, Granton, CT 234735/1; and 210545/7
2. No. 17, Watch House, 1 Lyell Highway, Granton, PID 5801827,
3. No. 18, Granton Convict Quarry, 3 Lyell Highway, Granton, CT 161930/1

2.4.3 Glenorchy Local Provisions Schedule, 2021

The study area is partially located within the planning area of the *Glenorchy Local Provisions Schedule, 2021*, to the east of the causeway. The Scheme includes a list of local heritage places in Table GLE-Table C6.1. It includes the following places:

1. GLE-C6.1.179, Black Snake Inn, 650 Main Road Granton. General description: "dwelling and outbuildings", CTs 246061/1, 119210/1
2. GLE-C6.1.181, Farm Outbuildings, 37 Black Snake Road, Granton, CT 156256/20.
3. GLE-C6.1.182 Former Old Granton Railway Station, Granton, Part 134026/1, Part 118024/2.

It should be noted that the GIPS 2015 identified 'Particular Exempt Development' for place No. GLE-C6.1.181, with the following statement:

The demolition of the farm outbuildings is permitted in accordance with Clause 8.7 of the Scheme if the demolition is required as part of the replacement of the Bridgewater Bridge and associated road works provided that archival records are prepared for the property and materials are salvaged, generally in accordance with recommendation 1/1 of the Austral Tasmania report titled 'Bridgewater Crossing: Granton Interchange, Historic Heritage Assessment, Final Report prepared for GHD Pty, 2 June 2011.'⁰⁴

In effect, the demolition of the farm outbuildings was permitted under the previous planning scheme, with the management of impacts to this place defined by the 2011 Austral Tasmania report.

⁰⁴ GIPS 2015, Table E13.1

2.0 HISTORIC HERITAGE ASSESSMENT

NON-STATUTORY MANAGEMENT AND IDENTIFICATION

2.4.4 Register of the National Estate

The Register of the National Estate (RNE) was established in 1976 as a list of natural, Indigenous and historic heritage places throughout Australia, with limited statutory mechanisms relating to actions taken by the Commonwealth. As of February 2007, the RNE ceased to be an active register, with places no longer able to be added or removed and the expectation that the States and Territories would consider places included on the RNE for management under relevant State legislation. The RNE ceased to exist as a statutory register on 19 February 2012 and references to the RNE were removed from the *EPBC Act*. The RNE continues to exist as a non-statutory information source. Coincidence with other heritage lists and registers (including the THR and planning scheme heritage schedules) is not uncommon. The Bridgewater Bridge and Remains, and Bridgewater Causeway are included on the RNE.

2.5 SECTION SUMMARY

The following table summarises the various statutory and non-statutory mechanisms and identifies those relevant to the MPIS Assessment Criteria.

| Register/Listing | Inclusion/ Adjacency | Statutory Implications |
|---|-------------------------|--|
| National Heritage List | No | No |
| Commonwealth Heritage List | No | No |
| Tasmanian Heritage Register | Yes | Yes |
| Brighton Local Provisions Schedule 2021 | Yes and adjacent places | Yes and indirectly under the MPIS AS4.11.1 |
| Derwent Valley Interim Planning Scheme 2015 | Adjacency only | Indirectly under the MPIS AS4.11.1. |
| Glenorchy Local Provisions Schedule 2021 | Yes | Yes |
| Register of the National Estate | Yes | No |

Table 1: Summary of statutory and non-statutory mechanisms

NEW BRIDGEWATER BRIDGE PROJECT

3.0 FRAMEWORK FOR ASSESSMENT

3.1 INTRODUCTION

The following section provides a framework for an assessment for the study area based on works and potential impacts. It identifies heritage places within the study area and maps their location or boundaries; provides an assessment of potential heritage impacts; and makes recommendations, where warranted, for further works or impact mitigation. All images and site references within the datasheets were gathered during field work carried out on 26 February 2021. Identified sites were recorded photographically and with written notes. Site locations were determined by grid references retrieved from a hand held GPS unit referencing the GDA 94 datum. Accuracy in location details was available to +/- 3-4 metres.

3.2 SUMMARY DESCRIPTION OF PROPOSED USE AND DEVELOPMENT

The Department of State Growth have prepared a Proposal Description, the relevant aspects of which are outlined within Section 3.2 and set the context for this Assessment. Full details of the Chosen Design are further outlined in Proposal Description.

3.2.1 Preface

This Proposal Description has been prepared to support the development of the Major Project Impact Statement (MPIS) to be submitted to the Development Assessment Panel (the Panel) via the Tasmanian Planning Commission (the Commission).

3.2.2 General proposal description

The Project will provide a new river crossing for motor vehicles between the Brooker Highway and Midland Highway, with connections to the Lyell Highway and other surrounding roads.

The Project will also provide a new river crossing for pedestrians and cyclists from the northern and southern shores.

The new bridge will include two motor vehicle lanes in each of the two directions of traffic (north bound and south bound).

The Project will include the grade separation of the Lyell Highway and Black Snake Road junctions at Granton and connecting ramps with Gunn Street and Old Main Road at Bridgewater.

Water traffic will be accommodated by a minimum air draft clearance consistent with the clearance under the Bowen Bridge.

The new bridge will include a shared path for pedestrians and cyclists.

The new bridge will include safety screens and barriers.

3.2.2.1 Proposed development

The proposed development includes:

- A road bridge crossing of the River Derwent between Granton and Bridgewater;
- Two grade separated interchanges, one on the southern shore and one on the northern shore, of the River Derwent, and associated modifications to existing intersections;
- Ancillary facilities to the proposed bridge and interchanges, such as new and / or relocated shared paths, road signage and stormwater drainage;
- Demolition of the existing Bridgewater Bridge structure, including the existing road and rail lift span crossing; and
- Demolition of features at 37 Black Snake Lane.
- Demolition of other features of no heritage significance, as identified in Table 3-5 of the MPIS.

3.2.2.2 Overview

The project involves the construction of a single, 4-lane bridge over the River Derwent from Granton to Bridgewater. Midland Highway traffic, which currently travels over the existing river crossing, being the 2-lane heritage listed causeway and steel lift-span bridge, will be relocated onto the new bridge. The project seeks to remove the existing bridge. The existing causeway will not be removed.

The existing road interchanges at either end of the new bridge will be reconfigured, providing grade separation, on and off ramps to the existing highways and local road connectivity.

The existing highways leading in/out of those interchanges (the Brooker Highway to the south and the Midland Highway to the North) are to be widened from two lanes to four lanes, providing two lanes of traffic in both directions.

3.0 FRAMEWORK FOR ASSESSMENT

3.2.2.3 Existing bridge demolition

The existing Bridgewater Bridge will be demolished as part of the works. The heritage listed abutments (1848) from the first bridge at this location will not be removed.

The removal of the existing bridge will involve careful dismantling of the structure, breaking the steel bridge into smaller parts and then moving the parts from above the marine environment and disassembling into smaller parts on-shore for disposal and / or recycling.

The demolition of the existing bridge will occur only after the main bridge alignment has been commissioned, as the existing bridge will continue to carry traffic across the river until such time as the new bridge is commissioned.

3.3 INVENTORY OF SITES

The datasheets for places subject to the MPIS Assessment Criteria may refer to more than one specific site or feature, and individual elements have been grouped where related by type. In these instances the individual elements have been given a numeric suffix (i.e. 1.01, 1.02, 1.03 etc.).

Section 3.5 contains the maps of all identified sites or features within the Project Land. These maps do not identify places of significance adjacent to the Project Land. For identification of such places refer to Sections 2.4 for local heritage places that fall within the Adjacent Cadastral Parcels site mapping on Figures 2 through 10, pages 14 through 23. The identified sites are graphically presented in a standardised format. For places which are either State or locally listed, the registration boundaries of these places are depicted by orange lines. The mapping has been prepared relative to the Project Land (outer red line boundary).

Section 3.6 comprises the datasheets for those statutory listed places subject to the Assessment Criteria 4.11.1 and 5.4. Each datasheet contains a condensed history field where summary contextual information is included from available source material.

The attributes of each place, site, item or feature are included in the description field. An assessment of significance is provided for each place and the level of Statutory significance identified. The datasheet concludes with a review of potential impacts and mitigation options where relevant.

The following table contains the full list of places and sites subject to Assessment Criteria 4.11.1 and 5.4. It lists the Site Number, Name and Significance Level. This table can be read in conjunction with Section 3.5.

| Key | |
|---|----------------------------------|
|  | Heritage Listed Place/boundaries |
|  | Archaeological Site |
|  | Plantings |
|  | Road Infrastructure |
|  | Rail Infrastructure |
|  | Miscellaneous |

3.0 FRAMEWORK FOR ASSESSMENT

| SITE NUMBER | NAME | SIGNIFICANCE LEVEL |
|--|---|---|
| Datasheet 1: Bridgewater Causeway | | |
| 1.00 | Bridgewater Causeway & Bridge– Listing Boundaries | State |
| 1.01 | Bridgewater Causeway | State |
| Datasheet 2: Remains of Earlier Bridgewater Road and Rail Bridges | | |
| 1.00 | Bridgewater Causeway & Bridge– Listing Boundaries | State |
| 2.01 | 1849 Bridgewater Bridge - area of archaeological potential | State |
| 2.02 | 1874 bridge abutments – south | State |
| 2.03 | 1874 bridge abutments – north | State |
| 2.04 | 1893 bridge abutments – south | State |
| 2.05 | 1893 bridge caisson | State |
| 2.06 | 1893 bridge abutments – north | State |
| Datasheet 3: Bridgewater Bridge | | |
| 1.00 | Bridgewater Causeway & Bridge– Listing Boundaries | State |
| 3.01 | Bridgewater Bridge | State |
| Datasheet 4: Bridgewater Railway Station | | |
| 4.00 | Bridgewater Railway Station – Listing Boundaries | Local |
| 4.01 | Bridgewater Railway Station | Local |
| Datasheet 5: Black Snake Inn, 650 Main Road, Granton | | |
| 5.00 | Black Snake Inn – Listing Boundaries | State |
| 5.01 | Black Snake Inn | State |
| 5.02 | Timber Outbuilding | State |
| Datasheet 6: Old Black Snake Lane | | |
| 6.01 | Old Black Snake Lane | - |
| Datasheet 10: Pioneer Avenue Elm | | |
| 10.01 | Pioneer Avenue Elm | State |
| Datasheet 11: Area of Archaeological Sensitivity Associated with Convict Station Site | | |
| 11.01 | Area of Archaeological Sensitivity Associated with Convict Station Site | Potentially State |
| Datasheet 15: Existing Main Line Railway Alignment | | |
| 15.01 | Existing Main Line Railway Alignment | State significance as a single entity between Hobart and Launceston, local significance for the section within the study area |
| Datasheet 16: St Mary's Church and Cemetery, Area of Potential Archaeological Sensitivity | | |
| 16.01 | Area of potential archaeological sensitivity | Potentially State significant |
| Datasheet 18: Cypress Grove, 37 Black Snake Road, Granton | | |
| 18.00 | 37 Black Snake Lane – Listing Boundaries | Local |
| 18.01 | House | Local |
| 18.02 | Cottage | Local |
| 18.03 | Stable | Local |
| 18.04 | Railway Shed | Local |
| 18.05 | Blacksmith's Shop | Local |
| 18.06 | Worker's Cottages | Local |
| 18.07 | Old Coach House | Local |
| 18.08 | Culvert | Local |
| 18.09 | Cherry Tree | Local |
| 18.10 | Fig Tree | Local |

3.0 FRAMEWORK FOR ASSESSMENT

| SITE NUMBER | NAME | SIGNIFICANCE LEVEL |
|--|--|--------------------|
| Datasheet 19: Coronation Hall, 25 Old Main Road, Bridgewater | | |
| 19.01 | Coronation Hall | State |
| Datasheet 20: Commandant's Cottage, Cnr Tarrants Road and Lyell Highway, Granton | | |
| 20.01 | Commandant's Cottage | State |
| Datasheet 21: Watch House, 1 Lyell Highway, Granton | | |
| 21.01 | Watch House | State |
| Datasheet 22: Granton Convict Quarry, 3 Lyell Highway, Granton | | |
| 22.01 | Granton Convict Quarry | State |
| Datasheet 23: Former Old Granton Railway Station, Main Road, Granton | | |
| 23.01 | Former Old Granton Railway Station | Local |
| Datasheet 24: Parkholm, 314 Midland Highway, Bridgewater | | |
| 24.01 | Parkholm, 314 Midland Highway, Bridgewater | State |

Table 2: Heritage Places

3.0 FRAMEWORK FOR ASSESSMENT

3.4 ASSESSING THE HISTORIC CULTURAL HERITAGE SIGNIFICANCE OF THE IDENTIFIED ELEMENTS

The assessment of cultural significance is a pivotal part of any heritage assessment. In this report Registered Places are expressed in terms of the definition of cultural significance and the eight criteria of the *Historic Cultural Heritage Act 1995 (HCH Act)*. This approach is consistent with that of Schedule 1 of the Assessment Criteria, namely the definition of historic cultural heritage significance being 'as defined in the *Historic Cultural Heritage Act 1995*'.

The *HCH Act* defines 'historic cultural heritage significance' as 'its significance in terms of the registration criteria'. In turn, eight criteria are provided which recognise historical significance, rarity, research potential, important examples of certain types of places, creative and technical achievement, social significance, associations with important groups or people, and aesthetic importance.

The *HCH Act* provides that the Tasmanian Heritage Register is to be an inventory of places having 'State historic cultural heritage significance'. This term is not defined, however Guidelines have been developed to assist in applying the criteria and determining the level of significance of a place at either State or local levels of heritage significance.⁰⁵ The Guidelines define this distinction between State and local significance as:

A place is of historic heritage significance at a STATE level as being important to the whole of Tasmania, and therefore eligible for entry in the Tasmanian Heritage Register; or

*A place is of historic heritage significance at a LOCAL level as being important to a region or local community and eligible for listing in a heritage schedule of a local planning scheme.*⁰⁶

Local Historic Heritage Significance means significance in relation to a local heritage place or a local heritage precinct, and its historic heritage values as identified in the relevant list, in a planning scheme, because of:

- (a) its role in, representation of, or potential for contributing to the understanding of:
 - (i) local history;
 - (ii) creative or technical achievements;
 - (iii) a class of building or place; or
 - (iv) aesthetic characteristics; or
- (b) its association with:
 - (i) a particular community or cultural group for social or spiritual reasons; or
 - (ii) the life or works of a person, or group of persons, of importance to the locality or region.

Where not outlined within a LPS an assessment has been drafted based on currently available material from Local Heritage Studies or THR Datasheets.

The evaluation of significance has a practical application as it provides the basis for determining how places, sites, items and/or features identified during the field survey should be managed. This distinction between levels of significance is not about ranking the values or importance of a place. It is about understanding the context in which the place is important, and how far that importance reaches: from a local community, to an entire state, nation or group of nations. It is also part of the statutory framework for heritage assessment by identifying which level of government is responsible for statutory management. The Burra Charter provides guidance on the grading of significance, noting that it is only useful if it:

*... illuminates the values of the place and provides a sound basis for management. An assessment that some aspects of a place are less significant than others is not in itself a reason for changing or removing them; the difference in action must have a conservation benefit.*⁰⁷

No matter what the level of significance, the overarching intent of management is to conserve the values of the place or item where possible.⁰⁸ In preparing this heritage assessment, regard has been had to the existing body of work which has examined the place in some detail. This has principally been prepared by Austral Archaeology and GHD.⁰⁹ In both cases, these assessments remain largely current, although there has been some terminology changes in statutory criteria, and the Assessment Guidelines provide detailed significance indicators and thresholds.

⁰⁵ Department of Primary Industries, Parks, Water and Environment, October 2011, *Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995*

⁰⁶ *Ibid*, p.2

⁰⁷ Marquis-Kyle, P, Walker, M, *The Illustrated Burra Charter*, p.27

⁰⁸ Heritage Council of New South Wales, *Levels of Heritage Significance*, 2008, p.1; Department of Primary Industries, Parks, Water and Environment, *Assessing Historic Heritage Significance for application with the Historic Cultural Heritage Act*, October 2011, p.6

⁰⁹ GHD, *Bridgewater Bridge Replacement Planning Study. Historic Heritage Investigations, report prepared for DIER, August 2010*; GHD, *Tasmania's Truss Bridges. Comparative Heritage Assessment, prepared for DIER, October 2009*; Austral Archaeology, *National Highway Approach to Hobart – Bridgewater Planning Study Heritage Assessment: Stage 1 – Volume 2, 1997*; Austral Archaeology, *Midland Highway Black Snake Lane to East Derwent Highway Historical Archaeological Survey Report, prepared for Road & Environmental Planning Group, 1996*

3.0 FRAMEWORK FOR ASSESSMENT

3.5 INVENTORY DATASHEETS – REFERENCE MAPS



| | | |
|---|---|--|
|  <p>ASHTRAI TASMANIA</p> | <p>Bridgewater Bridge Replacement Preliminary Heritage Impact Assessment</p> <p>Scale: 1:1,000</p> |  <p>0 10 20 30 40 50 m</p> |
|---|---|--|

Figure 11: Identified Sites - Map 1 (Burbury Consulting/Department of State Growth)

3.0 FRAMEWORK FOR ASSESSMENT

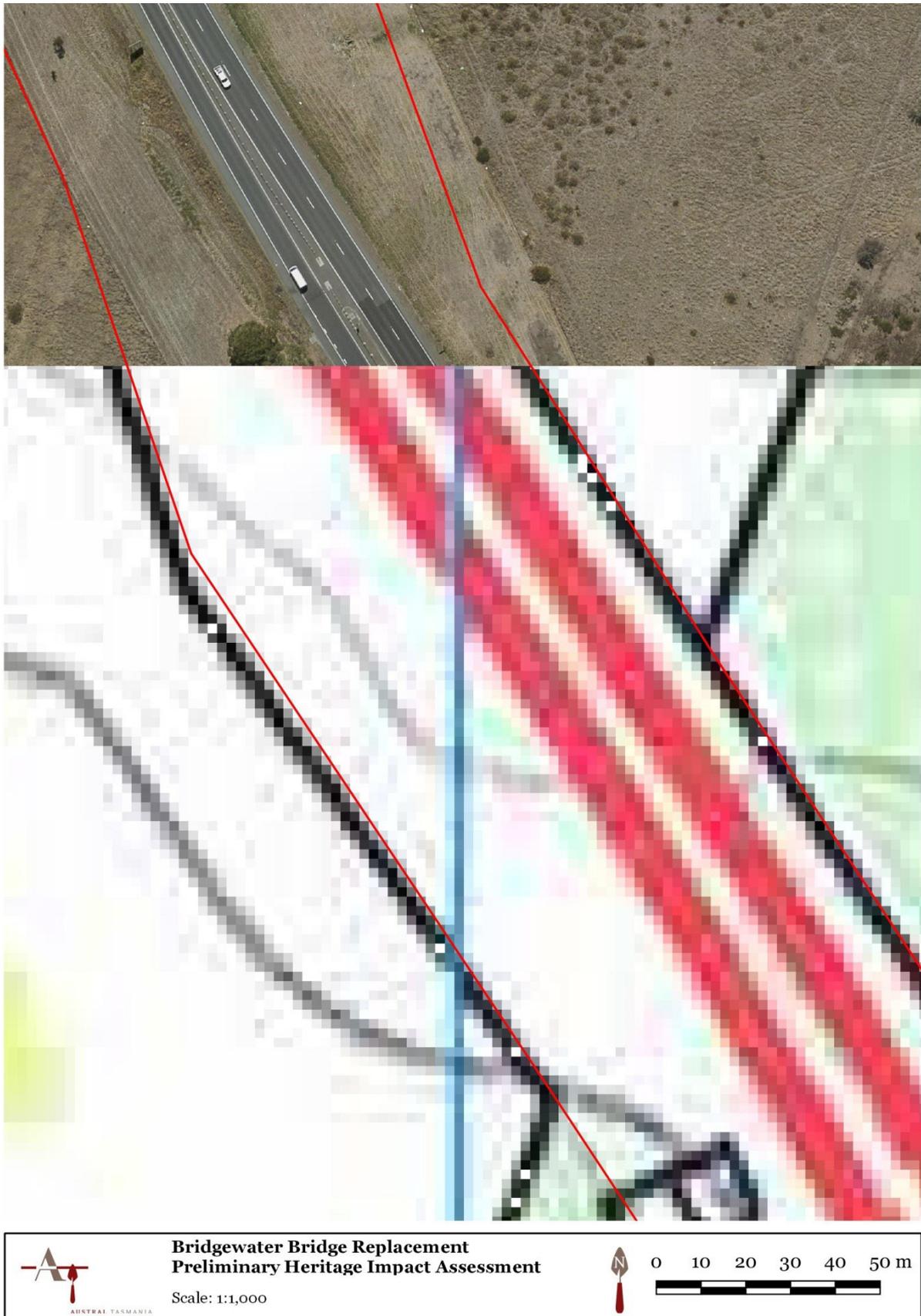


Figure 12: Identified Sites - Map 2 (Burbury Consulting/Department of State Growth)

3.0 FRAMEWORK FOR ASSESSMENT



 **Bridgewater Bridge Replacement
Preliminary Heritage Impact Assessment**  0 10 20 30 40 50 m
Scale: 1:1,000

Figure 13: Identified Sites - Map 3 (Burbury Consulting/Department of State Growth)

3.0 FRAMEWORK FOR ASSESSMENT



Figure 14: Identified Sites - Map 4 (Burbury Consulting/Department of State Growth)

3.0 FRAMEWORK FOR ASSESSMENT



Figure 15: Identified Sites - Map 5 (Burbury Consulting/Department of State Growth)

3.0 FRAMEWORK FOR ASSESSMENT

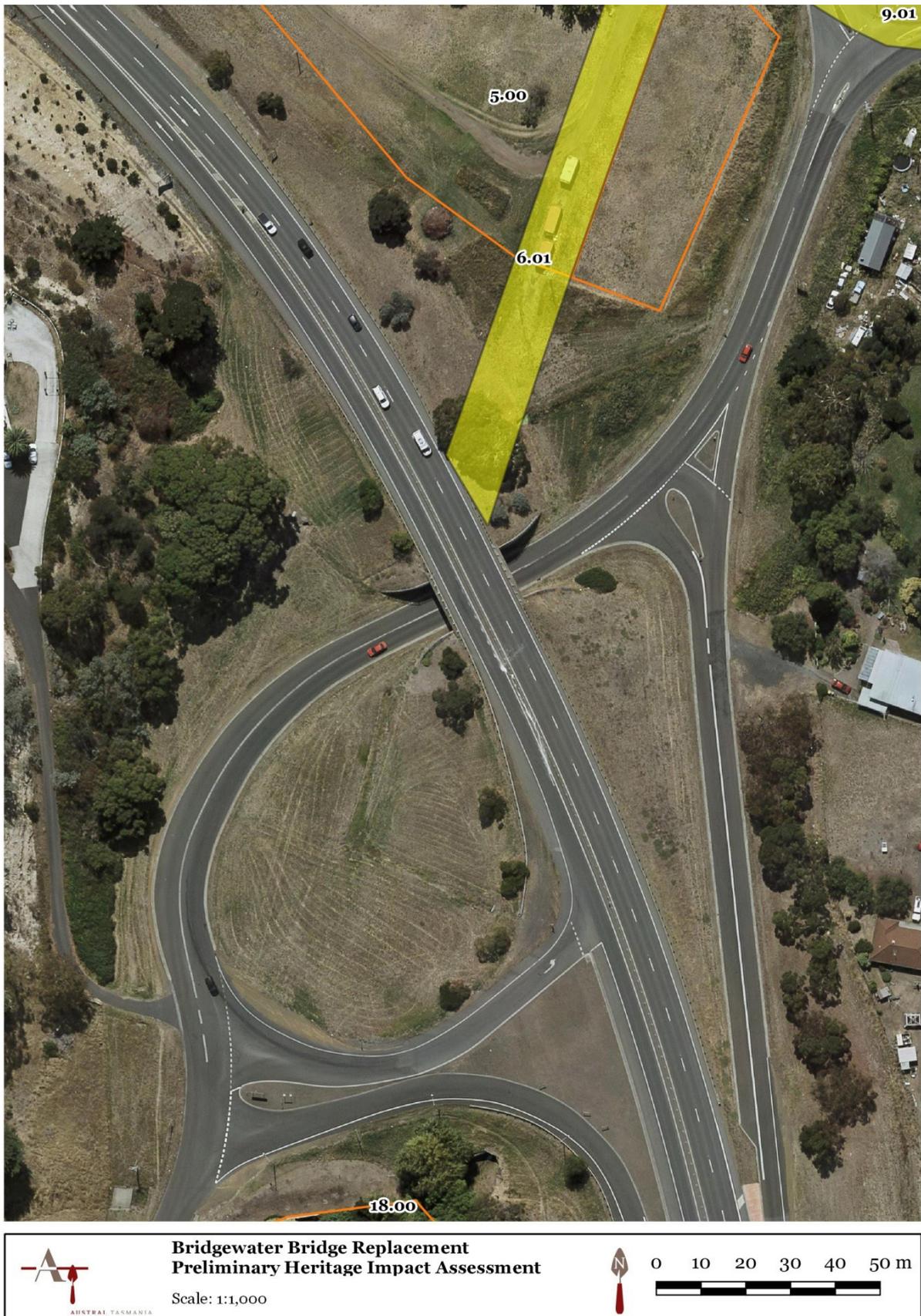


Figure 16: Identified Sites - Map 6 (Burbury Consulting/Department of State Growth)

3.0 FRAMEWORK FOR ASSESSMENT

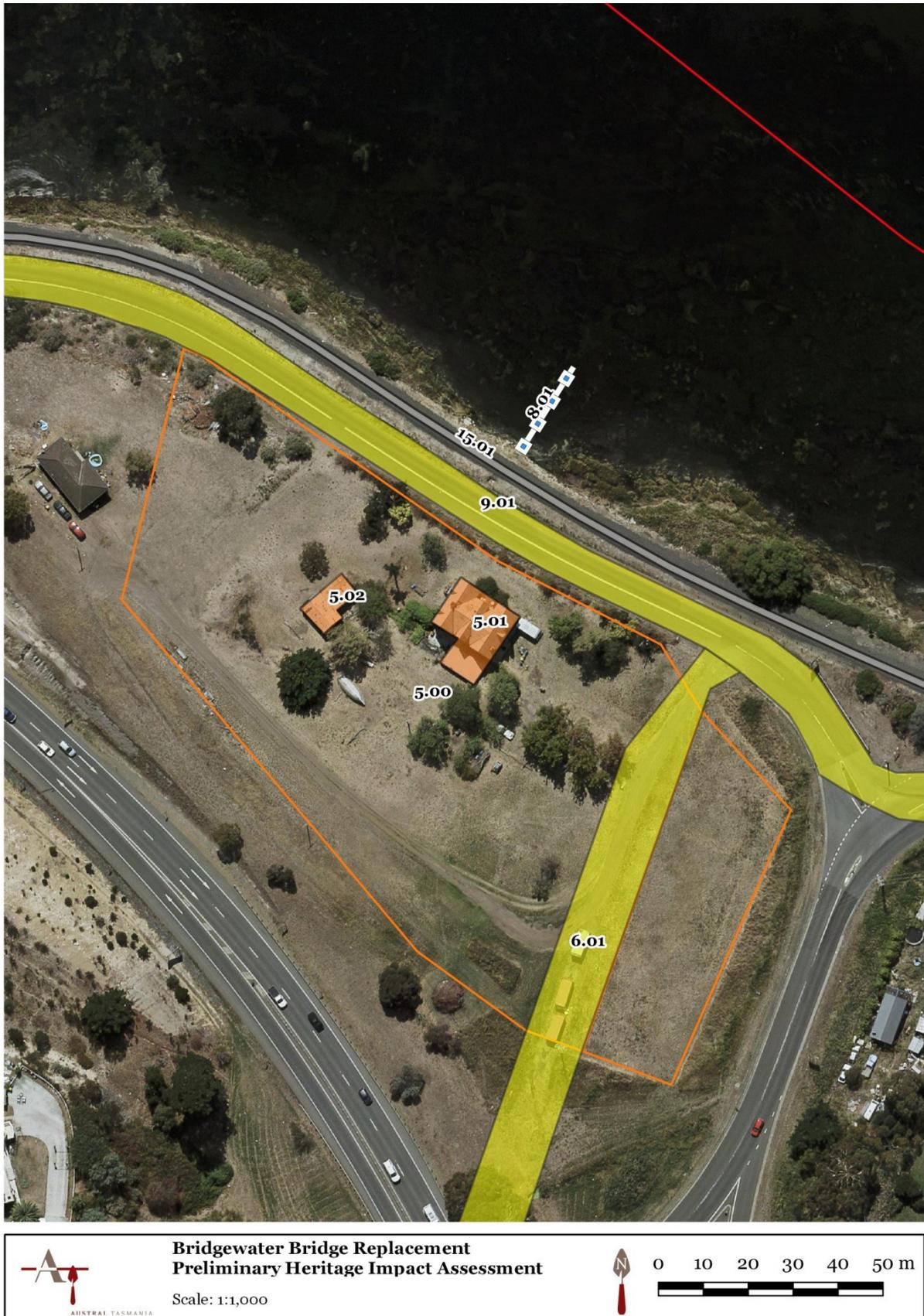


Figure 17: Identified Sites - Map 7 (Burbury Consulting/Department of State Growth)

3.0 FRAMEWORK FOR ASSESSMENT



Figure 18: Identified Sites - Map 8 (Burbury Consulting/Department of State Growth)

3.0 FRAMEWORK FOR ASSESSMENT



Figure 19: Identified Sites - Map 9 (Burbury Consulting/Department of State Growth)

3.0 FRAMEWORK FOR ASSESSMENT



Figure 20: Identified Sites - Map 10 (Burbury Consulting/Department of State Growth)

3.0 FRAMEWORK FOR ASSESSMENT



Figure 21: Identified Sites - Map 11 (Burbury Consulting/Department of State Growth)

3.0 FRAMEWORK FOR ASSESSMENT



Figure 22: Identified Sites - Map 12 (Burbury Consulting/Department of State Growth)

3.0 FRAMEWORK FOR ASSESSMENT



Figure 23: Identified Sites - Map 13 (Burbury Consulting/Department of State Growth)

3.0 FRAMEWORK FOR ASSESSMENT



Figure 24: Identified Sites - Map 14 (Burbury Consulting/Department of State Growth)

3.0 FRAMEWORK FOR ASSESSMENT



Figure 25: Identified Sites - Map 15 (Burbury Consulting/Department of State Growth)

3.0 FRAMEWORK FOR ASSESSMENT



Figure 26: Identified Sites - Map 16 (Burbury Consulting/Department of State Growth)

3.0 FRAMEWORK FOR ASSESSMENT



Figure 27: Identified Sites - Map 17 (Burbury Consulting/Department of State Growth)

3.0 FRAMEWORK FOR ASSESSMENT



Figure 28: Identified Sites - Map 18 (Burbury Consulting/Department of State Growth)

3.0 FRAMEWORK FOR ASSESSMENT



Figure 29: : Identified Sites - Map 19 (Burbury Consulting/Department of State Growth)

3.0 FRAMEWORK FOR ASSESSMENT

3.6 INVENTORY DATASHEETS

| I. BRIDGEWATER CAUSEWAY | |
|---|--|
| Heritage Status | THR 618, Bridgewater Bridge, Midland Highway, Brooker Highway, Granton and Bridgewater. The listing is composed of the causeway; ruins of previous bridges and the current road/rail bridge within the extent of the CPR plan. |
| Grid co-ordinates (AGD 94): | I.00 518405E/5267647N I.01 518344E/5266972N |
|  <p>Figure 1: Bridgewater Causeway (I.01), looking south from its northern end.</p>  <p>Figure 2: Western side of causeway, below the rail line, showing the sand and mudstone retaining wall, looking south.</p>  <p>Figure 3: Western side of causeway, below the rail line, showing the concrete retaining and mudstone wall, looking south.</p> | <p>Summary History:</p> <p>In 1830, a convict station at Granton was established for the construction of the Bridgewater Causeway. Early attempts at constructing piers in the sand and mud were found to be a failure due to the inability to find a solid bottom. The work was beset by controversy and labelled a 'folly' when the tons of stone dumped into the river were continually submerged in the mud and silt. By 1833 the causeway extended for some 365 metres. It was 28 metres wide at its base and 16 metres wide at the top. By the following year the causeway had reached a length of some 708 metres, reaching nearly its ultimate length. However, almost immediately the causeway had begun sinking into the mud. To address the problem, vegetation rafts were formed which supported the dumped stone above. The causeway was not completely finished until 1836.</p> <p>In 1863 the causeway was widened and raised by some 76 centimetres in attempt to avoid overtopping by the water. Low stone walls were constructed on both sides of the causeway to bind the new fill. It was again widened on the downstream side in 1874 to accommodate the Tasmanian Main Line Railway, and later in 1893 when the bridge was converted to combine both road and rail uses.</p> <p>Relevant Sources:</p> <p>Austral Tasmania, Bridgewater Causeway and Bridge: Historic Heritage Assessment and Archaeological Zoning Plan, AT02998, 12 November 2020</p> <p>Description:</p> <p>The Bridgewater Causeway (I.01) is a long linear earthen and stone embankment which extends in a northerly direction from the southern shore of the Derwent at Granton for a distance of some 730 m. It carries a two lane sealed road with raised earthen embankments on either side. The redundant rail line is located on its western side following its relocation in 1908. The outline of the causeway is somewhat irregular, particularly on its eastern side. It varies in width from approximately 20-30m. The height of the causeway rises at its northern end to connect with the Bridgewater Bridge.</p> <p>The western side of the causeway includes evidence of past modifications and widening. At the northern end, a low sand and mudstone retaining wall has been erected using roughly squared blocks, with several courses visible above the waterline. These works were carried out in 1863 to rectify the settlement of the causeway. Connecting at the south, the stone retaining wall has been topped with a concrete retaining wall which extends some 314 m. It would appear to be early-mid twentieth century in origin.</p> <p>Maps 8, 9, 10, 11 and 12 in Section 3.5 indicate the registration boundaries (orange lines) as depicted in CPR 10257.</p> |

3.0 FRAMEWORK FOR ASSESSMENT

| I. BRIDGEWATER CAUSEWAY | | |
|---|--|---|
| SIGNIFICANCE ASSESSMENT | | |
| Level of Significance: | State Significance | |
| Value | Key State/Local Threshold Indicators ¹⁰ | Justification |
| (a) the place is important to the course or pattern of Tasmania's history | <p><i>Demonstrates the occurrence of an event(s) at the place that was significant in Tasmania's history.</i></p> <p><i>A notable example of regional settlement that demonstrates an important period or phase in the wider settlement and development of Tasmania.</i></p> <p><i>Demonstrates an important historical period or phase in the history of Tasmania.</i></p> <p><i>Demonstrates a prominent period of economic prosperity or decline/depression in Tasmania.</i></p> <p><i>Demonstrates a notable period in the governance and administration of Tasmania.</i></p> <p><i>Notable example of the development of maritime and terrestrial civil infrastructure, transport and communications in Tasmania.</i></p> | <p>The Bridgewater Causeway forms part of a broader and significant cultural landscape which has historical importance with regard to the evolution of transport, and which concentrates at this point of the Derwent. Serviced first by ferries, then later the causeway, road and rail traffic, the place is arguably the focus of Tasmania's most historically important transport route.</p> <p>The causeway was one of the largest items of civil infrastructure constructed in Van Diemen's Land using convict labour. It demonstrates the scale of public works that could be carried out by convict labour, which was the key workforce available during the first half of the nineteenth century. The length of time to construct the causeway, and the methods used to address the very difficult geological conditions are a testament to the work carried out by the convict workers.</p> |
| (b) the place possesses uncommon or rare aspects of Tasmania's history | <p><i>One of few comparable places across Tasmania that is associated with/demonstrates an activity that was distinctive for what it achieved or so unusual in its nature it is now of particular interest to a community group.</i></p> <p><i>Demonstrates a distinctive attribute that is unique or uncommon in its occurrence across Tasmania.</i></p> | <p>The causeway is a rare place. It is one of only two causeways constructed in the state during the early nineteenth century using convict labour. It is considerably larger in length and volume than the Hunter Island causeway, being the other convict built causeway.</p> |
| (c) the place has the potential to yield information that will contribute to an understanding of Tasmania's history | <p><i>A comparative analysis suggests that further research at the place has the potential improve our understanding of Tasmania's past or archaeology of:</i></p> <p><i>to fill gaps in our existing knowledge of Tasmania's past.</i></p> <p><i>to inform/confirm unproven historical concepts or research questions relevant to Tasmania's past.</i></p> <p><i>to provide information about single or multiple periods of occupation or use.</i></p> <p><i>to yield site specific information which would contribute to an understanding of significance against other criteria.</i></p> | <p>The Bridgewater Causeway has archaeological research potential. Detailed documentary evidence of its construction methods is limited. It offers opportunities to understand civil engineering construction from the early nineteenth century and methods to address the very difficult geological conditions over an extended period.</p> |

¹⁰ Department of Primary Industries, Parks, Water and Environment, October 2011, Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995

3.0 FRAMEWORK FOR ASSESSMENT

| I. BRIDGEWATER CAUSEWAY | | |
|---|--|---|
| <p>(d) the place is important in demonstrating the principal characteristics of a class of place in Tasmania's history</p> | <p><i>A particularly fine example of the class in a state wide context, demonstrating a broad range of characteristics that are typical of the class such as aesthetic composition, design, architectural style, applied finish or decoration of historical importance.</i></p> <p><i>A particularly intact example of the class in a state wide, demonstrating a range of physical characteristics that typify the class and which remain mostly unchanged since built/created.</i></p> <p><i>A particularly fine, intact or pivotal example of the class in a state wide, representative of a class of places that demonstrate a construction method, engineering design, technology or use of materials, of historical importance.</i></p> <p><i>A particularly fine, intact or pivotal example of the class in a state wide, representative of a class of places that demonstrate an historical land use, function or process, of historical importance.</i></p> | <p>The Bridgewater Causeway is an important example of large scale civil infrastructure that was built during the first half of the nineteenth century using convict labour.</p> |
| <p>(f) the place has a strong or special association with a particular community or cultural group for social or spiritual reasons</p> | <p><i>A landmark that is visually prominent and possesses picturesque attributes or aesthetic qualities acknowledged by many Tasmanians.</i></p> <p><i>A place that symbolically represents some aspect of the past that a community or cultural group feels contributes to the identity of Tasmania.</i></p> | <p>A social values assessment has not been carried out for this project. The following provides an indicative statement of values which may exist at the place.</p> <p>The Bridgewater Causeway is a prominent landmarks and marks the northern entrance to Hobart. It has been the key crossing point of the Derwent since the 1830s.</p> <p>The causeway and bridge may have strong or special associations with engineers as a group. Engineers Australia has recognised the Bridge with an Engineering Heritage National Marker in 2018.</p> |
| <p>(g) the place has a special association with the life or works of a person, or group of persons, of importance in Tasmania's history</p> | <p><i>A key phase(s) in the establishment or subsequent development of the place were undertaken by, or directly influenced by, the important person(s) or organisation and that person(s) or organisation made an important contribution to the history of Tasmania.</i></p> <p><i>One or more achievements for which the person(s) or organisation are considered important are directly linked to the place and that person(s) or organisation made an important contribution to the history of Tasmania.</i></p> | <p>The Bridgewater Causeway has a special association with the work of convict labour in the construction of major civil engineering projects during the first half of the nineteenth century. It is among the largest items of infrastructure in Tasmania which demonstrates this association.</p> <p>The causeway is also important for its association with Governor Arthur and various government engineers and officials who designed and oversaw its construction. This includes Inspector of Roads and bridges Roderic O'Connor, and architect and engineer John Lee Archer.</p> |

3.0 FRAMEWORK FOR ASSESSMENT

I. BRIDGEWATER CAUSEWAY

REVIEW OF POTENTIAL IMPACTS

- Retention of the causeway
- Construction of a new bridge within proximity of the causeway.
- Will result in considerable changes in views to the causeway and its setting from adjacent vantage points (Appendix 4: Visual Study VPI0-v005-masked).

Impact Mitigation Recommendations

- Photographic Archival Recording has been undertaken in accordance with the Tasmanian Heritage Council's Practice Note 3: Procedure for Recording a Heritage Place
- Where possible, maintain views to the existing causeway from key locations.
- Integrate interpretation of the causeway within an overall interpretation program.

3.0 FRAMEWORK FOR ASSESSMENT

| 2. REMAINS OF EARLIER BRIDGEWATER ROAD AND RAIL BRIDGES | |
|---|--|
| Heritage Status | THR 618, Bridgewater Bridge, Midland Highway, Brooker Highway, Granton and Bridgewater The listing is composed of the causeway; ruins of previous bridges and the current road/rail bridge within the extent of the CPR plan. |
| Grid co-ordinates (AGD 94): | 1.00 518405E/5267647N 2.01 518518E/5268029N 2.02 518449E/5267688N 2.03 518540E/5268033N 2.04 518426E/5267719N 2.05 518455E/5267977N 2.06 518471E/5268075N |
|  <p style="font-size: small; margin-top: 5px;">Figure 4: Looking south to the 1874 southern bridge abutments (2.02), located towards the northern end of the causeway</p> | <p>Summary History:</p> <p>From 1849, a series of road and later rail bridges were erected from the northern end of the causeway and connecting to Bridgewater. The sequencing of the bridges and their uses is somewhat complex.</p> <p>The first bridge was constructed in 1848-49 to span the gap in the Derwent of 340 metres. It made landfall to the east, downward side of the current bridge. The contract for its construction was awarded to Messrs. Thomas and Blackburn in early 1847. To allow for river navigation upstream to New Norfolk, the bridge (and all subsequent structures) included moving spans. Originally a swing span was proposed for Bridgewater, but this was substituted with a rolling span.</p> <p>This was followed by the construction of the Tasmanian Main Line Railway bridge in 1874, which was also located to the east of the current bridge. The bridge also required a moving span and a lattice girder iron bridge was installed which pivoted on a turntable.</p> <p>By 1888, the 1849 road bridge was declared unsafe. However, without other options, it continued to be used. In 1891 a contract was awarded for the construction of a new road bridge. Like all previous, it included a swing span, which was fabricated in England and completed in 1893. The new bridge was upstream, or to the west of the 1849 bridge. In 1906-07 works were carried out to modify the 1893 bridge to take rail traffic, meanwhile the old 1874 rail bridge was converted to road traffic in 1908.</p> <p>Relevant Sources:</p> <p>Austral Tasmania, Bridgewater Causeway and Bridge: Historic Heritage Assessment and Archaeological Zoning Plan, AT02998, 12 November 2020</p> |
|  <p style="font-size: small; margin-top: 5px;">Figure 5: Looking north to the northern abutments of the 1874 bridge on the riverbank (2.03), largely obscured by vegetation.</p> | |

3.0 FRAMEWORK FOR ASSESSMENT

2. REMAINS OF EARLIER BRIDGEWATER ROAD AND RAIL BRIDGES

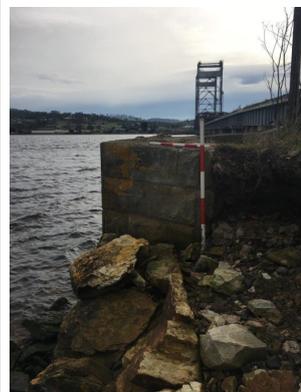


Figure 6: Looking north to the southern stone abutments of the 1893 bridge (2.04), located at the northern end of the causeway, western side.

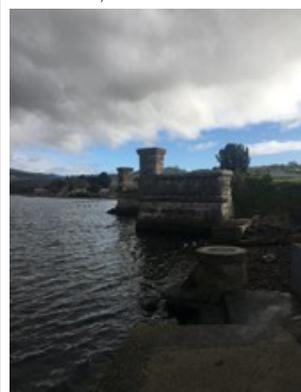


Figure 7: The sandstone wingwalls, abutments and pylons of the 1893 bridge (2.06), looking west.

Description:

Historic bridge infrastructure from a series of previous bridges exists at both the northern end of the causeway, and on the northern shore of the Derwent.

An area of subsurface archaeological potential (2.01) has been defined on the northern river bank and where evidence of the 1849 bridge abutments may survive. This is located to the east of the existing bridge.

The oldest features are the abutments of the 1874 railway bridge. The southern abutment is located towards the northern end of the causeway, on its eastern side (2.02). Consisting of roughly dressed sand and bluestone blocks and forms the corner of the abutment, measuring approximately 2m long on its northern side and 10m long on the east, it is several metres high. The northern abutment is located on the northern river bank (2.03), to the east of the extant bridge, and is constructed from roughly formed stone. It is largely obscured by vegetation, and, is approximately 2m tall, with an exposed section approximately 3m long. It is possible that subsurface evidence of the 1849 bridge abutments is located to the west of this feature, but was not visible at the time of the site inspection.

The remains of the 1893 bridge are located on the western side of the northern end of the causeway. The southern abutments of the 1893 bridge (2.04) are formed from massive roughly worked stone, over 1 m in height and formed as a corner abutment. The concrete and steel caisson is located approximately 260m to the north, to the west of the extant structure (2.05). It is elliptical with dimensions of approximately 10x6.5m. Historically it was the pivot for the swing span of the 1893 bridge. Extensive remains of the northern abutments are found on the waterfront, to the west of the existing bridge (2.06). They are formed from massive worked sandstone wingwalls, abutments and pylons. They extend over a distance of approximately 35m.

Maps I2 and I3 in Section 3.5 indicate the registration boundaries (orange lines) as depicted in CPR 10257.

3.0 FRAMEWORK FOR ASSESSMENT

| 2. REMAINS OF EARLIER BRIDGEWATER ROAD AND RAIL BRIDGES | | |
|--|--|---|
| SIGNIFICANCE ASSESSMENT | | |
| Level of Significance: | State Significance | |
| Value | Key State/Local Threshold Indicators ¹¹ | Justification |
| (a) the place is important to the course or pattern of Tasmania's history | <p><i>Demonstrates the occurrence of an event(s) at the place that was significant in Tasmania's history.</i></p> <p><i>A notable example of regional settlement that demonstrates an important period or phase in the wider settlement and development of Tasmania.</i></p> <p><i>Demonstrates an important historical period or phase in the history of Tasmania.</i></p> <p><i>Demonstrates a prominent period of economic prosperity or decline/depression in Tasmania.</i></p> <p><i>Demonstrates a notable period in the governance and administration of Tasmania.</i></p> <p><i>Notable example of the development of maritime and terrestrial civil infrastructure, transport and communications in Tasmania.</i></p> | <p>The Bridgewater Causeway and Bridge forms part of a broader and significant cultural landscape which has historical importance with regard to the evolution of transport, and which concentrates at this point of the Derwent.</p> <p>Following completion, the causeway formed the point of construction for all future bridges. Evidence of the 1874 and 1893 bridges exists on the causeway and northern bank of the Derwent. Subsurface evidence of the 1849 bridge abutments may also exist on the northern bank.</p> |
| (c) the place has the potential to yield information that will contribute to an understanding of Tasmania's history | <p><i>A comparative analysis suggests that further research at the place has the potential improve our understanding of Tasmania's past or archaeology of:</i></p> <p><i>to fill gaps in our existing knowledge of Tasmania's past.</i></p> <p><i>to inform/confirm unproven historical concepts or research questions relevant to Tasmania's past.</i></p> <p><i>to provide information about single or multiple periods of occupation or use.</i></p> <p><i>to yield site specific information which would contribute to an understanding of significance against other criteria.</i></p> | <p>The historic bridge remains have the potential to yield information which may contribute to a greater understanding of early civil engineering and construction projects, and the history of transport and communications in Tasmania. Conserve the island platform, but no further direct conservation actions are necessary.</p> |
| REVIEW OF POTENTIAL IMPACTS | | |
| <ul style="list-style-type: none"> Proposal involves the construction of a new bridge adjacent to the location of the existing bridge. The Chosen Design abutment is to the east of the existing bridge and features of the historic rail and bridge infrastructure (MPIS Appendix AA Drawing 10.02.05 0007 - GENERAL ARRANGEMENT SHEET 03) and as such there will be no direct negative impact to values inherent in the fabric at the northern end of the causeway including features 2.02 and 2.04 and on the northern river bank with features 2.01 and 2.03, <p>Impact Mitigation Recommendations</p> <ul style="list-style-type: none"> Conserve the extant features, but no further direct conservation actions are necessary. Given that there are no direct impacts to the fabric of the historic rail and bridge infrastructure general project mitigating measures regarding in-direct mitigation are sufficient. | | |

¹¹ Department of Primary Industries, Parks, Water and Environment, October 2011, *Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995*

3.0 FRAMEWORK FOR ASSESSMENT

| 3. BRIDGEWATER BRIDGE | |
|---|--|
| Heritage Status | THR 618, Bridgewater Bridge, Midland Highway, Brooker Highway, Granton and Bridgewater The listing is composed of the causeway; ruins of previous bridges and the current road/rail bridge within the extent of the CPR plan. |
| Grid co-ordinates (AGD 94) | 1.00 518405E/5267647N 3.01 518433E/5267719N-518500E/5268049N |
|  <p>Figure 8: er Bridge (3.01) with its towers and lifting span, flanked by approach Pratt style through trusses on either end.</p> | <p>Summary History:</p> <p>The extant Bridgewater Bridge was constructed in 1942 to the design of Allan Knight whilst Chief Engineer with the Department of Public Works, with specialist input by David Isaacs who advised on the welding details.</p> <p>To maintain the essential transport connections, the new bridge would need to be built between the existing road and rail bridges. With such a constraint and the narrow distance between the two existing bridges, it would not be possible to construct a swing bridge. Initially the department favoured a bascule type of lifting span, but later came to favour a lift span.</p> <p>The bridge opened to road traffic in March 1942 once the lift span had been installed, although it was to take several years before the lift span came into operation. The new bridge started carrying rail in October 1946.</p> <p>Relevant Sources:</p> <p>Austral Tasmania, Bridgewater Causeway and Bridge: Historic Heritage Assessment and Archaeological Zoning Plan, AT02998, 12 November 2020</p> |
|  <p>Figure 9: Western side of causeway, below the rail line, showing the sand and mudstone retaining wall, looking south.</p> | <p>Description:</p> <p>The Bridgewater Bridge (3.01) connects the causeway with the northern shore of the Derwent.</p> <p>The bridge is a steel welded Pratt through truss of some 338 metres in length. The bridge is formed from 11 simple steel girder spans, the lift span and the two towers at either end which support the lift. The abutments are supported by timber piles, while the simple spans are held by composite timber and concrete piles. The towers are supported by concrete caissons. The roadway is some 7.75m wide with a concrete footpath on the eastern side, and redundant rail line on the western line. The central lift span is 42.9m wide, with the two flanking truss spans on either end and 48.9m long.</p> <p>The bridge has reinforced concrete piers on concrete encased timber piles with the piers supporting the lift span towers, which are constructed on reinforced concrete caissons. There are twelve approach spans flanking the lift span: nine to the south and three to the north. They utilise welded plate girders with a concrete deck. The trussed flanking spans also have concrete decks.</p> <p>The lift span and flanking spans are of strong, stiff and lightweight trussed construction, being through trusses of the Pratt type. The 42.9 metre lift span weighs approximately 350 tonnes. The lift provides a clear opening between the piers of 36.5 metres.</p> <p>The lift span is counterbalanced by two large concrete counterweights. In turn, these are held by six 44mm wire ropes at each end which pass over a large diameter cast sheave with two grooved sheaves mounted on top of each tower.</p> <p>Maps 12 and 13 in Section 3.5 indicate the registration boundaries (orange lines) as depicted in CPR 10257.</p> |
|  <p>Figure 10: Western side of causeway, below the rail line, showing the concrete retaining and mudstone wall, looking south.</p> | |

3.0 FRAMEWORK FOR ASSESSMENT

| 3. BRIDGEWATER BRIDGE | | |
|---|--|---|
| SIGNIFICANCE ASSESSMENT | | |
| Level of Significance: | State Significance | |
| Value | Key State/Local Threshold Indicators ¹² | Justification |
| (a) the place is important to the course or pattern of Tasmania's history | <p><i>Demonstrates the occurrence of an event(s) at the place that was significant in Tasmania's history.</i></p> <p><i>A notable example of regional settlement that demonstrates an important period or phase in the wider settlement and development of Tasmania.</i></p> <p><i>Demonstrates an important historical period or phase in the history of Tasmania.</i></p> <p><i>Demonstrates a prominent period of economic prosperity or decline/depression in Tasmania.</i></p> <p><i>Demonstrates a notable period in the governance and administration of Tasmania.</i></p> <p><i>Notable association with changing demographic factors across Tasmania or in the local area, through colonisation, forced/free migration, and human loss due to epidemic, war, etc.</i></p> <p><i>Notable example of industrialisation extending across a region or state wide.</i></p> <p><i>Notable example of the development of maritime and terrestrial civil infrastructure, transport and communications in Tasmania.</i></p> <p><i>Notable example of the development and application of technology in Tasmania.</i></p> <p><i>Notable example of diversity on a state-wide basis, differing types of activity/development, or differing periods of development related to the same activity.</i></p> | <p>The Bridgewater Causeway and Bridge forms part of a broader and significant cultural landscape which has historical importance with regard to the evolution of transport, and which concentrates at this point of the River Derwent.</p> <p>Serviced first by ferries, then later the causeway, road and rail traffic bridges, the place is arguably the focus of Tasmania's most historically important transport route.</p> <p>The current Bridgewater Bridge is of historical importance in demonstrating the development of civil infrastructure by the Public Works Department, during a period of great innovation and technical advancement in the 1930s.</p> <p>The bridge is also historically significant with its association with a major phase of industrialisation in Tasmania, and in particular the development of the paper industry in the Derwent Valley. The bridge was specifically designed to help facilitate this industry through the provision of both rail and river navigation capabilities.</p> |
| (b) the place possesses uncommon or rare aspects of Tasmania's history | <p><i>One of few comparable places across Tasmania that is associated with/demonstrates an activity that was distinctive for what it achieved or so unusual in its nature it is now of particular interest to a community group.</i></p> <p><i>Demonstrates a distinctive attribute that is unique or uncommon in its occurrence across Tasmania.</i></p> <p><i>Demonstrates a composition of attributes that is unique or uncommon in its occurrence across Tasmania.</i></p> | <p>The Bridgewater Bridge was Tasmania's second, and is the only surviving lift span bridge. It is also the largest surviving lift span bridge in Australia. It is the largest and one of relatively few metal truss road bridges in Tasmania, and is a relatively early example of an all welded bridge.</p> |

¹² Department of Primary Industries, Parks, Water and Environment, October 2011, Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995

3.0 FRAMEWORK FOR ASSESSMENT

| 3. BRIDGEWATER BRIDGE | | |
|--|--|---|
| <p>(c) the place has the potential to yield information that will contribute to an understanding of Tasmania's history</p> | <p><i>A comparative analysis suggests that further research at the place has the potential improve our understanding of Tasmania's past or archaeology of:</i></p> <p><i>to fill gaps in our existing knowledge of Tasmania's past.</i></p> <p><i>to inform/confirm unproven historical concepts or research questions relevant to Tasmania's past.</i></p> <p><i>to provide information about single or multiple periods of occupation or use.</i></p> <p><i>to yield site specific information which would contribute to an understanding of significance against other criteria</i></p> | <p>The Bridgewater Bridge has research potential to provide new information on bridge design and construction, and in particular, advances made in welding details, and their long term performance.</p> |
| <p>(d) the place is important in demonstrating the principal characteristics of a class of place in Tasmania's history</p> | <p><i>A particularly fine example of the class in a state wide context, demonstrating a broad range of characteristics that are typical of the class such as aesthetic composition, design, architectural style, applied finish or decoration of historical importance.</i></p> <p><i>A particularly intact example of the class in a state wide, demonstrating a range of physical characteristics that typify the class and which remain mostly unchanged since built/created.</i></p> <p><i>A particularly fine, intact or pivotal example of the class in a state wide, representative of a class of places that demonstrate a construction method, engineering design, technology or use of materials, of historical importance.</i></p> <p><i>A particularly fine, intact or pivotal example of the class in a state wide, representative of a class of places that demonstrate an historical land use, function or process, of historical importance.</i></p> | <p>The Bridgewater Bridge is important in demonstrating the key characteristics of a lift span metal truss road bridge. It is a 'Pratt' type of truss in a half-through configuration. The truss consists of vertical diagonals that slope down towards the centre. Constructed from welded steel, the bridge demonstrates the essential truss form of light weight construction with a hollow skeletal structure formed from vertical, horizontal and diagonal chords creating the essential triangular section of the truss bridge type.</p> |
| <p>(e) the place is important in demonstrating a high degree of creative or technical achievement</p> | <p><i>Creative and technical achievements that influenced techniques used within the discipline/industry, or influenced outcomes at other places.</i></p> <p><i>Unusual in its nature, size, or application within such a context or otherwise of particular interest in a state-wide comparison of similar places.</i></p> | <p>The Bridgewater Bridge is important in demonstrating a high degree of technical achievement. The steel truss approach spans and the lift span demonstrate the early use of all welded connections in steel truss bridges and the early adoption of design details specifically to address the issue of fatigue. It was designed and constructed some ten years after the world's first all welded bridge, and within a number of years of Tasmania's entry into this technology. Recent investigations have shown that some of the details originally incorporated to reduce susceptibility to metal fatigue are now considered susceptible to fatigue.</p> <p>Innovative research was carried out and the weld details were designed to address problems with fatigue and brittle fracture.</p> |

3.0 FRAMEWORK FOR ASSESSMENT

| 3. BRIDGEWATER BRIDGE | | |
|---|--|--|
| <p>(f) the place has a strong or special association with a particular community or cultural group for social or spiritual reasons</p> | <p><i>A landmark that is visually prominent and possesses picturesque attributes or aesthetic qualities acknowledged by many Tasmanians.</i></p> <p><i>A place that symbolically represents some aspect of the past that a community or cultural group feels contributes to the identity of Tasmania.</i></p> | <p>A social values assessment has not been carried out for this project. The following provides an indicative statement of values which may exist at the place.</p> <p>The Bridgewater Causeway and Bridge are prominent landmarks and mark the northern entrance to Hobart. It has been the key crossing point of the Derwent since the 1830s.</p> <p>The causeway and bridge may have strong or special associations with engineers as a group. Engineers Australia has recognised the Bridge with an Engineering Heritage National Marker in 2018.</p> |
| <p>(g) the place has a special association with the life or works of a person, or group of persons, of importance in Tasmania's history</p> | <p><i>A key phase(s) in the establishment or subsequent development of the place were undertaken by, or directly influenced by, the important person(s) or organisation and that person(s) or organisation made an important contribution to the history of Tasmania.</i></p> <p><i>One or more achievements for which the person(s) or organisation are considered important are directly linked to the place and that person(s) or organisation made an important contribution to the history of Tasmania.</i></p> | <p>The Bridgewater Bridge is an important example of the work of engineer Sir Allan Knight. Knight enjoyed a highly successful career with the Public Works Department and later the Hydro Electric Commission.</p> <p>He was the designer of a number of technologically advanced bridges including at Vincents Rivulet and the Leven River, and was closely involved with the three bridges across the Derwent – the floating bridge at Hobart, Bridgewater Bridge and the Tasman Bridge.</p> <p>Knight received many awards and honours during his career and was made a Knight Bachelor in 1970.</p> |
| <p>(h) the place is important in exhibiting particular aesthetic characteristics</p> | <p>The Assessment Guidelines have not been updated to include the aesthetic criterion in accordance with the standard template used for the other criteria. However, the Guidelines do provide some discussion of this value generally, although not within a context of setting thresholds between State and local places.¹³ The place is assessed against the following general information:</p> <p>Typical inclusion parameters include:</p> <ol style="list-style-type: none"> 1. The place being of landmark quality; 2. The place having, or contributing to, its setting or important vistas; and 3. Buildings that sit well within their landscape due to the use of local materials, form, scale or massing. <p>In the case of a heritage area, the individual components will collectively form a streetscape, townscape or cultural environment with significant aesthetic characteristics.</p> | <p>The Bridgewater Bridge is the dominant visual landmark in an aesthetically important landscape, strongly associated with the evolution of transport. This evidence is layered in the landscape, and includes large and small elements.</p> <p>The bridge with its high towers and distinctive truss forms are landmarks of the area, with important views to the structure available from surrounding road networks.</p> |

¹³ Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995, p.27

3.0 FRAMEWORK FOR ASSESSMENT

3. BRIDGEWATER BRIDGE

REVIEW OF POTENTIAL IMPACTS

- The proposal involves the construction of a new bridge and removal of the existing. This will destroy all values inherent in the fabric of the bridge, save perhaps the salvage of some elements for interpretive purposes.
- The proposal will destroy the landmark qualities of the existing bridge.
- The Retention Options Analysis Report outlines a detailed assessment of retention options by an interdisciplinary team. In addition to technical considerations there is concern that the retention of the existing bridge will result in an impact to the setting, context and cultural landscape of the crossing.

Impact Mitigation Recommendations

- The extent of impacts to the bridge are substantial if not total, and mitigation options are likely to be limited.
- An archival record of the bridge has been prepared, in accordance with the Tasmanian Heritage Council's Practice Note 3: *Procedure for Recording a Heritage Place* and other best practice guides with regard to film and digital capture.
- Interpretation planning should consider salvage of elements of the Bridgewater Bridge, for reuse in interpretive or landscape works. Ensure meaningful interpretation. Retain the bridge caissons to interpret the alignment of the bridge.
- Maintain an archival record of the bridge for managed public research, including plans, surveys, studies and photographs.

3.0 FRAMEWORK FOR ASSESSMENT

| 4. BRIDGEWATER RAILWAY STATION | |
|---|---|
| Heritage Status | <i>Brighton Local Provisions Schedule 2021, BRI-Table C6.1.1, Bridgewater Railway Station, CT154431/1, CT154459/1, CT154468/1, CT154472/1 CT118026/2 & 3 and adjoining untitled parcels</i> |
| Grid co-ordinates (AGD 94): | 4.00 518511E/5268115N 4.01 518494E/5268152N |
|  <p style="font-size: small; margin-top: 5px;"><i>Figure 11: Looking south east along the island platform (4.01), with bridge in background.</i></p>  <p style="font-size: small; margin-top: 5px;"><i>Figure 12: Looking north west along the island platform (4.01).</i></p> | <p>Summary History:</p> <p>The first railway station at Bridgewater was constructed in 1876, following the completion of the Main Line Railway. A ticket box was added 18 months later, with the complex including a two storey signal box and timber station building. The signal box controlled the level crossing over the main road. Further safety and signalling equipment was added after 1886 following a rail derailment. In 1887, the Bridgewater Station became an important junction of the Main Line and Derwent Valley lines, with the construction of a new station, platform and yards. A turntable, engine, shed, stockyards and station master's residence were also established.</p> <p>Updated infrastructure and improved safety operations followed the 1890 government takeover of the Main Line Railway. In 1908 the rail bridge was converted to both rail and road uses, with the track continuing on to Bridgewater, making the existing stations redundant. As a result, a new large station was constructed on the eastern side of the new rail alignment, adjacent to the bridge abutments. The new signal box was erected above the water on piles. A set of points were located to the north of the new station, forming the junction between the Main Line and Derwent Valley lines.</p> <p>The construction of the current Bridgewater Bridge in 1937-47 resulted in a major reconfiguration. The earlier station was demolished and a new one erected a concrete island platform. A footbridge connected the station with the Main Road, and a rail loop was constructed to the north for the connection between the two lines.</p> <p>Fire destroyed the station building in 1951, and it was replaced with a new brick structure. Further damage occurred during the 1967 fires.</p> <p>The rationalisation of rail services during the 1970s and construction of the 'wye' north of Boyer Road in 1980 made that Bridgewater Station less important. It was eventually unattended and demolished in 1997.</p> <p>Relevant Sources:</p> <p>Austral Archaeology, National Highway Approach to Hobart - Bridgewater Planning Study - Heritage Assessment, Stage I Volume 2, DRAFT, September 1997, pp.13-15.</p> |
| | <p>Description:</p> <p>Very little remains of the former railway station, save the central concrete island platform (4.01) and the adjacent redundant rail lines.</p> <p>Maps 13 and 14 in Section 3.5 indicates the registration boundaries (orange lines) as defined by CT154431/1, CT154459/1, CT154468/1, CT154472/1 CT118026/2 & 3 and adjoining untitled parcels.</p> |

3.0 FRAMEWORK FOR ASSESSMENT

| 4. BRIDGEWATER RAILWAY STATION | | |
|---|--|---|
| SIGNIFICANCE ASSESSMENT | | |
| Level of Significance: | State Significance | |
| Value | Key State/Local Threshold Indicators ¹⁴ | Justification |
| (a) the place is important to the course or pattern of Tasmania's history | <p><i>A notable example of regional settlement that demonstrates an important period or phase in the wider settlement and development of Tasmania.</i></p> <p><i>Demonstrates an important historical period or phase in the history of Tasmania.</i></p> <p><i>Demonstrates a prominent period of economic prosperity or decline/depression in Tasmania.</i></p> <p><i>Notable example of industrialisation extending across a region.</i></p> <p><i>Notable example of the development of maritime and terrestrial civil infrastructure, transport and communications in the local area.</i></p> | <p>The Bridgewater Railway station site has some association with the evolution of rail technologies and services from 1874 to the 1990s, and the development of Bridgewater as an important rail junction. Very little survives from these previous phases of development.</p> |
| (f) the place has a strong or special association with a particular community or cultural group for social or spiritual reasons | <p><i>A place that symbolically represents some aspect of the past that a community or cultural group feels contributes to the identity of the local area.</i></p> | <p>A social values assessment has not been carried out for this project. The following provides an indicative statement of values which may exist at the place.</p> <p>The Bridgewater Railway station may have strong or special meaning to the local community because of its longstanding role in providing transport. This value is likely to have been diminished by the removal of most fabric.</p> |
| <p>STATEMENT OF LOCAL HISTORIC HERITAGE SIGNIFICANCE AND HISTORIC HERITAGE VALUES</p> <p>Remains of the former railway station, being the central concrete island platform and the adjacent redundant rail lines.</p> <p>Significant because of:</p> <p>(a) Its role in, representation of, or potential for contributing to the understanding of:</p> <p>(a)(i) Local history including – The Bridgewater Railway station site has some association with the evolution of rail technologies and services from 1874 to the 1990s, and the development of Bridgewater as an important rail junction. Very little survives from these previous phases of development.</p> <p>(a)(ii) Creative or technical achievements - Not applicable.</p> <p>(a)(iii) A class of building or place that exhibits - Not applicable.</p> <p>(a)(iv) Aesthetic characteristics including - Not applicable.</p> <p>(b) Its association with:</p> <p>(b)(i) A particular community for social or spiritual reasons being – The Bridgewater Railway station may have association with the local community because of its longstanding role in providing transport. This value is likely to have been diminished by the removal of most fabric.</p> <p>(b)(ii) The life or works of – Not applicable.</p> | | |
| <p>REVIEW OF POTENTIAL IMPACTS</p> <p>The proposal presents no direct impacts to the island railway platform.</p> <p>Impact Mitigation Recommendations</p> <p>Conserve the island platform, but no further direct conservation actions are necessary.</p> | | |

¹⁴ Department of Primary Industries, Parks, Water and Environment, October 2011, Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995

3.0 FRAMEWORK FOR ASSESSMENT

| 5. BLACK SNAKE INN, 650 MAIN ROAD, GRANTON | |
|--|--|
| Heritage Status | THR 1612, Former Black Snake Inn, 650 Main Road, Granton <i>Glenorchy Local Provisions Schedule 2021, GLE-C6.1.179, Black Snake Inn, 650 Main Road Granton. General description: "dwelling and outbuildings", CTs 246061/1, 119210/1</i> |
| Grid co-ordinates (AGD 94): | 5.00 518694E/ 5266758N 5.01 518743E/ 5266780N 5.02 518716E/ 5266786N |
|  <p><i>Figure 13: Façade of Black Snake Inn (5.01), looking south west, with remnant hawthorn hedgerow lining main road.</i></p>  <p><i>Figure 14: Façade and western elevation of Black Snake Inn (5.01)</i></p>  <p><i>Figure 15: Historic timber outbuilding (5.02), looking south.</i></p> | <p>Summary History:</p> <p>Travellers were the first non-indigenous visitors to Black Snake Point following the first years of European settlement. The first Black Snake Inn was probably constructed between 1817 and 1821 by which time a ferry crossing the Derwent was in operation from the location. This also corresponds with the period when travel became more frequent with the completion of the road constructed by McCarty between Hobart and New Norfolk in 1819, Tasmania's first formed road. A population centre had emerged at Black Snake. In 1824, 23 children were attending school in the area.</p> <p>Early depictions provide different perspectives of the inn. However, during the late 1820s or early 1830s the current gothic inspired building was constructed, presumably on the same site as the first inn.</p> <p>An 1830 description noted that the building contained five rooms and kitchen, with a good garden, stable, fowl houses and stockyards. A few years later in 1835, a further advertisement described the inn as having 15 rooms, namely 3 large parlours, 2 well finished sitting rooms, 6 up-stairs rooms, 4 of which were neatly finished. The kitchen contains a large oven, dresser, &c. with bed-room and store-room attached. The stables were large, with coach-house, piggery, and fowl-house; also a large garden well stocked with fruit trees &c. of the choicest kind.</p> <p>The marked differences between the 1830 and 1835 descriptions supports the suggestion that the original inn was replaced in this period by a larger building with upgraded facilities to take advantage of the increase in passing trade. By this time, the inn had diversified and offered both ferry and coach transport to travellers. Throughout its life the inn has functioned as a public house, shop and currently is a private residence.</p> <p>Relevant Sources:</p> <p>Austral Tasmania, Bridgewater Causeway and Bridge: Historic Heritage Assessment and Archaeological Zoning Plan, AT02998, 12 November 2020</p> <p>Description:</p> <p>An unusual Gothic building, with two steeply pitched front projecting gables and a smaller one between. Decorative bargeboards, upper level oriel windows and decorative quoins are features of the building. Between the projecting end bays is a central double door entrance with transom light, flanked by windows with terrace over. There are two gabled dormers along a side set into the roof/wall structure overlooking the river.</p> |

3.0 FRAMEWORK FOR ASSESSMENT

| 5. BLACK SNAKE INN, 650 MAIN ROAD, GRANTON | | |
|---|---|---|
| SIGNIFICANCE ASSESSMENT | | |
| Level of Significance: | State Significance | |
| Value | Key State/Local Threshold Indicators ¹⁵ | Justification |
| (a) the place is important to the course or pattern of Tasmania's history | <p><i>A notable example of regional settlement that demonstrates an important period or phase in the wider settlement and development of Tasmania.</i></p> <p><i>Demonstrates an important historical period or phase in the history of Tasmania.</i></p> <p><i>Demonstrates a prominent period of economic prosperity or decline/depression in Tasmania.</i></p> <p><i>Notable example of the development of maritime and terrestrial civil infrastructure, transport and communications in Tasmania.</i></p> | The Black Snake Inn is of historical significance for demonstrating the early provision, and evolution of inns, responding to both vehicle and ferry trade. It demonstrates the importance of the north-south route connecting Hobart with Launceston, and also transport links to New Norfolk. |
| (b) the place possesses uncommon or rare aspects of Tasmania's history | <p><i>One of few comparable places across Tasmania that is associated with/demonstrates an activity that was distinctive for what it achieved or so unusual in its nature it is now of particular interest to a community group.</i></p> <p><i>Demonstrates a distinctive attribute that is unique or uncommon in its occurrence across Tasmania.</i></p> | The Black Snake Inn is a rare surviving example of a staging inn which combined accommodation with road and ferry services. Other similar operations existed at Austin's Ferry and Roseneath. |
| (c) the place has the potential to yield information that will contribute to an understanding of Tasmania's history | <p><i>A comparative analysis suggests that further research at the place has the potential improve our understanding of Tasmania's past or archaeology of:</i></p> <p><i>to fill gaps in our existing knowledge of Tasmania's past.</i></p> <p><i>to inform/confirm unproven historical concepts or research questions relevant to Tasmania's past.</i></p> <p><i>to provide information about single or multiple periods of occupation or use.</i></p> <p><i>to yield site specific information which would contribute to an understanding of significance against other criteria.</i></p> | The Black Snake Inn site has the potential to yield information related to the very early European use and development of the place as an inn, commencing in c.1817, and likely undergoing several iterations till the 1830s and construction of the current building. The archaeological potential relates to the extant building and subfloor deposits, and the area immediately surrounding the building which may contain evidence of services, surfaces, building remains and artefact deposits. The full extent of the archaeological potential is yet to be defined. |
| (d) the place is important in demonstrating the principal characteristics of a class of place in Tasmania's history | <p><i>A particularly fine, intact or pivotal example of the class in a state wide, representative of a class of places that demonstrate an historical land use, function or process, of historical importance.</i></p> | The Black Snake Inn is an important example of an early nineteenth century staging inn of a considerable scale. This is demonstrated by the scale and detailing of the building, its location hard against McCarty's/ Main Road and relationship with the nearby jetty ruins. |
| (f) the place has a strong or special association with a particular community or cultural group for social or spiritual reasons | <p><i>A landmark that is visually prominent and possesses picturesque attributes or aesthetic qualities acknowledged by many Tasmanians.</i></p> <p><i>A place that symbolically represents some aspect of the past that a community or cultural group feels contributes to the identity of Tasmania.</i></p> | <p>A social values assessment has not been carried out for this project. The following provides an indicative statement of values which may exist at the place.</p> <p>The Black Snake Inn potentially has social values as a prominent and long-standing landmark at Granton and the surrounding landscape.</p> |

¹⁵ Department of Primary Industries, Parks, Water and Environment, October 2011, Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995

3.0 FRAMEWORK FOR ASSESSMENT

5. BLACK SNAKE INN, 650 MAIN ROAD, GRANTON

| | | |
|--|--|--|
| <p>(h) the place is important in exhibiting particular aesthetic characteristics</p> | <p>The Assessment Guidelines have not been updated to include the aesthetic criterion in accordance with the standard template used for the other criteria. However, the Guidelines do provide some discussion of this value generally, although not within a context of setting thresholds between State and local places.¹⁶ The place is assessed against the following general information:</p> <p>Typical inclusion parameters include:</p> <ol style="list-style-type: none"> 1. The place being of landmark quality; 2. The place having, or contributing to, its setting or important vistas; and 3. Buildings that sit well within their landscape due to the use of local materials, form, scale or massing. <p>In the case of a heritage area, the individual components will collectively form a streetscape, townscape or cultural environment with significant aesthetic characteristics.</p> | <p>The Black Snake Inn is important in demonstrating the aesthetic characteristics of old colonial gothic architecture, with its distinctive gables, oriel windows and steeply pitched roof forms.</p> <p>The place has been a source of inspiration for artists since the early nineteenth century.</p> |
|--|--|--|

STATEMENT OF LOCAL HISTORIC HERITAGE SIGNIFICANCE AND HISTORIC HERITAGE VALUES

An unusual Gothic building, with two steeply pitched front projecting gables and a smaller one between. Decorative bargeboards, upper level oriel windows and decorative quins are features of the building. Between the projecting end bays is a central double door entrance with transom light, flanked by windows with terrace over. There are two gabled dormers along a side set into the roof/wall structure overlooking the river.

Significant because of:

(a) Its role in, representation of, or potential for contributing to the understanding of:

- (a)(i) **Local history including** – The Black Snake Inn is of historical significance for its association with both vehicle and ferry trade for the crossing of the River Derwent as a transport and trade link from the local area. It demonstrates the importance of Granton to the north-south route connecting Hobart with Launceston, and also transport links to New Norfolk. It retains a relationship with the nearby jetty ruins supporting an understanding of the history and development of the area.
- (a)(ii) **Creative or technical achievements** - The Black Snake Inn is important in demonstrating the aesthetic characteristics of old colonial gothic architecture, with its distinctive gables, oriel windows and steeply pitched roof forms.
- (a)(iii) **A class of building or place that exhibits** - The Black Snake Inn is a rare surviving example of a staging inn which combined accommodation with road and ferry services. It is an important example of an early nineteenth century staging inn of a considerable scale. This is demonstrated by the scale and detailing of the building, its location hard against McCarty's/Main Road and relationship with the nearby jetty ruins.
- (a)(iv) **Aesthetic characteristics including** - The place has been a source of inspiration for artists since the early nineteenth century.

(b) Its association with:

- (b)(i) **A particular community for social or spiritual reasons being** – Not applicable.
- (b)(ii) **The life or works of** – Not applicable.

¹⁶ Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995, p.27

3.0 FRAMEWORK FOR ASSESSMENT

5. BLACK SNAKE INN, 650 MAIN ROAD, GRANTON

REVIEW OF POTENTIAL IMPACTS

- The proposal involves the construction of a new roundabout at the junction of Black Snake Road and Main Road Granton; the construction of a new slip road connecting Black Snake Road/Main Road with the Midland Highway; and a section of cutting along Main Road, Granton (MPIS Appendix AA Drawing 10.02.03 0005 - GENERAL ARRANGEMENT SHEET 01). Footpaths and shared user paths are also nominated (MPIS Appendix AA Drawing 10.03.02 IA56600-0000-CR-DRG-1401 Sheet 1). Specification of standard finishes to these paths has the potential to impact the historic landscape and setting of the Black Snake Inn.
- The proposal will have no direct impacts to the built fabric of the Black Snake Inn, although the cutting along Main Road will indirectly impact the visual presentation and setting of aesthetic significance when viewed from the west, looking east; from the east, looking west and toward the building looking front on. The hedge to the street boundary with Old Main Road is likely to be impacted due to the widening of the road to accommodate a shared path connection to the intercity cycleway.
- With the exception of the new cutting, existing views to the Black Snake Inn will be retained from Main Road, Granton, and will continue to exist, albeit from a different perspective than currently exists when viewed from the new bridge. Visual modelling indicates that works to the south of the Black Snake Lane will have a limited visual impact on views to the Black Snake Inn from Old Main Road, with landscape planting further mitigating any potential impact.
- Vibrations from construction works have the potential to impact the fabric of the Black Snake Inn.
- The Chosen Design proposes the demolition of the non-significant residence to the west of the Black Snake Inn. This will be an enhancement to the visual setting of the place.
- The new roundabout, slip lane and cutting have the potential to indirectly impact the setting of the Black Snake Inn and directly impact any archaeological features in this area. There will be direct impacts to the historic alignment of Black Snake Lane (see datasheet 6).
- The use of the place as a laydown area has the potential to impact archaeological features or deposits or plantings.

Impact Mitigation Recommendations

- A site-specific Statement of Archaeological Potential, Archaeological Impact Assessment and Archaeological Method Statement has been prepared by Praxis Environment, to address potential impacts to the Black Snake Inn arising from the new roundabout, slip lane and cutting on Main Road See Appendix 5.
- Carry out vibration assessment to determine risks to the Black Snake Inn from construction works. Subject to the findings of this assessment incorporate monitoring with the CHMP as appropriate.
- Replacement hedge planting should be included within the landscape scope. Consideration should be given to landscape plantings generally to ensure that selection is complementary to the historic cultural heritage setting of the Black Snake Inn.
- Surface treatments for footpaths and shared paths should be specified in consideration of the historic landscape setting of the Black Snake Inn.
- The Black Snake Inn should be integrated into a project wide Interpretation program with consideration given to the inclusion of the retaining wall to the west and the path network being surfaces for interpretation measures.
- Prepare an Archival Record in accordance with the Tasmanian Heritage Council's Practice Note 3: *Procedure for Recording a Heritage Place*, and other best practice guides for digital and film capture.
- A Construction Heritage Management Plan should be reviewed and approved as a mitigation measure to potential impacts of any use of the place as a laydown area during construction.

3.0 FRAMEWORK FOR ASSESSMENT

| 6. OLD BLACK SNAKE LANE | | |
|---|---|---|
| Heritage Status | THR 1612, Former Black Snake Inn, 650 Main Road, Granton <i>Glenorchy Interim Planning Scheme 2015, Table E13.1, No. 0082, Black Snake Inn, 650 Main Road Granton.</i> General description: "dwelling and outbuildings", CTs 246061/I, 119210/I | |
| Grid co-ordinates (AGD 94): | 6.01 518771E/ 5266688N | |
|  <p>Figure 16: Looking south west along Old Black Snake Lane (6.01), from its intersection with Main Road.</p> | <p>Summary History:</p> <p>Black Snake Lane is associated with the development of Black Snake/Granton as a population centre during the nineteenth century. It is shown in an early-mid nineteenth century plan as an existing road named 'Washington Street'. A photograph from the early twentieth century shows it as a narrow lane flanked by hawthorn hedgerows.</p> | |
| | <p>Relevant Sources:</p> <p>Austral Archaeology, Midland Highway Black Snake Lane to East Derwent Highway. Historical Archaeological Survey Report, 1996.</p> | |
| | <p>Description:</p> <p>Black Snake Lane (6.01) forms the access point to the Black Snake Inn. It is a narrow, gravelled driveway, extending to the south west from Main Road, Granton, over a distance of approximately 145m. Some cadastral boundaries of the road alignment continue to exist.</p> <p>Maps 6 and 7 in Section 3.5 indicate the registration boundaries (orange lines) as defined by CTs 246061/I, 119210/I.</p> | |
| SIGNIFICANCE ASSESSMENT | | |
| Level of Significance: | Local Significance | |
| Value | Key State/Local Threshold Indicators¹⁷ | Justification |
| (a) the place is important to the course or pattern of Tasmania's history | <p><i>A notable example of regional settlement that demonstrates an important period or phase in the settlement and development of the local area.</i></p> <p><i>Demonstrates an important historical period or phase in the history of the local area.</i></p> <p><i>Notable example of the development of maritime and terrestrial civil infrastructure, transport and communications in the local area.</i></p> | The Old Black Snake Lane alignment demonstrates early-mid nineteenth century settlement and development patterns. It retains its original form as a narrow, gravelled road, which provides access to the Black Snake Inn. |
| (c) the place has the potential to yield information that will contribute to an understanding of Tasmania's history | <p><i>A comparative analysis suggests that further research at the place has the potential improve our understanding of Tasmania's past or archaeology of:</i></p> <p><i>to fill gaps in our existing knowledge of the local areas past.</i></p> <p><i>to inform/confirm unproven historical concepts or research questions relevant to the local areas past.</i></p> <p><i>to provide information about single or multiple periods of occupation or use.</i></p> <p><i>to yield site specific information which would contribute to an understanding of significance against other criteria.</i></p> | Black Snake Lane has some research potential in its ability to provide information on early-mid nineteenth century road construction techniques. |

¹⁷ Department of Primary Industries, Parks, Water and Environment, October 2011, Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995

3.0 FRAMEWORK FOR ASSESSMENT

6. OLD BLACK SNAKE LANE

REVIEW OF POTENTIAL IMPACTS

- The proposal involves the construction of a new slip road connecting Black Snake Road/Main Road with the Midland Highway; and the retention of Main Road as currently exists. The new slip lane obliquely crosses the alignment of Old Black Snake Lane and will directly impact any fabric related to the nineteenth century road (MPIS Appendix AA Drawing 10.02.03 0005 - GENERAL ARRANGEMENT SHEET 01). Footpaths and shared user paths are also nominated (MPIS Appendix AA Drawing 10.03.02 IA56600-0000-CR-DRG-I401 Sheet 1). Specification of standard finishes to these paths has the potential to impact the historic landscape and setting of the Black Snake Inn.
- The new roundabout and slip lane will result in indirect impact to the setting of Old Black Snake Lane.

Impact Mitigation Recommendations

- A site-specific Statement of Archaeological Potential, Archaeological Impact Assessment and Archaeological Method Statement has been prepared by Praxis Environment, to address potential impacts to the Black Snake Lane arising from the new roundabout and slip lane (See Appendix 4). This should be prepared as part of the archaeological documentation for the Black Snake Inn site (see recommendations datasheet 5).
- Consideration should be given to landscape plantings generally to ensure that selection is complementary to the historic cultural heritage setting of the Black Snake Inn.
- Surface treatments for footpaths and shared paths should be specified in consideration of the historic landscape setting of the Black Snake Inn.
- The Black Snake Inn should be integrated into a project wide Interpretation program with consideration given to the inclusion of the retaining wall to the west and the path network being surfaces for interpretation measures.
- Incorporate Black Snake Lane with the recommended Archival Record of the Black Snake Inn.

3.0 FRAMEWORK FOR ASSESSMENT

| 10. PIONEER AVENUE ELM | | |
|--|---|---|
| Heritage Status | Within THR 618, Bridgewater Bridge, Midland Highway, Brooker Highway, Granton and Bridgewater | |
| Grid co-ordinates (AGD 94): | 10.01 518336E/ 5266998N | |
|  <p>Figure 17: Looking south east along Main Road/McCarty's Road (9.01), with Black Snake Inn (5.01) in background.</p> | Summary History: | |
| | <p>The Pioneer Memorial Avenue was a 1930s tree planting program formed by discontinuous groups of 6,000 exotic, deciduous, coniferous and indigenous trees planted between Hobart and Launceston.</p> <p>The scheme evolved to become a vast beautification and tourism initiative, developed and supported by a number of key individuals including Alan Wardlaw MLC, Louis Shoobridge MLC, Premier Albert Ogilvie and landscape architect John Walker.</p> | |
| | <p>Documentation from the period identifies that two Chichester Elms were to be planted near the southern end of the Causeway. One survives today.</p> | |
| | <p>Relevant Sources:</p> <p>GM, Sheridan, The Pioneer Memorial Avenue at Brighton, Tasmania: Brighton Council, 1999</p> <p>M, Walker, The Historical Context of Tree Plantings. St. Peters Pass, Midlands, Tasmania, prepared for Austral Tasmania, January 2014.</p> | |
| Description: | | |
| <p>A single elm tree (10.01) now located within the roundabout which divides the Midland from Lyell highway. Map 9 in Section 3.5 indicates the registration boundaries (orange lines) as depicted in CPR 10257.</p> | | |
| SIGNIFICANCE ASSESSMENT | | |
| Level of Significance: | State Significance | |
| Value | Key State/Local Threshold Indicators¹⁸ | Justification |
| Historic Value | <p>State</p> <p><i>Demonstrates the occurrence of an event(s) at the place that was significant in Tasmania's history.</i></p> <p><i>Association with the development of an ideology derived from ethnic, religious, aesthetic, political, educational or other social beliefs, which resulted in the establishment, or change, of social values or behaviours across Tasmania.</i></p> | <p>The Pioneer Avenue planting has historic value. The Avenue was initially conceived as a commemorative project, but soon evolved into a vast beautification and tourism initiative, creating Tasmania's largest designed landscape, and providing travellers with a visual experience of scenic beauty, surprise and anticipation along the Midland Highway.</p> <p>The Pioneer Avenue was a key component of a broader Horticultural Scheme, a program with aims of economic, cultural, aesthetic and moral improvement through beautification.</p> <p>The Elm tree is the sole survivor of plantings in the Granton area.</p> |
| Rarity | <p>State</p> <p><i>One of few comparable places across Tasmania that is associated with/demonstrates an activity that was distinctive for what it achieved or so unusual in its nature it is now of particular interest to a community group.</i></p> | <p>There are no other known planting schemes within Australia which are comparable in concept and scale with the Tasmanian Pioneer Avenue.</p> |
| Research Potential | <p>State</p> <p><i>A comparative analysis suggests that further research at the place has the potential to improve our understanding of Tasmania's past, to fill gaps in our existing knowledge.</i></p> | <p>A botanical assessment of the Pioneer Avenue has the potential to provide new information on tree species used in the scheme, important in supplementing incomplete or simplified documentary records.</p> |

¹⁸ Department of Primary Industries, Parks, Water and Environment, October 2011, Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995

3.0 FRAMEWORK FOR ASSESSMENT

| 10. PIONEER AVENUE ELM | | |
|--|--|--|
| Technical Achievement | <p>State</p> <p><i>Unusual in its nature, size, or application within such a context or otherwise of particular interest in a state-wide comparison of similar places.</i></p> | The Pioneer Avenue demonstrates a creative achievement in the planning and implementation of a designed landscape consisting of exotic and native trees planted between Hobart and Launceston and deliberately arranged to engage visually with travellers on the Midland Highway. |
| Social Value | <p>State (potential)</p> <p><i>A landmark that is visually prominent and possesses picturesque attributes or aesthetic qualities acknowledged by many Tasmanians</i></p> | <p><i>No assessment of social values has been undertaken for this current project.</i></p> <p>However, it is likely that the Pioneer Avenue plantings are valued by the community for their landmark presence and aesthetic contribution to the landscape. Some of the trees may have been planted to commemorate specific pioneers.</p> |
| Associative Value | <p>State</p> <p><i>A key phase(s) in the establishment or subsequent development of the place were undertaken by, or directly influenced by, the important person(s) or organisation and that person(s) or organisation made an important contribution to the history of Tasmania.</i></p> <p><i>One or more achievements for which the person(s) or organisation are considered important are directly linked to the place and that person(s) or organisation made an important contribution to the history of Tasmania.</i></p> | The Pioneer Avenue has an important association with Alan Wardlaw (MLC), John Walker (horticulturist, nurseryman and landscape architect), and Louis Manton Shoobridge (MLC) who were key proponents of the scheme. |
| Aesthetic Values | <p>State</p> <p><i>Importance for its design or artistic excellence, innovation or achievement.</i></p> <p><i>Important for the distinctiveness of the composition of a place or its components.</i></p> <p><i>Important to the community as a key landmark (built or landscape feature) within the physical environment of Tasmania.</i></p> <p><i>A special visual relationship exists between the place and its setting, where each reinforces the beauty or aesthetic characteristics of the other.¹⁹</i></p> | <p>Through its scale, choice of native and exotic species, location and spacing of trees, and seasonal variations, the Pioneer Avenue represents the largest single attempt at visual improvement of the Tasmanian landscape.</p> <p>The elm tree is a prominent element in the landscape and notable for its seasonal variations.</p> |
| REVIEW OF POTENTIAL IMPACTS | | |
| <ul style="list-style-type: none"> The proposal involves no direct impacts to the Pioneer Avenue Elm. The realignment of the road and the nominated landscape proposal are likely to alter how the tree is viewed in the landscape (MPIS Appendix AA Drawing 10.02.19 IA256600-0000-LS-SKT-001 and (Appendix 4 Views Study Photos - 10.01.02.07 VP03_v005-masked). However, this is likely to be a positive trend. <p>Impact Mitigation Recommendations</p> <ul style="list-style-type: none"> Long term conservation is desirable, however no mitigation recommendations are necessary in this case. | | |

¹⁹ Taken from: Heritage Tasmania, Draft Scoping Document: Aesthetics as a Criterion for Entry in the Tasmanian Heritage Register, February 2013

3.0 FRAMEWORK FOR ASSESSMENT

| II. AREA OF ARCHAEOLOGICAL SENSITIVITY ASSOCIATED WITH CONVICT STATION SITE | | |
|--|---|--|
| Heritage Status | Partially within THR 618, Bridgewater Bridge, Midland Highway, Brooker Highway, Granton and Bridgewater. | |
| Grid co-ordinates (AGD 94): | II.01 518305E/5267031N | |
|  <p>Figure 18: Looking north to area of archaeological sensitivity (II.01) on river bank.</p> | Summary History: | |
| | <p>The historical use of this site is currently unclear. It may have been used historically for the construction of the causeway, or later bridges and associated with the adjacent Bridgewater (i.e., Granton) convict station, in existence since 1828.</p> | |
| | Relevant Sources: | |
| | <p>GHD, Department of Infrastructure, Energy and Resources. The New Bridgewater Bridge. Heritage Impact Assessment and Management Plan, draft report, May 2011</p> <p>Austral Archaeology Pty Ltd, National Highway Approach to Hobart – Bridgewater Planning Study Heritage Assessment: Stage I – Volume I, (Evolution of Road, Rail & Bridge Infrastructure), 1997</p> | |
| | Description: | |
| | <p>An area of foreshore land on the northern side of the Lyell Highway, west of the causeway (II.01). The area is partially within the listed boundaries of the causeway. Subsurface evidence may exist of historical activities related to river navigation or the construction of the causeway and various bridges.</p> <p>Map 9 in Section 3.5 indicates the registration boundaries (orange lines) as depicted in CPR 10257m which partially include this site.</p> | |
| SIGNIFICANCE ASSESSMENT | | |
| Level of Significance: | Potentially State Significance | |
| Value | Key State/Local Threshold Indicators²⁰ | Justification |
| (a) the place is important to the course or pattern of Tasmania's history | <p><i>Demonstrates the occurrence of an event(s) at the place that was significant in Tasmania's history.</i></p> <p><i>A notable example of regional settlement that demonstrates an important period or phase in the wider settlement and development of Tasmania.</i></p> <p><i>Demonstrates an important historical period or phase in the history of Tasmania.</i></p> <p><i>Notable example of the development of maritime and terrestrial civil infrastructure, transport and communications in Tasmania.</i></p> | At this stage, the potential historical values of this site are unknown. The site potentially has an important associations as the location where timber and materials were landed for the construction of the causeway. |
| (c) the place has the potential to yield information that will contribute to an understanding of Tasmania's history | <p><i>A comparative analysis suggests that further research at the place has the potential improve our understanding of Tasmania's past or archaeology of:</i></p> <p><i>to fill gaps in our existing knowledge of Tasmania's past.</i></p> <p><i>to inform/confirm unproven historical concepts or research questions relevant to Tasmania's past.</i></p> <p><i>to provide information about single or multiple periods of occupation or use.</i></p> <p><i>to yield site specific information which would contribute to an understanding of significance against other criteria.</i></p> | To date, the archaeological potential of this site has not been examined sufficiently to determine its significance. The site potentially has subsurface archaeological evidence of riverside convict period structures such as jetties. |

²⁰ Department of Primary Industries, Parks, Water and Environment, October 2011, Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995

3.0 FRAMEWORK FOR ASSESSMENT

II. AREA OF ARCHAEOLOGICAL SENSITIVITY ASSOCIATED WITH CONVICT STATION SITE

REVIEW OF POTENTIAL IMPACTS

- The proposal involves no modifications to this area, with works limited to the existing boundaries of the Lyell Highway.

Impact Mitigation Recommendations

- Designate site **II.01** as a 'Works Exclusions Area' to avoid inadvertent archaeological impacts. Should construction impacts be likely, carry out a site-specific Statement of Archaeological Potential, Archaeological Impact Assessment and Archaeological Method Statement.

3.0 FRAMEWORK FOR ASSESSMENT

| 15. EXISTING MAIN ROAD/MIDLAND HIGHWAY | |
|--|--|
| Heritage Status | Partially within THR 618, Bridgewater Bridge, Midland Highway, Brooker Highway, Granton and Bridgewater The listing is composed of the causeway; ruins of previous bridges and the current road/rail bridge. Partially with Brighton Local Provisions Schedule BRI-Table C6.1.1, Bridgewater Railway Station, CT154431/1, CT154459/1, CT154468/1, CT154472/1 CT118026/2 & 3 and adjoining untitled parcels. |
| Grid co-ordinates (AGD 94): | 15.01 518584E/5266865N |
|  <p>Figure 19: Looking east along the railway at Granton (15.01).</p> | <p>Summary History:</p> <p>The existing Main Line Railway alignment was completed in 1874, linking the key population centres of Hobart and Launceston and a number of settlements in the Midlands. At Granton, the railway followed the bank of the Derwent River, and required extensive foreshore reclamations. It crossed the Derwent via the Bridgewater Causeway, initially on its eastern side, but later on its western side. Road and rail traffic were combined with the completion of the extant Bridgewater Bridge.</p> <p>The opening of the Railway had a great social and economic effect on the local community. It was the catalyst for population growth in the Brighton area, offering employment for engine drivers, gangers and line repairers and the development of the township at Bridgewater. Rail operations continued until 2013.</p> <p>Relevant Sources:</p> <p>GHD, Department of Infrastructure, Energy and Resources. The New Bridgewater Bridge. Heritage Impact Assessment and Management Plan, draft report, May 2011</p> <p>Austral Archaeology Pty Ltd, National Highway Approach to Hobart – Bridgewater Planning Study Heritage Assessment: Stage 1 – Volume 1, (Evolution of Road, Rail & Bridge Infrastructure), 1997.</p> <p>Description:</p> <p>The existing Main Line Railway (15.01) is part of an associated group of places – see also datasheets 1,2, 3 and 4.</p> <p>Approximately 2,040m of the railway is located within the study area. It follows the southern shore of the Derwent at Granton before crossing to the western side of the causeway and bridge. It enters the Bridgewater Railway Station to the north of the bridge, where the Derwent Valley Line also commences. From the railway station, the Main Line continues outside of the study area and following the alignment of the old Main Road/former Midland Highway.</p> <p>See maps 9, 10, 11, 12, 13, 14 and 15 in Section 3.5 which indicate the registration boundaries (orange lines) for the causeway/bridge (CPR 10257), and the Bridgewater Railway Station as defined by CT154431/1, CT154459/1, CT154468/1, CT154472/1 CT118026/2 & 3 and adjoining untitled parcels.</p> |

3.0 FRAMEWORK FOR ASSESSMENT

| 15. EXISTING MAIN ROAD/MIDLAND HIGHWAY | | |
|---|--|--|
| SIGNIFICANCE ASSESSMENT | | |
| Level of Significance: | State significance as a single entity between Hobart and Launceston. | |
| Value | Key State/Local Threshold Indicators ²¹ | Justification |
| (a) the place is important to the course or pattern of Tasmania's history | <p><i>A notable example of regional settlement that demonstrates an important period or phase in the wider settlement and development of Tasmania.</i></p> <p><i>Demonstrates an important historical period or phase in the history of Tasmania.</i></p> <p><i>Demonstrates a prominent period of economic prosperity or decline/depression in Tasmania.</i></p> <p><i>Notable example of the development of maritime and terrestrial civil infrastructure, transport and communications in Tasmania.</i></p> <p><i>Notable example of the development and application of technology in Tasmania.</i></p> | <p>The Tasmanian Main Line Railway is of historical significance as one of the largest public infrastructure developments in Tasmania during the late nineteenth century. Railways provided the first truly effective means of inland transport in the colony. The Railway was the most costly public works of the time, and demonstrates the public confidence in railways as an indicator of progress and development. The railway has had a great social, economic and landscape impact on Tasmania's history. Its construction encouraged local development, and made the area readily accessible from Hobart. It resulted in the development of a new centre around the Railway Station at Bridgewater.</p> <p>The approximately 2,040m section within the study area forms a relatively small part of the 1874 alignment of the railway, and has particular local significance for its associations with the various crossing points of the Derwent constructed from the causeway.</p> |
| (e) the place is important in demonstrating a high degree of creative or technical achievement | <p><i>Creative and technical achievements that influenced techniques used within the discipline/industry, or influenced outcomes at other places.</i></p> <p><i>Unusual in its nature, size, or application within such a context or otherwise of particular interest in a state-wide comparison of similar places.</i></p> | <p>The Tasmanian Main Line Railway demonstrates a high technical achievement in its survey, planning, aspects of its construction and navigation of difficult terrain.</p> <p>The approximately 2,040m section within the study area forms a relatively small part of the 1874 alignment. Key aspects of its technical achievement are demonstrated by the concrete and steel caisson of the 1893 rail bridge located within the Derwent.</p> |
| (f) the place has a strong or special association with a particular community or cultural group for social or spiritual reasons | <p><i>A landmark that is visually prominent and possesses picturesque attributes or aesthetic qualities acknowledged by many Tasmanians.</i></p> <p><i>A place that symbolically represents some aspect of the past that a community or cultural group feels contributes to the identity of Tasmania.</i></p> | <p>A social values assessment has not been carried out for this project. The following provides an indicative statement of values which may exist at the place.</p> <p>The Main Line Railway is likely to have strong or special meaning to the Tasmanian community, and specific groups within. This may include current and former employees and travellers. The local Granton/Bridgewater population may attach value to the section of railway which crosses their community.</p> |

²¹ Department of Primary Industries, Parks, Water and Environment, October 2011, Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995

3.0 FRAMEWORK FOR ASSESSMENT

| 15. EXISTING MAIN ROAD/MIDLAND HIGHWAY | | |
|---|--|--|
| <p>(g) the place has a special association with the life or works of a person, or group of persons, of importance in Tasmania's history</p> | <p><i>A key phase(s) in the establishment or subsequent development of the place were undertaken by, or directly influenced by, the important person(s) or organisation and that person(s) or organisation made an important contribution to the history of Tasmania.</i></p> <p><i>One or more achievements for which the person(s) or organisation are considered important are directly linked to the place and that person(s) or organisation made an important contribution to the history of Tasmania.</i></p> | <p>The railway has a special association with the work of the Tasmanian Main Line Railway and later Tasmanian Government Railways, two organisations that played an important role in the development of Tasmania during the late nineteenth, and twentieth centuries.</p> |
| <p>REVIEW OF POTENTIAL IMPACTS</p> | | |
| <ul style="list-style-type: none"> • The proposal involves variable impacts to the Main Line Railway alignment. • Impacts will occur to the rail alignment as it crosses the extant bridge nominated for demolition. This will destroy all values inherent in the fabric of the railway in this zone. The remainder of the rail alignment will not be directly impacted. <p>Impact Mitigation Recommendations</p> <ul style="list-style-type: none"> • Interpretation planning should consider salvage of elements of the rail alignment, for potential reuse in interpretive or landscape works. Ensure meaningful interpretation. | | |

3.0 FRAMEWORK FOR ASSESSMENT

16. ST MARYS CHURCH AND CEMETERY: AREA OF POTENTIAL ARCHAEOLOGICAL SENSITIVITY

| | |
|------------------------|--|
| Heritage Status | <p>THR 624, St Mary's Anglican Church and Cemetery, 18-20 Old Main Road, Bridgewater No. 24, St. Mary's Anglican Church and Cemetery, 20 Old Main Road, Bridgewater; CTI39728/1& 2. Brighton Local Provisions Schedule 2021, BRI-C6.1.24 139728/1 & 2.</p> <p>Note that this place may fall both within and adjacent to the Extent of Works Area. The area of potential archaeological sensitivity is not subject to statutory heritage management.</p> |
|------------------------|--|

| | |
|------------------------------------|-------------------------------|
| Grid co-ordinates (AGD 94): | 16.01 518720E/5268322N |
|------------------------------------|-------------------------------|

| | |
|--|--|
|  <p><i>Figure 20: St Mary's Church, looking south east. The Church and cemetery is outside of the study area.</i></p> | <p>Summary History:</p> <p>The foundation stone to St Mary's Anglican Church was laid in 1862, but was damaged by a storm that year which destroyed the walls of the building. The Church was repaired and consecrated in 1873. A cemetery is attached to the Church, and presumably came into operation during this period. In the 1880s, St Mary's had a Church Society consisting of 16 members. In 1909, Bridgewater and Old Beach were made part of the Glenorchy parish. The Church was sold in the late twentieth century.</p> <p>Relevant Sources:</p> <p>GHD, Department of Infrastructure, Energy and Resources. The New Bridgewater Bridge. Heritage Impact Assessment and Management Plan, draft report, May 2011 The Mercury, Friday 24 July 1863, p.2; Wednesday 22 October 1873, p.1</p> |
|--|--|

| | |
|--|--|
|  <p><i>Figure 21: Designated cemetery to the rear of the church. The marked boundaries of the cemetery are outside of the study area.</i></p> | <p>Description:</p> <p>St Mary's a Victorian Academic Gothic Church building, which presents to Old Main Road, Bridgewater. A cemetery dating from the nineteenth to twentieth century is located to the rear. Both the Church and designated cemetery is located outside of the works area.</p> <p>A nominal area covering 317m² to the south east of the fence boundary has been nominated as an area of potential archaeological sensitivity (16.01). The land slopes gently to the south east and towards the Midland Highway. There is no surface evidence of burials being located outside of the designated cemetery, although nineteenth century burial practices sometimes resulted in unbaptised individuals or suicide victims being buried outside of consecrated land.</p> |
|--|--|

| | |
|---|--|
|  <p><i>Figure 22: Looking north east across area of potential archaeological sensitivity (16.01), and located within the study area.</i></p> | |
|---|--|

3.0 FRAMEWORK FOR ASSESSMENT

16. ST MARYS CHURCH AND CEMETERY: AREA OF POTENTIAL ARCHAEOLOGICAL SENSITIVITY

SIGNIFICANCE ASSESSMENT

| Level of Significance: | Potential State Significance | |
|---|---|---|
| Value | Key State/Local Threshold Indicators ²² | Justification |
| (c) the place has the potential to yield information that will contribute to an understanding of Tasmania's history | <p><i>A comparative analysis suggests that further research at the place has the potential improve our understanding of Tasmania's past or archaeology of:</i></p> <p><i>to fill gaps in our existing knowledge of Tasmania's past.</i></p> <p><i>to inform/confirm unproven historical concepts or research questions relevant to Tasmania's past.</i></p> <p><i>to provide information about single or multiple periods of occupation or use.</i></p> <p><i>to yield site specific information which would contribute to an understanding of significance against other criteria.</i></p> | <p>It remains currently unknown if unmarked burials exist outside of the designated boundaries of St Mary's Cemetery.</p> <p>Caution should be exercised, and the area should be identified as potentially containing evidence of nineteenth century burials.</p> |

STATEMENT OF LOCAL HISTORIC HERITAGE SIGNIFICANCE AND HISTORIC HERITAGE VALUES

A small rural church built in the Old English Gothic style. It is intact in almost every respect and is an excellent example of the style. The site also includes a graveyard.

Significant because of:

(a) Its role in, representation of, or potential for contributing to the understanding of:

(a)(i) **Local history including** – its association with the settlement and development of the local community.

(a)(ii) **Creative or technical achievements - Not applicable.**

(a)(iii) **A class of building or place that exhibits** – the characteristics of the Victorian Academic Gothic style.²³

(a)(iv) **Aesthetic characteristics including** – its evocativeness and symbolism as a place of worship and burial. The scenic qualities of the place have been somewhat degraded by adjacent development.

(b) Its association with:

(b)(i) **A particular community for social or spiritual reasons being** – its association with worship.

(b)(ii) **The life or works of** – Not applicable.

REVIEW OF POTENTIAL IMPACTS

- The proposal involves no direct or indirect impacts within the designated and marked boundaries of St Mary's Cemetery. Works do not appear to encroach within the area of potential archaeological sensitivity. An undefined risk exists on impacting unmarked burials in this locality through new road cuttings.
- Vibrations from construction works have the potential to impact the fabric of St Mary's Church.
- The Chosen Design moves the road alignment further south than the existing (MPIS Appendix AA Drawing 10.02.06 0008 - GENERAL ARRANGMENT SHEET 04). The revised alignment, together with proposed landscape planting and vegetated swale (MPIS Appendix AA Drawing 10.02.19 IA56600-0000-LS-SK-0001) will improve the setting and context of the place, adversely impacted by the present arrangement. It is to be further noted that the aesthetic significance of this place is associated with the relationship of St Mary's Anglican Church to the Cemetery, a relationship not impacted by the Chosen Design.

Impact Mitigation Recommendations

- Carry out a site-specific Statement of Archaeological Potential, Archaeological Impact Assessment and Archaeological Method Statement to address potential impacts to the area of potential archaeological sensitivity arising from the road construction works.
- Carry out vibration assessment to determine risks to St Mary's Church from construction works. Subject to the findings of this assessment incorporate monitoring with the CHMP as appropriate.

²² Department of Primary Industries, Parks, Water and Environment, October 2011, *Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995*

²³ Brighton Heritage Study, *Listed Buildings*, G. Sheridan, 1997, p.33

3.0 FRAMEWORK FOR ASSESSMENT

| 18. CYPRESS GROVE, 37 BLACK SNAKE ROAD, GRANTON | | |
|--|---|---|
| Heritage Status | <i>Glenorchy Local Provisions Schedule 2021, GLE-C6.1.181, Farm Outbuildings, 37 Black Snake Road, Granton, CT 156256/20</i> | |
| Grid co-ordinates (AGD 94): | 18.00 518675E/5266423N 18.01 518695E/5266419N 18.02 518686E/5266403N 18.03 518680E/5266377N 18.04 518687E/5266346N 18.05 51873E/5266383N | 18.06 518704E/5266383N 18.07 518716E/5266400N 18.08 518708E/5266394N 18.09 518716E/5266445N 18.10 518700E/5266456N |
|  <p>Figure 23: Looking east to tree 17.01.</p>  <p>Figure 24: Looking east to tree 17.02.</p> | <p>Summary History:</p> <p>The property at 37 Black Snake Road was granted to Frederick Coape Smith in 1847, purchased by John King in 1855, and taken up by John Dickenson sometime before 1875. It has remained in possession of the Dickenson family since then, being a farm and orchard as well as the family domicile.</p> <p>The house was constructed by John King after 1855. The house was substantially renovated in 1955. This saw removal of the external kitchen, the addition of a full second storey, western and eastern wings, and a portico and columns supporting a veranda at the front – with large parts of the amalgamated structure rendered and painted.</p> <p>Other structures were added from time to time in response to the practical requirements of a working property, with the worker's hut and associated sheds being brought to the current site from elsewhere on the property, and a shed relocated from the Granton Railway Station in the 20th Century.</p> <p>Relevant Sources:</p> <p>Austral Tasmania Pty Ltd Austral Tasmania Pty Ltd, Bridgewater Crossing: Granton Interchange. Historic Heritage Assessment, report prepared for GHD Pty Ltd, 2 June 2011</p> <p>Description:</p> <p>The complex comprises a substantial house and a number of outbuildings straddling the Black Snake Rivulet between Black Snake Road in the west and the Brooker Highway in the east. Extant buildings include the modified house (18.01), a small cottage (originally the maid's quarters) (18.02), stable (18.03), relocated railway shed (18.04), a blacksmith's shop (18.05), worker's cottages (18.06), old coach house (18.07), and a sandstone culvert (18.08). Two notable historic trees on the property include a nineteenth century cherry tree (18.09), and an early fig tree (18.10).</p> <p>The house and outbuildings are set in extensive gardens, with a brick wall marking the perimeter. Maps 4 and 5 in Section 3.5 indicate the registration boundaries (orange lines) as defined by CT 156256/20.</p> | |

3.0 FRAMEWORK FOR ASSESSMENT

18. CYPRESS GROVE, 37 BLACK SNAKE ROAD, GRANTON

STATEMENT OF LOCAL HISTORIC HERITAGE SIGNIFICANCE AND HISTORIC HERITAGE VALUES

The nucleus of a fine circa 1850 – mid/late 20th century working farm complex.

Significant because of:

(a) Its role in, representation of, or potential for contributing to the understanding of:

(a)(i) Local history including – the evolution of a rural complex over a century-and-a-half.

(a)(ii) Creative or technical achievements - evident in the techniques of stone masonry employed in construction of the sandstone arch culvert on Black Snake Rivulet and coinciding with what was originally laid out as Union Street in a township reserve that never eventuated at this location

(a)(iii) A class of building or place that exhibits – the characteristics of a working farm complex. Significant attributes include but are not necessarily limited to: the main house (circa 1855 and 1955), a two-storey hand-pressed brick cottage (possibly servants quarters), circa 1898 (part adapted) timber stable, gable-roofed, weatherboard shed with finial relocated from Granton Railway Station, weatherboard former blacksmiths shop on the eastern bank of Black Snake Rivulet, three weatherboard workers huts, a vertical board pickers hut, a sandstone arch culvert on Black Snake Rivulet, historic garden plantings including pre-1875 cherry tree, two fig trees and coral tree.

(a)(iv) Aesthetic characteristics including – an established landscape containing a combination of formal garden elements, structures and established trees in the functional areas.

(b) Its association with:

(b)(i) A particular community for social or spiritual reasons being – Not applicable

(b)(ii) The life or works of – the Dickenson family, locally prominent in the business and agricultural sectors, whose association with the Place dates from at least 1881 (and potentially pre-1875), encompassing 6 generations.

REVIEW OF POTENTIAL IMPACTS

- The proposal involves the construction of a new interchange between the junctions of the Brooker Highway and Black Snake Road. With regard to 37 Black Snake Road, this will involve the construction of a new slip lane off the Brooker Highway which will cross through the northern portion of the property (MPIS Appendix AA Drawing 10.02.01.0002 - MASTER PLAN).
- The works will result in direct impacts to all built, landscape and potential archaeological features of the place through demolition.
- Note that the *Glenorchy Interim Planning Scheme 2015* identified in Table E13.1 that: "The demolition of the farm outbuildings is permitted in accordance with Clause 8.7 of the Scheme if the demolition is required as part of the replacement of the Bridgewater Bridge and associated road works provided that archival records are prepared for the property and materials are salvaged, generally in accordance with recommendation 1/1 of the Austral Tasmania report titled 'Bridgewater Crossing: Granton Interchange, Historic Heritage Assessment, Final Report prepared for GHD Pty, 2 June 2011.'"

Impact Mitigation Recommendations

- Investigate the viability of replanting options for significant features 18.9 and 18.10 along with any ongoing management and maintenance requirements.
- Prepare an archival record of significant features prior to demolition.

3.0 FRAMEWORK FOR ASSESSMENT

| 19. CORONATION HALL, 25 OLD MAIN ROAD, BRIDGEWATER | |
|---|--|
| Heritage Status | BRI-Table C6.1.25 Local Heritage Places of the Brighton Local Provisions Schedule |
| Grid co-ordinates | |
| | <p>Summary History Not available</p> |
| | <p>Description</p> <p>An unusual single storey weatherboard building with a combination gable, a pair of projecting hipped roofs and half-timber decoration in gable ends. On each of the projecting hips, which are either side of a covered entry, there is a fixed window of three squares high. There is a diamond motif with a vent in it in the centre of the gable end.</p> <p>Relevant Sources BLPS 2021</p> |
| STATEMENT OF LOCAL HISTORIC HERITAGE SIGNIFICANCE AND HISTORIC HERITAGE VALUES | |
| <p>An unusual single storey weatherboard building with a combination gable, a pair of projecting hipped roofs and half-timber decoration in gable ends. On each of the projecting hips, which are either side of a covered entry, there is a fixed window of three squares high. There is a diamond motif with a vent in it in the centre of the gable end.</p> <p>Significant because of:</p> <p>(a) Its role in, representation of, or potential for contributing to the understanding of:</p> <p>(a)(i) Local history including –</p> <p>(a)(ii) Creative or technical achievements - Not applicable.</p> <p>(a)(iii) A class of building or place that exhibits – characteristics of the Federation Carpenter style.²⁴</p> <p>(a)(iv) Aesthetic characteristics including – Not applicable.</p> <p>(b) Its association with:</p> <p>(b)(i) A particular community for social or spiritual reasons being – it's importance to the community's sense of place, in facilitating community gatherings and events, including its former use by the 1st Bridgewater Scout Group.²⁵</p> <p>(b)(ii) The life or works of – the architect H.R. Bastow.²⁶</p> | |
| REVIEW OF POTENTIAL IMPACTS | |
| <ul style="list-style-type: none"> The place sits outside the Project Land and and the works present no direct impacts to Coronation Hall (MPIS Appendix AA Drawing 10.02.01.0002 - MASTER PLAN). <p>Impact Mitigation Recommendations</p> <ul style="list-style-type: none"> No conservation actions are considered necessary | |

²⁴ Brighton Heritage Study, Listed Buildings, 1997, p.35

²⁵ Brighton Heritage Study, Listed Buildings, 1997, p.35

²⁶ Brighton Heritage Study, Listed Buildings, 1997, p.32

3.0 FRAMEWORK FOR ASSESSMENT

| 20. COMMANDANT'S COTTAGE, CNR TARRANTS ROAD AND LYELL HIGHWAY, GRANTON | |
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| Heritage Status | THR 1178, Commandant's Cottage Lot 1 & 7 Forest Road, Graton <i>Derwent Valley Interim Planning Scheme 2015</i> , Table E13.1 No.14, Commandant's Cottage |
| Grid co-ordinates | |
| | <p>Summary History</p> <p><i>Convicts were housed at Bridgewater from 1830 to the end of 1849. The station was built on Ebenezer Geiss' grant and was one of several convict sites operating in the Derwent Valley. It was initially established in response to the decision to construct the Bridgewater Causeway. The causeway being a major public works project in an attempt to solve the problem of crossing the River Derwent and more specifically a commitment of Governor Arthur to a major road between Hobart and Launceston. The Bridgewater location was preferred for its excellent quarry and a sandbank extending half a mile in length to the Channel (Austral Arch 1997). Wooden barracks were constructed to house the convicts, with additional buildings built from stone. Ever concerned with the moral and religious sensibilities of their charges a chapel was also erected at the station in 1834. As a contrast local legend has it that on death, many convicts were simply buried in the causeway. Construction work on the causeway began in 1830 and lasted until completion in 1836. The crossing of the Derwent was finished by means of a punt, built at Port Arthur. It is calculated that an overall 1,850 convicts worked on the causeway - labouring for six years, hand quarrying and wheelbarrowing an estimated 1.8 million tonnes of rock and clay to the waters edge (Bridgewater Social History Project 1988).</i></p> <p>During its construction the causeway also became known as 'Arthurs Folly' after Governor Arthur, because as fast as rock was tipped into the river it was swallowed up by mud. After the causeway was built convict work included repairing the main line of road (Midlands Highway) under the orders and directions of the Director General of Roads (Brand 1990). From c.1832 able bodied men were also forming the opposing jetty at Green Point. In 1834 Green Point housed a substantial number of invalid convicts (RNE 1998). G.T.W. Boyes visited the Bridgewater station in 1831 his description is both an evocative and horrifying account. He describes the cramped and draughty conditions of 160 men in chains, with good conduct men in long chains and petty offenders in shortened chains. Shortened chains chafed legs and restricted movement. A flogging triangle was noted as a prominent feature of the courtyard (Chapman 1985). Overall for the first eleven years the station was a road gang station, housing prisoners sentenced to the chain gangs for crimes committed in the colony. They were sentenced for a definite time varying from one to twelve months, and on expiration of their sentence they either returned to their masters or were transferred to Public Works of less painful employment (RNE 1998). From 1841 to September 1845 the station became a probation station where convicts '...were supposed to be kept separate from the old hands, but this was not the case' (Marsh 1847 in Brand 1990:58). From 1845 the station was principally used to hold sentenced parties. At the end of 1847 Bridgewater is recorded as among the eleven stations being broken up during the last twelve months. The convicts were of the old class and have been removed to Jericho (Hampton 1847 in Brand 1990). In November 1847 James Alexander Thompson and James Blackburn entered into a contract with the Bridgewater Bridge Commission to erect a bridge with a movable platform, which could be rolled out of the way of passing vessels. The station was again re-opened to provide accommodation for the construction gang. Timber was cut on the slopes of Mount Dromedary and floated down stream to the construction site. On the 26th April 1849 the bridge was finally opened and the Dromedary station was closed (Bridgewater History Project 1988). The Bridgewater station remained open until mid 1850 (Brand 1990). In time the land was sold off for private use and most remaining structures were either demolished or left to fate.</p> <p>Relevant Sources</p> <p>Datasheet Tasmanian Heritage Register 1178 Commandant's Cottage</p> |

3.0 FRAMEWORK FOR ASSESSMENT

20. COMMANDANT'S COTTAGE, CNR TARRANTS ROAD AND LYELL HIGHWAY, GRANTON

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| <p>Description</p> <p>La Trobe's 1847 report notes station buildings as being old, and with the exception of the Superintendent quarters and the store used for provisions and sundry articles, all were in very bad repair. The cook house and bake house were noted as also being almost in ruins, and the 11 cells were close, damp, and badly (La Trobe in Brand 1990). One ward was also used to store old bedding and iron etc. Some idea of the stations appearance can be gained from T.L Chapman's painting titled 'Bridgewater Causeway in 1840' (TMAG). Despite La Trobe's comments concerning the dilapidated condition of the site, the station is today still evident through the remains of discrete surface features, extant buildings and subsurface elements located on private and council land. At this particular property is the dwelling locally referred to as the Commandants Cottage, although on the archival plan PWD 266 / 1169, the dwelling may have been used by non-Commissioner Officers. The dwelling is an exposed stone walled house, with a hipped roof, closed eaves and symmetrically placed twelve paned double hung windows astride a central four panelled door. The windows have flat arches, stone sills. There is a transom light above the door. Set in the roof at the front are three dormer windows with 12-paned double hung sashes. At the rear of the building is a small sandstone quarry. This property also has a portion of land located at the rear of RA2 Forest Road. In this area is a prominent sandstone wall, which according to PWD 266/1169 may have been the location of the Chapel. Locals remember many sandstone blocks stacked in the corner of the wall, which subsequently were sold or stolen. A flogging triangle is reported as having once been located in a courtyard behind the Commandants Cottage. Subsurface features are highly probable on this property.</p> <p>Relevant Sources</p> <p>Datasheet Tasmanian Heritage Register 1178 Commandant's Cottage</p> |
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3.0 FRAMEWORK FOR ASSESSMENT

| 20. COMMANDANT'S COTTAGE, CNR TARRANTS ROAD AND LYELL HIGHWAY, GRANTON | | |
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| SIGNIFICANCE ASSESSMENT | | |
| Level of Significance | State Significance | |
| Value | Key State/Local Threshold Indicators ²⁷ | Justification |
| (a) the place is important to the course or pattern of Tasmania's history | <p>State</p> <p><i>Demonstrates the occurrence of an event(s) at the place that was significant in Tasmania's history.</i></p> <p><i>Association with the development of an ideology derived from ethnic, religious, aesthetic, political, educational or other social beliefs, which resulted in the establishment, or change, of social values or behaviours across Tasmania.</i></p> | <p>Australia is the clearest example of the nature of British convict transportation, the British representing a major component of the convict story globally. Australia experienced the full evolution of the British penal process and thus reflects all the themes underlying the worlds story of convict transportation. The Granton (South Bridgewater) Convict Site demonstrates and represents aspects of Australia's 19th century penal history, with direct association to Tasmania's own convict history, which in turn demonstrates a role in the human occupation and evolution of the State. The site of the former station, is also important as the location of the largest convict chain gang on the Main Road between Hobart and Launceston. This importance is enhanced by the scale of the works undertaken (principally the Causeway) and their importance in the development of the colony. The protracted nature of the development is also historically significant for its role as a focus for colonial discontent with Governor Arthur.</p> |
| (b) the place possesses uncommon or rare aspects of Tasmania's history | <p>State</p> <p><i>One of few comparable places across Tasmania that is associated with/demonstrates an activity that was distinctive for what it achieved or so unusual in its nature it is now of particular interest to a community group.</i></p> | <p>Granton (South Bridgewater) Convict Site is of historic heritage significance because of its direct association with the 19th century probation system - a peculiar and unique form of convict discipline to the British colony of Van Diemen's Land.</p> |

²⁷ Department of Primary Industries, Parks, Water and Environment, October 2011, *Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995*

3.0 FRAMEWORK FOR ASSESSMENT

| 20. COMMANDANT'S COTTAGE, CNR TARRANTS ROAD AND LYELL HIGHWAY, GRANTON | | |
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| <p>(c) the place has the potential to yield information that will contribute to an understanding of Tasmania's history</p> | <p>State <i>A comparative analysis suggests that further research at the place has the potential to improve our understanding of Tasmania's past, to fill gaps in our existing knowledge.</i></p> | <p>Surface and subsurface remains of the Granton (South Bridgewater) Convict Site are of historic cultural heritage significance, because they have the potential to yield valuable information, of an archaeological nature, that may contribute to a greater understanding of Tasmanians convict past. By examining physical remains and evaluating the extent to which the system was enacted, archaeology has the ability to address any deficiencies highlighted in the historical literature. Also archaeology has the ability to evaluate how physical remains correspond to archival plans and written specifications, which are direct reflections of official intentions for the operation of the system.</p> <p>Remains may also demonstrate aspects of 19th century penal land use, architectural design and technology. Where written records note what was done but not how it was done, structural analysis of buildings (whether intact, modified or in ruins) have the potential to provide such information. Analysis of subsurface remains may also indicate particular materials used and building techniques employed. Some work may be of the highest quality, others poorer. The varying quality in workmanship may tell of skills and the attitudes not only of the overseers but also of the convicts themselves. Remains thus also have the potential to demonstrate the way convicts lived, which reflects the convicts own story and in turn contributes to our understanding of things they endured. They may also reflect how society treated them and remind us of some of the more objectionable aspects of convict punishment and the price paid in human suffering.</p> |
| <p>(d) the place is important in demonstrating the principal characteristics of a class of place in Tasmania's history</p> | <p>State <i>A particularly fine example of the class in a state wide context, demonstrating a broad range of characteristics that are typical of the class such as aesthetic composition, design, architectural style, applied finish or decoration of historical importance.</i> <i>A particularly intact example of the class in a state wide, demonstrating a range of physical characteristics that typify the class and which remain mostly unchanged since built/created.</i> <i>A particularly fine, intact or pivotal example of the class in a state wide, representative of a class of places that demonstrate a construction method, engineering design, technology or use of materials, of historical importance.</i> <i>A particularly fine, intact or pivotal example of the class in a state wide, representative of a class of places that demonstrate an historical land use, function or process, of historical importance.</i></p> | <p>Surface and subsurface elements of the Granton (South Bridgewater) Convict Site are of historic heritage significance, because they represent and have the ability to demonstrate aspects of 19th century penal land use, design and technology. The Commandant's Cottage for example represents aspects of the development and function of the station.</p> |

3.0 FRAMEWORK FOR ASSESSMENT

20. COMMANDANT'S COTTAGE, CNR TARRANTS ROAD AND LYELL HIGHWAY, GRANTON

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| <p>(f) the place has a strong or special association with a particular community or cultural group for social or spiritual reasons.</p> | <p>State <i>A key phase(s) in the establishment or subsequent development of the place were undertaken by, or directly influenced by, the important person(s) or organisation and that person(s) or organisation made an important contribution to the history of Tasmania.</i> <i>One or more achievements for which the person(s) or organisation are considered important are directly linked to the place and that person(s) or organisation made an important contribution to the history of Tasmania.</i></p> | <p>The Granton (South Bridgewater) Convict Site is of historic cultural heritage significance, because it is a place imbued with cultural, social and educational aspects, which have considerable community value in demonstrating the reality of the States convict past.</p> |
| <p>(g) the place has a special association with the life or works of a person, or group of persons, of importance in Tasmania's history</p> | <p>State <i>A key phase(s) in the establishment or subsequent development of the place were undertaken by, or directly influenced by, the important person(s) or organisation and that person(s) or organisation made an important contribution to the history of Tasmania.</i> <i>One or more achievements for which the person(s) or organisation are considered important are directly linked to the place and that person(s) or organisation made an important contribution to the history of Tasmania.</i></p> | <p>The Granton (South Bridgewater) Convict Site is of historic cultural heritage significance because of its association with the life and work of people, and groups of people, that are important in Tasmania's historic history. For example, Tasmania's Governors of State, Col. George Arthur, Lt. Gov. Sir John Franklin, Sir Eardley-Wilmot and Captain William Denison.</p> |

STATEMENT OF LOCAL HISTORIC HERITAGE SIGNIFICANCE AND HISTORIC HERITAGE VALUES

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|--|
| <p>Significant because of:</p> <p>(a) Its role in, representation of, or potential for contributing to the understanding of:</p> <p>(a)(i) Local history including –The Commandant's Cottage is significant for its association with the Granton (South Bridgewater) Convict Site. It demonstrates a role in the human occupation and evolution of this important junction and the settlement and development of Granton. It is historically important for its association with the construction of the Bridgewater Causeway and early history of the crossing of the River Derwent.</p> <p>(a)(ii) Creative or technical achievements - Not applicable.</p> <p>(a)(iii) A class of building or place that exhibits – The Commandant's Cottage represents aspects of the development and function of a convict probation station.</p> <p>(a)(iv) Aesthetic characteristics including – Not applicable.</p> <p>(b) Its association with:</p> <p>(b)(i) A particular community for social or spiritual reasons being – Not applicable</p> <p>(b)(ii) The life or works of – Col. George Arthur, Lt. Gov. Sir John Franklin, Sir Eardley-Wilmot and Captain William Denison.</p> |
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3.0 FRAMEWORK FOR ASSESSMENT

20. COMMANDANT'S COTTAGE, CNR TARRANTS ROAD AND LYELL HIGHWAY, GRANTON

REVIEW OF POTENTIAL IMPACTS

- The place sits outside the Project Land and the works will have no direct impact to the fabric of the Commandant's Cottage. The placement of the proposed bridge and connecting road network to the east of the present crossing limit the works adjacent the place to an upgrade of the existing roadway. Retention of, and limited works to the causeway will retain the setting and context of the place more widely.
- The proposed works alter the road alignment adjacent the Commandant's Cottage with likely change to the current embankment. Given the elevation of the place above the road this is unlikely to impact of the setting of the place.
- Vibration from construction works may presents impact to the fabric of the of the place.

Impact Mitigation Recommendations

- Carry out vibration assessment to determine risks to the Commandant's Cottage from construction works. Subject to the findings of this assessment incorporate monitoring with the CHMP as appropriate.
- Consider supplementing hydroseed grass to the embankment cutting, as nominated within the Landscape Plan with the addition of shrubs. .

3.0 FRAMEWORK FOR ASSESSMENT

| 21. WATCH HOUSE, 1 LYELL HIGHWAY, GRANTON | | |
|---|---|--|
| Heritage Status | THR 1182, Watch House 1 Lyell Highway, Granton <i>Derwent Valley Interim Planning Scheme 2015, Table E13.1 No.17 Watch House.</i> | |
| Grid co-ordinates | | |
| | Summary History Not available Relevant Sources Datasheet Tasmanian Heritage Register 1182 Watch House | |
| | Description This is a single storey sandstone building with an iron hipped roof. The two foot thick walls are mortared by lime and mud. Altered for modern uses, the building no longer has its original doors and windows. Relevant Sources Datasheet Tasmanian Heritage Register 1182 Watch House | |
| SIGNIFICANCE ASSESSMENT | | |
| Level of Significance | State Significance | |
| Value | Key State/Local Threshold Indicators²⁸ | Justification |
| (a) the place is important to the course or pattern of Tasmania's history | State <i>Demonstrates the occurrence of an event(s) at the place that was significant in Tasmania's history.</i> <i>Association with the development of an ideology derived from ethnic, religious, aesthetic, political, educational or other social beliefs, which resulted in the establishment, or change, of social values or behaviours across Tasmania.</i> | The former Watch House is of historic cultural heritage significance as a built manifestation of the development of transportation in Colonial Tasmania. |
| (d) the place is important in demonstrating the principal characteristics of a class of place in Tasmania's history | State <i>A particularly fine example of the class in a state wide context, demonstrating a broad range of characteristics that are typical of the class such as aesthetic composition, design, architectural style, applied finish or decoration of historical importance.</i> <i>A particularly intact example of the class in a state wide, demonstrating a range of physical characteristics that typify the class and which remain mostly unchanged since built/created.</i> <i>A particularly fine, intact or pivotal example of the class in a state wide, representative of a class of places that demonstrate a construction method, engineering design, technology or use of materials, of historical importance.</i> <i>A particularly fine, intact or pivotal example of the class in a state wide, representative of a class of places that demonstrate an historical land use, function or process, of historical importance.</i> | The former Watch House at Granton is of historic heritage significance because of its ability to demonstrate the principal characteristics of a single storey sandstone Old Colonial Georgian building associated with penal administration. |

²⁸ Department of Primary Industries, Parks, Water and Environment, October 2011, *Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995*

3.0 FRAMEWORK FOR ASSESSMENT

21. WATCH HOUSE, 1 LYELL HIGHWAY, GRANTON

STATEMENT OF LOCAL HISTORIC HERITAGE SIGNIFICANCE AND HISTORIC HERITAGE VALUES

Significant because of:

(a) Its role in, representation of, or potential for contributing to the understanding of:

- (a)(i) **Local history including** –The Watch House is of historic significance as it demonstrates a role in the human occupation and evolution of this important junction and the settlement and development of Granton.
- (a)(ii) **Creative or technical achievements** - Not applicable.
- (a)(iii) **A class of building or place that exhibits** – The former Watch House at Granton is of historic heritage significance because of its ability to demonstrate the principal characteristics of a single storey sandstone Old Colonial Georgian building associated with penal administration.
- (a)(iv) **Aesthetic characteristics including** – Not applicable.

(b) Its association with:

- (b)(i) **A particular community for social or spiritual reasons being** – Not applicable.
- (b)(ii) **The life or works of** – Not applicable.

REVIEW OF POTENTIAL IMPACTS

- The place sits outside the Project Land and the work will have no direct impact to the fabric of the Watch House.
- The proposed works impact on the road and path alignment to the street frontage of the Watch House further impacting the presently compromised setting. (Appendix 4 Views Study Photos - 10.01.02.07 VP03_v005-masked). It sees the path alignment almost at the frontage of the Watch House, with visual impacts likely as a result of the incongruous nature of what appears to be a concrete path. It is however noted that this material is not specified.
- Vibration from construction works may presents impact to the fabric of the of the place.

Impact Mitigation Recommendations

- Carry out vibration assessment to determine risks to the Watch House from construction works. Subject to the findings of this assessment incorporate monitoring with the CHMP as appropriate.
- Surface treatments for footpaths should be specified to be more in keeping with the historic materials of the Watch House.

3.0 FRAMEWORK FOR ASSESSMENT

| 22. GRANTON CONVICT QUARRY, 3 LYELL HIGHWAY, GRANTON | |
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| Heritage Status | THR 7158, Granton Convict Quarry, 3 Lyell Highway, Granton <i>Derwent Valley Interim Planning Scheme 2015, Table E13.1 No.18, Granton Convict Quarry</i> |
| Grid co-ordinates | |
| | <p>Summary History</p> <p>Convicts were housed at Bridgewater from 1830 to the end of 1849. The station was built on Ebenezer Geiss' grant and was one of several convict sites operating in the Derwent Valley. It was initially established in response to the decision to construct the Bridgewater Causeway. The causeway being a major public works project in an attempt to solve the problem of crossing the River Derwent and more specifically a commitment of Governor Arthur to a major road between Hobart and Launceston. The Bridgewater location was preferred for its excellent quarry and a sandbank extending half a mile in length to the Channel (Austral Arch 1997). Wooden barracks were constructed to house the convicts, with additional buildings built from stone. Ever concerned with the moral and religious sensibilities of their charges a chapel was also erected at the station in 1834. As a contrast local legend has it that on death, many convicts were simply buried in the causeway. Construction work on the causeway began in 1830 and lasted until completion in 1836. The crossing of the Derwent was finished by means of a punt, built at Port Arthur. It is calculated that an overall 1,850 convicts worked on the causeway - labouring for six years, hand quarrying and wheelbarrowing an estimated 1.8 million tonnes of rock and clay to the waters edge (Bridgewater Social History Project 1988). During its construction the causeway also became known as 'Arthur's Folly' after Governor Arthur, because as fast as rock was tipped into the river it was swallowed up by mud. After the causeway was built convict work included repairing the main line of road (Midlands Highway) under the orders and directions of the Director General of Roads (Brand 1990). From c.1832 able bodied men were also forming the opposing jetty at Green Point. In 1834 Green Point housed a substantial number of invalid convicts (RNE 1998). G.T.W. Boyes visited the Bridgewater station in 1831 his description is both an evocative and horrifying account. He describes the cramped and draughty conditions of 160 men in chains, with good conduct men in long chains and petty offenders in shortened chains. Shortened chains chaffed legs and restricted movement. A flogging triangle was noted as a prominent feature of the courtyard (Chapman 1985). Overall for the first eleven years the station was a road gang station, housing prisoners sentenced to the chain gangs for crimes committed in the colony. They were sentenced for a definite time varying from one to twelve months, and on expiration of their sentence they either returned to their masters or were transferred to Public Works of less painful employment (RNE 1998). From 1841 to September 1845 the station became a probation station where convicts '...were supposed to be kept separate from the old hands, but this was not the case' (Marsh 1847 in Brand 1990:58). From 1845 the station was principally used to hold sentenced parties. At the end of 1847 Bridgewater is recorded as among the eleven stations being broken up during the last twelve months. The convicts were of the old class and have been removed to Jericho (Hampton 1847 in Brand 1990). In November 1847 James Alexander Thompson and James Blackburn entered into a contract with the Bridgewater Bridge Commission to erect a bridge with a movable platform, which could be rolled out of the way of passing vessels. The station was again re-opened to provide accommodation for the construction gang. Timber was cut on the slopes of Mount Dromedary and floated down stream to the construction site. On the 26th April 1849 the bridge was finally opened and the Dromedary station was closed (Bridgewater History Project 1988). The Bridgewater station remained open until mid 1850 (Brand 1990). In time the land was sold off for private use and most remaining structures were either demolished or left to fate.</p> <p>Relevant Sources</p> <p>Datasheet Tasmanian Heritage Register 7158 Granton Convict Quarry</p> |

3.0 FRAMEWORK FOR ASSESSMENT

22. GRANTON CONVICT QUARRY, 3 LYELL HIGHWAY, GRANTON

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| | <p>Description</p> <p>La Trobe's 1847 report notes station buildings as being old, and with the exception of the Superintendent quarters and the store used for provisions and sundry articles, all were in very bad repair. The cook house and bake house were noted as also being almost in ruins, and the 11 cells were close, damp, and badly (La Trobe in Brand 1990). One ward was also used to store old bedding and iron etc. Some idea of the stations appearance can be gained from T.L Chapmanms painting titled 'Bridgewater Causeway in 1840' (TMAG). Despite La Trobes comments concerning the dilapidated condition of the site, the station is today still evident through the remains of discrete surface features, extant buildings and subsurface elements located on private and council land. At this particular property a sandstone quarry escarpment starts behind the Watch House and extends to Forest Road. Subsurface remains are also highly probable on the reserve, as illustrated by the plans AOT PWD 266/1169 and 266/1170 c.1836, which show the area as once containing a chapel, carpenters shop, station overseer and doctors hut. Locals report seeing drains in the area (now beneath the carpark) when Telstra was putting in a cable. Locals also remember seeing stone foundations in the reserve (Woods 2002).</p> <p>Relevant Sources</p> <p>Datasheet Tasmanian Heritage Register 7158 Granton Convict Quarry</p> |
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3.0 FRAMEWORK FOR ASSESSMENT

22. GRANTON CONVICT QUARRY, 3 LYELL HIGHWAY, GRANTON

SIGNIFICANCE ASSESSMENT

| Level of Significance | State Significance | |
|---|---|--|
| Value | Key State/Local Threshold Indicators ²⁹ | Justification |
| (a) the place is important to the course or pattern of Tasmania's history | <p>State</p> <p><i>Demonstrates the occurrence of an event(s) at the place that was significant in Tasmania's history.</i></p> <p><i>Association with the development of an ideology derived from ethnic, religious, aesthetic, political, educational or other social beliefs, which resulted in the establishment, or change, of social values or behaviours across Tasmania</i></p> | <p>Australia is the clearest example of the nature of British convict transportation, the British representing a major component of the convict story globally. Australia experienced the full evolution of the British penal process and thus reflects all the themes underlying the world's story of convict transportation. The Granton (South Bridgewater) Convict Site demonstrates and represents aspects of Australia's 19th century penal history, with direct association to Tasmania's own convict history, which in turn demonstrates a role in the human occupation and evolution of the State. The site of the former station, is also important as the location of the largest convict chain gang on the Main Road between Hobart and Launceston. This importance is enhanced by the scale of the works undertaken (principally the Causeway) and their importance in the development of the colony. The protracted nature of the development is also historically significant for its role as a focus for colonial discontent with Governor Arthur.</p> |
| (b) the place possesses uncommon or rare aspects of Tasmania's history | <p>State</p> <p><i>One of few comparable places across Tasmania that is associated with/demonstrates an activity that was distinctive for what it achieved or so unusual in its nature it is now of particular interest to a community group.</i></p> | <p>Granton (South Bridgewater) Convict Site is of historic heritage significance because of its direct association with the 19th century probation system - a peculiar and unique form of convict discipline to the British colony of Van Diemen's Land.</p> |

²⁹ Department of Primary Industries, Parks, Water and Environment, October 2011, *Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995*

3.0 FRAMEWORK FOR ASSESSMENT

| 22. GRANTON CONVICT QUARRY, 3 LYELL HIGHWAY, GRANTON | | |
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| <p>(c) the place has the potential to yield information that will contribute to an understanding of Tasmania's history</p> | <p>State <i>A comparative analysis suggests that further research at the place has the potential to improve our understanding of Tasmania's past, to fill gaps in our existing knowledge.</i></p> | <p>Surface and subsurface remains of the Granton (South Bridgewater) Convict Site are of historic cultural heritage significance, because they have the potential to yield valuable information, of an archaeological nature, that may contribute to a greater understanding of Tasmanians convict past. By examining physical remains and evaluating the extent to which the system was enacted, archaeology has the ability to address any deficiencies highlighted in the historical literature. Also archaeology has the ability to evaluate how physical remains correspond to archival plans and written specifications, which are direct reflections of official intentions for the operation of the system.</p> <p>Remains may also demonstrate aspects of 19th century penal land use, architectural design and technology. Where written records note what was done but not how it was done, structural analysis of buildings (whether intact, modified or in ruins) have the potential to provide such information. Analysis of subsurface remains may also indicate particular materials used and building techniques employed. Some work may be of the highest quality, others poorer. The varying quality in workmanship may tell of skills and the attitudes not only of the overseers but also of the convicts themselves. Remains thus also have the potential to demonstrate the way convicts lived, which reflects the convicts own story and in turn contributes to our understanding of things they endured. They may also reflect how society treated them and remind us of some of the more objectionable aspects of convict punishment and the price paid in human suffering.</p> |
| <p>(d) the place is important in demonstrating the principal characteristics of a class of place in Tasmania's history</p> | <p>State <i>A particularly fine example of the class in a state wide context, demonstrating a broad range of characteristics that are typical of the class such as aesthetic composition, design, architectural style, applied finish or decoration of historical importance.</i></p> <p><i>A particularly intact example of the class in a state wide, demonstrating a range of physical characteristics that typify the class and which remain mostly unchanged since built/created.</i></p> <p><i>A particularly fine, intact or pivotal example of the class in a state wide, representative of a class of places that demonstrate a construction method, engineering design, technology or use of materials, of historical importance.</i></p> <p><i>A particularly fine, intact or pivotal example of the class in a state wide, representative of a class of places that demonstrate an historical land use, function or process, of historical importance.</i></p> | <p>Surface and subsurface elements of the Granton (South Bridgewater) Convict Site are of historic heritage significance, because they represent and have the ability to demonstrate aspects of 19th century penal land use, design and technology. The Commandant's Cottage for example represents aspects of the development and function of the station.</p> |

3.0 FRAMEWORK FOR ASSESSMENT

22. GRANTON CONVICT QUARRY, 3 LYELL HIGHWAY, GRANTON

| | | |
|---|--|---|
| <p>(f) the place has a strong or special association with a particular community or cultural group for social or spiritual reasons.</p> | <p>State</p> <p><i>A key phase(s) in the establishment or subsequent development of the place were undertaken by, or directly influenced by, the important person(s) or organisation and that person(s) or organisation made an important contribution to the history of Tasmania.</i></p> <p><i>One or more achievements for which the person(s) or organisation are considered important are directly linked to the place and that person(s) or organisation made an important contribution to the history of Tasmania.</i></p> | <p>The Granton (South Bridgewater) Convict Site is of historic cultural heritage significance because of its association with the life and work of people, and groups of people, that are important in Tasmania's historic history. For example, Tasmania's Governors of State, Col. George Arthur, Lt. Gov. Sir John Franklin, Sir Eardley-Wilmot and Captain William Denison.</p> |
|---|--|---|

STATEMENT OF LOCAL HISTORIC HERITAGE SIGNIFICANCE AND HISTORIC HERITAGE VALUES

| |
|---|
| <p>Significant because of:</p> <p>(a) Its role in, representation of, or potential for contributing to the understanding of:</p> <p>(a)(i) Local history including – The Convict Quarry is significant for its association with the Granton (South Bridgewater) Convict Site. It demonstrates a role in the human occupation and evolution of this important junction and the settlement and development of Granton. It is historically important for its association with the construction of the Bridgewater Causeway and early history of the crossing of the River Derwent.</p> <p>(a)(ii) Creative or technical achievements - Not applicable.</p> <p>(a)(iii) A class of building or place that exhibits – The Convict Quarry demonstrates aspects of 19th century penal land use, design and technology. The Convict Quarry demonstrates historic quarrying practices for stone used in the construction of the Bridgewater Causeway.</p> <p>(a)(iv) Aesthetic characteristics including – Not applicable.</p> <p>(b) Its association with:</p> <p>(b)(i) A particular community for social or spiritual reasons being – Not applicable</p> <p>(b)(ii) The life or works of – Col. George Arthur, Lt. Gov. Sir John Franklin, Sir Eardley-Wilmot and Captain William Denison.</p> |
|---|

PRELIMINARY REVIEW OF POTENTIAL IMPACTS

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| <ul style="list-style-type: none"> The place sits outside the Project Land and will have no direct impact to the fabric of the Quarry. The proposed works do not impact the setting of the Quarry. <p>Impact Mitigation Recommendations</p> <ul style="list-style-type: none"> No conservation actions are considered necessary |
|---|

3.0 FRAMEWORK FOR ASSESSMENT

| 23. FORMER OLD GRANTON RAILWAY STATION, MAIN ROAD, GRANTON | |
|---|---|
| Heritage Status | Glenorchy Local Provisions Schedule 2021, GLE-C6.I.182, Former Old Granton Railway Station, Part CT 134026/1 Part CT 118024/2 |
| Grid co-ordinates | |
| | Summary History Not available |
| | Description Not available |
| STATEMENT OF LOCAL HISTORIC HERITAGE SIGNIFICANCE AND HISTORIC HERITAGE VALUES | |
| <p>Circa 1959 – 1961 Railway Station and Signal Box.</p> <p>A good representative, and increasingly rare, example of post-war railway station infrastructure incorporating a signal box.</p> <p>Specific Extent</p> <p>All that part of the land located between a line drawn along and extended from the southeast boundary of CT134025/1 and a 61m offset south east of that line.</p> <p>Significant because of:</p> <p>(a) Its role in, representation of, or potential for contributing to the understanding of:</p> <p>(a)(i) Local history including – as a rare surviving railway station and signal box demonstrating the development of mid-20th century railway infrastructure and the contemporary importance of rail transport in the area.</p> <p>(a)(ii) Creative or technical achievements - Not applicable.</p> <p>(a)(iii) A class of building or place that exhibits – the characteristics of an unpretentious post-war railway station with corrugated gable roof extended as a verandah over a concrete platform with signal box at the southern end.</p> <p>(a)(iv) Aesthetic characteristics including – Not applicable.</p> <p>(b) Its association with:</p> <p>(b)(i) A particular community for social or spiritual reasons being – Not applicable</p> <p>(b)(ii) The life or works of – Not applicable</p> | |
| REVIEW OF POTENTIAL IMPACTS | |
| <ul style="list-style-type: none"> The place is outside the Project Land and the works will have will have no direct impact to the fabric of the Former Old Granton Railway Station. <p>Impact Mitigation Recommendations</p> <ul style="list-style-type: none"> No conservation actions are considered necessary | |

3.0 FRAMEWORK FOR ASSESSMENT

| 24. PARHOLM, 314 MIDLAND HIGHWAY, BRIDGEWATER | | |
|---|--|--|
| Heritage Status | THR 619, Parkholm, 314 Midland Highway, Bridgewater BRI-C6.1.69, Parholm, 1 Parkholme Drive, Bridgewater | |
| Grid co-ordinates | | |
| | Summary History Not available | |
| | Description A farm group of building including main house and outbuildings. The main house is two storey with a surrounding verandah. There is a single storey section to the rear with a hip roof. It is located on a brow of a hill and is surrounded by mature trees. | |
| SIGNIFICANCE ASSESSMENT | | |
| Level of Significance | State Significance | |
| (a) the place is important to the course or pattern of Tasmania's history | <p>State</p> <p>Demonstrates the occurrence of an event(s) at the place that was significant in Tasmania's history.</p> <p>Association with the development of an ideology derived from ethnic, religious, aesthetic, political, educational or other social beliefs, which resulted in the establishment, or change, of social values or behaviours across Tasmania.</p> | Parkholm is of high historic cultural heritage significance for its ability to illustrate the historical and sequential development of agriculturist pursuits and land in the outlying districts. |
| (d) the place is important in demonstrating the principal characteristics of a class of place in Tasmania's history | <p>State</p> <p>A particularly fine example of the class in a state wide context, demonstrating a broad range of characteristics that are typical of the class such as aesthetic composition, design, architectural style, applied finish or decoration of historical importance.</p> <p>A particularly intact example of the class in a state wide, demonstrating a range of physical characteristics that typify the class and which remain mostly unchanged since built/created.</p> <p>A particularly fine, intact or pivotal example of the class in a state wide, representative of a class of places that demonstrate a construction method, engineering design, technology or use of materials, of historical importance.</p> <p>A particularly fine, intact or pivotal example of the class in a state wide, representative of a class of places that demonstrate an historical land use, function or process, of historical importance.</p> | Parkholm is of historic heritage significance because it represents the principal characteristics of a Victorian Georgian rural homestead, its construction method, design, fabrication and operation. |

24. PARHOLM, 314 MIDLAND HIGHWAY, BRIDGEWATER

STATEMENT OF LOCAL HISTORIC HERITAGE SIGNIFICANCE AND HISTORIC HERITAGE VALUES

A farm group of building including main house and outbuildings. The main house is two storey with a surrounding verandah. There is a single storey section to the rear with a hip roof. It is located on a brow of a hill and is surrounded by mature trees.³⁰

Significant because of:

(a) Its role in, representation of, or potential for contributing to the understanding of:

(a)(i) **Local history including** – its ability to illustrate the historical and sequential development of agriculturist pursuits and land in the outlying districts.³¹

(a)(ii) **Creative or technical achievements** - Not applicable

(a)(iii) **A class of building or place that exhibits** - the principal characteristics of a Victorian Georgian rural homestead, its construction method, design, fabrication and operation.³²

(a)(iv) **Aesthetic characteristics including** – Parkholm sits within a cultural landscape representative of colonial grant and settlement patterns. It retains landscape plantings typical of tree lined boundary patterns to the drive of rural properties, and other 'exotic' plantings as a counterpoint to the natural and agricultural landscape.³³ The values of this landscape have been adversely impacted by mining practices and road infrastructure upgrades. In this respect the landmark or scenic qualities of the place have been irreversibly degraded.

(b) Its association with:

(b)(i) **A particular community for social or spiritual reasons being** - Not applicable

(b)(ii) **The life or works of** – George Brooks Forster, the recipient of the original land grant and former owners the Barwick Family. The Barwicks were very large land holders at Tea tree, owning the property Woodlands. It was Robert Barwick who changed the name of the property from Hayfield Park to Parkholm.³⁴

REVIEW OF POTENTIAL IMPACTS

- The place is outside the Project Land and the proposal presents no direct impacts to Parkholm

Impact Mitigation Recommendations

- No conservation actions are considered necessary

³⁰ THR Datasheet 619

³¹ THR Datasheet 619

³² THR Datasheet 619

³³ Assessment of the historic and present landscape values of Parkholme at North Bridgewater, G. Sheridan, 2008.

³⁴ Assessment of the historic and present landscape values of Parkholme at North Bridgewater, G. Sheridan, 2008, p 4

NEW BRIDGEWATER BRIDGE PROJECT

4.0 HERITAGE IMPACT STATEMENT

4.1 GUIDANCE DOCUMENTATION

The following documents provide a best practice management framework of historic sites and have informed this assessment:

- ICOMOS Australia, The Burra Charter (1999, revised 2013)
- State Heritage Office of Western Australia, Heritage Impact Statement – A Guide, 2012
- Tasmanian Heritage Council, Works Guidelines for Historic Heritage Places, 2015

4.2 ASSESSMENT METHODOLOGY

It is to be noted that a detailed assessment as to potential impacts to the individual places within the study area, together with mitigating measures is outlined within Section 3.6 of this Statement.

The following assessment is prepared with reference to the Assessment Criteria for the New Bridgewater Bridge Major Project, determined by the Development Assessment Panel, May 2021. Direct (fabric) and indirect (visual impacts, vibration impacts etc) impacts are both considered in this assessment.

4.3 ASSESSMENT AGAINST HERITAGE IMPACT STATEMENT – A GUIDE, 2012

| Demolition of a building or structure | |
|--|--|
| <p>Have all options for retention and adaptive re-use been explored?</p> | <p>Options for retention and adaptive reuse have been investigated at length as part of the initial options assessment for the Project. These options are discussed in the MPIS Retention Options Analysis Report. A summary of considerations associated with the existing Bridgewater Bridge is outlined below:</p> <p>The New Bridgewater Bridge Project includes demolition of the existing Bridgewater Bridge, and retention of the existing causeway and 1874 and 1893 stone abutments.</p> <p>A detailed response is outlined within the MPIS Retention Options Analysis Report which has been prepared by an interdisciplinary team, evaluating all project considerations. This Report has been reviewed and summarised within the Landscape and Visual Impact Analysis, prepared by Inspiring Place, November 2021 as follows:</p> <p>In summary the report found that the principal issue with the full or partial retention of any or all parts of the historic bridge in combination with the construction of the chosen design is the visual conflict arising from seeing the two bridges simultaneously.</p> <p>Where the two are seen together the 'scenic interest' attributed to either the historic bridge or the New Bridge is diminished by the:</p> <ul style="list-style-type: none"> - lack of visual harmony between the two bridge forms; - loss of clarity of the otherwise rational and understandable layout of either bridge; - loss of a sense of order as the two bridge strongly contrast in form, colour and materiality; and - diminution of any excitement that might arise from the viewing of a heritage bridge form and/or a well-engineered contemporary bridge in their own right. <p>The report noted that the two bridges are not seen together from all viewpoints. Indeed, the lift bridge is offset considerably to the north of the river where it is screened in several locations by landforms and/or vegetation. In these situations, the visual impact of full or partial retention is nil.</p> |

HERITAGE IMPACT STATEMENT

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| | <p>The report concluded that removal of all bridge elements except the piles/caissons (option PR3) and full demolition of the existing bridge, the approach spans, flanking spans, towers and the lift span (option FDI) are the most desirable outcomes from a visual impact perspective. FDI absolutely minimises any visual conflict between the historic bridge and the chosen design and thus it could be argued that there is no visual impact.</p> <p>Nonetheless, the visual cues to the historic bridge are lost FDI unlike in option PR3 which enables viewers to visualise the layered history of the site more readily – this consideration, however, is less of an aesthetic question and more one of interpretation and heritage conservation.</p> <p>Of those options rated as 'okay', removal of all but the northern approach and flanking span (option PR2a) is considered an acceptable visual outcome. While other options rated as 'okay', would visually conflict with the chosen design and are thus less acceptable.</p> <p>Purcell support this assessment.</p> <p>The Farm Outbuildings, 37 Black Snake Road, Granton, CT 156256/20 are also nominated for demolition. It is to be noted that the Glenorchy Interim Planning Scheme 2015 identifies 'Particular Exempt Development' for this place with the following statement:</p> <p><i>The demolition of the farm outbuildings is permitted in accordance with Clause 8.7 of the Scheme if the demolition is required as part of the replacement of the Bridgewater Bridge and associated road works provided that archival records are prepared for the property and materials are salvaged, generally in accordance with recommendation III of the Austral Tasmania report titled 'Bridgewater Crossing: Granton Interchange, Historic Heritage Assessment, Final Report prepared for GHD Pty, 2 June 2011.</i></p> <p>Several trees are also anticipated to be unavoidably impacted by the works. These being features 18.09 and 18.10 associated with 37 Black Snake Road, Granton.</p> |
| <p>Is demolition essential at this time, or can it be postponed in case future circumstances make retention and conservation more feasible?</p> | <p>In principle the demolition of the existing Bridgewater Bridge could be postponed.</p> |
| <p>Can any new development be located elsewhere on the site, so the significant elements of the place can be retained?</p> | <p>The project follows extensive multidisciplinary investigations for the location and siting of the river crossing.</p> <p>It is a project objective that the Bridgewater Crossing be retained within proximity of the present historical crossing, retaining the cultural heritage significance of the place as the continued river crossing since 1829. It is also a project objective that significant elements are retained where possible, as is evidenced through the proposed retention of the causeway and 1874 and 1893 abutments. It is however noted that heritage considerations are one of several complex considerations associated with the planning and delivery of this major project.</p> |
| <p>Has the advice of a heritage consultant been taken? If not, why not?</p> | <p>Heritage advice has been taken across the following disciplines:</p> <ul style="list-style-type: none"> – Aboriginal Heritage (beyond the scope of this study) – Archaeology – Heritage Engineering – Built Heritage – Heritage Consultancy – Cultural Landscapes (beyond the scope of this study) – Interpretation |

HERITAGE IMPACT STATEMENT

| New development adjacent to a heritage place | |
|--|--|
| How is the impact of the new development on the heritage significance of the place or area to be minimised? | <p>Means of minimizing the impact of the development has been considered beyond that of adjacent heritage places, to account for potential direct and indirect impacts to individual places of local and state historic cultural heritage significance.</p> <p>Mitigating measures are outlined within the Recommendations Section 5.2 and are outlined with respect to individual places and as general project wide mitigating measures. Generally these are summarized as:</p> <ul style="list-style-type: none"> – Archival Recording – Refinements to Landscape and Urban Design proposals outlined by the Chosen Design – Interpretation – Construction Heritage Management Plan – Vibration risk assessment and monitoring – Management of archaeological values and potential. |
| Why is the new development required to be adjacent to a heritage place? | <p>The sting and location of the new Bridgewater Bridge is constrained by the reliance on existing infrastructure, being the existing Brooker and Midland Highway corridors.</p> <p>Further geographic, geotechnical, environmental and heritage constraints which have informed with Chosen Design are outlined within Section 2.2.2.4.5 of the Project Rationale.</p> |
| How does the new development affect views to, and from, the heritage place? What has been done to minimise negative effects? | <p>The Chosen Design will affect views to and from the Registered Place of the Bridgewater Crossing and its component features. This impact is at risk of being greater through the retention, rather than demolition of the existing Bridge, due to visual clutter. This complex consideration is outlined in detail in the Retention Options Analysis and Landscape and Visual Impact Analysis.</p> |
| Is the new development sympathetic to the heritage place? In what way (e.g. form, siting, proportions, design, materials)? | <p>The Chosen Design is an output defined by considerable engineering constraints determined by the design standards and environmental context of the crossing. In this respect there is little tolerance for the exploration of more sympathetic designs. The design measures of colour application, lighting and material selection are not sympathetic to the place and should be further developed as discrete measures, rather than bold statements. Furthermore they should be integrated, where possible, with a program of interpretation.</p> |

HERITAGE IMPACT STATEMENT

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| <p>Will the new building(s) visually dominate the heritage place? How has this been minimised?</p> | <p>The Chosen Design will be visually dominant within the context and setting of the wider landscape and study area.</p> <p>As outlined above the Chosen Design is an output defined by considerable engineering constraints determined by the design standards and environmental context of the crossing. In this respect there is little tolerance for the exploration of options which minimise this impact, beyond the mitigating measures nominated by the Chosen Design and the recommendations of this assessment.</p> <p>The New Bridgewater Bridge Landscape and Visual Impact Analysis, Inspiring Place, November 2021, has evaluated the character, extent and significance of the visual values of the surrounds of the Chosen Design for the New Bridgewater Bridge.</p> <p>The landscape was found to have a relatively high Visual Absorption Capacity which helped to minimise the potential visual impacts that might have arisen with less screening potential (Section 6.1) and that the 'scenic interest' of the New Bridgewater Bridge was a positive moderating influence on any potential visual impact (Section 6.2).</p> <p>Together, these factors suggested that the magnitude of impact of the redevelopment was moderate (Section 7) and the conclusion was reached that the moderate significance of the visual impact of the New Bridge was based on an amalgam of the moderate sensitivity of the landscape to change and the moderate order of magnitude of the proposed development (Section 8).</p> <p>The Landscape and Visual Impact Analysis concludes, that, providing that mitigation measures are undertaken such as those in Sections 8.2 , 8.3 and 8.4, there are no substantive visual impacts that would preclude the New Bridge from proceeding.⁰¹</p> |
| <p>Will the public and users of the place, still be able to view and appreciate its significance?</p> | <p>The public will retain the ability to view and appreciate the significance of the place as a crossing with overall retention of the wider landscape setting and context of the Bridgewater Crossing.</p> <p>Further appreciation of significance could be gained through the nominated program of interpretation and archival recording.</p> |
| <p>New landscape works and features</p> | |
| <p>How has the impact of the new work on the heritage significance of the existing landscape been minimised?</p> | <p>There are no identified cultural landscape precincts listed in TE13.3 of the Interim Planning Schemes, nor is E13.4 Scenic Landscape Code applicable to the Interim Planning Schemes. As such there is no recognized significance attributed to the wider existing landscape.</p> <p>There are several items of landscape significance identified within the study area the works will impact on the fig and cherry trees at 37 Black Snake Lane (Items 18.09 and 18.10). Recommendation 5.2.3.3 nominates that the viability of replacement options be determined. Furthermore the recommended CHMP (Section 5.2.3.vii) is suggested to include a landscape management plan to determine the extent of protective exclusion zones required to avoid root truncation and any other prescriptions to ensure trees are maintained in a safe, healthy state.</p> <p>The chosen design includes a landscape concept (shown in MPIS Appendix AA) that includes careful placement and layering of native trees to provide visual screening of the elevated sections of road, including behind the Black Snake Inn. It is our recommendation that the hydroseed grass nominated within the landscape context be coupled with shrubs to further mitigate the visual impact of embankment cuttings</p> |

⁰¹ Landscape and Visual Impact Analysis, Inspiring Place, November 2021, Conclusion.

HERITAGE IMPACT STATEMENT

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| <p>Has evidence (archival and physical) of previous landscape work been investigated/ Are previous works being reinstated?</p> | <p>Refer to Landscape and Visual Impact Analysis, Inspiring Place, November 2021, prepared in support of the MPIS.</p> |
| <p>Has the advice of a consultant skilled in the conservation of heritage landscapes been sought? If so, have their recommendations been implemented?</p> | <p>Refer to Landscape and Visual Impact Analysis, Inspiring Place, November 2021, prepared in support of the MPIS.</p> |
| <p>Are any known or potential archaeological deposits affected by the landscape works? If so, what alternatives have been considered?</p> | <p>An archaeological zoning plan is included within Appendix 2: Austral Tasmania Pty Ltd, Bridgewater Causeway and Bridge. Historic Heritage Assessment and Archaeological Zoning Plan, AT0298, 12 November 2020.</p> <p>In addition recommendations 3ii, 4, 5 and 6 of Section 5.2 outline Statements of Archaeological Potential and Archaeological Method Statement (AMS) for those places potentially impacted by the works. These studies will identify known and potential deposits from which alternative and mitigating measures can be considered.</p> <p>Statement of Archaeological Potential and Archaeological Method Statement, Praxis Environment, November 2021 included within Appendix 5</p> |
| <p>How does the work impact on views to, and from, adjacent heritage items?</p> | <p>Notwithstanding the above there are likely to be impacts on views to and from the Bridgewater Crossing regardless of the retention or removal of the existing Bridgewater Bridge. The magnitude of these impacts is likely to be greater if the existing Bridge were to be retained. This largely being associated with visual clutter and impacted views toward the existing bridge. Removal of the existing bridge is unlikely to detract from the views to and from the wider landscape and setting.</p> <p>The Chosen Design will affect views to and from heritage places in the wider landscape and study area. It is important to consider if this impact will detract from the cultural heritage values of the Registered Places and the Local Heritage Places recognized for their aesthetic significance.</p> <p>The proposal will not impact views to and from the Local Heritage Places of aesthetic significance, being Parholm and St Mary's Church. The Chosen Design will result in an impact on the views to and from the Black Snake Inn both a Registered Place and Local Heritage Place of aesthetic significance, and mitigating measures by way of landscape planting are nominated. Further mitigating measures of materials and landscape specification and interpretation are recommendations arising from this assessment.</p> |

4.4 ASSESSMENT AGAINST WORKS GUIDELINES FOR HISTORIC HERITAGE PLACES

6. Demolition, Relocation and Movable Heritage

The relocation or demolition (partial or total) of significant built elements is likely to have adverse impacts on the heritage significance of a place.

Safety issues are relevant when contemplating demolition, however, most structures can be made safe and demolition should be a last resort. The Heritage Council may request a heritage impact statement for an application for full demolition or removal.

For places that have been assessed against criterion (c) – potential to yield information – or where a place is likely to have significant archaeological values, the Heritage Council may require the preparation of a Statement of Historical Archaeological Potential to ensure impacts to significant archaeological values are considered.

Where demolition is agreed to, a documentary record of the place may be required prior to the works occurring.

HERITAGE IMPACT STATEMENT

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| <p>6.3 Total Demolition</p> | <p>A detailed response is outlined within the MPIS Retention Options Analysis Report which has been prepared by an interdisciplinary team, evaluating all project considerations.</p> <p>A full archival record, inclusive of photographs, archival plans and a 3D model has been prepared for the Bridgewater Bridge.</p> <p>Further recommendations for archival recording of any features noted for demolition is outlined in Section 5.4 and individual datasheets of Section 3.6.</p> |
| <p>7. Excavation and Archaeological Investigation</p> <p>Where a place had been assessed as having significant archaeological value against criterion (c) – potential to yield information – or the place is otherwise known to have significant archaeological remains (ie: archaeological materials, inclusive of structures, relics or artefacts, deposits and residues), the Heritage Council may require a Statement of Historical Archaeological Potential to ensure impacts to significant archaeological values are considered. The Statement of Potential should be completed in the planning phase and lodged with the development application. The Statement will inform the Heritage Council as to whether it is appropriate to require a Method Statement to lessen the impacts on the significant archaeological values. Further information can be found in the Heritage Council publication: Managing Historical Archaeological Significance in the Works Process.</p> | |
| <p>7.2 Excavation and ground disturbance</p> | <p>An archaeological zoning plan is included within Appendix 3: Austral Tasmania Pty Ltd, Bridgewater Causeway and Bridge. Historic Heritage Assessment and Archaeological Zoning Plan, AT0298, 12 November 2020.</p> <p>In addition, recommendations 3ii, 4, 5 and 6 of Section 5.2 outline Statements of Archaeological Potential and Archaeological Method Statement (AMS) for those places potentially impacted by the works. These studies will identify known and potential deposits from which alternative and mitigating measures can be considered.</p> <p>Statement of Archaeological Potential and Archaeological Method Statement, Praxis Environment, November 2021 included within Appendix 5.</p> |

NEW BRIDGEWATER BRIDGE PROJECT

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

This Heritage Impact Statement assesses the Chosen Design for the New Bridgewater Bridge Project. In total, 18 places or complexes have been identified within the Project Land, with an additional four places located adjacent to, but beyond the Project Land. Some of these are single sites whilst others may be complexes containing multiple elements, such as the causeway which includes the causeway itself, including but not limited to evidence of previous road and rail bridges. These places range from sites having no recognised significance, to being of Local Historic Heritage places, listed within a Planning Scheme or Local Provisions Schedule and Registered Places included on the Tasmanian Heritage Register. Statutory heritage management applies to six places within the Project Land. An additional 4 places of Local Historic Heritage Places have been identified adjacent to the Project Land. An overview of these places and their relationship to the Project Land is outlined in the GIS mapping of Section I (Figure I through I0, pages I4 to 22).

In reviewing the potential for heritage impacts, a distinction can be drawn between those impacts that are likely to directly affect a place (e.g., requiring the removal, modification or subdivision of a place); and those impacts which may be indirect, such as changes to the setting of a place, impact during construction or important public views. For the purpose of this assessment works have been categorised as direct or indirect impacts. An overview of Registered and Local Historic Heritage Places and their assessed impacts is outlined within the following table:

| Site No. | Name | Heritage Listed? | Significance Level | Direct Impacts | Indirect Impacts | Management Recommended |
|----------|---|-----------------------------------|-------------------------------|----------------|------------------|-----------------------------|
| 1.00 | Bridgewater Causeway and Bridge – Listing Boundaries | THR 618 | State | Yes | Yes | Yes |
| 1.01 | Bridgewater Causeway | THR 618 | State | No | Yes | Yes |
| 2.01 | 1849 Bridgewater Bridge - area of archaeological potential | THR 618 | State | No | No | No |
| 2.02 | 1874 bridge abutments – south | THR 618 | State | No | No | No |
| 2.03 | 1874 bridge abutments – north | THR 618 | State | No | No | No |
| 2.04 | 1893 bridge abutments – south | THR 618 | State | No | No | Yes |
| 2.05 | 1893 bridge caisson | THR 618 | State | No | No | No |
| 2.06 | 1893 bridge abutments – north | THR 618 | State | No | No | No |
| 3.01 | Bridgewater Bridge | THR 618 | State | Yes | Yes | Yes |
| 4.00 | Bridgewater Railway Station - Listing Boundaries | BLPS 2021, BRI-C6.1.1 | Local | No | No | No |
| 4.01 | Bridgewater Railway Station | BLPS 2021, BRI-C6.1.1 | Local | No | No | No |
| 5.00 | Black Snake Inn – Listing Boundaries | THR 1612, GLPS 2021, GLE-C6.1.179 | State | Yes | Yes | Yes |
| 5.01 | Black Snake Inn | THR 1612, GLPS 2021, GLE-C6.1.179 | State | No | Yes | Yes |
| 5.02 | Black Snake Inn - Timber Outbuilding | THR 1612, GLPS 2021, GLE-C6.1.179 | State | No | Yes | Yes |
| 6.01 | Old Black Snake Lane | THR 1612, GLPS 2021, GLE-C6.1.179 | Local | Yes | Yes | Yes |
| 10.01 | Pioneer Avenue Elm | THR 618 | State | No | No | No |
| 11.01 | Area of Archaeological Sensitivity Associated with Convict Station Site | THR 618 (partial) | Potentially State | No | No | Yes, if inadvertent impacts |
| 15.01 | Existing Main Line Railway Alignment | THR 618 | State | Yes | No | Yes |
| 16.01 | St Mary's Church and Cemetery: Area of potential archaeological sensitivity | BLPS 2021 BRI-C6.1.24 | Potentially State significant | No | No | Yes |
| 18.00 | Cypress Grove, 37 Black Snake Lane – Listing Boundaries | GLPS 2021, GLE-C6.1.181 | Local | Yes | Yes | Yes |
| 18.01 | 37 Black Snake Lane - House | GLPS 2021, GLE-C6.1.181 | Local | Yes | Yes | Yes |

5.0 CONCLUSIONS AND RECOMMENDATIONS

| Site No. | Name | Heritage Listed? | Significance Level | Direct Impacts | Indirect Impacts | Management Recommended |
|----------|---|----------------------------------|--------------------|----------------|------------------|------------------------|
| 18.02 | 37 Black Snake Lane - Cottage | GLPS 2021, GLE-C6.1.181 | Local | Yes | Yes | Yes |
| 18.03 | 37 Black Snake Lane - Stable | GLPS 2021, GLE-C6.1.181 | Local | Yes | Yes | Yes |
| 18.04 | 37 Black Snake Lane - Railway Shed | GLPS 2021, GLE-C6.1.181 | Local | Yes | Yes | Yes |
| 18.05 | 37 Black Snake Lane - Blacksmith's Shop | GLPS 2021, GLE-C6.1.181 | Local | Yes | Yes | Yes |
| 18.06 | 37 Black Snake Lane - Worker's Cottages | GLPS 2021, GLE-C6.1.181 | Local | Yes | Yes | Yes |
| 18.07 | 37 Black Snake Lane - Old Coach House | GLPS 2021, GLE-C6.1.181 | Local | Yes | Yes | Yes |
| 18.08 | 37 Black Snake Lane - Culvert | GLPS 2021, GLE-C6.1.181 | Local | Yes | Yes | Yes |
| 18.09 | 37 Black Snake Lane - Cherry Tree | GLPS 2021, GLE-C6.1.181 | Local | Yes | Yes | Yes |
| 18.10 | 37 Black Snake Lane - Fig Tree | GLPS 2021, GLE-C6.1.181 | Local | Yes | Yes | Yes |
| 19.0 | Coronation Hall | BLPS 2021, BRI-C6.1.25 | Local | No | No | No |
| 20.0 | Commandant's Cottage | THR 1178 DVIPS 2015 | State | No | No | Yes |
| 21.0 | Watch House | THR 1182 DVIPS 2015 | State | No | Yes | Yes |
| 22.0 | Granton Convict Quarry | THR 7158 DVIPS 2015 | State | No | No | No |
| 23.0 | Former Old Granton Railway Station | GLPS 2021, GLE-C6.1.182 | Local | No | No | No |
| 24.0 | Parkholm | THR619, BLPS 2021 BRI-C6.1.69 | State | No | No | No |

A summary assessment of the potential impacts to Registered and Local Historic Heritage Places and their mitigating measures is outlined within the individual inventory datasheets within Section 3.6. Those places assessed as being adversely impacted is summarised below, together with mitigating measures:

5.1.1 Bridgewater Causeway and Bridge (THR 618)

The proposal involves the construction of a new bridge and removal of the existing. This will destroy all values inherent in the fabric of the bridge, and the bridge portion of the Main Line Railway Alignment save perhaps the salvage of some elements for interpretive purposes.

The Retention Options Analysis Report outlines a detailed assessment of retention options by an interdisciplinary team. In addition to technical considerations there is concern that the retention of the existing bridge will result in an impact to the setting, context and cultural landscape of the crossing, this is discussed within the Retention Options Analysis Report and Landscape and Visual Impact Analysis.

There is no direct impact to the remaining features of the Registered place.

IMPACT MITIGATION RECOMMENDATIONS

- The extent of impacts to the bridge are substantial if not total, and mitigation options are likely to be limited.
- An archival record of the bridge has in accordance with the Tasmanian Heritage Council's Practice Note 3: Procedure for Recording a Heritage Place, and other best practice guides for film and digital capture.
- Consider retention of the caissons as a measure to interpret the alignment of the existing bridge.
- Interpretation planning should consider salvage of elements of the Bridgewater Bridge, for reuse in interpretive or landscape works. Ensure meaningful interpretation. Retain the bridge caissons to interpret the alignment of the bridge.
- Maintain an archival record of the bridge for managed public research, including plans, surveys, studies and photographs

5.1.2 Black Snake Inn (THR I612 GLPS 2021 GLE-C6.1.179)

The proposal involves the construction of a new roundabout at the junction of Black Snake Road and Main Road Granton; the construction of a new slip road connecting Black Snake Road/Main Road with the Midland Highway; and a section of cutting along Main Road, Granton. (MPIS Appendix AA Drawing 10.02.03 0005 - GENERAL ARRANGEMENT SHEET 01). Footpaths and shared user paths are also nominated (MPIS Appendix AA Drawing 10.03.02 IA56600-0000-CR-DRG-I401 Sheet 1). Specification of standard finishes to these paths has the potential to impact the historic landscape and setting of the Black Snake Inn.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The proposal will have no direct impacts to the built fabric of the Black Snake Inn, although the cutting along Main Road will indirectly impact the visual presentation and setting of aesthetic significance when viewed from the west, looking east; from the east, looking west and toward the building looking front on. The hedge to the street boundary with Old Main Road is likely to be impacted due to the widening of the road to accommodate a shared path connection to the intercity cycleway.

With the exception of the new cutting, existing views to the Black Snake Inn will be retained from Main Road, Granton, and will continue to exist, albeit from a different perspective than currently exists when viewed from the new bridge. Visual modeling indicates that works to the south of the Black Snake Lane will have a limited visual impact on views to the Black Snake Inn from Old Main Road, with landscape planting further mitigating any potential impact.

The Chosen Design proposes the demolition of the non-significant residence to the west of the Black Snake Inn. This will be an enhancement to the visual setting of the place.

Vibrations from construction works have the potential to impact the fabric of the Black Snake Inn.

The new roundabout, slip lane and cutting have the potential to indirectly impact the setting of the Black Snake Inn and directly impact any archaeological features in this area. There will be direct impacts to the historic alignment of Black Snake Lane forming part of the Registered extent.

The use of the place as a laydown area has the potential to impact archaeological features or deposits or plantings.

IMPACT MITIGATION RECOMMENDATIONS

- A site-specific Statement of Archaeological Potential and Archaeological Method Statement, Praxis Environment, November 2021 (Refer Appendix 5).
- Carry out vibration assessment to determine risks to the Black Snake Inn from construction works. Subject to the findings of this assessment incorporate monitoring with the CHMP as appropriate.
- Prepare and archival record in accordance with the Tasmanian Heritage Council's Practice Note 3: Procedure for Recording a Heritage Place, and other best practice guides for digital and film capture.
- A Construction Heritage Management Plan should be reviewed and approved as a mitigation measure to potential impacts of any use of the place as a laydown area during construction.
- Replacement hedge planting should be included within the landscape scope. Consideration should be given to landscape plantings generally to ensure that selection is complementary to the historic cultural heritage setting of the Black Snake Inn.
- Surface treatments for footpaths and shared paths should be specified in consideration of the historic landscape setting of the Black Snake Inn.
- The Black Snake Inn should be integrated into a project wide Interpretation program with consideration given to the inclusion of the retaining wall to the west and the path network being surfaces for interpretation measures.

5.1.3 37 Black Snake Lane (GLPS 2021 GLE-C6.1.181)

The proposal involves the construction of a new interchange between the junctions of the Brooker Highway and Black Snake Road. With regard to 37 Black Snake Road, this will involve the construction of a new slip lane off the Brooker Highway which will cross through the northern portion of the property (MPIS Appendix AA Drawing 10.02.01.0002 - MASTER PLAN)

The works will result in direct impacts to all built, landscape and potential archaeological features of the place through demolition. It is however noted that the Glenorchy Interim Planning Scheme 2015 identified in Table E13.1 that: "The demolition of the farm outbuildings is permitted in accordance with Clause 8.7 of the Scheme if the demolition is required as part of the replacement of the Bridgewater Bridge and associated road works provided that archival records are prepared for the property and materials are salvaged, generally in accordance with recommendation I/I of the Austral Tasmania report titled 'Bridgewater Crossing: Granton Interchange, Historic Heritage Assessment, Final Report prepared for GHD Pty, 2 June 2011.'"

IMPACT MITIGATION RECOMMENDATIONS

- Investigate the viability of replanting options for significant features 18.9 and 18.10, being an early cherry and fig tree along with any ongoing management and maintenance requirements.
- Accord with recommendation I/I of the Austral Tasmania Report including archival recording and materials salvage.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1.4 Watch House (THR 1182 DVIPS 2015 Table E13.1 No.17)

The place sits outside of the Project Land and the work will have no direct impact to the fabric of the Watch House. The works will however result in an indirect impact to the place, namely a visual impact. This is likely to result from the impact on the road and path realignment to the street frontage of the Watch House, further impacting the presently compromised setting (See Appendix 4: Views Study Photos - 10.01.02.07 VP03_v005-masked). It sees the path alignment almost at the frontage of the Watch House, with visual impacts likely as a result of the incongruous nature of what appears to be a concrete path. Further indirect impacts may arise from vibrations associated with the construction works.

IMPACT MITIGATION RECOMMENDATIONS

- Surface treatments for footpaths should be specified to be more in keeping with the historic materials of the Watch House.
- Carry out vibration assessment to determine risks to the Watch House from construction works. Subject to the findings of this assessment incorporate monitoring with the CHMP as appropriate.

5.1.5 Visual Impacts in relation to Local Historic Heritage Significance.

The following Local Historic Heritage Places on or adjacent to the Project Land are identified because of their aesthetic characteristics (Refer to individual inventory datasheets within Section 3.6 for statements of significance):

- Parholm (BLPS 2021 2021 BRI-C6.1.69)
- St Mary's Anglican Church and Cemetery (BLPS 2021 2021 BRI-C6.1.24)
- Black Snake Inn (GLPS 2015 GLE-C6.1.179)
- Farm Outbuildings 37 Black Snake Lane (GLPS 2015 GLE-C6.1.181)

Photomontages have not been prepared for the Farm Outbuildings at 37 Black Snake Lane as the demolition of the local heritage place was permitted under the GIPS 2015.

Photomontages have not been prepared for Parholm as it is our assessment that the works will not impact views or vistas to or from the local heritage place.

The Chosen Design moves the road alignment adjacent St Mary's Anglican Church and Cemetery further south than the existing (MPIS Appendix AA Drawing 10.02.06 0008 - GENERAL ARRANGMENT SHEET 04). The revised alignment, together with proposed landscape planting and vegetated swale (MPIS Appendix AA Drawing 10.02.19 IA56600-0000-LS-SK-0001) will improve the setting and context of the place, adversely impacted by the present arrangement. As such photomontages have not been prepared for St Mary's Anglican Church and Cemetery. It is to be further noted that the aesthetic significance of this place is associated with the relationship of St Mary's Anglican Church to the Cemetery, a relationship not impacted by the Chosen Design.

Photomontages have been prepared for the Black Snake Inn. The visual impacts to these local heritage places is outlined within the LVIS and summarised below:

- The cutting along Main Road will indirectly impact the visual presentation and setting of aesthetic significance of the Black Snake Inn when viewed from the west, looking east; from the east, looking west and toward the building looking front on. The hedge to the street boundary with Old Main Road is likely to be impacted due to the widening of the road to accommodate a shared path connection to the intercity cycleway.

With the exception of the new cutting, existing views to the Black Snake Inn will be retained from Main Road, Granton, and will continue to exist, albeit from a different perspective than currently exists when viewed from the new bridge. Visual modelling indicates that works to the south of the Black Snake Lane will have a limited visual impact on views to the Black Snake Inn from Old Main Road, with landscape planting further mitigating any potential impact.

Adverse impacts to the Black Snake Inn are proposed or recommended to be ameliorated by:

- Replacement hedge planting to the Old Main Road alignment of the Black Snake Inn.
- Surface treatments for footpaths and shared paths should be specified in consideration of the historic landscape setting of the Black Snake Inn.
- The Black Snake Inn should be integrated into a project wide Interpretation program with consideration given to the inclusion of the retaining wall to the west and the path network being surfaces for interpretation measures.
- State Growth have acquired the Black Snake Inn and intends to implement appropriate protection measures including the preparation of a conservation management plan, protection measures and maintenance as part of the project.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.2 RECOMMENDATIONS AND MITIGATIONS

In addition to the specific mitigating measures outlined for effected places in Section 5.1 the following project wide mitigating measures are recommended:

5.2.1 Indirect Heritage Impacts:

- Prior to site establishment the Contractor should prepare a Construction Heritage Management Plan (CHMP) for approval by State Growth. This CHMP should include:
 - ii. Reference to the Statement of Archaeological Potential and Archaeological Method Statement, Praxis Environment, November 2021 included within Appendix 5.
 - iii. Site Establishment Plan;
 - iv. Fabric protection measures to mitigate potential direct impacts arising from the undertaking of works;;
 - v. An unanticipated finds plan;
 - vi. A materials conservation and salvage plan;
 - vii. landscape management plan to determine the extent of protective exclusion zones required to avoid root truncation and any other prescriptions to ensure trees are maintained in a safe, healthy state
- Carry out vibration risk assessments for built heritage places, within or adjacent to the study area. This includes (but may not be limited to):
 - i. the Black Snake Inn complex at 650 Main Road, Granton;
 - ii. The Granton Watch House, 1 Lyell Highway;
 - iii. The Granton Memorial Hall, Forest Road, Granton;
 - iv. The Commandant's Cottage, 4 Forest Road;
 - v. 6 Forest Road, Granton;
 - vi. 19 Tarrants Road, Granton;
 - vii. St Mary's Anglican Church and Cemetery, 20 Old Main Road, Bridgewater; and
 - viii. Coronation Hall, 25 Old Main Road, Granton.
- Where road works may impact on significant trees, advice should be sought from a qualified arborist and/or arboriculturalist to determine the extent of protective exclusion zones required to avoid root truncation and any other prescriptions to ensure trees are maintained in a safe, healthy state.

5.2.2 Management of Specific Sites

- The results of this heritage assessment should inform the execution of works for the proposed upgrade of the Derwent River crossing. Sites or features assessed as having heritage significance at either State or local levels should be conserved where possible.
- Implement heritage management recommendations as per the individual site datasheets. The general management response is for the avoidance of impacts to places or features of heritage significance. Mitigation or management strategies have been proposed where impacts are unavoidable.

5.2.3 Archaeological Management, Planning and Implementation

- Implement site-specific recommendations requiring the preparation of Statements of Archaeological Potential, Archaeological Impact Assessments; and Archaeological Method Statements.
- Sufficient lead-time and resources should be provided to undertake planning work and any archaeological works to avoid critical path complications during construction. Works should be carried out by suitably qualified archaeologists.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.2.4 Managing Unanticipated Historical Archaeological Discoveries during Works:

- Ground disturbances and excavations occurring outside of areas of historical archaeological potential can proceed without further archaeological oversight. However, the Project Specifications should include notification protocols whereby archaeological advice is sought if historical archaeological features or deposits are uncovered during excavation or where doubt exists concerning the provenance of any strata revealed during excavations. This may include but not be limited to the exposure of any structural material made from bricks, stone, concrete or timber and forming walls or surfaces, or the presence of more than five fragments of artefacts such as ceramic, shell, glass or metal from within an area of no more than 1 m².
- In such instances, excavation should immediately cease pending attendance on site and receipt of advice from the archaeological consultant, at which point, depending on the findings, it may also be necessary to involve Heritage Tasmania, DPIPW and the local planning authorities.

5.2.5 Further Work:

- It is recommended that caissons of the existing Bridgewater Bridge be retained for interpretative purposes, with the Bridge being an integral part of a project wide interpretation program.
- Measures to mitigate indirect visual impacts should be developed once the design proposal is finalized. Such measures may include revision of landscape design, interpretation design, and refinement of materials and design detailing. In this respect the following are recommended:
- Reduction of the visual impact of the Chosen Design to its context and setting through design refinement. The bold colour palette should be revised to a more restrained design with opportunities sought to integrate interpretation within the urban planning and landscape design.
- Mitigation of the visual impacts to the Black Snake Inn through design development of the landscape proposal. This should extend to grass and shrub hydro-seed to embankments and opportunities to integrate interpretation to the southern abutment retaining wall to the west of the Black Snake Inn.

NEW BRIDGEWATER BRIDGE PROJECT

6.0 REFERENCES

6.1 SECONDARY MATERIALS

6.1.1 Published & Unpublished Sources

- Austral Archaeology Pty Ltd, National Highway Approach to Hobart – Bridgewater Planning Study Volume 1 ,(Evolution of Road, Rail & Bridge Infrastructure), 1997 Heritage Assessment: Stage 1 –
- Austral Archaeology Pty Ltd, National Highway Approach to Hobart – Bridgewater Planning Study Volume 2 (Specialist Reports & Supporting Documentation), 1997 Heritage Assessment: Stage 1 –
- Austral Archaeology Pty Ltd, National Highway Approach to Hobart – Bridgewater Planning Study (Assessment of Heritage Values), 1997 Heritage Assessment: Stage 2
- Austral Tasmania Pty Ltd Austral Tasmania Pty Ltd, Bridgewater Crossing: Granton Interchange. Historic Heritage Assessment, report prepared for GHD Pty Ltd, 2 June 2011
- Austral Tasmania Pty Ltd, Bridgewater Causeway and Bridge. Historic Heritage Assessment and Archaeological Zoning Plan, report prepared for Purcell, AT0298, 12 November 2020
- Brighton Local Provisions Schedule 2021
- Derwent Valley Interim Planning Scheme 2015
- Environment Protection and Biodiversity Conservation Act 1999
- GHD, Bridgewater Bridge Replacement Planning Study. Historic Heritage Investigations, report prepared for DIER, August 2010
- GHD, Department of Infrastructure, Energy and Resources. The New Bridgewater Bridge. Heritage Impact Assessment and Management Plan, draft report, May 2011
- Glenorchy Interim Planning Scheme 2015
- Heritage Council of New South Wales, Levels of Heritage Significance, 2008
- Heritage Tasmania, DPIPWE, Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995, October 2011
- Heritage Tasmania, DPIPWE, Works Guidelines for Historic Heritage Places, November 2015
- Historic Cultural Heritage Act 1995
- Marquis-Kyle, P, Walker, M, The Illustrated Burra Charter

6.1.2 Newspapers

- The Mercury, Friday 24 July 1863, p.2
- The Mercury, Wednesday 22 October 1873, p.1
- The Mercury, Friday 11 February 1949, p.6
- The Mercury, Friday 13 May 1949, p.6
- The Mercury, Saturday 12 September 1953, p.24

NEW BRIDGEWATER BRIDGE PROJECT

APPENDICES

APPENDIX I: TASMANIAN HERITAGE REGISTER ENTRY INFORMATION

Tasmanian Heritage Register Datasheet



103 Macquarie Street (GPO Box 618)
 Hobart Tasmania 7001
 Phone: 1300 850 332 (local call cost)
 Email: enquiries@heritage.tas.gov.au
 Web: www.heritage.tas.gov.au

Name: Bridgewater Bridge
Status: Permanently Registered
Tier: State
THR ID Number: 618
Municipality: Brighton Council

| <u>Location Addresses</u> | <u>Title References</u> | <u>Property Id</u> |
|---------------------------------------|-------------------------|--------------------|
| , Bridgewater 7030 TAS | | |
| N/A MIDLAND HWY, GRANTON 7030 TAS | N/A | N/A |
| N/A MIDLAND HWY, GRANTON 7030 TAS | N/A | N/A |
| N/A MIDLAND HWY, GRANTON 7030 TAS | N/A | N/A |
| N/A MIDLAND HWY, GRANTON 7030 TAS | N/A | N/A |
| N/A BROOKER HWY, GRANTON 7030 TAS | N/A | N/A |
| N/A MIDLAND HWY, GRANTON 7030 TAS | N/A | N/A |
| N/A MIDLAND HWY, BRIDGEWATER 7030 TAS | N/A | N/A |



Bridgewater Bridge
 Ruins
 DPIPWE 2002

Bridgewater Bridge
 Ruins
 DPIPWE 2002

Setting: 1. The convict built causeway: The existing causeway is a visual presentation of the early convict construction of the link between opposite sides of the Derwent River. 2: The 1874 and 1893 Bridgewater Bridge ruins: The ruins, comprising the stone abutment and concrete caisson for the 1893 swing bridge, are clearly visible from the causeway on the upstream side of the present bridge with remnants of the abutments of the 1874 bridge visible on the downstream side. 3: The 1942-1946 Road Rail Bridge: The lift span and steel trusses are a dominant part of the present infrastructure.

Description: This listing includes three separate elements: The convict built causeway, the 1874 and 1893 Bridgewater Bridge ruins, and the 1942-1946 Road Rail Bridge. The convict built causeway consists of rock extracted by convicts from the Granton Quarry over a period of ten years. Sandstone arches were constructed on the southern end to allow water flow, however due to inadequate foundations, these sunk and were abandoned. The causeway was widened in 1874 for the railway. A rail bridge was constructed of lattice girder iron swing span with a sandstone abutment on the north side. The causeway was raised by 2-5 feet in 1863. The causeway was widened on the upstream side in 1908 to relocate the railway and to convert the 1893 swing bridge on the upstream side from road to rail, its original design purpose. The sandstone abutments of both bridges are still extant but the original timber structure has been entirely removed. The abutments are located to the west side of the modern bridge. The abutments are constructed from rock faced ashlar sandstone and date from 1874. This bridge was a timber structure with sandstone supports. The steel caisson and turn-table date from the 1893 reconstruction of the bridge and are still extant. The 1942-1946 Road Rail Bridge is of welded steel Pratt Truss construction. It is 1109 ft long with 57 ft 6 inch plate girder spans on concrete piers with 3 welded truss spans including a lift span of 98 ft 6 inch clearance above the water.

History: The causeway across the Derwent River at Bridgewater was begun in 1830 and completed in 1836. Considerable problems were encountered establishing a firm base for the construction works because of the silt and clay on the base of the river. It was constructed from convict labour with supervision by John Lee Archer and various Government engineers including O'Connor and Giffney. Rock was quarried from the

Granton end and wheeled to the end of the causeway by convict gangs. On reaching deep water 950 yards from the Granton side, work stopped and a bridge was not constructed until 1848 to a design by Messrs Blackburn and Thomson. The distance between the end of the causeway and the Bridgewater side was 1,010 yards. This was bridged with a timber structure on timber piles driven into the river bed. The timber was gathered from the slopes of Dromedary Mountain. The bridge was completed in April of 1849. The whole work including the causeway was three quarters of a mile long, the largest work attempted at that time in the Australian colonies.

Statement of Significance:
(non-statutory summary)

No Data Recorded

Significance:

The Heritage Council may enter a place in the Heritage Register if it meets one or more of the following criteria from the Historic Cultural Heritage Act 1995:

a) The place is important to the course or pattern of Tasmania's history.

The 1874 and 1893 Bridgewater Bridge ruins: The remains of the original bridges over the Derwent River at Bridgewater are of historic cultural heritage significance because they demonstrate the growth and development of communication and transportation in Tasmania in the late 19th century.

b) The place possesses uncommon or rare aspects of Tasmania's history.

The convict built causeway: The causeway was the largest civil work ever undertaken by convict labour.
The 1942-1946 Road Rail Bridge: The bridge is the oldest surviving lift span bridge in Australia and is Tasmania's only lift span bridge.

c) The place has the potential to yield information that will contribute to an understanding of Tasmania's history.

The convict built causeway and remains of the 1874 and 1893 Bridgewater Bridge have the potential to yield information which may contribute to a greater understanding of early civil engineering and construction projects, and the history of transport and communications in Tasmania.

d) The place is important in demonstrating the principal characteristics of a class of place in Tasmania's history.

No Data Recorded

e) The place is important in demonstrating a high degree of creative or technical achievement.

No Data Recorded

f) The place has a strong or special association with a particular community or cultural group for social or spiritual reasons.

This site is of historic heritage significance because its landscape associations are regarded as important to the community's sense of place.

g) The place has a special association with the life or works of a person, or group of persons, of importance in Tasmania's history.

The convict built causeway: The causeway is of historic heritage significance because of its associations with Governor Arthur, John Lee Archer, Gov Architect and Roderick O'Connor, Gov. engineer.
The 1874 and 1893 Bridgewater Bridge ruins: The 1893 bridge is linked with R. S. Milles, City engineer of Hobart in 1893.
The 1942-1946 Road Rail Bridge: The bridge is of historic cultural heritage significance because of its association with prominent Tasmanian engineer, Sir Allan Knight.

h) The place is important in exhibiting particular aesthetic characteristics.

No Data Recorded

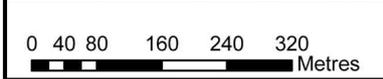
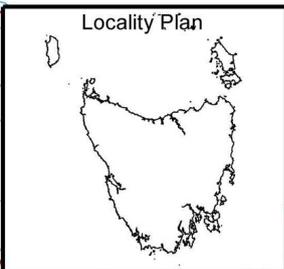
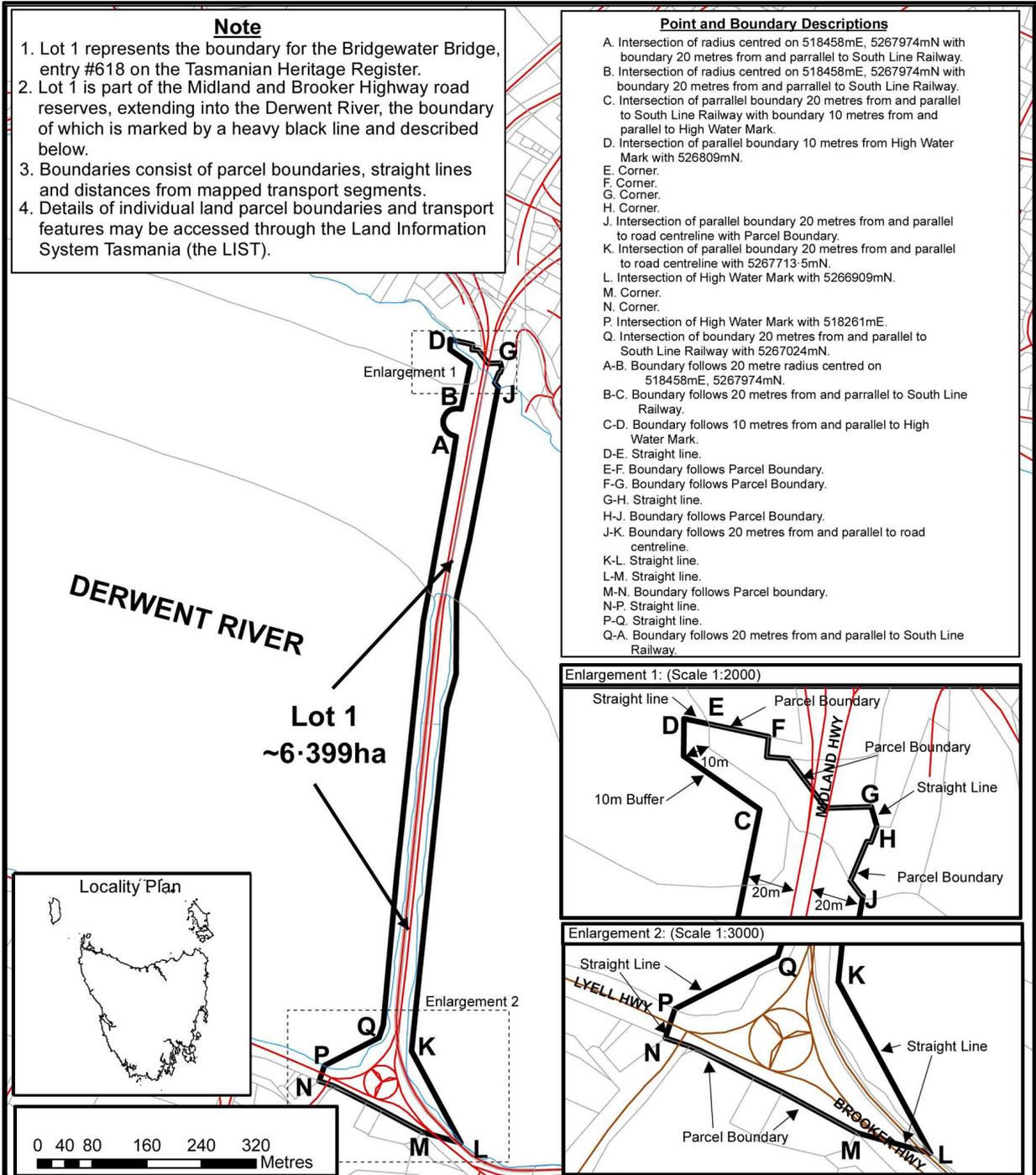
PLEASE NOTE This data sheet is intended to provide sufficient information and justification for listing the place on the Heritage Register. Under the legislation, only one of the criteria needs to be met. The data sheet is not intended to be a comprehensive inventory of the heritage values of the place, there may be other heritage values of interest to the Heritage Council not currently acknowledged.

Note

1. Lot 1 represents the boundary for the Bridgewater Bridge, entry #618 on the Tasmanian Heritage Register.
2. Lot 1 is part of the Midland and Brooker Highway road reserves, extending into the Derwent River, the boundary of which is marked by a heavy black line and described below.
3. Boundaries consist of parcel boundaries, straight lines and distances from mapped transport segments.
4. Details of individual land parcel boundaries and transport features may be accessed through the Land Information System Tasmania (the LIST).

Point and Boundary Descriptions

- A. Intersection of radius centred on 518458mE, 5267974mN with boundary 20 metres from and parallel to South Line Railway.
- B. Intersection of radius centred on 518458mE, 5267974mN with boundary 20 metres from and parallel to South Line Railway.
- C. Intersection of parallel boundary 20 metres from and parallel to South Line Railway with boundary 10 metres from and parallel to High Water Mark.
- D. Intersection of parallel boundary 10 metres from High Water Mark with 526809mN.
- E. Corner.
- F. Corner.
- G. Corner.
- H. Corner.
- J. Intersection of parallel boundary 20 metres from and parallel to road centreline with Parcel Boundary.
- K. Intersection of parallel boundary 20 metres from and parallel to road centreline with 5267713.5mN.
- L. Intersection of High Water Mark with 5266909mN.
- M. Corner.
- N. Corner.
- P. Intersection of High Water Mark with 518261mE.
- Q. Intersection of boundary 20 metres from and parallel to South Line Railway with 5267024mN.
- A-B. Boundary follows 20 metre radius centred on 518458mE, 5267974mN.
- B-C. Boundary follows 20 metres from and parallel to South Line Railway.
- C-D. Boundary follows 10 metres from and parallel to High Water Mark.
- D-E. Straight line.
- E-F. Boundary follows Parcel Boundary.
- F-G. Boundary follows Parcel Boundary.
- G-H. Straight line.
- H-J. Boundary follows Parcel Boundary.
- J-K. Boundary follows 20 metres from and parallel to road centreline.
- K-L. Straight line.
- L-M. Straight line.
- M-N. Boundary follows Parcel boundary.
- N-P. Straight line.
- P-Q. Straight line.
- Q-A. Boundary follows 20 metres from and parallel to South Line Railway.



| TASMAP: NEW NORFOLK - 5026 | | GRID: MGA94 / ZONE 55 | | DATUM: AHD | | CONTOUR INTERVAL: N/A | |
|----------------------------|------------------------|-----------------------|-----------|------------|-----------|-----------------------|--|
| No. | PRODUCTION / AMENDMENT | AUTHORITY | REFERENCE | DRAWN | APPROVED | DATE | |
| 1 | Production | THC | 618 | JS | D.SNOWDEN | 24SEP14 | |

Bridgewater Bridge
Bridgewater & Granton

PREPARED BY
HERITAGE TASMANIA

CENTRAL PLAN REGISTER

p.p. Surveyor General:

Date Registered: 8/06/2016

CPR
10257

- f) **The place has a strong or special association with a particular community or cultural group for social or spiritual reasons.**

St. Mary's Anglican Church is of high historic cultural heritage significance because of its strong and special association with the general community as a religious landmark. It also has a strong and special association with the Anglican community due to their religious beliefs.

- g) **The place has a special association with the life or works of a person, or group of persons, of importance in Tasmania's history.**

- h) **The place is important in exhibiting particular aesthetic characteristics.**

PLEASE NOTE This data sheet is intended to provide sufficient information and justification for listing the place on the Heritage Register. Under the legislation, only one of the criteria needs to be met. The data sheet is not intended to be a comprehensive inventory of the heritage values of the place, there may be other heritage values of interest to the Heritage Council not currently acknowledged.

Tasmanian Heritage Register Datasheet



134 Macquarie Street (GPO Box 618)
Hobart Tasmania 7001
Phone: 1300 850 332 (local call cost)
Email: enquiries@heritage.tas.gov.au
Web: www.heritage.tas.gov.au

Name: Former Black Snake Inn
Status: Permanently Registered
Tier: State

THR ID Number: 1612
Municipality: Glenorchy City Council

| <u>Location Addresses</u> | <u>Title References</u> | <u>Property Id</u> |
|-------------------------------|-------------------------|--------------------|
| 650 MAIN RD, GRANTON 7030 TAS | 246061/1 | 7613109 |



Untitled

Untitled

No copyright on file

No copyright on file

Setting: Focal element, close to road, overlooks Derwent, in a semi-rural setting.

Description: An unusual Gothic building, with two steeply pitched front projecting gables and a smaller one between. Decorative bargeboards, upper level oriel windows and decorative quoins are features of the building. Between the projecting end bays is a central double door entrance with transom light, flanked by windows with terrace over. There are two gabled dormers along a side set into the roof/wall structure overlooking the river.

History: An inn at Black Snake, (Granton) since 1824. Originally the original Black Snake was a drinking house before it became an inn. There are long associations with transportation links to the west and north.

Statement of Significance: No Statement is provided for places listed prior to 2007

(non-statutory summary)

Significance:

The Heritage Council may enter a place in the Heritage Register if it meets one or more of the following criteria from the Historic Cultural Heritage Act 1995:

- a) **The place is important to the course or pattern of Tasmania's history.**
- b) **The place possesses uncommon or rare aspects of Tasmania's history.**
- c) **The place has the potential to yield information that will contribute to an understanding of Tasmania's history.**
- d) **The place is important in demonstrating the principal characteristics of a class of place in Tasmania's history.**

The former Black Snake Inn is of historic heritage significance because of its ability to demonstrate the principal

e) **The place is important in demonstrating a high degree of creative or technical achievement.**

f) **The place has a strong or special association with a particular community or cultural group for social or spiritual reasons.**

The building is of historic heritage significance because of its townscape and social associations which are regarded as important to the community's sense of place.

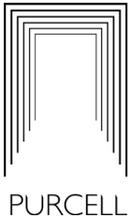
g) **The place has a special association with the life or works of a person, or group of persons, of importance in Tasmania's history.**

h) **The place is important in exhibiting particular aesthetic characteristics.**

PLEASE NOTE This data sheet is intended to provide sufficient information and justification for listing the place on the Heritage Register. Under the legislation, only one of the criteria needs to be met. The data sheet is not intended to be a comprehensive inventory of the heritage values of the place, there may be other heritage values of interest to the Heritage Council not currently acknowledged.

APPENDICES

APPENDIX 2: MEMORANDUM TO DSG, FROM LUCY BURKE-SMITH OF PURCELL 12 OCTOBER 2020 HISTORIC HERITAGE ASSESSMENT



| | |
|------------------------|--|
| To | Selena Dixon, Manager Approvals, Bridgewater Bridge, Department of State Growth |
| Copy to | Frazer Read (All Urban Planning), Bryce Taplin (Burbury Consulting) Simon Wiltshier (Mott MacDonald) James Puustinen (Austral Tas) Jody Steele (Curio Projects (Tas)) |
| From | Lucy Burke-Smith |
| Date | 12 October 2020 |
| Subject | Review of assessment of significance against state criteria/threshold |
| Project No/Name | Bridgewater Causeway and Bridge |

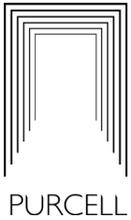
This summary assessment has been prepared by Purcell with input from Mott MacDonald and Austral Tas. It seeks to summarise the findings of wider studies from the respective contributors in a format compatible with that of Draft Entries prepared by Heritage Tasmania. The intention being to support preliminary consultation with consent authorities as to the significance of the place.

This summary assessment is to be read in conjunction with:

- Memorandum: Review of assessment of significance against state criteria/threshold, Purcell 7 July 2020;
- Draft Bridgewater Causeway and Bridge: Historic Heritage Assessment and Archaeological Zoning Plan, Austral Tasmania, 27 August 2020;
- Draft Bridgewater Bridge & Causeway Interpretation Plan, Curio Projects, 27 August 2020, and
- Comparative Chronology, Purcell, 08 September 2020.

THR Identification Number: 618
Name: Bridgewater Bridge
Municipality: Derwent Valley and Brighton Councils
Status: Permanently Registered
Location: Bridgewater 7030 TAS
N/A MIDLAND HWY, GRANTON 7030 TAS
N/A MIDLAND HWY, BRIDGEWATER 7030 TAS
PID: TBC **CPR No:** 10257 (current)
Title: TBC

| Number | Feature | Coordinates |
|--------|--|-----------------------------------|
| 1 | Bridgewater Causeway | 518344E/5266972N-518433E/5267719N |
| 2 | Bridgewater Causeway – stone retaining wall | 518417E/5267649N-518424E/5267715N |
| 3 | Bridgewater Causeway – stone & concrete retaining wall | 518388E/5267341N-518417E/5267649N |



| | | |
|---|-------------------------------|-----------------------------------|
| 4 | 1874 bridge abutments – south | 518449E/5267688N |
| 5 | 1874 bridge abutments – north | 518540E/5268033N |
| 6 | 1893 bridge abutments – south | 518426E/5267719N |
| 7 | 1893 bridge caisson | 518455E/5267977N |
| 8 | 1893 bridge abutments – north | 518471E/5268075N |
| 9 | 1942/1946 Bridgewater Bridge | 518433E/5267719N-518500E/5268049N |

Setting:

The broader cultural landscape of the Bridgewater crossing has been considered in some detail by GHD and is summarised as follows.¹ The place connects Granton on the southern shore of the Derwent with Bridgewater on the north. It consists of the causeway, historic bridge infrastructure and the extant road and rail bridge. The crossing at this point of the Derwent is some 1.08 kilometres. The lower foothills of Snake Mount form the background on the southern shore, characterised by native vegetation on the upper slopes and low density residential development on the lower slopes. The immediate foreground of the causeway is the convict quarry from which the material used in its construction was obtained. Remnant historic buildings of these works include the Watch House and the Commandant's Cottage. The causeway itself is a low linear feature, approximately 785 metres long, as measured from the Brooker, Midland and Lyell Highway roundabout. Vegetated embankments rise on either side slightly above the roadway. The causeway has some visual prominence when viewed obliquely from surrounding road networks.

The Bridgewater Bridge is a prominent element in the landscape, notable for its truss form and in particular the two towers and lifting mechanism. Although visible from the Brooker Highway, its dark colouring does not make the bridge a distinctive element on its southern approach until in close proximity to the causeway. Conversely, the bridge stands out distinctly against the sky when viewed from the Lyell Highway, Boyer Road and Woods Point at Bridgewater.

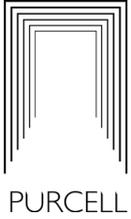
Description:

The Bridgewater Causeway

The Bridgewater Causeway is a long linear earthen and stone embankment which extends in a northerly direction from the southern shore of the River Derwent at Granton for a distance of some 785 m. It carries a two lane sealed road with raised earthen embankments on either side. The non operational rail line is located on its western side following its relocation in 1908. The outline of the causeway is somewhat irregular, particularly on its eastern side. It varies in width from approximately 20-30m. The height of the causeway rises at its northern end to connect with the Bridgewater Bridge.

The western side of the causeway includes evidence of past modifications and widening. At the northern end, a low sand and mudstone retaining wall has been erected using roughly squared blocks, with several courses visible above the waterline. These works were carried out in 1863 to rectify the settlement of the causeway. Connecting at the south, the stone retaining wall has been topped with a concrete retaining wall which extends some 314 m. It would appear to be early-mid twentieth century in origin.

¹ GHD, Bridgewater Bridge Replacement Planning Study. Historic Heritage Investigations, report prepared for DIER, August 2010



Historic Bridge Infrastructure

Historic bridge infrastructure from a series of previous bridges exists at both the northern end of the causeway, and on the northern shore of the Derwent.

The oldest features are the abutments of the 1874 railway bridge. The southern abutment is located towards the northern end of the causeway, on its eastern side. Consisting of roughly dressed sand and bluestone blocks and forms the corner of the abutment, measuring approximately 2m on its northern side and 10m on the east, it is several metres high. The northern abutment is located on the northern riverbank, to the east of the extant bridge and is constructed from roughly formed stone. It is largely obscured by vegetation and is approximately 2m tall, with an exposed section approximately 3m long. It is possible that subsurface evidence of the 1849 bridge abutments is located to the west of this feature, but was not visible at the time of the site inspection.

The remains of 1893 bridge are located on the western side of the northern end of the causeway. The southern abutments of the 1893 bridge are formed from massive roughly worked stone, over 1m in height and formed as a corner abutment. The concrete and steel caisson is located approximately 260m to the north, to the west of the extant structure. It is elliptical with dimensions of approximately 10x6.5m. Historically it was the pivot for the swing span of the 1893 bridge. Extensive remains of the northern abutments are found on the waterfront, to the west of the existing bridge. They are formed from massive, worked sandstone wingwalls, abutments and pylons. They extend over a distance of approximately 35m.

The Bridgewater Bridge

The Bridgewater Bridge connects the causeway with the northern shore of the Derwent.

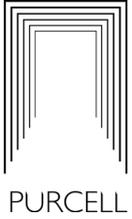
This bridge is based on the American vertical lift span bridges designed by Dr A.J. Waddell. It is approximately 1109 ft (338 meters) in length, with a 42.9 meter opening span that lifts to provide 98 ft 6 inch (approx. 30 meters) of vertical clearance under the lifting span. The bridge carries a two lane road with a single rail line on the upstream side and a pedestrian path on the downstream side.

The bridge consists of eleven simple steel girder spans supported on composite timber and concrete piles, three all-welded steel Pratt through trusses (one of which is the lifting span) supported by timber piles on concrete caissons, and the abutments, which are supported on timber piles. The deck is concrete on the simple spans, and timber on the lifting spans.

The lifting span towers are supported by the approach span trusses either side. The towers support two concrete counterweights, with each counterweight supported by six 44mm wire ropes on each end. The ropes pass over two grooved large diameter sheaves on top of each tower. The lifting span is raised by twin-wound rotor electric motors, backed up by a diesel engine.²

Archaeological potential

The Bridgewater causeway has undergone considerable and ongoing changes since completion in 1836. However, a single zoning of high potential has been applied to the structure. It would be difficult, and potentially misleading to try and distinguish different areas of archaeological sensitivity on the causeway. Therefore, the general conclusion is that the earliest fabric related to the structure is beneath later modifications. Defining the thresholds between early and later fabric would require detailed archaeological investigations.



As a result, a simplified zoning has been adopted to show areas or sites of archaeological potential. These items are depicted in the following figure and described following:

1. The Bridgewater Causeway, inclusive of the low level remains of the 1874 and 1893 bridge abutments at its northern end. The mapped extent of the causeway has been taken from cadastral boundaries, while its southern boundary at Granton has adopted the boundary used in the Tasmanian Heritage Register;
2. An area of subsurface potential on the northern river bank and where evidence of the 1849 bridge abutments may survive;
3. The 1874 bridge abutments on the northern river bank;
4. The 1893 steel and concrete caisson within the Derwent River;
5. The 1893 sandstone wingwalls and bridge abutments on the northern river bank.

DRAFT





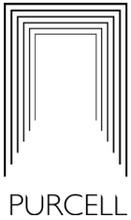
**Bridgewater Causeway & Bridge:
Historic Heritage Assessment**



0 100 200 300 400 m



Scale: 1:5,000
Datum: GDA94 Zone 55



History:

The following historical summary draws from the Draft Bridgewater Causeway and Bridge Historic Heritage Assessment and Archaeological Zoning Plan, prepared by Austral (Tas) 27 August 2020.

Introduction

The study area forms part of a rich historic cultural heritage landscape which demonstrates the evolution of transport over a period of more than two hundred years. The European history of the place has witnessed these changes from ferries, a causeway, numerous road and rail bridges, and the current structure built in the 1940s. Each phase has left evidence in the landscape, which is discussed in the following sections. It is drawn principally from previous detailed assessments of the place. Original references are provided.³

Arranged chronologically, this historical overview addresses the following key phases of use and development:

- The Aboriginal People of the Area and Contact History;
- Early European settlement of Hobart;
- The Black Snake Inn and Early Development of the Area;
- The Bridgewater Causeway and Convict Road Station;
- Earlier Bridge Crossings of the Derwent at Bridgewater:
 - o The 1849 Timber Bridge;
 - o The 1874 Tasmanian Main Line Railway Bridge;
 - o The 1893 Road and Rail Bridge;
 - o 1908 Conversion of the 1874 Rail Bridge to Road Uses;
- The Current Bridgewater Bridge;
 - o The Designer of the Bridge AW Knight;
 - o Welding Technologies used in the Bridge; and
- Later Modifications to the Bridgewater Bridge.

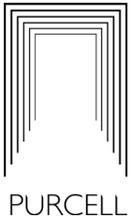
The Aboriginal People of the Area and Contact History

Before European settlement, Ryan has described Tasmanian Aboriginal society as consisting of nine nations, each containing multiple social units or bands. Boundaries between groups could vary between well-defined borders based on geographical features, to broader transitional zones existing between two friendly tribes.

The Derwent formed the boundary between two such nations. The western shore of the Derwent was part of the lands of the South East nation. Their territory covered an area of approximately 3,100 square kilometres to encompass the western shore of the Derwent north to New Norfolk, the D'Entrecasteaux Channel and Bruny Island, and south to South Cape, extending west to the Huon Valley. Ryan writes that prior to European contact, the area probably contained seven bands, each with about 70 to 80 people. The Hobart area was home to the Muwinina band. They knew the area as Nibberloone or Linghe.

The eastern shore is part of the country of the Oyster Bay people. Located on the east coast of Tasmania, their lands covered some 7,800 square kilometres, including 515 kilometres of coastline. Their country extended from

³ See: GHD, Bridgewater Bridge Replacement Planning Study. Historic Heritage Investigations, report prepared for DIER, August 2010; GHD, Tasmania's Truss Bridges. Comparative Heritage Assessment, prepared for DIER, October 2009; Austral Archaeology, National Highway Approach to Hobart – Bridgewater Planning Study Heritage Assessment: Stage 1 – Volume 2, 1997; Austral Archaeology, Midland Highway Black Snake Lane to East Derwent Highway Historical Archaeological Survey Report, prepared for Road & Environmental Planning Group, 1996; Whitlam, L, 'The Bridges, Road and Rails of Bridgewater', Tasmanian Historical Research Association and Proceedings, Vol. 36, No.2, 1989



St Patricks Head in the north, to the east bank of the Derwent. Inland, it reached St Peters Pass in the Midlands, before following the Eastern Tiers to the Break O'Day River, where it returned to the coast at St Patricks Head.

Prior to European settlement, Ryan proposes that ten bands formed part of the Oyster Bay nation with a population of between 700-800 people, the largest group in Tasmania. The Risdon and Pitt Water areas were the home of the Moomairremener band.⁴

Contact between Europeans and Aboriginal people occurred on both sides of the Derwent. With the establishment of Hobart Town in 1804 the Reverend Robert Knopwood made brief notes in his diary on contact between the two groups. An entry in March 1804 records his observations on encountering 'a great many native hutts [sic] and the fires they made' on the western shore of the Derwent, north of Hobart. Two days later he noted many Aboriginal people were around the camp at Sullivans Cove, but could not be persuaded to enter. On numerous occasions, Knopwood wrote of the fires lit by the Aboriginal people for both land management and hunting.⁵

Initial contact between the Muwinina and Europeans was positive. Although not visiting the settlement, the Aboriginal people were friendly with small groups of Europeans they met at more isolated areas. Such relations were not to last, as by 1806, violence had already begun to emerge. Conflict over food resources was one of the triggers in the deteriorating relationship. By necessity, the European settlers sought to augment their meagre stores with fresh caught game, mainly kangaroos, thereby placing them in direct competition with the Aboriginal people. So insatiable was the European demand for kangaroos, that by late 1808 this food resource had largely been exhausted from the immediate surrounds of Hobart, with hunting parties having to venture further afield.⁶

On the eastern shore of the Derwent, contact between Europeans and Aboriginal people began during the late-eighteenth century. In 1798 Bass and Flinders explored the Derwent venturing as far as what is now Bridgewater, and reaching an inlet of the river, which they named Herdsman's Cove. From here, Flinders travelled two miles inland up the Jordan River. It was in the vicinity of Herdsman's Cove that an encounter took place with Aboriginal people. Finding two women and a man carrying three spears, Bass and Flinders attempted to communicate with the group by offering them a black swan. The two women left, but the man remained.⁷

Following a failed attempt to follow him to his hut, Bass and Flinders left the man - their only encounter with Aboriginal people in Van Diemen's Land.⁸ A few years later in 1802, Peron found some huts, smouldering fires and remains of food in the vicinity of Herdsman's Cove, but no Aboriginal people were seen.⁹

In September the following year, Lieutenant John Bowen arrived at Risdon Cove, establishing the first permanent European settlement in Van Diemen's Land. Uneasy contact between the Aboriginal people and settlers descended into conflict in May 1804.¹⁰

⁴ Ryan, L, *The Aboriginal Tasmanians*, St Leonards: Allen & Unwin, 1996, p.12

⁵ Nicholls, Mary (ed.), *The Diary of the Reverend Robert Knopwood 1803-1808*. First Chaplain of Tasmania, Tasmanian Historical Research Association: Hobart, 1977, p.46; Brown, S, *Aboriginal Archaeological Resources in South East Tasmania. An Overview of the Nature and Management of Aboriginal Sites*, National Parks & Wildlife Service Tasmania, Occasional Paper No. 12, April 1986, pp. 171-172

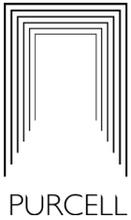
⁶ Ryan, op. cit., pp.76-78

⁷ Flinders, M, *A voyage to Terra Australis: undertaken for the purpose of completing the discovery of that vast country, and prosecuted in the years 1801, 1802, and 1803, in His Majesty's ship the Investigator ...*, London: G and W Nicol, 1814, pp.135-136

⁸ *Ibid*, p.136

⁹ Alexander, A, *Brighton and Surrounds. A history of Bagdad, Bridgewater, Brighton, Broadmarsh, Dromedary, Elderslie, Mangalore, Old Beach, Pontville and Tea Tree, Gagebrook*: Brighton Council, 2006, p.3

¹⁰ Ryan, op. cit., pp.73-75



The period 1804 to 1824 has been described as one of 'uneasy coexistence' between Aboriginal people and Europeans. Certainly, there were outbreaks of hostilities, but by comparison with what occurred post-1824, the first two decades since the coming of the Europeans were relatively calm.¹¹

Such relative peace was not to last. During the 1820s, the European population grew rapidly, accompanied by an explosion in the issuing of land grants over the most valuable grass plains. These actions created disputes over access to native game, hunting grounds and the connection of Aboriginal people with their traditional tribal lands. What followed was unprecedented violence.¹²

Early European settlement of Hobart

The first decade of European settlement in Hobart was marked by the close relationship between development and the waterfront. After the failure of the settlement at Risdon Cove and the relocation to Sullivans Cove on the western shore in February 1804, the early occupants of Hobart Town spent their first decade in a struggle for survival, building upon the camp clustered on the western boundary of the cove.¹³

In 1806 Lieutenant Governor Collins wrote of his reliance on the small amounts of wheat and barley which were grown at the government farm at New Town. This was supplemented by locally procured game. The lack of food was not the only problem faced by the young settlement, with the physical condition and morale of the general population being a cause of concern. Collins described them as having been scantily clad and badly fed for a year, and by mid-1806 they were largely destitute of clothing. To supply goods and food he requested that ships be sent to Hobart first instead of Sydney.¹⁴

Merchant ships were not permitted to enter the Derwent until 1813. After this time and most notably when the embargo on whaling was lifted, port activity gradually increased. Despite these impediments it was not long before settlement spread out along the shores of the Derwent, albeit on a limited scale. By the late 1820s the numbers and size of ships using the port had increased markedly, coinciding also with the beginning of urbanisation. At this time the population of the town had reached 6,000. The rapid increase in demand for port facilities was not solely due to the importation of goods as had previously been the case, but also the beginning of trade in export commodities.¹⁵

The Black Snake Inn and Early Development of the Area

Travellers were some of the first Europeans to visit the Granton area, or Black Snake as it was originally known. In 1811, Governor Macquarie during his first visit to Van Diemen's Land wrote in his diary about a trip to New Norfolk, where he and his party had breakfast at Black Snake Point. Knopwood's diary also mentions frequent visits to the Black Snake Inn between 1819 and 1825.¹⁶

¹¹ Boyce, J, *Van Diemen's Land, Black Inc.*: Melbourne, 2008, pp. 67-68, 105-106; McFarlane, I, 'Frontier Conflict', in Alexander, A, (ed.), *The Companion to Tasmanian History*, Centre for Tasmanian Historical Studies, University of Tasmania: Hobart, 2005

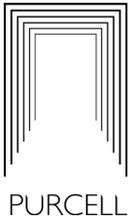
¹² Boyce, op. cit., pp.140-146

¹³ Walker, JB, 'The English at the Derwent and the Risdon Settlement', *Early Tasmania: Papers Read before the Royal Society of Tasmania during the Years 1888 to 1899*, John Vail Government Printer, Hobart, p.59

¹⁴ *Austral Archaeology*, Midland Highway Black Snake Lane to East Derwent Highway Historical Archaeological Survey Report, prepared for Road & Environmental Planning Group, 1996, p.4: Solomon, RJ, *Urbanisation. The Evolution of an Australian Capital*, Angus & Robertson, Sydney, p.27

¹⁵ *Austral Archaeology*, 1996, pp.4-5: Solomon, op. cit., p.75

¹⁶ *Austral Archaeology*, 1996, p.5: Macquarie, L, *Governor of New South Wales, Journals of his Tours in New South Wales and Van Diemen's Land 1811-1822*, Library of Australian History, pp.58-59



Memorandum

The first Black Snake Inn was probably constructed between 1817 and 1821 by which time a ferry crossing the Derwent was in operation from the location. This also corresponds with the period when travel became more frequent with the completion of the road constructed by McCarty between Hobart and New Norfolk in 1819, Tasmania's first formed road. A population centre had emerged at Black Snake. In 1824, 23 children were attending school in the area.¹⁷

During the late 1820s or early 1830s the current gothic inspired building was constructed, presumably on the same site as the first inn.¹⁸

The Black Snake Inn was one crossing place of the Derwent used by ferries. A number of flat bottomed punts and clinker type craft crossed the river back and forth from select locations. There were two well known crossing points on this part of the Derwent; one from Roseneath (Austin's Ferry) to Herdsman's Cove and Old Beach, and the second from Black Snake to Herdsman's Cove and Green Point. Travel by ferry could be dangerous and was often inconvenient, being dependant on the current, wind and availability of the service.¹⁹

By this time, the inn had diversified and offered both ferry and coach transport to travellers. Throughout its life the inn has functioned as a public house, shop and currently is a private residence.²⁰

The Bridgewater Causeway and Convict Road Station

In 1826 the Land Commissioners investigated the best location for crossing the Derwent. After some deliberation a site at Black Snake was decided on. There was plentiful timber at nearby Mount Dromedary, while stone was available from quarrying away at the hill behind the intended causeway, at what is now Granton. The river at this point also included a sand and mud bar which ran most of the way over the Derwent, and at a shallow depth.²¹ This was seen as a desirable attribute in constructing a causeway, but one that was later to cause considerable issues. In 1830 the convict station at Bridgewater (which later became known as Granton) was opened and works began on constructing the causeway.²² Works were to prove a very slow affair. To hasten progress, John Lee Archer, civil engineer recommended the construction of a timber railway with trucks to be pulled by bullocks.²³

Ross's almanac for 1831 wrote:

An establishment has been formed at Bridgewater for a Chain Gang, which is employed in constructing that great work, the causeway over the Derwent. A gaol or barracks for the reception and safe keeping of the prisoners after their hours of labor, was among the first works completed; It is capable, of containing 160 men. A commodious barracks for the military has also been constructed, as well as a store, solitary cells for such convicts as misconduct themselves, &c, &c. On a commanding eminence stands a neat building for the Officers quarters.

A very excellent quarry on the road side gives employment to one part of the gang, while the others are busily engaged in wheeling the stone out into the water. The bed of the river over the flats at this place is composed of soft mud, which the heavy mass of stone thus thrown upon it soon displaces, and

¹⁷ Austral Archaeology 1996, p.5; Rait BE, Historic Buildings, City of Glenorchy, unpublished document; Robson, LL, A History of Van Diemen's Land Volume I, Oxford University Press, 1983, p.130

¹⁸ Austral Archaeology 1996, pp.5-6; Brand I, The Convict Probation System: Van Diemen's Land 1839-1854, Blubber Head Press, 1990, p.20

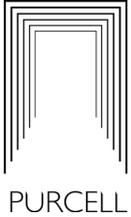
¹⁹ Austral Archaeology 1996, p.7; Newitt, L, Convicts & carriageways: Tasmanian road development until 1880, Hobart : Dept. of Main Roads, Tasmania, 1988, pp.35-37, 108-111

²⁰ Austral Archaeology 1996, p.7

²¹ TAHO, CSO1/285/6777, Correspondence 6 October 1831

²² TAHO, CSO1/285/6777, Land Commissioners to Survey Office, 6 November 1826; Austral Archaeology 1996, p.7; Newitt, op. cit., p.55

²³ TAHO, CSO1/284/6777, John Lee Archer to Colonial Secretary, 19 June 1831



in this manner a good foundation is obtained on which to raise the subsequent work. Five and twenty small abutments will then be built and covered with timber. From the piers to the edge of the deep channel a solid road of stone will be formed with a small basin at the end to haul the punt into. As the distance across is very trifling no delay can occur, because the punt instead of being towed by a boat will be made to swing backwards and forwards.²⁴

This was perhaps the last positive account of the works, which were not trifling by any measure. The causeway was constructed at an oblique angle, which was not the shortest point of crossing, although planned that way to contend with the wind and currents at this stretch of the Derwent. Early attempts at constructing piers in the sand and mud were found to be a failure due the failure to find a solid bottom.²⁵ The work was beset by controversy and labelled a 'folly' when the tons of stone dumped into the river were continually submerged in the mud and silt, without a trace. This perhaps simplifies the construction of the causeway to little more than dumping rock in the river. There was however engineering to the structure, as referred to by Ross and the construction of 25 abutments. Other contemporary accounts provide a few more clues.

A curious description of the causeway was given, midway during construction. It noted a structure quite different to the one we know:

The work at this station [Bridgewater], was the construction of a massive bridge across the Derwent, which is here three-fourths of a mile in breadth. It had been a long time since it was commenced, and was not yet completed when I finally left the island. It is composed almost entirely of stone. From either shore two solid stone abutments extends to some distance into the river. Other abutments are placed at regular distances, also filled with stone. Arches of stone span the spaces, at a sufficient height to permit the passage of small steam boats. Before its final completion the bridge somewhat resembles a shallow aqueduct, but instead of water is filled with pounded stone, thus making a way over the water in all respects like the road itself.²⁶

Other than its description as being composed of stone and the presence of abutments, it is difficult to reconcile this description with what was actually constructed. Abutments only extended from the southern shore of the Derwent, and while arches were constructed, it seems unlikely that they could accommodate small steam boats. As a description made part way through construction works, the writer's interpretation may have been inaccurate.²⁷

By 1833 the causeway extended for some 365 metres. It was 28 metres wide at its base and 16 metres wide at the top. Roderic O'Connor made an urgent request for 250 planks required to complete the 'bridge', used in some form in the construction of the causeway.²⁸ By the following year the causeway had reached a length of some 708 metres, reaching nearly its ultimate length. The causeway committee investigated the works in July 1834, finding that the portion immediately beyond the arches (towards its southern end) had already been sinking into the mud for some time. The obvious solution was to support the structure with piles, but the costs of such works were unacceptable. Instead, they favoured the use of vegetation rafts on which the stone would be supported, and disappointed that such a method had not been adopted from the start. They also recommended the removal of the arches at the southern end, where the current risked undermining the causeway.²⁹ A plan was prepared, recommending the proposed point of connection with the northern shore of the Derwent

²⁴ Launceston Advertiser, Monday 17 January 1831, p.24

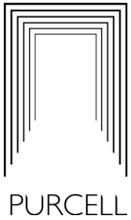
²⁵ TAHO, CSO1/285/6777, Committee on the Causeway across the Derwent to Colonial Secretary's Office, 14 October 1831

²⁶ Austral Archaeology 1996, p.8: Gates, W, Recollections of Life in Van Diemen's Land, in Australian Historical Monographs, XL, Part I

²⁷ Austral Archaeology 1996, p.8

²⁸ TAHO, CSO1/543/11623, Roderic O'Connor to Colonial Secretary, 12 September 1833

²⁹ TAHO, CSO1/285/6777, Report of the Committee on the Causeway, 28 July 1834



It was to take a further two years however before it was finished, likely because of the continual subsidence into the mud. Works to date included the construction of six piers, upon which planks were laid, allowing carts to travel across the short distance. When finally the causeway formation did appear above the water line, it was prone to subsidence and had to be continually built up. The continued dumping of rock displaced large volumes of mud, creating banks on either side of the causeway. There was no shortage of opinion on how to deal with the problem and perhaps the original concept was modified over time. Nevertheless, the majority sources, including artwork, depict the causeway as an unbroken formation of stone.³⁰

Structural problems continued into 1835. A report was prepared which supported the use of vegetation rafts as the best solution, but questioning the integrity of the embankments on either side of the causeway. It recommended that the walling on either side be at least 1.2 metres thick and battered. Those already constructed were found to be badly placed and did not have a sufficient hold on the bank.³¹

As it neared completion in 1835, more positive accounts began to be published on the 'magnificent work' that would address the dangers and difficulties of crossing the Derwent, which was cut to only a 3 minute punt ride connecting from the end of the causeway to the northern shore.³² One very detailed report noted how the overseers had addressed the fruitless problem of stone being swallowed up by the mud. The *Hobart Town Courier* wrote:

This stupendous undertaking is situated about 11 miles from Hobart town, It consists of a mound or roadway carried out over an extensive bank, near a mile in extent to the edge of deep water and the stream, so as to reach within a short distance of the opposite bank, the earth and stone for the purpose being dug from a hill contiguous with the river. Much of the stone and materials originally carried out of course subsided in the mud, until it became sufficiently solid, and in one part the mud thus pushed out has risen on each side and formed small islands, now rapidly covering with verdure.

By adopting the expedient of laying a compact bottom of logs and dead timber on the mud so as better to prevent the earth and stone from subsiding, the work is proceeding with great rapidity and about three-quarters of a mile of the mound are now finished on a firm basis, so as to admit of carriages of any weight or description freely to pass.

....

It is a curious fact and one which serves to declare the stability of the work that in times of heavy rains, when the flow of fresh water is strong down the river, that the level is invariably some inches higher on the lower side of the embankment, than on the upper, caused doubtless from the meeting of the tide with the freshwater. For these reasons, Lieut. Wrixon, with the advice of the Inspector has very judiciously shut up the arches that were originally left open at the south extremity as a sort of safety valve in case of any accumulated force of the stream pressing with injury on either side. The stones which composed these arches being removed, have been applied to the purpose of erecting a large and lofty room or hall, used as a church and school room.³³

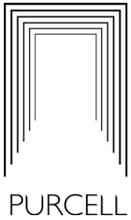
The ingenuity of constructing rafts of timber and vegetation to support the weight of the stones appears to have been the solution to the never ending problem of the mud. The article also describes arches on the southern end of the causeway, which is again consistent with the earlier description given above, but that these arches had

³⁰ Austral Archaeology, *National Highway Approach to Hobart – Bridgewater Planning Study Heritage Assessment: Stage 1 – Volume 2*, 1997, p.6; *The Sydney Gazette and New South Wales Advertiser*, Thursday 17 October 1833, p.3; Austral Archaeology 1996, pp.7-8; Brand, *op. cit.*, pp.108-109

³¹ TAHO, CSO1/285/6777, report made on the works carried on by Government at Bridgewater Van Diemen's Land June 11 1835

³² *The Tasmanian*, Friday 3 April 1835, p.7

³³ *The Hobart Town Courier*, Friday 12 June 1835, p.2



been removed by 1835 and the stone used elsewhere. However, whether these arches were high enough to allow small steam boats to pass beneath seems somewhat dubious. The success of the raft system was however already in doubt, an acerbic article from as early as 1836 describing the causeway as 'floating on a foundation of brushwood faggots, which will continue at intervals to sink in various places with its super incumbent weighty until it has displaced the soft mud.'³⁴ This subsidence was already occurring as early as 1836. Wrixon had commanded the laying of the road metal along the course of the causeway, only to be ordered to raise the causeway in height by another 1.2 metres.³⁵

The grand opening of the causeway was made in October 1836 by Lieutenant-Governor Arthur with a guard of honour and the band and colours of the Scotch Fusiliers. It was approximately 730 metres long, 20 metres wide and contained 400,000 cubic metres of fill. At the time, its cost of £45,000 was enormous. From its northern end was a gap approximately 340 metres across the Derwent to the northern shore. Between 1836 and 1849 a 'flying bridge' or ferry winched on cables connected the causeway with the shore.³⁶

In 1863 the causeway was widened and raised by some 76 centimetres in attempt to avoid overtopping by the water. Low stone walls were constructed on both sides of the causeway to bind the new fill. It was again widened on the downstream side in 1874 to accommodate the Tasmanian Main Line Railway, and later in 1893 when the bridge was converted to combine both road and rail uses.³⁷

The 1849 Timber Bridge

Parliament authorised the construction of the first bridge to span the gap of 340 metres in 1846. The contract for its construction was awarded to Messrs. Thomas and Blackburn in early 1847. Convicts from the Mount Dromedary probation station spent the remainder of the year cutting and stockpiling timber for the bridge. The *Illustrated London News* wrote in 1851 how roads first had to be cut into the gullies on the steep mountain sides to facilitate removal of the timber. Two of these gullies were lined with timber, forming a chute down which the logs were moved. The process was intensive. First the timber was loaded into a chute and propelled downward by its own momentum to a benched landing where it was manoeuvred to another chute which conveyed it to the base of the mountain. There, the terrain was of sufficient grade to allow the logs to be carried by wagons to the water's edge. From here, it was towed by boats to the work site.³⁸

Construction of the timber bridge works began in January 1848, starting at the northern end of the causeway. The bridge was not built as a straight extension of the causeway, rather its alignment diverged ten degrees eastwards to the nearest point of the river bank, and the same location used for the ferry wharf. The wharf was demolished and a temporary wharf constructed nearby.³⁹

The spans of the bridge were supported by over 360 timber piles. To allow for river navigation upstream to New Norfolk, the bridge (and all subsequent structures) included moving spans. Originally a swing span was

³⁴ *The True Colonist Van Diemen's Land Political Despatch, and Agricultural and Commercial*, Friday 8 January 1836, p.7

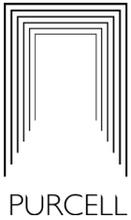
³⁵ *The True Colonist Van Diemen's Land Political Despatch, and Agricultural and Commercial*, Friday 15 January 1836, p.14

³⁶ Austral Archaeology 1996, p.8: Whitlam, L, 'The Bridges, Road and Rails of Bridgewater', *Tasmanian Historical Research Association and Proceedings*, Vol. 36, No.2, 1989, p.57; Fowler, A, 'River Derwent, Tasmania – Bridgewater Bridges – Past and Present', 16th Engineering Heritage Australia Conference Hobart November 2011, p.2; *The True Colonist Van Diemen's Land Political Despatch, and Agricultural and Commercial*, Friday 21 October 1836, p.4

³⁷ Austral Archaeology, Stage 1 – Volume 2, 1997, pp.7-8

³⁸ Austral Archaeology 1996, p.9: *The Illustrated London News*, 12 April 1851

³⁹ Austral Archaeology 1996, p.9: Whitlam, *op. cit.*, p.57



proposed for Bridgewater, but this was substituted with a rolling span modelled on a prototype bridge over the Arun River, England.⁴⁰

The bridge was opened to traffic on 26 April 1849 with a roadway 7.3 metres wide. A series of landing or fender piles were installed in the river both up and down stream for some 55 metres to assist shipping in negotiating the opening. Tolls were collected until 1880, and a toll keepers house was located near the bridge approach. A new house for the toll keepers was built c.1870 to replace the old one, but was located so close to the river that water entered its basement at high tide. The causeway was also raised around c.1860 to avoid 'overtopping' by water. Following the abolition of tolls the toll keeper became known as the bridge keeper and the old toll house survived until about 1947.⁴¹

The 1874 Tasmanian Main Line Railway Bridge

Works to construct a rail line between Hobart and Launceston began in 1872, with the Derwent being a key challenge to the project. In response, in 1874 the Tasmanian Main Line Railway Company constructed a separate timber rail bridge on the downstream side of the causeway. The bridge keyed into the causeway on a curve, approximately 30 metres before its end, before running parallel to the 1849 road bridge for 350 metres to the northern bank of the river. The 1874 bridge also required a moving span and a lattice girder iron bridge was installed which pivoted on a turntable. The railway was intended primarily for the transport of goods between Hobart and Launceston, but from 1875 passenger carriages were attached on weekdays with coach transfers.⁴²

The moving bridge span was supported by timber piles, and this construction method caused problems with subsidence. As a precaution, measures were put in place to ensure that the span was locked in place before every train crossing. However, the Rail Engineer in Chief was never truly satisfied with these measures, nor the signalling equipment at the Bridgewater end. These fears came to be when disaster struck in 1886. The swing span had shifted slightly resulting in the Launceston express engine being derailed and overturned. One rail worker and one passenger died in the accident.⁴³

Infrastructure changes in Bridgewater to accommodate the railway included the construction of a small stockyard and passenger station in the vicinity of the existing War Memorial Reserve, and gated crossings on all secondary roads. The junction between the railway and the Main Road was monitored from a small two storeyed signal box just north of the station.⁴⁴

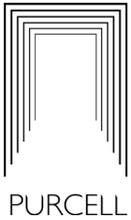
⁴⁰ Austral Archaeology 1996, p.9: Whitlam, *op. cit.*, p.58

⁴¹ Austral Archaeology 1996, pp.9-10: *The Illustrated London News*, 12 April 1851; Whitlam, *op. cit.*, p.59

⁴² Austral Archaeology 1996, p.10: Whitlam, *op. cit.*, pp.62-63

⁴³ Austral Archaeology 1996, p.10: Whitlam, *op. cit.*, p.63

⁴⁴ Austral Archaeology 1996, p.10: Whitlam, *op. cit.*, pp.63



The 1893 Road and Rail Bridge

By 1888, the 1849 road bridge was declared unsafe. However, without other options, it continued to be used. In 1891 a contract was awarded for the construction of a new road bridge. Like all previous, it included a swing span, which was fabricated in England and completed in 1893. The new bridge was upstream, or to the west of the 1849 bridge. Its completion resulted in the strange scenario of three bridges extending from the northern end of the causeway.⁴⁵

The design of the 1893 bridge allowed for its later conversion to a rail bridge. It was largely constructed from timber with the exception of the pier or caisson on which the plate girder swing span turned. This bridge extended straight out from the causeway and landed on the northern bank. The northern abutment adopted a dog-leg design to enable it to accommodate the heavy railway traffic straight ahead and a lighter roadway that would curve eastward. The bridge was over 360 metres long with a road width of 6.5 metres that narrowed to five metres over the swing span. The navigable channel was 13 metres wide. The 1849 road bridge was retained in anticipation that it would be required as a temporary detour while the new bridge was converted to rail use. However, this was not to happen until 1906-07 by which time the former had become a danger to the 1874 rail bridge. The 1849 was eventually demolished in 1899.⁴⁶

The old 1874 Tasmanian Main Line Railway Bridge coupled with the advent of heavier locomotives, made the transfer to the 1893 bridge urgent. In 1906-07 the conversion works began. These works required the widening of the full length of the causeway on the upstream, western side, substantial filling in behind the northern abutment and land acquisition at Bridgewater. The rail line was transferred from the eastern to the western side of the causeway, where it remains to this day. In response, a new station was constructed adjacent to the bridge abutments on the Bridgewater side. Shared use by road and rail of the 1893 bridge began in January 1908. However, community disquiet about the length of delays in road traffic and compromised safety conditions, led to a reversal of positions and the conversion of the 1874 rail bridge to a road bridge.⁴⁷

1908 Conversion of the 1874 Rail Bridge to Road Uses

In 1908 the 1874 railway bridge was converted to road uses. This required the bridge to be re-piled and the deck converted to accommodate a two lane roadway. It was opened in 1908. The new approaches to the bridge resulted in demolition of the 1876 and 1887 railway station platforms at Bridgewater.⁴⁸

Joint use of both rail and road of the 1893 bridge was short lived, lasting just ten months before reverting solely to rail. It was temporarily jointly used again in 1911, 1912, 1924-25 and 1926-27 while repairs were being carried out to the road bridge. Heavy vehicles were also regularly redirected over the 1893 bridge.

In 1916 the road bridge was rigged with timber gantries to carry power from the new Waddamana hydro-electric power station to Hobart. This was a temporary measure due to a war time delay in shipping of three special towers from England. On arrival, the towers were erected as planned. This included a backstay and 50 metre high tower on the north bank and another straddling the road at the end of the causeway. The towers were replaced with a submarine cable in 1987.⁴⁹

When the Second World War broke out a number of strategic sites were declared, among them the Bridgewater Bridge. It was guarded by a small number of sentries located in temporary buildings off Nielsen Esplanade. By

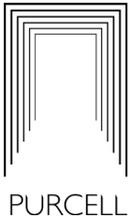
⁴⁵ Austral Archaeology 1996, p.10: Whitlam, *op. cit.*, pp.65-66

⁴⁶ Austral Archaeology 1996, p.10: Whitlam, *op. cit.*, pp.66-67

⁴⁷ Austral Archaeology 1996, p.10: Whitlam, *op. cit.*, p.67

⁴⁸ Austral Archaeology 1996, p.10: Whitlam, *op. cit.*, p.69

⁴⁹ Austral Archaeology 1996, p.10: Whitlam, *op. cit.*, pp.72, 82



1941 the road bridge was so rickety that a single lane system with coloured signal lights was brought into operation by the army.⁵⁰

The Current Bridgewater Bridge

Whitlam notes the importance of the development of the Derwent Valley Paper Company in promoting the need for a new bridge at Bridgewater. Indeed, he suggests that had it not been for the Boyer paper operation, the road and rail bridges may never have been combined.⁵¹

Discussions between the government and the Paper Company began in 1933. To allow for shipping access, the company initially requested a clear opening in the bridge some 18 metres wide. The Public Works Department investigated, and found that modifying the existing bridges for such a width would be very difficult. Further, the existing road bridge had been constructed as the rail bridge in 1874, and although not dangerous, had reached the end of its life. The best solution would be for a new combined road and rail bridge. To maintain the essential transport connections, the new bridge would need to be built between the existing road and rail bridges. With such a constraint and the narrow distance between the two existing bridges, it would not be possible to construct a swing bridge. Initially the department favoured a bascule type of lifting span, but later came to favour a lift span.⁵²

Preparatory geotechnical works were carried out in 1933. Boring of the riverbed found a solid rock bottom from 7.3 to 28 metres below the water level. The overlying strata of the bed was largely mud, but clay was also found over the northern half. A basalt base was found on the northern bank of the Derwent, but was underlaid by mud, which would require foundations to descend to a deeper level.

Department engineer and key designer of the bridge Allan Knight and director of Public Works George Balsille toured New South Wales in 1936 visiting a number of different types of moving bridges. Balsille also visited the combined road and rail bridge at Paringa, South Australia. Following the review of how other states had addressed similar problems, the department shifted its position to a lift span structure rather than a bascule arrangement.

A meeting was held with the Hobart Marine Board in April 1936 to determine the required width for the opening of a new structure at Bridgewater. Conflicting advice was given on the tonnage of shipping that would need to pass through the bridge, although it did confirm that a bascule bridge was not suitable. As a result, the preliminary concept was for a lift span bridge to be constructed with a horizontal clearance of 36 metres, and a vertical clearance above the high water mark of 30 metres.⁵³

Further geotechnical work was required to determine costs for the piles supporting the lift span as no information was available on the likely behaviour of the mud should bridge cylinders be sunk. Testing was carried out on timber and concrete piles to determine if a satisfactory pile foundation could be constructed. Although timber piles were acceptable from a load point of view, they rapidly deteriorated about the mud line resulting in expensive and frequent renewal.

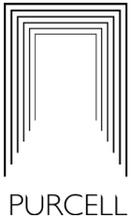
Initial costings for the new bridge were estimated at £100,000. A further £25,000 was needed when the lift span was widened, whilst the needs of other government departments added a £10,000 to the project. Offsets and savings in the pile testing reduced the final estimate of works to £123,000.

⁵⁰ Austral Archaeology 1996, p.11: Whitlam, *op. cit.*, p.82

⁵¹ GHD, *Tasmania's Truss Bridges. Comparative Heritage Assessment*, prepared for DIER, October 2009, p.195: Whitlam, *op. cit.*, pp.67-73

⁵² GHD 2009, p.195: Whitlam, *op. cit.*, pp.67-73

⁵³ GHD, 2009, p.196; Memorandum 1/37, Removal of Bridgewater Bridge, Parliamentary Standing Committee on Public Works, 1937, pp.1-2



Memorandum

The Parliamentary Standing Committee on public works investigated the project in 1937. The Railways Department estimated that the existing rail bridge had an estimated lifespan of at least 15 years. However, if the road bridge was to be renewed, it was sensible to also replace the rail bridge at the same time. The Paper Company and the Marine Board were in support of an opening at least 30 metres wide, which would provide safe navigation of vessel up to 2,000 tons. They estimated that on establishment of the factory, the mill would be served by 60 to 80 ships.⁵⁴

Public Works submitted plans for a steel and concrete lift bridge with a horizontal opening of 30 metres. The Department was satisfied that the proposed opening would be sufficient for the largest vessels that would need to reach Boyer. The cost of this opening was estimated at £19,800. Cost comparisons were also made on the use of different materials. A new timber bridge was estimated at £70,000 while a bridge in permanent materials would cost £103,500, excluding additional costs for the bridge approaches and incidental works.

The Committee was hesitant to support a project that would result in the demolition of a rail bridge which still had at least a 15 year lifespan left. As a result, the Department were asked to investigate further. They considered the construction of a new road bridge to the east of the existing, while a new rail bridge would be built at the end of its life. It was noted however that having two different bridges with two opening spans would make navigating between the bridges a difficult exercise. Balsille recommended the Department's preferred option of a new combined road and rail bridge, but noted that construction could be postponed until the old rail bridge had reached the end of its life.⁵⁵

The Committee made three key recommendations:

1. Approval of the substructure of a bridge which combined road and rail uses and approval for the superstructure of the road portion including the lift and flanking truss spans. A cost estimate of £103,000 was given for this part of the works.
2. A decision on the superstructure of the rail portion of the bridge (with the exception of the lift and flanking spans) should be deferred until the Paper Company or other industries established that they needed sea going vessels to navigate above Bridgewater, or that the existing rail bridge required replacement; and
3. That before committing addition funds for the construction of the opening span, it was necessary to dredge the Derwent near its junction with the Jordan River.⁵⁶

Construction began in 1937 with preliminary site work, and in January the following year, the acquisition of properties on the bridge approaches. On the Bridgewater side this included demolition of the Railway Hotel, stables and bazaar to make way for the steel fabrication yard and workshop. A nearby 1925 fruit drying factory was rented to provide extra space for the Public Works Department.⁵⁷

It was originally planned that the road bridge would be completed by late 1940. However, the outbreak of the Second World War resulted in the loss of workers and materials, and resources, were instead transferred to completing the Hobart floating bridge. As a result, the Department had difficulties to get tenders for the hoisting material, and the bridge was constructed in a piecemeal manner.⁵⁸

The bridge opened to road traffic in March 1942 once the lift span had been installed, although it was to take several years before the lift span came into operation. It was not until 1951 that the last of the piles from the

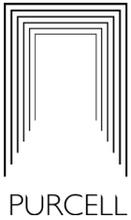
⁵⁴ GHD, 2009, p.196

⁵⁵ GHD, 2009, p.197

⁵⁶ GHD, 2009, p.197: Parliamentary Standing Committee on Public Works, 1937, pp.1-4

⁵⁷ GHD, 2009, p.197

⁵⁸ GHD, 2009, p.197



redundant bridges were removed. The massive concrete filled steel caisson on which the 1893 swing span rotated was left *in situ*, along with the 1893 abutments on the Bridgewater side of the river.⁵⁹

By 1944, demand had grown for newsprint and the government submitted plans for a revised railway station at Bridgewater to supply Boyer. The factory was also examining its transport needs, favouring river transport, but noting that as a temporary measure, a rail siding was also required. In response, the government continued the upgrade of the Bridgewater Station and brought the bridge lift span into operation. The old 1874 rail bridge was retained while these works occurred, allowing for traffic to be diverted to the old structure while completing the lift span towers in 1943-44. In mysterious circumstances, the old rail bridge caught fire in October 1945. The fire brigade were advised to let it burn, reducing demolition costs, but in the end only three spans were destroyed.⁶⁰

Completion of the bridge towers and lifting mechanism were delayed by the Second World War, with the lifting span coming into operation in 1946. On completion, three bridges existed at the crossing: the new steel bridge combining road and rail traffic, and the old separate rail and road bridges. As a result, shipping had to zig-zag between them to navigate up stream.⁶¹

The new bridge started carrying rail in October 1946, in combination with a new station layout at Bridgewater. On completion, the old rail bridge was progressively demolished. The full width of the opening span was not available until 20 February 1946. It was take four more years before the old piles were removed from the River, the key survivor being the massive steel and concrete caisson which supported the swing span of the 1893 bridge.⁶²

The extra costs of the lift span proved a wise investment. By 1946, the Paper Company favoured barging newsprint from Boyer to Hobart. Increased production at the factory resulted in growth in river traffic. In 1947-48, less than 400 vessels made the crossing at Bridgewater, but growing to just over a 1,000 in 1956 and 1,300 by 1969-70. The largest number of openings on a single day was 26 for the New Norfolk Regatta. The only vessels that ever needed the full height of the lifting span were a few of the Sydney-Hobart maxi yachts which ventured this far upstream. River transport to and from Boyer was progressively dropped, ceasing completing in 1986. As a result the number of bridge openings declined markedly. In 1987-88, the bridge opened less than one hundred times.⁶³

The combination of road and rail on the bridge required extra safety precautions to be installed to prevent trains crossing the bridge whilst it was lifted. The solution was the interlocking of the power supply for the lifting mechanism and the signal station at the rail station, and human operation of the switches and signals. All physical systems for safe operation of the lift span were replaced with telephone rail orders in the 1980s.⁶⁴

Like all structures, the Bridgewater Bridge has undergone a series of modifications since construction.

In 1951, the renewed Bridgewater railway station and its signalling equipment was destroyed by a fire. At first, the bridge rail locks which lowered and raised the opening span were operated by hand, which could be slow, particularly during high winds. These were later replaced with hydraulic cylinders to operate the locks from the machinery house located above the lift span.

⁵⁹ GHD, 2009, p.198; Whitlam, pp.73-74; Austral Archaeology 1996, p.12

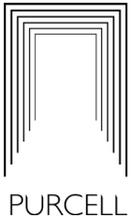
⁶⁰ GHD, 2009, p.199

⁶¹ GHD, 2009, p.199

⁶² GHD, 2009, pp.199-200

⁶³ GHD, 2009, p.200

⁶⁴ GHD, 2009, p.200



Changing rail demands also led to changes to the Bridge. During the 1960s, railway infrastructure was modified to cope with the heavy loads required for the Gordon Power Development project. At Bridgewater, this required the lowering of the rail tracks by 44.45 cm.⁶⁵

Extra steel plates were welded to the under deck girders between 1987-1989 to increase the load limit of the bridge to its maximum limit. The transmission line towers and cables which ran alongside the bridge and causeway were also removed during this time.

The lift span was also subject to structural changes in the 1980s to increase its load capacity. The works included strengthening of the welded plate girders by the addition of plates to the top and bottom flanges and strengthening of piers by the application of transverse steel beams encased in concrete.

The addition of plates to the top and bottom flanges of the girders had the unintended effect of significantly distorting the girders so that they separated from the bridge deck, and in time causing corrosion. The issue was addressed by the addition of grout into the voids. Additional steel cleats were also added to the deck to provide full lateral restraint of the girders.⁶⁶

In 1992 the southern end of the bridge and the causeway was raised and reconstructed, including some vertical realignment of the causeway over a distance of some 150 metres.⁶⁷

The continued settlement of the causeway has resulted in horizontal displacement of sediments, which in turn apply horizontal loads to the piles. Since construction in 1942, settlement in the order of 60 cm has occurred and continues to be an ongoing issue.⁶⁸

Some of the most significant refurbishment took place during the early 2000s. Substantial deterioration had been identified in 2006 in some of the bridges counterweight ropes, at their connections with the 170 tonne counterweights. Addressing the risk of rope failure, the bridge was closed for a two week period to allow for close inspection and the design of an alternative counterweight suspension system. This alternative system remained in place until 2010 when it was removed as part of the last major refurbishment project. The closure of the lift span temporarily stranded larger vessels upstream.⁶⁹

The temporary support arrangement for the lift span was not a permanent measure. It also made it more difficult to maintain the ropes and other components. Refurbishment of the bridge and restoration of the operation of the opening span was identified as the appropriate response. Works carried out as part of this major refurbishment were extensive, replacing certain equipment, and making repairs and enhancements. Repairs were generally like-for-like to maintain the heritage values of the bridge. It included:

1. Full containment, grit blasting and repainting all plate girder approach spans to safely remove the lead-based paint, rectify steel corrosion and apply a new protective coating;
2. The installation of new cathodic protection⁷⁰ systems for the concrete piers. On opening the piers for the repair and installation of the protection system, it was found that not only was there insufficient concrete cover for the installation of a new system, but that the original anodes had damaged the pier reinforcement. The installation of new cathodic protection was therefore abandoned, and work instead focussed on repairing damaged reinforcement and concrete.

⁶⁵ GHD, 2009, p.200

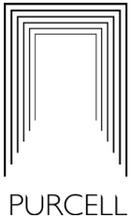
⁶⁶ Fowler, *op. cit.*, p.8

⁶⁷ Department of Transport, Materials & Research, *Derwent River Crossing at Bridgewater. Office Study Geotechnical Report*, File No. 2.0082, Report No. 2508/1, 24 June 1996

⁶⁸ Fowler, *op. cit.*, p.6

⁶⁹ Fowler, *op. cit.*, p.6

⁷⁰ i.e., a technique used to control the corrosion of a metal surface by making it the cathode of an electrochemical cell.



3. Structural repair of areas of the steel superstructure and concrete piers, with inclusion of cleats to the plate girders of the approach spans to provide them with full lateral restraint. Additional steel repairs were required including reattachment of a large number of braces to the steel plate girders.
4. Works were proposed to investigate or stabilise settlement of the causeway, although more urgent works were carried out instead.
5. Restoration of the opening lift span and upgrading the electrical and mechanical systems to meet current standards. This included replacement of the motors, a programmable logic control, electro-hydraulic brakes and improved guarding to reduce reliance on manually operated brakes and improve safety.⁷¹

Comparative Analysis:

The Causeway

Various previous assessments have claimed that on completion, the Bridgewater Causeway was the largest item of convict built infrastructure in Australia.⁷² Similar statements are made in the Tasmanian Heritage Register, which notes that the causeway was the largest civil work undertaken by convict labour,⁷³ while the defunct Register of the National Estate cites the causeway as 'one of the largest convict built civil engineering projects undertaken in Australia'⁷⁴ and that:

Neither the retaining walls in Victoria Pass in the western descent from the Blue Mountains in New South Wales or the roadworks in the Great North Road, where it rises from the north bank of the Hawkesbury River have been assessed as being comparable in scale.⁷⁵

The veracity of this statement warrants some scrutiny, and recent work carried out by Purcell suggests the Old Great North Road in New South Wales is more important as an example of civil engineering using convict labour, and formally recognised as such with its National and World Heritage Listing.

Nonetheless, the achievement of the Bridgewater causeway as convict built civic engineering is a claim that has merit, but is perhaps difficult to establish with such certainty it being 'the largest', and certainly not within a national context. The category of 'civil engineering' itself is broad in scope but includes roads, bridges, canals, dams, sewerage systems, railways and so forth.

The most readily available comparisons within Tasmania are with other causeways. A cursory review would suggest they are uncommon features. Only three other causeways have been identified within Tasmania with which to compare Bridgewater; the Hunter Street causeway in Hobart, the Sorell Causeway and the Risdon Cove Causeway.

The Hunter Street causeway connected the Hobart foreshore with Hunter Island. It was originally connected by a sand spit that was submerged at high tide. The spit was converted to a causeway between 1820-1821 by convict labour. It was described as 'a substantial causeway of masonry, wide enough for two carts to pass, and a good path for foot passengers'. Its length was some 182 metres. It has been estimated that the causeway contained more than 5,000 cubic metres of sandstone and dolerite and as much dressed sandstone on its outer

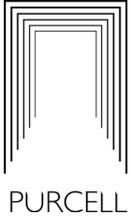
⁷¹ Fowler, *op. cit.*, pp.9-10

⁷² See: GHD, *Bridgewater Crossing, Historic Heritage Precinct Assessment*,

⁷³ THR 618, Bridgewater Bridge, Midland Highway, Granton 7030

⁷⁴ RNE 101213, Bridgewater Causeway, Midland Hwy, Granton, Tas, Australia

⁷⁵ *Ibid*



sides as used in all the remaining warehouses on Hunter Street. The causeway has subsequently been consumed by later reclamation works and the formation of Hunter Street. It survives in a subsurface archaeological context.⁷⁶

The Sorell Causeway was completed in 1874 and measures some 4.8 kilometres in length, crossing Pittwater and connecting Midway Point and Sorell. It includes a bridge crossing on its southern approach to Midway Point. It was constructed using private contractors, at a total cost of around £27,000. On construction it included various timber pile bridge sections, with the remainder being stone embankments and cuttings.⁷⁷

Very little is known about the Risdon Cove causeway. It was constructed across the mouth of Risdon Cove to carry a roadway. It was in place by 1889.⁷⁸

Beyond causeways, comparisons could perhaps be made with other civil engineering works carried out by convict labour, such as the number of extant bridges in permanent materials which continue to exist including Richmond (1825), Ross (1836) and the Red Bridge at Campbell Town (1836). All show the skill in engineering design and fine construction using convict labour.

Roads are also a type of civil engineering constructed, the most notable being Bell's Line of Road extending for some 78 kilometres from Old Beach to St Peter's Pass and constructed between 1820 and 1824, by convict labour.

The following relevant comparisons can be made about the Bridgewater causeway:

- It is predated 10 years by the Hunter Street causeway, which also demonstrates a higher degree of detailing, being clad in worked sandstone;
- At 730 metres long, 20 metres wide and containing 400,000 cubic metres of fill, the Bridgewater Causeway is substantially longer and larger in volume than the Hunter Street causeway. Its construction period of 1830-36, whilst not as early as Hunter Street, is still well within the early colonial period.
- Both Hunter Street and Bridgewater are surpassed in scale by the Sorell Causeway. However, this was constructed considerably later than the others; does not have an association with convict works; and is likely to have utilised technology that made its construction a relatively easier proposition than the older causeways.

Bridges of Tasmania

Within the Tasmanian context, the most useful understanding of the significance of the Bridgewater Bridge comes from the 2009 GHD report, which provided a comparative analysis of all of the State's metal truss road bridges.⁷⁹

The GHD comparative heritage assessment considered eight surviving metal truss road bridges in Tasmania, including the Bridgewater Bridge. The report assessed the heritage significance of each bridge and then considered the relative heritage values of each bridge when compared with others in that class of place.

The methodology used both standard assessments against heritage criteria and a qualitative approach, modifying work previously developed in Victoria for assessing historic metal road bridges. This qualitative method considered six broad criteria (age, length/height, structure type, historical issues/themes, social issues/themes and

⁷⁶ THR 10350, Hunter, Evans, Davey Street – subsurface remains including Hunter Island, Causeway, Old Wharf Probation Station and Reclaimed Land, Hunter, Davey, Evans streets, Hobart, 7000

⁷⁷ *The Mercury*, Monday 22 June 1874, p.3

⁷⁸ Walker, JB, 'The English at the Derwent, and the Risdon Settlement', *Papers and Proceedings of the Royal Society of Tasmania*, 14 October 1889

⁷⁹ GHD, *Tasmania's Truss Bridges. Comparative Heritage Assessment*, unpublished report prepared for the Department of Infrastructure, Energy and Resources, October 2009

aesthetic values), with numerical measures for each criteria. Using this system, the highest possible ranking for a bridge was a score of 18.⁸⁰

The eight bridges under consideration were the Kings Bridge, Launceston; North Esk River Bridge, Corra Linn; Mountain River Bridge, Lollara; Nive River Bridge, Bronte; Scamander River Bridge, Scamander (currently approved for demolition); the Tyenna River Bridge, Westerway; the Bridgewater Bridge; and the George River Bridge, Priory. For a full historical context, the report also considered demolished bridges of this type. Of these, relevant to discussion here are the Kimberley Bridge at Mersey, which was the first all welded bridge in the State; and the floating Derwent Bridge at Hobart, which was also a welded structure incorporating a similar lifting structure as used at Bridgewater.

The GHD report acknowledges that the assessment method does not preclude the need to undertake standard assessment approaches to understanding the significance of a place, but rather provides a more fine-grained approach to determining the relative significance of a particular type of bridge.

The most ready comparison available is between the Bridgewater and Hobart Bridges. The Hobart floating bridge was constructed from 1938 to 1943. It was a larger structure than the Bridgewater Bridge, having an opening span some 54 metres wide between its two towers, and vertical clearance of some 44 metres above the low water mark. Both Hobart and Bridgewater Bridge utilised the skills of Knight and Isaacs in their construction.⁸¹

Returning to GHD's comparative analysis, the report found that the Bridgewater Bridge had significance which met all criteria for entry in the Tasmanian Heritage Register. The qualitative approach gave the Bridgewater Bridge a score of 14 out of 18 total possible points, which ranked it as equal second with the Nive River Bridge in terms of its significance as a metal truss road bridge. Only Kings Bridge in Launceston received a higher score of significance.

All welded Bridges

The world's first all welded bridge is thought to have been constructed in the United States in 1928. Arc welding began to be used in Tasmanian bridges during the 1930s, starting with the Kimberley Bridge (1932-33 and removed), the Nive River Bridge (1933-34), the Scamander River Bridge (1934 and approved for demolition), the Hobart Bridge (1938-43), and the Bridgewater Bridge (1942-46). In each case the use of this welding technology was refined as new knowledge became available. As a technique, it was also superior to riveting, being more cost effective by being lighter and quicker to install.⁸²

The 1930s was a period of rapid development in technical knowledge. The first all welded bridge at Kimberley has since been destroyed, leaving the Nive River Bridge as Tasmania's and Australia's oldest surviving steel all welded truss bridge. The skills and knowledge developed at Kimberley and Bronte were further developed in future bridges at Scamander, Tyenna, Hobart and Bridgewater. Collectively, they demonstrate the application of new welding technologies.

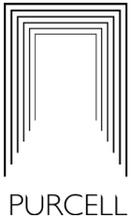
Brittle fatigue in welded bridges was a problem recognised since the early 1930s. Through the expertise of DV Isaacs, a solution was formulated by using butt-welds instead of fillet welds, and where the use of an added plate was unavoidable, by tapering this plate. Isaacs had first published a paper on the distribution of stresses in fillet welds in 1936; and he published his work on butt-welds in 1941.⁸³ It would seem likely that the findings of this research were applied in the construction of both the Hobart and Bridgewater Bridges. As noted by Fowler in

⁸⁰ Ibid

⁸¹ Ibid, p.239

⁸² Ibid, p.234

⁸³ Ibid, p.198



2011, the refurbishment works carried out at Bridgewater in the early 2000s found that some of the details that were originally incorporated to reduce susceptibility to metal fatigue, are now themselves still considered susceptible to fatigue. Other measures have however been effective, and the fact that fatigue was considered and addressed is still of interest. Fairly recent analysis showed that almost all elements of the bridge still had extensive remaining fatigue life.⁸⁴

Lift Span Bridges

The other aspect of comparison for the Bridgewater Bridge is its inclusion of a lifting span. It was not Tasmania's largest lifting span (that honour going to the Hobart Bridge), but remains the only surviving bridge of this type in Tasmania. Bridges with moving spans are rare in Tasmania generally, the only two other examples known to the author being the bascule bridge at Constitution dock, constructed in 1935 but essentially reconstructed in 1990; and the pivoting span of the Victoria Bridge which was constructed in 1960.

Whitham considers that the Bridgewater Bridge embodies the Government's desire to stimulate the post-depression economy by supporting a new industry in the form of the Australian Newsprint Mills (ANM). ANM proposed to build a factory upstream of the Bridgewater crossing, and ship raw materials and products on the river between Boyer and Hobart. ANM required a clear opening width of 120 feet and height of 100 feet to accommodate ships of between 3000 to 5000 tons. Bascule or swing-span bridges could not accommodate ships of these sizes, so the choice of a vertical lift bridge was made.⁸⁵

The Bridgewater Bridge is a rare example of an all-welded Pratt through truss vertical lift span bridge based on the designs of American bridge designer, Dr A.J. Waddell. Waddell's first vertical lift span bridge was constructed in Chicago in 1893. Waddell's design emerged from the need for a greater span to allow wider and larger ships to pass under the bridge without having central piers to obstruct navigation (like swing span bridges).⁸⁶ Similar requirements led to the adoption of this style of lifting bridge in Australia.

There are no comparative extant bridges in Tasmania. The only other similar vertical lift span bridge built in Tasmania was in the Hobart Floating Bridge. The vertical lift span section of the Hobart bridge was wider (at 180 feet) and was the largest opening span in Australia.⁸⁷ Allan Knight designed both bridges with DV Isaacs as the consulting engineer. Balsille and Knight inspected various types of lifting bridges in NSW in 1936. In the same year, Knight proposed a design of a curved floating bridge with a lift span for the Hobart Bridge. Knight then went to America in 1937 to study lifting bridges prior to construction of both the Tasmanian bridges.⁸⁸ While preliminary site work for the Bridgewater Bridge began in 1937, World War Two delayed construction due to materials shortages and the transfer of workers and materials to the Hobart Bridge project.⁸⁹ Construction of the Hobart Bridge began in 1938 and in contrast to the Bridgewater Bridge, the Hobart Bridge trusses were welded in the fabricators shop and connected on site with rivets. The Bridgewater Bridge opened to traffic in March 1942, although the lifting span was not operable until 1946.⁹⁰ The Hobart Bridge was opened to traffic in December of 1943.⁹¹

84 Fowler, op. cit., p.7

86 Nyman, "Dr. J. A. L. Waddell's Contributions to Vertical Lift Bridge Design," p.5-6

86 Nyman, "Dr. J. A. L. Waddell's Contributions to Vertical Lift Bridge Design," p.5-6

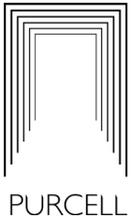
87 GHD, Tasmania's Truss Bridges, p.234

88 Cole, Hobart's Floating Bridge, p.7, 11

89 GHD, Tasmania's Truss Bridges, p.197

90 GHD, Tasmania's Truss Bridges, p.199

91 Whitham, "The bridges, roads and rails of Bridgewater," p.72-73; Cole, Hobart's Floating Bridge, p.7



There are six comparative examples of Waddell-type, Pratt through truss, vertical-lift span bridges in NSW. The first one constructed in NSW was at Ryde (in Sydney) which was completed in 1935 and was one of the bridges inspected by Balsille and Knight in 1936. The other NSW bridges were constructed at Taree (1940), Hexham (1952), Bateman's Bay (1956), Wardell (1964) and Harwood (1966).⁹² All of these lift bridges were built over navigable rivers where there was existing river trade and low riverbanks. The cost of building fixed bridges long enough to achieve the required vertical clearance to allow ships to pass under was prohibitive, hence the use of opening bridges.⁹³ Hexham bridge construction was delayed by World War Two, as was Bridgewater Bridge. While Hexham Bridge was designed in 1940, construction did not commence until after the War in 1945.⁹⁴

All of these six Waddell-type bridges were built by the Department of Main Roads, NSW. The main differences between all of the bridges lie in the number of truss spans either side of the lifting span, the truss construction method, and the pilings. The number of approach spans is determined by the width of the river and/or the foundation soil type either side of the river. Wardell Bridge is unique as it has no truss spans either side of the lifting span, instead it has reinforced concrete approach spans and the towers are supported by an extra set of concrete piers on each side of the lifting span.⁹⁵

There are other steel lift span bridges in Australia, however most of these are associated with crossings that use timber girder and/or timber truss approach spans. Those lift span bridges are particularly vulnerable to demolition because of the difficulties and the costs associated with maintaining and upgrading the timber approach spans.

The Bridgewater Bridge is the largest surviving lift span bridge in Australia.⁹⁶

All of the NSW bridge trusses were shop welded and the spans were rivetted together on site, whereas the Bridgewater Bridge was all welded. It has been suggested that the Bridgewater is important because it is considered to potentially be the oldest all-welded railway truss bridge and oldest all-welded railway lift span existing in the world⁹⁷. This potential claim would require further research to be fully justified.

In addition, the bridge truss design demonstrates consideration of the issue of fatigue in the design of welds and also in the detailing of strengthening plates. Lessons learnt from previous projects led to the use of full penetration butt welds with bevelled vee preparation and smooth grinding at completion. Strengthening plates used tapered terminations to avoid abrupt changes in section and hence stress concentration. In addition curved profile gusset plates were used to maintain a smoother transition of stresses at connections.

David Isaacs worked closely with Knight and carried out the detailed design work. He assessed that butt welds would have better fatigue performance than fillet welds.⁹⁸ Fatigue consideration in bridge design was in its early days at the time of design of the Bridgewater Bridge.⁹⁹

Review of Isaacs paper on his design approach indicates that Isaacs developed a set of 'rules' for the design (design parameters). These rules put in place limitations on stress for certain types of connection. These limitations were guided by existing codes but appear to have also relied on a certain level of reasonable judgement by Isaacs.

92 GHD, Movable Span Bridge Study, p.59

93 Carter, "Vertical Lift Span Bridges in NSW," p. 93-94; GHD, Tasmania's Truss Bridges, p.12

94 GHD, Movable Span Bridge Study, p.205-206

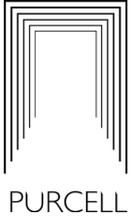
95 GHD, Movable Span Bridge Study, p.229

96 Cooper, Nomination for Engineers Australia Engineering Heritage Recognition, p.7

97 Ibid, p.7

98 GHD, Movable Span Bridge Study, p.198

99 Cooper, Nomination for Engineers Australia Engineering Heritage Recognition, p.7



The design also used, in Isaacs words, “*a new conception of welded truss design which seems best described by the term “force flow.”* This concept sought to avoid abrupt changes in both direction of forces and stress levels at connections, by the strategic use of shaped gussets, profiled to curves, and tapered stiffening plates.

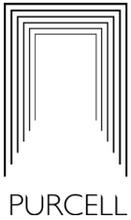
This concept appears to have been a combination of art and science, whereby Isaacs visualised and drew notional lines of force through the connections. Further research would be required to determine if this concept was the fore runner of a widely adopted method of analysis. It is likely that such an approach would not have been formalised by calculation until the more recent advent of computer aided design and finite-element analysis.

The idea does however achieve pleasing sculptural form in the bridge, which does set it apart in aesthetic terms. The performance of the bridge in use over 80 years also seems to indicate that the approach had merit with regard to strength and fatigue performance.

The other main difference between the NSW bridges and Bridgewater is that they are all road bridges with a footpath / cycleway on the side. Bridgewater Bridge also carries a rail line adjacent to the centrally located road lanes, with the footpath / cycleway on the opposite side of the road lanes. The NSW bridges are all supported by reinforced concrete piers, whereas the Bridgewater Bridge has timber piles supported by concrete caissons.

Like the Bridgewater Bridge, the last four bridges built in NSW are still operable. While the Ryde bridge retains the towers and pulleys, most of the lifting mechanism was removed. The Martin Bridge is unique among the NSW bridges as the lifting section was a plate web girder rather than a Pratt through truss. All of the lifting mechanism and the towers were removed from the Martin Bridge so it is also no longer operable.

DRAFT



Memorandum

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ASSESSED HISTORIC CULTURAL HERITAGE SIGNIFICANCE

Statement of Significance:

The Bridgewater Causeway and Bridge forms part of a broader and significant cultural landscape which has historical importance with regard to the evolution of transport, and which concentrates at this point of the Derwent. Serviced first by ferries, then later the causeway, road and rail traffic, the place is arguably the focus of Tasmania's most historically important transport route.

The Bridgewater crossing as a major piece of civil infrastructure forms part of a suite of places including roads, bridges, dams and water supply systems. It is important as one of the largest items of civil infrastructure constructed in Van Diemen's Land using convict labour. The Bridgewater Causeway has the potential to enhance an understanding of early civil engineering construction from the early nineteenth century generally and more specifically a greater understanding of the construction methods employed to address the very difficult geological conditions encountered throughout its history.

The Bridgewater Bridge is rare as Tasmania's only surviving lift span bridge and is the largest surviving lift span bridge in Australia. The steel truss approach and lift spans demonstrate the early use of all welded connections in steel truss bridges and the early adoption in Tasmania of design details specifically to address the issue of fatigue. The Bridgewater Bridge is important in demonstrating the key characteristics of a lift span metal truss rail and road bridge. The extensive archive of construction documentation and engineering studies and has the potential to yield information as to historical advances made in welding details, and their long term performance.

The Bridgewater Causeway has a special association with the work of convict labour in the construction of major civil engineering projects during the first half of the nineteenth century. It is also important for its association with Governor Arthur. The Bridgewater Bridge is an important example of the work of engineer Sir Allan Knight. The place has special associations to Engineers Australia who have recognised its technical significance with an Engineering Heritage National Marker in 2018.

- a) "The place is important to the course or pattern of Tasmania's history"

The Bridgewater Causeway and Bridge forms part of a broader and significant cultural landscape which has historical importance with regard to the evolution of transport, and which concentrates at this point of the Derwent.

Serviced first by ferries, then later the causeway, road and rail traffic, the place is arguably the focus of Tasmania's most historically important transport route.

The causeway was one of the largest items of civil infrastructure constructed in Van Diemen's Land using convict labour. It demonstrates the scale of public works that could be carried out by convict labour, which was the key workforce available during the first half of the nineteenth century. The length of time to construct the causeway, and the methods used to address the very difficult geological conditions are a testament to the work carried out by the convict workers.

Following completion, the causeway formed the point of construction for all future bridges. Evidence of the 1874 and 1893 bridges exists on the causeway and northern bank of the Derwent. Subsurface evidence of the 1849 bridge abutments may also exist on the northern bank.

The current Bridgewater Bridge is of historical importance in demonstrating the development of civil infrastructure by the Public Works Department, during a period of great innovation and technical advancement in the 1930s.

The bridge is also historically significant with its association with a major phase of industrialisation in Tasmania, and in particular the development of the paper industry in the Derwent Valley. The bridge was specifically designed to help facilitate this industry through the provision of both rail and river navigation capabilities.

- b) “The place possesses uncommon or rare aspects of Tasmania’s history”

The causeway is a rare place. It is one of only two causeways constructed in the state during the early nineteenth century using convict labour. It is considerably larger in length and volume than the Hunter Island causeway, being the other convict built causeway.

The Bridgewater Bridge was Tasmania’s second, and the only surviving lift span bridge. It is also the largest surviving lift span bridge in Australia. It is the largest and one of relatively few metal truss road bridges in Tasmania, and is a relatively early example of an all welded bridge.

- c) “The place has the potential to yield information that will contribute to an understanding of Tasmania’s history”

The Bridgewater Causeway has archaeological research potential. Detailed documentary evidence of its construction methods is limited. It offers opportunities to understand civil engineering construction from the early nineteenth century and methods to address the very difficult geological conditions over an extended period.

The Bridgewater Bridge has research potential to provide new information on bridge design and construction, and in particular, advances made in welding details, and their long term performance.

- d) “The place is important in demonstrating the principal characteristics of a class of place in Tasmania’s history”

The Bridgewater Causeway is an important example of large scale civil infrastructure that was built during the first half of the nineteenth century using convict labour. It forms part of a suite of places including roads, bridges, dams and water supply systems.

The Bridgewater Bridge is important in demonstrating the key characteristics of a lift span metal truss road bridge. It is a ‘Pratt’ type of truss in a half-through configuration. The truss consists of vertical diagonals that slope down towards the centre. Constructed from welded steel, the bridge demonstrates the essential truss form of light weight construction with a hollow skeletal structure formed from vertical, horizontal and diagonal chords creating the essential triangular section of the truss bridge type.

- e) “The place is important in demonstrating a high degree of creative or technical achievement”

The Bridgewater Bridge is important in demonstrating a high degree of technical achievement. The steel truss approach spans and the lift span demonstrate the early use of all welded connections in steel truss bridges and the early adoption of design details specifically to address the issue of fatigue. It was designed and constructed some ten years after the world’s first all welded bridge, and within a number of years of Tasmania’s entry into this technology. Recent investigations have shown that some of the details originally incorporated to reduce susceptibility to metal fatigue are now considered susceptible to fatigue.

Innovative research was carried out and the weld details were designed to address problems with fatigue and brittle fracture.

- f) “The place has a strong or special association with a particular community or cultural group for social or spiritual reasons”

No social values assessment has been carried out for this project. The following provides an indicative statement of values which may exist at the place.

The Bridgewater Causeway and Bridge are prominent landmarks and mark the northern entrance to Hobart. It has been the key crossing point of the Derwent since the 1830s.

The causeway and bridge may have strong or special associations with engineers as a group. Engineers Australia has recognised the Bridge with an Engineering Heritage National Marker in 2018.

- g) “The place has a special association with the life or works of a person, or group of persons, of importance in Tasmania’s history”

The Bridgewater Causeway has a special association with the work of convict labour in the construction of major civil engineering projects during the first half of the nineteenth century. It is among the largest items of infrastructure in Tasmania which demonstrates this association.

The causeway is also important for its association with Governor Arthur and various government engineers and officials who designed and oversaw its construction. This includes Inspector of Roads and bridges Roderic O’Connor, and architect and engineer John Lee Archer.

The Bridgewater Bridge is an important example of the work of engineer Sir Allan Knight. Knight enjoyed a highly successful career with the Public Works Department and later the Hydro Electric Commission.

He was the designer of a number of technologically advanced bridges including at Vincents Rivulet and the Leven River, and was closely involved with the three bridges across the Derwent – the floating bridge at Hobart, Bridgewater Bridge and the Tasman Bridge.

Knight received many awards and honours during his career and was made a Knight Bachelor in 1970.

- h) “The place is important in exhibiting particular aesthetic characteristics”

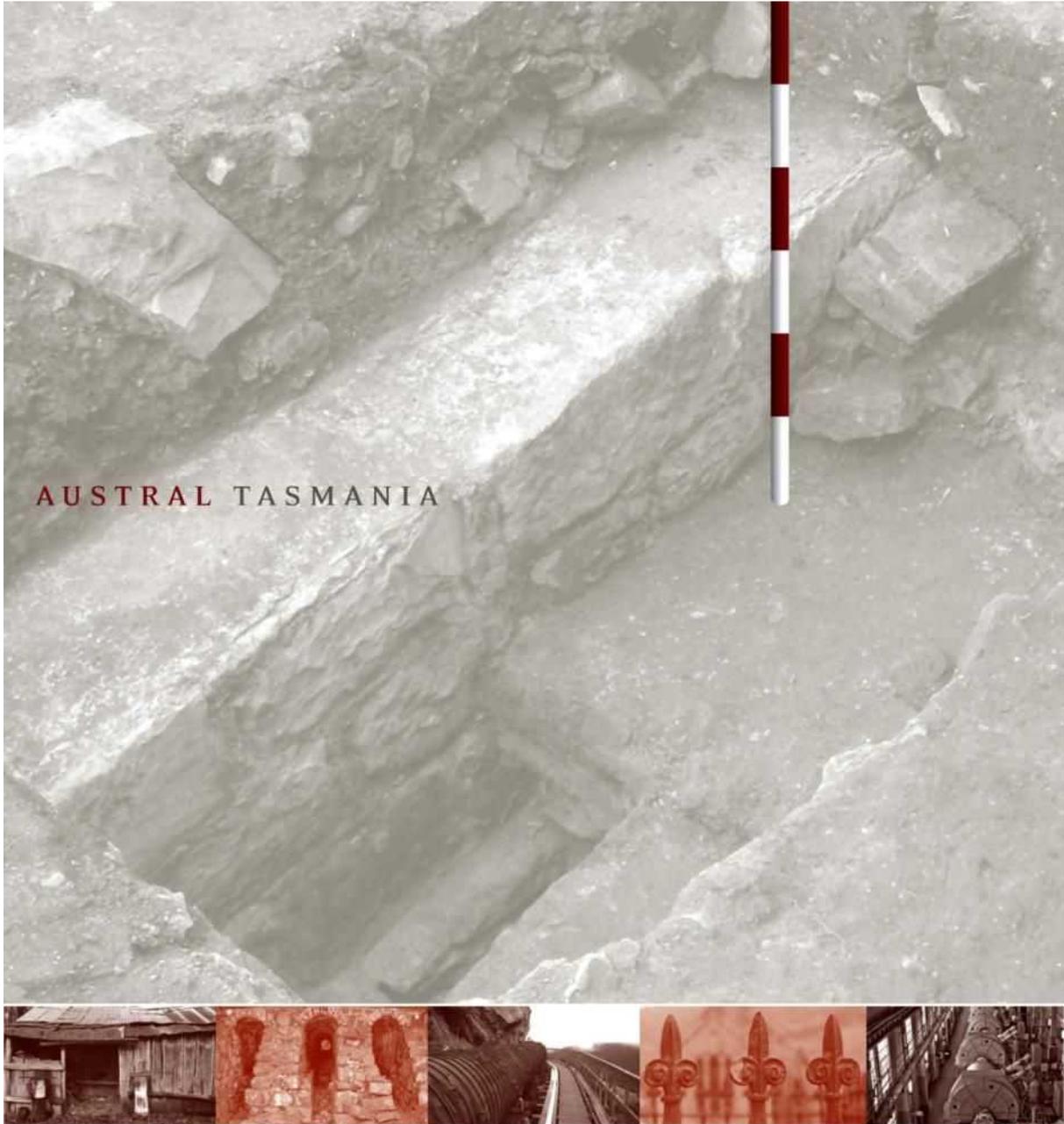
The Bridgewater Bridge is the dominant visual landmark in an aesthetically important cultural landscape, strongly associated with the evolution of transport. This evidence is layered in the landscape, and includes large and small elements.

The bridge with its high towers and distinctive truss forms are landmarks of the area, with important views to the structure available from surrounding road networks.

The still waters of the Derwent at this location and frequent presence of large flocks of Black Swans contribute to the setting of the place.

APPENDICES

APPENDIX 3: AUSTRAL TASMANIA PTY LTD, BRIDGEWATER CAUSEWAY AND BRIDGE. HISTORIC HERITAGE ASSESSMENT AND ARCHAEOLOGICAL ZONING PLAN, AT0298, 12 NOVEMBER 2020.



AUSTRAL TASMANIA

Bridgewater Causeway and Bridge Historic Heritage Assessment and Archaeological Zoning Plan

Final Report prepared for Purcell

AT0298

12 November 2020

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EXECUTIVE SUMMARY

Introduction

The Department of State Growth (State Growth) is investigating upgrading the crossing of the River Derwent at Bridgewater. To assist with planning documentation, Purcell has engaged Austral Tasmania to prepare this Historic Heritage Assessment and Archaeological Zoning Plan. The study area for investigations includes the Bridgewater Causeway and Bridge and low level remains of previous bridges constructed at this location. The place is subject to statutory heritage management at a State level under the *Historic Cultural Heritage Act 1995 (HCHA 1995)*. It is unclear if the *Brighton Interim Planning Scheme 2015* applies to the place, despite its inclusion in the Heritage Code.

Findings of the Heritage Assessment and Archaeological Zoning Plan

The place has been assessed for its heritage values, finding that it meets the criteria of the *HCHA 1995*. It has historical importance; rarity; research potential; demonstrates a class of place; is a technical achievement; has important associations; and has important aesthetic characteristics. The place also potentially has a strong or special association with a particular community or cultural group, although this value has not been formally assessed.

An Archaeological Zoning Plan has also been prepared for the place depicting those features of subsurface archaeological potential, or low level remains of previous bridge structures. Identified features include the Bridgewater Causeway and low level remains of the 1874 and 1893 bridge abutments at its northern end; an area of subsurface potential on the northern river bank and where evidence of the 1849 bridge abutments may survive; the 1874 bridge abutments on the northern river bank; the 1893 steel and concrete caisson within the Derwent River; and the 1893 sandstone wingwalls and bridge abutments on the northern river bank.

Recommendations

This heritage assessment report has been prepared to provide State Growth with advice as to the cultural significance of the Bridgewater Causeway and Bridge. It should be used to inform planning work for the proposed upgrade of the river crossing. The following recommendations have been made to assist with this process.

1. Statutory Authority and Stakeholder Consultation on Report:
 - This Historic Heritage Assessment and Archaeological Zoning Plan should be provided to Heritage Tasmania, DPIPW and the relevant planning authorities to ensure that any additional matters requiring attention are disclosed as early as possible so that they can be factored into the historic heritage management processes.
 - Consultation should also identify what additional heritage assessment planning reports will be required for the project.
2. The Broader Study Area:
 - The broader study area on both sides of the Derwent contains a number of historic heritage places of significance. These have been documented in previous reports,¹ and these should be used to inform the preparation of new heritage assessments. These assessments should include the preparation of GIS mapping accurately locating heritage features and their boundaries.
3. Convict Station on the Northern Bank of the Derwent
 - Brief historical accounts note the existence of a convict station on the northern banks of the Derwent, possibly upstream of the current bridge. Its location has not previously been clearly defined. However, if works are likely to occur upstream of the existing bridge it would be desirable to carry out further investigations into this site.

¹ GHD, *Bridgewater Bridge Replacement Planning Study. Historic Heritage Investigations*, report prepared for DIER, August 2010; GHD, *Tasmania's Truss Bridges. Comparative Heritage Assessment*, prepared for DIER, October 2009; Austral Archaeology, *National Highway Approach to Hobart – Bridgewater Planning Study Heritage Assessment: Stage 1 – Volume 2*, 1997; Austral Archaeology, *Midland Highway Black Snake Lane to East Derwent Highway Historical Archaeological Survey Report*, prepared for Road & Environmental Planning Group, 1996

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1.0 INTRODUCTION

1.1 Client and project details

The Department of State Growth is investigating options for the crossing of the River Derwent at Bridgewater. As part of this process, Purcell has engaged Austral Tasmania to prepare an historic heritage assessment of the existing causeway and the connecting bridge (Figure 1). The place is subject to statutory heritage management at State and local levels.

This report has regard to standard assessment approaches as advocated by the *Australia ICOMOS Burra Charter 2013* and Heritage Tasmania, DPIPWE's document: *Pre-Development Assessment Guidelines*.

To further assist with this assessment an Archaeological Zoning Plan has been separately prepared to illustrate areas defined as having archaeological potential, and with regard to this report, low scale remains or subsurface archaeological potential.

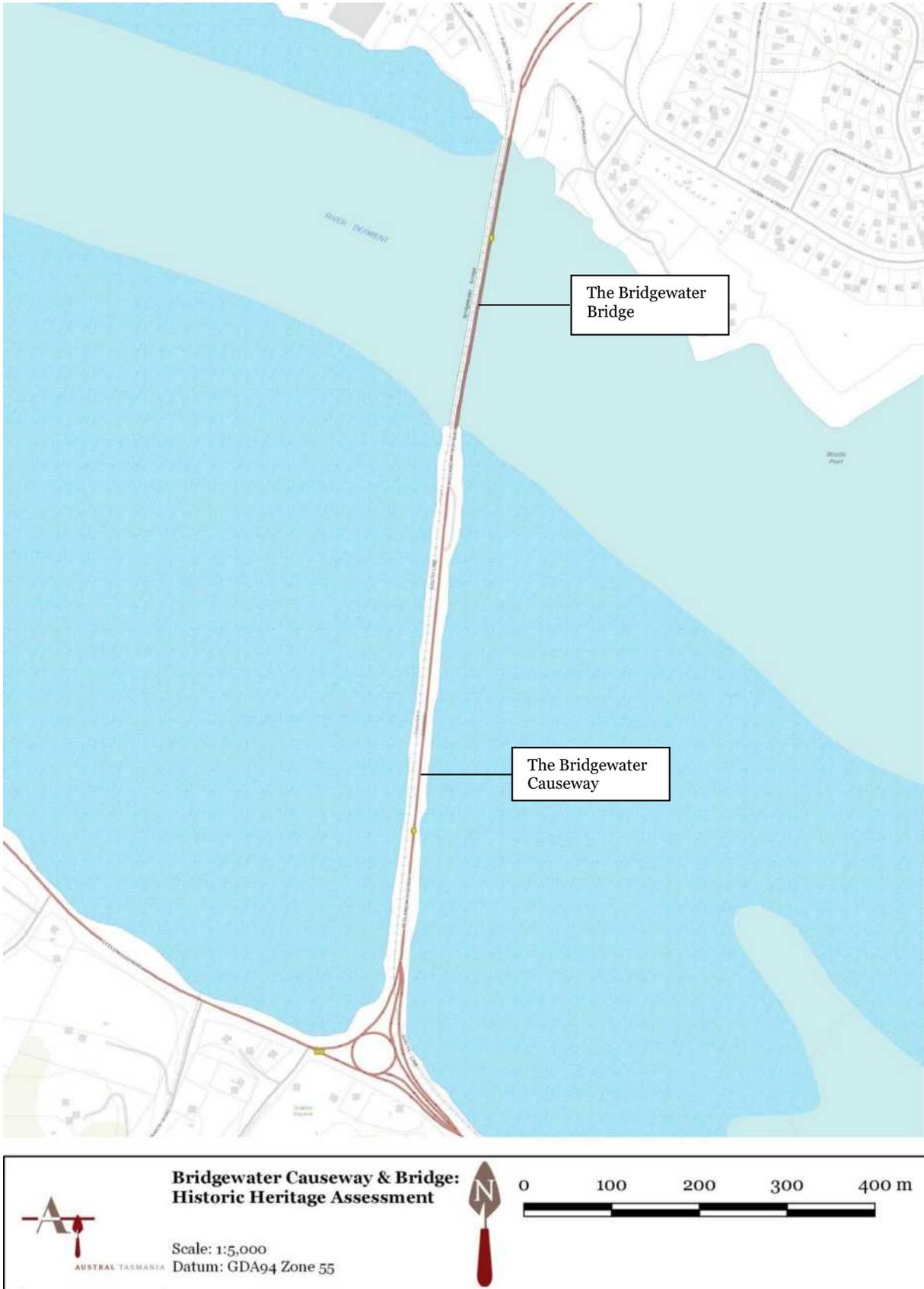


Figure 1: Study area with the causeway and bridge indicated (Base image by LIST Map (www.tasmap.tas.gov.au), © State of Tasmania)

1.2 Authorship

This report was written by James Puustinen and Justin McCarthy and reviewed by Alan Hay.

1.3 Approach

Austral Tasmania's approach to this project has been to provide a systematic historic heritage assessment of the study area with regard to established approaches advocated by the *Burra Charter* and the *Pre-Development Assessment Guidelines*. These are encapsulated by the *Burra Charter* process which advises an approach that commences with understanding the place: its history, use, associations and fabric, and assessment of cultural significance using relevant criteria.

Background research was conducted of existing statutory requirements and previous reports while site documentation was reviewed and summarised where relevant. This work assisted in defining the potential for historic heritage sites to exist within the study area, and identify locations for targeted investigations.

A pedestrian field survey was conducted on 3 August 2020 by James Puustinen. Written descriptions were made of identified sites; photographs were taken of sites and features; and spatial locations recorded with a hand held GPS unit referencing the GDA 94 datum. Accuracy in location details was available to +/- 3-4 m. Maps have been prepared in a GIS format.

The place has been assessed for its significance against the criteria of the *Historic Cultural Heritage Act 1995*. To assist in later management of values, the level of significance has been assessed against State and local thresholds using guidelines developed by Heritage Tasmania, DPIPWE.²

1.4 Limitations and constraints

This assessment is limited to consideration of historic heritage values within the study area. This specifically relates to the causeway, historic and current bridge infrastructure. It does not consider surrounding sites and features, which figure quite prominently on both sides of the Derwent. No social values or Aboriginal heritage assessment has been carried out for this investigation.

The results and judgments contained in this report are constrained by the limitations inherent in overview type assessments (including accessibility of historical information, safety considerations and related access restrictions).

Whilst every effort has been made to gain insight to the historic heritage profile of the subject study area, Austral Tasmania Pty Ltd cannot be held accountable for errors or omissions arising from such constraining factors.

All maps are orientated with north at the top of the page unless otherwise assigned.

1.5 Acknowledgements

The assistance of the following people and organisations is gratefully acknowledged:

- Ms Lucy Burke-Smith, Purcell;
- Ms Selena Dixon, State Growth;
- Mr Kim Simpson, Heritage Tasmania;
- Staff of the Tasmanian Archives and Heritage Office.

² Department of Primary Industries, Water and Environment, *Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995*, October 2011

2.0 HISTORIC HERITAGE ASSESSMENT

2.1 Desktop review of registered and listed heritage places

Both Federal and State Acts of Parliament may have a bearing on the management of cultural heritage within or adjacent to the subject study area. Key legislation is summarised below. The summary is intended as a guide only and should be confirmed with the administering agency and, where necessary, specialist legal opinion.

Statutory heritage management applies at a State level under the *Historic Cultural Heritage Act 1995*, and also at a local level under the *Brighton Interim Planning Scheme 2015*.

2.2 National Heritage Management Provisions

2.2.1 World/National/Commonwealth Heritage Lists

There is an established framework for the identification, protection and care of places of significance to the nation and/or Commonwealth. Entry in the National and/or Commonwealth Heritage Lists triggers statutory processes under the terms and provisions of the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*. Actions which will or may have a significant impact upon the recognised values of a listed place are required to be referred to the Australian Government Minister for the Environment, after which a judgement will be made as to whether the proposed action will require formal assessment and approval. The Act also provides for consideration of actions that may occur outside of a listed place that may have significant impact upon national heritage values, or actions taken on Commonwealth land or by Commonwealth agencies that are likely to have a significant impact on the environment (anywhere). Listing occurs by nomination, which may be made by any one at any time. The Act also provides for emergency listing where National Heritage values are considered to be under threat.

As at July 2020, the study area is not included in or nominated to the World, National or Commonwealth Heritage Lists.

2.3 State Heritage Management Provisions

2.3.1 *Historic Cultural Heritage Act 1995*

The *Historic Cultural Heritage Act 1995 (HCH Act)* is the key piece of Tasmanian legislation for the identification, assessment and management of historic cultural heritage places.

The *HCH Act* establishes the THR as an inventory of places of State significance; to recognise the importance of these places to Tasmania; and to establish mechanisms for their protection. 'State historic cultural heritage significance' is not defined, however the amended Act allows for the production of 'Guidelines', which presumably will use the existing assessment guidelines for the purposes of defining State level significance.³

A place of historic cultural heritage significance may be entered in the THR where it meets one of eight criteria. The criteria recognise historical significance, rarity, research potential, important examples of certain types of places, creative and technical achievement, social significance, associations with important groups or people, and aesthetic importance.

Works to places included in the THR require approval, either through a Certificate of Exemption for works which will have no or negligible impact, or through a discretionary permit for those works which may impact on the significance of the place.

Discretionary permit applications are lodged with the relevant local planning authority. On receipt, the application is sent to the Heritage Council, which will firstly decide whether they have an interest in determining the application. If the Heritage Council has no interest in the matter, the local planning authority will determine the application.

If the Heritage Council has an interest in determining the application, a number of matters may be relevant to its decision. This includes the likely impact of the works on the significance of the place;

³ *Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995*

any representations; and any regulations and works guidelines issued under the *HCH Act*. The Heritage Council may also consult with the planning authority when making a decision.

In making a decision, the Heritage Council will exercise one of three options: consent to the discretionary permit being granted; consent to the discretionary permit being granted subject to certain conditions; or advise the planning authority that the discretionary permit should be refused.

The Heritage Council's decision is then forwarded to the planning authority, which will incorporate the decision into any planning permit.

As at July 2020, the causeway and bridge are included in the THR against the following five criteria:

Criterion (a.) (historical importance): the 1874 and 1893 Bridgewater bridge ruins: the remains of the original bridges over the Derwent River at Bridgewater are of historic cultural heritage significance because they demonstrate the growth and development of communication and transportation in Tasmania in the late 19th century.

Criterion (b.) (rarity): the convict built causeway: the causeway was the largest civil work ever undertaken by convict labour. The 1942-1946 Road Rail Bridge: The bridge is the oldest surviving lift span bridge in Australia and is Tasmania's only lift span bridge.

Criterion (c.) (research potential): the convict built causeway and remains of the 1874 and 1893 Bridgewater Bridge have the potential to yield information which may contribute to a greater understanding of early civil engineering and construction projects, and the history of transport and communications in Tasmania.

Criterion (f.) (social value): the site is of historic heritage significance because its landscape associations are regarded as important to the community's sense of place.

Criterion (g.) (associative value): The convict built causeway: the causeway is of history heritage significance because of its associations with Governor Arthur, John Lee Archer, Gov Architect and Roderick O'Connor, Gov. engineer. The 1874 and 1893 Bridgewater Bridge ruins. The 1893 bridge is linked with R.S. Milles, City engineer of Hobart in 1893. The 1942-46 Road Rail Bridge: The bridge is of historic cultural heritage significance because of its association with prominent Tasmanian engineer, Sir Allan Knight.

The registration datasheet for this place and registered boundary plan is included at Appendix 1.

2.4 Local Heritage Management

2.4.1 Brighton Interim Planning Scheme 2015

The northern shore of the Derwent is located within the planning area of the *Brighton Interim Planning Scheme 2015*. The Scheme includes a Historic Heritage Code, establishing heritage places; heritage precincts; cultural landscape precincts and places of archaeological potential.

Table E13.1 contains the list of Heritage Places. It includes the following place:

- No. 20, Bridgewater Bridge, Midland Highway, Bridgewater, CT134751/1.

The listing is composed of the causeway; ruins of previous bridges and the current road/rail bridge.

What is unclear however is if the Scheme applies to these features, with local government data showing the extant bridge as not being within the Brighton municipal boundaries, while the causeway is located within the Derwent Valley municipality. Consultation with the relevant planning authorities is desirable.

2.4.2 Derwent Valley Interim Planning Scheme 2015

The causeway and southern shore of the Derwent is located within the planning area of the *Derwent Valley Interim Planning Scheme 2015*.

The Scheme includes a Historic Heritage Code, establishing heritage places; heritage precincts; cultural landscape precincts and places of archaeological potential. The causeway does not appear on any of these lists and therefore the Heritage Code does not apply. Surrounding places at Granton are identified as heritage places.

2.5 Non-Statutory Management and Identification

2.5.1 Register of the National Estate

The Register of the National Estate (RNE) was established in 1976 as a list of natural, Indigenous and historic heritage places throughout Australia, with limited statutory mechanisms relating to actions taken by the Commonwealth. As of February 2007, the RNE ceased to be an active register, with places no longer able to be added or removed and the expectation that the States and Territories would consider places included on the RNE for management under relevant State legislation. The RNE ceased to exist as a statutory register on 19 February 2012 and references to the RNE were removed from the *EPBC Act*. The RNE continues to exist as a non-statutory information source. Coincidence with other heritage lists and registers (including the THR and planning scheme heritage schedules) is not uncommon. The Bridgewater Bridge and Remains and Bridgewater Causeway are included on the RNE.

2.6 Section Summary

The following table summarises the various statutory and non-statutory mechanisms and identifies those in which part of the site is listed.

| Register/Listing | Inclusion | Statutory Implications |
|--|-----------|------------------------|
| National Heritage List | No | No |
| Commonwealth Heritage List | No | No |
| Tasmanian Heritage Register | Yes | Yes |
| <i>Brighton Interim Planning Scheme 2015</i> | Yes | Unclear |
| <i>Derwent Valley Interim Planning Scheme 2015</i> | No | No |
| Register of the National Estate | Yes | No |

Table 1: Summary of statutory and non-statutory mechanisms

3.0 HISTORICAL OVERVIEW

3.1 Introduction

The study area forms part of a rich historic cultural heritage landscape which demonstrates the evolution of transport over a period of more than two hundred years. The European history of the place has witnessed these changes from ferries, a causeway, numerous road and rail bridges, and the current structure built in the 1940s. Each phase has left evidence in the landscape, which is discussed in the following sections. It is drawn principally from previous detailed assessments of the place. Original references are provided.⁴

Arranged chronologically, this historical overview addresses the following key phases of use and development:

- The Aboriginal People of the Area and Contact History;
- Early European settlement of Hobart;
- The Black Snake Inn and Early Development of the Area;
- The Bridgewater Causeway and Convict Road Station;
- Earlier Bridge Crossings of the Derwent at Bridgewater:
 - The 1849 Timber Bridge;
 - The 1874 Tasmanian Main Line Railway Bridge;
 - The 1893 Road and Rail Bridge;
 - 1908 Conversion of the 1874 Rail Bridge to Road Uses;
- The Current Bridgewater Bridge;
 - The Designer of the Bridge AW Knight;
 - Welding Technologies used in the Bridge; and
- Later Modifications to the Bridgewater Bridge.

3.2 The Aboriginal People of the Area and Contact History

Before European settlement, Ryan has described Tasmanian Aboriginal society as consisting of nine nations, each containing multiple social units or bands. Boundaries between groups could vary between well-defined borders based on geographical features, to broader transitional zones existing between two friendly tribes.

The Derwent formed the boundary between two such nations. The western shore of the Derwent was part of the lands of the South East nation. Their territory covered an area of approximately 3,100 square kilometres to encompass the western shore of the Derwent north to New Norfolk, the D'Entrecasteaux Channel and Bruny Island, and south to South Cape, extending west to the Huon Valley. Ryan writes that prior to European contact, the area probably contained seven bands, each with about 70 to 80 people. The Hobart area was home to the Muwinina band. They knew the area as Nibberloone or Linghe.

The eastern shore is part of the country of the Oyster Bay people. Located on the east coast of Tasmania, their lands covered some 7,800 square kilometres, including 515 kilometres of coastline. Their country extended from St Patricks Head in the north, to the east bank of the Derwent. Inland, it reached St Peters Pass in the Midlands, before following the Eastern Tiers to the Break O'Day River, where it returned to the coast at St Patricks Head.

⁴ See: GHD, *Bridgewater Bridge Replacement Planning Study. Historic Heritage Investigations*, report prepared for DIER, August 2010; GHD, *Tasmania's Truss Bridges. Comparative Heritage Assessment*, prepared for DIER, October 2009; Austral Archaeology, *National Highway Approach to Hobart – Bridgewater Planning Study Heritage Assessment: Stage 1 – Volume 2*, 1997; Austral Archaeology, *Midland Highway Black Snake Lane to East Derwent Highway Historical Archaeological Survey Report*, prepared for Road & Environmental Planning Group, 1996; Whitlam, L, 'The Bridges, Road and Rails of Bridgewater', *Tasmanian Historical Research Association and Proceedings*, Vol. 36, No.2, 1989

Prior to European settlement, Ryan proposes that ten bands formed part of the Oyster Bay nation with a population of between 700-800 people, the largest group in Tasmania. The Risdon and Pitt Water areas were the home of the Moomairremener band.⁵

Contact between Europeans and Aboriginal people occurred on both sides of the Derwent. With the establishment of Hobart Town in 1804 the Reverend Robert Knopwood made brief notes in his diary on contact between the two groups. An entry in March 1804 records his observations on encountering 'a great many native hutts [sic] and the fires they made' on the western shore of the Derwent, north of Hobart. Two days later he noted many Aboriginal people were around the camp at Sullivans Cove, but could not be persuaded to enter. On numerous occasions, Knopwood wrote of the fires lit by the Aboriginal people for both land management and hunting.⁶

Initial contact between the Muwinina and Europeans was positive. Although not visiting the settlement, the Aboriginal people were friendly with small groups of Europeans they met at more isolated areas. Such relations were not to last, as by 1806, violence had already begun to emerge. Conflict over food resources was one of the triggers in the deteriorating relationship. By necessity, the European settlers sought to augment their meagre stores with fresh caught game, mainly kangaroos, thereby placing them in direct competition with the Aboriginal people. So insatiable was the European demand for kangaroos, that by late 1808 this food resource had largely been exhausted from the immediate surrounds of Hobart, with hunting parties having to venture further afield.⁷

On the eastern shore of the Derwent, contact between Europeans and Aboriginal people began during the late-eighteenth century. In 1798 Bass and Flinders explored the Derwent venturing as far as what is now Bridgewater, and reaching an inlet of the river, which they named Herdsman's Cove. From here, Flinders travelled two miles inland up the Jordan River. It was in the vicinity of Herdsman's Cove that an encounter took place with Aboriginal people. Finding two women and a man carrying three spears, Bass and Flinders attempted to communicate with the group by offering them a black swan. The two women left, but the man remained.⁸

Following a failed attempt to follow him to his hut, Bass and Flinders left the man - their only encounter with Aboriginal people in Van Diemen's Land.⁹ A few years later in 1802, Peron found some huts, smouldering fires and remains of food in the vicinity of Herdsman's Cove, but no Aboriginal people were seen.¹⁰

In September the following year, Lieutenant John Bowen arrived at Risdon Cove, establishing the first permanent European settlement in Van Diemen's Land. Uneasy contact between the Aboriginal people and settlers descended into conflict in May 1804.¹¹

The period 1804 to 1824 has been described as one of 'uneasy coexistence' between Aboriginal people and Europeans. Certainly, there were outbreaks of hostilities, but by comparison with what occurred post-1824, the first two decades since the coming of the Europeans were relatively calm.¹²

Such relative peace was not to last. During the 1820s, the European population grew rapidly, accompanied by an explosion in the issuing of land grants over the most valuable grass plains. These actions created disputes over access to native game, hunting grounds and the connection of Aboriginal people with their traditional tribal lands. What followed was unprecedented violence.¹³

⁵ Ryan, L, *The Aboriginal Tasmanians*, St Leonards: Allen & Unwin, 1996, p.12

⁶ Nicholls, Mary (ed.), *The Diary of the Reverend Robert Knopwood 1803-1808. First Chaplain of Tasmania*, Tasmanian Historical Research Association: Hobart, 1977, p.46; Brown, S, *Aboriginal Archaeological Resources in South East Tasmania. An Overview of the Nature and Management of Aboriginal Sites*, National Parks & Wildlife Service Tasmania, Occasional Paper No. 12, April 1986, pp. 171-172

⁷ Ryan, *op. cit.*, pp.76-78

⁸ Flinders, M, *A voyage to Terra Australis: undertaken for the purpose of completing the discovery of that vast country, and prosecuted in the years 1801, 1802, and 1803, in His Majesty's ship the Investigator ...*, London: G and W Nicol, 1814, pp.135-136

⁹ *Ibid*, p.136

¹⁰ Alexander, A, *Brighton and Surrounds. A history of Bagdad, Bridgewater, Brighton, Broadmarsh, Dromedary, Elderslie, Mangalore, Old Beach, Pontville and Tea Tree*, Gagebrook: Brighton Council, 2006, p.3

¹¹ Ryan, *op. cit.*, pp.73-75

¹² Boyce, J, *Van Diemen's Land*, Black Inc.: Melbourne, 2008, pp. 67-68, 105-106; McFarlane, I, 'Frontier Conflict', in Alexander, A, (ed.), *The Companion to Tasmanian History*, Centre for Tasmanian Historical Studies, University of Tasmania: Hobart, 2005

¹³ Boyce, *op. cit.*, pp.140-146

3.3 Early European settlement of Hobart

The first decade of European settlement in Hobart was marked by the close relationship between development and the waterfront. After the failure of the settlement at Risdon Cove and the relocation to Sullivans Cove on the western shore in February 1804, the early occupants of Hobart Town spent their first decade in a struggle for survival, building upon the camp clustered on the western boundary of the cove.¹⁴

In 1806 Lieutenant Governor Collins wrote of his reliance on the small amounts of wheat and barley which were grown at the government farm at New Town. This was supplemented by locally procured game. The lack of food was not the only problem faced by the young settlement, with the physical condition and morale of the general population being a cause of concern. Collins described them as having been scantily clad and badly fed for a year, and by mid-1806 they were largely destitute of clothing. To supply goods and food he requested that ships be sent to Hobart first instead of Sydney.¹⁵

Merchant ships were not permitted to enter the Derwent until 1813. After this time and most notably when the embargo on whaling was lifted, port activity gradually increased. Despite these impediments it was not long before settlement spread out along the shores of the Derwent, albeit on a limited scale. By the late 1820s the numbers and size of ships using the port had increased markedly, coinciding also with the beginning of urbanisation. At this time the population of the town had reached 6,000. The rapid increase in demand for port facilities was not solely due to the importation of goods as had previously been the case, but also the beginning of trade in export commodities.¹⁶

3.4 The Black Snake Inn and Early Development of the Area

Travellers were some of the first Europeans to visit the Granton area, or Black Snake as it was originally known. In 1811, Governor Macquarie during his first visit to Van Diemen's Land wrote in his diary about a trip to New Norfolk, where he and his party had breakfast at Black Snake Point. Knopwood's diary also mentions frequent visits to the Black Snake Inn between 1819 and 1825.¹⁷

The first Black Snake Inn was probably constructed between 1817 and 1821 by which time a ferry crossing the Derwent was in operation from the location. This also corresponds with the period when travel became more frequent with the completion of the road constructed by McCarty between Hobart and New Norfolk in 1819, Tasmania's first formed road. A population centre had emerged at Black Snake. In 1824, 23 children were attending school in the area.¹⁸

Early depictions provide different perspectives of the inn. Tomkin's 1833 watercolour shows the place looking to the north west. The building is elevated above a cutting and McCarty's Road below (Figure 2). Confusingly, Lauvergne sketch, also of 1833 shows the façade of the early inn, but one quite different to what we know now, will a colonnade of arches, between two gable ends (Figure 3). During the late 1820s or early 1830s the current gothic inspired building was constructed, presumably on the same site as the first inn.¹⁹

¹⁴ Walker, JB, 'The English at the Derwent and the Risdon Settlement', *Early Tasmania: Papers Read before the Royal Society of Tasmania during the Years 1888 to 1899*, John Vail Government Printer, Hobart, p.59

¹⁵ Austral Archaeology, *Midland Highway Black Snake Lane to East Derwent Highway Historical Archaeological Survey Report*, prepared for Road & Environmental Planning Group, 1996, p.4; Solomon, RJ, *Urbanisation. The Evolution of an Australian Capital*, Angus & Robertson, Sydney, p.27

¹⁶ Austral Archaeology, 1996, pp.4-5; Solomon, *op. cit.*, p.75

¹⁷ Austral Archaeology, 1996, p.5; Macquarie, L, Governor of New South Wales, *Journals of his Tours in New South Wales and Van Diemen's Land 1811-1822*, Library of Australian History, pp.58-59

¹⁸ Austral Archaeology 1996, p.5; Rait BE, *Historic Buildings*, City of Glenorchy, unpublished document; Robson, LL, *A History of Van Diemen's Land Volume 1*, Oxford University Press, 1983, p.130

¹⁹ Austral Archaeology 1996, pp.5-6; Brand I, *The Convict Probation System: Van Diemen's Land 1839-1854*, Blubber Head Press, 1990, p.20



Figure 2: 1833 sketch of the Black Snake Inn, looking north west. Note the road and jetty (TAHO, Allport Library and Museum of Fine Art, AUTAS001124072919W800, the Black Snake Inn C.F. Tomkins lithog)



Figure 3: 1833 lithograph of the Black Snake Inn, looking south west. Note the road and jetty (TAHO, Allport Library and Museum of Fine Art, AUTAS001124072257W800, Vue de Midway-House sur le chemin d'Elisabeth-town, (Ile Van-Diemen) Lauvergne pinxit.; Bichebois lith,)

An 1830 description noted:

The house contains five commodious rooms and kitchen. There is a good garden, about an acre, well fenced in, a six-stall stable, fowl-houses, stockyards &c.²⁰

A few years later in 1835, a further advertisement described the inn as a:

Spacious stone building with every convenience, comprising 15 rooms, namely 3 large parlours, 2 well finished sitting rooms, 6 up-stairs rooms, 4 of which are neatly finished. The kitchen contains a large oven, dresser, &c. with bed-room and store-room attached. The stables are large and commodious, with coach-house, piggery, and fowl-house; also a large garden well stocked with fruit trees &c. of the choicest kind.²¹

The same 1835 advertisement noted that:

The INN has been newly stuccoed and is pleasantly situated on a rise about 40 yards from the Derwent, with a carriage drive in front. It is not above 600 yards from the Bridgewater Causeway, and is rapidly increasing in business, the traffic between New Norfolk and Hobart Town passing the door, which will be increased when the Bridge is opened by that from Launceston and all other parts of the country.²²

The marked differences between the 1830 and 1835 descriptions supports the suggestion that the original inn was replaced in this period by a larger building with upgraded facilities to take advantage of the increase in passing trade, it being noted that:

The FERRY crosses to Green Point, and its contiguity to the great undertaking at Bridgewater, now nearly complete, ensures it constant traffic. The COACH ESTABLISHMENT has 4 horses as good as any on the road, 2 sets of 4 in hand harness, with new and well finished coach, a 4 wheeled phaeton, which is now running on the road, a curricule and horses complete, nearly new.²³

The Black Snake Inn was one crossing place of the Derwent used by ferries. A number of flat bottomed punts and clinker type craft crossed the river back and forth from select locations. There were two well known crossing points on this part of the Derwent; one from Roseneath (Austin's Ferry) to Herdsman's Cove and Old Beach, and the second from Black Snake to Herdsman's Cove and Green Point. Travel by ferry could be dangerous and was often inconvenient, being dependant on the current, wind and availability of the service.²⁴

By this time, the inn had diversified and offered both ferry and coach transport to travellers. Throughout its life the inn has functioned as a public house, shop and currently is a private residence.²⁵

3.5 The Bridgewater Causeway and Convict Road Station

In 1826 the Land Commissioners investigated the best location for crossing the Derwent. After some deliberation a site at Black Snake was decided on. There was plentiful timber at nearby Mount Dromedary, while stone was available from quarrying away at the hill behind the intended causeway, at what is now Granton. The river at this point also included a sand and mud bar which ran most of the way over the Derwent, and at a shallow depth.²⁶ This was seen as a desirable attribute in constructing a causeway, but one that was later to cause considerable issues. In 1830 the convict station at Bridgewater (which later became known as Granton) was opened and works began on constructing the causeway.²⁷ Works were to prove a very slow affair. To hasten progress, John Lee Archer, civil engineer recommended the construction of a timber railway with trucks to be pulled by bullocks.²⁸

Ross's almanac for 1831 wrote:

An establishment has been formed at Bridgewater for a Chain Gang, which is employed in constructing that great work, the causeway over the Derwent. A gaol or barracks for the reception and safe keeping of

²⁰ Austral Archaeology 1996, p.6: Cerchi, D, *The Black Snake Inn: Sources for the Black Snake Inn and the Black Snake District*, privately produced, unpublished document, p.28

²¹ Austral Archaeology 1996, p.6: Cerchi, p.37

²² Austral Archaeology 1996, p.6: Cerchi, p.37

²³ Austral Archaeology 1996, p.6: Cerchi, p.37

²⁴ Austral Archaeology 1996, p.7; Newitt, L, *Convicts & carriageways: Tasmanian road development until 1880*, Hobart : Dept. of Main Roads, Tasmania, 1988, pp.35-37, 108-111

²⁵ Austral Archaeology 1996, p.7

²⁶ TAHO, CSO1/285/6777, Correspondence 6 October 1831

²⁷ TAHO, CSO1/285/6777, Land Commissioners to Survey Office, 6 November 1826; Austral Archaeology 1996, p.7; Newitt, *op. cit.*, p.55

²⁸ TAHO, CSO1/284/6777, John Lee Archer to Colonial Secretary, 19 June 1831

the prisoners after their hours of labor, was among the first works completed; It is capable, of containing 160 men. A commodious barracks for the military has also been constructed, as well as a store, solitary cells for such convicts as misconduct themselves, &c, &c. On a commanding eminence stands a neat building for the Officers quarters.

A very excellent quarry on the road side gives employment to one part of the gang, while the others are busily engaged in wheeling the stone out into the water. The bed of the river over the flats at this place is composed of soft mud, which the heavy mass of stone thus thrown upon it soon displaces, and in this manner a good foundation is obtained on which to raise the subsequent work. Five and twenty small abutments will then be built and covered with timber. From the piers to the edge of the deep channel a solid road of stone will be formed with a small basin at the end to haul the punt into. As the distance across is very trifling no delay can occur, because the punt instead of being towed by a boat will be made to swing backwards and forwards.²⁹

This was perhaps the last positive account of the works, which were not trifling by any measure. The causeway was constructed at an oblique angle, which was not the shortest point of crossing, although planned that way to contend with the wind and currents at this stretch of the Derwent. Early attempts at constructing piers in the sand and mud were found to be a failure due the inability to find a solid bottom.³⁰ The work was beset by controversy and labelled a ‘folly’ when the tons of stone dumped into the river were continually submerged in the mud and silt, without a trace. This perhaps simplifies the construction of the causeway to little more than dumping rock in the river. There was however engineering to the structure, as referred to by Ross and the construction of 25 abutments. Other contemporary accounts provide a few more clues.

A curious description of the causeway was given, midway during construction. It noted a structure quite different to the one we know:

The work at this station [Bridgewater], was the construction of a massive bridge across the Derwent, which is here three-fourths of a mile in breadth. It had been a long time since it was commenced, and was not yet completed when I finally left the island. It is composed almost entirely of stone. From either shore two solid stone abutments extends to some distance into the river. Other abutments are placed at regular distances, also filled with stone. Arches of stone span the spaces, at a sufficient height to permit the passage of small steam boats. Before its final completion the bridge somewhat resembles a shallow aqueduct, but instead of water is filled with pounded stone, thus making a way over the water in all respects like the road itself.³¹

Other than its description as being composed of stone and the presence of abutments, it is difficult to reconcile this description with what was actually constructed. Abutments only extended from the southern shore of the Derwent, and while arches were constructed, it seems unlikely that they could accommodate small steam boats. As a description made part way through construction works, the writer’s interpretation may have been inaccurate.³²

By 1833 the causeway extended for some 365 metres. It was 28 metres wide at its base and 16 metres wide at the top. Roderic O’Connor made an urgent request for 250 planks required to complete the ‘bridge’, used in some form in the construction of the causeway.³³ By the following year the causeway had reached a length of some 708 metres, reaching nearly its ultimate length. The causeway committee investigated the works in July 1834, finding that the portion immediately beyond the arches (towards its southern end) had already been sinking into the mud for some time. The obvious solution was to support the structure with piles, but the costs of such works were unacceptable. Instead, they favoured the use of vegetation rafts on which the stone would be supported, and disappointed that such a method had not been adopted from the start. They also recommended the removal of the arches at the southern end, where the current risked undermining the causeway.³⁴ A plan was prepared, recommending the proposed point of connection with the northern shore of the Derwent (Figure 4).

²⁹ *Launceston Advertiser*, Monday 17 January 1831, p.24

³⁰ TAHO, CSO1/285/6777, Committee on the Causeway across the Derwent to Colonial Secretary’s Office, 14 October 1831

³¹ Austral Archaeology 1996, p.8: Gates, W, Recollections of Life in Van Diemen’s Land, in *Australian Historical Monographs*, XL, Part 1

³² Austral Archaeology 1996, p.8

³³ TAHO, CSO1/543/11623, Roderic O’Connor to Colonial Secretary, 12 September 1833

³⁴ TAHO, CSO1/285/6777, Report of the Committee on the Causeway, 28 July 1834

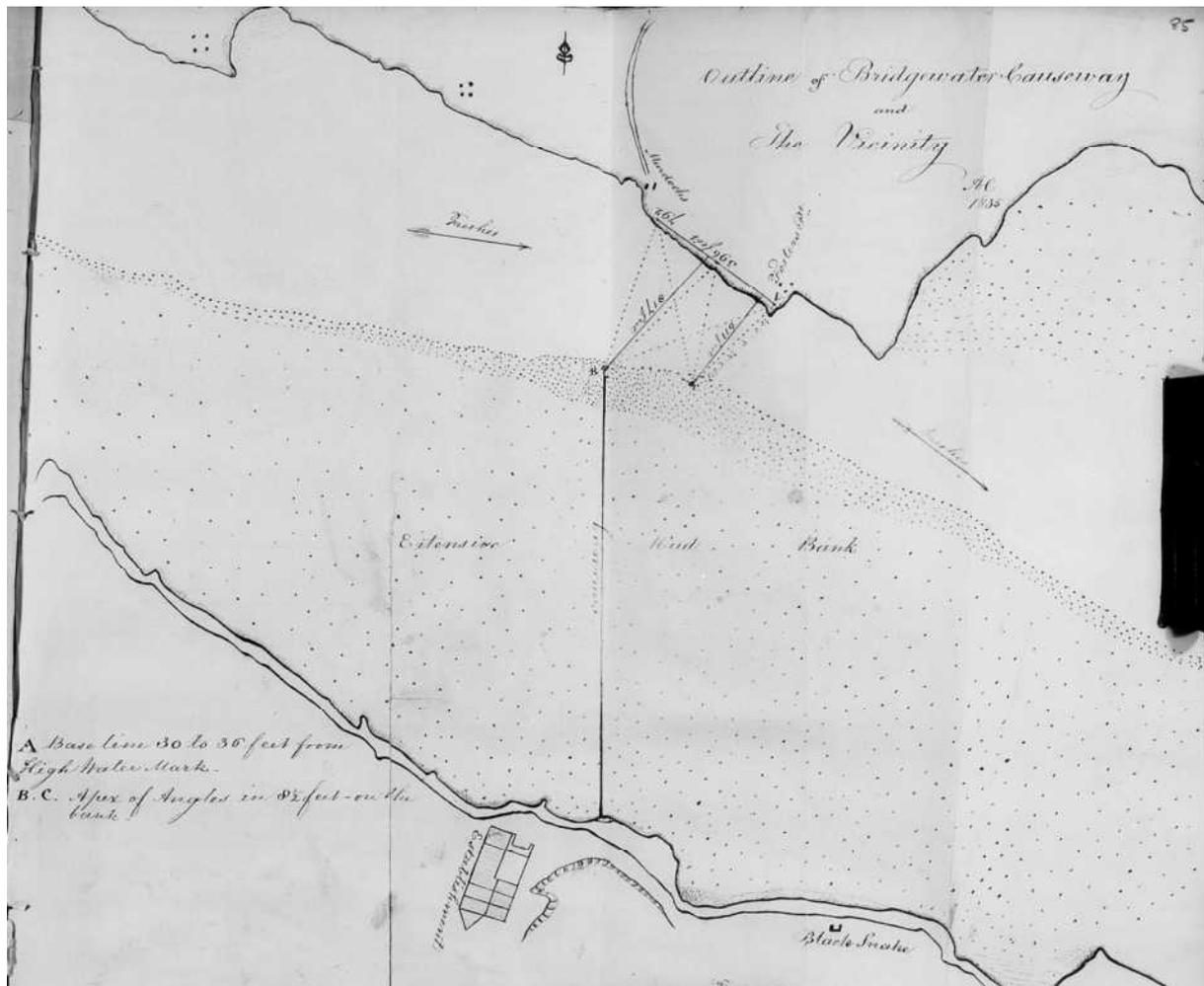


Figure 4: 1834 plan showing the causeway and points of connection with the northern shore of the Derwent
(TAHO, CSO1/285/6777, Report of the Committee on the Causeway, 28 July 1834)

It was to take a further two years however before it was finished, likely because of the continual subsidence into the mud. Works to date included the construction of six piers, upon which planks were laid, allowing carts to travel across the short distance. When finally the causeway formation did appear above the water line, it was prone to subsidence and had to be continually built up. The continued dumping of rock displaced large volumes of mud, creating banks on either side of the causeway. There was no shortage of opinion on how to deal with the problem and perhaps the original concept was modified over time. Nevertheless, the majority sources, including artwork, depict the causeway as an unbroken formation of stone.³⁵

Construction must have been a dispiriting task for the chain gang assigned to the works, with such limited progress being made and with the stone sinking beneath the mud. All too often, convict labour is reduced to an undifferentiated collective group. However, each prisoner had their own reason for incarceration, conduct record, and for those who survived, a life after sentence. Fortunately for the historian, a c.1832 nominal return of prisoners in the Bridgewater Chain Gang was prepared for the authorities. From this list, it is possible to identify some 180 individual convicts who worked on the causeway. This list of prisoners, with notes on their sentences, trade and conduct is reproduced at Appendix 2. Correspondence from 1834 notes 234 men in the chain gang, and later growing to 280 assigned to the project.³⁶

Structural problems continued into 1835. A report was prepared which supported the use of vegetation rafts as the best solution, but questioning the integrity of the embankments on either side of the causeway. It recommended that the walling on either side be at least 1.2 metres thick and

³⁵ Austral Archaeology, *National Highway Approach to Hobart – Bridgewater Planning Study Heritage Assessment: Stage 1 – Volume 2*, 1997, p.6; *The Sydney Gazette and New South Wales Advertiser*, Thursday 17 October 1833, p.3; Austral Archaeology 1996, pp.7-8; Brand, *op. cit.*, pp.108-109

³⁶ TAHO, CSO1/543/11623, Raphael Clint to Roderic O'Connor, 2 January 1834; *Colonial Times*, Tuesday 26 August 1834, p.7

battered. Those already constructed were found to be badly placed and did not have a sufficient hold on the bank.³⁷

As it neared completion in 1835, more positive accounts began to be published on the ‘magnificent work’ that would address the dangers and difficulties of crossing the Derwent, which was cut to only a 3 minute punt ride connecting from the end of the causeway to the northern shore.³⁸ One very detailed report noted how the overseers had addressed the fruitless problem of stone being swallowed up by the mud. The *Hobart Town Courier* wrote:

This stupendous undertaking is situated about 11 miles from Hobart town, It consists of a mound or roadway carried out over an extensive bank, near a mile in extent to the edge of deep water and the stream, so as to reach within a short distance of the opposite bank, the earth and stone for the purpose being dug from a hill contiguous with the river. Much of the stone and materials originally carried out of course subsided in the mud, until it became sufficiently solid, and in one part the mud thus pushed out has risen on each side and formed small islands, now rapidly covering with verdure.

By adopting the expedient of laying a compact bottom of logs and dead timber on the mud so as better to prevent the earth and stone from subsiding, the work is proceeding with great rapidity and about three-quarters of a mile of the mound are now finished on a firm basis, so as to admit of carriages of any weight or description freely to pass.

....

It is a curious fact and one which serves to declare the stability of the work that in times of heavy rains, when the flow of fresh water is strong down the river, that the level is invariably some inches higher on the lower side of the embankment, than on the upper, caused doubtless from the meeting of the tide with the freshwater. For these reasons, Lieut. Wrixon, with the advice of the Inspector has very judiciously shut up the arches that were originally left open at the south extremity as a sort of safety valve in case of any accumulated force of the stream pressing with injury on either side. The stones which composed these arches being removed, have been applied to the purpose of erecting a large and lofty room or hall, used as a church and school room.³⁹

The ingenuity of constructing rafts of timber and vegetation to support the weight of the stones appears to have been the solution to the never ending problem of the mud. The article also describes arches on the southern end of the causeway, which is again consistent with the earlier description given above, but that these arches had been removed by 1835 and the stone used elsewhere. However, whether these arches were high enough to allow small steam boats to pass beneath seems somewhat dubious. The success of the raft system was however already in doubt, an acerbic article from as early as 1836 describing the causeway as ‘floating on a foundation of brushwood faggots, which will continue at intervals to sink in various places with its super incumbent weighty until it has displaced the soft mud.’⁴⁰ This subsidence was already occurring as early as 1836. Wrixon had commanded the laying of the road metal along the course of the causeway, only to be ordered to raise the causeway in height by another 1.2 metres.⁴¹

The grand opening of the causeway was made in October 1836 by Lieutenant-Governor Arthur with a guard of honour and the band and colours of the Scotch Fusiliers. It was approximately 730 metres long, 20 metres wide and contained 400,000 cubic metres of fill. At the time, its cost of £45,000 was enormous. From its northern end was a gap approximately 340 metres across the Derwent to the northern shore. Between 1836 and 1849 a ‘flying bridge’ or ferry winched on cables connected the causeway with the shore.⁴²

In support of the construction, a convict road party station was established on the Granton side of the causeway. According to La Trobe, it functioned until 1841 as a road station, and then a probation station until 1845, after which time it was occupied by a small party of sentenced men.⁴³

In 1847 the station buildings were described as old, and with the exception of the superintendent’s quarters, in very bad repair. A store, hospital ward, cook house and bake house, 11 ‘close, damp and

³⁷ TAHO, CSO1/285/7777, report made on the works carried on by Government at Bridgewater Van Diemen’s Land June 11 1835

³⁸ *The Tasmanian*, Friday 3 April 1835, p.7

³⁹ *The Hobart Town Courier*, Friday 12 June 1835, p.2

⁴⁰ *The True Colonist Van Diemen’s Land Political Despatch, and Agricultural and Commercial*, Friday 8 January 1836, p.7

⁴¹ *The True Colonist Van Diemen’s Land Political Despatch, and Agricultural and Commercial*, Friday 15 January 1836, p.14

⁴² Austral Archaeology 1996, p.8: Whitlam, L, ‘The Bridges, Road and Rails of Bridgewater’, *Tasmanian Historical Research Association and Proceedings*, Vol. 36, No.2, 1989, p.57; Fowler, A, ‘River Derwent, Tasmania – Bridgewater Bridges – Past and Present’, 16th Engineering Heritage Australia Conference Hobart November 2011, p.2; *The True Colonist Van Diemen’s Land Political Despatch, and Agricultural and Commercial*, Friday 21 October 1836, p.4

⁴³ Austral Archaeology 1996, p.7: Brand, *op. cit.*, pp.206-207

badly built solitary cells' are mentioned. The convict station occupied land previously granted to Geiss. The western boundary of the site appears in the present day, to be defined by Tarrants Road, incorporating Forest Road to the east, and then following the top of the quarry face to a point near the Brooker Highway. The existing Watch House claims a date of 1838 and was constructed within the quarry.⁴⁴

Two early sketches are useful in showing the causeway and the convict station. The earlier was made from near the Black Snake Inn looking north west to the causeway as it extends out from shore of the Derwent (Figure 5). A further sketch made from near the same vantage point more clearly depicts the buildings at the convict station (Figure 6).



Figure 5: sketch showing the causeway, looking north west from Black Snake (TAHO AB713/1/11933, Photograph - Photograph of a painting of Bridgewater causeway (copy))

⁴⁴ Austral Archaeology 1996, pp.7-8: Brand, *op. cit.*, pp.206-207



Figure 6: sketch showing the causeway and convict station, looking north west from Black Snake (SLNSW, PXB 834, IE3316417, FL3316856, 52 Bridgewater depot & causeway - with Mt. Dromedary)

A further convict station was established on the northern shore of the Derwent at Green Point. Its location is uncertain, but it was possibly located on land granted to JW Murdoch. Plans show that Murdoch owned several properties in the Bridgewater area, and though not possible to precisely locate the station, the most likely parcel lies upstream of the existing bridge. Records of the Colonial Secretary refer to attempts by a party of sentenced men (presumably the Green Point gang) to locate a 'vein of copper on Crown land at Bridgewater' in 1846.⁴⁵

In 1863 the causeway was widened and raised by some 76 centimetres in attempt to avoid overtopping by the water. Low stone walls were constructed on both sides of the causeway to bind the new fill. It was again widened on the downstream side in 1874 to accommodate the Tasmanian Main Line Railway, and later in 1893 when the bridge was converted to combine both road and rail uses.⁴⁶

3.6 Earlier Bridge Crossings of the Derwent at Bridgewater

From 1849, a series of road and later rail bridges were erected from the northern end of the causeway and connecting to Bridgewater. The sequencing of the bridges and their uses is somewhat complex, and the excellent overview provided by Whitlam is acknowledged as a key source in describing the evolution of crossings.⁴⁷

3.6.1 The 1849 Timber Bridge

Parliament authorised the construction of the first bridge to span the gap of 340 metres in 1846. The contract for its construction was awarded to Messrs. Thomas and Blackburn in early 1847. Convicts from the Mount Dromedary probation station spent the remainder of the year cutting and stockpiling timber for the bridge. The *Illustrated London News* wrote in 1851 how roads first had to be cut into the gullies on the steep mountain sides to facilitate removal of the timber. Two of these gullies were lined with timber, forming a chute down which the logs were moved. The process was intensive. First the timber was loaded into a chute and propelled downward by its own momentum to a benched landing where it was manoeuvred to another chute which conveyed it to the base of the mountain. There, the terrain was of sufficient grade to allow the logs to be carried by wagons to the water's edge. From here, it was towed by boats to the work site.⁴⁸

⁴⁵ Austral Archaeology 1996, p.8: K Evans, pers. comm., 10 June 1996; CSO11/10/225

⁴⁶ Austral Archaeology, Stage 1 – Volume 2, 1997, pp.7-8

⁴⁷ Whitlam, *op. cit.*,

⁴⁸ Austral Archaeology 1996, p.9: *The Illustrated London News*, 12 April 1851

Construction of the timber bridge works began in January 1848, starting at the northern end of the causeway. The bridge was not built as a straight extension of the causeway, rather its alignment diverged ten degrees eastwards to the nearest point of the river bank, and the same location used for the ferry wharf. The wharf was demolished and a temporary wharf constructed nearby.⁴⁹

The spans of the bridge were supported by over 360 timber piles. To allow for river navigation upstream to New Norfolk, the bridge (and all subsequent structures) included moving spans. Originally a swing span was proposed for Bridgewater, but this was substituted with a rolling span modelled on a prototype bridge over the Arun River, England (Figure 7).⁵⁰



Figure 7: 1860s-70s photograph showing the 1849 bridge with its rolling span supported by the tower. Note the fender piles to assist boats navigate the opening (TAHO, Allport Library and Museum of Fine Arts, AUTAS001126184597W800, Bridgewater [from the northern shore looking northwards])

The bridge was opened to traffic on 26 April 1849 with a roadway 7.3 metres wide. A series of landing or fender piles were installed in the river both up and down stream for some 55 metres to assist shipping in negotiating the opening. Tolls were collected until 1880, and a toll keepers house was located near the bridge approach. A new house for the toll keepers was built c.1870 to replace the old one, but was located so close to the river that water entered its basement at high tide. The causeway

⁴⁹ Austral Archaeology 1996, p.9: Whitlam, *op. cit.*, p.57

⁵⁰ Austral Archaeology 1996, p.9: Whitlam, *op. cit.*, p.58

was also raised around c.1860 to avoid ‘overtopping’ by water. Following the abolition of tolls the toll keeper became known as the bridge keeper and the old toll house survived until about 1947.⁵¹

3.6.2 The 1874 Tasmanian Main Line Railway Bridge

Works to construct a rail line between Hobart and Launceston began in 1872, with the Derwent being a key challenge to the project. In response, in 1874 the Tasmanian Main Line Railway Company constructed a separate timber rail bridge on the downstream side of the causeway. The bridge keyed into the causeway on a curve, approximately 30 metres before its end, before running parallel to the 1849 road bridge for 350 metres to the northern bank of the river. The 1874 bridge also required a moving span and a lattice girder iron bridge was installed which pivoted on a turntable. The railway was intended primarily for the transport of goods between Hobart and Launceston, but from 1875 passenger carriages were attached on weekdays with coach transfers.⁵²

The moving bridge span was supported by timber piles, and this construction method caused problems with subsidence. As a precaution, measures were put in place to ensure that the span was locked in place before every train crossing. However, the Rail Engineer in Chief was never truly satisfied with these measures, nor the signalling equipment at the Bridgewater end. These fears came to be when disaster struck in 1886. The swing span had shifted slightly resulting in the Launceston express engine being derailed and overturned. One rail worker and one passenger died in the accident.⁵³

Infrastructure changes in Bridgewater to accommodate the railway included the construction of a small stockyard and passenger station in the vicinity of the existing War Memorial Reserve, and gated crossings on all secondary roads. The junction between the railway and the Main Road was monitored from a small two storeyed signal box just north of the station.⁵⁴ A series of photographs illustrating the rail bridge, and changes it necessitated to the causeway are reproduced below.



Figure 8: 1880 photograph looking north along the rail line towards Bridgewater. The rail line is located on the eastern side of the causeway. Note also the height difference between the rail approach and the road on the west (TAHO PH7/1/63, Photograph - View of Bridgewater)

⁵¹Austral Archaeology 1996, pp.9-10: *The Illustrated London News*, 12 April 1851; Whitlam, *op. cit.*, p.59

⁵² Austral Archaeology 1996, p.10: Whitlam, *op. cit.*, pp.62-63

⁵³ Austral Archaeology 1996, p.10: Whitlam, *op. cit.*, p.63

⁵⁴ Austral Archaeology 1996, p.10: Whitlam, *op. cit.*, pp.63



Figure 9: 1870s-80s photograph looking west to the iron swing span of the 1874 rail bridge, with the tower of the 1849 road bridge behind (TAHO PH6/1/80, Photograph - Bridgewater Causeway)

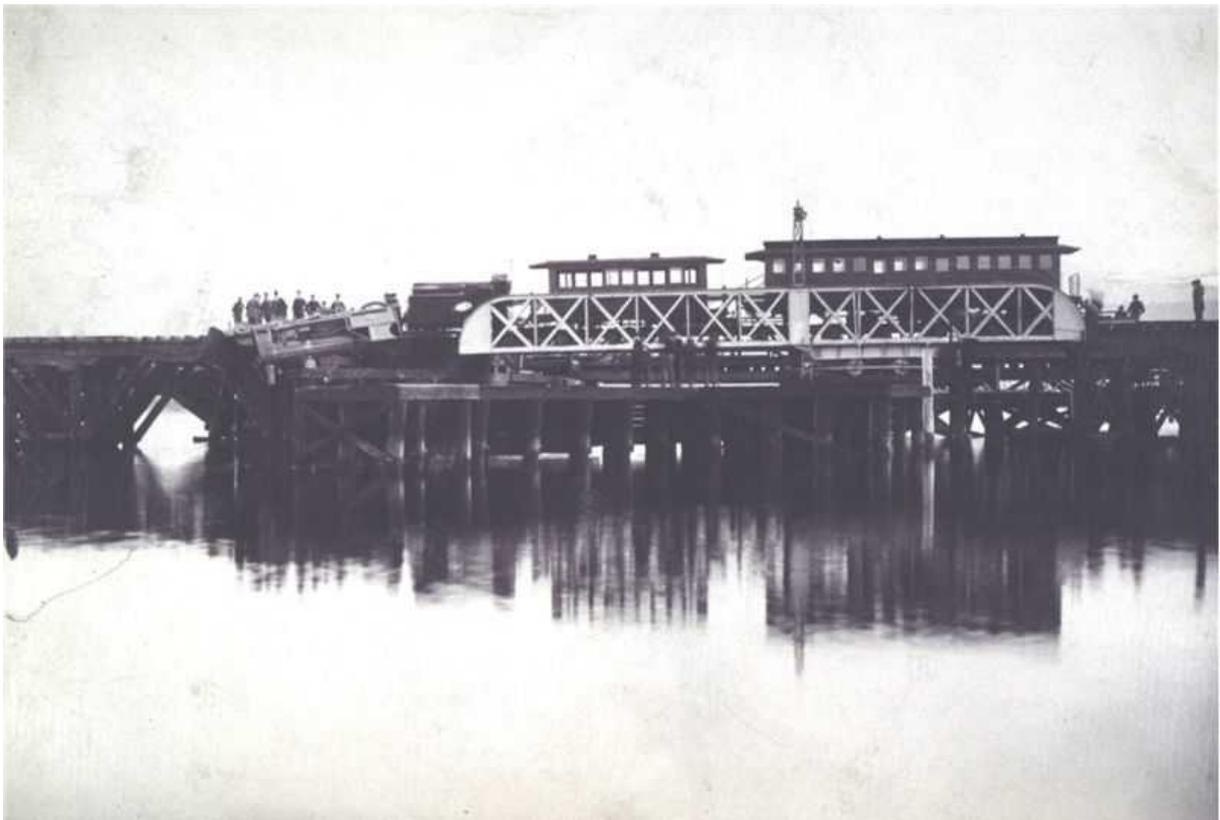


Figure 10: 1886 photograph of the rail disaster (TAHO, Allport Library and Museum of Fine Arts, AUTAS001126183581W800, Railway accident Bridgewater, 29th June 1886)

3.6.3 The 1893 Road and Rail Bridge

By 1888, the 1849 road bridge was declared unsafe. However, without other options, it continued to be used. In 1891 a contract was awarded for the construction of a new road bridge. Like all previous, it included a swing span, which was fabricated in England and completed in 1893. The new bridge was upstream, or to the west of the 1849 bridge. Its completion resulted in the strange scenario of three bridges extending from the northern end of the causeway.⁵⁵

The design of the 1893 bridge allowed for its later conversion to a rail bridge. It was largely constructed from timber with the exception of the pier or caisson on which the plate girder swing span turned. This bridge extended straight out from the causeway and landed on the northern bank. The northern abutment adopted a dog-leg design to enable it to accommodate the heavy railway traffic straight ahead and a lighter roadway that would curve eastward. The bridge was over 360 metres long with a road width of 6.5 metres that narrowed to five metres over the swing span. The navigable channel was 13 metres wide. The 1849 road bridge was retained in anticipation that it would be required as a temporary detour while the new bridge was converted to rail use. However, this was not to happen until 1906-07 by which time the former had become a danger to the 1874 rail bridge. The 1849 bridge was eventually demolished in 1899.⁵⁶

The old 1874 Tasmanian Main Line Railway Bridge coupled with the advent of heavier locomotives, made the transfer to the 1893 bridge urgent. In 1906-07 the conversion works began. These works required the widening of the full length of the causeway on the upstream, western side, substantial filling in behind the northern abutment and land acquisition at Bridgewater. The rail line was transferred from the eastern to the western side of the causeway, where it remains to this day. In response, a new station was constructed adjacent to the bridge abutments on the Bridgewater side. Shared use by road and rail of the 1893 bridge began in January 1908. However, community disquiet about the length of delays in road traffic and compromised safety conditions, led to a reversal of positions and the conversion of the 1874 rail bridge to a road bridge.⁵⁷ A series of images showing this complex arrangement of bridge structures is reproduced below.

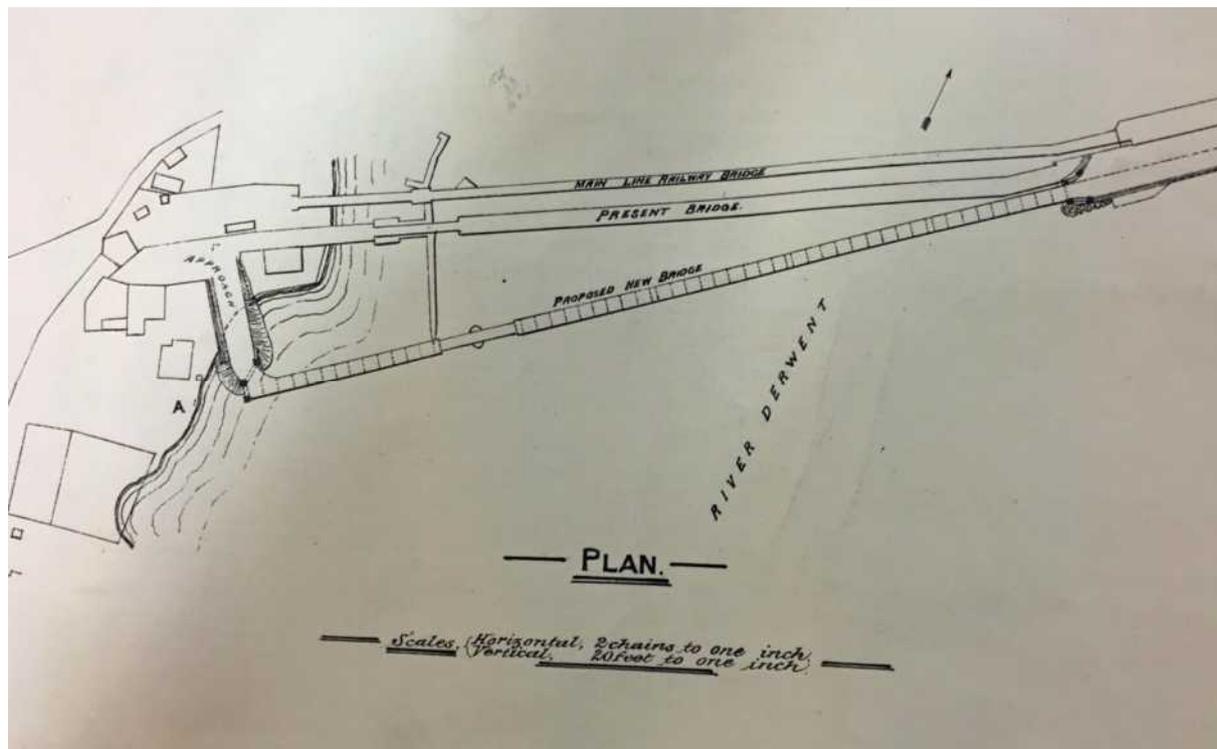


Figure 11: 1890 plan showing the 1849 road bridge (centre), 1874 rail bridge (top) and the proposed 1893 road and rail bridge (bottom). North to left of image (TAHO, P1330/1/303, Plan 8844122 (12910) TGR - Bridge over River Derwent At Bridgewater - site plan (sheet 1) [lithograph])

⁵⁵ Austral Archaeology 1996, p.10: Whitlam, *op. cit.*, pp.65-66

⁵⁶ Austral Archaeology 1996, p.10: Whitlam, *op. cit.*, pp.66-67

⁵⁷ Austral Archaeology 1996, p.10: Whitlam, *op. cit.*, p.67

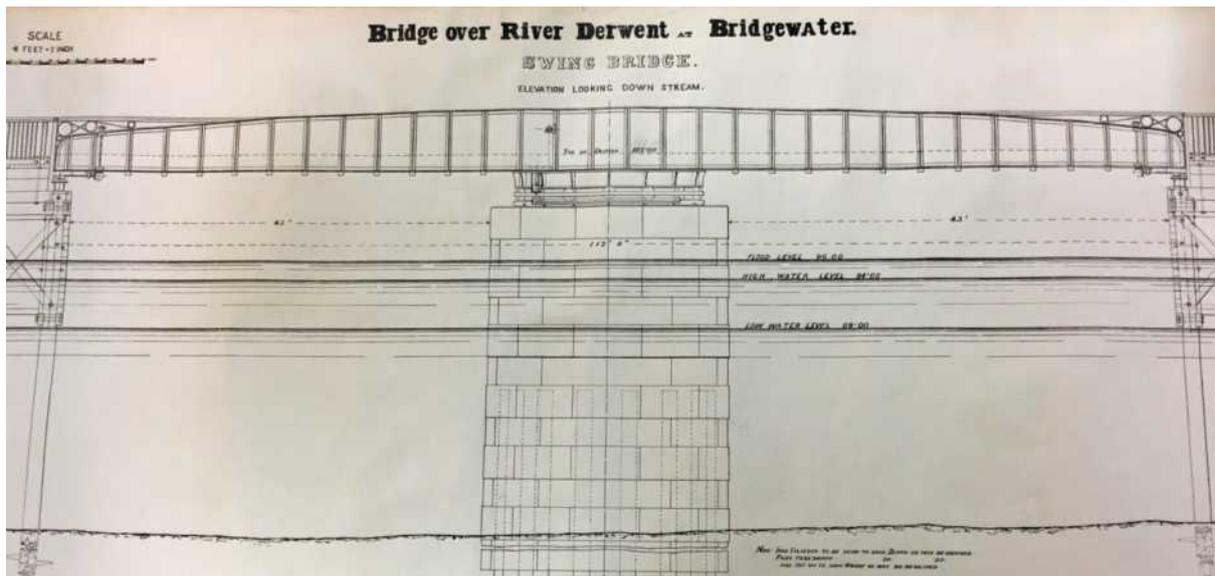


Figure 12: 1890 plan showing plate girder swing span atop the iron and concrete caisson (TAHO, P1330/1/388, Plan 8844119 (12903) TGR - Bridge over River Derwent at Bridgewater - swing bridge elevation looking down stream (sheet 7) [lithograph])

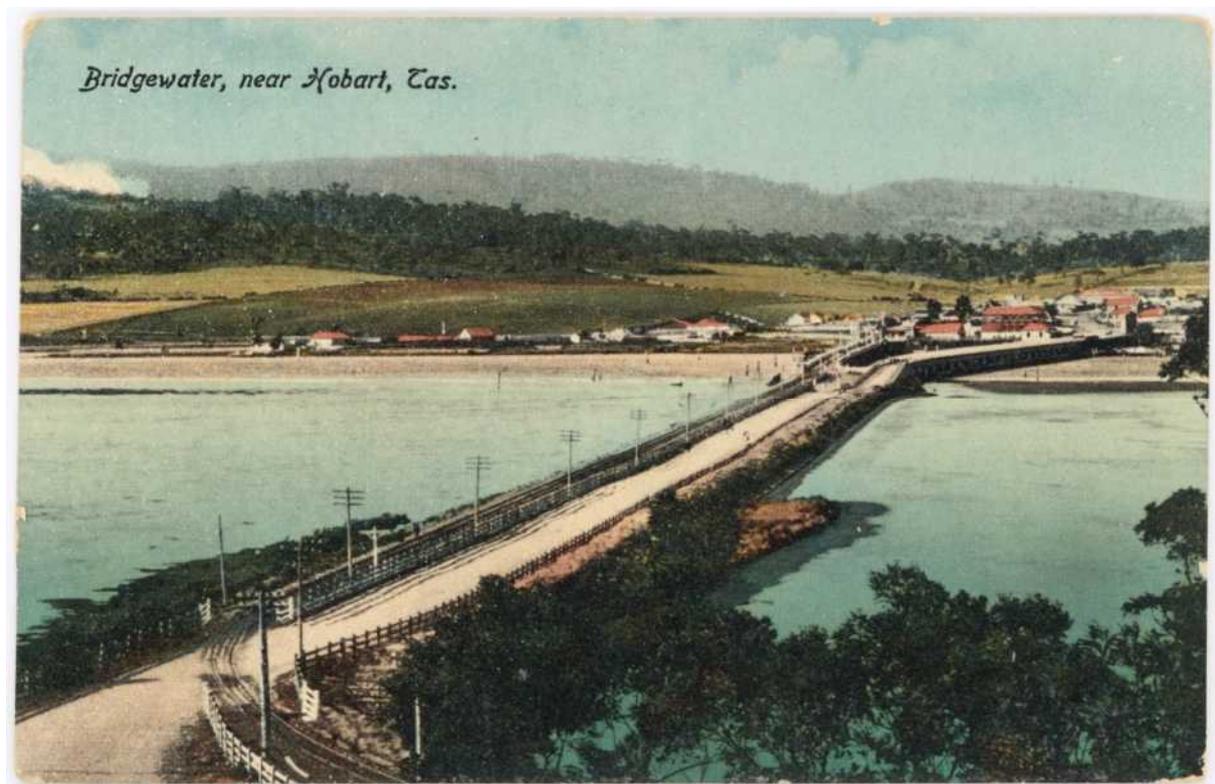


Figure 13: 1906 postcard looking north along the causeway. The 1874 rail bridge, converted to road use is on the right, the 1893 rail bridge is on the left, with the rail line diverted to the western side of the causeway, as exists to this day (TAHO, PH30/1/5558, Photograph - Bridgewater - Bridgewater Bridge from Granton - west of bridge (coloured postcard))

3.6.4 1908 Conversion of the 1874 Rail Bridge to Road Uses

In 1908 the 1874 railway bridge was converted to road uses. This required the bridge to be re-piled and the deck converted to accommodate a two lane roadway. It was opened in 1908. The new approaches to the bridge resulted in demolition of the 1876 and 1887 railway station platforms at Bridgewater.⁵⁸

Joint use of both rail and road of the 1893 bridge was short lived, lasting just ten months before reverting solely to rail. It was temporarily jointly used again in 1911, 1912, 1924-25 and 1926-27 while repairs were being carried out to the road bridge. Heavy vehicles were also regularly redirected over the 1893 bridge.

In 1916 the road bridge was rigged with timber gantries to carry power from the new Waddamana hydro-electric power station to Hobart. This was a temporary measure due to a war time delay in shipping of three special towers from England. On arrival, the towers were erected as planned. This included a backstay and 50 metre high tower on the north bank and another straddling the road at the end of the causeway. The towers were replaced with a submarine cable in 1987.⁵⁹

When the Second World War broke out a number of strategic sites were declared, among them the Bridgewater Bridge. It was guarded by a small number of sentries located in temporary buildings off Nielsen Esplanade. By 1941 the road bridge was so rickety that a single lane system with coloured signal lights was brought into operation by the army.⁶⁰ A series of images showing the conversion of the 1874 and 1893 bridges is included below.

⁵⁸ Austral Archaeology 1996, p.10: Whitlam, *op. cit.*, p.69

⁵⁹ Austral Archaeology 1996, p.10: Whitlam, *op. cit.*, pp.72, 82

⁶⁰ Austral Archaeology 1996, p.11: Whitlam, *op. cit.*, p.82

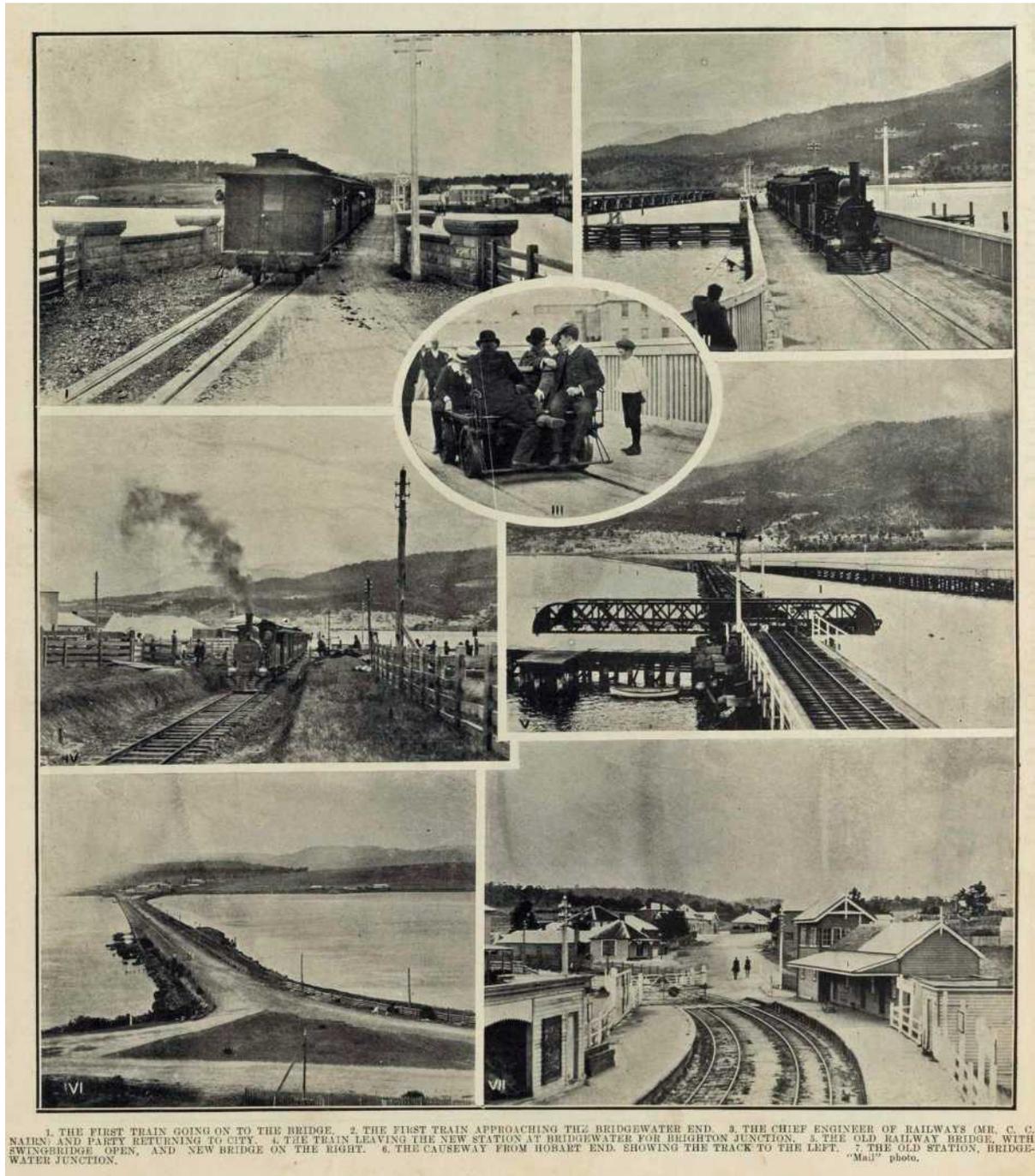


Figure 14: 1908 illustrated supplement showing the transfer of railway services to the 1893 bridge (TAHO, *Tasmanian Mail*, 18 August 1908, p.17 - the diverting of the Bridgewater railway crossing))



Figure 15: 1938 photograph looking east to the causeway with a passenger train crossing (TAHO, NS1298/1/2897, Photograph - Streamlined Express Train at Granton)



Figure 16: 1921 photograph looking south along the 1874 bridge, converted to road uses, and with the erection of electricity towers across the structure. Note also the iron swing span of the 1874 bridge (TAHO, AA193/1/2666, Photograph - Bridgewater Bridge)

3.7 The Current Bridgewater Bridge

Whitlam notes the importance of the development of the Derwent Valley Paper Company in promoting the need for a new bridge at Bridgewater. Indeed, he suggests that had it not been for the Boyer paper operation, the road and rail bridges may never have been combined.⁶¹

Discussions between the government and the Paper Company began in 1933. To allow for shipping access, the company initially requested a clear opening in the bridge some 18 metres wide. The Public Works Department investigated, and found that modifying the existing bridges for such a width would be very difficult. Further, the existing road bridge had been constructed as the rail bridge in 1874, and although not dangerous, had reached the end of its life. The best solution would be for a new combined road and rail bridge. To maintain the essential transport connections, the new bridge would need to be built between the existing road and rail bridges. With such a constraint and the narrow distance between the two existing bridges, it would not be possible to construct a swing bridge. Initially the department favoured a bascule type of lifting span, but later came to favour a lift span.⁶²

Preparatory geotechnical works were carried out in 1933. Boring of the riverbed found a solid rock bottom from 7.3 to 28 metres below the water level. The overlying strata of the bed was largely mud, but clay was also found over the northern half. A basalt base was found on the northern bank of the Derwent, but was underlaid by mud, which would require foundations to descend to a deeper level.

Department engineer and key designer of the bridge Allan Knight and director of Public Works George Balsille toured New South Wales in 1936 visiting a number of different types of moving bridges. Balsille also visited the combined road and rail bridge at Paringa, South Australia. Following the

⁶¹ GHD, *Tasmania's Truss Bridges. Comparative Heritage Assessment*, prepared for DIER, October 2009, p.195; Whitlam, *op. cit.*, pp.67-73

⁶² GHD 2009, p.195; Whitlam, *op. cit.*, pp.67-73

review of how other states had addressed similar problems, the department shifted its position to a lift span structure rather than a bascule arrangement.

A meeting was held with the Hobart Marine Board in April 1936 to determine the required width for the opening of a new structure at Bridgewater. Conflicting advice was given on the tonnage of shipping that would need to pass through the bridge, although it did confirm that a bascule bridge was not suitable. As a result, the preliminary concept was for a lift span bridge to be constructed with a horizontal clearance of 36 metres, and a vertical clearance above the high water mark of 30 metres.⁶³

Further geotechnical work was required to determine costs for the piles supporting the lift span as no information was available on the likely behaviour of the mud should bridge cylinders be sunk. Testing was carried out on timber and concrete piles to determine if a satisfactory pile foundation could be constructed. Although timber piles were acceptable from a load point of view, they rapidly deteriorated about the mud line resulting in expensive and frequent renewal.

Initial costings for the new bridge were estimated at £100,000. A further £25,000 was needed when the lift span was widened, whilst the needs of other government departments added a £10,000 to the project. Offsets and savings in the pile testing reduced the final estimate of works to £123,000.

The Parliamentary Standing Committee on public works investigated the project in 1937. The Railways Department estimated that the existing rail bridge had an estimated lifespan of at least 15 years. However, if the road bridge was to be renewed, it was sensible to also replace the rail bridge at the same time. The Paper Company and the Marine Board were in support of an opening at least 30 metres wide, which would provide safe navigation of vessel up to 2,000 tons. They estimated that on establishment of the factory, the mill would be served by 60 to 80 ships.⁶⁴

Public Works submitted plans for a steel and concrete lift bridge with a horizontal opening of 30 metres. The Department was satisfied that the proposed opening would be sufficient for the largest vessels that would need to reach Boyer. The cost of this opening was estimated at £19,800. Cost comparisons were also made on the use of different materials. A new timber bridge was estimated at £70,000 while a bridge in permanent materials would cost £103,500, excluding additional costs for the bridge approaches and incidental works.

The Committee was hesitant to support a project that would result in the demolition of a rail bridge which still had at least a 15 year lifespan left. As a result, the Department were asked to investigate further. They considered the construction of a new road bridge to the east of the existing, while a new rail bridge would be built at the end of its life. It was noted however that having two different bridges with two opening spans would make navigating between the bridges a difficult exercise. Balsille recommended the Department's preferred option of a new combined road and rail bridge, but noted that construction could be postponed until the old rail bridge had reached the end of its life.⁶⁵

The Committee made three key recommendations:

1. Approval of the substructure of a bridge which combined road and rail uses and approval for the superstructure of the road portion including the lift and flanking truss spans. A cost estimate of £103,000 was given for this part of the works.
2. A decision on the superstructure of the rail portion of the bridge (with the exception of the lift and flanking spans) should be deferred until the Paper Company or other industries established that they needed sea going vessels to navigate above Bridgewater, or that the existing rail bridge required replacement; and
3. That before committing addition funds for the construction of the opening span, it was necessary to dredge the Derwent near its junction with the Jordan River.⁶⁶

A series of bridge plans are included at Appendix 3. Construction began in 1937 with preliminary site work, and in January the following year, the acquisition of properties on the bridge approaches. On the Bridgewater side this included demolition of the Railway Hotel, stables and bazaar to make way for the steel fabrication yard and workshop. A nearby 1925 fruit drying factory was rented to provide extra space for the Public Works Department.⁶⁷

⁶³ GHD, 2009, p.196; Memorandum 1/37, Removal of Bridgewater Bridge, Parliamentary Standing Committee on Public Works, 1937, pp.1-2

⁶⁴ GHD, 2009, p.196

⁶⁵ GHD, 2009, p.197

⁶⁶ GHD, 2009, p.197; Parliamentary Standing Committee on Public Works, 1937, pp.1-4

⁶⁷ GHD, 2009, p.197

It was originally planned that the road bridge would be completed by late 1940. However, the outbreak of the Second World War resulted in the loss of workers and materials, and resources, were instead transferred to completing the Hobart floating bridge. As a result, the Department had difficulties to get tenders for the hoisting material, and the bridge was constructed in a piecemeal manner.⁶⁸

The bridge opened to road traffic in March 1942 once the lift span had been installed, although it was to take several years before the lift span came into operation. It was not until 1951 that the last of the piles from the redundant bridges were removed. The massive concrete filled steel caisson on which the 1893 swing span rotated was left *in situ*, along with the 1893 abutments on the Bridgewater side of the river.⁶⁹

By 1944, demand had grown for newsprint and the government submitted plans for a revised railway station at Bridgewater to supply Boyer. The factory was also examining its transport needs, favouring river transport, but noting that as a temporary measure, a rail siding was also required. In response, the government continued the upgrade of the Bridgewater Station and brought the bridge lift span into operation. The old 1874 rail bridge was retained while these works occurred, allowing for traffic to be diverted to the old structure while completing the lift span towers in 1943-44. In mysterious circumstances, the old rail bridge caught fire in October 1945. The fire brigade were advised to let it burn, reducing demolition costs, but in the end only three spans were destroyed.⁷⁰

Completion of the bridge towers and lifting mechanism were delayed by the Second World War, with the lifting span coming into operation in 1946. On completion, three bridges existed at the crossing: the new steel bridge combining road and rail traffic, and the old separate rail and road bridges. As a result, shipping had to zig-zag between them to navigate up stream.⁷¹

The new bridge started carrying rail in October 1946, in combination with a new station layout at Bridgewater. On completion, the old rail bridge was progressively demolished. The full width of the opening span was not available until 20 February 1946. It was take four more years before the old piles were removed from the River, the key survivor being the massive steel and concrete caisson which supported the swing span of the 1893 bridge.⁷²

The extra costs of the lift span proved a wise investment. By 1946, the Paper Company favoured barging newsprint from Boyer to Hobart. Increased production at the factory resulted in growth in river traffic. In 1947-48, less than 400 vessels made the crossing at Bridgewater, but growing to just over a 1,000 in 1956 and 1,300 by 1969-70. The largest number of openings on a single day was 26 for the New Norfolk Regatta. The only vessels that ever needed the full height of the lifting span were a few of the Sydney-Hobart maxi yachts which ventured this far upstream. River transport to and from Boyer was progressively dropped, ceasing completing in 1986. As a result the number of bridge openings declined markedly. In 1987-88, the bridge opened less than one hundred times.⁷³

The combination of road and rail on the bridge required extra safety precautions to be installed to prevent trains crossing the bridge whilst it was lifted. The solution was the interlocking of the power supply for the lifting mechanism and the signal station at the rail station, and human operation of the switches and signals. All physical systems for safe operation of the lift span were replaced with telephone rail orders in the 1980s.⁷⁴

A selection of early photographs of the completed bridge are included below.

⁶⁸ GHD, 2009, p.197

⁶⁹ GHD, 2009, p.198; Whitlam, pp.73-74; Austral Archaeology 1996, p.12

⁷⁰ GHD, 2009, p.199

⁷¹ GHD, 2009, p.199

⁷² GHD, 2009, pp.199-200

⁷³ GHD, 2009, p.200

⁷⁴ GHD, 2009, p.200



Figure 17: 1956 photograph looking south along the bridge (TAHO, AB713/1/5677, Photograph - Elevator Bridge, Bridgewater)



Figure 18: 1957 photograph looking west with barges passing under the lift span (TAHO, AB713/1/5575, Photograph - Tugboat with barges from APPM Boyer passing under the Bridgewater Elevator bridge)



Figure 19: 1962 photograph looking north with a passenger train crossing the bridge (TAHO AB713/1/8198, Photograph - Bridgewater Bridge, looking towards Bridgewater, with train crossing)

3.7.1 The Designer of the Bridge AW Knight



Figure 20: 1960 photograph of Sir Allan Knight (TAHO, PH30/1/3598, Photograph - Photograph of Sir Knight, Allan)

Allan Walton Knight was born in Launceston in 1910 and has been acknowledged by his peers as ‘one of Australia’s most outstanding engineers having a consistent mixture of personal excellence and practical achievements’.⁷⁵ Throughout his long public career, he held a number of prominent positions, acting as Chief Engineer to the Department of Public Works for ten years, and 30 years as Commissioner, and later Chief Executive of the Hydro Electric Corporation.

Knight was responsible for successfully proving composite beam theory in Tasmania. Aged 22 and a part time demonstrator in the Engineering Department at the University of Tasmania, Professor Burn tasked Knight with investigating the problem of distribution capacity of concrete deck slabs that were supported on bridge beams. Through models, Knight developed a theory and calculations for considerably stronger bridges through composite connections. On graduation he soon joined Public Works in 1932 as a bridge designer where he designed a full-scale composite test bridge over Vincents Rivulet, south of Hobart. This bridge still exists. Its success led to a rapid number of further composite bridges.⁷⁶ Knight was appointed to the newly created position of Chief Engineer of the Department in 1937. McFie writes that during his time with the Department, his ‘design and drafting skills were outstanding and highly regarded as was his innovative approach’. He visited the United States and Canada where he examined advanced bridge design and construction.

Notable bridge works Knight was involved in include the bridges over Vincents Rivulet and the Leven and Scamander rivers. He was also closely involved in the three bridges across the Derwent: the Hobart floating bridge (1938), the Bridgewater Bridge (1942/46) and the Tasman Bridge (1964). Further, he was the Chair of the Joint Committee for the restoration of the Tasman Bridge following the 1975 disaster.

In 1946 at the end of his career with Public Works, Knight became the Commissioner of the Hydro Electric Commission. He remained in that role until c.1970, a period during which the Commission enjoyed massive growth in generating capacity and employment.

⁷⁵ GHD, 2009, p.127: McFie, H, ‘A Tribute to the Late Sir Allan Walton Knight, KT, CMG’, in Engineering Heritage Committee, Tasmanian Division, Institution of Engineers, Australia, *Submission for an Historic Engineering Marker*, 1999, p.1

⁷⁶ GHD, 2009, p.128; Gaggin, I, ‘Vincents Rivulet Bridge, Tasmania. A small bridge with an interesting history’, in *Proceedings 11th National Conference on Engineering Heritage*, Canberra, October 2001, p.225

Knight received many awards and honours including: Fellow of the Institution of Engineers, Australia (1934), Honorary Fellow (1983), Warren Memorial Prize (1934), Peter Nicol Russel Medal (1963), William Charles Kernot Medal (1963), Chapman Award (1974) and the John Storey medal. He was made a Knight Bachelor in 1970.⁷⁷

3.7.2 Design and Welding Technique Used on the Bridge

The Bridgewater Bridge has been identified for its importance in advancing welding technology.⁷⁸ Within the evolution of steel bridges, welding represents a technological advancement over the use of rivets. The key benefits of welding include being less time consuming than riveting; providing better aesthetic finishing at joints; welding is easily adaptable to a diversity of shapes and forms; tension welded members are stronger than riveted counterparts; and, fewer people are required to weld joints than rivet them.⁷⁹

However, welding is not without drawbacks. The key problem to be addressed was brittle fracture at weld joints, with welded connections amongst the weakest points of steel bridges. Brittle fracture is a type of failure by fracture where little or no yielding occurs with brittle material. It was an issue the Department was certainly aware of before starting work on the Bridgewater Bridge. It was also an issue drawing international attention at the time.⁸⁰

The bridge was designed by Allan Knight whilst Chief Engineer with the Department, with specialist input by David Isaacs as a consultant. Isaacs was commissioned in 1935 to advise on the type of structure most suitable for electric welding for the proposed bridge. He published a paper in 1936 on the distribution of stresses in fillet welds.⁸¹

In 1935 Knight completed his masters theses on the construction of the Leven River Bridge in Ulverstone that he had designed. He wrote that welding the bridge beams created challenges. The required length for the beams was 18 metres, however beams of this length were not available. In response, two beams were spliced together to give the correct length. The splice connecting the beams was designed as a butt-weld with the webs and flanges being bevelled before welding. Cover plates were then applied in the web to give an excess strength of 25% at the splice of the strength of the joist itself. The cover plates were spaced to distribute as far as possible the stresses in the web due to the attachment of the plates to the webs. This welding method was however not perfect. Knight wrote:

More recent information indicates the importance of shaping cover plates to reduce fatigue stresses due to alternative loads, experiments having shown that the strength of the member under this class of loading may even be reduced by attaching cover plates of improper design.⁸²

Isaacs considered the matter further, aware that without care, welded structures can be subject to fatigue and brittle fracture. Through his consultancy, he developed measures through the use of butt-welds instead of fillet welds, and where the use of an added plate was unavoidable, by tapering this plate. Forces in different directions applied to the truss connections cause resultant stresses, which Isaacs considered should be permitted to flow smoothly from one element to another. He considered that the paths of these stresses would follow the designed connections to allow these stresses to flow between elements.⁸³

One consideration was the transition between truss chords of different cross sectional area. Due to the change in force along the length of a chord, efficient design was achieved by optimising component thicknesses or dimensions from node to node. Realising that abrupt changes in stress could occur at changes in section, members were detailed to be feathered at such points. This reduced weld stresses at connections by increasing the weld length and reducing any weaknesses in the parent material from the process of welding transversely across a highly stressed member.⁸⁴

⁷⁷ GHD, October 2009, p.128; McFie, pp.103

⁷⁸ See for example: O'Connor, C, Bridge and Causeway Engineering Bridgewater Heritage Assessment, in Austral Archaeology, *Stage 1 – Volume 2*, 1997; Engineers Australia, Engineering Heritage National Marker, 2018

⁷⁹ Alencar, G, de Jesus, A, Guilherme, J, da Silva, S, Calçada, R, 'Fatigue Cracking of Welded Railway Bridges: a Review', *Engineering Failure Analysis*, 104, (2019), p.156

⁸⁰ Alencar, *et. al.*, *op. cit.*, p.162

⁸¹ O'Connor, *op. cit.*

⁸² GHD, 2009, p.198: Knight, AW, *The Design and Construction of Composite Slab and Girder Bridges, with Particular Reference to the Leven Bridge at Ulverstone*, Masters Engineering Thesis, University of Tasmania, 1935, p.7

⁸³ Fowler, *op. cit.*, p.7

⁸⁴ Fowler, *op. cit.*, p.7

Noting these achievements, it is not clear if Isaacs' details solved the risks of brittle fracture, as other factors exist with the Bridgewater Bridger which may affect the strength of the welds. Such issues include:

- That the bridge is welded;
- The quality of the steel may be suspect;
- The bridge carries a railway, which may cause highly impactful loads; and
- It is in a cold climate.⁸⁵

Despite the above, Isaacs' solution had conceptual strength for the time, expanding upon existing technical knowledge and application. His findings were published in 1941.⁸⁶

However, Fowler does note that during the refurbishment works carried out in the early 2000s, some of the details that were originally incorporated to reduce susceptibility to metal fatigue, are now themselves still considered susceptible to fatigue. Other measures have however been effective, and the fact that fatigue was considered and addressed is still of interest. Fairly recent analysis showed that almost all elements of the bridge still had extensive remaining fatigue life.⁸⁷

3.8 Later Modifications to the Bridgewater Bridge

Like all structures, the Bridgewater Bridge has undergone a series of modifications since construction.

In 1951, the renewed Bridgewater railway station and its signalling equipment was destroyed by a fire. At first, the bridge rail locks which lowered and raised the opening span were operated by hand, which could be slow, particularly during high winds. These were later replaced with hydraulic cylinders to operate the locks from the machinery house located above the lift span.

Changing rail demands also led to changes to the bridge. During the 1960s, railway infrastructure was modified to cope with the heavy loads required for the Gordon Power Development project. At Bridgewater, this required the lowering of the rail tracks by 44.45 cm.⁸⁸

Extra steel plates were welded to the under deck girders between 1987-1989 to increase the load limit of the bridge to its maximum limit. The transmission line towers and cables which ran alongside the bridge and causeway were also removed during this time.

The lift span was also subject to structural changes in the 1980s to increase its load capacity. The works included strengthening of the welded plate girders by the addition of plates to the top and bottom flanges and strengthening of piers by the application of transverse steel beams encased in concrete.

The addition of plates to the top and bottom flanges of the girders had the unintended effect of significantly distorting the girders so that they separated from the bridge deck, and in time causing corrosion. The issue was addressed by the addition of grout into the voids. Additional steel cleats were also added to the deck to provide full lateral restraint of the girders.⁸⁹

In 1992 the southern end of the bridge was raised, including some vertical realignment of the causeway over a distance of some 150 metres.⁹⁰

The continued settlement of the causeway has resulted in horizontal displacement of sediments, which in turn apply horizontal loads to the piles. Since construction in 1942, settlement in the order of 60 cm has occurred. In the 1990s, the causeway and southern abutment were raised and reconstructed to address the issue, although settlement does continue to be an ongoing issue.⁹¹

Some of the most significant refurbishment took place during the early 2000s. Substantial deterioration had been identified in 2006 in some of the bridges counterweight ropes, at their connections with the 170 tonne counterweights. Addressing the risk of rope failure, the bridge was closed for a two week period to allow for close inspection and the design of an alternative

⁸⁵ GHD, 2009, p.198:

⁸⁶ GHD, 2009, p.198: Austral Archaeology, Stage 1, Volume 2, 1997, p.11

⁸⁷ Fowler, *op. cit.*, p.7

⁸⁸ GHD, 2009, p.200

⁸⁹ Fowler, *op. cit.*, p.8

⁹⁰ Department of Transport, Materials & Research, *Derwent River Crossing at Bridgewater. Office Study Geotechnical Report*, File No. 2.0082, Report No. 2508/1, 24 June 1996

⁹¹ Fowler, *op. cit.*, p.6

counterweight suspension system. This alternative system remained in place until 2010 when it was removed as part of the last major refurbishment project. The closure of the lift span temporarily stranded larger vessels upstream.⁹²

The temporary support arrangement for the lift span was not a permanent measure. It also made it more difficult to maintain the ropes and other components. Refurbishment of the bridge and restoration of the operation of the opening span was identified as the appropriate response. Works carried out as part of this major refurbishment were extensive, replacing certain equipment, and making repairs and enhancements. Repairs were generally like-for-like to maintain the heritage values of the bridge. It included:

1. Full containment, grit blasting and repainting all plate girder approach spans to safely remove the lead-based paint, rectify steel corrosion and apply a new protective coating;
2. The installation of new cathodic protection⁹³ systems for the concrete piers. On opening the piers for the repair and installation of the protection system, it was found that not only was there insufficient concrete cover for the installation of a new system, but that the original anodes had damaged the pier reinforcement. The installation of new cathodic protection was therefore abandoned, and work instead focussed on repairing damaged reinforcement and concrete.
3. Structural repair of areas of the steel superstructure and concrete piers, with inclusion of cleats to the plate girders of the approach spans to provide them with full lateral restraint. Additional steel repairs were required including reattachment of a large number of braces to the steel plate girders.
4. Works were proposed to investigate or stabilise settlement of the causeway, although more urgent works were carried out instead.
5. Restoration of the opening lift span and upgrading the electrical and mechanical systems to meet current standards. This included replacement of the motors, a programmable logic control, electro-hydraulic bakes and improved guarding to reduce reliance on manually operated brakes and improve safety.⁹⁴

⁹² Fowler, *op. cit.*, p.6

⁹³ i.e., a technique used to control the corrosion of a metal surface by making it the cathode of an electrochemical cell.

⁹⁴ Fowler, *op. cit.*, pp.9-10

4.0 HISTORIC HERITAGE ASSESSMENT

4.1 Introduction

The following section provides an historic heritage assessment of the features under consideration: the causeway, remnants of historic bridge infrastructure, and the extant bridge. Field work and recording was carried out on 3 August 2020. The field survey took the form of pedestrian inspection of the study area. Identified sites were recorded photographically and with written notes. Site locations were determined by grid references retrieved from a hand held GPS unit referencing the GDA 94 datum. Accuracy in location details was available to +/- 3-4 metres.

4.2 Setting of the Place

The broader cultural landscape of the Bridgewater crossing has been considered in some detail by GHD and is summarised as follows.⁹⁵ The place connects Granton on the southern shore of the Derwent with Bridgewater on the north. It consists of the causeway, historic bridge infrastructure and the extant road and rail bridge. The crossing at this point of the Derwent is some 1.08 kilometres. The lower foothills of Snake Mount form the background on the southern shore, characterised by native vegetation on the upper slopes and low density residential development on the lower slopes. The immediate foreground of the causeway is the convict quarry from which the material used in its construction was obtained. Remnant historic buildings of these works include the Watch House and the Commandant's Cottage. The causeway itself is a low linear feature, approximately 785 metres long, as measured from the Brooker, Midland and Lyell Highway roundabout. Vegetated embankments rise on either side rise slightly above the roadway. The causeway has some visual prominence when viewed obliquely from surrounding road networks.

The Bridgewater Bridge is a prominent element in the landscape, notable for its truss form and in particular the two towers and lifting mechanism. Although visible from the Brooker Highway, its dark colouring does not make the bridge a distinctive element on its southern approach until in close proximity to the causeway. Conversely, the bridge stands out distinctly against the sky when viewed from the Lyell Highway, Boyer Road and Woods Point at Bridgewater.

4.3 Inventory & Descriptions of the Key Elements

The following descriptions should be read in conjunction with Figure 21 below. As discussed above in, the 'place' itself consists of multiple elements which are physically and historically connected. Separate descriptions are provided of each element, however a holistic assessment of values has been provided for the broader place.

| Number | Feature | Coordinates |
|--------|--|-----------------------------------|
| 1 | Bridgewater Causeway | 518344E/5266972N-518433E/5267719N |
| 2 | Bridgewater Causeway – stone retaining wall | 518417E/5267649N-518424E/5267715N |
| 3 | Bridgewater Causeway – stone & concrete retaining wall | 518388E/5267341N-518417E/5267649N |
| 4 | 1874 bridge abutments – south | 518449E/5267688N |
| 5 | 1874 bridge abutments – north | 518540E/5268033N |
| 6 | 1893 bridge abutments – south | 518426E/5267719N |
| 7 | 1893 bridge caisson | 518455E/5267977N |
| 8 | 1893 bridge abutments – north | 518471E/5268075N |

⁹⁵ GHD, *Bridgewater Bridge Replacement Planning Study. Historic Heritage Investigations*, report prepared for DIER, August 2010

| Number | Feature | Coordinates |
|--------|------------------------------|-----------------------------------|
| 9 | 1942/1946 Bridgewater Bridge | 518433E/5267719N-518500E/5268049N |

Table 2: Heritage Features

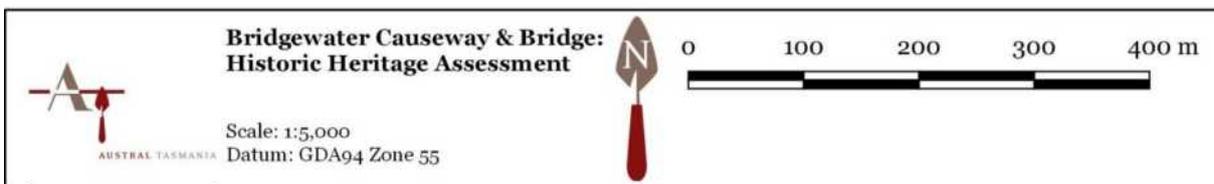
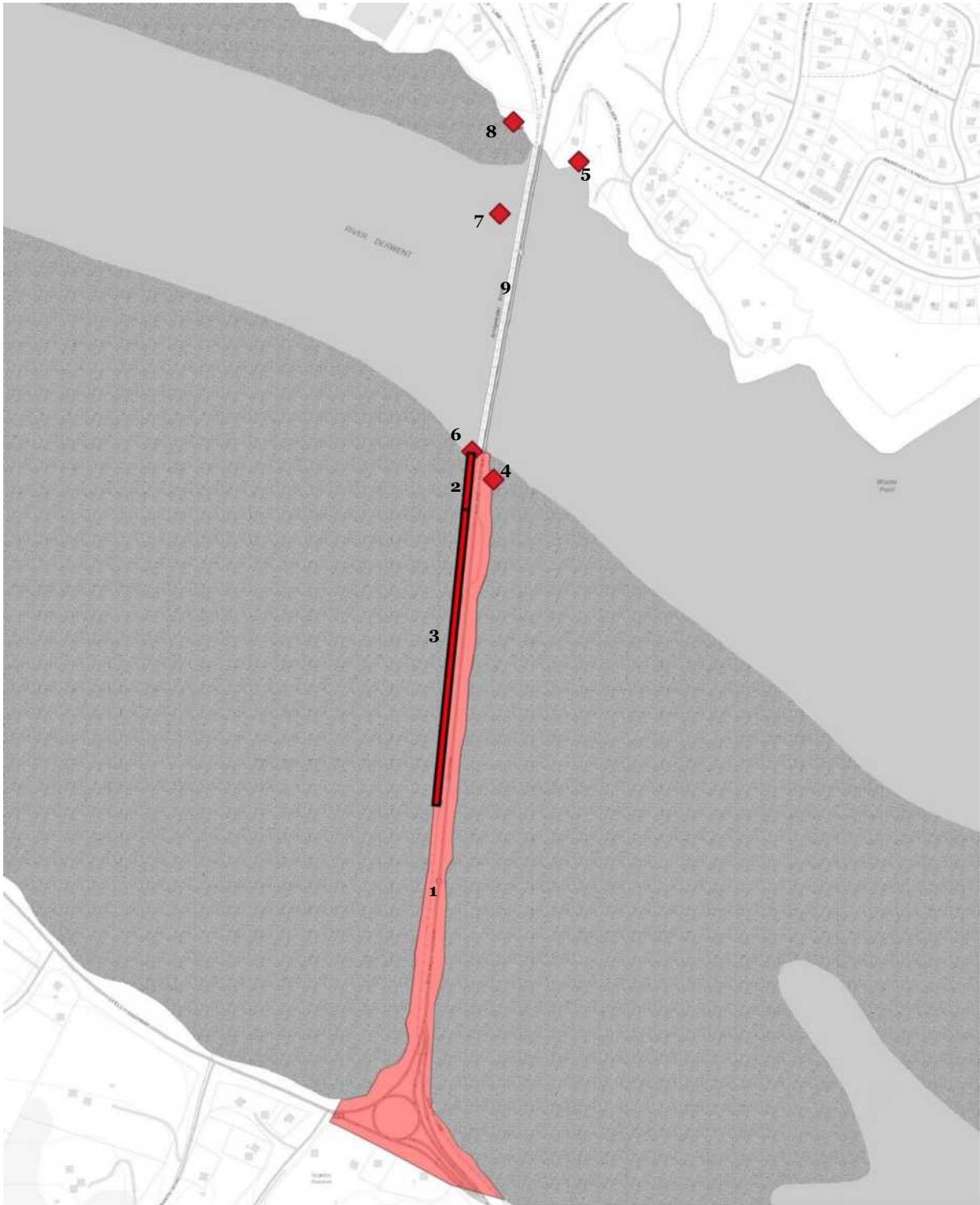


Figure 21: Feature Map (Base image by LIST Map (www.tasmap.tas.gov.au), © State of Tasmania)

4.4 Assessing the Significance of the Identified Elements

The assessment of cultural significance is a pivotal part of any heritage assessment. In this report significance is expressed in terms of the *Australia ICOMOS Burra Charter 2013* (the *Burra Charter*) definition of cultural significance and the eight criteria of the *Historic Cultural Heritage Act 1995* (*HCH Act*). Article 1.2 of the *Burra Charter* defines:

Cultural significance means aesthetic, historic, scientific, social, or spiritual value for past, present or future generations.

Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects.⁹⁶

The *HCH Act* defines 'historic cultural heritage significance' as 'its significance in terms of the registration criteria'. In turn, eight criteria are provided which recognise historical significance, rarity, research potential, important examples of certain types of places, creative and technical achievement, social significance, associations with important groups or people, and aesthetic importance.

The *HCH Act* provides that the Tasmanian Heritage Register is to be an inventory of places having 'State historic cultural heritage significance'. This term is not defined, however Guidelines have been developed to assist in applying the criteria and determining the level of significance of a place at either State or local levels of heritage significance.⁹⁷ The Guidelines define this distinction between State and local significance as:

A place is of historic heritage significance at a STATE level as being important to the whole of Tasmania, and therefore eligible for entry in the Tasmanian Heritage Register; or

A place is of historic heritage significance at a LOCAL level as being important to a region or local community and eligible for listing in a heritage schedule of a local planning scheme.⁹⁸

In applying this distinction, thresholds have been developed to define the minimum required value/s that a place must possess to be considered as having heritage significance at either State or local levels. This report has been prepared cognisant of the principles contained in these Guidelines.

The evaluation of significance has a practical application as it provides the basis for determining how places, sites, items and/or features identified during the field survey should be managed. This distinction between levels of significance is not about ranking the values or importance of a place. It is about understanding the context in which the place is important, and how far that importance reaches: from a local community, to an entire state, nation or group of nations. It is also part of the statutory framework for heritage assessment by identifying which level of government is responsible for statutory management. The *Burra Charter* provides guidance on the grading of significance, noting that it is only useful if it:

... illuminates the values of the place and provides a sound basis for management. An assessment that some aspects of a place are less significant than others is not in itself a reason for changing or removing them; the difference in action must have a conservation benefit.⁹⁹

No matter what the level of significance, the overarching intent of management is to conserve the values of the place or item where possible.¹⁰⁰

In preparing this heritage assessment, regard has been had to the existing body of work which has examined the place in some detail. This has principally been prepared by Austral Archaeology and GHD.¹⁰¹ In both cases, these assessments remain largely current, although there has been some terminology changes in statutory criteria, and the Assessment Guidelines provide detailed significance indicators and thresholds.

⁹⁶ Australia ICOMOS *Burra Charter*, Art. 1.2

⁹⁷ Department of Primary Industries, Parks, Water and Environment, October 2011, *Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995*

⁹⁸ *Ibid*, p.2

⁹⁹ Marquis-Kyle, P, Walker, M, *The Illustrated Burra Charter*, p.27

¹⁰⁰ Heritage Council of New South Wales, *Levels of Heritage Significance*, 2008, p.1; Department of Primary Industries, Parks, Water and Environment, *Assessing Historic Heritage Significance for application with the Historic Cultural Heritage Act*, October 2011, p.6

¹⁰¹ GHD, *Bridgewater Bridge Replacement Planning Study. Historic Heritage Investigations*, report prepared for DIER, August 2010; GHD, *Tasmania's Truss Bridges. Comparative Heritage Assessment*, prepared for DIER, October 2009; Austral Archaeology, *National Highway Approach to Hobart – Bridgewater Planning Study Heritage Assessment: Stage 1 – Volume 2, 1997*; Austral Archaeology, *Midland Highway Black Snake Lane to East Derwent Highway Historical Archaeological Survey Report*, prepared for Road & Environmental Planning Group, 1996

4.5 Description of the Elements

4.5.1 The Bridgewater Causeway

The Bridgewater Causeway [1] is a long linear earthen and stone embankment which extends in a northerly direction from the southern shore of the Derwent at Granton for a distance of some 730 m. It carries a two lane sealed road with raised earthen embankments on either side. The redundant rail line is located on its western side following its relocation in 1908. The outline of the causeway is somewhat irregular, particularly on its eastern side. It varies in width from approximately 20-30m. The height of the causeway rises at its northern end to connect with the Bridgewater Bridge.

The western side of the causeway includes evidence of past modifications and widening. At the northern end, a low sand and mudstone retaining wall has been erected using roughly squared blocks, with several courses visible above the waterline [2]. These works were carried out in 1863 to rectify the settlement of the causeway. Connecting at the south, the stone retaining wall has been topped with a concrete retaining wall which extends some 314 m [3]. It would appear to be early-mid twentieth century in origin.



Figure 22: Bridgewater Causeway, looking south from its northern end.



Figure 23: Bridgewater Causeway, looking north from its centre.



Figure 24: Bridgewater Causeway, looking south, with Granton watch house and quarry in distance.



Figure 25: Bridgewater Causeway, looking east from Lyell Highway.



Figure 26: Exposed strata on the eastern side of the causeway. The scales have 10 and 20 cm gradations.



Figure 27: Western side of causeway, below the rail line, showing the sand and mudstone retaining wall [2], looking south.

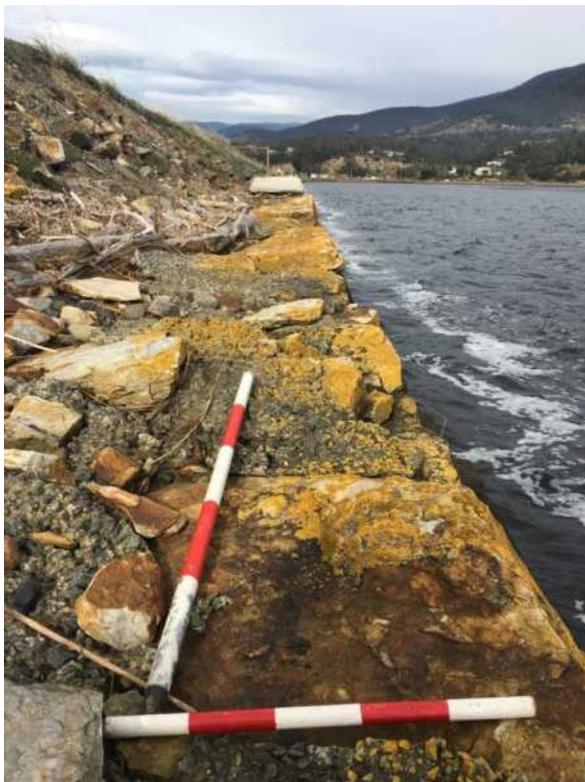


Figure 28: Western side of causeway, below the rail line, showing the sand and mudstone retaining wall [2], with crudely poured concrete on top, looking south.



Figure 29: Western side of causeway, sand and mudstone wall retaining [2] the railway embankment above.



Figure 30: Western side of causeway, below the rail line, showing the concrete retaining and mudstone wall [3], looking south.



Figure 31: Western side of causeway, below the rail line, showing the concrete retaining wall [3]. Note the mudstone base on the waterside. looking south.

4.5.2 Historic Bridge Infrastructure

Historic bridge infrastructure from a series of previous bridges exists at both the northern end of the causeway, and on the northern shore of the Derwent.

The oldest features are the abutments of the 1874 railway bridge. The southern abutment is located towards the northern end of the causeway, on its eastern side [4]. Consisting of roughly dressed sand and bluestone blocks and forms the corner of the abutment, measuring approximately 2m long on its northern side and 10m long on the east, it is several metres high. The northern abutment is located on the northern river bank [5], to the east of the extant bridge, and is constructed from roughly formed stone. It is largely obscured by vegetation, and, is approximately 2m tall, with an exposed section approximately 3m long. It is possible that subsurface evidence of the 1849 bridge abutments is located to the west of this feature, but was not visible at the time of the site inspection.

The remains of 1893 bridge are located on the western side of the northern end of the causeway. The southern abutments of the 1893 bridge [6] are formed from massive roughly worked stone, over 1 m in height and formed as a corner abutment. The concrete and steel caisson is located approximately 260m to the north, to the west of the extant structure [7]. It is elliptical with dimensions of approximately 10x6.5m. Historically it was the pivot for the swing span of the 1893 bridge. Extensive remains of the northern abutments are found on the waterfront, to the west of the existing bridge [8]. They are formed from massive worked sandstone wingwalls, abutments and pylons. They extend over a distance of approximately 35m.



Figure 32: Looking south to the 1874 southern bridge abutments [4], located towards the northern end of the causeway.



Figure 33: Looking north to the 1874 southern bridge abutments [4], located towards the northern end of the causeway.



Figure 34: The corner return of the 1874 southern bridge abutments [4].



Figure 35: Looking north to the northern abutments of the 1874 bridge on the riverbank, largely obscured by vegetation.



Figure 36: Looking north to the southern stone abutments of the 1893 bridge [6], located at the northern end of the causeway, western side.



Figure 37: The concrete and steel caisson [7], to the right of the extant bridge [9], looking south.



Figure 38: The concrete and steel caisson [7], looking south.



Figure 39: The sandstone wingwalls, abutments and pylons of the 1893 bridge [8], looking west.



Figure 40: Looking south to the sandstone pylons of the 1893 bridge [8].



Figure 41: Looking south west to the sandstone pylon of the 1893 bridge [8].

4.5.3 The Bridgewater Bridge

The Bridgewater Bridge [9] connects the causeway [1] with the northern shore of the Derwent. The following description largely comes from Fowler.

The bridge is some 338 metres in length and a steel welded Pratt through truss. A ‘Pratt’ truss is one which includes vertical members and diagonals that slope down towards the centre. The interior diagonals are under tension under balanced loading and vertical elements under compression. The bridge is formed from 11 simple steel girder spans, the lift span and the two towers at either end which support the lift. The abutments are supported by timber piles, while the simple spans are held by composite timber and concrete piles. The towers are supported by concrete caissons. The roadway is some 7.75m wide with a concrete footpath on the eastern side, and redundant rail line on the western line. The central lift span is 42.9m wide, with the two flanking truss spans on either end and 48.9m long.

The bridge has reinforced concrete piers on concrete encased timber piles with the piers supporting the lift span towers, which are constructed on reinforced concrete caissons. There are eleven approach spans flanking the lift span: nine to the south and three to the north. They utilise welded plate girders with a concrete deck. The trussed flanking spans also have concrete decks.

The lift span and flanking spans are of strong, stiff and lightweight trussed construction, being through trusses of the Pratt type. The two flanking span towers are 40 metres high. The trusses of the lift span and flanking spans are formed from horizontal chords and braches and contain highly loaded elements. The top and bottom chords are particularly highly loaded at mid-span, while the braces are more heavily loaded closer to the supports and points of concentrated load. The 42.9 metre lift span weighs approximately 350 tonnes. The lift provides a clear opening between the piers of 36.5 metres.

The lift span is counterbalanced with two large concrete counterweights. In turn, these are held by 6 44mm wire ropes at each end which pass over a large diameter cast sheave with two grooved sheaves mounted on top of each tower. With the sheaves supporting the combined mass of the lift span and the counterweights, friction within the mechanism is significant. This allows to balance the system so that the lift span requires to be driven on both rising and falling. Originally this was driven from a side valve V8 petrol engine, with lever operated brakes and manually operated rail locks. This was later changed to twin wound rotor electric motors with a diesel engine backup.

The bridge originally had a timber deck, which was later replaced by a light-weight steel deck. During the 1990s this in turn was replaced with a stress laminated timber deck with asphalt surface which continues to exist.¹⁰²



Figure 42: Looking south west to the Bridgewater Bridge with its towers and lifting span, flanked by approach Pratt style through trusses on either end.



Figure 43: Looking west to the lift span.



Figure 44: Looking south to western side of the bridge, with the sandstone abutments of the 1893 bridge in the foreground.



Figure 45: Looking west to northern tower and truss.

¹⁰² Fowler, *op. cit.*, pp.5-7



Figure 46: Southern approach to the Bridge, looking north.



Figure 47: Northern approach to the Bridge, looking south.



Figure 48: Looking south through northern approach truss.



Figure 49: Looking south within the lift span.



Figure 50: Northern light post with subtle art deco influences.



Figure 51: Light post on southern approach to bridge



Figure 52: Steel beams on northern approach span, looking south.



Figure 53: Braced steel beams on northern approach span, looking south.

4.6 Comparative Analysis

As part of this assessment, a comparative analysis has been carried out as a useful means in understanding why the place and its components may have heritage significance, and how important they are, when compared with other similar places. In making comparisons, it is important to attempt to refer to a data set that will support 'like with like' evaluations. Within this report, the comparative analysis relates to the Tasmanian context. Purcell's recent review should be referred to for consideration within a national context, and very usefully finding new and important information regarding some of the claims previously made as to the significance of the Bridgewater Bridge.¹⁰³

The two components under consideration of this analysis are:

- The causeway; and

¹⁰³ Purcell, Memorandum: Review of assessment of significance against state/criteria threshold, 7 July 2020

- The extant bridge.

4.6.1 Comparative Analysis of the Causeway

Various previous assessments have claimed that on completion, the Bridgewater Causeway was the largest item of convict built infrastructure in Australia.¹⁰⁴ Similar statements are made in the Tasmanian Heritage Register, which notes that the causeway was the largest civil work undertaken by convict labour,¹⁰⁵ while the defunct Register of the National Estate cites the causeway as ‘one of the largest convict built civil engineering projects undertaken in Australia’¹⁰⁶ and that:

Neither the retaining walls in Victoria Pass in the western descent from the Blue Mountains in New South Wales or the roadworks in the Great North Road, where it rises from the north bank of the Hawkesbury River have been assessed as being comparable in scale.¹⁰⁷

The veracity of this statement warrants some scrutiny, and recent work carried out by Purcell suggests the Old Great North Road in New South Wales is more important as an example of civil engineering using convict labour, and formally recognised as such with its National and World Heritage Listing.

Nonetheless, the achievement of the Bridgewater causeway as convict built civic engineering is a claim that has merit, but is perhaps difficult to establish with such certainty it being ‘the largest’, and certainly not within a national context. The category of ‘civil engineering’ itself is broad in scope but includes roads, bridges, canals, dams, sewerage systems, railways and so forth.

The most readily available comparisons within Tasmania are with other causeways. A cursory review would suggest they are uncommon features. Only three other causeways have been identified within Tasmania with which to compare Bridgewater; the Hunter Street causeway in Hobart, the Sorell Causeway and the Risdon Cove Causeway.

The Hunter Street causeway connected the Hobart foreshore with Hunter Island. It was originally connected by a sand spit that was submerged at high tide. The spit was converted to a causeway between 1820-1821 by convict labour. It was described as ‘a substantial causeway of masonry, wide enough for two carts to pass, and a good path for foot passengers’. Its length was some 182 metres. It has been estimated that the causeway contained more than 5,000 cubic metres of sandstone and dolerite and as much dressed sandstone on its outer sides as used in all the remaining warehouses on Hunter Street. The causeway has subsequently been consumed by later reclamation works and the formation of Hunter Street. It survives in a subsurface archaeological context.¹⁰⁸

The Sorell Causeway was completed in 1874 and measures some 4.8 kilometres in length, crossing Pittwater and connecting Midway Point and Sorell. It includes a bridge crossing on its southern approach to Midway Point. It was constructed using private contractors, at a total cost of around £27,000. On construction it included various timber pile bridge sections, with the remainder being stone embankments and cuttings.¹⁰⁹

Very little is known about the Risdon Cove causeway. It was constructed across the mouth of Risdon Cove to carry a roadway. It was in place by 1889.¹¹⁰

Beyond causeways, comparisons could perhaps be made with other civil engineering works carried out by convict labour, such as the number of extant bridges in permanent materials which continue to exist including Richmond (1825), Ross (1836) and the Red Bridge at Campbell Town (1836). All show the skill in engineering design and fine construction using convict labour.

Roads are also a type of civil engineering constructed, the most notable being Bell’s Line of Road extending for some 78 kilometres from Old Beach to St Peter’s Pass and constructed between 1820 and 1824, by convict labour.

The following relevant comparisons can be made about the Bridgewater causeway:

¹⁰⁴ See: GHD, *Bridgewater Crossing. Historic Heritage Precinct Assessment*,

¹⁰⁵ THR 618, Bridgewater Bridge, Midland Highway, Granton 7030

¹⁰⁶ RNE 101213, Bridgewater Causeway, Midland Hwy, Granton, Tas, Australia

¹⁰⁷ *Ibid*

¹⁰⁸ THR 10350, Hunter, Evans, Davey Street – subsurface remains including Hunter Island, Causeway, Old Wharf Probation Station and Reclaimed Land, Hunter, Davey, Evans streets, Hobart, 7000

¹⁰⁹ *The Mercury*, Monday 22 June 1874, p.3

¹¹⁰ Walker, JB, ‘The English at the Derwent, and the Risdon Settlement’, *Papers and Proceedings of the Royal Society of Tasmania*, 14 October 1889

- It is predated 10 years by the Hunter Street causeway, which also demonstrates a higher degree of detailing, being clad in worked sandstone;
- At 730 metres long, 20 metres wide and containing 400,000 cubic metres of fill, the Bridgewater Causeway is substantially longer and larger in volume than the Hunter Street causeway. Its construction period of 1830-36, whilst not as early as Hunter Street, is still well within the early colonial period.
- Both Hunter Street and Bridgewater are surpassed in scale by the Sorell Causeway. However, this was constructed considerably later than the others; does not have an association with convict works; and is likely to have utilised technology that made its construction a relatively easier proposition than the older causeways.

4.6.2 Comparative Analysis of the Bridgewater Bridge

Within the Tasmanian context, the most useful understanding of the significance of the Bridgewater Bridge comes from the 2009 GHD report, which provided a comparative analysis of all of the State's metal truss road bridges.¹¹¹ More recent work completed by Purcell has considered the significance of the bridge within a national context.

The GHD comparative heritage assessment considered eight surviving metal truss road bridges in Tasmania, including the Bridgewater Bridge. The report assessed the heritage significance of each bridge and then considered the relative heritage values of each bridge when compared with others in that class of place.

The methodology used both standard assessments against heritage criteria and a qualitative approach, modifying work previously developed in Victoria for assessing historic metal road bridges. This qualitative method considered six broad criteria (age, length/height, structure type, historical issues/themes, social issues/themes and aesthetic values), with numerical measures for each criteria. Using this system, the highest possible ranking for a bridge was a score of 18.¹¹²

The eight bridges under consideration were the Kings Bridge, Launceston; North Esk River Bridge, Corra Linn; Mountain River Bridge, Lollara; Nive River Bridge, Bronte; Scamander River Bridge, Scamander (currently approved for demolition); the Tyenna River Bridge, Westerway; the Bridgewater Bridge; and the George River Bridge, Priory. For a full historical context, the report also considered demolished bridges of this type. Of these, relevant to discussion here are the Kimberley Bridge at Mersey, which was the first all welded bridge in the State; and the floating Derwent Bridge at Hobart, which was also a welded structure incorporating a similar lifting structure as used at Bridgewater.

The GHD report acknowledges that the assessment method does not preclude the need to undertake standard assessment approaches to understanding the significance of a place, but rather provides a more fine-grained approach to determining the relative significance of a particular type of bridge.

The most ready comparison available is between the Bridgewater and Hobart Bridges. The Hobart floating bridge was constructed from 1938 to 1943. It was a larger structure than the Bridgewater Bridge, having an opening span some 54 metres wide between its two towers, and vertical clearance of some 44 metres above the low water mark. Both Hobart and Bridgewater Bridge utilised the skills of Knight and Isaacs in their construction.¹¹³

The world's first all welded bridge is thought to have been constructed in the United States in 1928. Arc welding began to be used in Tasmanian bridges during the 1930s, starting with the Kimberley Bridge (1932-33 and removed), the Nive River Bridge (1933-34), the Scamander River Bridge (1934 and approved for demolition), the Hobart Bridge (1938-43), and the Bridgewater Bridge (1942-46). In each case the use of this welding technology was refined as new knowledge became available. As a technique, it was also superior to riveting, being more cost effective by being lighter and quicker to install.¹¹⁴

The 1930s was a period of rapid development in technical knowledge. The first all welded bridge at Kimberley has since been destroyed, leaving the Nive River Bridge as Tasmania's and Australia's

¹¹¹ GHD, *Tasmania's Truss Bridges. Comparative Heritage Assessment*, unpublished report prepared for the Department of Infrastructure, Energy and Resources, October 2009

¹¹² *Ibid*

¹¹³ *Ibid*, p.239

¹¹⁴ *Ibid*, p.234

oldest surviving steel all welded truss bridge. The skills and knowledge developed at Kimberley and Bronte were further developed in future bridges at Scamander, Tyenna, Hobart and Bridgewater. Collectively, they demonstrate the application of new welding technologies.

Brittle fatigue in welded bridges was a problem recognised since the early 1930s. Through the expertise of DV Isaacs, a solution was formulated by using butt-welds instead of fillet welds, and where the use of an added plate was unavoidable, by tapering this plate. Isaacs had first published a paper on the distribution of stresses in fillet welds in 1936; and he published his work on butt-welds in 1941.¹¹⁵ It would seem likely that the findings of this research were applied in the construction of both the Hobart and Bridgewater Bridges. As noted by Fowler in 2011, the refurbishment works carried out Bridgewater in the early 2000s found that some of the details that were originally incorporated to reduce susceptibility to metal fatigue, are now themselves still considered susceptible to fatigue. Other measures have however been effective, and the fact that fatigue was considered and addressed is still of interest. Fairly recent analysis showed that almost all elements of the bridge still had extensive remaining fatigue life.¹¹⁶

The other aspect of comparison for the Bridgewater Bridge is its inclusion of a lifting span. It was not Tasmania's largest lifting span (that honour going to the Hobart Bridge), but remains the only surviving bridge of this type in Tasmania. Bridges with moving spans are rare in Tasmania generally, the only two other examples known to the author being the bascule bridge at Constitution dock, constructed in 1935 but essentially reconstructed in 1990; and the pivoting span of the Victoria Bridge which was constructed in 1960. The Bridgewater Bridge is the largest surviving lift span bridge in Australia.¹¹⁷

Returning to GHD's comparative analysis, the report found that the Bridgewater Bridge had significance which met all criteria for entry in the Tasmanian Heritage Register. The qualitative approach gave the Bridgewater Bridge a score of 14 out of 18 total possible points, which ranked it as equal second with the Nive River Bridge in terms of its significance as a metal truss road bridge. Only Kings Bridge in Launceston received a higher score of significance.

4.7 Assessment of Significance

The following assessment of significance has been made against the eight criteria of the Tasmanian Heritage Register. It considers the values of the place within a state-wide context. Work carried out by Purcell has also considered the significance of the place against national criteria.

Although an assessment could be made of each element in isolation, this report adopts a more holistic approach, considering all elements of the causeway, bridge remains and the extant bridge as the 'place'. They are all physically and historically connected.

In assessing significance, regard has been had to the previous detailed assessments completed by GHD and Austral Archaeology.¹¹⁸ These assessments remain largely current, noting slight changes in criteria definitions and the formal inclusion of aesthetic significance.

To assist in defining values, Heritage Tasmania's *Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995* has been referred to. Each criterion has been assessed and key threshold indicators identified, followed by a statement against that value.

¹¹⁵ *Ibid*, p.198

¹¹⁶ Fowler, *op. cit.*, p.7

¹¹⁷ Cooper, Nomination for Engineers Australia Engineering Heritage Recognition, p.7

¹¹⁸ GHD, *Bridgewater Bridge Replacement Planning Study. Historic Heritage Investigations*, report prepared for DIER, August 2010; GHD, *Tasmania's Truss Bridges. Comparative Heritage Assessment*, prepared for DIER, October 2009; Austral Archaeology, *National Highway Approach to Hobart – Bridgewater Planning Study Heritage Assessment: Stage 1 – Volume 2*, 1997; Austral Archaeology, *Midland Highway Black Snake Lane to East Derwent Highway Historical Archaeological Survey Report*, prepared for Road & Environmental Planning Group, 1996

| Criterion | Key State Threshold Indicators ¹¹⁹ | Statement |
|---|--|--|
| (a) the place is important to the course or pattern of Tasmania's history | <p><i>Demonstrates the occurrence of an event(s) at the place that was significant in Tasmania's history.</i></p> <p><i>A notable example of regional settlement that demonstrates an important period or phase in the wider settlement and development of Tasmania.</i></p> <p><i>Demonstrates an important historical period or phase in the history of Tasmania.</i></p> <p><i>Demonstrates a prominent period of economic prosperity or decline/depression in Tasmania.</i></p> <p><i>Demonstrates a notable period in the governance and administration of Tasmania.</i></p> <p><i>Notable association with changing demographic factors across Tasmania or in the local area, through colonisation, forced/free migration, and human loss due to epidemic, war, etc.</i></p> <p><i>Notable example of industrialisation extending across a region or state wide.</i></p> <p><i>Notable example of the development of maritime and terrestrial civil infrastructure, transport and communications in Tasmania.</i></p> <p><i>Notable example of the development and application of technology in Tasmania.</i></p> <p><i>Notable example of diversity on a state-wide basis, differing types of activity/development, or differing periods of development related to the same activity.</i></p> | <p>The Bridgewater Causeway and Bridge forms part of a broader and significant cultural landscape which has historical importance with regard to the evolution of transport, and which concentrates at this point of the Derwent.</p> <p>Serviced first by ferries, then later the causeway, road and rail traffic, the place is arguably the focus of Tasmania's most historically important transport route.</p> <p>The causeway was one of the largest items of civil infrastructure constructed in Van Diemen's Land using convict labour. It demonstrates the scale of public works that could be carried out by convict labour, which was the key workforce available during the first half of the nineteenth century. The length of time to construct the causeway, and the methods used to address the very difficult geological conditions are a testament to the work carried out by the convict workers.</p> <p>Following completion, the causeway formed the point of construction for all future bridges. Evidence of the 1874 and 1893 bridges exists on the causeway and northern bank of the Derwent. Subsurface evidence of the 1849 bridge abutments may also exist on the northern bank.</p> <p>The current Bridgewater Bridge is of historical importance in demonstrating the development of civil infrastructure by the Public Works Department, during a period of great innovation and technical advancement in the 1930s.</p> <p>The bridge is also historically significant with its association with a major phase of industrialisation in Tasmania, and in particular the development of the paper industry in the Derwent Valley. The bridge was specifically designed to help facilitate this industry through the provision of both rail and river navigation capabilities.</p> |
| (b) the place possesses uncommon or rare aspects of Tasmania's history | <p><i>One of few comparable places across Tasmania that is associated with/demonstrates an activity that was distinctive for what it achieved or so unusual in its nature it is now of particular interest to a community group.</i></p> <p><i>Demonstrates a distinctive attribute that is unique or uncommon in its occurrence across Tasmania.</i></p> <p><i>Demonstrates a composition of attributes that is unique or uncommon in its occurrence across Tasmania.</i></p> | <p>The causeway is a rare place. It is one of only two causeways constructed in the state during the early nineteenth century using convict labour. It is considerably larger in length and volume than the Hunter Island causeway, being the other convict built causeway.</p> <p>The Bridgewater Bridge was Tasmania's second, and the only surviving lift span bridge. It is also the largest surviving lift span bridge in Australia. It is the largest and one of relatively few metal truss road bridges in Tasmania, and is a relatively</p> |

¹¹⁹ Department of Primary Industries, Parks, Water and Environment, October 2011, *Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995*

| Criterion | Key State Threshold Indicators ¹¹⁹ | Statement |
|---|--|---|
| | | early example of an all welded bridge. |
| (c) the place has the potential to yield information that will contribute to an understanding of Tasmania's history | <p><i>A comparative analysis suggests that further research at the place has the potential improve our understanding of Tasmania's past or archaeology of:</i></p> <p><i>to fill gaps in our existing knowledge of Tasmania's past.</i></p> <p><i>to inform/confirm unproven historical concepts or research questions relevant to Tasmania's past.</i></p> <p><i>to provide information about single or multiple periods of occupation or use.</i></p> <p><i>to yield site specific information which would contribute to an understanding of significance against other criteria.</i></p> | <p>The Bridgewater Causeway has archaeological research potential. Detailed documentary evidence of its construction methods is limited. It offers opportunities to understand civil engineering construction from the early nineteenth century and methods to address the very difficult geological conditions over an extended period.</p> <p>The Bridgewater Bridge has research potential to provide new information on bridge design and construction, and in particular, advances made in welding details, and their long term performance.</p> |
| (d) the place is important in demonstrating the principal characteristics of a class of place in Tasmania's history | <p><i>A particularly fine example of the class in a state wide context, demonstrating a broad range of characteristics that are typical of the class such as aesthetic composition, design, architectural style, applied finish or decoration of historical importance.</i></p> <p><i>A particularly intact example of the class in a state wide, demonstrating a range of physical characteristics that typify the class and which remain mostly unchanged since built/created.</i></p> <p><i>A particularly fine, intact or pivotal example of the class in a state wide, representative of a class of places that demonstrate a construction method, engineering design, technology or use of materials, of historical importance.</i></p> <p><i>A particularly fine, intact or pivotal example of the class in a state wide, representative of a class of places that demonstrate an historical land use, function or process, of historical importance.</i></p> | <p>The Bridgewater Causeway is an important example of large scale civil infrastructure that was built during the first half of the nineteenth century using convict labour. It forms part of a suite of places including roads, bridges, dams and water supply systems.</p> <p>The Bridgewater Bridge is important in demonstrating the key characteristics of a lift span metal truss road bridge. It is a 'Pratt' type of truss in a half-through configuration. The truss consists of vertical diagonals that slope down towards the centre. Constructed from welded steel, the bridge demonstrates the essential truss form of light weight construction with a hollow skeletal structure formed from vertical, horizontal and diagonal chords creating the essential triangular section of the truss bridge type.</p> |
| (e) the place is important in demonstrating a high degree of creative or technical achievement | <p><i>Creative and technical achievements that influenced techniques used within the discipline/industry, or influenced outcomes at other places.</i></p> <p><i>Unusual in its nature, size, or application within such a context or otherwise of particular interest in a state-wide comparison of similar places.</i></p> | <p>The Bridgewater Bridge is important in demonstrating a high degree of technical achievement. The steel truss approach spans and the lift span demonstrate the early use of all welded connections in steel truss bridges and the early adoption of design details specifically to address the issue of fatigue. It was designed and constructed some ten years after the world's first all welded bridge, and within a number of years of Tasmania's entry into this technology. Recent investigations have shown that some of the details originally incorporated to reduce susceptibility to metal fatigue are now considered susceptible to fatigue.</p> <p>Innovative research was carried out and the weld details were designed to address</p> |

| Criterion | Key State Threshold Indicators ¹¹⁹ | Statement |
|--|--|--|
| | | problems with fatigue and brittle fracture. |
| (f) the place has a strong or special association with a particular community or cultural group for social or spiritual reasons | <p><i>A landmark that is visually prominent and possesses picturesque attributes or aesthetic qualities acknowledged by many Tasmanians.</i></p> <p><i>A place that symbolically represents some aspect of the past that a community or cultural group feels contributes to the identity of Tasmania.</i></p> | <p><i>No social values assessment has been carried out for this project. The following provides an indicative statement of values which may exist at the place.</i></p> <p>The Bridgewater Causeway and Bridge are prominent landmarks and mark the northern entrance to Hobart. It has been the key crossing point of the Derwent since the 1830s.</p> <p>The causeway and bridge may have strong or special associations with engineers as a group. Engineers Australia has recognised the Bridge with an Engineering Heritage National Marker in 2018.</p> |
| (g) the place has a special association with the life or works of a person, or group of persons, of importance in Tasmania's history | <p><i>A key phase(s) in the establishment or subsequent development of the place were undertaken by, or directly influenced by, the important person(s) or organisation and that person(s) or organisation made an important contribution to the history of Tasmania.</i></p> <p><i>One or more achievements for which the person(s) or organisation are considered important are directly linked to the place and that person(s) or organisation made an important contribution to the history of Tasmania.</i></p> | <p>The Bridgewater Causeway has a special association with the work of convict labour in the construction of major civil engineering projects during the first half of the nineteenth century. It is among the largest items of infrastructure in Tasmania which demonstrates this association.</p> <p>The causeway is also important for its association with Governor Arthur and various government engineers and officials who designed and oversaw its construction. This includes Inspector of Roads and bridges Roderic O'Connor, and architect and engineer John Lee Archer.</p> <p>The Bridgewater Bridge is an important example of the work of engineer Sir Allan Knight. Knight enjoyed a highly successful career with the Public Works Department and later the Hydro Electric Commission.</p> <p>He was the designer of a number of technologically advanced bridges including at Vincents Rivulet and the Leven River, and was closely involved with the three bridges across the Derwent – the floating bridge at Hobart, Bridgewater Bridge and the Tasman Bridge.</p> <p>Knight received many awards and honours during his career and was made a Knight Bachelor in 1970.</p> |
| (h) the place is important in exhibiting particular aesthetic characteristics | <p>The Assessment Guidelines have not been updated to include the aesthetic criterion in accordance with the standard template used for the other criteria. However, the Guidelines do provide some discussion of this value generally, although not within a context of setting thresholds between State and local places.¹²⁰ The place is assessed against the following general information:</p> <p>Typical inclusion parameters include:</p> | <p>The Bridgewater Bridge is the dominant visual landmark in an aesthetically important cultural landscape, strongly associated with the evolution of transport. This evidence is layered in the landscape, and includes large and small elements.</p> <p>The bridge with its high towers and distinctive truss forms are landmarks of the area, with important views to the structure available from surrounding road networks.</p> |

¹²⁰ Assessing historic heritage significance for Application with the Historic Cultural Heritage Act 1995, p.27

| Criterion | Key State Threshold Indicators ¹¹⁹ | Statement |
|-----------|---|--|
| | <p>1. The place being of landmark quality;</p> <p>2. The place having, or contributing to, its setting or important vistas; and</p> <p>Buildings that sit well within their landscape due to the use of local materials, form, scale or massing.</p> <p>In the case of a heritage area, the individual components will collectively form a streetscape, townscape or cultural environment with significant aesthetic characteristics.</p> | <p>The still waters of the Derwent at this location and frequent presence of large flocks of Black Swans contribute to the setting of the place.</p> |

Table 3: Assessment of Significance

5.0 ARCHAEOLOGICAL ZONING PLAN

5.1 Introduction

An Archaeological Zoning Plan (AZP) is a visual depiction showing zones of historical archaeological sensitivity. This predicts the likelihood of an area to retain physical evidence in the form archaeological features or deposits. They are typically broad-scale and combine historical research and physical assessment to identify potential archaeological resources and map their location.¹²¹

Criterion (c.) of the *Historic Cultural Heritage Act 1995* is the most commonly used criterion for assessing archaeological values, requiring an assessment of the research potential of the place to contribute to an understanding of Tasmania's history. As outlined in the assessment of significance, the Bridgewater Causeway and Bridge have both been identified as meeting this criterion.

Undoubtedly, the bridge has research potential with regard to its technological advances. Such potential is likely to be of most interest to the engineering community. However, it has not been identified on the AZP as an area of archaeological sensitivity.

In a practical sense, it is most useful to spatially define the archaeological resource of the place as subsurface features or low level remains. This is inclusive of the causeway itself and evidence of previous bridge infrastructure located on the causeway, within the Derwent and on the northern riverbanks.

An AZP will typically define zonings according to their potential to contain subsurface features or deposits, with a grading of high, moderate or low potential. Certainly the causeway has undergone considerable and ongoing changes since completion in 1836. However, a single zoning of high potential has been applied to the structure. It would be difficult, and potentially misleading to try and distinguish different areas of archaeological sensitivity on the causeway. However, the general conclusion is that the earliest fabric related to the structure is beneath later modifications. Defining the thresholds between early and later fabric would require detailed archaeological investigations.

As a result, a simplified zoning has been adopted to show areas or sites of archaeological potential. These are depicted in the following figure and relate to the following:

1. The Bridgewater Causeway, inclusive of the low level remains of the 1874 and 1893 bridge abutments at its northern end. The mapped extent of the causeway has been taken from cadastral boundaries, while its southern boundary at Granton has adopted the boundary used in the Tasmanian Heritage Register;
2. An area of subsurface potential on the northern river bank and where evidence of the 1849 bridge abutments may survive;
3. The 1874 bridge abutments on the northern river bank;
4. The 1893 steel and concrete caisson within the Derwent River;
5. The 1893 sandstone wingwalls and bridge abutments on the northern river bank.

¹²¹ Heritage Branch, Department of Planning, *Guidelines for the Preparation of Archaeological Management Plans*, 2009, p.3

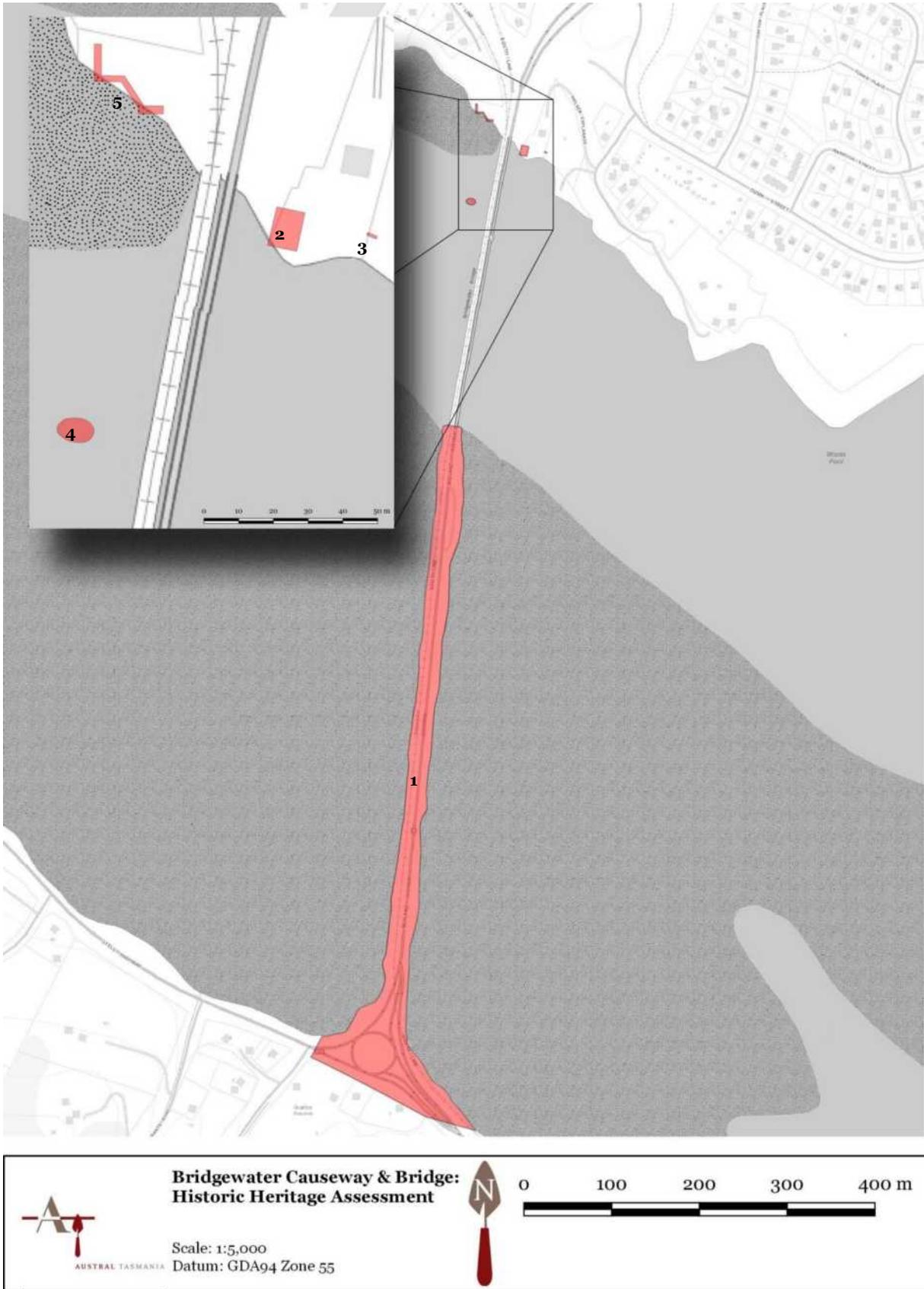


Figure 54: Archaeological Zoning Plan for the Study Area

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

This report presents the results of an historic heritage assessment of the Bridgewater Causeway and Bridge. It has been prepared as part of planning investigations of upgrading the crossing of the Derwent River at this location.

The place is subject to statutory heritage management at a State level under the *Historic Cultural Heritage Act 1995 (HCHA 1995)*. It is unclear if the *Brighton Interim Planning Scheme 2015* applies to the place, despite its inclusion in the Heritage Code.

The place has been assessed for its heritage values, finding that it meets the criteria of the *HCHA 1995*. It has historical importance; rarity; research potential; demonstrates a class of place; is a technical achievement; has important associations and has important aesthetic characteristics. The place also potentially has a strong or special association with a particular community or cultural group, although this value has not been formally assessed.

An Archaeological Zoning Plan has also been prepared for the place depicting those features of subsurface archaeological potential, or low level remains of previous bridge structures.

6.2 Recommendations

This heritage assessment report has been prepared to provide State Growth with advice as to the cultural significance of the Bridgewater Causeway and Bridge. It should be used to inform planning work for the proposed upgrade of the river crossing. The following recommendations have been made to assist with this process.

1. Statutory Authority and Stakeholder Consultation on Report:
 - This Historic Heritage Assessment and Archaeological Zoning Plan should be provided to Heritage Tasmania, DPIPWE and the relevant planning authorities to ensure that any additional matters requiring attention are disclosed as early as possible so that they can be factored into the historic heritage management processes.
 - Consultation should also identify what additional heritage assessment planning reports will be required for the project.
2. The Broader Study Area:
 - The broader study area on both sides of the Derwent contains a number of historic heritage places of significance. These have been documented in previous reports,¹²² and these should be used to inform the preparation of new heritage assessments. These assessments should include the preparation of GIS mapping accurately locating heritage features and their boundaries.
3. Convict Station on the Northern Bank of the Derwent
 - Brief historical accounts note the existence of a convict station on the northern banks of the Derwent, possibly upstream of the current bridge. Its location has not previously been clearly defined. However, if works are likely to occur upstream of the existing bridge it would be desirable to carry out further investigations into this site.

¹²² GHD, *Bridgewater Bridge Replacement Planning Study. Historic Heritage Investigations*, report prepared for DIER, August 2010; GHD, *Tasmania's Truss Bridges. Comparative Heritage Assessment*, prepared for DIER, October 2009; Austral Archaeology, *National Highway Approach to Hobart – Bridgewater Planning Study Heritage Assessment: Stage 1 – Volume 2*, 1997; Austral Archaeology, *Midland Highway Black Snake Lane to East Derwent Highway Historical Archaeological Survey Report*, prepared for Road & Environmental Planning Group, 1996

7.0 REFERENCES

7.1 Secondary Materials

7.1.1 Published & Unpublished Sources

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TAHO, AB713/1/5677, Photograph - Elevator Bridge, Bridgewater

TAHO, AB713/1/5575, Photograph - Tugboat with barges from APPM Boyer passing under the Bridgewater Elevator bridge

TAHO AB713/1/8198, Photograph - Bridgewater Bridge, looking towards Bridgewater, with train crossing

TAHO AB713/1/11933, Photograph - Photograph of a painting of Bridgewater causeway (copy)

TAHO, Allport Library and Museum of Fine Art, AUTAS001124072919W800, the Black Snake Inn C.F. Tomkins lithog

TAHO, Allport Library and Museum of Fine Art, AUTAS001124072257W800, Vue de Midway-House sur le chemin d'Elisabeth-town, (Ile Van-Diemen) Lauvergne pinxit.; Bichebois lith,

TAHO, Allport Library and Museum of Fine Arts, AUTAS001126184597W800, Bridgewater [from the northern shore looking northwards]

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TAHO, CSO1/285/7777, Report of the Committee on the Causeway, 28 July 1834: Diagram of Causeway

TAHO, NS1298/1/2897, Photograph - Streamlined Express Train at Granton

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TAHO, P1330/1/388, Plan 8844119 (12903) TGR - Bridge over River Derwent at Bridgewater - swing bridge elevation looking down stream (sheet 7) [lithograph]

TAHO PH6/1/80, Photograph - Bridgewater Causeway

TAHO PH7/1/63, Photograph - View of Bridgewater

TAHO, PH30/1/3598, Photograph - Photograph of Sir Knight, Allan

TAHO, PH30/1/5558, Photograph - Bridgewater - Bridgewater Bridge from Granton - west of bridge (coloured postcard)

TAHO, *Tasmanian Mail*, 18 August 1908, p.17 - the diverting of the Bridgewater railway crossing)

APPENDIX 1: TASMANIAN HERITAGE REGISTER ENTRY INFORMATION

Tasmanian Heritage Register Datasheet



103 Macquarie Street (GPO Box 618)
 Hobart Tasmania 7001
 Phone: 1300 850 332 (local call cost)
 Email: enquiries@heritage.tas.gov.au
 Web: www.heritage.tas.gov.au

Name: Bridgewater Bridge
Status: Permanently Registered
Tier: State
 State

THR ID Number: 618
Municipality: Brighton Council

| Location Addresses | Title References | Property Id |
|---------------------------------------|------------------|-------------|
| , Bridgewater 7030 TAS | | |
| N/A MIDLAND HWY, GRANTON 7030 TAS | N/A | N/A |
| N/A MIDLAND HWY, GRANTON 7030 TAS | N/A | N/A |
| N/A MIDLAND HWY, GRANTON 7030 TAS | N/A | N/A |
| N/A MIDLAND HWY, GRANTON 7030 TAS | N/A | N/A |
| N/A BROOKER HWY, GRANTON 7030 TAS | N/A | N/A |
| N/A MIDLAND HWY, GRANTON 7030 TAS | N/A | N/A |
| N/A MIDLAND HWY, BRIDGEWATER 7030 TAS | N/A | N/A |



Bridgewater Bridge
 Ruins
 DPIPWE 2002

Bridgewater Bridge
 Ruins
 DPIPWE 2002

Setting: 1. The convict built causeway: The existing causeway is a visual presentation of the early convict construction of the link between opposite sides of the Derwent River. 2: The 1874 and 1893 Bridgewater Bridge ruins: The ruins, comprising the stone abutment and concrete caisson for the 1893 swing bridge, are clearly visible from the causeway on the upstream side of the present bridge with remnants of the abutments of the 1874 bridge visible on the downstream side. 3: The 1942-1946 Road Rail Bridge: The lift span and steel trusses are a dominant part of the present infrastructure.

Description: This listing includes three separate elements: The convict built causeway, the 1874 and 1893 Bridgewater Bridge ruins, and the 1942-1946 Road Rail Bridge. The convict built causeway consists of rock extracted by convicts from the Granton Quarry over a period of ten years. Sandstone arches were constructed on the southern end to allow water flow, however due to inadequate foundations, these sunk and were abandoned. The causeway was widened in 1874 for the railway. A rail bridge was constructed of lattice girder iron swing span with a sandstone abutment on the north side. The causeway was raised by 2-5 feet in 1863. The causeway was widened on the upstream side in 1908 to relocate the railway and to convert the 1893 swing bridge on the upstream side from road to rail, its original design purpose. The sandstone abutments of both bridges are still extant but the original timber structure has been entirely removed. The abutments are located to the west side of the modern bridge. The abutments are constructed from rock faced ashlar sandstone and date from 1874. This bridge was a timber structure with sandstone supports. The steel caisson and turn-table date from the 1893 reconstruction of the bridge and are still extant. The 1942-1946 Road Rail Bridge is of welded steel Pratt Truss construction. It is 1109 ft long with 57 ft 6 inch plate girder spans on concrete piers with 3 welded truss spans including a lift span of 98 ft 6 inch clearance above the water.

History: The causeway across the Derwent River at Bridgewater was begun in 1830 and completed in 1836. Considerable problems were encountered establishing a firm base for the construction works because of the silt and clay on the base of the river. It was constructed from convict labour with supervision by John Lee Archer and various Government engineers including O'Connor and Giffney. Rock was quarried from the

Granton end and wheeled to the end of the causeway by convict gangs. On reaching deep water 950 yards from the Granton side, work stopped and a bridge was not constructed until 1848 to a design by Messrs Blackburn and Thomson. The distance between the end of the causeway and the Bridgewater side was 1,010 yards. This was bridged with a timber structure on timber piles driven into the river bed. The timber was gathered from the slopes of Dromedary Mountain. The bridge was completed in April of 1849. The whole work including the causeway was three quarters of a mile long, the largest work attempted at that time in the Australian colonies.

Statement of No Data Recorded

Significance:

(non-statutory

summary)

Significance:

The Heritage Council may enter a place in the Heritage Register if it meets one or more of the following criteria from the Historic Cultural Heritage Act 1995:

a) The place is important to the course or pattern of Tasmania's history.

The 1874 and 1893 Bridgewater Bridge ruins: The remains of the original bridges over the Derwent River at Bridgewater are of historic cultural heritage significance because they demonstrate the growth and development of communication and transportation in Tasmania in the late 19th century.

b) The place possesses uncommon or rare aspects of Tasmania's history.

The convict built causeway: The causeway was the largest civil work ever undertaken by convict labour.
The 1942-1946 Road Rail Bridge: The bridge is the oldest surviving lift span bridge in Australia and is Tasmania's only lift span bridge.

c) The place has the potential to yield information that will contribute to an understanding of Tasmania's history.

The convict built causeway and remains of the 1874 and 1893 Bridgewater Bridge have the potential to yield information which may contribute to a greater understanding of early civil engineering and construction projects, and the history of transport and communications in Tasmania.

d) The place is important in demonstrating the principal characteristics of a class of place in Tasmania's history.

No Data Recorded

e) The place is important in demonstrating a high degree of creative or technical achievement.

No Data Recorded

f) The place has a strong or special association with a particular community or cultural group for social or spiritual reasons.

This site is of historic heritage significance because its landscape associations are regarded as important to the community's sense of place.

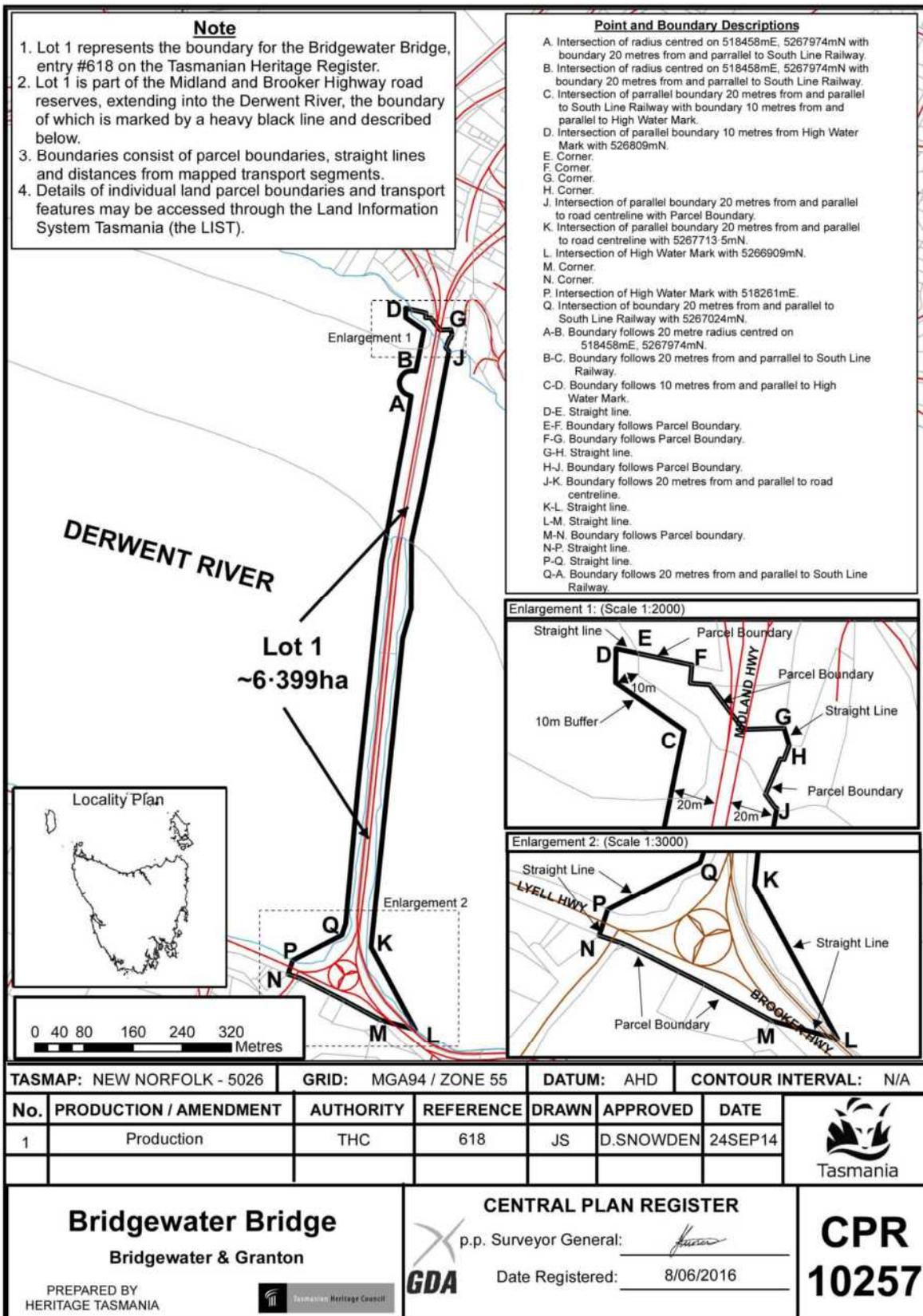
g) The place has a special association with the life or works of a person, or group of persons, of importance in Tasmania's history.

The convict built causeway: The causeway is of historic heritage significance because of its associations with Governor Arthur, John Lee Archer, Gov Architect and Roderick O'Connor, Gov. engineer.
The 1874 and 1893 Bridgewater Bridge ruins: The 1893 bridge is linked with R. S. Milles, City engineer of Hobart in 1893.
The 1942-1946 Road Rail Bridge: The bridge is of historic cultural heritage significance because of its association with prominent Tasmanian engineer, Sir Allan Knight.

h) The place is important in exhibiting particular aesthetic characteristics.

No Data Recorded

PLEASE NOTE This data sheet is intended to provide sufficient information and justification for listing the place on the Heritage Register. Under the legislation, only one of the criteria needs to be met. The data sheet is not intended to be a comprehensive inventory of the heritage values of the place, there may be other heritage values of interest to the Heritage Council not currently acknowledged.



APPENDIX 2: NOMINAL RETURN OF PRISONERS IN BRIDGEWATER CHAIN GANG¹²³

¹²³ TAHO, CSO1/543/11623, Nominal Return of Prisoners in Bridgewater Chain Gang

Nominal Return of Prisoners in Bridgewater Chain Gang.

43

| No. | Names | Ship | By whom tried date of trial what sentence given | Term: Colpe | Chief Police Magistrate and Principal Superintendent's Remarks | Court's Decision |
|-----|----------------|-----------------------|---|------------------|--|------------------|
| 104 | James Hunt | C ^o Maroon | tried 18 th Sept 1850. 7 years transportation - free | 7 years | To Remain - | |
| 105 | James Simpson | Mary Harve | tried 18 th Sept 1851. 12 months Good behavior | 12 months | To be sent to a Road party for 3 months - | |
| 2 | James Doohey | Britannia | tried 18 th Sept 1850. 2 years transportation - free | 2 years | Remain - | |
| 107 | Robert Blair | York | tried 18 th Sept 1852. 12 months Good | 12 months | To a Road party, Bridgewater being a bad station for a prisoner who has been a felon - | |
| 108 | Thomas Smith | Lady East | tried 18 th Sept 1850. 7 years Good | 7 years | Remain | |
| 109 | Luke Roberts | Woodford | tried 18 th Sept 1851. 7 years & a half Good | 7 years & a half | Remain - | |
| 110 | Joseph Henshaw | St. Catharine | tried 18 th Sept 1850. 2 years Good | 2 years | To remain until November | |
| 111 | Robert Gudge | Newcastle | tried 18 th Sept 1850. 7 years & a half Good | 7 years & a half | Remain - | |
| 112 | Joseph Prior | Marion | tried 18 th Sept 1851. 12 months Good | 12 months | To a Road party - | |

| No | Names | Ship | By whom | Tard | Date of | for what | Local | Goods | Remarks | Chief | Value | How | shak | and | Dist | Carries | Location |
|-----|---------------------------|--------------|----------------|---------------------------|---------------------------|------------|-------|--|---------|-------|-------|-----|------|-----|------|---------|----------|
| | | | | | | | | | | | | | | | | | |
| 891 | 11 ^m Staples | Maunton | Criminal Court | 18 th Aug 1811 | 7 years | disputed - | Good | Remain - | | | | | | | | | |
| 292 | Thos. Roberts | S. Orange | S. Simpson | 18 th Aug 1811 | 3 years | | Good | Remain, one year more - | | | | | | | | | |
| 505 | Joh. Mulally | Woodlark | S. Quinsey | 18 th Aug 1811 | 12 months | | Good | Some nearly out, to be sent to a third party - | | | | | | | | | |
| 592 | 11 ^m Mansfield | Geo. Ready | S. Austrey | 18 th Aug 1811 | 12 months | | Good | To be sent to a third party | | | | | | | | | |
| 696 | Joseph Benjamin | Sir G. White | Criminal Court | 18 th Aug 1811 | 6 months | | Good | To remain - | | | | | | | | | |
| 970 | George Smith | Maunton | S. Piper | 18 th Aug 1811 | 12 months | almost out | | To be shipped | | | | | | | | | |
| 38 | Richd. Abden | Southworth | S. A. Mulgrave | 18 th Aug 1811 | 12 months | | | To be shipped, only 3 months to remain of them | | | | | | | | | |
| 999 | John Haw | S. Regent | S. Austrey | 18 th Aug 1811 | 2 years | | Good | Next party remainder of the 2 years - | | | | | | | | | |
| 324 | Isaac Thomson | Southworth | Quarter | S. James | 18 th Aug 1811 | 7 years | | Remain 6 months longer & then to a third party - | | | | | | | | | |
| 380 | Sam Clarke | C. Hancock | S. Austrey | 18 th Aug 1811 | 2 years | Beatman's | Good | Remain - | | | | | | | | | |

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| No. | Names. | Ships By whom | Period | date of In what | Lieu? City? Port? Chief Officer's Name & Rank | Lieu? Port? Decision |
|------|----------------|---------------|--------------------|-----------------|---|---|
| 1125 | Thos. Blake | Ross | Castle E. Dumaresq | Sept. 1842 | 2 years | To remain - |
| 1123 | Robt. C. Inge | Chab | Quarter | Sept 1841 | 3 years | This was a bad case, to remain the whole of his sentence - for 4 weeks on - in jail |
| 1127 | Joseph King | Perman | J. Simpson | Sept 1842 | 2 years | Remain - |
| 1149 | Thos. Silcock | two | Ships J. Anstey | Sept 1842 | 6 months | In time here nearly out To be forgiven |
| 1155 | Willm. Helden | Maina | Criminal Court | Sept 1842 | 9 years | See in view a long time To be forgiven - |
| 1152 | John Adams | York | E. Dumaresq | Sept 1842 | 6 months | Not long here Stay Party - |
| 1157 | George Court | Cayle | W. S. P. H. C. | Sept 1842 | 11 months | Remain - |
| 1145 | Joseph Hodgson | Perman | C. | Sept 1842 | 6 months | Remain, |
| 1141 | Henry Watts | Crisp | E. Dumaresq | Sept 1842 | 11 months | Remain |
| 1129 | Arthur Webb | Maina | E. Dumaresq | Sept 1842 | 2 years | Remain |

| No. | Name | Ship | By whom | Period | Remarks | Disposition |
|-----|-----------------|-------------|---------------------------------|---------------------------------|-------------------------|--|
| 441 | John Reutter | Claudine | J. Anstey Esq. | 5 th 1832 6 months | Discharged a short time | To a good party |
| 445 | John Harold | Argyle | Quartermasters W. H. & J. Jones | | | Remain - |
| 447 | George Butler | York | d ^o | 17 th 1832 17 months | | To remain - |
| 448 | George Hollaway | Richmond | W. Lyell Esq. | 17 th 1832 17 months | | Remain |
| 459 | James Percell | L. H. H. H. | d ^o | 17 th 1832 6 months | | Remain till September |
| 461 | John Catewell | King's | W. Lyell Esq. | 17 th 1832 17 months | | Remain - |
| 462 | Thos. Jones | Lady | J. Anstey Esq. | 17 th 1832 17 months | | Remain |
| 463 | John Cook | Asia | Mr. Rogers | 17 th 1832 6 months | | Ret ^d to office, when time is out |
| 464 | William Hoesch | | d ^o | 17 th 1832 2 months | | Ret ^d , time out - |
| 465 | William David | Larkins | J. Anstey Esq. | 17 th 1832 6 months | | Remain |

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| No. | Name | Ship | By whom | Trade | Date of departure | Duration | Remarks | Chief Officer | Superintendent | Chief Mate |
|-----|--|-----------------------|--------------------------|---|----------------------------|----------|---------|---------------|----------------|------------|
| 134 | Mr. Wilson | Cornwall | W. Taylor | By | 20 th Sept 1800 | 2 months | | | | |
| 135 | Mr. Wilkin | Southworth & Cummings | By | 20 th Sept 1800 | 2 months | | | | | |
| 141 | Mr. ^{Howard} Shaw | Henry | M. Gray | By | 20 th Sept 1800 | 6 months | | | | |
| 143 | Mr. Cogam | St. Leon | Quarter | Business | 14 th Oct | 14 years | Good | | | |
| 146 | Mr. Richardson | Phoenix | 2 nd Lt. | By Wilkin | 20 th Sept 1800 | 9 months | | | | |
| 149 | George Mellich | Henry | 2 nd | St. | | 4 months | | | | |
| 153 | Thos. Ledy | Phoenix | Sup ^{ty} (Capt) | (14th Oct 1800) | 18 th Oct | 1 year | | | | |
| 179 | Joseph Thomas | Dromedary | St. | St. | | 7 years | | | | |
| 189 | Will ^m Burns | St. Andrew | St. Andrew | By | 14 th Oct | 6 months | | | | |
| 180 | Henry ^{1st} Mansfield | Dromedary | W. Latham | By | | 2 months | | | | |

| No. | Name | Ship | By whom tried | date of for what Justice given | Sent: Judge's name | Chief Plea, Remarks and | Dut. Sent. Decision |
|------|------------------|---------------|--------------------|--------------------------------|--------------------|-------------------------------------|---------------------|
| 116 | James Lawler | Castle Forbes | H. G. Walker Esq. | 21 May 1822 12 months | | Remain - | |
| 690 | William Hill | London | J. D. Stokely Esq. | 1822 | | Remain - | |
| 220 | John Walton | London | J. D. Stokely Esq. | 1822 | | Remain | |
| 648 | John Gregory | London | Criminal Court | 1822 3 years | Wardman's Good | Remain - | |
| 618 | Thomas Smith | London | Quarter Sessions | 1822 2 years | | To be forgiven | |
| 1081 | William Buckland | London | J. D. Stokely Esq. | 1822 5 years | Good | Remain | |
| 575 | William Roberts | London | Quarter Sessions | 1822 12 months | Good | To be forgiven for 3 months only | |
| 976 | James Scoble | London | Quarter Sessions | 1822 12 months | | To be forgiven | |
| 235 | Thomas Wilkinson | London | Quarter Sessions | 1822 14 years | Good | To remain - | |
| 910 | Thomas Hamilton | London | Quarter Sessions | 1822 12 months | Good | To be forgiven - not to be punished | |

| Block No. | Names | Shipt. By whom | Tried | Date of Trial | Remarks | Shipt. By whom | Remarks |
|-----------|-----------------|------------------------|-----------------------|---------------|-----------|----------------|--|
| 600 | Willm. Gunn | Shames | Quarter | Sept 1842 | 2 1/2 hrs | Good | Remain - |
| 376 | Mr. W. Hartland | Cork | S. Austley | Sept | 12 months | | Remain & then to a road party - |
| 248 | John Evans | S. Regent | Quarter | Sept 1842 | 2 hrs | Good | Remain - |
| 1093 | John Smith | Wood | March 2 nd | Sept 1842 | 2 hrs | Good | To be sent to a road party for his party - |
| 1185 | Willm. Boyd | S. Harewood | E. Bennett | Sept 1842 | 10 months | Good | Remain |
| 666 | John Smith | S. East | S. Simpson | Sept 1842 | 12 months | Good | To a road party |
| 1069 | Wm. Smith | Survey 2 nd | S. Austley | Sept 1842 | 5 months | Good | Road party |
| 792 | Henry Wells | Crivo 2 nd | S. Simpson | Sept 1842 | 12 months | | Time nearly out, to be signed - |
| 1221 | George Boxall | Shames | C. Chapman | Sept 1842 | 12 months | | Road party |
| 710 | Thos. Lockram | Medway 2 nd | C. Chapman | Sept 1842 | 12 months | | Remain - |

| No. | Names | Ship | By whom sent | Date of arrival Sealens Jour | Time Capt. Remarks | Chief Officer's Remarks | Surv. Co's Decision |
|-----|--------------------------|-----------|-------------------------|--|--------------------|---|---------------------|
| 334 | Wm. Hanna | Asia | J. Crosby | 17 th Aug 1831 6 months | | Time nearly out | |
| 452 | Wm. Ramsay | Chapman | — | 11 th Jan 1832 6 months | Good. | Time nearly out | |
| 709 | Dennis Moran | Mary | — | 26 th Dec 1831 6 months | Good | Time out, to be sent to West party | |
| 379 | Wm. Munro | Morley | J. Southam | 12 th Dec 1831 6 months | | To be assigned | |
| 528 | Wm. Light | Mary | J. Crosby | 17 th Aug 1831 6 months | Good | Remain | |
| 404 | Wm. Pinkley | Mary | J. Simpson | 10 th Dec 1831 6 months | | Time out, West party | |
| 153 | Wm. Russell | Chapman | W. Gray | 10 th Dec 1831 6 months | | Remain | |
| 247 | Thos. Ellis | P. Regent | W. Lyblan | 17 th Aug 1831 6 months | Good. | Remain | |
| 347 | Mich ^l . Peck | Mary | 2 nd J. Peck | 17 th Aug 1831 6 months June 1831 12 months 10 th Dec 1831 6 months 2 nd Dec 1831 6 months | | Remain | |
| 143 | Jno. Mlinworth | Mary | E. Demarsey | 17 th Aug 1831 6 months | | Time near out & sent back to his party | |

| Place | Name | Height | By whom | Date of | Sentence | Period | Lent | Chief | Remarks |
|-------|-----------------|-----------|----------------------------------|-----------------------------|--------------------------|---------|---------|----------------------------|---------|
| 1060 | Mr: Bayley | low | J. Simpson | By 25 th of 1800 | 6 months | Good | Remains | Remains for 12 months | |
| 501 | Mr: Gould | Mansion | Quarter | Sessions | 18 th of 1800 | 3 years | Good | Remains | |
| 452 | John: Morris | S. Regent | N. Officer | By 10 th of 1800 | 12 months | | Remains | | |
| 1105 | Mr: Bond | in | C. Bond | By 10 th of 1800 | 1802 | Good | Remains | | |
| 1001 | Mr: Blackman | Quia | 3 rd Reg ^t | By 10 th of 1800 | 3 years | Good | Remains | to be filled | |
| 612 | Chas: W. Mansel | Mr | W. L. Smith | By 12 th of 1800 | 12 months | Good | Remains | | |
| 636 | John: Murray | Q | St. Peter | By 10 th of 1800 | 6 months | | Remains | to be sent to a Road party | |
| 438 | Thos: Joiner | S. Regent | St. Davis | By 10 th of 1800 | 6 months | Good | Remains | | |
| 344 | Mr: Roche | low | By 10 th of 1800 | 2 months | | Remains | | | |
| 1119 | Henry: Stanley | Henry | Joseph | By 10 th of 1800 | 12 months | Good | Remains | | |

| Index No. | Names | Ships | By whom | Period | Date of purchase | Particulars | Remarks | Chief Officer, Magistrate and | Deputy | 52 |
|-----------|-----------------|---------------|--------------|-----------------------------|------------------|-------------|---|-------------------------------|--------|----|
| 174 | Mrs. Wiley | David Lyon | E. Cummings | By 20 th of 1802 | 3 months | Good | To be returned to the master | | | |
| 182 | John Ryder | Warin | Josiah Spode | By 20 th of 1802 | 3 months | Good | Remain - | | | |
| 259 | George Good | James March | St. George | By 20 th of 1802 | 3 months | Good | Time nearly out | | | |
| 280 | Joseph Whiston | Woodford | J. Holsh | By 20 th of 1802 | 3 months | Good | To remain - | | | |
| 496 | Mrs. Thomas | St. C. Forbes | J. Ashley | By 20 th of 1802 | 3 months | | Remain - | | | |
| 112 | Mrs. Collins | J. Lyon | D. Buckton | By 20 th of 1802 | 3 months | Good | Remain | | | |
| 457 | William Corwell | Clyde | R. Roper | By 20 th of 1802 | 3 months | | Remain party, when his sentence is over | | | |
| 21 | John Ducal | Woodford | J. Spode | By 20 th of 1802 | 3 months | | Remain of the Red party - | | | |
| 600 | Arch. Reid | J. Roper | R. Roper | By 20 th of 1802 | 3 months | | Remain | | | |

| Index No. | Names | Ship | By whom | Time | Date of departure | Particulars | Remarks | Chief Officer, Master and Principal Superintendants | Lieut. James Brewster |
|-----------|--|------------|-------------------------|-----------------------|-------------------|----------------------------------|--------------|---|-----------------------|
| 654 | Rich. Copperwick | Charlotte | J. Cummings | Sept 18 th | 3 months | | | to surgeon belonging to the Loan party, to be used, should there be any necessity - | |
| 703 | David Gerrid | Larkins | J. Simpson | Sept 18 th | 3 months | | | Remain - | |
| 534 | John Mulcock | Medina | John Spence | Sept 18 th | 3 years | Stately returned from the vessel | | Remain and follow | |
| 1110 | John Brooks | Perseus | H. Soper | Sept 18 th | 12 months | | | Remain - | |
| 97 | John Harris | Georgiana | J. Nichol | Sept 18 th | 3 months | | | Remain - | |
| 757 | Henry Rushland | L. Lyndoch | H. Lyttleton | Sept 18 th | 12 months | | | Remain | |
| 460 | Benj ^{am} Rowley ^{Rowley} | Commander | C. | | 3 months | | | To a boat party | |
| 336 | George Johnson | Layton | Quartermaster | Sept 18 th | 12 months | of class | well behaved | To stay for the time being | |
| 864 | Sam ^l Willis | Woodford | Thos. Anstey | Sept 18 th | 2 months | 4 days 14 days - | | Time mostly out, to a boat party, of boat fellow | |
| 794 | Robert Briggs | Survey | 1 st Quarter | Sept 18 th | 3 years | | Good | Remain - | |

| Police No. | Names. | Ship. | By whom Tied | Date of for what Purpose Secured | Condition | Remarks Chief Police Magistrate and Police Officer's Remarks | Chief Constable's Remarks |
|------------|---|----------------|---------------|----------------------------------|---------------------|--|---------------------------|
| 1260 | John Buckel | Mountain | J. Simpson | Sept 27 1851 3 Years | Good | Remain - | |
| 1009 | John Heron | S. Keyes | J. Anstey | Sept 27 1851 2 Years | Good | To be signed - | |
| 54 | And ^o Davis | James | Quartermaster | Sept 27 1851 2 Years | Good | Remain | |
| 625 | Pat ^o Mahoney | Mountain | R. Officer | Sept 27 1851 2 Years | Good | To a safe party - | |
| 535 | Thos. Mikan | Medina | J. Cooper | Sept 27 1851 3 Years | Good | Remain - | |
| 952 | John Smith | Mountain | J. Simpson | Sept 27 1851 2 Years | Good | Remain | |
| 1258 | Alfred Jones | St. Charles | Quartermaster | Sept 27 1851 2 Years | | Remain - | |
| 298 | James Kelahan | John | J. Anstey | Sept 27 1851 12 months | | Remain - | |
| 294 | James Lindsay | St. G. Herbert | Swedish | Sept 27 1851 6 months | Arrived nearly used | To be sent to a safe party - | |
| 296 | John ^{Stirling} Robertson | Smithfield | R. Officer | Sept 27 1851 12 months | Good | Subject for cleaning, and to be sent to safe service - | |

| Place | Name | Ship | By whom | Date of purchase | Price | Remarks | Chaplain Magistrate and | Just. Gen. Decision |
|-------|----------------------------|--------------------------------|----------------------------|----------------------------|-----------|---|--|---------------------|
| | | | | | | | Just. Gen. Remarks | |
| 514 | Geo. Squire | Layton | Ch. Simpson Esq. | 27 th Dec. 1822 | 18 months | Good | Remain | |
| 352 | Edw. Jones | Mary | Ch. | 25 th Dec. 1821 | 6 months | | Time expired nearly | |
| 157 | Fitz Carter | was a part of Sarah Jones Esq. | 27 th Dec. 1822 | 6 months | Good | Read partly - for 12 months - a half year | | |
| 167 | John Brown | Ed. Lyndoch Esq. | Ch. Simpson Esq. | 21 st | 6 months | | To be forfeited | |
| 353 | Thos. Taylor | Woodward | L. Smith Esq. | 25 th Dec. 1821 | 12 months | Good | Time nearly out to be forfeited | |
| 116 | Robert East | Ray - George | H. Anshy Esq. | 15 th Dec. 1822 | 9 months | | Remain | |
| 147 | Rich. Thomas | Regent | D. Mousmouth Esq. | 27 th Dec. | 12 months | Good | Remain | |
| 20 | W ^m Edmondstone | Mincron | L. Roper Esq. | 20 th Dec. | 6 months | | Remain until further notice & then 1/2 in the interior | |
| 153 | Henry Hornatt | Lady Ridley | Colonel Count | 27 th Dec. 1822 | 18 months | Good | To be forfeited | |
| 514 | Colin Gilmore | William | Ch. Simpson Esq. | 27 th Dec. 1822 | 18 months | | Remain | |

| No. | Name | Ship | By whom built | Date of first construction | Date of demolition | Remarks | Notes |
|-----|---------------|----------------------------|-------------------------------|-------------------------------|-----------------------|-------------------------------|---|
| 133 | David Walker | Shrimley | 1 st of Simpson | By 1 st of Simpson | 1800 | 1800 | When built, 1800, & the rest of a 1800 party |
| 136 | James Gaddell | 1 st of Simpson | By 1 st of Simpson | 1800 | 1800 | Remains & the rest party - | |
| 152 | John Grogan | 1 st of Simpson | By 1 st of Simpson | 1800 | 1800 | Remains - | |
| 153 | John Grogan | 1 st of Simpson | By 1 st of Simpson | 1800 | 1800 | Remains - | |
| 157 | John Grogan | 1 st of Simpson | By 1 st of Simpson | 1800 | 1800 | Remains - | |
| 175 | John Grogan | 1 st of Simpson | By 1 st of Simpson | 1800 | 1800 | Remains & the rest party - | |
| 183 | John Grogan | 1 st of Simpson | By 1 st of Simpson | 1800 | 1800 | Remains - | |
| 177 | Henry Grogan | 1 st of Simpson | By 1 st of Simpson | 1800 | 1800 | Remains & the rest party - | |
| 177 | John Grogan | 1 st of Simpson | By 1 st of Simpson | 1800 | 1800 | Remains - | |
| 185 | John Grogan | 1 st of Simpson | By 1 st of Simpson | 1800 | 1800 | Remains - | |

57

| Plan No. | Name | Street | By whom | Date of plan | Remarks | Remarks |
|----------|---------|--------|------------------------|--------------|---------|---------------------------|
| 113 | Malcolm | James | H. Harrison | Sept 20 1854 | Remains | Time expy on 10th of July |
| 114 | Ann | John | W. C. & J. G. G. G. G. | | Remains | Time expy on 10th of July |
| 115 | Ann | John | W. C. & J. G. G. G. | | Remains | Time expy on 10th of July |
| 116 | Ann | John | W. C. & J. G. G. G. | | Remains | Time expy on 10th of July |
| 117 | Ann | John | W. C. & J. G. G. G. | | Remains | Time expy on 10th of July |
| 118 | Ann | John | W. C. & J. G. G. G. | | Remains | Time expy on 10th of July |
| 119 | Ann | John | W. C. & J. G. G. G. | | Remains | Time expy on 10th of July |
| 120 | Ann | John | W. C. & J. G. G. G. | | Remains | Time expy on 10th of July |
| 121 | Ann | John | W. C. & J. G. G. G. | | Remains | Time expy on 10th of July |
| 122 | Ann | John | W. C. & J. G. G. G. | | Remains | Time expy on 10th of July |
| 123 | Ann | John | W. C. & J. G. G. G. | | Remains | Time expy on 10th of July |
| 124 | Ann | John | W. C. & J. G. G. G. | | Remains | Time expy on 10th of July |
| 125 | Ann | John | W. C. & J. G. G. G. | | Remains | Time expy on 10th of July |

| No. | Name | Rank | Regiment | Period of Service | Remarks | Remarks | Remarks |
|-----|---------------|---------|---------------|-------------------|---------|---------|---------|
| 107 | John Lewis | Private | 1st Battalion | 1800-1801 | | Remain | |
| 108 | John Williams | Private | 1st Battalion | 1800-1801 | | Remain | |
| 109 | John Taylor | Private | 1st Battalion | 1800-1801 | | Remain | |
| 110 | John Smith | Private | 1st Battalion | 1800-1801 | | Remain | |
| 111 | John Brown | Private | 1st Battalion | 1800-1801 | | Remain | |
| 112 | John Green | Private | 1st Battalion | 1800-1801 | | Remain | |
| 113 | John White | Private | 1st Battalion | 1800-1801 | | Remain | |
| 114 | John Black | Private | 1st Battalion | 1800-1801 | | Remain | |
| 115 | John Grey | Private | 1st Battalion | 1800-1801 | | Remain | |
| 116 | John King | Private | 1st Battalion | 1800-1801 | | Remain | |

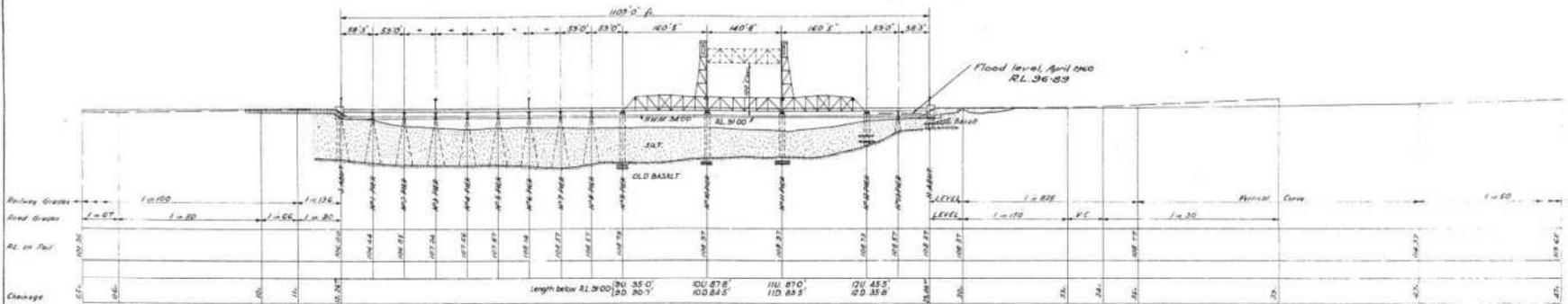
| Index No. | Name | Ship | By whom owned | Date of arrival | Part of ship | Chief Officer | Part of ship |
|-----------|------------------|-------|---------------|-----------------|--------------|---------------|--------------|
| 16 | Mr. Hancock | Brace | John Hancock | 1791 | Remains | | |
| 22 | Mr. J. A. Murray | Brace | John Hancock | 1791 | Remains | | |
| 7 | John Taylor | Brace | John Hancock | 1791 | Remains | | |
| 102 | Mr. Nathan | Brace | John Hancock | 1791 | Remains | | |
| 115 | Mr. Stokely | Brace | John Hancock | 1791 | Remains | | |
| 454 | John Smith | Brace | John Hancock | 1791 | Remains | | |
| 1172 | Mr. Call | Brace | John Hancock | 1791 | Remains | | |
| 20 | John Nelson | Brace | John Hancock | 1791 | Remains | | |
| 166 | Mr. Campbell | Brace | John Hancock | 1791 | Remains | | |
| 922 | Mr. Ross | Brace | John Hancock | 1791 | Remains | | |

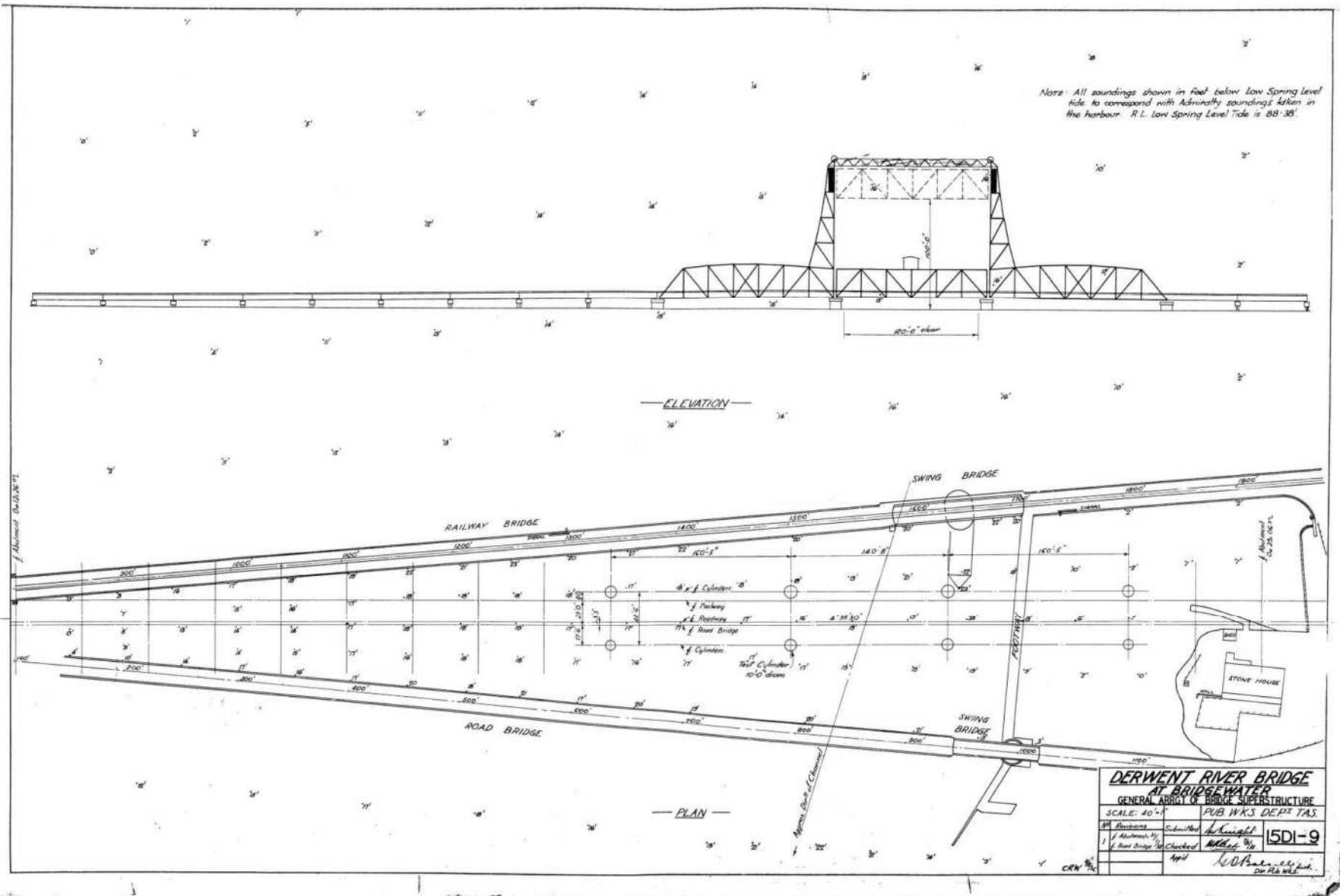
| No. | Name | Rank | Regiment | Service | Remarks | Date |
|------|----------------|---------------|---------------|---------|--------------------|------|
| 574 | John Ross | Quartermaster | 1st Regt Foot | 1807 | Remain | |
| 380 | George Woodman | Quartermaster | 1st Regt Foot | 1807 | Remain for 2 years | |
| 471 | Joseph Wood | Quartermaster | 1st Regt Foot | 1807 | Remain | |
| 318 | William Wood | Quartermaster | 1st Regt Foot | 1807 | Remain | |
| 365 | William Wood | Quartermaster | 1st Regt Foot | 1807 | Remain | |
| 331 | William Wood | Quartermaster | 1st Regt Foot | 1807 | Remain | |
| 125 | John Seery | Quartermaster | 1st Regt Foot | 1807 | Remain | |
| 179 | John Knight | Quartermaster | 1st Regt Foot | 1807 | Remain | |
| 1005 | John Grant | Quartermaster | 1st Regt Foot | 1807 | Remain | |
| 100 | John Smith | Quartermaster | 1st Regt Foot | 1807 | Remain | |

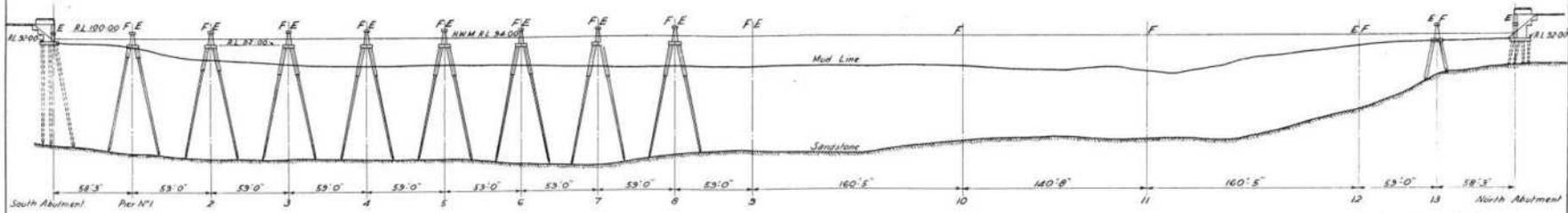
| Name | Kamel | Thops | By whom | Time | Date | Place | Remarks | 61 |
|------|-------------|-------|-----------|------|------|---------|-------------|----|
| 1187 | Thos. Barry | Cork | L. Spence | 1852 | 1852 | Remains | | |
| 1188 | Thos. Barry | Cork | L. Spence | 1852 | 1852 | Remains | one for one | |
| 1189 | Thos. Barry | Cork | L. Spence | 1852 | 1852 | Remains | | |
| 1190 | Thos. Barry | Cork | L. Spence | 1852 | 1852 | Remains | | |

John Barry
 June 14 1852

Approval of the various communications
 contained in this Report, & the
 Committee will give the necessary instructions
 for carrying the same into effect.
 17 June 1852

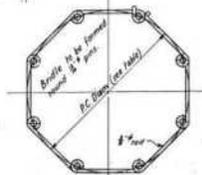
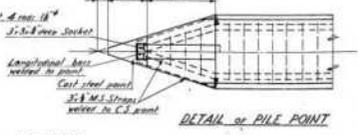
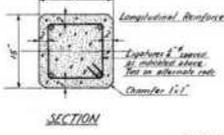
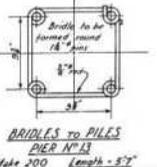
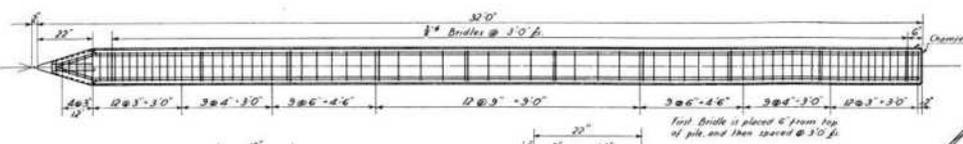
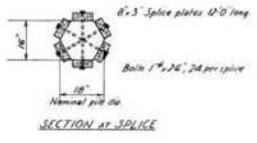
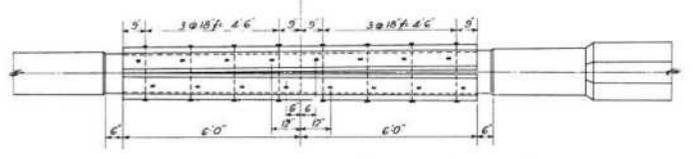
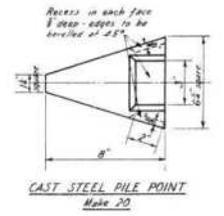
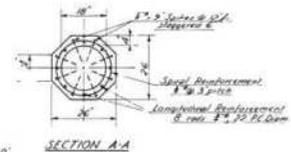
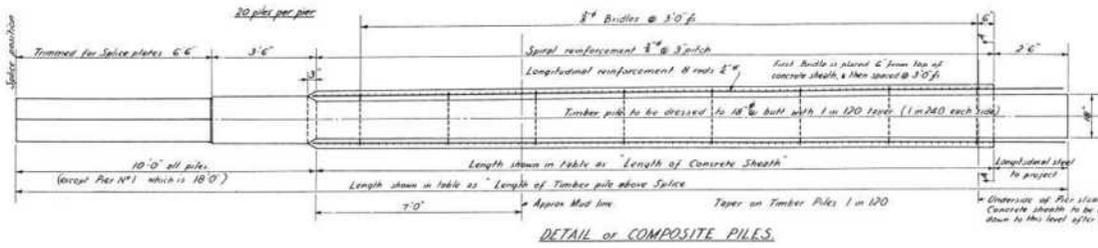






ELEVATION OF PIERS

NOTE Pier No 13 has R.C Piles



NOTE - 30 piles in South Abut., 20 piles in each Pier, 36 piles in North Abut.

| Pier No | Approx RL Low end | Approx RL High end | Length of Timber pile below splice | Length of Timber pile above splice | Total length of Timber pile per pier | Length of Con. Sheath | Quantity of concrete above pile sheath per pier | Length of any steel in pile sheath | Length of any steel in pile sheath | Total weight of steel in each pier | |
|----------------|--|------------------------|------------------------------------|------------------------------------|--------------------------------------|-----------------------|---|------------------------------------|------------------------------------|------------------------------------|--|
| 1 | 50.0 | 80.00 | 57.0 | 31.0 | 176.0 | 10.6 | 16.0 cym | 8/12.4" | 250.0" | 2.24 tons. | |
| 2 | 3.00 | 70.50 | 57.6 | 32.6 | 180.0 | 20.0 | 30.0 | 8/23.0" | 460.0" | 4.00 " | |
| 3 | 3.00 | 66.50 | 54.6 | 36.6 | 182.0 | 24.0 | 35.8 | 8/27.0" | 530.0" | 4.78 " | |
| 4 | 1.50 | 66.00 | 52.8 | 37.0 | 183.0 | 24.6 | 36.0 | 8/27.0" | 560.0" | 4.78 " | |
| 5 | +1.00 | 66.00 | 55.0 | 37.0 | 184.0 | 24.6 | 36.0 | 8/27.0" | 560.0" | 4.78 " | |
| 6 | -2.00 | 66.00 | 58.0 | 37.0 | 190.0 | 24.6 | 36.0 | 8/27.0" | 560.0" | 4.78 " | |
| 7 | -3.00 | 64.50 | 57.6 | 38.6 | 192.0 | 26.0 | 38.4 | 8/29.0" | 590.0" | 5.10 " | |
| 8 | +3.50 | 64.00 | 50.6 | 39.0 | 179.0 | 26.6 | 39.0 | 8/29.0" | 600.0" | 5.10 " | |
| 9 | Cylinder Piers refer to details on sheet No 152A | | | | | | 2x8 | | | | |
| 10 | | | | | | | | | | | |
| 11 | | | | | | | | | | | |
| 12 | | | | | | | | | | | |
| 13 | 59.00 | All piles are concrete | | | 32.0 | 35.4 cym | 4/31.5" | 360.0" | 2.4 | 4.30 tons. | |
| North Abutment | 68.50 | No Splice | | | 88.0 | No concrete | | | | | |

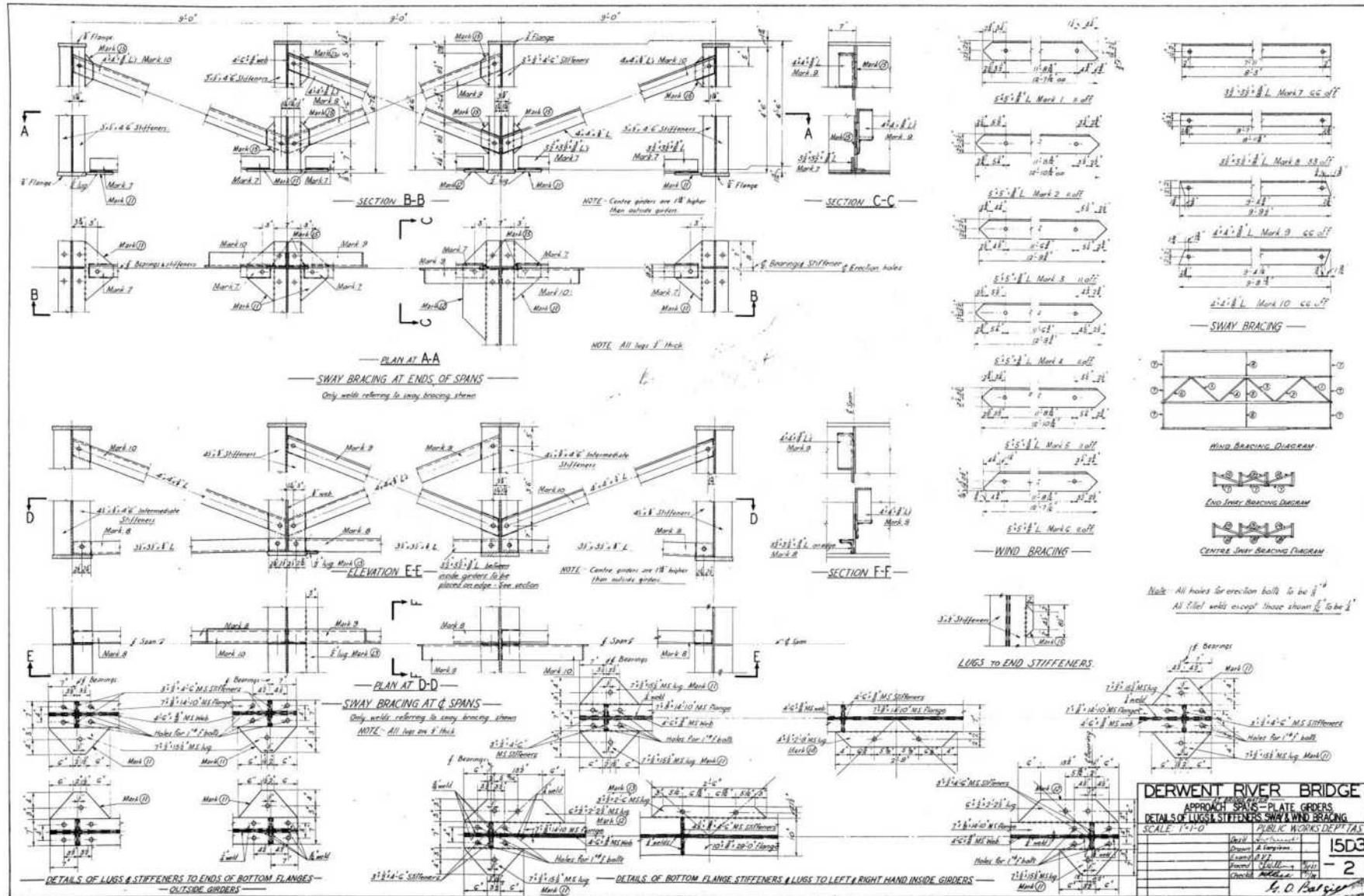
| No off | RC Dim | Length | Spig |
|--------|--------|--------|------|
| 16.0 | 22 | 9.0 | 8" |
| 16.0 | 21.8 | 8.11 | 8" |
| 16.0 | 21.6 | 8.10 | 8" |
| 16.0 | 21.6 | 8.5 | 8" |
| 16.0 | 21.6 | 8.6 | 8" |
| 16.0 | 20.1 | 8.7 | 8" |
| 16.0 | 19.8 | 8.5 | 8" |
| 16.0 | 19.8 | 8.4 | 8" |

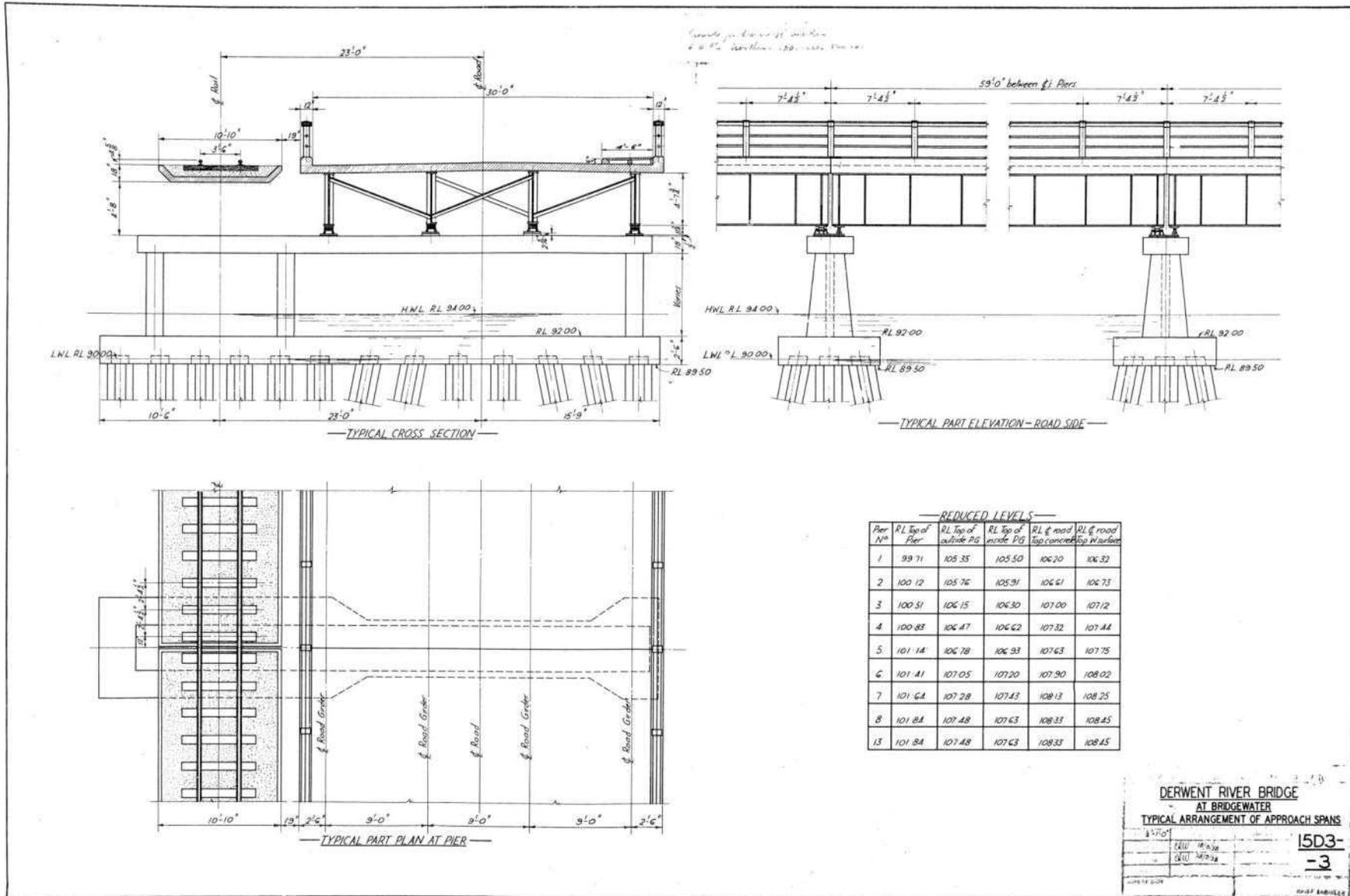
DERWENT RIVER BRIDGE
 AT BRIDGEWATER
 DETAILS OF PILES IN PIERS

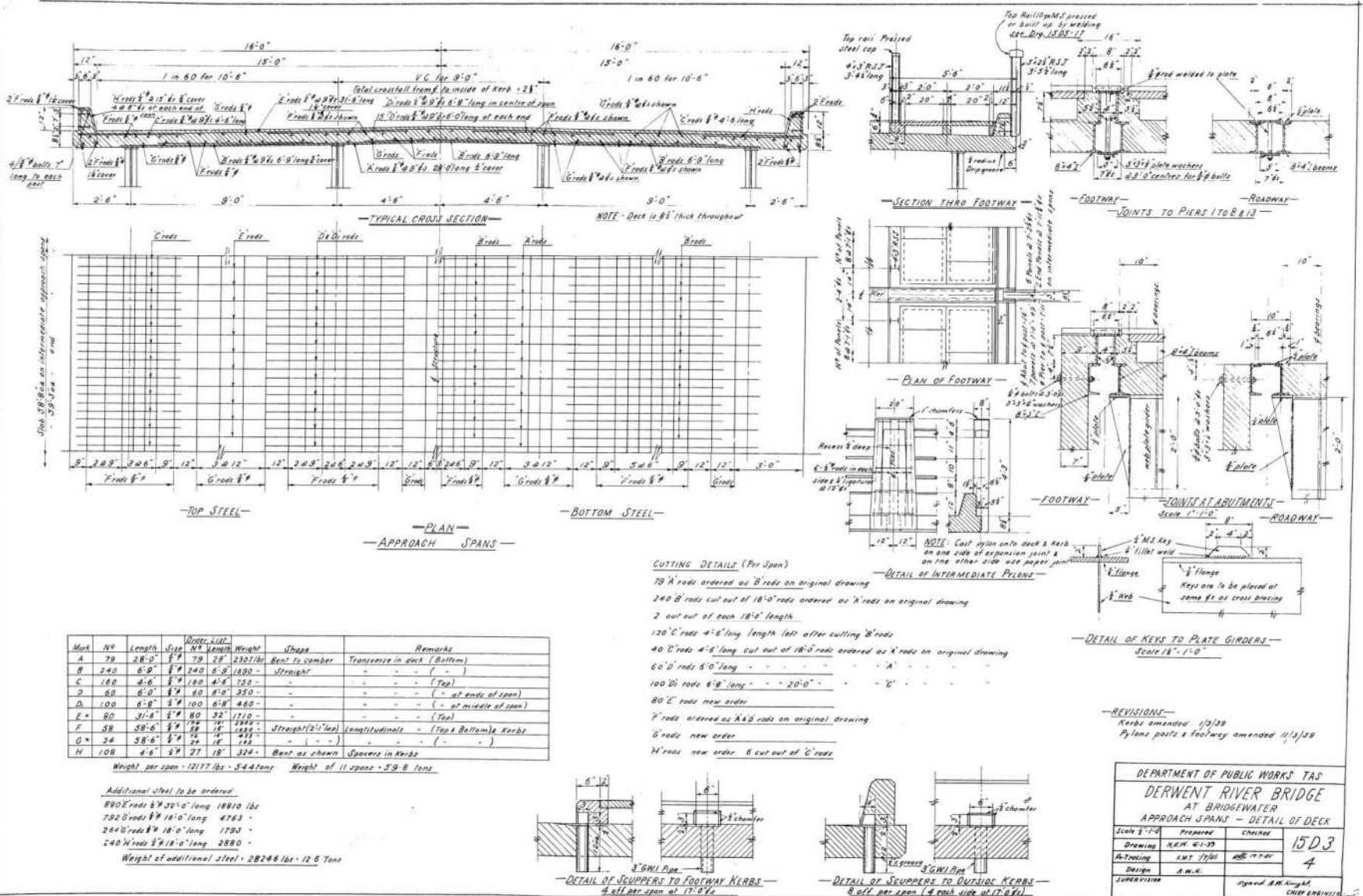
Scale: 3/4" = 1'-0" & 4/10" = 1'-0"

1. Bridge width 15m
 2. Length of Piers 10/12m
 3. Splice level: 62.4m

1522







| Mark | No | Length | Size | Order List | NT Length | Weight | Shape | Remarks |
|------|-----|--------|------|------------|-----------|----------|----------------------|------------------------------------|
| A | 79 | 28'-0" | 5" | 79 | 28' | 2307 lbs | Bent to camber | Transverse in deck (Bottom) |
| B | 240 | 6'-0" | 5" | 240 | 6'-0" | 1820 | Upright | - - - (-) |
| C | 160 | 4'-6" | 5" | 160 | 4'-6" | 150 | - | - - - (Top) |
| D | 60 | 6'-0" | 5" | 60 | 6'-0" | 350 | - | - - - (at ends of span) |
| E | 100 | 6'-0" | 5" | 100 | 6'-0" | 460 | - | - - - (at middle of span) |
| F | 80 | 3'-0" | 5" | 80 | 3'-0" | 1710 | - | - - - (Top) |
| G | 58 | 58'-0" | 5" | 58 | 58' | 2870 | Upright (2 1/2" top) | Longitudinal in Top & Bottom Kerbs |
| H | 24 | 38'-6" | 5" | 24 | 38'-6" | 121 | - | - - - (-) |
| I | 108 | 4'-6" | 5" | 108 | 4'-6" | 324 | Bent as shown | Spacers in Kerbs |

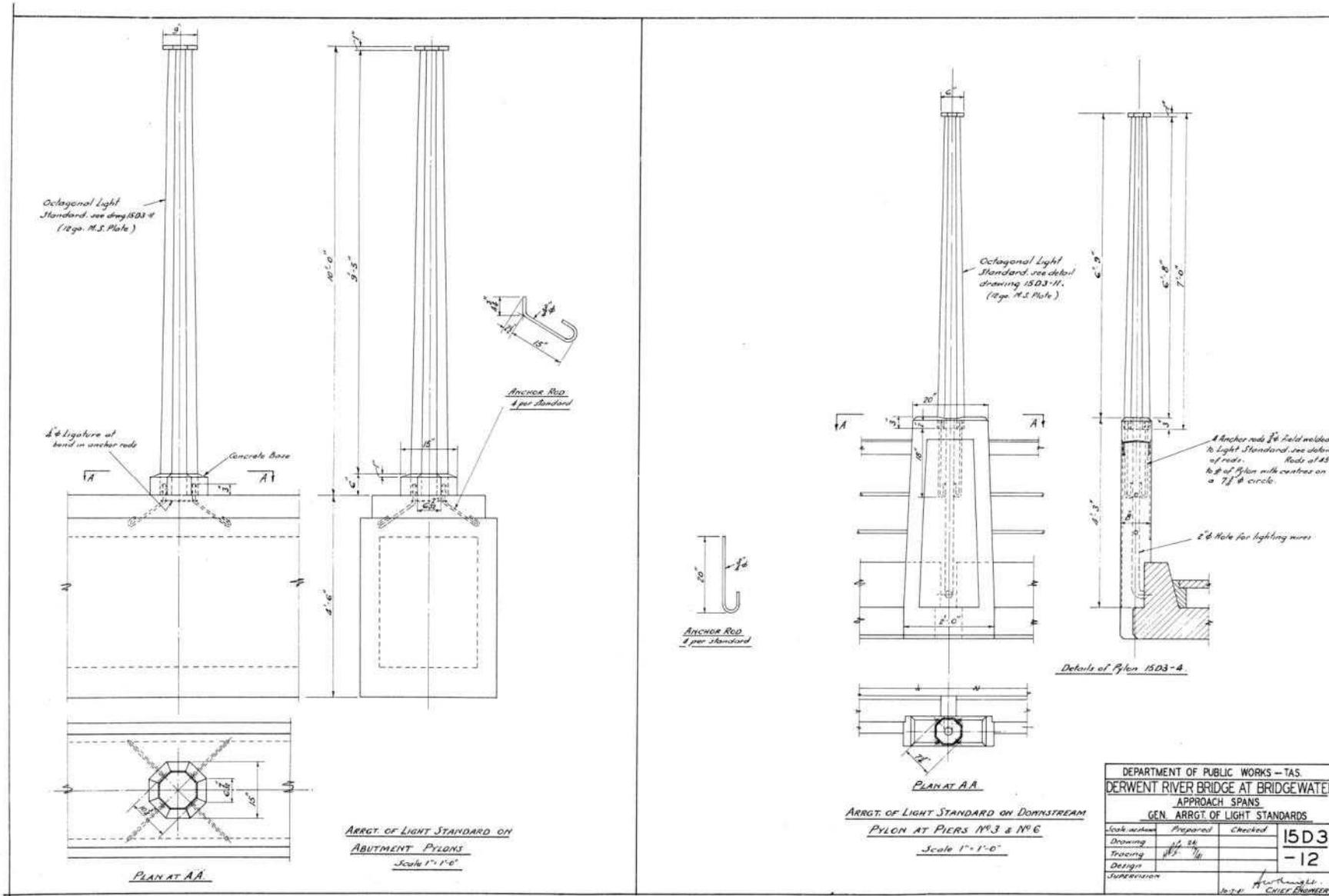
Weight per span - 12177 lbs - 5.44 tons Weight of 11 spans - 59.8 tons

Additional steel to be ordered
 880 E rods 27.35'-0" long 18610 lbs
 792 G rods 17'-0" long 4763
 244 U rods 18'-0" long 1790
 240 W rods 2'-18" long 2880
 Weight of additional steel - 28246 lbs - 12.6 tons

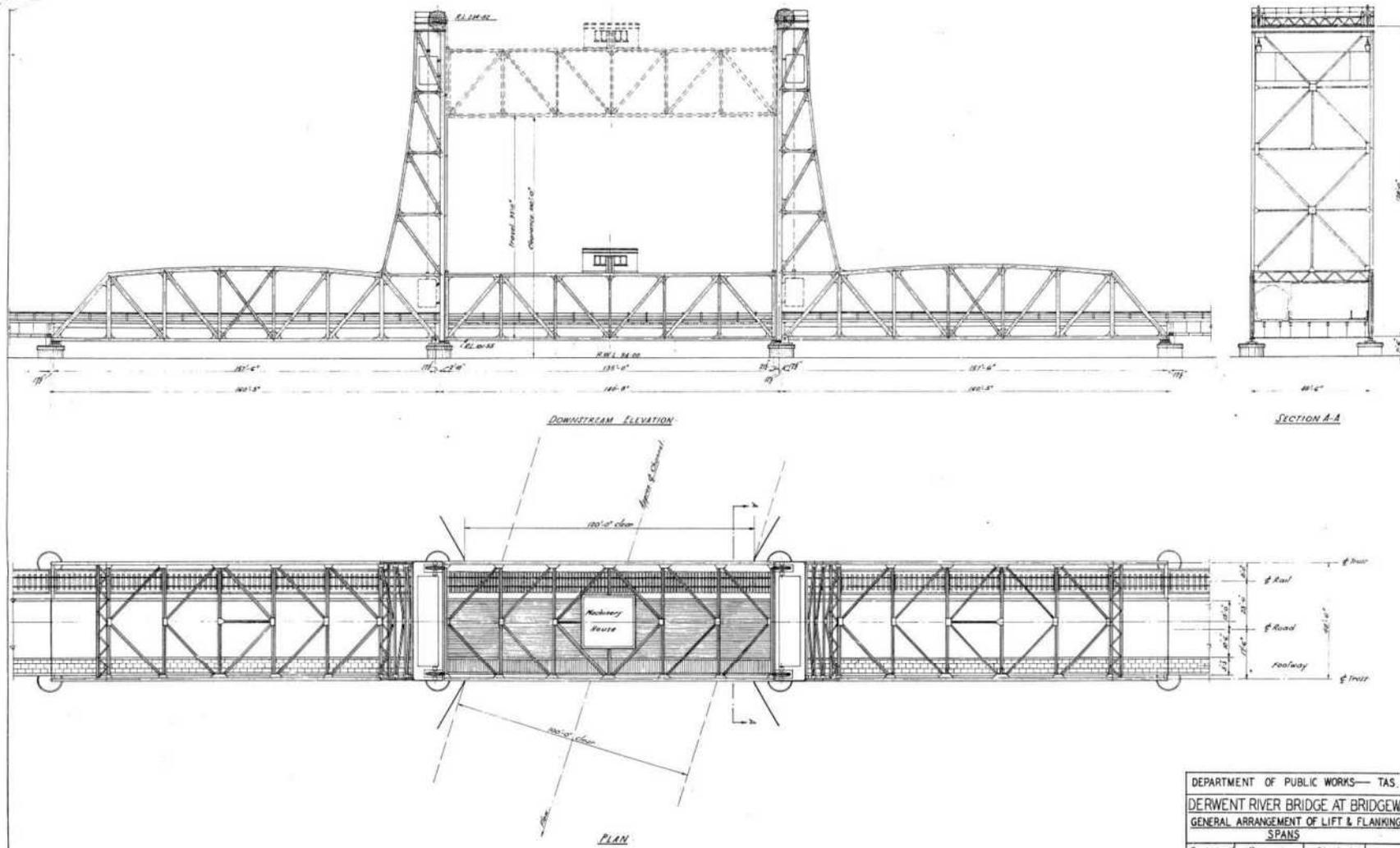
CUTTING DETAIL (Per Span)
 79 A rods ordered as B rods on original drawing
 240 B rods cut out of 18'-0" rods ordered as X rods on original drawing
 2 cut out of each 18'-0" length
 120 C rods 4'-6" long length left after cutting B rods
 40 C rods 4'-6" long cut out of 18'-0" rods ordered as X rods on original drawing
 60 D rods 6'-0" long - - - - - A -
 100 D rods 6'-0" long - - - - - G -
 80 E rods new order
 F rods ordered as A & B rods on original drawing
 G rods new order
 H rods new order. 6 cut out of G rods

REVISIONS
 Kerbs amended 1/12/20
 Pylons posts & footway amended 11/12/20

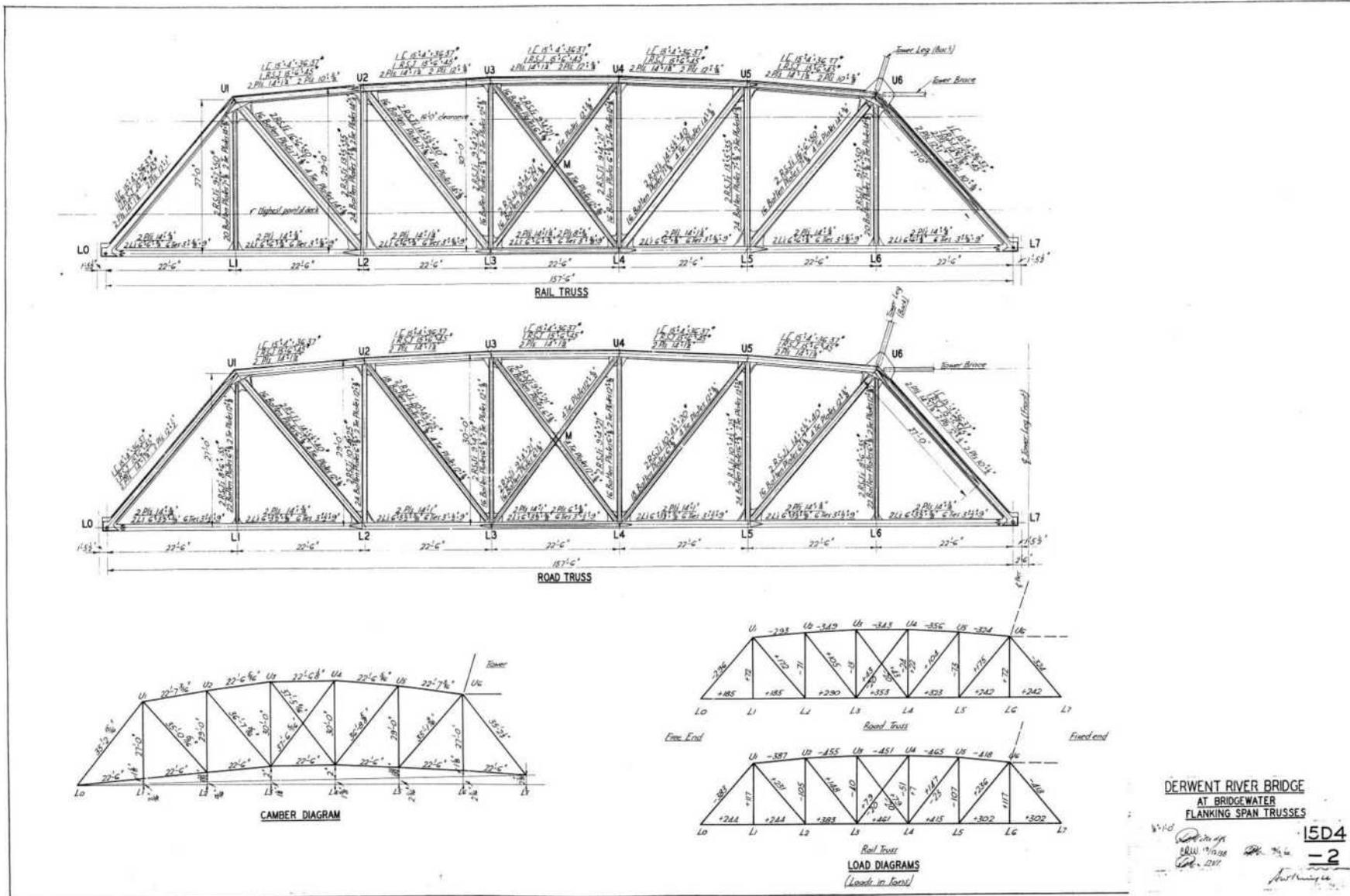
| | | | |
|---------------------------------|--------------|------------|--|
| DEPARTMENT OF PUBLIC WORKS TAS | | | |
| DERWENT RIVER BRIDGE | | | |
| AT BRIDGEWATER | | | |
| APPROACH SPANS - DETAIL OF DECK | | | |
| Scale 1/4"=1'-0" | Prepared | Checked | 1503 |
| Drawing | K.M. 6-1-20 | A.B. 19-20 | |
| As-Showing | A.M.T. 17/20 | A.B. 19-20 | |
| Design | A.M.T. | A.B. | |
| Supervisor | A.M.T. | A.B. | Approved A.M. Knight CHIEF ENGINEER |



| | | |
|-------------------------------------|----------|---------------------------------|
| DEPARTMENT OF PUBLIC WORKS - TAS | | |
| DERWENT RIVER BRIDGE AT BRIDGEWATER | | |
| APPROACH SPANS | | |
| GEN. ARRG'T. OF LIGHT STANDARDS | | |
| Scale | Prepared | Checked |
| Drawing | 1/12/24 | |
| Tracing | 1/12/24 | |
| Design | | |
| Supervision | | |
| | | 15D3 |
| | | -12 |
| | | H. W. B. GIBSON CHIEF DRAWER |

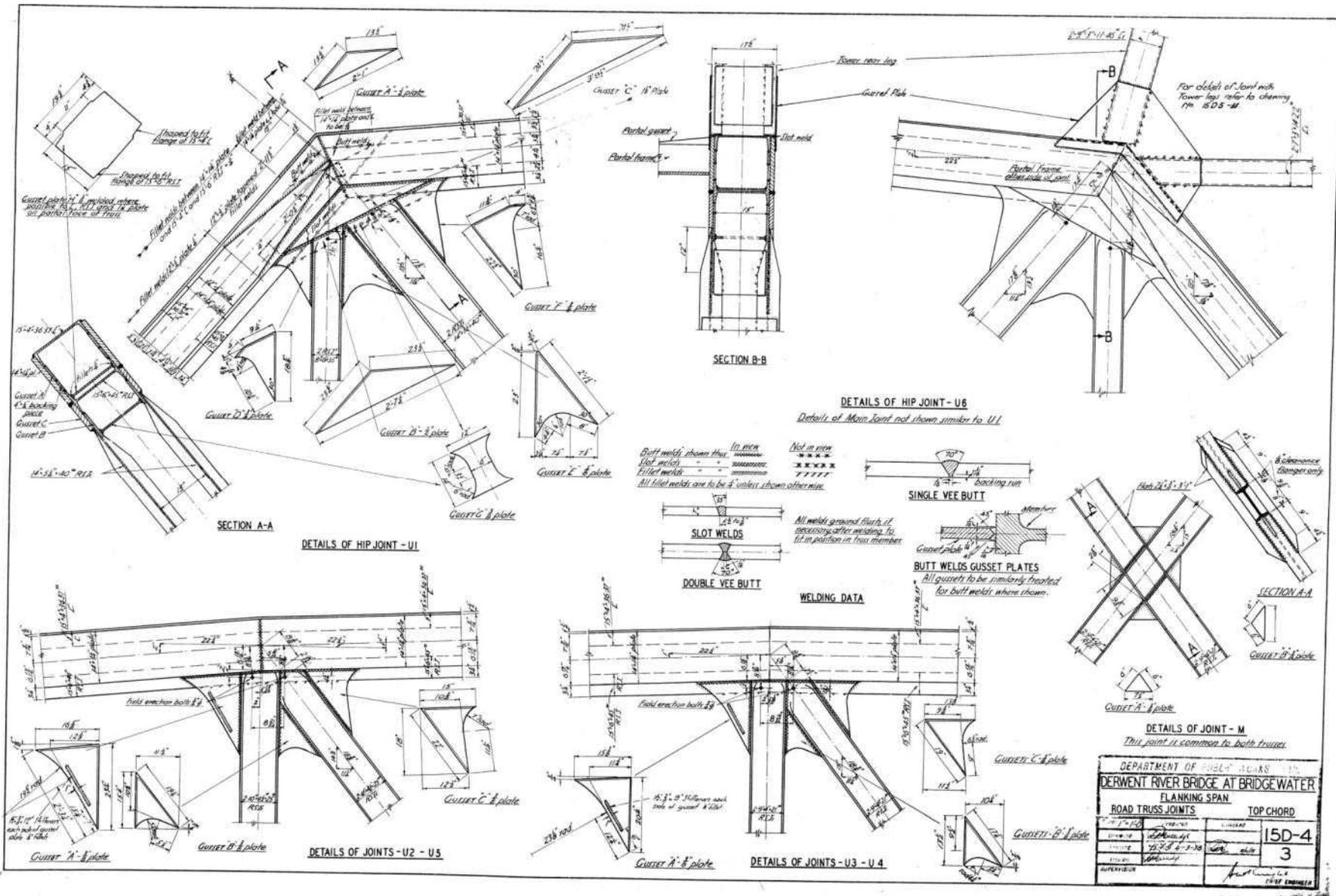


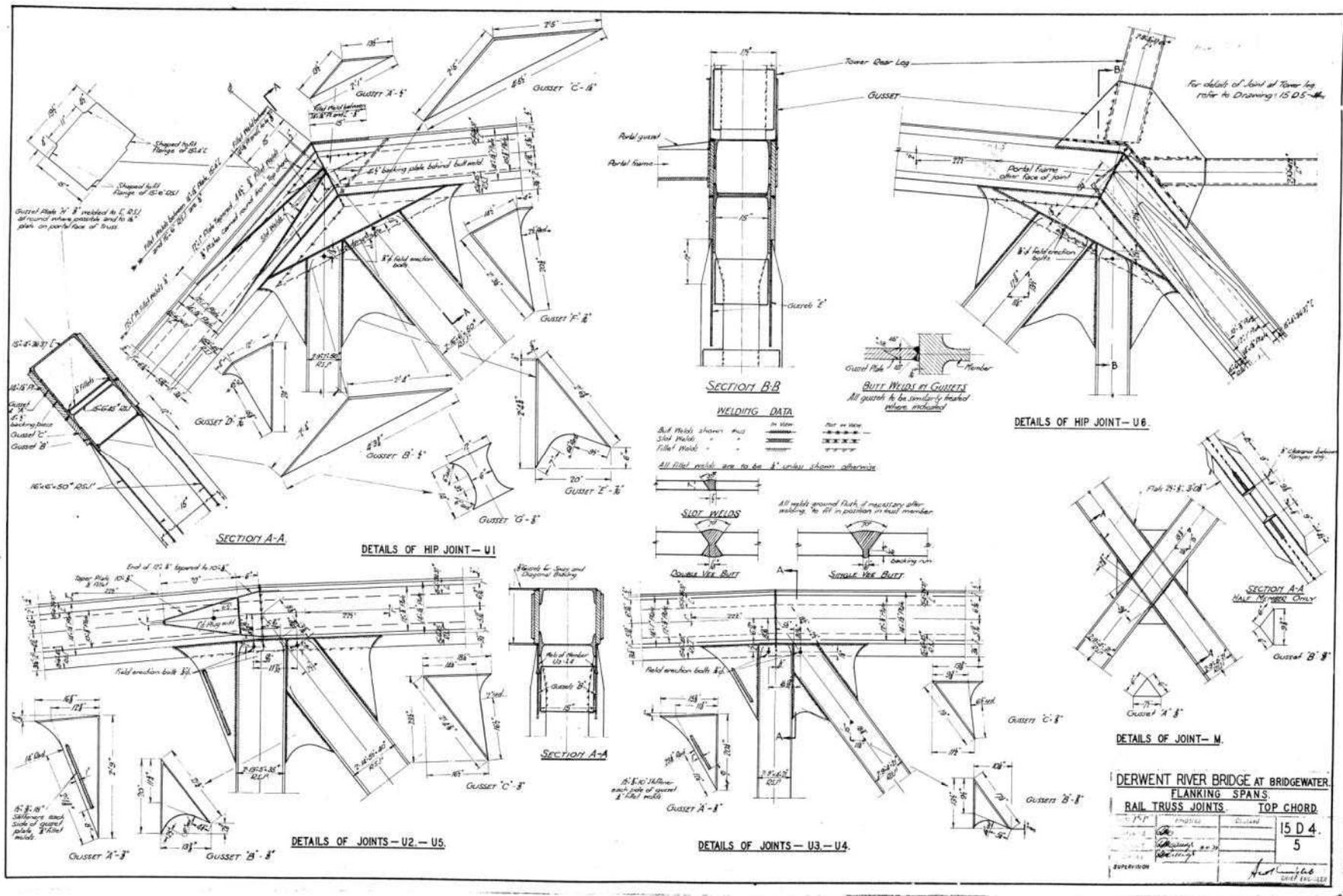
| | | | |
|--|----------|---------|----------------|
| DEPARTMENT OF PUBLIC WORKS—TAS. | | | |
| DERWENT RIVER BRIDGE AT BRIDGEWATER | | | |
| GENERAL ARRANGEMENT OF LIFT & FLANKING SPANS | | | |
| Scale 1" = 40' | Prepared | Checked | 15D4-1 |
| Drawing | A.S. | 1918 | |
| Design | | | |
| Supervision | | | |
| | | | CHIEF ENGINEER |

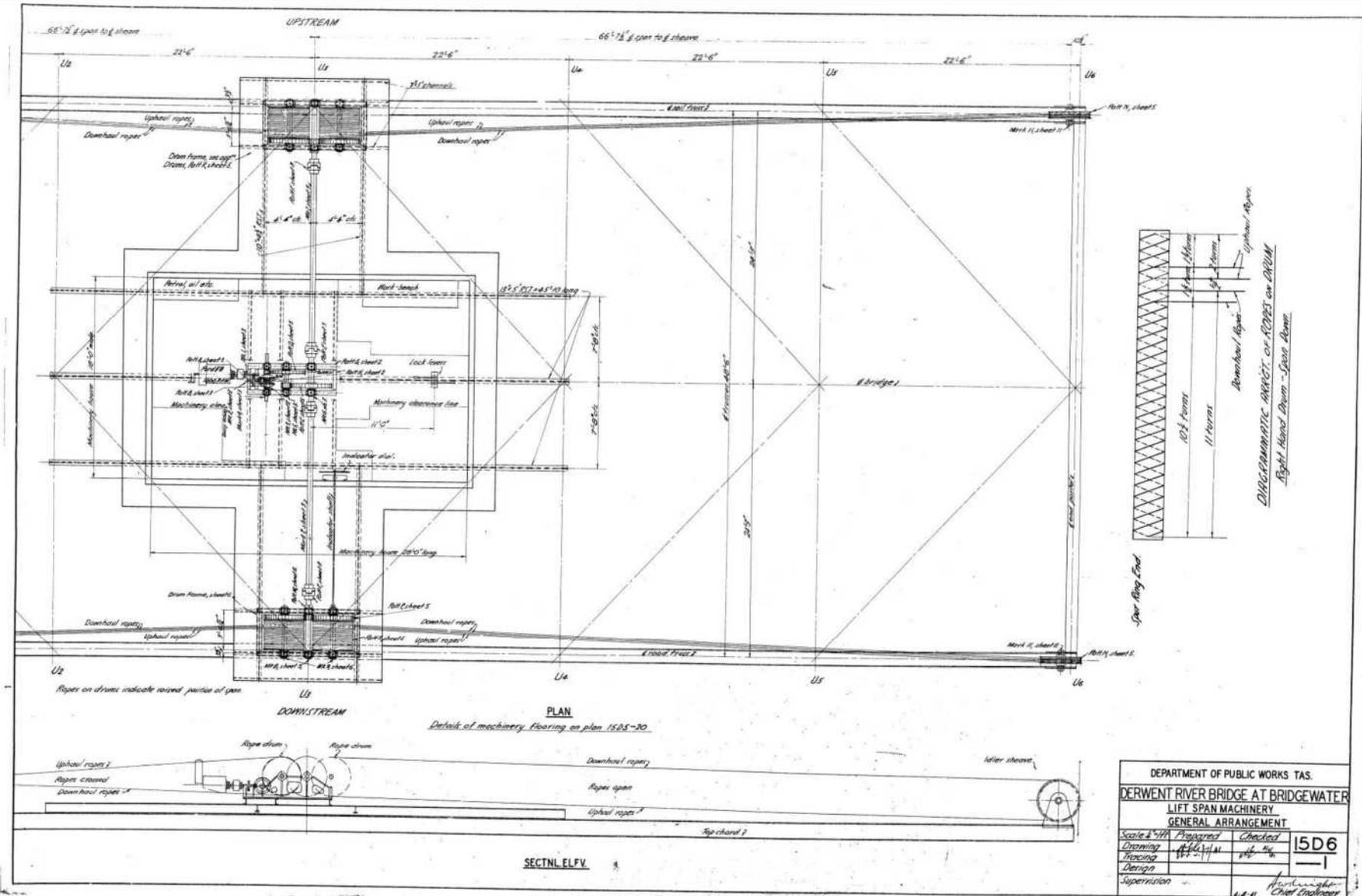


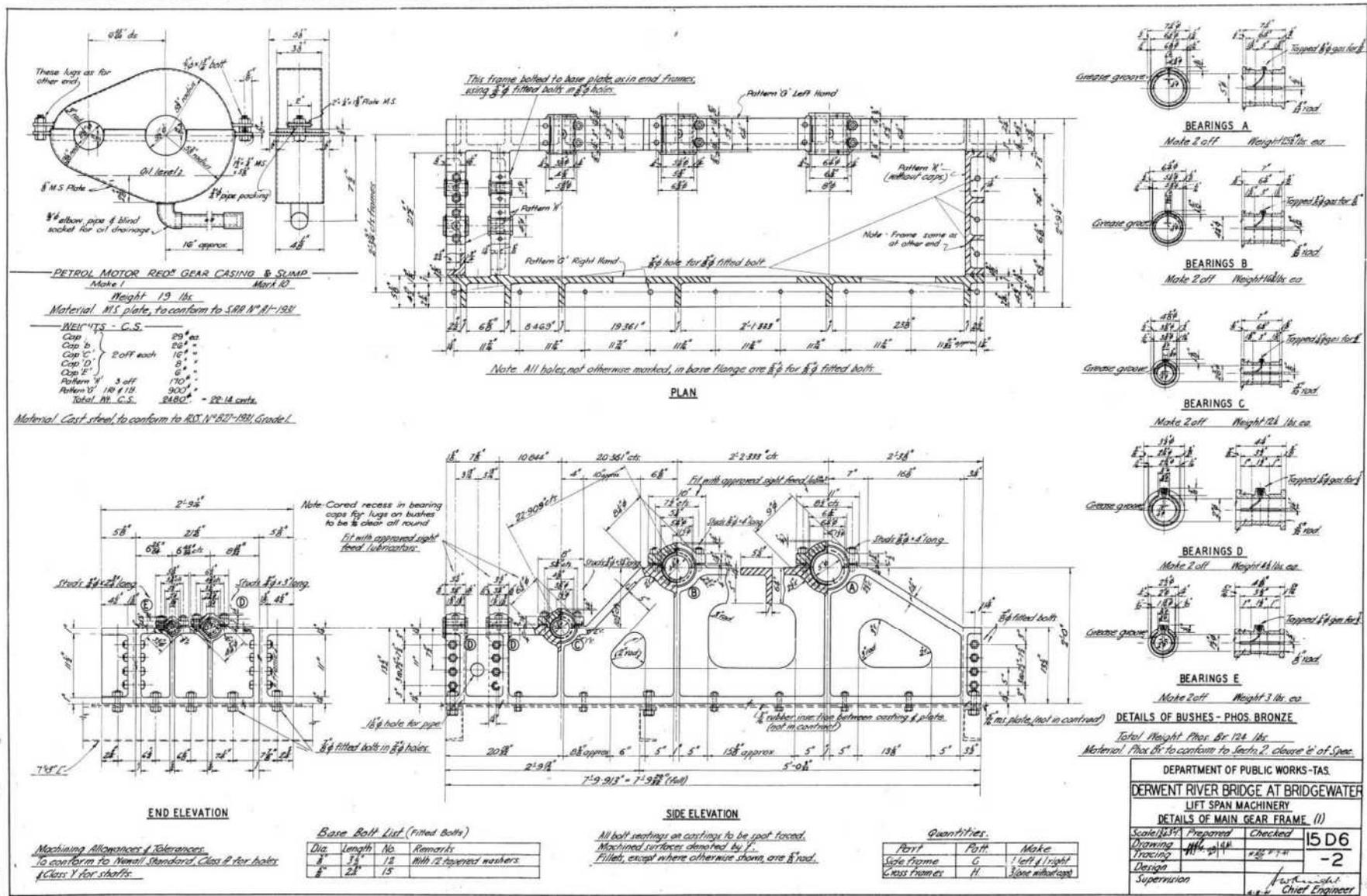
DERWENT RIVER BRIDGE
 AT BRIDGEWATER
 FLANKING SPAN TRUSSES

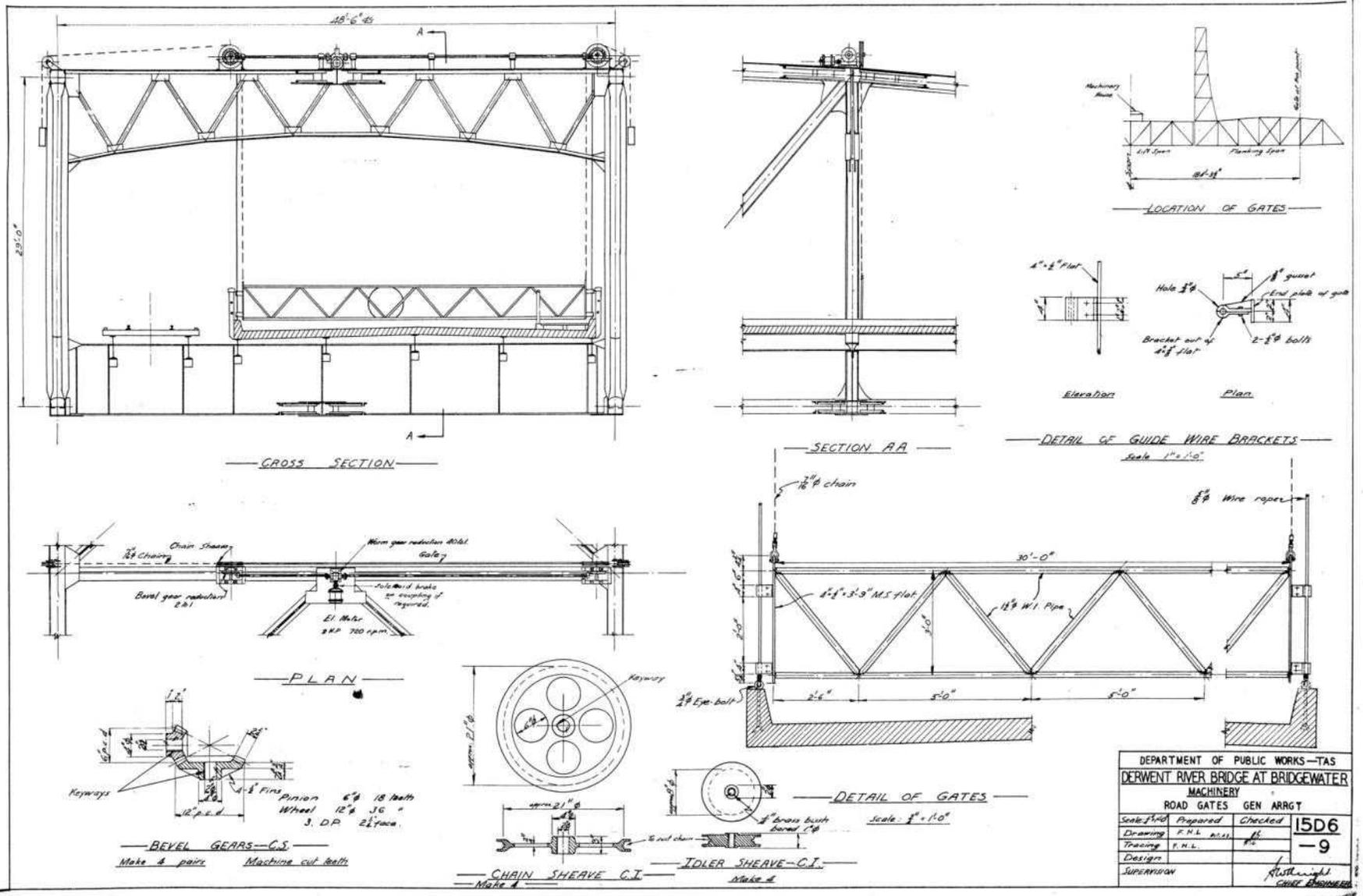
15D4
 -2





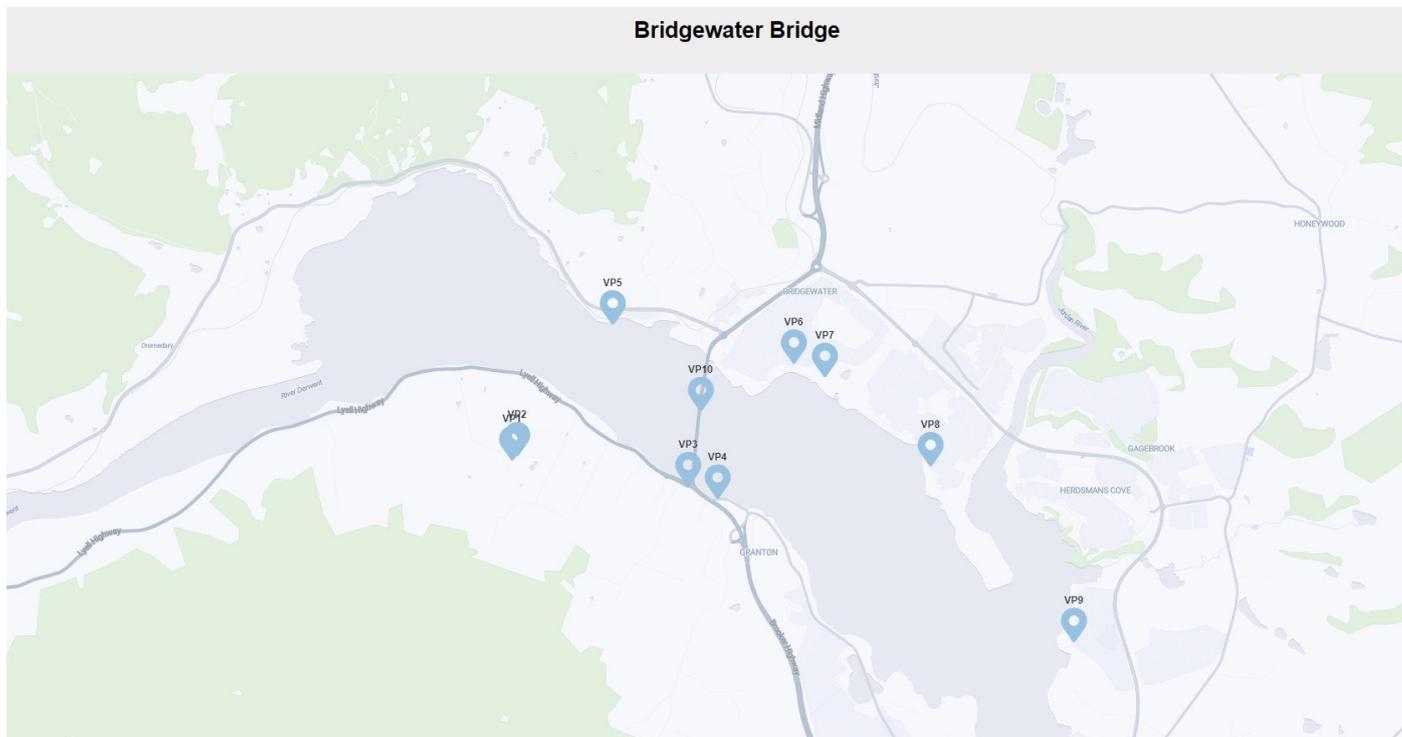






APPENDICES

APPENDIX 4: CHOSEN DESIGN VISUALISATIONS



10.01.02.01 Viewpoints 2021-11-05 161618.jpg



10.01.02.06 VP03_v004-base.jpg



10.01.02.07 VP03_v005-masked.jpg



10.01.02.08 VP04_v005-base.jpg



10.01.02.09 VP04_v005-masked.jpg



10.01.02.20 VP10_v005-base.jpg



10.01.02.21 VP10_v005-masked (1).jpg

APPENDICES

APPENDIX 5: PRAXIS ENVIRONMENT, STATEMENT OF ARCHAEOLOGICAL POTENTIAL AND ARCHAEOLOGICAL METHOD STATEMENT, NOVEMBER 2021.

praxisenvironment

heritage

planning

archaeology

po box 338
north hobart
tasmania 7002

0418 303 184
info@prax.com.au

Archaeological Impact Assessment
& Archaeological Method Statement

Bridgewater Bridge Replacement

Brad Williams

Historical Archaeologist

November 2021

For the Department of State Growth, Tasmania

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1. Introduction, background and rationale

This document was commissioned by Burbury Consulting on behalf of the Department of State Growth) in response to a request for information from the Tasmanian Heritage Council (dated 21/9/21) which seeks:

Provide a final Statement of Archaeological Potential (SoAP) and an Archaeological Method Statement (AMS) for the registered places within the Project Land, prepared by a suitably qualified archaeological consultant, in accordance with the THC Practice Note 2 Managing Historical Archaeological Significance in the Works Process, including a commitment to enact the AMS. The SoAP and the AMS must reflect the final (chosen) design of the Project.

There are eight places listed on the Tasmanian Heritage Register which are within, or within very close proximity to the Bridgewater Bridge works, the following table summarises these places and the possibility of impact and the need for further archaeological consideration, either by way of a statement of historical archaeological potential (SoHAP), archaeological impact assessment (AIS) and if necessary an archaeological method statement (AMS):

| Place | THR Ref | Possible impact | Existing SoHAP? | SoHAP Required? | AIA/MS required? |
|--|---------|---|-----------------|-----------------|------------------|
| Former Black Snake Inn, 650 Main Road Granton. | 1612 | The proposal involves major fill works to the rear of the site to build up the base of the proposed road on the approaches to the bridge as well as minor widening of Main Road to allow for a shared use path. | No | Yes | Yes |
| Bridgewater Causeway and Bridge (CPR 10257). | 618 | Some works are required within the registered area on the southern end of the causeway in the vicinity of the current roundabout. No | Yes | No | Yes |

| | | proposed works to the causeway. | | | |
|---|------|---|----|----|----|
| Former Bridgewater Watch House, 1 Lyell Highway Granton. | 1182 | None. Although close to the roundabout that is to be reconfigured, no works will occur within this place. | No | No | No |
| St Mary's Anglican Church and Cemetery, 18 Old Main Road Bridgewater. | 624 | None. The chosen design has moved works further from this site than the earlier concept options. | No | No | No |
| Fairfield (formerly Hayfield), 14 Nielsen Esplanade Bridgewater. | 617 | None. This place is nearby to a works area but no works will occur within this place. | No | No | No |
| Granton Convict Quarry, 3 Lyell Highway Granton. | 7158 | None. This place is nearby to a works area but no works will occur within this place. | No | No | No |
| Granton (former South Bridgewater) Convict Site, 6 Forest Road & 19 Tarrant's Road Granton. | 9937 | None. This place is nearby to a works area but no works will occur within this place. | No | No | No |
| Commandant's Cottage, 4 Forest Road, Granton | 1178 | None. This place is nearby to a works area but no works will occur within this place. | No | No | No |

A comprehensive statement of historical archaeological potential for the Bridgewater Bridge and Causeway has been produced by Austral Tasmania¹, which provides an archaeological zoning plan for the bridge, causeway and environs. This has been relied upon here for that area.

¹ Austral Tasmania: Bridgewater Causeway and Bridge Historic Heritage Assessment and Archaeological Zoning Plan. Final Report prepared for Purcell. AT0298. 12 November 2020

2. Statement of historical archaeological potential – the former Black Snake Inn



Figure 2.1. – The Tasmanian Heritage Register listed area, former Black Snake Inn. From www.thelist.tas.gov.au.

2.1. Archaeological Methodology

This statement of archaeological potential is derived from a process which identifies the potential of the site to yield archaeological remains, the significance of any remains, and their potential to yield meaningful information about the site, and which might contribute to relevant key archaeological and historical themes. The following briefly outlines the methodology followed:

Determining general archaeological potential: Through a desktop analysis of historical data and secondary sources, as well as non-invasive site observations, an understanding of the evolution of the site has been gained which has allowed an assessment of the archaeological potential (however significant) of any part of

the site - resulting in substantiated predictions of the likelihood of finding *something* upon any particular part of the site.

This has been done by analysing primary source material, summarizing the developmental history of the site and developing a chronological narrative detailing an overview of the history of all known features to have ever existed on the site. Where possible, developmental overlays have been developed from historic maps, plans, photographs and other visual documentation. This overlay has been supported by other observations providing supplementary information, and also includes processes such as demolition and disturbance which may have removed or destroyed potential remains – and may have diminished the archaeological potential.

Assessing the significance and potential of any likely archaeological resources to yield meaningful information:

Upon understanding the archaeological potential through desktop and site analysis, the next step was to understand its relationship to any aspect of the identified significance of the place – e.g. do the remains have the potential to demonstrate an aspect of the significance of the site or related key historic theme? The potential for any of the archaeological remains to demonstrate important aspects of the history of the site, whether in a state, regional or thematic context, is to be considered.

Understanding possible impact of development and formulation of management strategies:

Based on any identified archaeological potential and significance of the site, consideration will be given as to whether the proposed development will impact upon any likely archaeological remains and if necessary broad management strategies will be proposed to manage any impact.

Table 1 (below) demonstrates the steps of this assessment:

| Methodology for formulation of the statement of archaeological potential | | |
|---|---|--|
| | If 'no' | If 'yes' |
| <p>1. Archaeological potential. Are you likely to find something if you dig here? (i.e. a <u>Statement of Archaeological Potential</u>).</p> | Further action may not be required, although a contingency plan may be required for unexpected finds. | The significance of the archaeological potential should be investigated. |
| <p>2. Significance. Could anything you find here greatly contribute to our understanding of the site or related significant theme?</p> | Further action may not be required. | The likely integrity of the archaeological remains should be investigated. |
| <p>3. Integrity. Are any archaeological remains likely to be intact?</p> | Further action may not be required, although a contingency plan is required for unexpected integrity. | The likelihood of significant archaeological remains is confirmed. |
| <p>4. Impact Will proposed works impact upon the significant archaeological remains? i.e. an <u>Archaeological Impact Assessment</u>.</p> | Further action may not be required, although a contingency plan may be required for unexpected impacts. | An <u>Archaeological Method Statement</u> will be required to detail how impact will be managed/mitigated. |

2.2. Historical background of the subject site

2.2.1 Research methodology

For this initial assessment of archaeological potential, the depiction of the physical history of the site will be the main consideration – with other aspects of site history (i.e. social histories, economic history, associations *et. al.*) likely to be more useful in any post-investigation analysis of findings (i.e. artifact assessment), therefore beyond the scope of the current document. Similarly, the history of other townscape developments is beyond the scope of the current document however may be useful in further detailed analysis of future archaeological findings.

The following overview of the known physical development history of the site aims to aid in the prediction of the likely archaeological remains. This does not represent a comprehensive site history, and has been limited to a history of the physical development of the site as relevant to the archaeological resource.

Primary sources

Broadly, the primary sources consulted in the development of the statement of archaeological potential include:

- Historic maps, photographs (NS, AF393, AF398 and PH series) - Tasmanian Archive and Heritage Office.
- Department of Primary Industry, Parks, Water and Environment (DPIPWE) aerial photo collection (Service Tasmania).
- DPIPWE – Land Data Branch, titles.
- Historic newspapers, via the National Library of Australia's *Newspapers Online* portal.

Secondary sources

The archaeological potential of the Bridgewater Bridge and Causeway has been considered in a 2020 Historic Heritage Assessment and Archaeological Zoning Plan by Austral Tasmania². That document briefly considered associated and peripheral sites, but not as a detailed statement of historical archaeological potential for those additional sites. That report insofar as the bridge and causeway has been relied upon here in formulating the archaeological impact assessment and method statement for those sites.

² Austral Tasmania: Bridgewater Causeway and Bridge Historic Heritage Assessment and Archaeological Zoning Plan. Final Report prepared for Purcell. AT0298. 12 November 2020

In order to gain an overview of what once existed on the site, as the basis for predicting archaeological remains, the following is a brief overview of the historical development of the site based on primary source documents (the subject site depicted in red) as well as overviews drawn from the secondary sources as detailed above. Note that this is a brief historical overview, concentrating solely on physical development, sufficient only for basic archaeological planning. As per above, further historical research is required in order to refine a detailed archaeological research design, which is provided here in Section 2.3. Such detail is also required to supplement the interpretation of archaeological findings – requiring an iterative process of the assessment of findings against further historical and comparative research from both primary and secondary sources, which should be provided in an archaeological method statement and post-excavation analysis.

2.2.2. Historical overview

The land was the home of the Mouheneener people for tens of thousands of years, prior to displacement by European settlers in 1804.

The land comprising the subject site was originally alienated to Nathaniel Olding as part of a 1 acre 0 rood and 2 perch grant but was later subsumed in a grant to former convict settler, Richard Burrows. Burrows and his family were amongst 242 settlers who arrived at Hobart Town aboard the *City of Edinburgh* on 25 October 1808. He was mustered at New Town on 10 May 1809 holding 16 acres of land (2 in wheat, no livestock). He and his family were being victualled by the Government. He was mustered again in 1811 but no details of land or livestock were recorded. It is likely that Burrows had subsequently 'located' 40 acres of land further upriver.

Burrows' grant was likely the farm at "...Black Snake Point on the South side of the River about Twelve miles from Hobart Town..." where Governor Lachlan Macquarie's touring party paused briefly for breakfast during his tour of Van Diemen's Land in 1811.³ Knopwood's diary also mentions frequent visits to the Black Snake Inn between 1819 and 1825.⁴ Richard Burrows drowned in a punt mishap near Austins Ferry in 1819. The first Black Snake Inn was probably constructed between 1817 and 1821 by William Presnell (1764-1839) by which time a ferry crossing the Derwent was in operation from the location. His son, Thomas, was listed as licensee in 1822. This also corresponds with the period when travel became more frequent with the completion of the

³ Lachlan Macquarie, Governor of New South Wales, Journals of his Tours in New South Wales and Van Diemen's Land 1810-1822, Library of Australian History with the Library Council of New South Wales, Sydney, 1979.

⁴ Austral Tasmania 2020:9.

road constructed by McCarty between Hobart and New Norfolk in 1819, Tasmania's first formed road. A population centre had emerged at Black Snake and the inn was colloquially named the half-way house.⁵ Various members of the Presnell family, including William's son-in-law Thomas Pragnell, operated the Half-Way House/Black Snake Inn under intermittent licenses throughout the 1820s. William Presnell retired in 1829 and purchased a further 50 acres (Healy grant) adjoining the inn upon which he expanded agricultural and horticultural operations into his retirement.



Figure 2.2.1 - A c1822 sketch of the Black Snake Inn, facing south-east. The buildings at Green Point can be seen to the left. State Library of New South Wales.

⁵ See for example *The Hobart Town Gazette and Van Diemen's Land Advertiser*, 2/3/1824:1. *The Hobart Town Courrier* 29/3/1828:1.



Figure 2.2.2 - Joseph's Lycett's View in Tasmania, of Mount Dromedary. The buildings likely to represent the Black Snake Inn c1822-23 denoted by the red arrow.⁶

An 1830 sale notice described the inn as:

TO BE LET – That old-established and well-known house, the Black Snake, and possession given on license-day next. The house contains five commodious rooms and kitchen. There is a good garden, about an acre, well fenced in, a six stall stable, fowl houses, stock yards &c. There will also be let from 4 to 6 acres of ground, with the premises sufficient to grow forage for the stable. Further particulars may be known by applying to Mr. William Presnell, near the spot.⁷

In 1833 William Presnell leased the Black Snake Inn to another son-in-law (George William Robinson 1800-1839) for a term of 42 years. Robinson also had a coaching business between Black Snake and Hobart Town as well as a ferry service from Black Snake to Green Point.⁸ It is likely that Robinson sought to capitalise on the increase passing trade as well as nearby works commencing on the Bridgewater Causeway, thereby most

⁶ Lachlan Macquarie, Governor of New South Wales, Journals of his Tours in New South Wales and Van Diemen's Land 1810-1822, Library of Australian History with the Library Council of New South Wales, Sydney, 1979.

⁷ The Hobart Town Courtier, 29/5/1830:3.

⁸ The Colonial Times, 9/7/1833:1.

likely being the person responsible for building the second Black Snake Inn. The Memorial of Indentures for Lease describe the property as:

All that Messuage dwelling house or tenement situate standing and being in the said District of Glenarchy on the South West side of and fronting to the road there leading from Hobart Town to New Norfolk and which said Messuage or Dwelling house or tenement is now used as an Inn called or known by the name or sign of the Black Snake and is now in the occupation of one Thomas Pragnall. Together with the stable outhouses outbuildings Yard Garden and premises thereunto adjoining and belonging and likewise in the occupation of the said Thomas Pragnall. And also all those — several [?] enclosures or pieces or parcels of Land adjoining or lying near to the said Messuages Tenement or sum and heretofore occupied therewith and containing together by admeasurement including the site of the said Messuage Tenement or Inn outbuildings yard and Garden and with the site of certain other Messuages and buildings and other yards Gardens and premises of one hundred acres or thereabouts (be same more or less) And also all that other Messuage Cottage or Tenement erected and built upon a part of the said one hundred acres of Land and now in the occupation of the said William Presnell with the appurtenances to the same last mentioned Messuage Cottage or Tenement belonging And also all that Messuage Tenement or dwelling House of stone lately erected and built or commenced but not yet completed upon other parts of the said one hundred acres of Land thereby demised or mentioned so to be and as yet unoccupied Together with certain outbuildings and erections thereunto adjoining or standing near the same and thereunto belonging and intended to be used as stables and otherwise.⁹

Early depictions provide different perspectives of the building, suggesting the likelihood that a very early inn building had been replaced around 1833 (note the reference above to ‘stone building lately built’). This is supported by early depictions show a somewhat naïve building facing north. The building is elevated above a cutting and McCarty’s Road below. The Lauvergne sketch, also of 1833 shows the façade of the early inn, but one quite different to what we know now, will a colonnade of arches, between two gable ends – more consistent to the footprint depicted on early survey maps.

In August 1833 Robinson advertised for rent the ‘old Black Snake House’ described as:

⁹ Lands Tasmania, Historic Deed 01/2252, registered 26 March 1833.

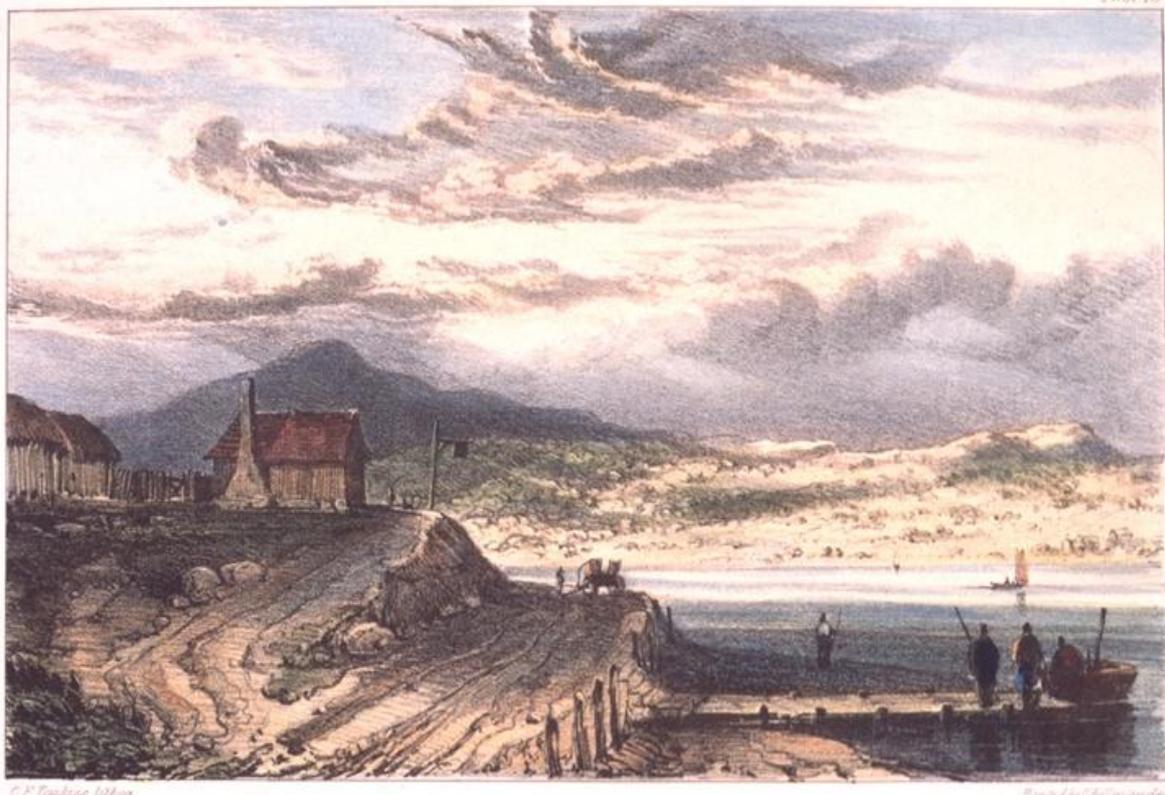
To be let with immediate possession. THE OLD BLACK SNAKE HOUSE. This house occupies on of the best situations in the Island and well worth the attention of any person with a moderate capital and wishes to commence business as a general storekeeper, the neighbourhood being populous and much in want of such an establishment. There is a well conducted and safe ferry from the door, and the premises may be fitted up to answer any purpose, at but a trifling expense. For further particulars apply to G.W. Robinson, New House, Black Snake.¹⁰

It seems that in 1833 Robinson built a new inn but retained the old building for lease as a general store. In December 1833 he advertised the gardens for lease:

TO THE LOVERS OF HORTICULTURE. G. W. ROBINSON, of the Black Snake, intimates to the Public, that he will let to a respectable Tenant, for a term of years, that well-known Garden belonging to the Old Black Snake Inn. This garden has for many years been in the highest possible state of cultivation, and is, at present, well stocked with the choicest fruit trees of every description; it is well watered, and. most delightfully situated on the banks of the Derwent; and a person who is fond of agricultural pursuits, would find this a most eligible opportunity of investing a small capital, there being ten acres of ground, from the produce of which, for several seasons, the Government Contracts Were supplied. For further particulars apply to G. W. ROBINSON, New Black Snake House. December 10, 1833.¹¹

¹⁰ The Hobart Town Courier, 9/8/1833:3.

¹¹ The Hobart Town Courier, 28/12/1833:1.



THE OLD BLACK SNAKE INN.

Figure 2.2.3 - The 'old' Black Snake Inn, c1832. Libraries Tasmania SD_ILS:98999.

In 1835 Robinson sought to let his various businesses at Black Snake, describing them as:

TO BE LET, with immediate possession, that most desirable Establishment known as the BLACK SNAKE INN, with all its lucrative advantages arising from the Coaches and Ferry. The Inn itself is a spacious Stone Building with every convenience, comprising 15 rooms, namely—3 large parlours, 2 well finished sitting rooms, 6 up-stair rooms, 4 of which are neatly finished. The kitchen contains a large oven, dresser, &c. with bed-room and store-room attached. The stables are large and commodious, with coach-house, piggery, and fowl-house ; also, a large garden well stocked with fruit trees, &c. of the choicest kinds. The FERRY crosses to Green Point, and its contiguity to the great undertaking at Bridge-water, now nearly complete, ensures it constant traffic. The COACH ESTABLISHMENT has 4 horses as good as any on the road, 2 sets of 4 in hand harness, with a new and well finished coach, a 4 wheeled phaeton, which is now running on the road, a curricle and horses complete, nearly new. The coach, phaeton, and curricle, with the horses and harness, may be taken at a fair valuation, and a liberal credit

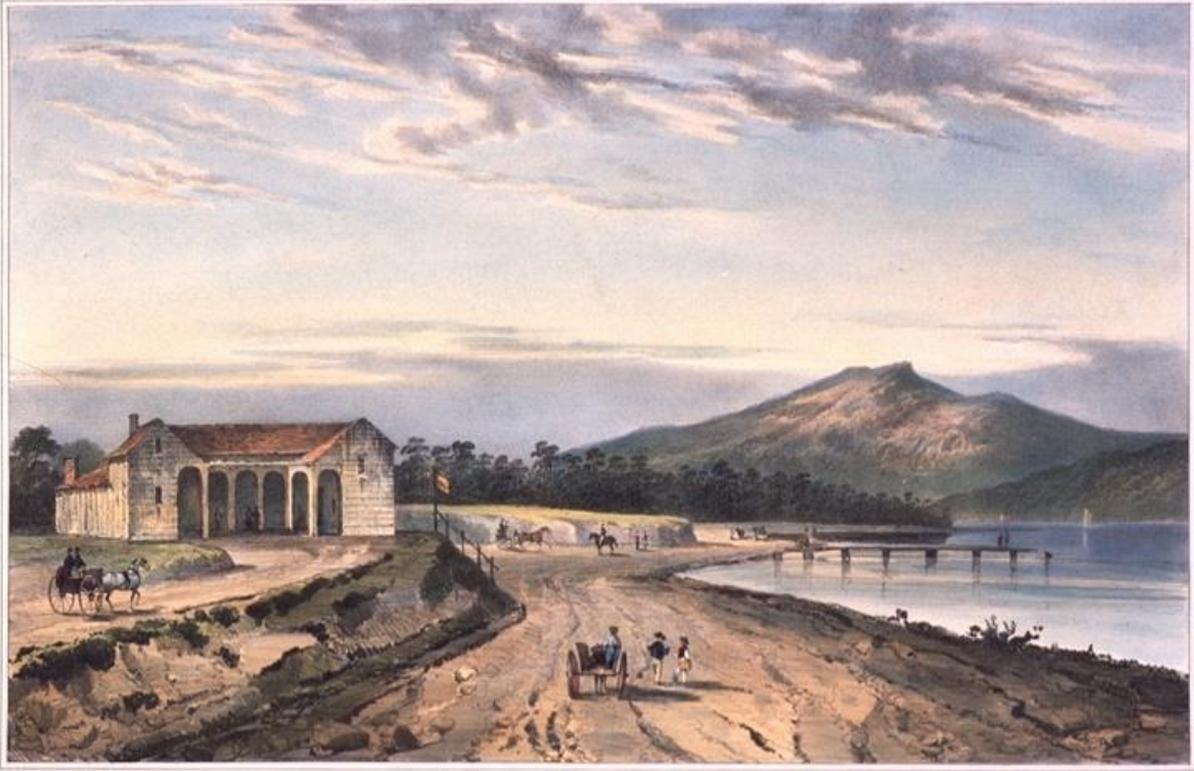
given, as well as much of the furniture in the house, with boats, oars, sails, &c. The INN has been newly stuccoed, and is pleasantly situated on a rise about 40 yards from the Derwent, with a carriage drive in the front. It is not above 600 yards from Bridgewater Causeway, and is rapidly increasing in business, the traffic between New Norfolk and Hobart Town constantly passing the door, which will be increased when the Bridge is opened by that from Launceston and all other parts of the country. A FARM of 100 acres at the back of the premises will be let, if wished, with the other property. The proprietor is desirous to let this most desirable and profitable undertaking solely on account of his family, and the delicate state of his health preventing him from giving it all that attention which it deserves. Persons willing to undertake it will please to apply personally or by tender to the undersigned. G. W. ROBINSON. Black Snake, April 23, 1835.¹²

He also subdivided and sold 40 allotments from his overall farm holdings, the media reports of the sale painting a very optimistic account of the growth of the area:

EXTRAORDINARY SALE - It is impossible to risk opinions of the value of land in the neighbourhood of this overgrown town with any chance of accuracy. On Tuesday Mr. Stracey made one of the most productive sales ever known in the Colony, more so even than that considered so great of Mr. Macmichael in May last, of the portion of the Dynnyrne estate, for which he obtained one hundred pounds per acre. Mr. Stracey sold the premises called the Black Snake Inn and garden, fourteen or fifteen miles from town, to Mr. Charles Day, for the sum of two thousand four hundred pounds, but yet more extraordinary, the land adjoining it, not quite 100 acres, of any thing but good quality, produced the enormous sum of EIGHT THOUSAND POUNDS!! After this, who can venture to say one word of depreciation in the value of property, as of poverty or embarrassment, or any gloomy forebodings. The concourse, of people at the Black Snake sale, was unprecedented on any similar occasion, and as may be supposed much competition existed. We understand Mr. R. L. Murray proposes to dispose, early in the new year, of about four thousand acres of land, in the immediate neighbourhood of the town in small farms, of from 100 to 150 acres each, upon the unprecedentedly favorable terms to purchasers of twenty-one years credit, at two and a-half per cent, interest!¹³

¹² The Hobart Town Courier, 24/4/1835:3.

¹³ The Tasmanian, 4/11/1836:7.



Lanterns painted.

Richardson del.

VUE DE LA MIDWAY-HOUSE.

Sur le chemin d'Emu Bay.

(Île Van-Diemen)

J. Taylor del.

Del. de l'Encre de Richardson.

Figure 2.2.4 - *Vue De Midway House*, 1833. Libraries Tasmania SD_ILS:98308.



Figure 2.2.5 - Excerpt from an undated (although likely c1835)¹⁴ survey from Black Snake along the Derwent towards New Norfolk, showing the simultaneous occupation of the site by the first and second Black Snake Inns (the earlier converted to a general store two years earlier). Tasmanian Archive and Heritage Office AF396/1/23.

¹⁴ https://www.wikitree.com/photo/jpg/The_Black_Snake_Inn-2

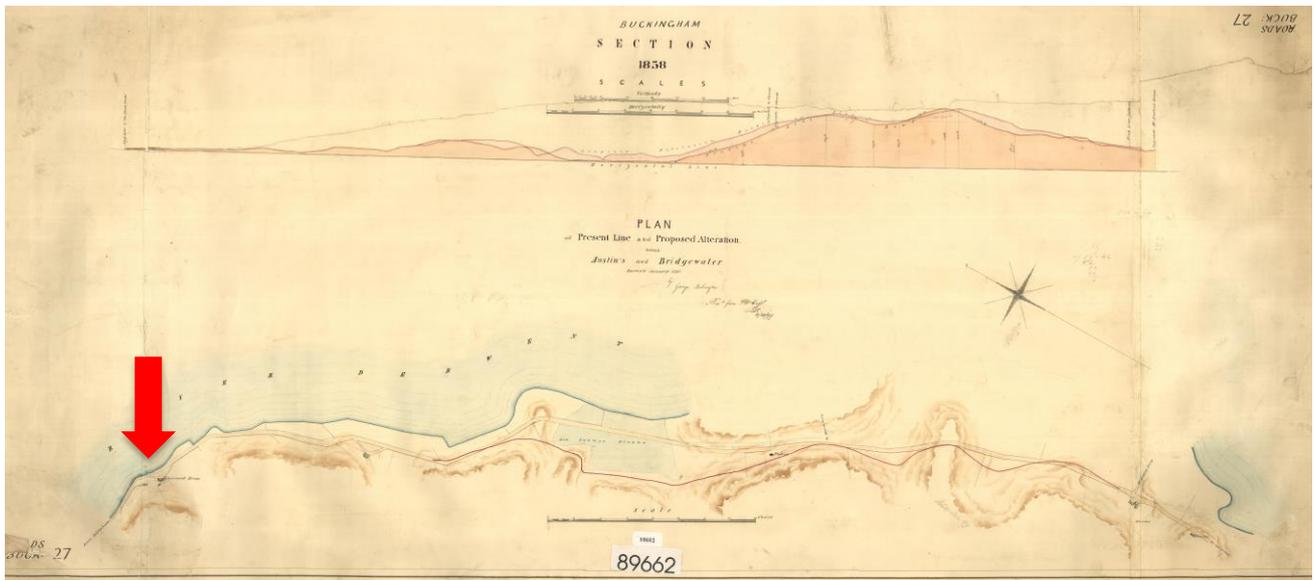


Figure 2.2.6 - An 1838 survey from Austins Ferry to Bridgewater by Babington. The Black Snake Inn is to the far left (noted on the section as 'Opposite to the Black Snake'). Lands Tasmania 8966, Tasmanian Archive and Heritage Office AF398.1.27.



Figure 2.2.7 - Detail of above showing the 'licensed house' complex.

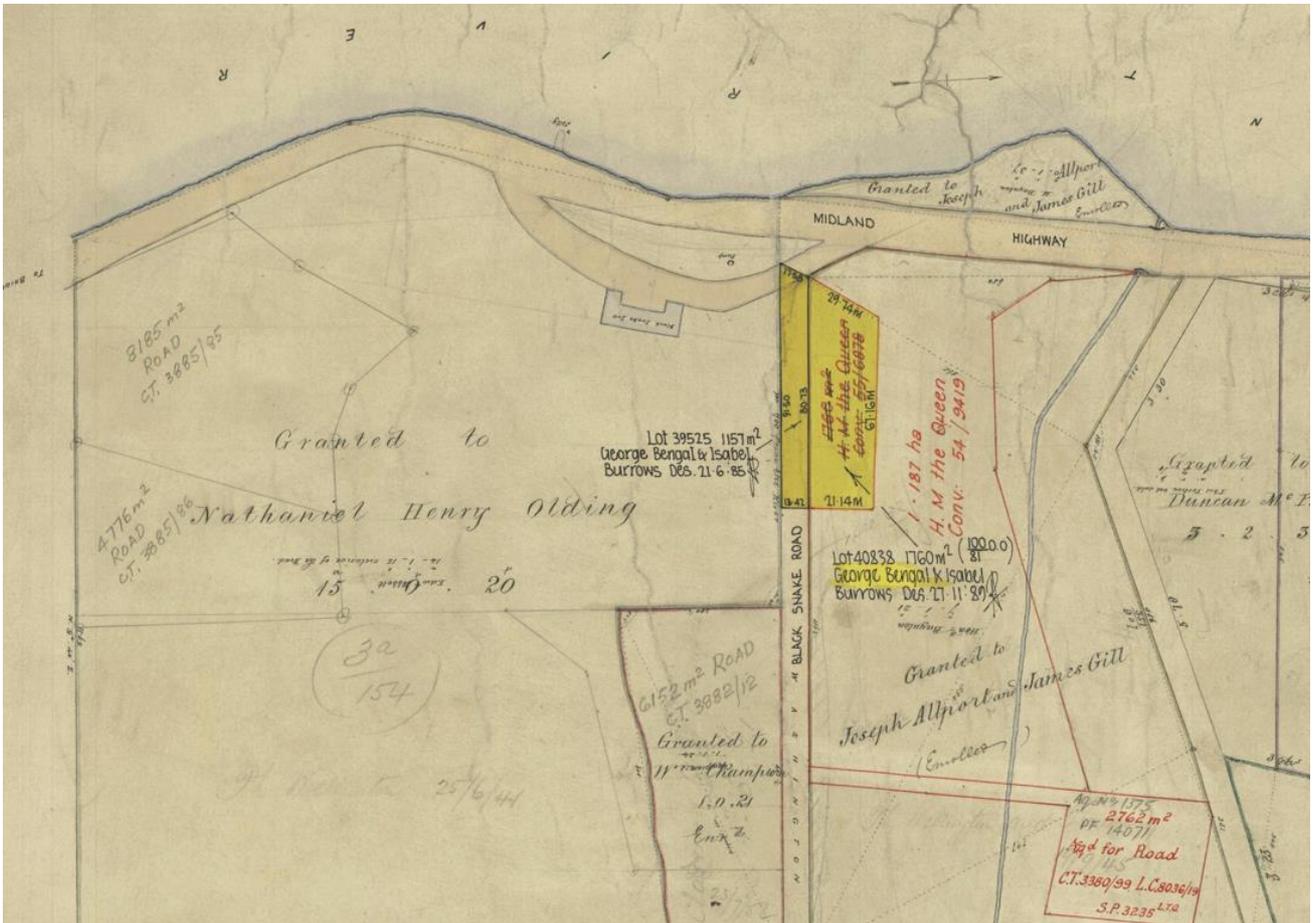


Figure 2.2.8 - An undated plan showing the footprint of the Black Snake Inn. Tasmanian Archive and Heritage Office AF396.1.71.

In 1856 the inn, including 15 acres was purchased by John King. The following year, a fire devastated the 'second' Black Snake Inn, described at the inquest as¹⁵:

THE LATE DESTRUCTION BY FIRE AT THE BLACK SNAKE, BRIDGE-WATER ROAD.

At the instance of the Liverpool and London Insurance Company, and for the benefit of the public safety, an inquest was convoked by A. B. Jones, Esq., at the York Hotel; Bridgewater Road, at 10 o'clock on Monday morning, in order to investigate the circumstances connected with the total destruction by fire on the night of the 19th inst., of the Black Snake Inn, lately in the occupation of W. James Hagan, which was situate some fifty yards off the main road, and about a quarter of a mile from the Bridgewater Bridge, this side of Hobart Town. The following gentlemen were sworn in as jurors, viz Mr. Fitzclarence Roberts, of Bridgewater, who was

¹⁵ Tasmanian Daily News (Hobart Town), Thursday 30 April 1857:2

elected foreman; and William Spriggs, Charles Mansfield, John Mansfield, William Wilkinson, Henry Morris William Bradshaw, Edward Roach, George Harris, William Mason, John Webb, and Frederick Longey. Mr. D'Arcy Haggitt attended for Messrs. Allport, Roberts, and Allport, agents of the insurance Company, The Coroner then charged the jury. He said they had been summoned for the purpose of inquiring into the origin of the fire at the Black Snake, and the object was to ascertain whether the fire occurred through accident, or was the result of a willful act. He had heard several rumours respecting the fire, but it was not for him to give any credence to them unless substantiated by proper evidence. They (the jury) were all neighbours, and had no doubt heard the reports which had been circulated. Before, however, proceeding to the enquiry, he begged them to divest their minds of all-they might have heard, and to come to the consideration of the evidence free from all bias. He should be glad if they could give him the names of any witnesses calculated to further the object for which they had assembled, and he should be happy to call them. He would now request the gentlemen of the jury to proceed to the scene of the fire. The jury then proceeded to inspect the ruins, which were distant about three hundred yards from the inquest room. Nothing but the bare walls and three chimneys were left standing. The house which has been destroyed was a substantial stone-built one, and stood on a slight rise, about fifty yards off the road side. The only sign of its having been an inn is a fragment of a board, inscribed "and spirits" suspended from a nail. Within some ten yards of the ruins is a spacious weatherboarded stable at one end apparently of recent erection, and it is a matter of astonishment that it escaped the conflagration. Some twenty yards from that stable is a large brick stable, both of which are, however, uninjured. Facing the ruins and fronting the road, a large booth is now standing, which has been erected by Mr. John King, the owner of the late premises; who, we learned, has since the fire, purchased the residue of the lease granted by him to Mr. Hagan. It was stated that the latter had been a severe loser by the fire, although he was insured.

Samuel Shirley on being sworn, stated—I am a laborer in the employ of William James Hagan, who keeps the Black Snake, at Bridge-water. I have been with him four weeks. I remember last Sunday night week. I went to bed about 9 o'clock that night. I slept in a little skilling at the back part of the Black Snake, which was used as a stable, and which is the only part which was attached to the house which is left standing. There was one horse in it. I slept in a corner of that stable. The noise of the horses awoke me, and I saw a light. I got up and put on my boots and trowsers, when I saw a flame in the centre of the house. This was about 12 o'clock at night.

Saw the light at the back of the house first, and it appeared to me to be in the front as much as in the back. When I got out I saw the flames bursting through the roof about the centre, close against a chimney which belonged to the bar fireplace. It was at the back of the chimney where I saw the flame. The back part of the house was a skilling. The front roof was of the ordinary kind. I called Mr. Hagan. I knocked at the bedroom door several times. I could not make him hear, and then I broke open the door. The door opened upon a terrace in front of the house. I am certain the door was opened. I think I ran against it and broke it open, I first saw Mr. Hagan un-dressed in the bedroom. Mrs. Hagan was putting her clothes on when I entered the room. The room was full of smoke so that I could scarcely see them. I think they ran into the stable and dressed. I cannot say whether Mr. Hagan was near the door or the bed when the door was opened. He was not just inside opening the door when I went in. I cannot say who carried the children out of the room, but I saw them in the stable after-wards. After this I and the other ostlers helped to get the furniture out of the bedroom. The police were there at this time. We tried to put out the fire by carrying water to the constable. The house was one mass of flame in a very short time, and in about an hour the roof fell in and the premises were burned down, so that we could do nothing to arrest the progress of the main body of the fire. When I called Mr. Hagan, I said "The house is on fire." He said, "Good God! is that the house on fire." I said "You had better get the mistress and the children out immediately." I have not heard Mr. Hagan say anything since that about the fire. I did not bear the ostlers say anything about the fire either before or since.

There are two stables, besides the skilling I slept in. The horses of the New Norfolk and Green Ponds coaches stood there. I did not hear any explosion while the fire was raging. I did not see the flames burst up at any time during the fire as if gunpowder or spirits had been thrown into the fire. I was perfectly sober on going to bed. I was in the bar and heard Mr. Hagan say "come, we have nothing to stay up for, we had better go to bed," and then I left the house. The nurse maid and woman servant were in the bar when I went to bed, all were sober. I could not get anything out of the best parlour on account of the flames. The fire had not extended to that parlor when I first saw the flames. The flames reached the bed room in about a quarter of an hour. The wind blew from the direction of New Norfolk on the night of the fire. Had the wind been in a different direction, the whole of the stabling would have been swept away. The parlor was well furnished. The Coroner directed that no one should re-main within hearing of the examination of the witnesses. Examination continued— There was a small wood fire in the bar

on the night of the 19th inst. This witness was examined at far greater length, but the remainder of his testimony simply went to show what he "heard" as to the quantity of bottled ale, porter, and spirits supplied to Mr. Hagan during the last month.

John Connor, constable, stationed at Bridgewater, deposed as follows: I was on duty, at the watch house, Bridgewater. About half-past 11 o'clock on the night of the 19th inst., from information I received, I went to the Black Snake public house, which I found to be on fire. Found the flames coming from the middle of the back part of the building near the store. When I arrived, I succeeded with others in saving the stable. Saw the landlord (Mr. Hagan) and his wife, the servant and two children. Mr. Hagan was walking up and down and appeared excited. I began to assist to save the furniture and to carry water to the fire. The police station is distant about 200 yards from the Black Snake Inn. I could walk the distance at a fast pace in 3 minutes. I have been into the Black Snake about four times. I did not know where the spirit store was till after the crash. The store was towards the police station at the back part of the building. I was on duty along the main road on the night of the fire at 11 o'clock, to the best of my knowledge I saw nothing unusual at that time. All appeared to be perfectly safe. There were no lights in the house, and the front door was closed. Did not speak to Mr. Hagan on that night, nor he to me. Have had no conversation with him since. Have spoken to his groom. Asked him on the night of the fire how it originated, but he said he could not tell. By a Juryman: I do not know who the man was who came to the police Station to give the alarm of fire. He does not live about here, and he is a stranger to me. David Stephens, farmer, at Bridgewater, deposed that he went to the fire on the night in question, and remained there about twenty minutes. The fire was then in a smoldering state. Witness spoke to Mr. Hagan, who said "It is a very bad job" Witness had not spoken to him since the fire. Witness had lived about four years in the neighbourhood but was not acquainted with the best parlour or the spirit store. Mr. Hagan's man borrowed a chaise-cart off witness for Mr. Hagan, shortly before the fire. By a Juror: The fire was in sight whilst I was coming to it, but I did not see anything as if gunpowder or spirits had been thrown into the fire. I saw some furniture outside, but not much. I cannot tell its value.

William White, groom, in the employ of Mr. Mills, at the Black Snake, Bridgewater, stated: On Sunday week last, about half past 11 o'clock at night, Mr. Hagan's man servant knocked at the door and said "make haste and get up John, there is a fire." I got up as quick as I could; when I

opened the door I saw Mr. Hagan's servant woman and another woman whom I knew by the name of Margaret, and Mr. Hagan's two children. They asked me to let them into the stable for shelter. I left the door open for them, and went to render what assistance I could. When I came out I saw Mr. Lucas' hostler, Thomas Walker, turning out Mr. Lucas' horses and bringing out the horses' clothing. I then went round to the front of the house, where I saw Mr. Hagan and his servant Sam exerting themselves to save what they could. I assisted them in getting out the furniture. I remained doing so till the roof began to fall. I was afraid to go in any more then. Assisted to carry water to save the small skilling stable close to the end of the house on the New Norfolk side. To the best of my knowledge the first part of the house I observed on fire was, near the chimney, which was over the bar. The fire very quickly spread over the other parts of the building. I slept in the stone stable near the building. Have been about nine months employed at the stable, five months of which I have been in Mr. Hagan's service. The store was at the back of the bar and adjoining the back of the small stable. Have not been in that store for perhaps two or three or four months. When I was last in the store, I have seen brandy, rum, gin, ale, and beer there. Don't know what has been in the store lately, as I have not been allowed in. It was a good sized store for a public house. I was sober and went to bed about 8 o'clock on the night of the fire, when every thing was "right and 'square'," as far as I could see. I think there was a light in the bar, but I would not be sure I think Mr. Hagan said, on looking at the fire, " Good God! John, what a sight is this!" I have had no conversation about the fire since it occurred. I do not recollect Mr. Hagan saying anything to me after the fire, except to ask me to exert myself. I did not hear an explosion as if gunpowder had gone off, I cannot say whether the spirits made an explosion or not. By a juror: I cannot enumerate the articles of furniture which were saved. By another juror: There was a man, with-out house and home, who was going some where to get work, who slept in the stable. He was a stranger, and benighted. I should know him again if I saw him. By the Coroner: He was my guest. I allowed him to sleep in the stable. He came about 7 or 8 o'clock. I allowed him to lie down on some bags. He said he had no money. When I was woke up the man was lying on the bags, and he jumped up as quick as he could. I think he went down to call the constables. I believe I saw him after daylight. I saw him assisting at the fire. I have not seen him since. I do not recollect having seen him before the night of the fire. Thomas Walker, groom, in the employ of Mr. Lucas, deposed that he lived in the stables at the Black Snake, and was called up on the night of the fire. He got up, and turned out his horses, and began to throw water on the fire, and succeeded in saving the skilling stable adjoining the premises. About a quarter of an hour after I came out I heard a loud

explosion, which appeared to come from the centre of the house. The flames appeared to burn with much greater vigour after the explosion than before. On Saturday night preceding the fire I had been in the bar, and remarked to Mrs Hagan that there, was a smell of fire. Mrs Hagan said "there is nothing burning except the fire." I answered, "I smell something like a rug burning." Mr. Hagan looked up the chimney. Mrs Hagan, who was standing near, said, "It cannot be the chimney for I had it swept not long ago." I heard Mr. Hagan say during the fire, " Oh my God, I am a ruined, man." Witness was in the house at half past 8 o'clock on the night of the 10th inst. There was a fire in the bar fire-place of large logs. I did not smell anything of the fire then. The only persons there then were Mr. and Mrs Hagan and the servants.

By Mr. Haggitt: I remarked to some one, on hearing the explosion, "there is something gone off." I never allow anyone to stop in my stable. By the Coroner: I know a man called "Lagger." He went away with some horses on the Saturday before the fire, and did not return till the Tuesday after. I do not take my meals on the premises. I have been living there 10 months. Have been in the store putting up casks. Was last there about a fortnight before the fire happened, when three casks of beer came. Can't tell how many casks were in the store then. I am sure there were not ten, but cannot say there were not six. Saw plenty of bottles there. I also saw three or four gin cases. I tried to get one out but could not. Saw no other kind of cases. Never went into any other part of Mr. Hagan's house but the store and the bar. The store was at the back of the bar, and next to the skilling place which was not burned. The bar fire-place was in the wall which separated the bar from the store. John King, farmer, of Glenorchy, deposed that he was the owner of the Black Snake public-house, which was insured by him in the Derwent and Tamar Insurance Company for £800. Witness knew nothing of the internal arrangements of the house. He had possessed the house about 10 years. There were two shelves in the store.

George Duke, Sergeant of Police, stationed at Bridgewater, stated that he went to the Black Snake about half-past 11 o'clock on the night in question, and found the centre of the back part of the house on fire. Witness requested a servant to cut down the fences which communicated with the new stable, and then assisted to roll a number of empty casks away from the back of the building where the fire appeared to burn. most briskly. I then, said the Sergeant, with constable Rolston got upon a stable attached to the main, building while the other constables and Mr. Hagan's servants supplied us with water from the well in front of the house. We

succeeded in saving that stable, which was full of loose hay. When I was on the top of the stable an explosion took place in a room which Mr. Hagan afterwards told me was the storeroom. It was not like the explosion of gunpowder; but was as if a spirit cask had burst; and after that the fire burnt more furiously than before. When I first arrived the wind blew down the river, which rendered it impossible to save that portion of the building nearest Hobart Town. The whole of the premises were consumed by 1 o'clock on the Monday of the 20th. After the fire, Mr. Hagan said, "God knows how the fire occurred for I was asleep. I think it must have originated from the chimney." Asked him if his chimney was foul, he said, "I think not, for I always have it swept whenever the sweep comes this way." He further said, I am a ruined man. I had £75 in the cellar. I put it there for safety. You know I have been ill, and not able to go to town." I examined the chimney in the house, and found a hole in it about two feet from the bottom leading into the store room. Sent the whole of Mr. Hagan's family to the watch-house for protection. They remained there till the next day.

By Mr. Haggitt: The shelves round the bar appeared to be pretty well stocked. By the Coroner: I saw a man assisting at the fire, but have never seen him since, he was a perfect stranger to me. Mr. Hagan told me that no stranger slept in his house on the night of the fire. I have measured the store room, it is 31 feet long by 17 feet wide. I have examined the rubbish inside it, and found the remains of six casks, I judge the number by the number of hoops. I have been stationed at Bridgewater about three months, and passed the house about half past nine of the 19th, all was right then. Mr. Hagan did a good business.

Margaret Mahoney was sworn, and said, I am a nursemaid in the employ of Mr. Hagan, and was so on Sunday evening, the 19th inst. I went to bed between 9 and 10 o'clock and slept up stairs near the centre part of the house. The woman servant went to bed before me, she slept over the bar. I left Mr. and Mrs. Hagan sitting up. There was a fire in the bar, but not much. There was no one else in the house to my knowledge. After I had been asleep about two hours, I was awoke by Mr. Hagan calling out "Margaret, are you there?" I got up, and went down stairs into Mr. Hagan's bed-room and took the two children into the stable. The woman servant in Mr. Hagan's service I only knew by the name of Jeanett. She was a ticket of leave woman. She had received a sentence and returned to Mr. Hagan's service on the morning of the same day that the fire occurred. She is a Scotchwoman. This woman was not forth coming as a witness By the Foreman: I cannot say that the chimney of the bar room ran up through the bed-

room in which the woman servant slept. By the Coroner: I had been into the store. I was there with Mrs. Hagan on the 19th inst. This witness was subjected to a very lengthened examination respecting the description and quantity of furniture in the house at the time of the fire, and also as to the quantity actually saved. A juror remarked that a great deal of time had been taken up in examining this witness, who could not know very much about the furniture, only having been at Mr. Hagan's from day to day. The Coroner observed that the only object in his asking the questions respecting furniture was to connect it with the insurance of the property.

William James Hagan was then called, and after being duly cautioned by the Coroner that he was not bound to answer any question unless he liked, deposed as follows: I am a licensed victualler, and kept the Black Snake Public-house, Bridgewater, on the 19th inst. between 11 and 12 o'clock on the 19th inst., my bedroom door was pushed or broken open, I cannot tell which. My servant man sung out "Get up for God's sake— the house is all in flames, and you'll be burnt to death!" I then got up and lighted a candle, dressed my self, and got my wife and children outside. I then ran into my storeroom at the back of the bar, to look for £75 in notes that I had put under a cask, and on opening the door I found the room all in flames. The door was bolted. There was no lock to the door. It never re-quired to be locked, as I locked the bar door. I then ran up stairs to see if the women had, got down. I went up the back stairs leading out of my own bedroom into the room over the bar, in which the woman servant slept. I found her up, and in her chemise. She is now in Hobart Town, I then went up the front stairs and brought, down the girl Margaret Mahoney. I then sent for the constables. The rest of the evidence adduced by the witness Hagan was merely confirmatory of that adduced by the other witnesses. The Coroner summed up the evidence most minutely, and the jury, after a few moments' consultation, returned a verdict "That the Black Snake was burnt down on the night of the 19th inst., but there is not sufficient evidence to show in what way the fire originated." The inquiry lasted 10 hours.

The cause of the fire was not determined.¹⁶ Within two weeks of the fire, it was advertised that a public house was being operated from a 'building erected in front of the ruins' (presumably a temporary building necessary to retain the license)¹⁷.

¹⁶ The Courier, 30/8/1857:2.

¹⁷ The Colonial Times, 2/5/1857:3.

In August 1858, William Harvey formerly of the Wilmot Arms Hotel in Green Ponds advertised that he had obtained transfer of the license of the Black Snake at Bridgewater – however no new building was explicitly mentioned.¹⁸

Evidently, a dispute had occurred over the payment for preparation of plans and specifications for the rebuilding of the Black Snake public-house at Bridgewater, where Architect Mr. Thomas claimed 25 pounds payment from John King, who had claimed not to have employed Thomas.¹⁹

In February 1859 the Black Snake Inn Bridgewater was advertised for lease, noting it was doing *a first-rate business*²⁰ - Harvey having been declared insolvent²¹. Again no building is described at the time, however in May 1860 the owner at the time of the fire (John King) had resumed the lease and described the premises as *commodious premises*.²²

Whilst there were a succession of lessees, King retained ownership of the hotel until 1873, until it was purchased by Richard Rodda, who advertised for sale in 1876 as:

EARLY IN NOVEMBER.

“BLACK SNAKE HOTEL,”

BRIDGEWATER,

And about NINE ACRES OF LAND:

Close to the Railway Station.

ROBERTS & CO. Instructed by the Proprietor, Mr. RICHARD RODDA, will sell at their mart, early in November, THAT REALLY FIRST-CLASS HOTEL, known as the “BLACK SNAKE,” together with about NINE ACRES OF LAND, situate 10 miles from Hobart Town, and about 300 yards from the South Bridgewater Railway Station.

The house is substantially built of freestone, is of two stories, and contains 12 lofty and Spacious rooms; stone kitchen and store room detached, together with skittle ground and stabling

¹⁸ The Hobart Town Daily Mercury, 12/8/1858:3.

¹⁹ The Courier, Hobart, 8/10/1858:3.

²⁰ The Hobart Town Daily Mercury, 25/2/1859:4.

²¹ The Courier, Hobart, 11/5/1859:3.

²² The Hobart Town Daily Mercury, 10/5/1860:3).

sufficient for 25 horses. The land consisting of nine acres, under cultivation, with the garden and orchard; is enclosed with new post and rail fence. There is a never failing spring of water within a few yards of the front door, and, in fact, every convenience and facility inside and outside to conduct a large, and profitable business. The New Norfolk Coach changes horses at the door, and other conveyances make this their regular house of bait. This property forming a safe and remunerative investment, is worthy the attention of capitalists.

Terms.—Deposit at time of sale £600; balance by two bills at 6 and 12 months bearing interest at 7 per cent, secured on the property, or the whole may be paid in cash.²³

The hotel did not sell and in 1884 Rodda defaulted on his mortgage to King. The hotel ceased trading mid-that year. A detailed list of licensees is provided in a Wikitree article by Dan Farrar.²⁴

The property passed through the ownership of several others before being purchased by David Hamilton Hughes in mid-1888. Hughes, born ca. 1853 at Antrim, County Antrim, Ireland, named the former inn *Ardilea*. The name was apparently after the residential estate of that name located 2.5 km north-west of Belfast City Hall.^[52] IN 1892, Hughes and his family departed for England, never to return.

Shortly afterwards, the YWCA leased the property for use as a “female convalescent home”. On 20 April 1896, *Ardilea* was auctioned. Whilst the auctioneer’s description of the “Gentleman’s Residence” may have been less colourful than George Robinson’s advertisement of 6 decades earlier it, nevertheless, provided interesting detail about the former inn, turned convalescent home. turned residence:^[54]

"ARDILEA" SOUTH BRIDGEWATER

DELIGHTFUL SUBURBAN RETREAT

THAT DELIGHTFULLY SITUATED Suburban Retreat, known as "Ardilea" distant 11 miles from Hobart, with rail, road and water carriage front the door, and in almost hourly communication with the city.

The House, a two storey one, is constructed of cut free-stone, with front balcony, and is tastefully surrounded with shrubberies. It contains 10 good rooms, with pantry, kitchen, dairy, coachhouse, 3-stalled stable and loose box, and every other necessary convenience to fit it as a gentleman’s residence, having unusual advantages; water laid on all over the house.

²³ The Mercury, 10/10/1876, p. 4

²⁴ https://www.wikitree.com/wiki/Space:The_Black_Snake_Inn#_note-54 Accessed 9/11/21.

The area to be sold comprises 8a. 1r. 11½p., of which 1¼ acres are down to orchard, planted with choicest trees, now in full bearing. ...It is well watered, and has also a large underground tank, computed to hold many thousands of gallons.²⁵

It was purchased by Joseph Charles Alexander. Alexander expanded the orchard and it seems likely that it was he who added the verandah on 3 sides with the north-west side enclosed with narrow windows. After Alexander's death the property was put to auction on 29 August 1916.

"ARDILEA," situate at Granton, comprising of about 23¼ acres, part orchard of quince, apricot, apple, etc.; part farm land; and the balance grazing and bush. Has a large frontage on the Main-road, and is close to the railway station; is splendidly situated, and has a beautiful view. On the property there is a substantial 13 roomed Stone House, including two large halls, in good order, verandah nearly all round house, with conservatory at one end, and small balcony; fitted with acetylene gas, stables, coachhouse, and usual outbuildings; also right of use of private jetty.²⁶

Ardilea failed to sell. Alexander's widow, Flora, and son, moved to Pirie Street, New Town, before May 1919 taking the property name with them. The former *Ardilea* was then leased by Alexander's trustees (Thomas Murdock and Charles McKay) to Donald Tribolet, a local orchardist, until 1921 when he became owner.²⁷ It was transferred to Walter Tribolet in 1924.²⁸ It was later sold to Keith Dickenson from Walter Tribolet in 1937²⁹

A refusal by Henry Jones & Co. to purchase his fruit prompted Dickenson to sell his produce directly 'out front'. Requests for vegetables & eggs then prompted Dickenson to open a shop in the lower front of the building. Demand was such that the shop expanded to include all of the large front room which became a general store. Less than 2 years later Dickenson, compelled by family circumstances, advertised the house, with general store for sale:^[57]

FOR IMMEDIATE SALE, ORCHARD AND STORE AT GRANTON. 23 acres, 5 acres apricot orchard (300 bushels sold last year), 2 acres market garden, water available, 2 storey stone house, 10 rooms and all conveniences under one roof, 4 roomed W.B. Cottage. Flat in house and cottage

²⁵ The Mercury, 7/4/1896:4

²⁶ The Mercury, 7/8/1916:8.

²⁷ Lands Tasmania Historic Folio 288/1423

²⁸ *Ibid.*

²⁹ *Ibid.*

at present let, returning over £1 per week. Also general store business in main dwelling.
£1,500. £400 cash, balance can remain. Full particulars from K. Dickenson, Granton.³⁰

The property was purchased by Charles Good in 1939.³¹ He and his wife Freda continued to operate the roadhouse for the next 30 years (leased from 1948). After closure of the roadhouse, the property was purchased from the estate of Charles Good by George Burrows in 1968.³²



Figure 2.2.9 - The Black Snake Inn and surrounding orchards, 1946. Lands Tasmania Hobart 1946 Run 1,19747.

³⁰ The Mercury, 1/6/1939:2.

³¹ Lands Tasmania Historic Folio 288/1423

³² Lands Tasmania Historic Folio 2361/91.

The subject site has a complex development history that can be summarised as the following:

- A rudimentary building as the first Black Snake Inn, constructed sometime between 1811 and 1819. Described in 1830 as *five commodious rooms and kitchen, a six stall stable, fowl houses, stock yards &c.*
- A new hotel was built in 1833, described as *a spacious Stone Building, comprising 15 rooms, namely— 3 large parlours, 2 well finished sitting rooms, 6 up-stair rooms. The kitchen contains a large oven, &c. with bed-room and store-room attached. The stables are large and commodious, with coach-house, piggery, and fowl-house*
- These two inns stood side by side for some time, with the old building being repurposed as a store following the construction of the new inn – i.e. they could not have been on the same site. This is likely the configuration shown on the 1833 survey which distinctly shows two similar sized buildings on the frontage of the site. It is not known when the earlier building was demolished, however it is not shown on the 1838 survey.
- It is unclear if the earlier outbuildings were the same buildings as the later suite of outbuildings. The 1838 survey shows two outbuildings, one to the north-west which is most likely a stable, and a smaller building to the west. Both the c1822-3 sketches show a building to the rear of the inn – most likely stables and the 1832 depiction shows a similar building to the rear.
- Following the destruction by fire of the second inn, and during construction of the current building, a temporary inn was located ‘in front of the ruin’ presumably in a comparatively ephemeral building.
- The current inn building was built to a design probably by an architect named Thomas around 1858. Early descriptions of the building describe it as *containing 12 lofty and Spacious rooms; stone kitchen and store room detached, together with skittle ground and stabling sufficient for 25 horses.*

2.3. Locating the earlier structures

The precise locations of the earlier structures – hence hints as to the areas of archaeological potential, are not known precisely. As per above, the following can be alluded to from historical depictions – noting that artistic license may result in inaccuracy and incorrect assumptions:

- Figure 2.2.1 appears to place the earliest inn facing north, with another (stables?) building directly behind, on the lower slope close to the road.
- Figure 2.2.3 appears to place the earliest inn towards the river-front of the site, on a small headland above the road and also facing north. There are outbuildings to the rear as per 2.2.1. Note also the flagpole in front also seen in Figure 2.2.1.
- Figure 2.2.4 appears to place the second inn building facing more north-east, also perched on a small headland just above the road. Note the flagpole in the background. No outbuildings are depicted, however if the earlier inn was just inland from the flagpole as Figure 2.2.3 implies, then it would be just behind the new inn from this angle.
- The above assumptions correspond with the earliest map known (c1835), as depicted on Figure 2.2.5. That shows one building facing north, one facing north east, both just inland from the road.
- The 1838 map shows only one large building, most likely being the second inn, but with an ancillary building to the north-west which may be the remnant outbuilding of the earlier inn – that earlier building apparently having been demolished by then.
- The undated, but pre-1857 map shows a single similar shaped building, with a ‘pump’ (well?) in front and a semi-circular driveway as also depicted on the c1835 map.
- Historical descriptions note that the ‘temporary’ inn quickly established after the 1857 fire was ‘in front of the ruin’, which would place it in the vicinity of the existing building towards the road.

The following figures use the c1835, 1838 and pre-1857 maps, georeferenced to a wider area to points such as the shoreline, traditional boundaries and the road etc. to try and find a best-fit for the marked locations of the Black Snake Inn.³³

³³ Noting that the shoreline would have been subject to some change, from land reclamation, erosion etc. Similarly the road has changed, with widening, realignments etc.



Figure 2.2.10 – Georeferenced overlay of the c1835 map (see Figure 2.2.5) over a current aerial. The locality of the Black Snake Inn depicted by the red arrow.



Figure 2.2.11 – Georeferenced overlay detail of the c1835 map (see Figure 2.2.5) over a current aerial. The subject site outlined in red.



Figure 2.2.12 – Georeferenced overlay of the 1838 map (see Figure 2.2.6) over a current aerial. The locality of the Black Snake Inn depicted by the red arrow.



Figure 2.2.13 – Georeferenced overlay detail of the 1888 map (see Figure 2.2.6) over a current aerial. The subject site outlined in red.



Figure 2.2.14 – Georeferenced overlay detail of the pre-1857 map (see Figure 2.2.8) over a current aerial. The subject site outlined in red.

The above georeferenced images depict a remarkable correlation given their early age and wide area covered with such early survey techniques. Each of them place:

- The second Black Snake Inn immediately at the rear of the current (technically fourth) inn building.
- The first Black Snake Inn just to the north-west of the current building, possibly only partly within the subject site.
- An early outbuilding on the site of the existing timber shed (not necessarily implying that shed is early).
- Another early outbuilding (possible the first inn stables) on/near the north-west tip of the subject site.
- The 'pump' (well?) as depicted on the pre-1857 plan no the front boundary of the site (road widening has placed the front boundary closer to this feature.

The following zoning plan depicts the best-known locations of the four Black Snake Inns:



Figure 2.2.15 – The possible locations of the earlier Black Snake Inns from historical sources. Blue depicting the possible location of the first (1810s) inn, orange the location of the 1833 inn and one of the associated outbuildings, green depicting the (comparatively vague) possible area of the 1857 temporary inn.

It must be noted however that Figure 2.2.13 does not necessarily depict *all* known outbuildings, given the early descriptions there were at least two stables buildings (possibly depicted here) – noted as representing up to 25 stalls, piggeries, store houses, fowl houses, coach house etc. Whilst these have been noted in historical records, their locations are not known.

2.4. The likely significance and research potential of archaeological remains

The site history indicates that the site is associated with the following themes:

- The site of four-generations of a hotel building and associated suite of outbuildings, dating from the 1810s to the 1880s.
- Associations with an early ferrying industry across the Derwent.
- Associations with a coaching enterprise.
- Over 200 years of domestic habitation.
- Use as a general store during the 1830s.
- Early agricultural enterprises.

The site may also yield information on site formation processes which have acted upon the site, both pre and during construction (e.g. alteration of the natural landform, construction rubble), use (e.g. occupation deposits), demolition (e.g. demolition rubble) and post-demolition use (e.g. fill and disturbance) as well as early infrastructure such as roads, land reclamation etc.

Little archaeological work has been done on the specific investigation of colonial hotel sites in Tasmania. The very few works investigating such sites are primarily concerned with hotel sites in an urban context, as part of wider urban areas (i.e. Wapping and Sullivan's Cove). Parham (Austral Archaeology 1997) extensively investigated the former Exchange Tavern/McLaren's Hotel (1845) in Collins Street Hobart³⁴, Kostoglou (Archaeological Services Tasmania 2002) undertook a brief examination of the Tamar Hotel in William Street Launceston³⁵, and the former Fisherman's Arms (1845) and Shades Tavern (1840) were part of the focus of test-trenching in Hunter Street Hobart by Parham (Austral Archaeology 2003)³⁶. Williams (Praxis Heritage Consultants 2008) developed a statement of archaeological potential for the Steam Packet Hotel, Esplanade Launceston, although this has not resulted (as yet) in any excavations.³⁷ The former Dolphin Hotel site in

³⁴ AUSTRAL ARCHAEOLOGY, 1997: *Archaeological Investigation into the Drysdale Hospitality College site, Hobart, Vols. 1-4*. Held by Heritage Tasmania RPT 0081-4

³⁵ KOSTOGLU, P. 2002: *Archaeological Mitigation Works, Tamar Hotel Property, 99 William Street, Launceston*. Held by Heritage Tasmania RPT 11289.

³⁶ AUSTRAL ARCHAEOLOGY, 2003: *Archaeological Test Excavation Results, 15 Hunter Street*. Held by Heritage Tasmania RPT 1807.

³⁷ PRAXIS HERITAGE CONSULTANTS, 2008: *Boag's Brew House Development, Statement of Archaeological Potential*. Held by Heritage Tasmania – Boag's property file (William Street, Launceston).

Campbell Streets, as part of the Wapping Part 4 project (ArcTas, forthcoming) and Praxis Environment has investigated the Whale Fishery Hotel in Watchorn Street (with limited results due to prior disturbance).³⁸

A search of Heritage Tasmania's unpublished reports collection, and the Department of Water and Environment Library found no reports archaeological investigation of rural hotel complexes, in particular substantial outbuildings associated with such. Therefore, archaeological investigation of the Black Snake Inn(s) and outbuildings has the potential to instigate (and contribute to) wider thematic investigation into what could be a valuable corpus of knowledge on a thus-far little-known theme³⁹. Further, no archaeological works are known to have occurred in Tasmania which specifically examine the association with colonial ferry services or coaching initiatives.

Investigation of rural colonial hotels could provide valuable supplementary information on understanding the place of the rural hotel complexes as the social and commercial heart of colonial outposts, and investigation of supplementary outbuildings might provide information about the lives and duties of those persons closely associated with the operation of those hotels and the coaching industry – information which the popular historical record (being more concerned with the front-face of hotel operation) might not ordinarily represent.

Based on the historical overview of the site detailed in Section 2.2, and the broad area plan of site development (Figure 2.2.13), it can be concluded that part of the site has a high degree of archaeological potential, in that it is likely to yield information as to the development and nature of the substantial outbuilding which once existed to the rear of the hotel – information which the historical record might not be able to provide.

Information about this outbuilding is likely to contribute to an understanding of the historic cultural heritage significance of the Black Snake Hotel(s) complex, potentially providing knowledge about the nature and functions of the generations of buildings within the context of an early and significant hotel complex. It might also contribute substantial information regarding the operations of the hotel within the context of the Hobart fringe as an early colonial outpost, as well as contribute to the thematic investigation of early Tasmanian hotel complexes. Besides the site of this building having the potential to yield information about the nature

³⁸ PRAXIS ENVIRONMENT, 2020: *Report on Archaeological Excavations, 'The Commons' 126 Bathurst Street, Hobart.*

³⁹ It is known that archaeological work was undertaken in recent years on the Crooked Billet Hotel site as part of the Brighton Bypass works, however no report for those investigations was found in the course of this project.

of this building and its functions, it may also yield information about the people who lived, worked and frequented within it, information which may have not been recorded in history.

From a wider regional perspective, archaeological data and remains yielded from the subject site, whether coupled with other Hobart/Tasmanian data, has the potential to strengthen a comparative dataset for research into intra-colonial society through comparison with mainland (and indeed inter-colonial society on an international level).

From a temporal perspective, any remains from the investigation of such colonial hotel complexes represent a formative period of the settlement of Tasmania and are likely to be of significance when considering their research potential.

Consistent with the 'Tiered research question' approach outlined in the Tasmanian Heritage Council's *Guidelines for Historical Archaeological Research on Registered Places*⁴⁰, the following questions could be investigated in the archaeological remains expected to be present within the subject site:

Tier 1 Questions: These questions outline the essential knowledge base needed for any site research or significance evaluations. Such questions are often empirical in nature, and straightforward answers can be sought and often identified – generally limited to a physical knowledge of that particular place. Questions relevant to the subject site may include:

- Precisely where were the earlier Black Snake Inns?
- How closely did the buildings and site features conform to the historic plans?
- What construction methods were used in the buildings and other infrastructure?
- What evidence of alteration of the natural landscape and cultural interventions to the site is archaeologically determinable (e.g. filling of the site, demolition events, site formation processes etc.).
- Are the distinct use/development phases of the buildings distinguishable?

⁴⁰ <http://www.heritage.tas.gov.au/media/pdf/Archae%20ResGlides%20%20FINAL%20-%20June%202009.pdf>

- Can the layout and function of the buildings, and indeed individual rooms or yard spaces be ascertained?
- How thoroughly were the buildings demolished?

Answers to these questions provide a foundation of information about the structure, type, use and duration of site occupation which enables the researcher to consider a second tier of questions.

Tier 2 Questions: Conclusions that can be drawn about a site that connect the material remains found on a site to specific behavior. For instance:

- Do any activities archaeologically apparent on the site (e.g. drinking, food, smoking, entertainment) provide meaningful comparisons on aspects of those themes with other contemporary Hotels, or wider Hobart/Tasmania or for that matter Australian or international hotel sites?
- Is the use of the site as a ferry terminal or a coaching stop archaeologically recognisable?
- Do artifacts relate to the lifeways of the households that lived and/or worked on the site? For instance, do any artifacts represent class, gender, taste and health/hygiene of those living/working on the site? Particularly if artifacts can be specifically dated, and with supplementary historical research, artifact assemblages from this site may contribute knowledge and provide tangible connectedness to known inhabitants etc. and how they lived.

Tier 3 Questions: These questions represent the highest level of inquiry. Such questions associate the activities and behavior at individual sites with broad social, technological and cultural developments – which can be of interest on local, national or global lines of enquiry. Whilst these questions posed for a single site may not reach conclusions in the short term (as Tier 1 and 2 questions might) – the collection of data can contribute to future research by the provision of a comparable dataset. The goal of such research is to develop increasingly refined and tested understandings of human cultures within broader theoretical or comparative contexts. Lines of wider enquiry that findings from within the subject site may contribute to are:

- Do any activities archaeologically apparent on the site (e.g. drinking, food, hygiene, entertainment) provide meaningful comparisons on aspects of those themes with other contemporary residential Hobart hotels or wider Hobart/Tasmania or for that matter Australian or international 1810s+ hotel sites?

- Do the conclusions on gender, class, economic and social status of the inhabitants of the residences and associated buildings conform to the 'normal' Georgian to mid Victorian households?
- Are there class or status differences evident in the material culture of the inhabitants of this area (subject to further historical research) when compared to, say, other early commercial or residential enclaves or sites in contemporary rural areas and/or other cities?
- Did any changes in material culture through time in the residences coincide with wider Tasmanian or local events or technology (e.g. urbanisation/development of Hobart, railway/port upgrades, start of rubbish collection etc.)?

2.5. Current site observations and assessment of prior disturbance

As per the methodology outlined in Section 2.1, Section 3.3 has formed a desktop assessment of the factors which have influenced the development of the possible archaeological resource within the subject site over a 200+ year period.

However, it is critical to understand other factors, in particular site disturbance, which may have impacted upon the archaeological potential of the site and its ability to provide meaningful archaeological remains which answer research questions such as those above.



Figure 2.5.1 – Oblique aerial view of most of the subject site. Fall real estate 2021.



Figure 2.5.2 – Oblique aerial view of most of the subject site. Fall real estate 2021.

2.5.1. General site observations

Observations from public vantage points to date reveal the following points relevant to understanding the form of the site:

- The hotel is located very close to the front of the site, consistent with early depictions of earlier hotel buildings perched on the escarpment overlooking the road.
- The current road is likely to have been heightened with decades of roadworks. It was widened substantially in the mid-c20th with some of the land of the Black Snake Inn subsumed.
- The 1870s construction of the main-line railway is likely to have altered the landform in front of the hotel, particularly with squaring up the foreshore and heightening the shore edge.
- The land slopes gently from the rear, as depicted in historic images. There are a number of flattened platforms which could represent building sites, gardens etc.
- The remnant of Black Snake Lane is evident, having been added to the site in the 1970s when the rear of the site was subsumed for the Brooker Highway.

- Traversing northward, the land slopes upward to another platform possible representing the first inn site. There is rubble in that vicinity which may represent a demolished outbuilding, discard or paddock clearance, however this *may* represent early fabric.
- There is evidence of substantial groundworks at the rear of the existing former inn building in the location expected to be the site of the second Black Snake Inn.

An examination of the hillshade grey imagery on www.thelist.tas.gov.au gives valuable insight into non-observable site conditions.

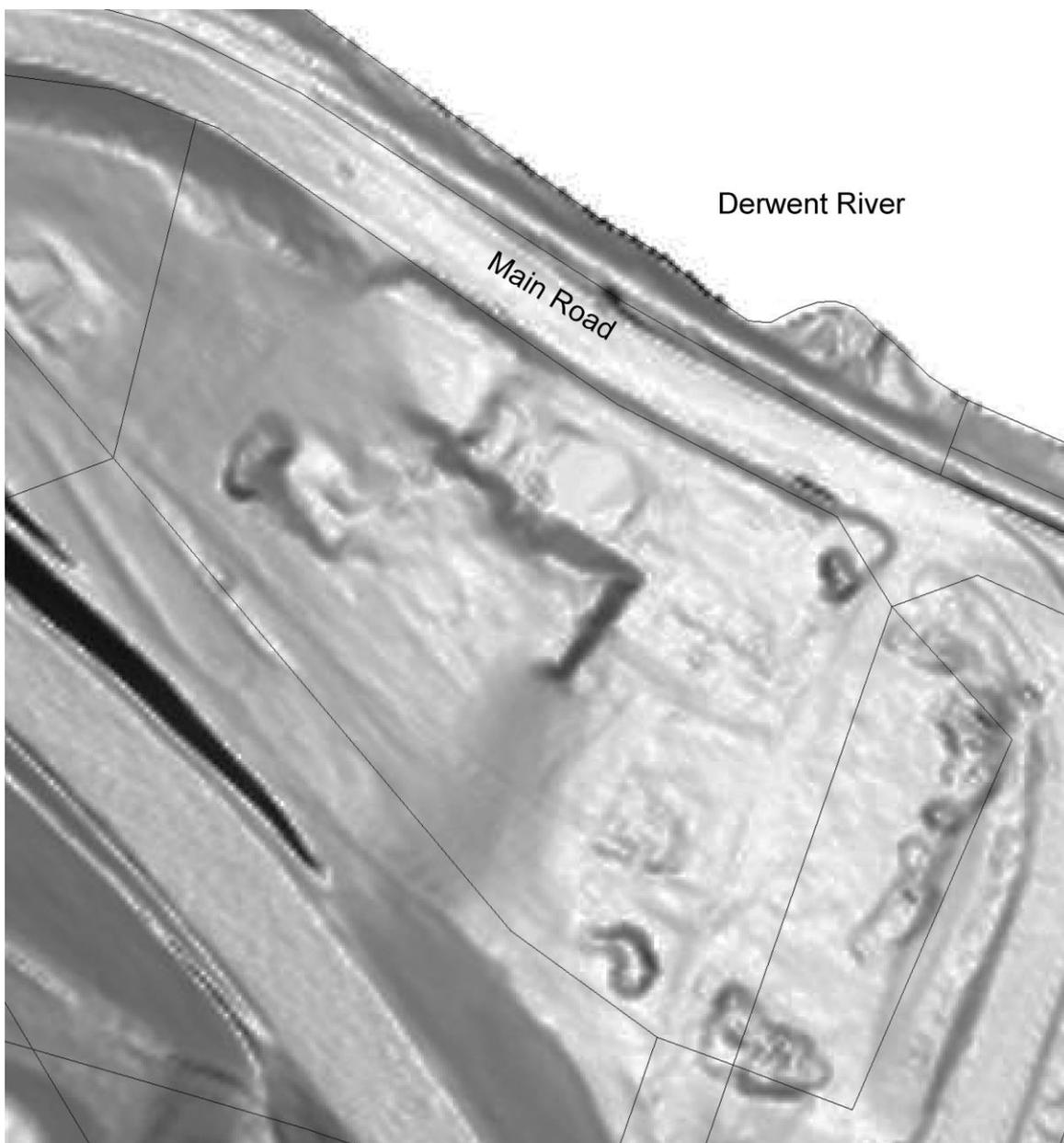


Figure 2.5.3 – Hillshade grey imagery of the subject site, from www.thelist.tas.gov.au

That imagery shows distinct linear/geometric features to the south-east of the existing inn building, which very distinctly imply building footprints – which resemble the general tenor of the second inn building and an outbuildings at rear as depicted in historical imagery – to the south-east of the expected locations depicted on the georeferenced overlays of Figures 2.2.13 and 2.2.14. That imager also implies disturbance for Main Road earthworks on the north-western top of the site which was depicted in the georeferenced images as possibly being the site of the first inn. If the first and second inns were indeed side-by-side, that could place the location of the first inn underneath the current building.

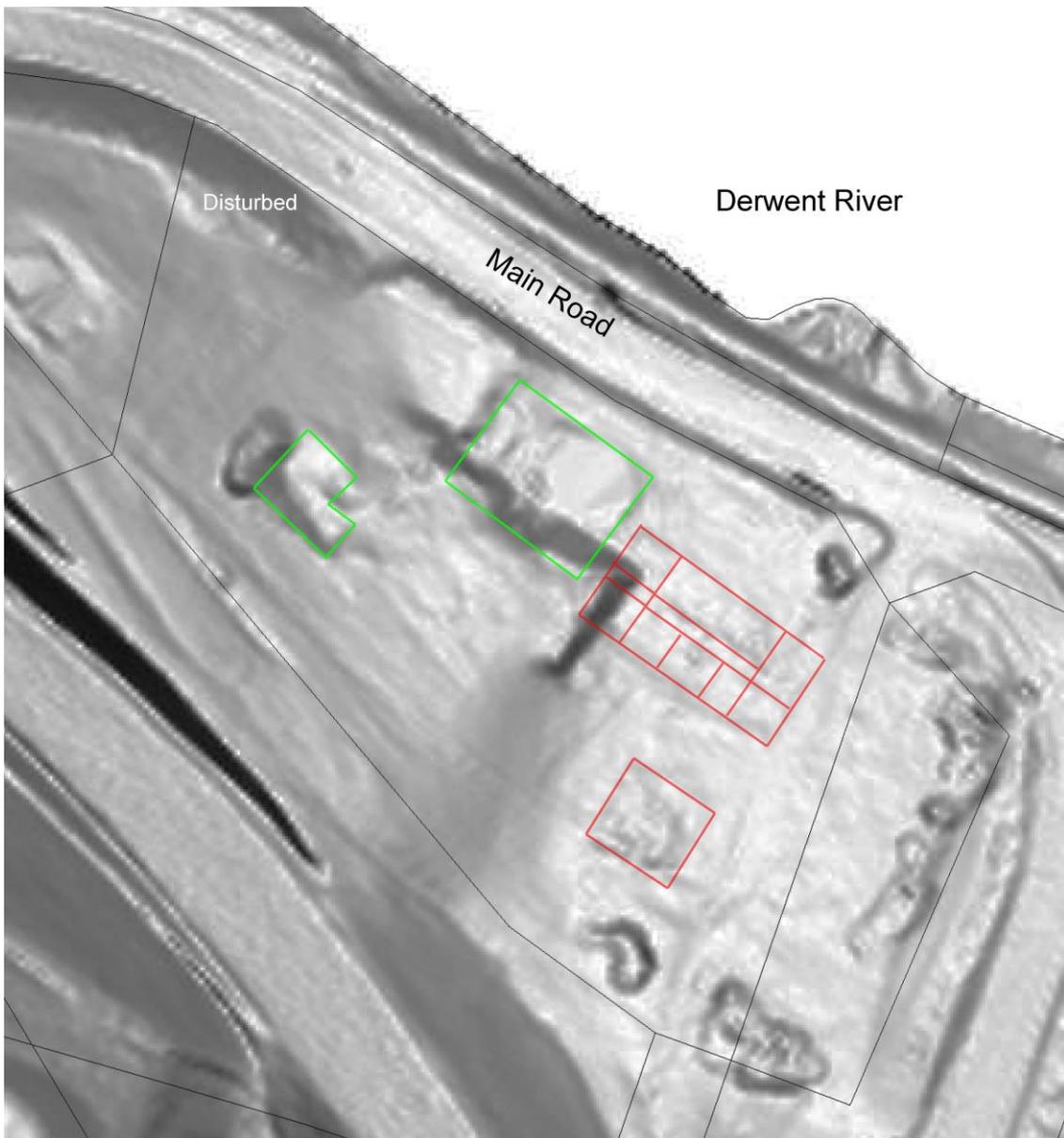


Figure 2.5.4 – Interpreted hillshade grey imagery, the red depicting features not evident on-ground, the green depicting current buildings.

This imagery strongly suggests that the buildings were further to the south-east than depicted in historical imagery – therefore warranting consideration of those areas as possible having archaeological potential.

This section will review site observations and likely scenarios which would have resulted in disturbance, in order to assist in understanding the likelihood of the survival of archaeological remains.

2.5.2. Likely specific disturbance events

This section will review site observations and likely scenarios which would have resulted in disturbance, in order to assist in understanding the likelihood of the survival of archaeological remains.

Whilst the observations above give little real detail on possible disturbance, a disturbance history can also be built from a desktop assessment - i.e. known events which are likely to have impacted upon archaeological remains. Section 2.2 has detailed the evolution of the site from the historical information which is available.

As essentially a rural site, the site traditionally has not been subject to the development pressures of more urban hotels described in Section 2.3. The obvious disturbance events to the earlier hotels and outbuildings would have derived from their demolition, the second hotel demolition obviously influenced by the aftermath of the 1857 fire.

It is unclear as to what disturbance occurred during the 1970s construction of the Brooker Highway. Whilst the highway in this area is built up from historic ground level, it is unclear if any consequential civil works (e.g., drainage, re-grading of surrounds) was undertaken at the time.

Probably the most influential disturbance event has been the gradual diminishment of the overall land tenure – having once been 100-acres, and that size having fluctuated over the years. If any significant features were off the current site then these are likely to have been disturbed through major roadworks etc. It is likely however that the suite of outbuildings associated with the hotel were generally close, as was typical with colonial hotel complexes as a means of convenience and security.

Overall, it is considered that the current subject site is likely to have not been subject to substantial disturbance post-demolition of the buildings themselves and that this as the 'core' of the wider hotel/rural

complex has a higher likelihood of containing archaeological remains than the former and more peripheral parts of the earlier landholding.

2.6. Archaeological zoning plan and policies

As per the methodology outlined earlier in this section, this section has built a chronology of site development which has detailed the physical evolution of the site and events/processes which would have acted to build the archaeological record. Section 2.3.1 has discussed the likely significance of those archaeological remains and what they may yield in terms of research potential alongside key historic, regional, thematic and temporal lines of enquiry. Section 2.4.2 has provided an assessment of the later events which may impacted upon the integrity of those archaeological remains.

From the above, it is therefore plausible to propose that due to the site being the location of early development, which has probably not been subject to substantial disturbance, it may yield archaeological remains which have the potential to contribute to a knowledge of important Tasmanian heritage themes as per the research framework in Section 2.3.1.

The site may yield physical remains of those buildings, as well as artifacts relating to the occupation and use of those buildings, which may yield information which is not readily available (or available at all) from historical sources.

Note that the overlay plans of known early principal building footprints as depicted in Section 2.3 do not cover the entire subject site (i.e. are concentrated towards the front of the site) it is feasible to propose that parts of the subject site have different abilities to yield building remains and remains of concentrated habitation. This is not to imply that archaeological remains are only found within building footprints, but the concentration of such remains is likely to be less the further away from building footprints (noting that there may still be remains of ancillary features and other occupational debris outside building footprints in less-known locations).

Based on the known and likely early building footprints, the following archaeological zoning plan is proposed for the subject site:



Figure 2.6.1 – Archaeological zoning plan for the subject site. Red denoting areas of high archaeological potential and orange depicting areas of medium archaeological potential.

The following table considers the archaeological remains which may be found within each specific area.

| Area | Likely remains | Likely integrity | Significance/potential of the area |
|--------|--|--|---|
| Red | <p>Remains of the two earlier ‘permanent’ Black Snake Inns – one demolished, one burned. This may include structural evidence (foundations, cellars) of the buildings and ancillary features (drains, paths, wells etc.). This may also include scant/ephemeral remains of the late 1850s ‘temporary’ inn built hastily after the 1857 fire.</p> <p>This area is also highly likely to contain scantily/un-documented outbuildings and other site features that are historically known – but their location is not known. The assumption is that these would be close to the core hotel building(s).</p> | <p>Due to the lack of development pressure, these remains may be highly intact representing post-demolition.</p> | <p>Of high potential in demonstrating the focus of a range of themes that the site represents (see Section 2.4.2).</p> |
| Orange | <p>The possibility of associated outbuildings and features peripheral to the core inn buildings.</p> | <p>Due to the lack of development pressure, these remains may be highly intact representing post-demolition. Disturbance may only have occurred by reasonably passive agricultural activities.</p> | <p>Of medium potential in demonstrating the focus of a range of themes that the site represents (see Section 2.4.2). This lower potential derives solely from the undocumented nature of these likely remains and the probability that these were located closer to the core inn building(s) forward on the site.</p> |

Accordingly, the following archaeological management policies are recommended:

1. Any excavation proposed in areas of **high archaeological potential** (i.e. red on Figure 2.6.1) must be preceded by an archaeological impact assessment, and if necessary, an archaeological method statement, which details measures to be taken to avoid or mitigate impact upon the archaeological resource. That method statement must be in accordance with industry standard (e.g. the Tasmanian Heritage Council's Practice Note 2 – *Managing Historical Archaeological Significance in the Works Application Process*) and implemented in the works process.
2. Any excavation in areas of **medium archaeological potential** (i.e. orange on Figure 2.6.1), are to be monitored by a historical archaeologist in order to confirm any possible presence of archaeological remains. If it becomes apparent that no such remains exist, then archaeological input may cease. If significant remains are confirmed, then this area is to be managed in accordance with industry standard (e.g. the Tasmanian Heritage Council's Practice Note 2 – *Managing Historical Archaeological Significance in the Works Application Process*) and implemented in the works process. Note that any remains in this area need not be wholly investigated and that an indicative sample of such remains may be investigated at the discretion of the archaeologist – sufficient to yield answers to research questions.

3. Archaeological Impact Assessment

3.1. The proposed works

The proposed works which may impact places on the Tasmanian Heritage Register as listed in Section 1 is the major project of a new Bridgewater Bridge and associated approaches, junctions with nearby roads etc. The documents relied upon in this current assessment are:

- Woods Marsh Architecture, Department of State Growth, New Bridgewater Bridge, Master Plan. Drawing 10.02.0002.
- Woods Marsh Architecture, Department of State Growth, New Bridgewater Bridge, General Arrangement Plan, sheet 1 of 5. Drawing 10.03.0005 Rev. A (Black Snake Inn environs).
- Jacobs, Department of State Growth, New Bridgewater Bridge, Shared User Path General Arrangement, Drawing 10.03.02 IA256600-0000-CR-DRG-1401, Sheet 1401 Rev. B.

The proposed works which *may* have an impact upon archaeological remains within areas on the Tasmanian heritage register are:

- Minor works to the existing Granton Roundabout.
- Make-good works to the end of the causeway and bridge abutments consequent of the demolition of the existing bridge structure.
- Widening of Main Road in front of the Black Snake Inn for a shared user pathway.
- Mounding for highway edge batters at the rear of the Black Snake Inn.

3.2. Possible archaeological impact on Tasmanian Heritage Register listed sites

3.2.1. The ends of the Bridgewater Causeway.

Austral Tasmania (2020) has provided an archaeological zoning plan for the Bridgewater Bridge and Causeway as per Figure 3.1.1:

Whilst the precise scope of works to each end of the existing Bridgewater Causeway are not yet resolved, there will be a reconfiguration of the roundabout on the southern end to reflect the vehicular redundancy of the causeway. Those works would be within the THR registered area as per Figure 3.1.1:

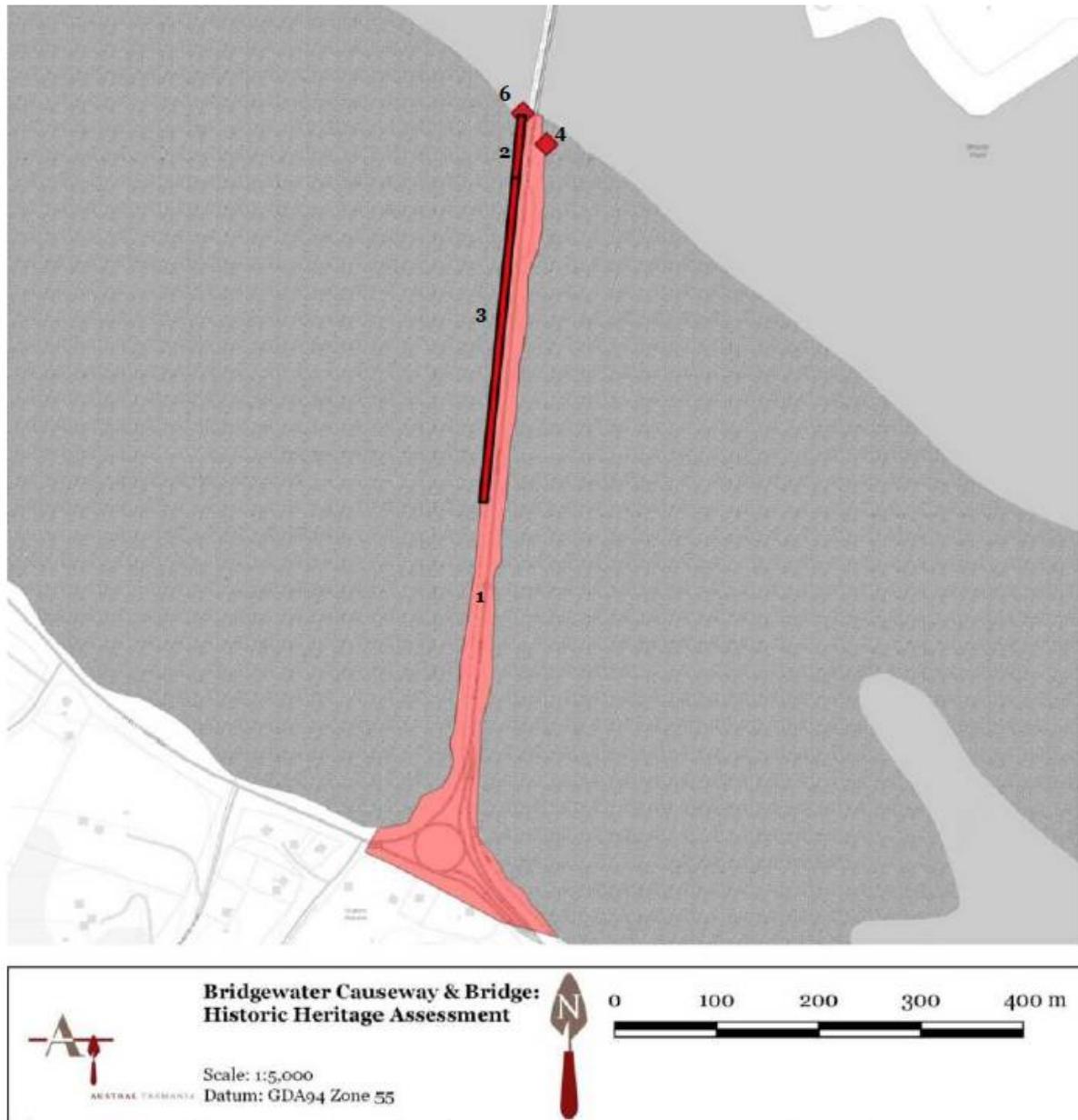


Figure 3.1.1 – Archaeological zoning plan, Bridgewater Causeway (and approaches). Austral Tasmania 2020:37.

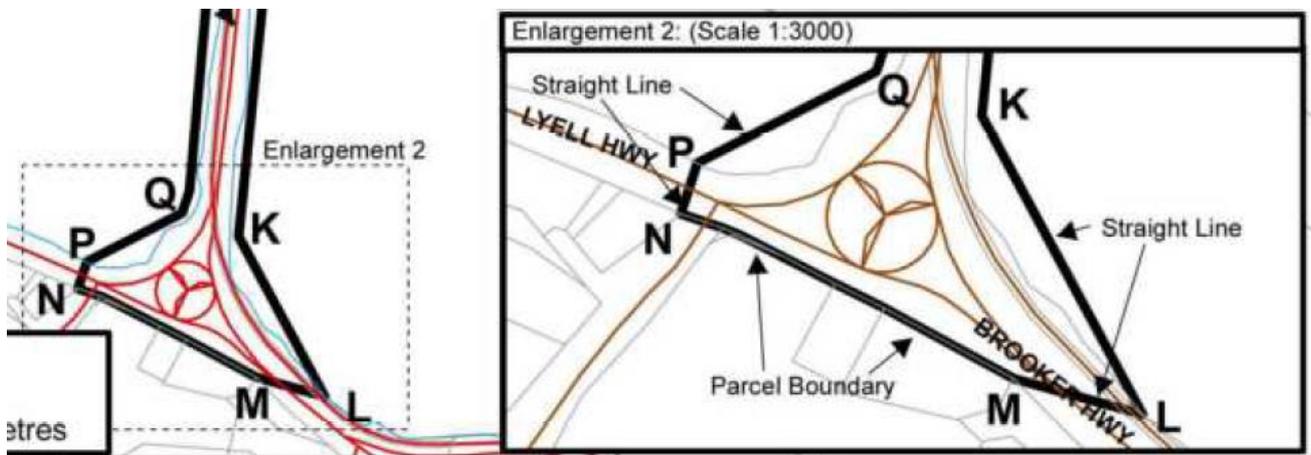


Figure 3.1.2 – Excerpt from Central Plan Registry plan 10257 denoting the THR registered area.

Further, the demolition of the bridge itself may require some make-good works to the end of the causeway, including the 1893 bridge abutments. The scope and nature of these works are not yet known precisely.

It is likely that, as a function road which has been subject to many iterations of re-working and it is almost certain that any significant early remains are not shallow – i.e. gradual building up of the road and/or replacement of road surfaces would have obscured or already removed any shallow remains. Any deeper remains may have had a greater chance of survival, therefore it is recommended that mitigation strategies consider archaeological monitoring of any excavations deeper than 500mm or deeper than the base of the current roadbase.

3.2.2. The former Black Snake Inn

Figure 3.1.3 depicts the areas where works are required within the registered area of the Black Snake Inn site, further detailed in the table below:



Figure 3.1.3 - Possible areas of archaeological impact, Black Snake Inn, as per table below. Adapted from www.thelist.tas.gov.au.

| Area | Works proposed | Arch. potential | Possible impact |
|------|--|---|--|
| Blue | Major filling of the area to provide an earth embankment on the edge of the southern approach to the new bridge. | Mostly Medium, a small portion in High. | No excavation in this area is required, however the placement of substantial amounts of fill will obscure an area of possible archaeological potential which would generally preclude any future investigations. |

| | | | |
|--------|--|------|---|
| Purple | Shared user path. May require some levelling and excavation of embankment. | High | Any excavation in this area has the potential for high impact, given that mid-c20th road widening places this location within the former grounds of the hotel and works are currently proposed partially within the current registered area. These works have the potential to impact upon structural remains, the well and associated infrastructure of the early hotel building(s). |
|--------|--|------|---|

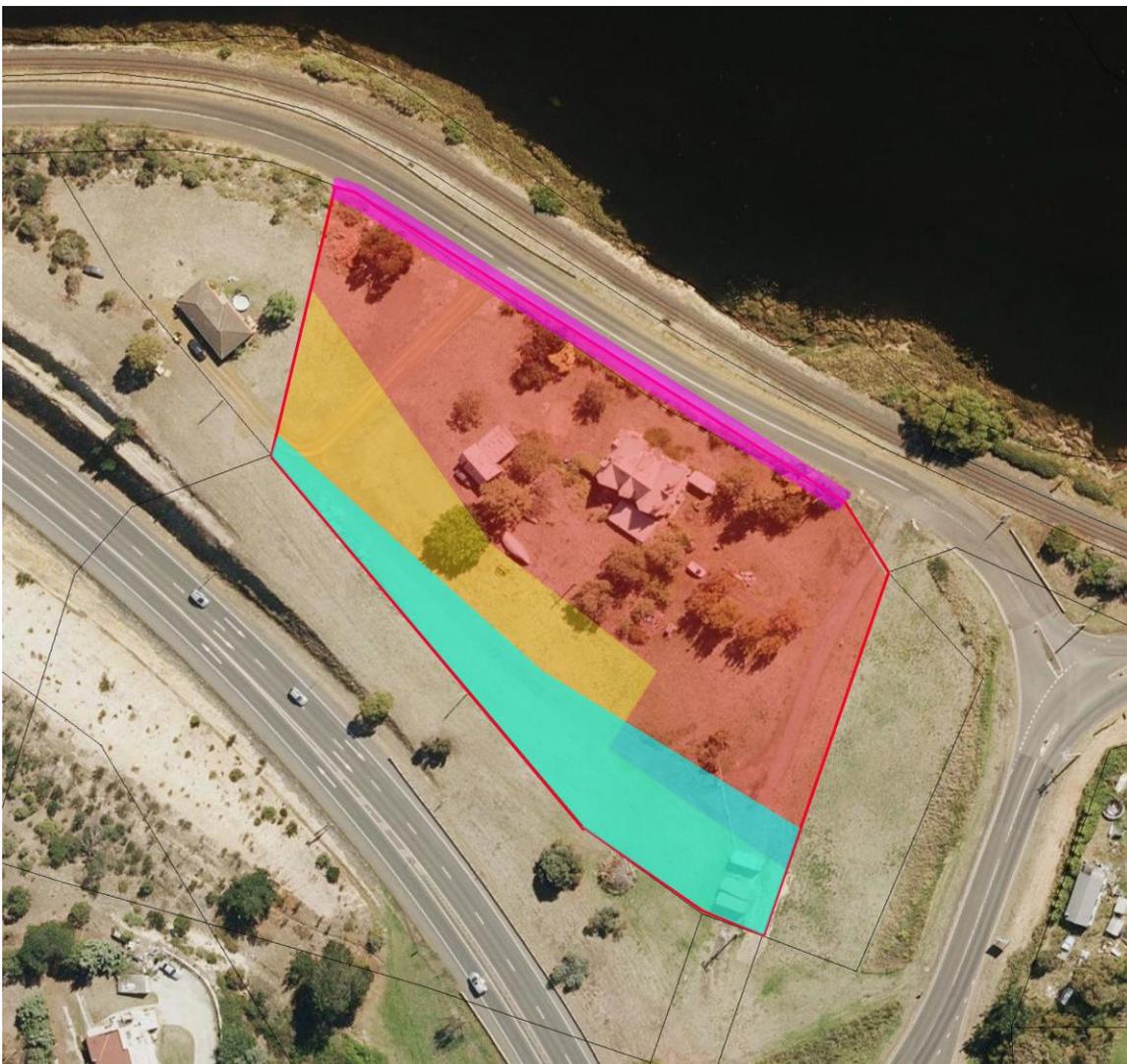


Figure 3.1.4 - Possible areas of archaeological impact (as per colour coding above), Black Snake Inn, in relation to areas of high archaeological potential (red) and medium archaeological potential (orange) – see also Figure 2.4.3. Adapted from www.thelist.tas.gov.au.

4. Archaeological method statement

4.1. Application of archaeological inputs

Section 3 has considered which of the proposed works associated with the new Bridgewater Bridge may have an impact upon archaeological remains on places included on the Tasmanian Heritage Register. The nature and significance of those remains has been drawn from both the Austral Tasmania (2020) report as well as Section 2 of this report in relation to the Black Snake Inn site. The following table summarises the areas, timing and approach to works:

| Area | Figure ref. | Mitigation works | Timing |
|---|---|--|---|
| Southern end of causeway (Granton Roundabout) | Area within CPR extract in Figure 3.1.2. | Monitor any works where excavation depth is to exceed 500mm or the base of current roadbase. If significant remains are found, manage as per methodology in Section 4.2. | Monitoring concurrent with works. |
| Northern end of causeway | Area in top section of red shaded area on Figure 3.1.1. | | Monitoring following bridge demolition (or if excavation is required as part of demolition, concurrent with works). |
| Area in front of Black Snake Inn (excavation for shared pathway). | Purple shaded area on Figure 3.1.4. | Monitor all excavations. If significant remains are found, manage as per methodology in Section 4.2. | Monitoring concurrent with works. |
| Area to the rear of Black Snake Inn (build up of land for highway edges). | Green shaded area on Figure 3.1.4. | Although this area will not be disturbed, the placement of fill will permanently obscure the ability to investigate this part of the site. It is recommended that the entire footprint of the area proposed for filling be skimmed with a mechanical excavator with a flat-edged bucket to a depth of sterile soil to rule-out the presence of any archaeological remains. If significant remains are found, manage as per methodology in Section 4.2. | Ahead of works to ensure area is cleared ahead of critical timepaths. |

4.2. Specific archaeological methodology

Where controlled archaeological inputs are required, the following methodology will be employed:

4.2.1. Approach to works

Demolition and removal of non-significant overburden

Demolition of road surfaces and the mechanical excavation of any non-significant overburden may be undertaken without archaeological supervision.

Following demolition, either the archaeological crew will take over the required parts of the site, or archaeological supervision of works crew must occur with the removal of sub-base road surfaces until such a point where any significant archaeological remains are encountered, then mechanical excavation will cease until an understanding of the nature of the remains is ascertained and the provisions for significant remains (below) can be implemented.

If no significant archaeological remains are encountered (to a depth of sterile ground level) then the provisions of 'cessation of archaeological input' (below) will be implemented.

Where significant archaeological remains are encountered

In areas where significant archaeological remains are encountered, those areas will be gridded to the expected horizontal extent of the remains (generally as a liner grid for strip footings), and excavation will continue by hand (as per methodology below), to expose the remains in order to gain further understanding of their nature, and to thoroughly record them (as per methodology below). Mechanical excavation in those areas will only continue if the archaeologist is satisfied that this can occur without detriment, that required outcomes can be achieved and that excavation by hand is not necessary.

The general approach to excavation will be by gridding the area in units which are responsive to the nature of the remains (e.g. in horizontal control units no greater than 1000x1000mm, or the width of the linear trench, in areas where remains appear to be complex or concentrated, or in larger control units where remains are not as complex or concentrated) and removal of each contextual unit or spit (in depths as deemed appropriate by the archaeologist, according to the nature of the strata and/or remains). Apart from non-significant

overburden, all spoil will be sieved through mesh of a gauge no greater than 12mm and any significant artifacts managed as per below.

It is expected that in areas of high archaeological potential the stratigraphic sequence will be relatively simple, that of post demolition (possibly including some disturbance), demolition, occupation (which may include several distinct phases including habitation and construction and that of pre-construction. Excavation of remains within the defined contexts in reverse order of deposition will occur and each unit/context thoroughly recorded (as per below) prior to removal to facilitate the development

It is proposed that all depositional strata be removed initially, as per above, with the aim of exposing and retaining any/all structural remains in-situ for holistic recording, prior to their removal ahead of the works excavation program.

4.2.2. Cessation of archaeological input

Archaeological input will cease only when the archaeologist is satisfied that all significant remains have been investigated and thoroughly recorded, as per this method statement and any conditions of statutory approvals, or if sterile ground is encountered, and that adequate consultation has been undertaken with Heritage Tasmania to verify that all on-site archaeological requirements have been met (and archaeological conditions satisfied).

4.2.3. Recording

Any structure or significant cultural deposit encountered will be thoroughly recorded (both photographically and sketched at a scale of no smaller than 1:20 and plotted on the site plan at a scale of a scale no smaller than 1:200). The first preference will be to keep structural remains in-situ (and covered in geo-fabric, unless removal is necessary to further investigate lower strata (which may bear archaeological remains), or if there is no prudent and feasible alternative to removal to allow the development to proceed – in which case remains will be removed after thorough recording.

4.2.4. Artifacts

Any significant artifacts found during excavations will be retained and have the required in-field conservation treatments and packaging undertaken. Artifacts will be bagged and tagged with spatial identification and removed from the site (to a secure location) daily. Trench-notes will further detail the context and initial interpretation of artifacts.

Basic post-field curation of artifacts will be undertaken. Glass and ceramic items will be washed, whilst any organics or metals will be dry-brushed. Artifacts will be packaged in acid-free archive bags, tagged with appropriate tags, and boxed in archival quality boxes (with appropriate padding if required). Should any urgent conservation treatment be required, a professional Conservator will be consulted at the earliest possible instance. A detailed catalogue of artifacts will be included in the final report on works.

After any required analysis, these will be deposited in a suitable permanent archive in consultation with Heritage Tasmania.

4.2.5. Reporting requirements

Excavations and monitoring must be recorded to appropriate professional standards (for example Section 4.2 of the Tasmanian Heritage Council's Practice Note 2). A final report must include (at a minimum):

- An executive summary of findings
- Details of the methodology employed
- Detailed interpretations of findings
- Relevant annotated photographs
- Site plans at a scale of no less than 1:200
- Trench plans at a scale of no less than 1:50
- Feature plans/sketches at a scale of no less than 1:20
- Photograph log

A copy of the final report, and project archive, will be deposited with the Tasmanian Heritage Council and other repositories as listed below) within 6 months of completion of the excavations.

4.2.6. Public benefit

Subject to the exact nature and findings of the archaeological program, the following public benefit program will be considered by the proponents of the development:

- An interpretation plan which would consider options for the interpretation of the heritage values of the site in the new development (e.g. static/multimedia installations, curated objects, recycling of materials in contemporary installations etc.).
- The project report will be made publicly available, through appropriate repositories such as Hobart City Council, Heritage Tasmania, the State Library of Tasmania and the National Library of Australia (Trove).
- If archaeological results warrant, an academic publication may be produced (not at the proponent's expense). In any case, archaeological results will be made freely available for future archaeological research.

It is not considered feasible to have any on-site public benefit events during the works program.

4.2.7. Aboriginal heritage

This document deals primarily with the management of historic cultural heritage. Archaeological works must incorporate any and all recommendations for the management of Aboriginal cultural heritage and follow the Tasmanian Government's *Unanticipated Discovery Plan – Procedure for the management of unanticipated discoveries of Aboriginal relics in Tasmania*

4.2.8. Site contamination

It is the responsibility of the proponent of the development to investigate the possibility of site contaminants, and to either verify that no site contaminants are present, or to take required measures to deal with any known or likely contaminants during excavation works (noting that any necessary decontamination works may require archaeological input).

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