JOHN HOLLAND

# INLAND RAIL
# ILLABO TO STOCKINBINGAL PROJECT

## I2S | Sub Plan Heritage Management

**John Holland acknowledges the Traditional Owners of the land on which the Inland Rail Illabo to Stockinbingal project is located, the Wiradjuri Peoples. We pay respects to Elders, past and present.**

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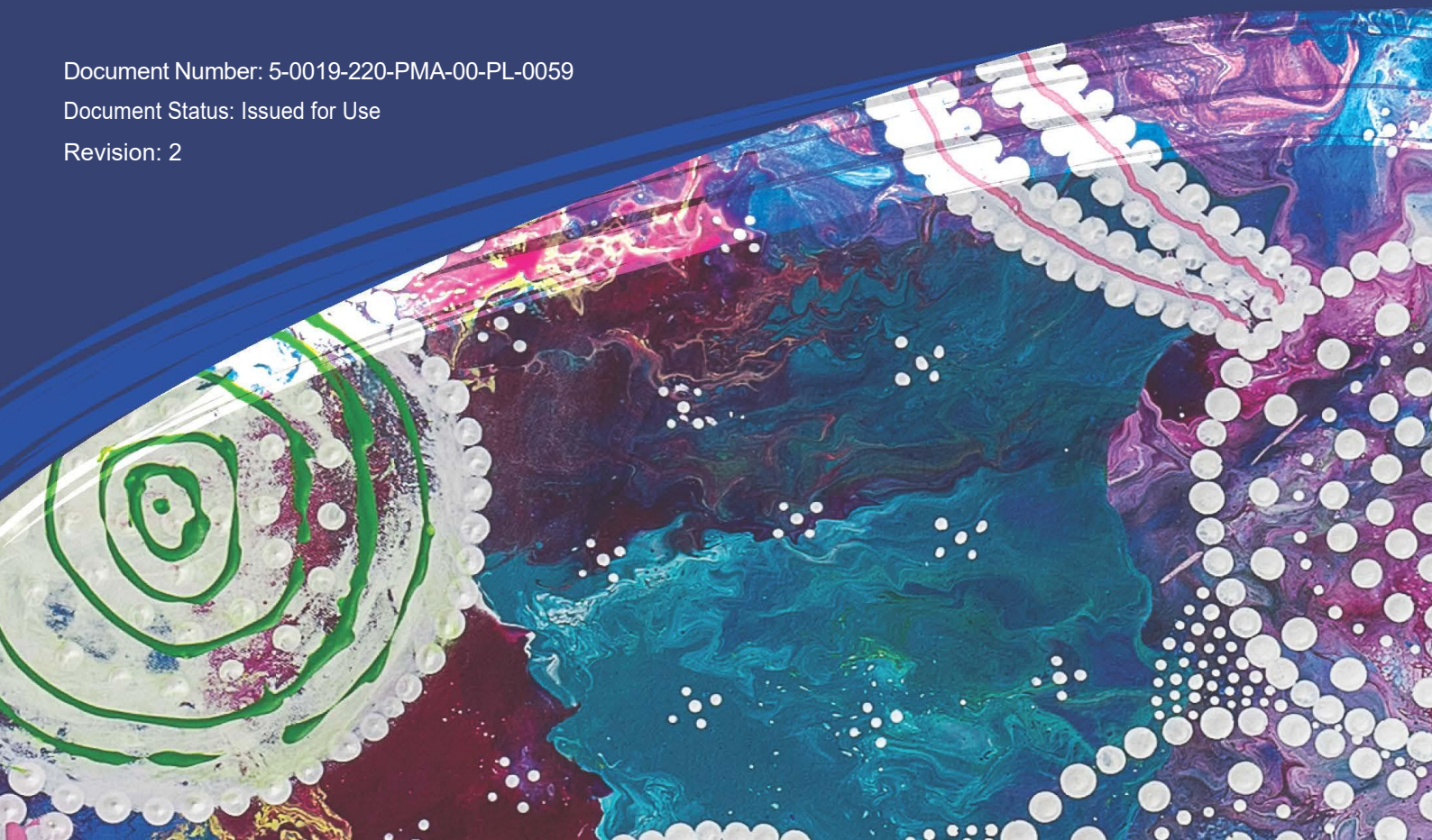

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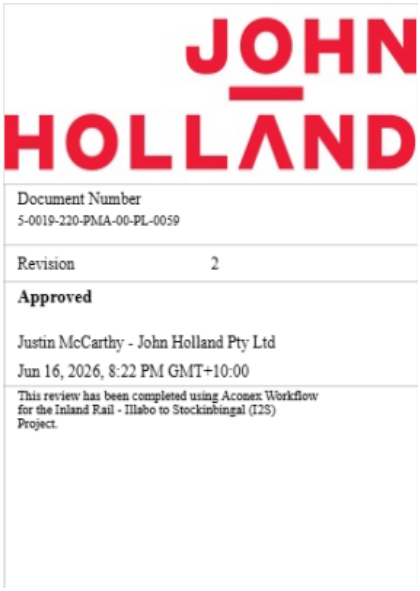
| **Signature**<br>**Date** | |  |

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# 1 Revisions and Distribution

## 1.1 Revisions

Draft issues of this document are identified as Revision A, B, C etc. Following acceptance by the document approver, the first finalised revision will be Revision 0. Subsequent revisions will have an increase of “1” in the revision number (1, 2, 3 etc.).

## 1.2 Distribution

The controlled master version of this document is available for distribution as appropriate and maintained on the document management system being used on the project. All circulated hard copies of this document are deemed to be uncontrolled.

| | |
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# 2 References, Definitions and Abbreviations

## 2.1 Compliance Roadmap

The following section provides a tabular representation of the project obligations and requirements as described in all licenses and approvals and a reference link to detail how the Inland Rail - Illabo to Stockinbingal Project (I2S or Project) intend to comply.

This Heritage Management Sub Plan (HMSP) provides a consistent approach to address the requirements from the Infrastructure Approval (CSSI-9406), and other relevant external permits, licenses or approvals which is detailed throughout this section. A cross reference is also included to indicate where each Condition of Approval is addressed in this Plan or other Project management documentation.

### 2.1.1 Minister's Conditions of Approval – CSSI-9406

The primary NSW CoA relevant to the development of this Plan are listed in Table 2-1.

**Table 2-1 – Primary NSW CoA**

| CoA No. | Condition Requirements | Document Reference |
|---|---|---|
| A1 | The Proponent must carry out the CSSI in accordance with the terms of approval and generally in accordance with the:<br>a) Inland Rail – Illabo to Stockinbingal Environmental Impact Statement (ARTC 2022);<br>b) Illabo to Stockinbingal Project Response to Submissions (ARTC 2023);<br>d) I2S – Mitigation Measures (Inland Rail, April 2024); | Section 2 |
| A2 | The CSSI must be carried out in accordance with all procedures, commitments, preventative actions, performance criteria and mitigation measures set out in accordance with the documents listed in Condition A1 unless otherwise specified in, or required under, this approval. | Note |
| A3 | In the event of an inconsistency between:<br>a) the conditions of this approval and any document listed in Condition A1(a) to (f) inclusive, the conditions of this approval will prevail to the extent of the inconsistency; and<br>b) any document listed in Condition A1(a) to (f) inclusive, the most recent document will prevail to the extent of the inconsistency.<br>Note: For the purpose of this condition, there will be an inconsistency between a term of this approval and any document if it is not possible to comply with both the term and the document. | Note |
| A4 | The Proponent must comply with the written requirements or directions of the Planning Secretary, including in relation to:<br>a) the environmental performance of the CSSI;<br>b) any document or correspondence in relation to the CSSI;<br>c) any notification given to the Planning Secretary under the terms of this approval;<br>d) any audit of the construction or operation of the CSSI;<br>e) the terms of this approval and compliance with the terms of this approval (including anything required to be done under this approval);<br>f) the carrying out of any additional monitoring or mitigation measures; and<br>g) in respect of ongoing monitoring and management obligations, compliance with an updated or revised version of a guideline, protocol, Australian Standard or policy required to be complied with under this approval. | Note |
| A10 | Where the terms of this approval require a document or monitoring program to be prepared or a review to be undertaken in consultation with identified parties, evidence of the consultation undertaken must be submitted with the corresponding documentation to the Planning Secretary and the Environmental Representative (as | Section 6.1<br>Appendix A |

<table>
<tr><th>CoA No.</th><th>Condition Requirements</th><th>Document Reference</th></tr>
<tr><td></td><td>relevant) in accordance with the Post Approval Guidance: Defining Engagement Terms (DPIE, 2020). The evidence must include:<br>a) documentation of the engagement with the party identified in the condition of approval that has occurred before submitting the document for approval;<br>b) a log of the dates of engagement or attempted engagement with the identified party;<br>c) documentation of the follow-up with the identified party where engagement has not occurred to confirm that they do not wish to engage or have not attempted to engage after repeated invitations;<br>d) an outline of the issues raised by the identified party and how they have been addressed; and<br>e) a description of the outstanding issues raised by the identified party and the reasons why they have not been addressed.</td><td></td></tr>
<tr><td>C14</td><td>CEMP(s) (and relevant CEMP sub-plans) must be submitted to the Planning Secretary for approval except those permitted to be endorsed by others pursuant to a CEMF approved by the Planning Secretary under Condition C1.</td><td>Section 3.4.3</td></tr>
<tr><td>C15</td><td>Where a CEMP (and relevant CEMP sub-plans) requires the Planning Secretary's approval, the CEMP (and relevant CEMP sub-plans) must be endorsed by the ER and then submitted to the Planning Secretary for approval no later than one (1) month before the commencement of construction, or where construction is staged, no later than one (1) month before the commencement of each stage.</td><td>Section 3.4.3</td></tr>
<tr><td>C17</td><td>Except as provided by Condition C1, the following CEMP Sub-plans must be prepared in consultation with the relevant state agencies, relevant councils and RAPs identified for each CEMP Sub-plan. Evidence of consultation must be provided consistent with Condition A10.
<table>
<tr><th></th><th>Required CEMP Sub-plan</th><th>Relevant authorities to be consulted for each CEMP Sub-plan</th></tr>
<tr><td>(3)</td><td>Heritage</td><td>Heritage NSW, RAPs, and relevant Councils</td></tr>
</table>
Notes<br>1. CEMP Sub-plan(s) may reflect the staged construction of the project through geographical activities, temporal activities or activity-based contracting and staging.<br>2. Nothing in this condition prevents the Proponent from combining any of the above CEMP Sub-plans.<br>3. The Biodiversity CEMP Sub-Plan must be consistent with goals and objectives, mitigation measures and monitoring requirements of the Commonwealth approved conservation advice and any Recovery Plans for all Matters of National Environmental Significance.</td><td>Section 6.1</td></tr>
<tr><td>C18</td><td>The CEMP Sub-plans listed in Condition C17 must state how:<br>a) the environmental performance outcomes identified in the documents listed in Condition A1, as modified by these conditions, will be achieved;<br>b) the mitigation measures identified in the documents listed in Condition A1, as modified by these conditions will be implemented;<br>c) the relevant terms of this approval will be complied with; and<br>d) issues requiring management during construction, as identified through ongoing environmental risk analysis, will be managed.</td><td>a) Section 4<br>b) Section 9<br>c) Section 2.1<br>d) Section 9, 10 and 11</td></tr>
</table>

| CoA No. | Condition Requirements | Document Reference |
|---|---|---|
| C23 | The Heritage Management Sub-plan must include:<br>a) identification of the Aboriginal objects and Aboriginal places that must be avoided and the protective measures to be put in place;<br>b) procedures for additional surveys as required by Condition E135;<br>c) procedures for salvaging and safe keeping of the Aboriginal objects identified in the documents listed in Condition A1, and their long-term management;<br>d) measures to avoid or minimise disturbance to Aboriginal heritage where, (as considered by legislation, guidelines and community) areas, objects or places are found to be present. Where impacts cannot be avoided, records of stakeholder involvement and engagement; and details on the methodology for archaeological excavation and/or salvage work;<br>e) a process for inspecting trees for evidence of cultural scarring in areas that were not subject to the archaeological survey, and measures to avoid impact. If impact is unavoidable, and upon consultation with the Registered Aboriginal Parties, work shall be undertaken under the guidance of an appropriately qualified heritage specialist; and<br>f) an Unexpected Heritage Finds and Human Remains Procedure in accordance with Condition E143, with the requirement that Heritage NSW are contacted and consulted upon the discovery of human remains, prepared by a suitably qualified and experienced heritage specialist.<br><br>*Note: Human remains that are found unexpectedly during work are under the jurisdiction of the NSW State Coroner and must be reported to the NSW Police immediately.* | a) Section 7.5, 9<br>b) Section 9.4<br>c) Section 9.4.2 9.4.3 & 9.6<br>d) Section 9 & 6<br>e) Section 9.4.4<br>f) Section 9.5, Appendix B |
| C26 | Construction must not commence until the CEMP and all CEMP Sub-plans have been approved by the Planning Secretary or endorsed by the ER (as applicable and as identified in the CEMF approved under Condition C1). The CEMP and CEMP Sub-plans, as approved by the Planning Secretary, including any minor amendments approved by the ER, must be implemented for the duration of construction. Where the CSSI is being staged, construction of that stage is not to commence until the relevant CEMP and sub-plans have been endorsed by the ER and approved by the Planning Secretary or ER. | Section 3.4.3 |
| E127 | The Proponent must not destroy, modify or otherwise physically affect any heritage items, including Aboriginal objects or Aboriginal places, outside of the CSSI construction boundary. | Section 9.2, 9.9 |
| E128 | The Proponent must not wilfully harm, modify, or otherwise impact human remains uncovered during the construction of the CSSI. Where identified, remains must be managed through the Unexpected Heritage Finds and Human Remains Procedure required by **Condition E143**. | Section 9.2, 9.9, 9.5, Appendix B |
| E129 | Identified impacts to heritage items must be minimised through both design and construction. The measures for ensuring this are to be detailed in the Construction Heritage Management Sub-Plan required by **Condition C17**. | Section 9.1, 9.2 9.9 |
| E130 | **Aboriginal Cultural Values and Heritage**<br>All reasonable steps must be taken so as not to harm, modify or otherwise impact Aboriginal objects, Aboriginal values or Aboriginal places except as authorised by this approval. | Section 9.2, 9.9 |
| E131 | **Aboriginal Cultural Values and Heritage**<br>The Registered Aboriginal Parties (RAPs) must be kept involved in the CSSI in accordance with **Conditions B1** and **B2** and the **Aboriginal Community and Stakeholder Engagement Strategy** required by **Condition E132**. The RAPs must | Section 6.2, 9 |

| CoA No. | Condition Requirements | Document Reference |
|---|---|---|
| | continue to be provided with regular opportunities to be consulted about the Aboriginal cultural heritage management requirements of the CSSI. | |
| E132 | **Aboriginal Cultural Values and Heritage**<br><br>Prior to the commencement of construction, an **Aboriginal Community and Stakeholder Engagement Strategy** shall be finalised and implemented, in consultation with Heritage NSW, relevant RAPs, and LALCs. The Strategy will detail and include, but not be limited to, the consultation process with Aboriginal stakeholders for the integration of Aboriginal Cultural Values into the CSSI. | Section 6.2.4 |
| E133 | **Aboriginal Cultural Values Plan**<br><br>An **Aboriginal Cultural Values Plan** must be prepared to inform how Aboriginal Cultural Values will be integrated into the broader design of the SSI including design elements (form and fabric), landscaping (the collection, propagation and replanting of traditional plant resources), language; and cultural design principles. The Plan must identify how interpretive themes and cultural values will be implemented and provide a timeframe for their provision during construction.<br><br>The Plan must recognise the spiritual, intangible, linguistic and cultural values of the sites to Aboriginal people and address the full story of the place (s) (i.e. landscape through the eyes of Aboriginal people); Aboriginal design and story elements, patterns and motifs or other appropriate visual interpretations.<br><br>The Plan will be developed in conjunction with the **Aboriginal Community and Stakeholder Engagement Strategy**. The Strategy will detail the consultation process with Aboriginal stakeholders and identify the Aboriginal Cultural Values to be incorporated into the design of the CSSI.<br><br>The **Aboriginal Cultural Values Plan** shall be submitted for the approval of the Planning Secretary one (1) month prior to commencing construction. The **Aboriginal Cultural Values Plan** must be implemented. | Section 9.3 |
| E135 | Prior to the commencement of any ground disturbance work within areas identified as requiring archaeological investigation or salvage identified in documents listed in **Condition A1**, the Proponent must prepare and implement an **Additional Aboriginal Archaeological Survey and an Aboriginal Archaeological Test Excavation Methodology.** The methodology must include procedures for additional archaeological survey of Zones 5, 6, 9 and 10, and management protocols including consultation with the Registered Aboriginal Parties, for any Aboriginal objects and sites identified during the survey. | Section 9.4, 9.9<br><br>Appendix D |
| E136 | Following analysis of the test excavation results, the Proponent must prepare and implement an **Aboriginal Archaeological Salvage Excavation Methodology**. | Section 9.4, 9.9 |
| E137 | Following additional survey, test and salvage excavation, if sites are identified that exceed the expected level of significance identified in the Aboriginal Cultural Heritage Assessment Report, further consultation with Heritage NSW and the RAPs must be undertaken and consideration given, where feasible, for avoidance by the project. | Section 9.4, 9.9 |
| E138 | The Additional Aboriginal Archaeological Survey Methodology, Aboriginal Archaeological Test Excavation Methodology and Aboriginal Archaeological Salvage Excavation Methodology must be prepared by a suitably qualified expert in consultation with Heritage NSW and RAPs, and provided to the Planning Secretary for information at least one month prior to test or salvage excavation. | Section 9.4, 9.9 |
| E139 | At the completion of Aboriginal cultural heritage survey and test and salvage excavations, an | Section 9.4, 9.9 |

| CoA No. | Condition Requirements | Document Reference |
|---|---|---|
| | **Aboriginal Cultural Heritage Excavation Report(s)** must be prepared by a suitably qualified expert. The **Aboriginal Cultural Heritage Excavation Report(s)**, must:<br>a) be prepared in accordance with the Guide to Investigation, assessing and reporting on Aboriginal cultural heritage in NSW, OEH 2011 and the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, DECCW 2010; and<br>b) document the results of the archaeological survey and test excavations and any subsequent salvage excavations (with artefact analysis and identification of a final repository for finds).<br>The RAPs must be given a minimum of 28 days to consider the report and provide comments before the report is finalised. The final report must be provided to the Planning Secretary, Heritage NSW, the relevant Councils, relevant LALCs and the RAPs within 24 months of the completion of the Aboriginal archaeological excavations (both test and salvage). | |
| E140 | Ground disturbance works and construction work may not commence in those areas where archaeological excavation and surface collection of Aboriginal objects is required (including areas identified as requiring further assessment) until the archaeological works described in the Aboriginal Cultural Heritage Assessment reports listed in **Condition A1** have been completed. | Section 9.4 |
| E141 | At the completion of surface collection, test excavations, and salvage excavations, Aboriginal site impact recording forms (ASIRF) must be submitted to the Aboriginal Heritage Information Management System (AHIMS) and evidence provided of submission to the AHIMS Registrar. | Section 9.4 |
| E142 | Where previously unidentified Aboriginal objects or Aboriginal Places are discovered, all work must immediately stop in the vicinity of the affected area. Works potentially affecting the previously unidentified objects or places must not recommence until Heritage NSW has been informed. The measures to consider and manage this process must be specified in the<br>**Unexpected Heritage Finds and Human Remains Procedure** required by **Condition E143** and include registration in the Aboriginal Heritage Information Management System (AHIMS). | Section 9.5, Appendix B |
| E143 | **Unexpected Heritage Finds**<br>An **Unexpected Heritage Finds and Human Remains Procedure** must be prepared to manage unexpected heritage finds in accordance with any guidelines and standards prepared by Heritage NSW and submitted to the Planning Secretary for information before the commencement of Work. | Section 9.5, Appendix B |
| E144 | **Unexpected Heritage Finds**<br>The **Unexpected Heritage Finds and Human Remains Procedure**, as submitted to the Planning Secretary, must be implemented for the duration of Work.<br>***Note**: Human remains that are found unexpectedly during the carrying out of Work may be under the jurisdiction of the NSW State Coroner and must be reported to the NSW Police immediately.* | Section 9.5, Appendix B |
| E145 | Before commencement of any work, a structural engineer must undertake condition surveys of all buildings, structures, utilities and the like identified in the documents listed in Condition A1 as being at risk of damage.<br>The results of the surveys must be documented in a Condition Survey Report for each item surveyed. Copies of Condition Survey Reports must be provided to the owners of the items surveyed, and no later than one month before the commencement of construction. | Noise & Vibration Management Plan |

| CoA No. | Condition Requirements | Document Reference |
|---|---|---|
| E146 | After completion of construction, condition surveys of all items for which condition surveys were undertaken in accordance with Condition E145 of this approval must be undertaken by a structural engineer.<br><br>The results of the surveys must be documented in a Condition Survey Report for each item surveyed. Copies of Condition Survey Reports must be provided to the landowners of the items surveyed, and no later than three (3) months following the completion of construction | Noise & Vibration Management Plan |
| E147 | The Proponent, where liable, must rectify any property damage caused directly or indirectly (for example from vibration or from groundwater change) by the construction or operation at no cost to the owner. Alternatively the Proponent may pay compensation for the property damage as agreed with the property owner. | Noise & Vibration Management Plan |

### 2.1.2 Updated Mitigation Measures

The primary UMMs relevant to the development of this Plan are listed in Table 2-2.

**Table 2-2 Updated Mitigation Measures relevant to this Plan**

| Ref. | Issue | Mitigation Measure | Timing | HMSP Reference |
|---|---|---|---|---|
| AH-1 | Avoiding and minimising impacts on Aboriginal heritage | Detailed design and construction planning would avoid direct impacts on identified items/sites of Aboriginal heritage significance as far as reasonably practicable. The location of construction compounds and associated access routes would be reviewed to ensure, as far as practicable, they are not located in areas of medium or high archaeological potential. | Detailed design/ pre-construction | Section 9.1, 9.2, 9.9 |
| AH-2 | Management of salvaged items | A detailed salvage methodology would be prepared by a suitably qualified archaeologist in consultation with relevant registered Aboriginal parties. The methodology would be included in the Aboriginal cultural heritage management plan (mitigation measure AH-9 to ensure any artefacts salvaged are managed in accordance with the requirements of the *National Parks and Wildlife Act 1974* (NSW). This includes artefacts within the areas of Zone 1 and Zone 2.<br>The methodology would include the process for consultation with Heritage NSW and registered Aboriginal Parties in accordance with the Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (DECCW, 2010a) the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW, 2010b), and the Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH, 2011a). It would also include requirements in relation to the management of, and care and control plans for, salvaged objects.<br>Registered Aboriginal parties would be engaged to assist in the salvage, which would be managed by an appropriately qualified archaeologist engaged to support the process.<br>Detailed analysis and reporting of cultural material collected would be provided to the NSW Department of Planning and Environment. | Detailed design/ pre-construction | Section 9.4 and 9.6 |
| AH-3 | Management of salvaged items | Archaeological survey and test excavation (if required) would be performed prior to the commencement of impact works at Zone 5, 6, 9 and 10 to confirm the precise nature and extent of the archaeological resource and to inform the selection of the applicable mitigation measures. | Detailed design/ pre-construction | Section 9.4 |
| AH-4 | Management of salvaged items | Additional mitigation and management measures would be developed, in consultation with the registered Aboriginal parties, for areas or items of Aboriginal cultural heritage significance identified during the archaeological survey (mitigation measure AH-3). The additional measures would be included in the Aboriginal cultural heritage management plan (mitigation measure AH-9). | Detailed design/ pre-construction | Section 9.4<br>Section 6 |
| AH-5 | Avoiding and minimising impacts on | A pre-construction survey would be undertaken to update the AHIMS record and/or confirm the locations of the previously listed AHIMS sites that could not be located during the site survey: | Detailed design/ pre-construction | Section 9.4.5 |

| Ref. | Issue | Mitigation Measure | Timing | HMSP Reference |
|---|---|---|---|---|
| | Aboriginal heritage | • Artefact Sites ARTC12 and ARTC16 (AHIMS 50-5-0268, 50-5-0272)<br>• Artefact Sites ARTC10 and ARTC11 (AHIMS 50-2-0054, 50-2-0055).<br>Surveys would be undertaken with registered Aboriginal parties in accordance with the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010a).<br>If the sites are located, impacts would be avoided as far as practicable and protection measures put in place in accordance with the Aboriginal cultural heritage management plan (mitigation measure AH-9).<br>Any sites with the potential to be impacted would be managed in accordance with the salvage methodology (mitigation measure AH-2). | | |
| AH-6 | Impacts on artefact scatters | Surface collection (salvage) of artefacts that have been identified in Zones 1, 2, 4, 7 and 11 would occur prior to construction in accordance with the approved salvage methodology. | Detailed design/ pre-construction | Section 9.4.3 |
| AH-7 | Avoiding and minimising impacts on Aboriginal heritage | For registered AHIMS sites and Aboriginal sites identified during archaeological surveys located in close proximity to, but outside of, the proposal site, the extent of these sites would be demarcated with high visibility fencing as far as practicable to avoid accidental impact during construction impacts. This particularly applies to scarred trees ARTC6, ARTC18 and ARTC19. The sites would also be clearly marked on all mapping and plans used by contractors working on the project.<br>Scarred tree ARTC20, which is located within the proposal site, should be marked on all mapping and plans used by contractors working on the project and should be fenced with high visibility fencing to avoid accidental impact during construction works. Potential excavation near the tree should include consideration of a tree protection zone, defined in consultation with an arborist. | Detailed design/ pre-construction | Section 9.2, 9.9 |
| AH-8 | Avoiding and minimising impacts on Aboriginal heritage | Clearing extents/site boundary/limit of works would be consistent with project extents defined in a condition of approval and would be clearly defined with flagging or marking tape, signage or other suitable means to delineate no go areas. | Detailed design/ pre-construction | Section 9.2, 9.9, Biodiversity Management Sub-Plan |
| AH-9 | Protecting Aboriginal heritage and minimising impacts during construction | An Aboriginal cultural heritage management plan would be prepared prior to construction and implemented as part of the CEMP. The plan would include measures to minimise the potential for impacts and manage Aboriginal heritage, including:<br>a) a salvage methodology (mitigation measure AH-2)<br>b) an unexpected finds procedure (mitigation measure AH-11)<br>c) plans and installation procedures for fencing and protective coverings | Construction | a) Section 9.4.2<br>b) Section 9.5<br>c) Section 9.2<br>d) Section 10.2<br>e) Section 9.9<br>f) Section 9.4.4<br>g) Section 9<br>h) Section 9.2<br>i) Section 9.4 |

| Ref. | Issue | Mitigation Measure | Timing | HMSP Reference |
|---|---|---|---|---|
| | | d) induction package for construction workers and supervisors<br>e) erosion and sediment controls in accordance with Managing Urban Stormwater: Soils and construction—Volume 1 (Landcom, 2004) to minimise the potential for erosion impacts to Aboriginal sites located close to watercourses/drainage lines<br>f) investigation of the anthropogenic nature of scarred trees within the project area by a specialist in Aboriginal cultural heritage<br>g) measures to manage the potential for impacts to potential Aboriginal heritage items (including burial sites) located in sensitive landscapes (such as alluvium landscapes)<br>h) measures to protect sites close to the proposal site from inadvertent impacts<br>i) outcomes of further investigations (mitigation measures AH-3 and AH-5).<br>j) a repatriation process for collected artefacts<br>The plan would be prepared in consultation with registered Aboriginal parties and the NSW Department of Planning and Environment. | | j) Section 9.4.3 |
| AH-10 | Protecting Aboriginal heritage and minimising impacts during construction | A requirement for cultural heritage awareness training would be included in the Aboriginal cultural heritage management plan. Cultural heritage awareness training would be provided by an Aboriginal representative at the commencement of substantial works for the project. | Construction | Section 10.2 |
| AH-11 | Unexpected finds | An unexpected finds procedure would be developed and included in the Aboriginal cultural heritage management plan to provide a consistent method for managing any unexpected Aboriginal heritage items discovered during construction, including potential heritage items or objects and a flow chart of the procedure on the findings of skeletal remains. | Construction | Section 9.5 Appendix B |
| AH-12 | Update AHIMS records | AHIMS records would be updated for AHIMS Register locations no longer considered to be sites:<br>• Scarred tree 50-5-0117 (AHIMS 50-5-0117)<br>• Scarred Tree 50-5-0120 (AHIMS 50-5-0120)<br>• Scarred Tree 50-5-0121 (AHIMS 50-5-0121)<br>• Zone 1—low-density scatter (AHIMS 50-5-0280) (part)<br>• PAD Zone 7 North (AHIMS 50-5-0281)<br>• PAD Zone 7 South (AHIMS 50-5-0288)<br>• PAD Zone 8 (AHIMS 50-5-0282)<br>• PAD Zone 11 (AHIMS 50-2-0056)<br>• PAD Zone 11 East (AHIMS 50-2-0057). | Construction | Section 9.4.5 |

| Ref. | Issue | Mitigation Measure | Timing | HMSP Reference |
|---|---|---|---|---|
| AH-13 | Aboriginal cultural values plan | An Aboriginal cultural values plan would be prepared in consultation with Aboriginal parties prior to construction and implemented as part of the CEMP. The plan would consider the Aboriginal Cultural Heritage Management Plan and identify:<br>• the traditional Aboriginal use of the landscape in the area surrounding the proposal<br>• the archaeological and contemporaneous expression of that use<br>• the intangible cultural values of the landscape<br>• aboriginal cultural heritage artefacts and scarred trees identified in the project area surrounding the proposal and their cultural value<br>• stories for interpretation drawn from the key thematic areas, identify audiences, locations and options to provide this interpretation<br>• how the findings will be represented by the project, for example in design finishes, art, landscaping and cultural food sources. | Pre-construction | Section 9.3 |
| NAH-1 | Avoiding and minimising impacts on Aboriginal heritage | Detailed design and construction planning would avoid direct impacts on identified items/sites of non-Aboriginal heritage significance as far as reasonably practicable. This would include the following listed items within the construction footprint:<br>• Stockinbingal Railway Station<br>• Stockinbingal Heritage Conservation Area. | Detailed design/ pre-construction | Section 9.8, 9.9 |
| NAH-2 | Engagement with relevant non-aboriginal heritage stakeholders | During the detailed design and construction planning phase, ARTC will continue engagement with Heritage NSW and relevant local councils to ensure impacts on non-Aboriginal heritage assets are minimised and mitigated. | Detailed design, pre-construction | Section 9.9 |
| NAH-3 | Avoiding impacts during construction | The CEMP would define a requirement for non-Aboriginal historical heritage awareness training for site workers prior to commencement of construction works. The awareness training would promote an understanding of heritage items that may be impacted during the works, and the requirements of the unexpected finds procedure. | Construction | Section 10.2 |
| NAH-4 | Unexpected finds including human skeletal remains | An unexpected finds procedure would be developed as part of the CEMP to provide a consistent method for managing any unexpected heritage or archaeological items and unexpected human skeletal remains.<br>Non-Aboriginal awareness training (mitigation measure NAH-3) is to include a flow chart of the procedure on the findings of skeletal remains. | Construction | Section 9.5 Appendix B |
| NAH-5 | Avoiding impacts during construction | The existing fencing and signage around Stockinbingal Railway Station would be maintained to avoid impacts during construction.<br>The Billabong Creek rail underbridge would be fenced and marked on site plans within the CEMP as an area to be avoided during construction. | Construction | Section 9.8, 9.9 |
| NV-1 | Managing the potential | Location and activity-specific construction noise and vibration impact statements would be prepared based on | Construction | Noise & Vibration |

| Ref. | Issue | Mitigation Measure | Timing | HMSP Reference |
|---|---|---|---|---|
| | for construction noise and vibration impacts | a more detailed understanding of the construction methods, including the size and type of construction equipment, duration and timing of works, construction traffic associated with the proposal, and detailed reviews of local receivers as required. | | Management Plan |
| NV-5 | Structural vibration impacts | If the operational noise and vibration review indicates that vibration levels are predicted to exceed the screening criteria at sensitive receivers, a more detailed assessment of the structure would be carried out.<br><br>For any heritage items with the potential to be affected, the detailed assessment would determine any specific sensitivities, in consultation with a heritage specialist, to ensure risks are adequately managed. If a heritage structure is found to be structurally unsound following inspection, a more conservative cosmetic damage objective (e.g, 2.5 mm/s peak component particle velocity for long-term vibration) would be considered. | Construction | Section 8.3, Section 9.8 Noise & Vibration Management Plan |
| NV-10 | Impacts on heritage items as a result of construction vibration | Prior to the commencement of vibration-intensive works within the minimum working distances for cosmetic damage for heritage items, the potential for damage to the item would be assessed.<br>Where there is potential for damage, alternative methods that generate less vibration would be investigated and substituted where practicable. Where residual cosmetic damage risks remain, condition surveys would be carried out and vibration monitoring with real-time notification of exceedance would occur during the activity.<br>Site activities would be modified, where practicable, to avoid exceeding the cosmetic damage criteria. Any identified vibration-related damage to the items would be rectified | Construction | Noise & Vibration Management Plan |

### 2.1.3 Commonwealth Approval – EPBC 2018/8233

There are no heritage specific conditions associated with the Commonwealth Approval (EPBC 2018/8233).

## 2.2 Definitions and Abbreviations

**Table 2-3 Definitions and abbreviations**

| Term / Abbreviation | Definition / Expanded text |
|---|---|
| ACHAR | Aboriginal Cultural Heritage Assessment Report |
| ACVP | Aboriginal Cultural Values Plan |
| AHIMS | Aboriginal Heritage Information Management System |
| AMS | Activity Method Statement |
| ASIRF | Aboriginal site impact recording forms |
| ATSIHP Act | *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* |
| ARTC | Australian Rail Track Corporation |
| A2S | Inland Rail – Albury to Illabo Project |
| CEMP | Construction Environmental Management Plan |
| CoA | Conditions of Approval |
| CSSI | Critical State Significant Infrastructure |
| CVAR | Cultural Values Assessment Report |
| DCCEEW | Department of Climate Change, Energy, the Environment and Water |
| DPHI | Department of Planning, Housing and Infrastructure |
| Environmental Assessment Documentation | • Inland Rail – Illabo to Stockinbingal Environmental Impact Statement (ARTC 2022)<br>• Illabo to Stockinbingal Project Response to Submissions (ARTC 2023)<br>• Response to Submissions – Appendix E - Biodiversity Development Assessment Report version 12 (IRDJV, June 2024)<br>• I2S – Mitigation Measures (Inland Rail, April 2024)<br>• Illabo to Stockinbingal (SSI-9604) Additional and Appropriate Measures for Box Gum Woodland Impacts (Inland Rail, June 2024)<br>Technical and Approvals Consultancy Services: Illabo to Stockinbingal – Box Gum Woodland Gum Flat Rehabilitation Opportunity (IRDJV, June 2024) |
| EIS | Environmental Impact Statement |
| EMS | Environmental Management System |
| EPA | Environment Protection Authority |
| EP&A Act | *NSW Environmental Planning and Assessment Act 1979* |
| EPBC | Environmental Protection and Biodiversity |
| EPBC Act | *Environmental Protection and Biodiversity Act 1999* |
| EPL | Environment Protection Licence |
| ER | Environmental Representative |
| FFMSP | Flora and Fauna Management Sub-plan |
| GMR | Global Mandatory Requirements |
| HMSP | Heritage Management Sub-Plan |
| IMS | Integrated Management System |

| Term / Abbreviation | Definition / Expanded text |
|---|---|
| Incident | An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance. |
| IRPL | Inland Rail Pty Ltd |
| ISC | Infrastructure Sustainability Council |
| I2S | Illabo to Stockinbingal |
| JH | John Holland |
| LALC | Local Aboriginal Land Council |
| LEP | Local Environment Plan |
| LGA | Local Government Area |
| Material Harm | is harm that:<br>(a) involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial; or<br>results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment). |
| NPW Act | *National Parks and Wildlife Act 1974* |
| NSW | New South Wales |
| NT Act | *Native Title Act 1993* |
| NVMSP | Noise and Vibration Management Sub-plan |
| PAD | Potential archaeological deposit |
| PDCA | Plan-Do-Check-Act |
| Plan | Heritage Management Sub-plan |
| RAPs | Registered Aboriginal Parties |
| RMMs | Revised Mitigation Measures |
| SEARs | Secretary's Environmental Assessment Requirements |
| SMART | Specific, Measurable, Achievable, Realistic and Timely |
| SSI | State Significant Infrastructure |
| SWMSP | Soil and Water Management Sub-plan |
| S2P | Inland Rail – Stockinbingal to Parkes Project |
| Work | Any physical work for the purpose of the CSSI including construction and low impact work but not including operational maintenance work |

# 3 Introduction

## 3.1 Context

This Heritage Management Sub-plan (HMSP) forms part of the Construction Environmental Management Plan (CEMP) for the Inland Rail - Illabo to Stockinbingal Project (the Project).

This HMSP has been prepared to address the heritage requirements associated with Infrastructure Approval (CoA) (SSI-9406), the measures listed in the Environmental Impact Statement (EIS) as amended by the Submissions Report (known as Revised Mitigation Measures (RMMs)), EPBC Controlled Action Approval (EPBC Referral 2018/8233) and all applicable legislation, guidelines, standards and specifications.

Specifically, this HMSP has been prepared in accordance with CoA C23 – Heritage Management Plan, and RMM AH-9 – Aboriginal Cultural Heritage Management Plan. The Aboriginal Community and Stakeholder Engagement Strategy (CoA E132) and the Aboriginal Cultural Values Plan (ACVP) (CoA E133) will be developed separately to this HMSP.

## 3.2 Background

### 3.2.1 The Project

The Project is located in south-western New South Wales (NSW) in the Riverina region (Figure 3-1 Project locality

Illabo is a small town located at the southern end of the alignment 16 kilometres (km) north-east of Junee in the Junee Local Government Area (LGA). Stockinbingal is situated at the northern end of the Project, approximately 20 km north-west of Cootamundra in the Cootamundra–Gundagai Regional LGA. The major towns surrounding the Project are Wagga Wagga, about 50 km to the south, Young to the north-east and Cootamundra to the east.

The Project comprises a new rail corridor that would connect Illabo to Stockinbingal. The alignment branches out from the existing rail line north-east of Illabo and travels north to join the Stockinbingal–Parkes Line west of Stockinbingal. The route will travel primarily through undeveloped land predominantly used for agriculture. The Project includes modifications to the tie-in points at Illabo and Stockinbingal to allow for trains to safely enter and exit the Illabo to Stockinbingal (I2S) section of Inland Rail. The alignment also crosses several local and private roads, watercourses and privately owned properties. Additionally, no major towns are located within the Project site between Illabo and Stockinbingal.

The Project will include a total extent of approximately 42.5 km, including 39 km of new, greenfield railway which will incorporate the following key features:

- single track standard gauge on a combination of existing ground level embankments and within cuttings
- new bridges and road overpasses
- crossing loop and maintenance siding
- new level crossings, stock crossings and upgrades to existing level crossings
- new major stormwater diversion and minor drainage works associated with installation and upgrades to culverts.

The Project will also include upgrades to approximately 3 km of existing track associated with tie-in works and construction of an additional 1.7 km of new track to maintain the existing rail network connections. Road upgrade works will also be undertaken to re-align approximately 1.4 km of Burley Griffin Way to

provide a road-over-rail bridge at Stockinbingal. Re-alignment of Ironbong Road will also be completed to allow for safe sight lines. A temporary workforce accommodation camp will also be constructed to house the workforce for the duration of the Project. Key features of the Project are shown on Figure 3-2.

A detailed Project description is provided in Section 3 of the CEMP.

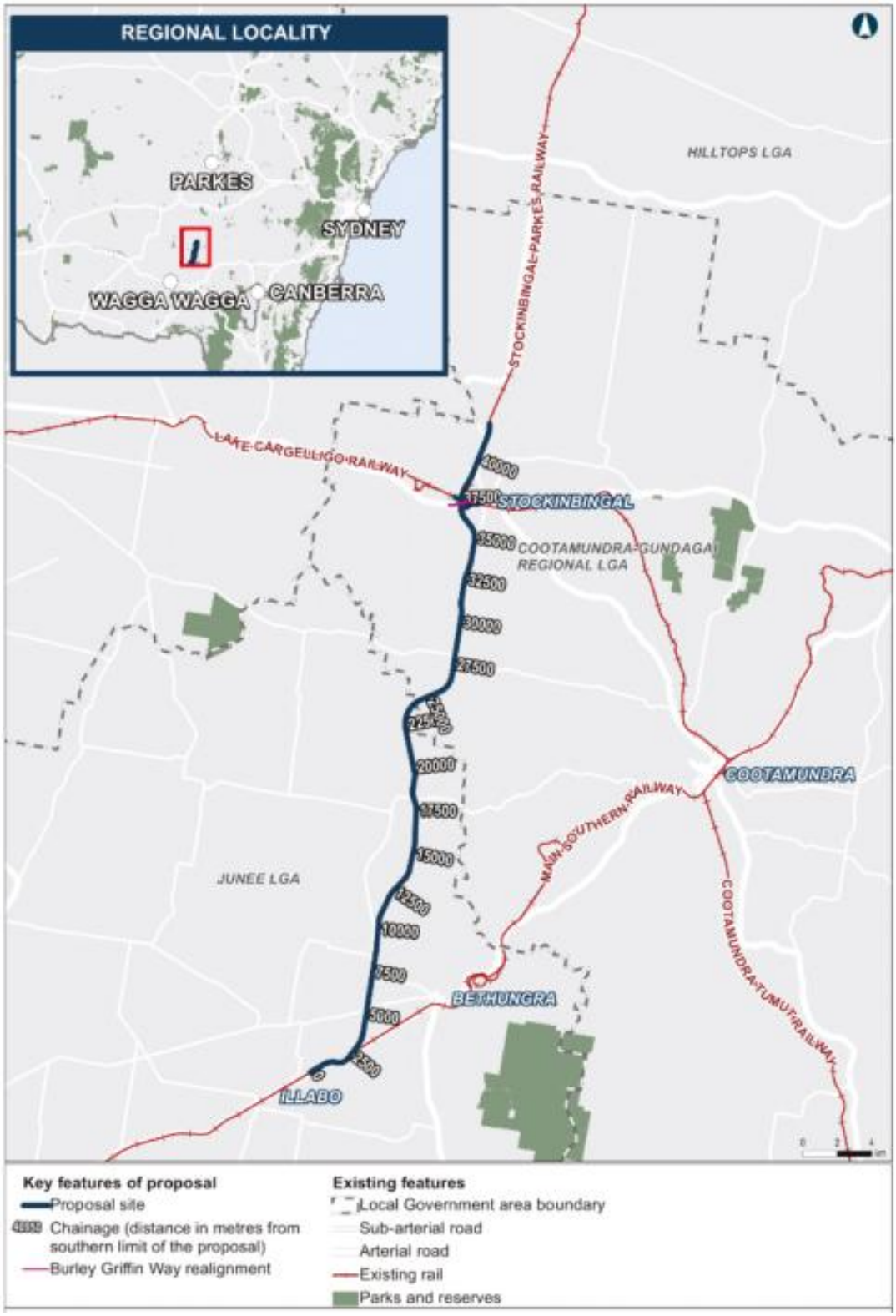



**Figure 3-1 Project locality**

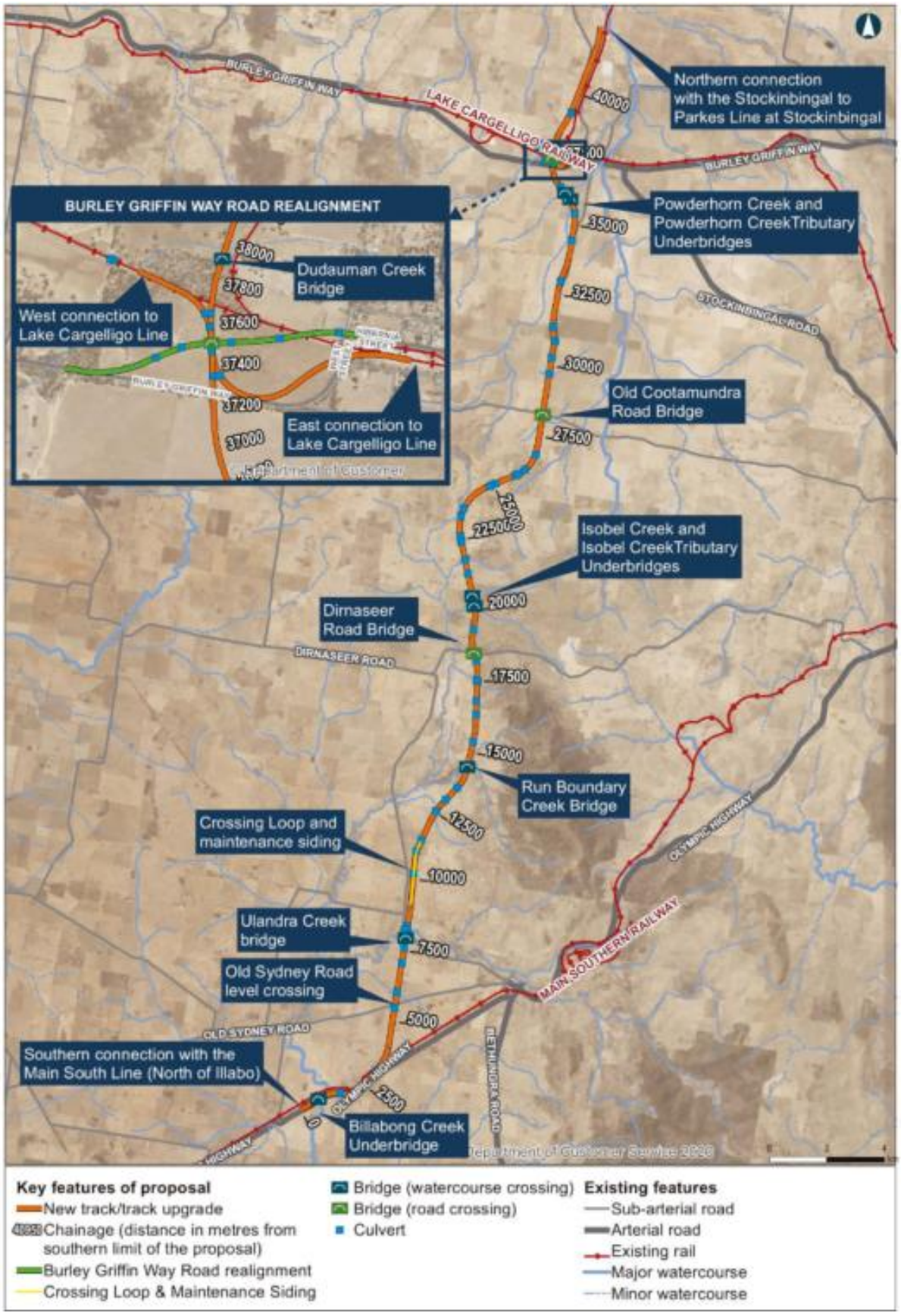



**Figure 3-2 – Key Project features**

### 3.2.2 Statutory Context

The Project was declared to be Critical State Significant Infrastructure (CSSI) in 2021, requiring approval under Division 5.2 of the *NSW Environmental Planning and Assessment Act 1979* (EP&A Act). In accordance with the Secretary's Environmental Assessment Requirements (SEARs) (dated 30 April 2021), an EIS was prepared by Australian Rail Track Corporation (ARTC) in August 2022. The EIS was exhibited by the Department of Planning, Housing and Infrastructure (DPHI) for a period of six (6) weeks, commencing on 14 September 2022 and concluding on 26 October 2022.

Following public exhibition of the EIS, ARTC prepared a Submissions Report to respond to submissions and describe Project design refinements.

Approval for the Project was granted on 4 September 2024 by the Minister for Planning (SSI-9406) and was subject to a number of CoAs.

The Project was determined to be a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The Project received EPBC Controlled Action Approval from Department of Climate Change, Energy, the Environment and Water (DCCEEW) (EPBC Referral 2018/8233) on 28 October 2024.

## 3.3 Scope of the plan

The HMSP will outline how the Project will minimise the potential for impacts and manage Aboriginal heritage, including:

- a description of Project construction activities
- environmental obligations attached to the Project
- legislation and external licenses, permits and approvals required for the Project
- objectives and targets
- plans and installation procedures for fencing and protective coverings
- induction package for construction workers and supervisors
- procedures for additional surveys and test excavation
- investigation of the anthropogenic nature of scarred trees within the Project area by a specialist in Aboriginal cultural heritage
- measures to manage the potential for impacts to potential Aboriginal heritage items (including burial sites) located in sensitive landscapes (such as alluvium landscapes)
- measures to protect sites close to the Project site from inadvertent impacts
- outcomes of further investigations
- a repatriation process for collected artefacts
- Describe review and improvement requirements for the Project
- Unexpected and Incidental Finds Protocol

## 3.4 Environmental Management Systems Overview

### 3.4.1 Environmental Management System

The Project EMS is based on the ISO 14001 accredited John Holland (JH) Environmental Management System (EMS), which itself forms part of the overall JH Integrated Management System (IMS), tailored to satisfy Project-specific requirements. It provides a framework to ensure an integrated approach to meeting Project requirements and defines how the Project will minimise impacts to the environment. It comprises a combination of governance documentation, Project-specific management plans (including this HMSP), procedures and tools.

The basis for the EMS is the concept of Plan-Do-Check-Act (PDCA), as shown in Figure 3-3.

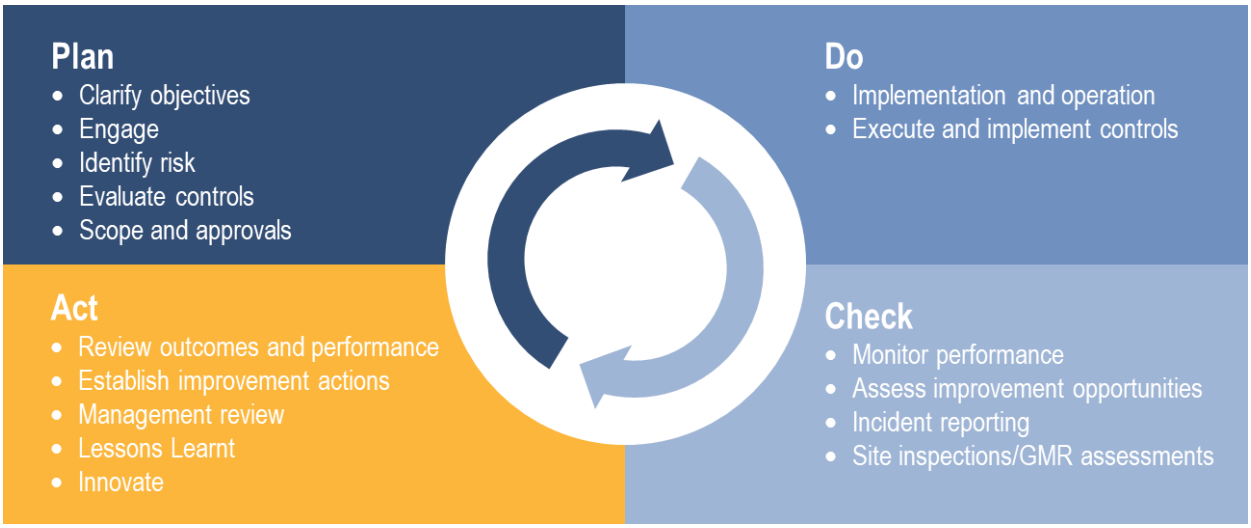



**Figure 3-3 – PDCA model**

The PDCA model provides an iterative process to achieve continual improvement. As applied to the Project environmental processes, it can be briefly described as follows:

- **Plan**: Establish environmental objectives and processes necessary to deliver results in accordance with the JH environmental policy.
- **Do**: Implement the environmental processes as planned.
- **Check**: Monitor and measure processes against the environmental policy, including its commitments, environmental objectives, and operating criteria, and report the results.
- **Act:** to continually improve the environmental processes.

The framework introduced in ISO14001 is integrated into a PDCA model within the EMS and in turn the Project CEMP and this HMSP.

In accordance with the JH Environmental Policy (refer to Appendix A5 of the CEMP), the Project will:

- Continually improve the EMS to enhance performance, through management review and CEMP and HMSP revisions
- Maintain third party certification of the overarching EMS to ISO 14001 with independent verification of implementation and effectiveness.

The EMS provides structure to environmental management of the Project and covers areas such as training, record management, inspections, objectives, and policies. This CEMP has been prepared as part of the EMS using JH documentation as the basis for some documents (Figure 3-4).

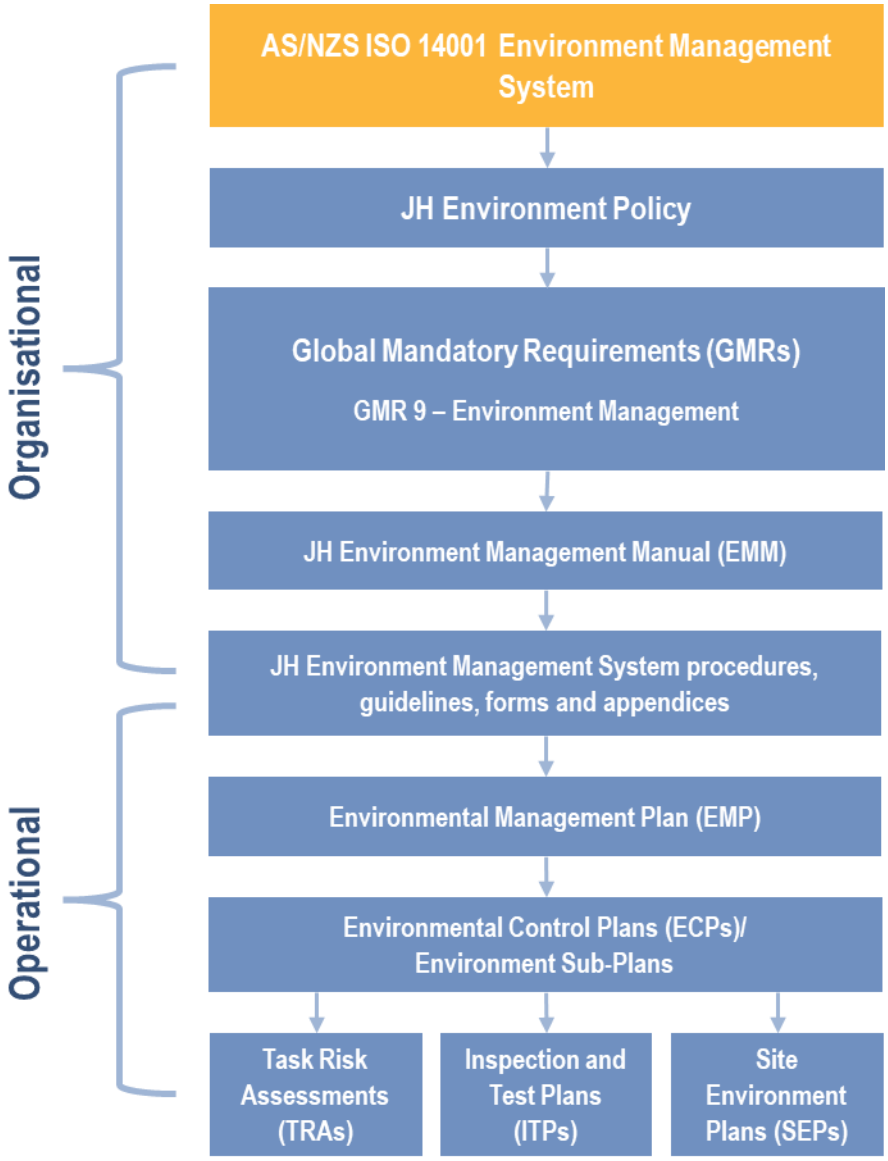



**Figure 3-4 – EMS structure**

The EMS contains policies, standards, manuals, plans, procedures, processes, and other documents that enable the Project to achieve its objectives through planned and controlled processes.

### 3.4.2 Global Mandatory Requirements

JH's Global Mandatory Requirements (GMRs) outline the control strategies and minimum standards for managing, and where possible, eliminating key risks across the Project. These standards have been developed to:

- Minimise the impact of our activities on the environment and communities.
- Reduce our use of natural resources and energy, and the generation of waste.
- Be a reliable and trustworthy partner to our customers, dedicated to providing environmentally sustainable solutions throughout our diverse business.

The GMR's form part of the Project EMS and are to be used as tools in development of planning documents for management of environmental risks / impacts. Requirements of the GMR are integrated into the CEMP and CEMP sub-plans (including this HMSP).

### 3.4.3 Plan preparation, endorsement and approval

This HMSP has been prepared by suitably qualified personnel from Inti Pty Ltd, JH, with input from the Project's appointed heritage consultant (MTS Heritage Pty Ltd). The HMSP has been endorsed by the Environmental Representative (ER). The HMSP will then be submitted to the Planning Secretary for approval no later than one month before the commencement of construction. In accordance with CoA 15, construction will not commence until the CEMP and all CEMP Sub-plans have been approved by the Planning Secretary.

### 3.4.4 Interactions with other management plans and strategies

This HMSP is also associated with the following documents which have been reviewed and incorporated into this HMSP where applicable:

- Chapter 15 – Cultural Heritage (from the EIS)
- Chapter 27 – Environmental Management and Mitigation (from the EIS)
- Tech paper 7 - Aboriginal Cultural Heritage (from the EIS)
- Appendix B – Revised Mitigation Measures (Response to Submissions)
- Appendix G – Aboriginal Heritage Clarifications (Response to Submissions)
- Aboriginal Cultural Values Plan (CoA E133)
- Aboriginal Community and Stakeholder Engagement Strategy (CoA E132)

# 4 Purpose and Objectives

## 4.1 Purpose

The purpose of this HMSP is to describe how harm to Aboriginal Heritage and non- Aboriginal heritage will be minimised and or managed during the construction of the Project. No direct or indirect impacts to Non-Aboriginal heritage items were identified by the EIS and, as such, the plan focusses on Aboriginal heritage. The HMSP has been prepared with consideration given to the Specific, Measurable, Achievable, Realistic and Timely (**SMART**) principles. These include:

- **S**pecific – outlining mitigation and management measures during construction as identified within the EIS.
- **M**easurable – Inspection and monitoring requirements detailed in Section 7 of this Plan include specific measures or indicators for which inspection and monitoring requirements will be triggered. Provision of Project-specific vibration monitoring for heritage structures is also included in the Noise and Vibration Management Sub-Plan (NVMSP).
- **Ac**hievable – Ongoing compliance with the relevant conditions of approval outlined in the Project approvals (Section 3 of this Plan) is achievable throughout the delivery of the Project and represents the minimum requirements to be implemented by JH.
- **R**elevant - The management measures outlined in Section 7 of this Plan represent JH's approach to monitoring and tracking against the objectives, targets and environmental performance outcomes (which are identified in Section 2.2.1 of this Plan).
- **T**ime-bound – On a broader scale, the management measures set out within this Plan are required to be implemented for the duration of construction, setting a clear and defined time frame and includes reference to other temporal applications, including during detailed design, pre-construction, post-construction and/or operation.

## 4.2 Objectives

The objective of this HMSP is to outline the mitigation and management measures described within the following documents for implementation during construction activities.

- The EIS prepared for the Project
- The Submissions Report prepared for the Project, including the RMMs
- IRPL Specifications

### 4.2.1 Performance Outcomes

Project design and construction will be prepared in consideration of the 'desired performance outcomes' provided in the SEARs. Project-specific performance outcomes are further defined in Chapter 27 (Table 27.7) of the EIS. The environmental performance outcomes related to heritage for the Project are included in Table 4-1.

**Table 4-1 – Performance outcomes**

| Item | SEARs desired performance outcomes | I2S Specific Environmental Performance Outcomes | Where addressed |
|---|---|---|---|
| Heritage | The design construction and operation of the project facilities, to the greatest extent practicable, the long-term protection, conservation and management of the | • The Project is designed to minimise the surface footprint as far as practicable | Section 7 |

| Item | SEARs desired performance outcomes | I2S Specific Environmental Performance Outcomes | Where addressed |
|---|---|---|---|
| | heritage and cultural significance of items of environmental heritage, and Aboriginal objects and places/<br><br>The design, construction and operation of the project avoids or minimises impacts, to the greatest extent practicable, on the heritage significance of environmental heritage and Aboriginal objects and places. | • The design is sympathetic to the historic significance of the existing rail corridor and the heritage significance of surrounding listed heritage items and, where practicable, avoids and minimises impacts to heritage<br><br>• Impacts on heritage are managed in accordance with relevant legislation, including the EP&A Act, the *National Parks and Wildlife Act 1974*, and relevant guidelines. | |

## 4.3 Targets

The following targets related to heritage matters have been identified for implementation during the Project:

- Achieve compliance with the relevant legislative requirements, Infrastructure Approval (SSI-9406), EPBC Controlled Action Approval (EPBC 2018/8233), Submissions Report, relevant RMMs and the Project EPL.
- Compliance with JH GMRs.

# 5 Environmental Requirements

In accordance with NSW CoA A5, references in the terms of this Plan to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in at the date of the Infrastructure Approval (SSI-9406).

## 5.1 Relevant legislation and Guidelines

The primary legislation, guidelines and standards relevant to heritage management are presented in Table 5-1.

**Table 5-1 – Principal legislation and guidelines relevant to Heritage**

| | |
|---|---|
| Legislation | Commonwealth:<br>• *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)<br>• *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (ATSIHP Act)<br>• *Native Title Act 1993* (NT Act)<br>NSW:<br>• *Heritage Act 1977*<br>• *Environmental Planning and Assessment Act 1979* (EP&A Act)<br>• *National Parks and Wildlife Act 1974* (NPW Act)<br>• *Native Title (New South Wales) Act 1994*<br>• *NSW Aboriginal Land Rights Act 1983*<br>• |
| Guidelines and Specifications | • *Code of practice for archaeological investigation of Aboriginal objects in NSW* (DECCW, 2010)<br>• *Due Diligence Code of Practice for the protection of Aboriginal Objects in New South Wales* (DECCW 2010)<br>• *Aboriginal cultural heritage consultation requirements for proponents (DECCW, 2010)*<br>• *Assessing Heritage Significance* (NSW Heritage Office, 2001- revised 2023)<br>• *Criteria for the assessment of excavation directors* (NSW Heritage Council, 2011- revised and adopted September 2019)<br>• *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW,* (OEH, 2011)<br>• *Managing Urban Stormwater: Soils and construction – Volume 1* (Landcom, 2004)<br>• *NSW Heritage Manual* (Heritage Office and Department of Urban Affairs and Planning, 1996)<br>• *Skeletal Remains: Guidelines for Management of Human Remains under the Heritage Act 1977 (*OEH, 1998)<br>• *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* (Australia ICOMOS, 2013) (‘the Burra Charter’). |

Relevant provisions of the above legislation are identified in the register of legal requirements included in the CEMP.

## 5.2 Infrastructure Sustainability Council (ISC) Requirements

In accordance with CoA E148, JH is required to achieve a minimum ‘excellent’ rating for both ‘Design’ and ‘As built’ civil works, under the Infrastructure Sustainability Council (ISC) of Australia infrastructure rating tool, or through the use of an equivalent process or an equivalent level of performance using a demonstrated equivalent rating tool. JH will be delivering  the ISC rating using v1.2.

The implementation of ISC requirements is embedded across all relevant works and environmental management practices. Heritage will be managed under the relevant credits including Her-1 and Her-2 and will be aligned with commitments made in the Project Sustainability Management Plan. The key requirements for Her-1 and Her-2 as defined in the ISC v1.2 Technical Manual, including goals and measures relevant to heritage are provided in

Table 5-2.

Table 5-2 ISC Requirements

| Credit | Credit Name | Level | Benchmark | Must Statement (Updated with Rulings August 2023) | Should Statement | Where addressed |
|---|---|---|---|---|---|---|
| Her-1 | Heritage Assessment and Management | 1 | Community heritage values have been identified through consultation and integrated into studies<br>AND<br>Measures to minimise adverse impacts to heritage during construction and operation have been identified and implemented | Heritage aspects relevant to this credit must be managed, reviewed or audited by a suitably qualified professional. A suitably qualified professional is someone who has a formal cultural heritage qualification and minimum of five years' experience or appropriate recognition of traditional knowledge of the local area or as determined appropriate in the relevant jurisdiction. Community heritage values, including those of Indigenous People of the Land connected to the Project location, must be identified through consultation, and integrated into the heritage studies. | A heritage assessment should be conducted in accordance with the Burra Charter definition. Baseline surveys of existing heritage should form part of the assessment, as should predictions for heritage impacts during construction and operation of the infrastructure. | Section 6.2, 7 |
| Her-1 | Heritage Assessment and Management | 2 | Community and key stakeholders have participated in the heritage studies<br>AND<br>Heritage values beyond those listed in government registers have been identified, considered and addressed<br>AND<br>Heritage has been interpreted to promote local heritage values | The interpretation of the heritage must at least include the following:<br>1. Details on the history of the area;<br>2. The location and extent of historic and cultural heritage sites;<br>3. Objectives of interpretation; and<br>4. An Interpretation Plan (or similar) to enrich an understanding of the place while providing guidance for aspects of the development of the area that will build on its unique characteristics.<br>- Community and key stakeholders , including Indigenous People of the Land connected to the Project location must participate in the heritage studies.<br>- A broader approach to heritage is required that builds on the review of heritage registers, including investigation of intangible indigenous and non-indigenous heritage values that may be known by or may be important to the community and include heritage precincts, and heritage items and place in the vicinity that may be adversely impacted by proximity to the infrastructure. | | Section 6.2, 7 |
| Her-1 | Heritage Assessment and Management | 3 | Opportunities have been identified and implemented to enhance heritage values. | Not only must heritage be preserved and promoted, but opportunities need to have been identified to enhance heritage values and these must have been implemented. | | Section 9.9 |

| Credit | Credit Name | Level | Benchmark | Must Statement (Updated with Rulings August 2023) | Should Statement | Where addressed |
|---|---|---|---|---|---|---|
| Her-2 | Monitoring of Heritage | 1 | Monitoring of heritage is undertaken at appropriate intervals during construction | NA | Monitoring would only be required if a trigger occurred. A common trigger is an 'unexpected find' protocol (Transport for NSW 2015). | Section 10.3 |
| Her-2 | Monitoring of Heritage | 2 | Monitoring and modelling demonstrates maintenance of heritage values | NA | - A suitably qualified professional or committee should oversee heritage monitoring.<br>- Where a heritage committee is used, it should involve client, contractor and community representatives. | Section 10.3 |
| Her-2 | Monitoring of Heritage | 3 | Monitoring and modelling demonstrates enhancements to heritage values | NA | Monitoring (or modelling of future states) must demonstrate that heritage values have been (or will be) successfully enhanced. | Section 10.3, 9.9 |

# 6 Consultation

## 6.1 Consultation for this Plan

In accordance with CoA C17 of the Infrastructure Approval (SSI-9406) and NAH-2 of the UMMs, JH is required to consult with the following agencies in relation to this HMSP:

- Heritage NSW
- RAPs
- Relevant councils, including:
  - Junee Shire Council
  - Cootamundra Gundagai Council

In accordance with CoA A10, a Consultation Summary Report which summarises the consultation with the above agencies has been prepared and provided in Appendix A. Where future comments are received from an agency or group that has been requested to provide comment on this Plan, JHG will consider the comments and incorporate them into the Plan where relevant.

## 6.2 Aboriginal Heritage Specific Consultation

In New South Wales, Aboriginal cultural heritage assessments must comply with the legislation developed by the Department of Climate Change, Energy, the Environment and Water (DCCEEW) and guidelines developed by Heritage NSW, which emphasise consulting Aboriginal communities when investigating, assessing and reporting on Aboriginal cultural heritage in NSW. The Project area falls within the traditional lands of the Wiradjuri people. Aboriginal consultation has been undertaken for the Project in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010b). This included participation by RAPs and Local Aboriginal Land Councils (LALCs) in the site survey and the review of draft Aboriginal cultural heritage assessment report. Consultation with other Indigenous stakeholders included Wagga Wagga and Young Local Aboriginal Land Councils (LALCs) and Mawang Galway Elders Group.

### 6.2.1 Registered Aboriginal Parties

Registered Aboriginal Parties (RAPs), under the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, are an Aboriginal group, organisation or individual who hold appropriate cultural heritage knowledge of the Project area required to inform decision making relating to Aboriginal cultural heritage. They provide advice and consent on development proposals and heritage assessments, ensuring Aboriginal cultural values are respected. Heritage NSW (formerly OEH) manages the registration process based on cultural connection and traditional authority. The RAPs were consulted throughout each stage of the Project's Aboriginal Cultural Heritage Assessment Report (ACHAR).

### 6.2.2 Consultation for the Project ACHAR

The consultation process for the Project's ACHAR involved identification, registration, engagement and consultation with Aboriginal peoples who may hold cultural knowledge relevant to determining the significance of an Aboriginal object and/or place, known as the RAPs. The following stages of consultation have been applied:

1. Notification of the Project: Informing appropriate agencies and Aboriginal people about the nature and scope of the proposal.
2. Presentation of Information: Understanding what might be present in the landscape and its cultural significance.
3. Gathering Information: Determining the potential impacts and the proposed strategies to deal with them.
4. Review of Draft Report: Reviewing the report.

Aboriginal groups were invited to register interest as a party to the consultation. This included placing local press advertisement(s), seeking responses from the RAPs on the proposed assessment methodology, and providing the RAPs with an opportunity to comment on the assessment reports and recommendations. The guidelines specify timeframes for each stage of the consultation process.

Further details and information regarding the consultation process and outcomes are provided in the EIS, Technical Paper -7 – Aboriginal Cultural Heritage Assessment Report, Section 3.5 which was undertaken by GML Heritage.

### 6.2.3 Consultation for the Construction Stage of the Project

Given the time that has lapsed since preparation of the EIS and the number of additional Aboriginal stakeholders included in the Heritage NSW Stakeholder List, Inland Rail chose to re-start the consultation to ensure an inclusive process during the construction stage of the Project. The steps followed as part of the EIS are being replicated and an updated RAP list will be created for subsequent archaeological investigations and the Aboriginal Cultural Values Assessment.

Consultation with RAPs during this Project will involve:

- Presentation of Project Information;
- Provision of an archaeological survey and test excavation methodology for review;
- Provision of a methodology for the cultural values assessment for review;
- Engagement in cultural mapping of Country and the record of intangible cultural values;
- Input in the development of conservation, management and mitigation measures for identified cultural values within the Project area;
- Participation in Cultural Design Input Workshops;
- Review of a draft Aboriginal Cultural Values Assessment Report;
- Review of an archaeological salvage excavation methodology; and
- Review of a final Aboriginal Excavation Report on the results of the archaeological investigation.

It should be noted that previously registered RAPs have automatically been included in consultation in line with the contact details provided by GML. An introductory letter was sent to all previously registered RAPs on 7 Jan 2025 and they were included in consultation from the point of sending out the Additional Survey and Test Excavation Methodology onwards.

### 6.2.4 Aboriginal Community and Stakeholder Engagement Strategy

For this stage of the Project, Aboriginal community consultation was re-initiated in accordance with the DCCEEW Aboriginal cultural heritage consultation requirements for proponents. Stage 1.1 letters to statutory bodies were sent on 20 January 2025, requesting contact details for Aboriginal people who may have an interest in the study area.

These statutory bodies included the:

- Heritage NSW (formerly OEH)
- Young Local Aboriginal Land Council
- Wagga Wagga Local Aboriginal Land Council
- Office of The Registrar, *Aboriginal Lands Right Act 1983*
- National Native Title Tribunal
- Native Titles Service Corporation

- Junee Council
- Cootamundra Gundagai Council
- City of Wagga Wagga Council; and
- Greater Sydney Catchment Management Authority

An advertisement was placed in The Riverina Leader on 3 February 2025 with the closing date for registration on 17 February 2025. Following the receipt of responses from Stage 1.1, a number of potential Aboriginal stakeholders were identified. Stage 1.2 letters were sent to the identified Aboriginal people following the close of registration. Both the Stage 1.2 letters and the advertisement invited Aboriginal people with an interest in the study area to register as a stakeholder to be involved in consultations.

Following the creation of a new RAP List, an Aboriginal Community and Stakeholder Engagement Strategy has been prepared to document the various stage of consultation that will take place as part of the archaeological investigations and during preparation of the Aboriginal Cultural Heritage Values Assessment.

### 6.2.5 Ongoing Consultation Required for the Project

Copies of the final reports and draft documents for consultation will be provided to the RAPs and LALCs in accordance with the following CoA's.

1. Condition E135 & E138 Aboriginal Archaeological Survey and Test Excavation Methodology
   - Consultation with RAPs during preparation of the methodology.
   - Consultation with Heritage NSW during the preparation of the methodology.
   - Provision of a copy to the RAPs and Heritage NSW once finalised.
2. Condition E136 & E138 Aboriginal Archaeological Salvage Methodology
   - Consultation with RAPs during preparation of the methodology.
   - Consultation with Heritage NSW during the preparation of the methodology.
   - Provision of a copy to the RAPs and Heritage NSW once finalised.
3. Condition E137 Exceedance of the level of significance of sites identified in the EIS- ACHAR
   - Consultation with RAPs once an exceedance is identified
   - Consultation with Heritage NSW once an exceedance is identified
4. Condition E139 Aboriginal Cultural Heritage Excavation Report
   - Consultation with RAPs for a minimum of 28 days to consider the report and provide comment.
   - Provision of the final report to the RAPs, Wagga & Young Local Aboriginal Land Councils, Cootamundra-Gundagai Regional Council, Junee Council, Heritage NSW and the Planning Secretary (within 24 months of all test and salvage excavations).

Any future work relating to the Aboriginal archaeological mitigation, or any significant changes to the development, should include consultation with the RAPs.

# 7 Existing Environment

## 7.1 Land use history

The Project area traverses multiple working farms, as well as the township of Stockinbingal, roads and rail. The land has undergone significant changes over time including vegetation clearance, construction of roads, tracks, dams, fences, and ploughing for crops. The natural landscape within lengthy tracts of the area has been impacted by these activities. Some sections of the area have been used for stock grazing, which has a less obvious impact to zones of potential archaeological sensitivity, although still creates impacts through erosion. These impacts create other disturbances which reduce the potential for Aboriginal archaeological sites across the area, and therefore had an important bearing on the assessment of the archaeological resource.

## 7.2 Soil landscape

The Project area passes through 12 soil landscapes and crosses six watercourses. These soil landscapes fall into three soil groups: Erosional, Transferral and Alluvial. Erosional soil landscapes are generally found to be shallow on upper slopes and deep on mid to lower slopes and along creek lines. Transferral soil landscapes can vary between shallow and deep on upper slopes and are generally deep across all other areas. Alluvial soil landscapes vary between moderately deep and deep across all landforms. The soil landscapes in the Project area is discussed in detail in the EIS Technical Paper 7.

## 7.3 Hydrology

The Project area spans the catchment of both the Murrumbidgee River and Lachlan River (Lower and Upper). The Project crosses six ephemeral creeks—Billabong Creek, Ulandra Creek, Run Boundary Creek, Isobel Creek, Powder Horn Creek and Dudauman Creek. All of these creeks drain the Bethungra ranges, located to the east of the area, and flow towards the south. Technical Paper 7 provides further information on the hydrology in the study area.

## 7.4 Land use context

The nature and availability of resources, including water, flora and fauna, and suitable raw materials for the manufacture of stone tools and other items, had (and continues to have) a significant influence on the way in which people use the landscape. Alterations to the natural environment also impact on the preservation and integrity of any cultural materials, whether Aboriginal or non-Aboriginal, while current vegetation and erosional regimes affect the visibility and detectability of sites and objects. For these reasons, it is essential to consider the land use context as a component of any heritage assessment.

Prior to European occupation, the area would have been covered in open eucalypt woodlands, which would have minimised erosion and artefact movement. Modified trees may be found in any soil landscape, in areas with mature vegetation. During and post land clearing, modified trees may have been destroyed and stone artefacts in erosional landscapes may have been displaced from their original discard point. However, soil landscapes with deep soil profiles are generally more stable and artefacts in these areas often undergo less displacement. Therefore, despite recent agricultural activity, it can be predicted that artefacts may be found in the majority of the Transferral and Alluvial landscapes and in the mid to lower slopes of Erosional landscapes within the area.

## 7.5 Aboriginal heritage

### 7.5.1 Historical Aboriginal land use

The Project area is located within the traditional land of the Wiradjuri people, who occupied the largest geographic area of all Aboriginal groups in New South Wales, including the Macquarie, Lachlan, and Murrumbidgee Rivers. The name "Wiradjuri" means "people of the three rivers." Prior to European settlement, an estimated 2,000 to 3,000 Wiradjuri people lived near Wagga Wagga.

The Project area, located about 30 km north of the Murrumbidgee River, was traditionally used by the Wiradjuri people who moved in small groups across river flats, open land, and waterways. The area includes permanent and ephemeral creeks, where the Wiradjuri supplemented their diet with fish, kangaroos, emus, fresh fruit, nuts, yam daisies, wattle seeds, and orchid tubers.

### 7.5.2 Aboriginal sites, objects, places and values

A desktop review of archaeological literature and data was conducted in the EIS to determine if Aboriginal sites had been previously identified within the Project area as well as the potential for further sites to be present based on topography, local knowledge and site inspections/investigations. Based on this review, a study area was developed with further refinement to a series of zones of sensitivity. These zones of sensitivity were then further refined (based on the project alignment) to a series of 11 indigenous survey zones (Zones 1-11).Maps showing the location of each heritage zone have been included in Appendix C of this Plan.

The results of the Aboriginal Heritage Information Management System (AHIMS) search identified three listed Aboriginal sites within Zone 3, all of which were scarred trees as detailed below.

- Bethunga Crown Land Road Deakin/Eulolmo tree fire scar 2 (50-5-0120), a Modified Tree (Carved or Scarred) located within the Project site
- Bethunga Crown Land Road Deakin/Eulolmo tree fire scar 1 (50-5-0121), a Modified Tree (Carved or Scarred) located within the Project site
- Bethunga Crown Land Road Deakin/Eulolmo tree fire scar 1 (50-5-0117), a Modified Tree (Carved or Scarred) located within the Project site.

However, following additional survey and assessment, they were found to have scars that were natural, rather than cultural in origin and therefore are not considered AHIMS sites. As shown in The Aboriginal **site inventory has been updated to incorporate the results of the additional survey, test excavation and salvage investigation program undertaken for the I2S Project. These investigations were completed by Apex Archaeology in accordance with the Aboriginal Archaeological Salvage Excavation Methodology** (5-0019-220-PES-00-MS-0002). As a result, additional Aboriginal heritage sites were identified within Zones 5, 6 and 9, including both artefact deposits and isolated finds. They have been incorporated into Table 7-1 below.

Table 7-1, these records have been removed from the AHIMS and are no longer classified as sites.

The desktop review undertaken for the EIS did not identify any Aboriginal places declared under section 84 of the NPW Act, nor Aboriginal places of heritage significance defined by the Cootamundra LEP and Junee LEP, within the study area.

The results of the desktop review were used to produce a predictive model to identify areas of archaeological potential which identified 11 separate zones. To verify the model, archaeological surveys of the study area, in the form of a pedestrian survey, were undertaken in conjunction with members of the local Aboriginal community, as represented by the RAPs. The survey targeted zones of potential sensitivity based on the results of the desktop review and consultation with the Aboriginal community.

Based on the archaeological surveys, several potential archaeological deposits (PAD) were identified and underwent archaeological test excavations. The results of the test excavations were used to refine the identified areas of potential archaeological sensitivity and predictive modelling. It's noted that archaeological test excavations were not undertaken in Zones 5, 6, 9 and 10 due to access and other issues and will be undertaken prior to relevant works as further detailed in Section 9.4.

**Key features of proposal**
- Proposal site

**Existing features**
- Local road
- Sub-arterial road
- Arterial road
- Existing Rail
- Heritage listed item
- Conservation area
- S.170 Heritage listed item

15.3 Heritage listed items within the study area

Coordinate System: GDA 1994 MGA Zone 55
Date: 1/10/2022Paper size: A3 Scale: 1:10,000

**Figure 7-1 . This includes the 22 Aboriginal sites identified during survey and PADs that were either found to be Aboriginal sites or sites with archaeological potential that have not been physically surveyed. Some details provided in this table have been provided post EIS by Inland Rail following updates to information provided by GML.**

The Aboriginal site inventory has been updated to incorporate the results of the additional survey, test excavation and salvage investigation program undertaken for the I2S Project. These investigations were completed by Apex Archaeology in accordance with the Aboriginal Archaeological Salvage Excavation Methodology (5-0019-220-PES-00-MS-0002). As a result, additional Aboriginal heritage sites were identified within Zones 5, 6 and 9, including both artefact deposits and isolated finds. They have been incorporated into Table 7-1 below.

**Table 7-1 – Aboriginal sites, places and values located within or in close proximity of the Project (as defined in the Project EIS 2022 and updated with information provided by Inland Rail from revisions of data and information made available from GML and IRPL teams.)**

| Zone | Site ID | AHIMS ID | Relationship to Project | Site type | Validity | Comments |
|---|---|---|---|---|---|---|
| Zone 1 | Artefact sites ARTC1 and ARTC4 | 50-5-0266, 50-5-0276 | Inside Project area but outside construction zone | Cultural sites | Valid | Low density surface artefact scatter (ARTC1) and surface isolated artefact (ARTC4) |
| | Artefact site ARTC2 | 50-5-0267 | Inside Project area and partially inside construction zone | Cultural site | Valid | Low density surface artefact scatter |
| | Artefact sites ARTC3 | 50-5-0274 | Outside Project area | Cultural site | Valid | Isolated surface artefact |
| | Artefact site ARTC5 | 50-5-0275 | Inside Project area | Cultural site | Destroyed (artefact collected) | Isolated surface artefact. No longer valid. Artefact collected during test excavation |
| | Site Zone 1—high density scatter | 50-5-0293 | Inside Project area and partially inside construction zone | Cultural site | Valid | Three areas of high-density subsurface artefacts identified as part of excavations of Zone 1 PAD (50-5-0293) |
| | Site Zone 1—low density scatter | 50-5-0293 | Inside Project area and partially inside construction zone | Cultural site | Valid | Two areas of low-density subsurface artefacts identified as part of excavations of Zone 1 PAD (50-5-0293) |
| | Site Zone 1—PAD | 50-5-0293 | Inside Project area and partially inside construction zone | Potential Archaeological Deposit | No longer valid (excavated) | Site has been excavated. Replaced by areas of low- and high-density subsurface artefacts (50-5-0293) |
| | Ring tree | - | Outside Project area | Cultural site | Valid | Ring tree located 40m north of Project area |
| Zone 2 | Scarred tree ARTC 6 | 50-5-0277 | Outside Project area | Cultural site | Valid | Culturally modified tree. Located 135m west of Project area |
| | Site Zone 2—high density scatter | 50-5-0294 | Inside Project area | Cultural site | Valid | Two areas of high-density subsurface artefacts identified as part of excavations of Zone 2 PAD (50-5-0278) |
| | Site Zone 2—low density scatter | 50-5-0294 | Inside Project area | Cultural site | Valid | One area of low-density subsurface artefacts identified as part of excavations of Zone 2 PAD (50-5-0278) |
| | Site Zone 2—PAD | 50-5-0278 | Inside Project area | Potential Archaeological Deposit | No longer valid (excavated) | PAD (50-5-0278) excavated and deregistered. Replaced by areas of low- and high-density subsurface artefacts (50-5-0294) |
| Zone 3 | Scarred trees | 50-5-0117, 50-5-0120, 50-5-0121 | NA | Not a cultural site | Not valid | Determined not to be culturally modified trees and deregistered from AHIMS |

| Zone | Site ID | AHIMS ID | Relationship to Project | Site type | Validity | Comments |
|---|---|---|---|---|---|---|
| | Scarred tree ARTC18 | 50-5-0287 | Inside Project area | Cultural site | Valid | Culturally modified tree. Located on boundary of the construction zone |
| | Scarred tree ARTC20 | 50-5-0297 | Inside Project area but outside construction zone | Cultural site | Valid | Culturally modified tree. Located on access road likely to be utilised during construction |
| Zone 4 | Artefact site ARTC7 | 50-5-0285 | Outside Project area | Cultural site | Valid | Isolated surface artefact |
| | ARTC8 | 50-5-0284 | Outside Project area | Cultural site | Valid | Low density surface artefact scatter |
| | ARTC9 | 50-5-0283 | Outside Project area | Cultural site | Valid | Isolated surface artefact |
| | Site Zone 4—PAD | 40-4-0287 | Inside Project area | Potential Archaeological Deposit | No longer valid (excavated) | PAD excavated. Only one artefact identified, and this has been included as part of site ARTC8 (50-5-0284). PAD deregistered from AHIMS |
| Zone 5 | PAD Zone 5 | 50-5-0300, 50-5-0301, 50-5-0302, 50-5-0303 | Inside Project area | Potential Artefact Deposit | No longer valid (excavated) | Confirmed to contain low density artefact concentration. No further mitigation necessary. ASIRF to be submitted after impact to update site as destroyed. |
| | IR-IF-01 | 50-5-0311 | | Isolated find | | |
| Zone 6 | PAD Zone 6 | 50-5-0304, 50-5-0305, 50-5-0306, 50-5-0307, 50-5-0308, | Inside Project area | Potential Artefact Deposit | No longer valid (excavated) | Confirmed to contain low density artefact concentration. No further mitigation necessary. ASIRF to be submitted after impact to update site as destroyed. |
| | IR-IF-03 | 50-5-0312 | | Isolated find | | |
| Zone 7 | Artefact sites ARTC12 and ARTC16 | 50-5-0268, 50-5-0272 | Inside Project area and construction zone | Cultural site | Valid | Isolated surface artefacts Valid but could not be found again during the testing program |
| | Artefact sites ARTC13–15 | 50-5-0269, 50-5-0270, 50-5-0271 | Outside Project area | Cultural site | Valid | Isolated surface artefacts (ARTC13, ARTC14) and low-density surface artefact scatter (ARTC15) |
| | Artefact site ARTC17 | 50-5-0273 | Inside Project area and construction zone | Cultural site | Valid | Isolated surface artefact |
| | Site Zone 7—PAD North | 50-5-0281 | Inside Project area | Potential Archaeological Deposit | No longer valid (excavated) | PAD excavated and no subsurface artefacts identified. PAD has been deregistered from AHIMS |
| | Site Zone 7—PAD South | 50-5-0288 | Inside Project area | Potential Archaeological Deposit | No longer valid (excavated) | PAD excavated and no subsurface artefacts identified. PAD has been deregistered from AHIMS |
| Zone 8 | Site Zone 8—PAD | 50-5-0282 | Inside Project area | Potential Archaeological Deposit | No longer valid (excavated) | PAD excavated and no subsurface artefacts identified. PAD has been deregistered from AHIMS |
| Zone 9 | AD01 | 50-5-0309 | Inside Project area | Potential Artefact Deposit | No longer valid (excavated) | No further mitigation necessary. ASIRF to be submitted after impact to update site as destroyed |

| Zone | Site ID | AHIMS ID | Relationship to Project | Site type | Validity | Comments |
|---|---|---|---|---|---|---|
| | IR-IF-02 | 50-5-0310 | | | | Surface collection |
| Zone 10 | - | - | - | - | No sites identified within this zone | No further mitigation necessary |
| Zone 11 | Zone 11—low density scatter | 50-2-0068 | Outside Project area | Cultural site | Valid | One area of low-density subsurface artefacts identified as part of excavations of Zone 11 PAD (50-2-0056) |
| | Site Zone 11—PAD | 50-2-0056 | Outside Project area | Potential Archaeological Deposit | No longer valid (excavated) | PAD (50-2-0056) excavated and deregistered. Replaced by areas of low-density subsurface artefacts (50-2-0068) |
| Zone 11 East | Artefact sites ARTC10 | 50-2-0054 | Located inside Project area and construction zone | Cultural site | Valid | Isolated surface artefact |
| | Artefact site ARTC11 | 50-2-0055 | Located inside Project area but outside construction zone | Cultural site | Valid | Isolated surface artefact |
| | Scarred tree ARTC19 | 50-5-0058 | Located outside Project area but in close proximity | Cultural site | Valid | Culturally modified tree. Located 25m from construction zone |
| | Site Zone 11 East—PAD | 50-2-0057 | Inside Project area | Potential Archaeological Deposit | No longer valid (excavated) | PAD excavated and no subsurface artefacts identified. PAD has been deregistered from AHIMS |
| Other | NA | 50-5-2091 | Outside Project area | Cultural site | Valid | Culturally modified tree registered by other parties following EIS submission. Located 100m east of construction zone, along rail corridor |
| | NA | 50-5-0119 | Outside Project area | Cultural site | Valid | Culturally modified tree registered by other parties following EIS submission. Located along Bethungra Road |

## 7.6 Non-Aboriginal heritage

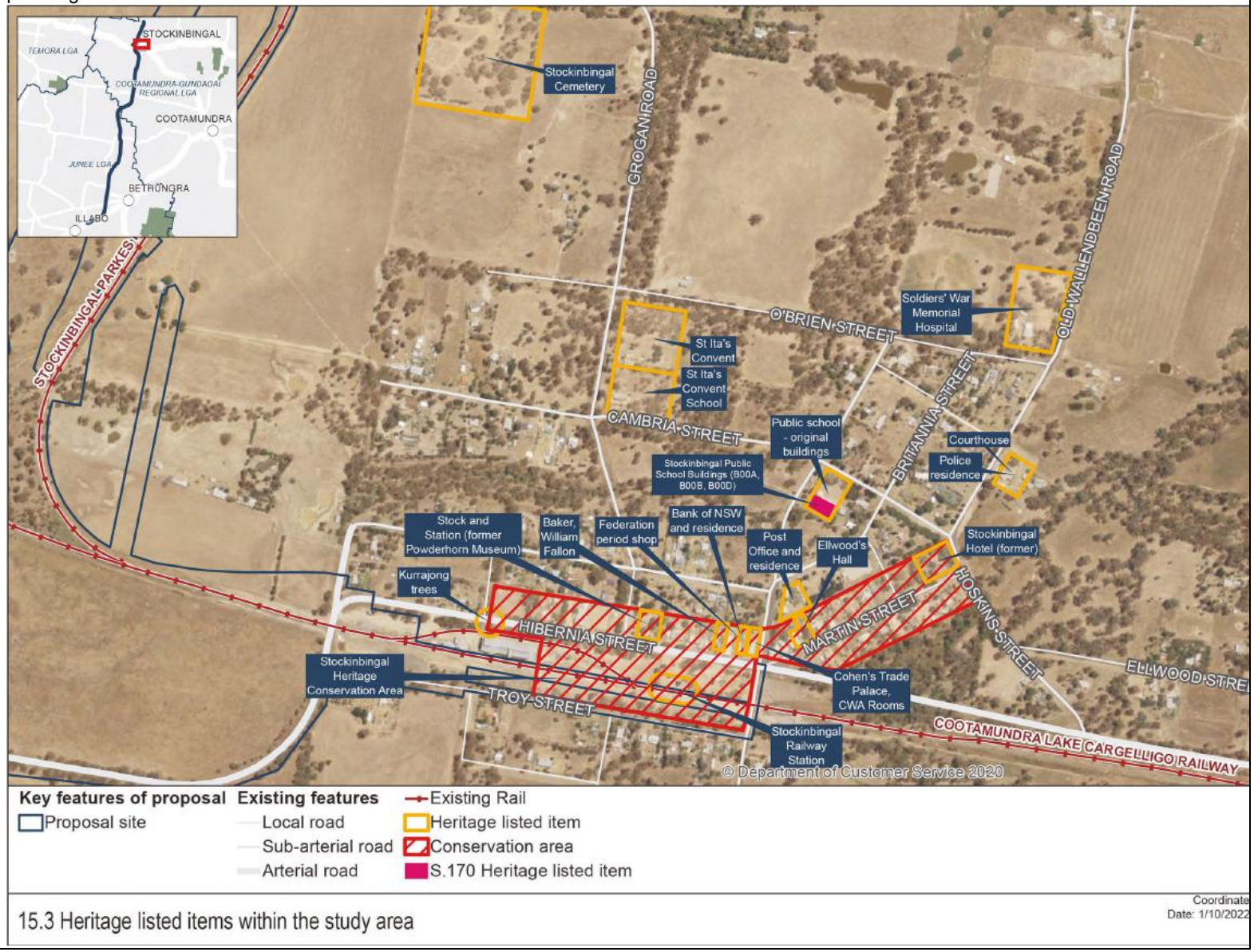
A number of heritage-listed items are located within 2km of the Project, all of which are located within the township of Stockinbingal and are listed as having 'local' significance under the Cootamundra LEP. There are two heritage-listed items within the Project site, including the Stockinbingal Railway Station and Stockinbingal Heritage Conservation Area. There are no heritage conservation management plans within the Cootamundra LEP and Junee LEP for these heritage-listed items. Heritage-listed items within 2 km of the Project site are outlined in

Table 7-2 and shown on Figure 7-1.All other locally listed heritage sites within Stockinbingal are at least 100 metres away from the project boundary.

**Table 7-2 – Non-Aboriginal heritage items located within and in the vicinity of the Project**

| Item | Listing and Item Number | Located within the Project boundary, and if Yes, description of item |
|---|---|---|
| Stockinbingal Heritage Conservation Area | Cootamundra LEP (C3) | Yes. The Stockinbingal Heritage Conservation Area is a listed heritage item due to its well-preserved 19th and early 20th-century architecture, reflecting its development as a service centre for agriculture and the railway. The Stockinbingal Heritage Conservation Area is located around the Stockinbingal Railway Station, Hibernia Street and Martin Street as shown in Figure 7-1 |

| | | |
|---|---|---|
| Stockinbingal Railway Station | Cootamundra LEP (i78) | Yes. Stockinbingal railway station is a heritage-listed railway station on the Stockinbingal–Parkes railway line, opened in 1893 and closed to passenger services in 1983. As shown in |



| | | |
|---|---|---|
| | | Figure 7-1, the Stockinbingal railway station is located within the Stockinbingal Heritage Conservation Area. |
| Baker, William Fallon | Cootamundra LEP (i75) | No – Within 500 m of the Project site |
| Bank of NSW and residence | Cootamundra LEP (i73) | No – Within 500 m of the Project site |
| Cohen's Trade Palace, CWA Rooms | Cootamundra LEP (i71) | No – Within 500 m of the Project site |
| Ellwood's Hall | Cootamundra LEP (i82) | No – Within 500 m of the Project site |
| Federation period shop | Cootamundra LEP (i24) | No – Within 500 m of the Project site |
| Public school—original buildings | Cootamundra LEP (i65) | No – Within 500 m of the Project site |
| Soldiers' War Memorial Hospital | Cootamundra LEP (i83) | No – Greater than 1 km from the Project site |
| St. Ita's Convent | Cootamundra LEP (i68) | No – Greater than 1 km from the Project site |
| St. Ita's Convent School | Cootamundra LEP (i69) | No – Greater than 1 km from the Project site |

| | | |
|---|---|---|
| Stock and station (former Powderhorn Museum) | Cootamundra LEP (i76) | No – Within 500 m of the Project site |
| Stockinbingal Cemetery | Cootamundra LEP (i70) | No – Greater than 1 km from the Project site |
| Courthouse | Cootamundra LEP (i80) | No – Greater than 1 km from the Project site |
| Stockinbingal Hotel (former) | Cootamundra LEP (i81) | No – Within 500 m of the Project site |
| Police residence | Cootamundra LEP (i79) | No – Greater than 1 km from the Project site |
| Post office and residence | Cootamundra LEP (i66) | No – Within 500 m of the Project site |
| Kurrajong trees | Cootamundra LEP (i77) | No – Within 500 m of the Project site |
| Stockinbingal Public School—Buildings B00A, B00B and B00D | NSW Department of Education S.170 listing (5064338) | No – Within 500 m of the Project site |

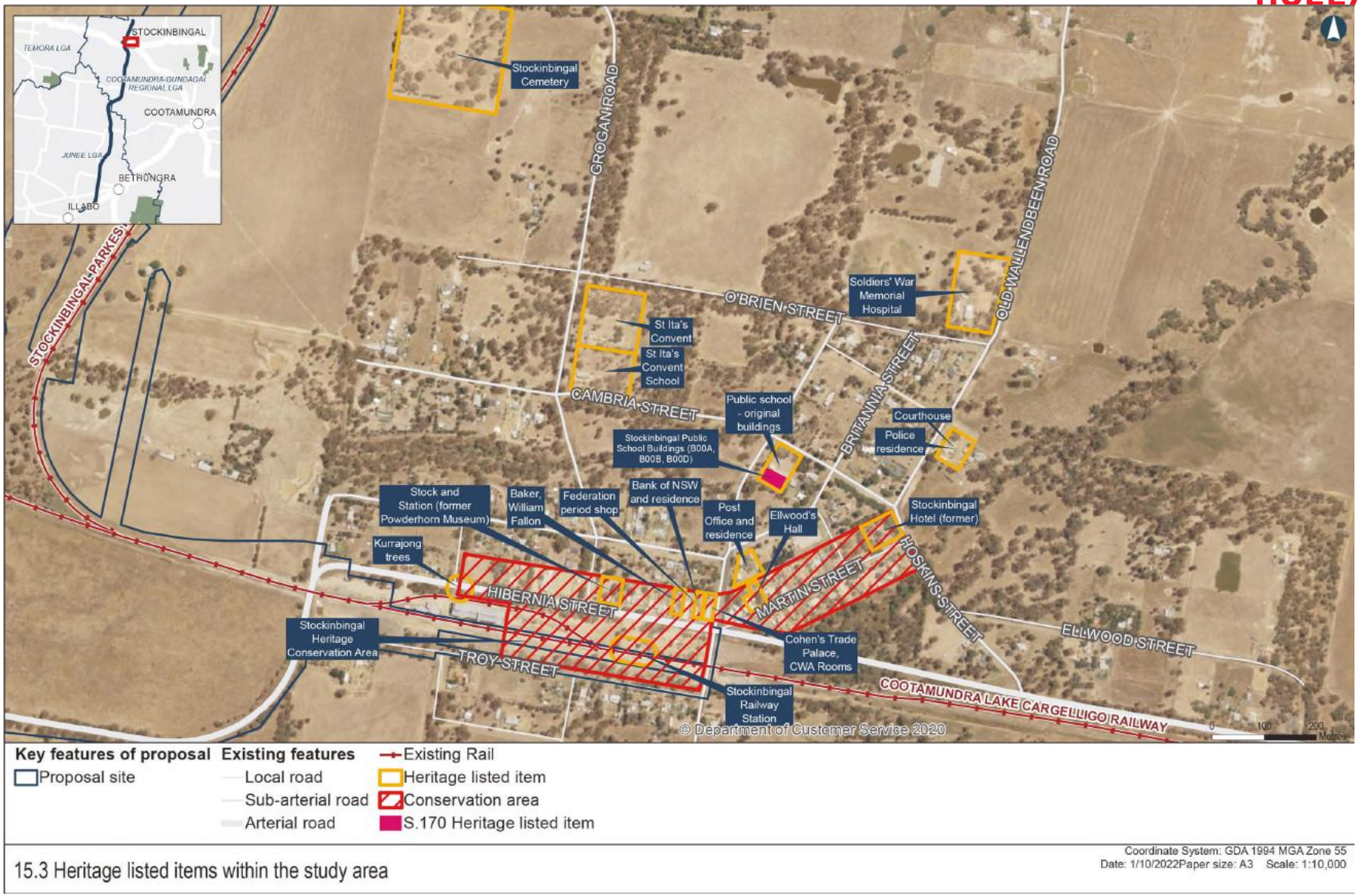



**Figure 7-1 – Non-Aboriginal heritage items within and in the vicinity of the Project**

### 7.6.1 Potential heritage items

A summary of potential non-Aboriginal heritage items identified within or immediately adjacent to the Project area listed below. Although they do not have formal heritage listing, they are considered to have potential heritage significance based on their inclusion in the Project EIS and discussed in the Heritage Chapter.

- **Billabong Creek rail underbridge (chainage 750)** – The rail line (including underbridges and associated rail infrastructure) has historical association with the expansion of the NSW rail network through the region, and its role in encouraging agricultural and pastoral development. The Billabong Creek rail underbridge, which is part of the NSW rail network, is constructed on brick piers with concrete abutments and the rail track is supported by steel girders. The date of construction of this bridge is unknown, however its general style and construction type indicates it may be of potential heritage significance.
- **Historic sawmill site (chainage 11,600-11,700)** – Anecdotal evidence was collected relating to a potential former sawmill site located between chainage 11,600 and 11,700. The sawmill was reported to date from the 1960s although the actual history of this site was unable to be confirmed. A site of this type is unlikely to have any historical archaeological potential however, the historical significance of the equipment is unknown. MTS Heritage performed a study of the history of the site and found that there was no evidence of historical significance present. The study showed that that the history of the site only showed evidence of local farming activities and structures with no obvious association with a former sawmill. A determination that the site does not reach the threshold of Local or State heritage significance was made with no further investigations required. Full report in Appendix E.

Other items including culverts at railway crossing points, and a number of residential dwellings, farm buildings and infrastructure are located within the Project however they are not considered to have potential heritage significance.

# 8 Environmental Aspects and Impacts

## 8.1 Construction Activities

Construction will include activities that could result in direct impacts from the disturbance of part, or all of, a heritage item or place, and/or changes to its setting. Direct impacts may include:

- intentional impact to a heritage item that could not feasibly be avoided
- potential for vibration impacts close the Project site as a result of construction works and the movement of plant, vehicles and machinery
- accidental damage as a result of the movement of machinery and equipment
- unintentional impacts to a heritage item caused by not being aware of the heritage item (an unexpected find).

Where direct impacts do not occur, the construction activities may still result in indirect impacts to surrounding items, including:

- altered historical arrangements and access due to changes in traffic movements
- impacts to the visual amenity, landscape and vistas due to temporary hoarding and permanent design
- impacts to the curtilage of an item.

A summary of the potential direct and indirect impacts to Aboriginal and non-Aboriginal heritage from construction of the Project is provided in the following sections.

## 8.2 Aboriginal heritage

Of the 22 Aboriginal sites located within or immediately adjacent to the Project, 7 would be directly impacted, and 4 indirectly impacted as a result of the Project. There would be no impact to the remaining 11 sites. Table 8-1 summarises the impacts to Aboriginal sites including scientific significance, type of harm and degree of harm.

It's noted that additional archaeological survey and test excavations are required in Zones 5, 6, 9 and 10 to identify PAD. See Section 9.4 for further details.

Additional archaeological survey and test excavation have been completed in Zones 5, 6, 9 and 10 to investigate areas of potential archaeological deposit (PAD). These investigations confirmed the presence of low-density artefact deposits in Zones 5, 6 and 9, while Zone 10 was determined to be archaeologically sterile.

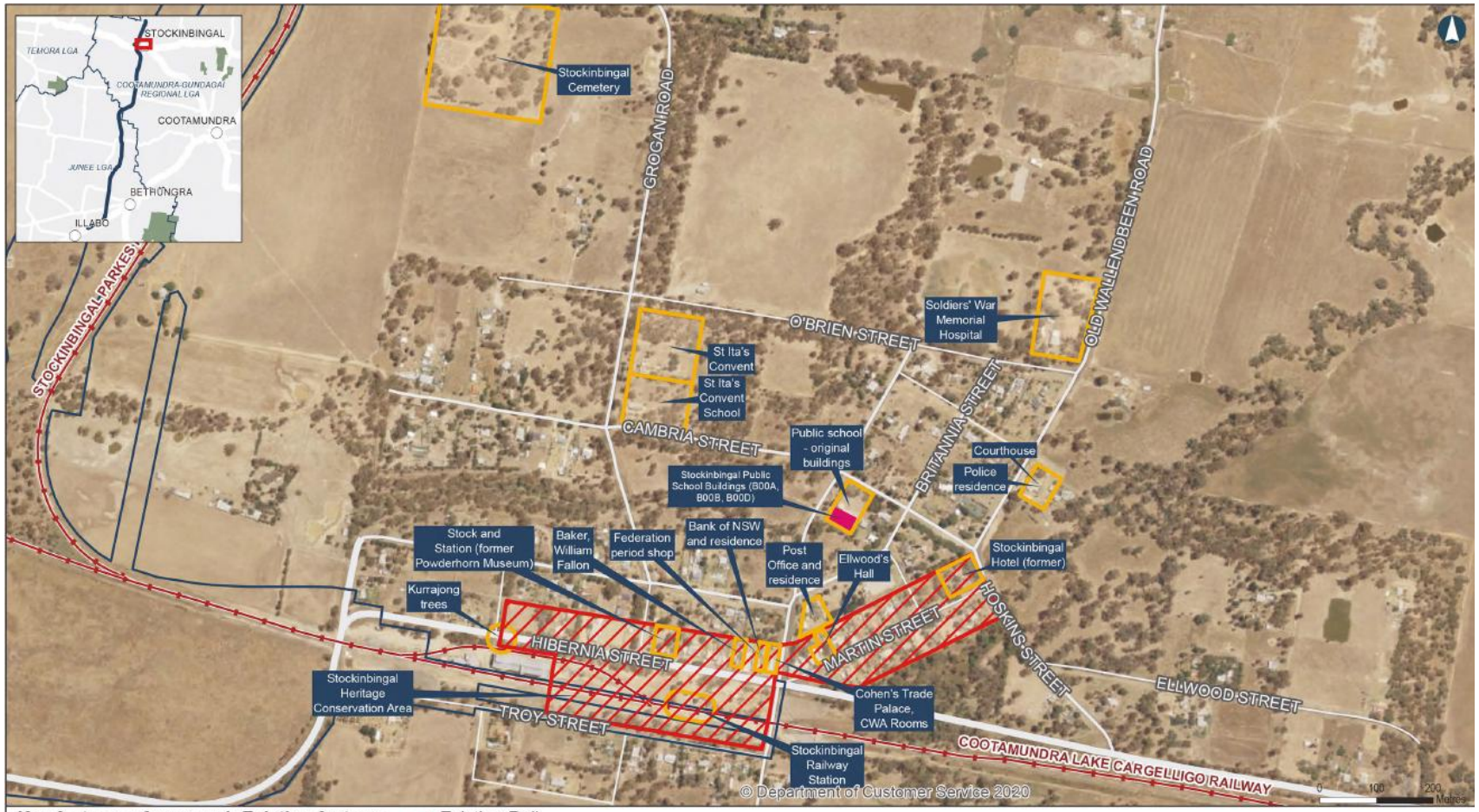
Based on the recommendations and findings made by GML in the ACHAR prepared as part of the EIS, no further archaeological investigation of PAD Zones 4, 7, 11 and 11 East is required for the Project, as archaeological test excavation undertaken during the EIS confirmed that they had low potential for Aboriginal objects or were significantly disturbed by recent land use. As the Project progresses, further information and understanding of aboriginal sites and artefacts that may be encountered through unexpected finds or the remaining testing and salvage programs will be captured in this Plan in line with Section 11.2.

**Table 8-1 – Impacts to Aboriginal sites (current as per existing information as of November 2026)**

| Zone | Site ID | AHIMS ID | Scientific significance | Type of harm | Degree of harm | Comments |
|---|---|---|---|---|---|---|
| Zone 1 | Artefact sites ARTC1 and ARTC4 | 50-5-0266, 50-5-0276 | Low | Nil | Nil | Located inside the Project area but outside the construction zone |
| | Artefact site ARTC2 | 50-5-0267 | Low | Nil | Nil | Located inside the Project area and partially inside the construction zone (one of two artefacts) |
| | Artefact sites ARTC3 | 50-5-0274 | Low | Nil | Nil | Located outside the Project |
| | Artefact site ARTC5 | 50-5-0275 | Moderate | Nil | Nil | No longer valid. Artefact collected during test excavation |
| | Site Zone 1—high density scatter | 50-5-0293 | Moderate | Direct | Partial—less than 20% | Original PAD (50-5-0280) no longer valid, replaced by artefact site (50-5-0293)<br>The southern edge of two of the three high-density areas in Zone 1 will be impacted by the construction zone |
| | Site Zone 1—low density scatter | 50-5-0293 | Low | Direct | Partial—75% | Original PAD (50-5-0280) no longer valid, replaced by artefact site (50-5-0293)<br>The two lower-density areas in Zone 1 will be substantially impacted by the construction zone |
| | Ring tree | - | - | Nil | Nil | Located outside the Project |
| Zone 2 | Scarred tree ARTC 6 | 50-5-0277 | High | Indirect | Nil | Located outside the Project |
| | Site Zone 2—high density scatter | 50-5-0294 | Low | Direct | Total | Original PAD (50-5-0278) no longer valid, replaced by artefact site (50-5-0294)<br>The two higher-density areas of in Zone 2 will be completely impacted by the construction zone |
| | Site Zone 2—low density scatter | 50-5-0294 | Low to moderate | Direct | Total | Original PAD (50-5-0278) no longer valid, replaced by artefact site (50-5-0294)<br>The one low-density area of in Zone 2 will be completely impacted by the construction zone |
| Zone 3 | Scarred trees | 50-5-0117, 50-5-0120, 50-5-0121 | Nil | Nil | Nil | Determined not to be culturally modified trees. Deregistered from AHIMS |
| | Scarred tree ARTC18 | 50-5-0287 | High | Indirect | Nil | Located inside the Project area |
| | Scarred tree ARTC20 | 50-5-0297 | High | Indirect | Nil | Located inside the Project area |
| Zone 4 | Artefact site ARTC7 | 50-5-0285 | Low | Nil | Nil | Located outside the Project |
| | ARTC8 | 50-5-0284 | Low | Nil | Nil | Located outside the Project |
| | ARTC9 | 50-5-0283 | Low | Nil | Nil | Located outside the Project |

| Zone | Site ID | AHIMS ID | Scientific significance | Type of harm | Degree of harm | Comments |
|---|---|---|---|---|---|---|
| Zone 5 | PAD Zone 5 | 50-5-0300, 50-5-0301, 50-5-0302, 50-5-0303 | Low | Direct | Total | Confirmed to contain low density artefact concentration. No further mitigation necessary |
| | IR-IF-01 | 50-5-0311 | Low | Direct | Total | |
| Zone 6 | PAD Zone 6 | 50-5-0304, 50-5-0305, 50-5-0306, 50-5-0307, 50-5-0308 | Low | Direct | Total | Confirmed to contain low density artefact concentration. No further mitigation necessary |
| | IR-IF-03 | 50-5-0312 | Low | Direct | Total | |
| Zone 7 | Artefact sites ARTC12 and ARTC16 | 50-5-0268, 50-5-0272 | Low | Direct | Total | Located inside the Project area and construction zone<br>Isolated artefacts could not be found again during the testing program |
| | Artefact sites ARTC13–15 | 50-5-0269, 50-5-0270, 50-5-0271 | Low | Nil | Nil | Located outside the Project |
| | Artefact site ARTC17 | 50-5-0273 | Low | Direct | Total | Located inside the Project area and construction zone |
| Zone 8 | Outside the Project | | | | | |
| Zone 9 | AD01 | 50-5-0309 | Low | Direct | Total | No further mitigation necessary |
| | IR-IF-02 | 50-5-0310 | Low | Direct | Total | Surface collection |
| Zone 10 | - | - | Nil | Nil | Nil | No sites identified within this zone. No further mitigation necessary |
| Zone 11 | Outside the Project | | | | | |
| Zone 11 East | Artefact sites ARTC10 | 50-2-0054 | Low | Direct | Total | Located inside the Project area and construction zone<br>Isolated artefacts could not be found again during testing program |
| | Artefact site ARTC11 | 50-2-0055 | Low | Nil | Nil | Located inside the Project area but outside the construction zone |
| | Scarred tree ARTC19 | 50-5-0058 | High | Indirect | Nil | Located outside the Project |

## 8.3 Non-Aboriginal heritage




15.3 Heritage listed items within the study area

Coordinate System: GDA 1994 MGA Zone 55
Date: 1/10/2022Paper size: A3 Scale: 1:10,000

15.3 Heritage listed items within the study area

Coordinate System: GDA 1994 MGA Zone 55
Date: 1/10/2022Paper size: A3 Scale: 1:10,000

**Figure 7-1 – Two non-Aboriginal heritage listed items have been identified within the Project site—the Stockinbingal Railway Station and Stockinbingal Heritage Conservation Area (heritage conservation area), which are listed with 'local' significance under the Cootamundra LEP (refer to section 15.3.3 of the I2S EIS Chapter 15 Cultural Heritage).**

While the Project site incorporates these items, construction activity at these locations would be minimal and no impact would occur to non-Aboriginal heritage listed items. The upgrade of the level crossing at Dudauman Street, while directly adjacent to the heritage conservation area, would have minimal impact on the significance of the heritage conservation area. Other than this, physical activities within the Project site would be located approximately 44 m away from these heritage items at the closest point and the nearest activities would be limited to minimal construction activity (temporary access and minor storage of plant and equipment).

In terms of vibrational impacts, the non-Aboriginal heritage receivers—Cohen's Trade Palace (CWA Rooms) (Cootamundra LEP (i71)) and the Stockinbingal Railway Station (Cootamundra LEP (i78))—located within Stockinbingal have been identified as having works potentially occur within minimum working distances. However, based on a review of the offset distance between the Project site and these receivers, the size or power of the vibration-generating equipment can be controlled to minimise impacts. There are no permanent works proposed within or adjacent to any listed heritage item at Stockinbingal other than the upgrade of the Dudauman Street level crossing. Elements surrounding heritage items, such as mature vegetation along Hibernia Street and existing buildings screen views from these locations to the Project. In addition, the distance between the heritage items and major elements of the Project, namely the realigned Burley Griffin Way, removes views to and from the heritage items, and no visual impacts have been identified.

One item of potential heritage significance has been identified adjacent to the Project site, comprising the Billabong Creek rail underbridge (Section 7.6.1). No direct impacts to this bridge are required for construction of the Project. Further, the rail bridge is operational and would not be considered to be vibration sensitive. A minor visual impact would occur from the construction of an adjacent rail bridge as part of the Project; however, the addition of another rail bridge is consistent with the context of the significance of rail and historical association with the area and would not be considered to result in a significant impact to its heritage potential.

As detailed in Section 7.6.1, there is a potential historic sawmill site located between chainage 11,600 and 11,700. The existence, location and any archaeological potential is currently unknown therefore there is potential for impact to the sawmill site if not appropriately managed. Further assessment of the potential site is detailed in Section 9.9.

No other items of built heritage are present that would be impacted by the Project, and no areas of archaeological potential have been identified within the Project site. In accordance with RMM NAH-4, management measures would be implemented in the event of the unexpected discovery of archaeological items during construction. Refer to Section 9.5 for further details on the Unexpected and Incidental Finds Protocol.

With the implementation of mitigation measures detailed in Section 9, impacts to non-Aboriginal heritage would be minimised for construction of the Project.

## 8.4 Cumulative Impacts

Cumulative harm relates to the impact the proposed activity will have on the entire representative archaeological resource of Australia through the accumulation of multiple impacts over a period of time. The consideration of cumulative harm is a recent development. Prior to the implementation of heritage legislation in NSW in the 1970s and more broadly across the Commonwealth in the 1980s and 1990s, an unknown quantity of Aboriginal heritage sites, places, and cultural areas were lost through agriculture, infrastructure construction, and other development. The potential for cumulative impacts between the Project area and other adjacent Inland Rail sections is considered in Table 8-2. These sections include the Stockinbingal to Parkes (S2P) and Albury to Illabo (A2I) portions.

**Table 8-2 – Impacts to Aboriginal Cultural Heritage Sites by Other Inland Rail projects**

| Project | Cumulative Impact |
|---|---|
| Albury to Illabo (A2I) | A review of the EIS for the A2I project indicates that there will be impacts to several heritage structures including bridges, railway stations including, but not limited to Cassidy Parade pedestrian bridge (unregistered), Edmondson Street bridge (unregistered), Kemp Street Bridge (unregistered), Murray River Bridge (SHR 01020), Albury Railway Station and Yard Group (SHR 01073), Culcairn Railway Station and Yard Group (SHR 01126), and Junee Railway Station, Yard and Locomotive Depot Group (SHR 01173). For further details, refer to Chapter 11 of the A2I EIS.<br>Cultural heritage impacts are considered to be minimal for the A2I project which has been subject to substantial ground disturbance. For further details, refer to Chapter 10 of the A2I EIS. |
| Stockinbingal to Parkes (S2P) | A review of the Review of Environmental Factors for two parts of the S2P project (Lachlan River Bridge, and Horizontal Clearances) indicates that there may be impacts to the Lachlan River Bridge (Forbes LEP Item I123), and minor impacts to the Forbes Station Railway Group (SHR 01145) and Milvale Railway Water Tanks (Forbes LEP Item I41).<br>No cultural heritage impacts are anticipated for the S2P project. |

Five other major developments with the potential to increase cumulative impact with the Project area have been identified. These developments are described in Table 8-2.

**Table 8-3 – Other Major Developments in Proximity to the Proposal**

| Project | Distance from the Project Site | Project Details | Status and Indicative Timing | Potential Cumulative Impacts |
|---|---|---|---|---|
| Illabo Solar Farm | 4km south | Development of an 80MW solar farm with energy storage and associated infrastructure | The project is currently on hold (and, as such, does not formally require consideration). The construction phase of the proposal would take between 12 and 24 months; however, no construction start date has been provided. | A 2018 preliminary desktop Aboriginal heritage assessment did not identify any previously recorded sites within the proposal area. No site assessment or consultation with the Aboriginal community was undertaken as part of this. |
| Cootamundra Solar Farm | 15km east | Development of a 5MW solar farm with a Battery Energy Storage Facility and associated infrastructure | Completed in January 2024 however additional upgrades proposed in 2025. | A 2022 Aboriginal Archaeological Impact Assessment concluded that the proposal would not harm significant Aboriginal cultural heritage values. |
| Humelink | 60km southeast | Development of a new 500kV transmission line which will connect Wagga Wagga, | Project approval was received in November 2024 with enabling works being undertaken in early | The impact of this project on Aboriginal cultural heritage will be assessed as the project progresses. |

| Project | Distance from the Project Site | Project Details | Status and Indicative Timing | Potential Cumulative Impacts |
|---|---|---|---|---|
| | | Bannaby and Maragle. | 2025 and construction between late 2025 and 2027. | A 2021 preliminary heritage assessment found 291 recorded AHIMS sites in the study area, and that the project could have a potential impact on Aboriginal cultural heritage. |
| Grade separating road interfaces | 1.5km southwest | Transport for NSW is currently in the early planning stages to grade separate road and rail interfaces at four locations where Inland Rail crosses the NSW road network.<br>The nearest grade separation proposal is the Olympic Highway at Harris Gates proposal, located north of Illabo. | Subject to planning approval, the construction phase of the project is anticipated to commence in early 2025 and be completed in early 2027. | Potential impacts on Aboriginal cultural heritage have not been assessed at this stage and cannot be determined yet. |
| Inland Rail- Albury to Illabo | Bordering the southern boundary of the I2S Project. | Inland Rail are undertaking enhancements to the existing rail corridor between Albury and Illabo to accommodate double stacked trains. | The Project has been approved with construction commencing in March 2025. | Within the Junee to Illabo section, there is one isolated artefact (A2I-2) located within 5 m of a construction compound.<br>Inadvertent direct impacts (e.g. unintentional or accidental disturbance) would be managed by avoiding the immediate location of this artefact through exclusion.<br>No further impacts are expected. |

# 9 Environmental Mitigation and Management Measures

## 9.1 Reducing Impacts through Design

JH will reduce impacts to Aboriginal and non-Aboriginal heritage by implementing the below where reasonable and feasible.

- Designing the disturbance footprint of the Project outside the curtilage of heritage items.
- Construction methodologies required to build structures will also take into consideration during design, particularly with regards to vibration generating methodologies i.e. piling.
- Where any structures are located in the vicinity of a heritage item, urban design elements should be considered to ensure it does not impact on the visual amenity of that heritage item.

## 9.2 Protection of Aboriginal sites

Ground disturbing geotechnical activities (i.e. bore holes, test pits, auger holes, pot holing, slot trenching and pavement cores) will initially only occur outside the Zones of Aboriginal Sensitivity identified by the EIS. Geotechnical ground disturbing activities within Zones 5, 6, 9 and 10, will only occur following the completion of archaeological survey and the identification of areas that require further archaeological test excavation undertaken in accordance with the methodology prepared under CoA E135.

Similarly, construction activities will initially only occur outside Zones of Aboriginal Sensitivity identified by the EIS. Construction activities may commence in Zones 3, 4, 8 and 11 once the survey and test excavation program is complete. Construction activities in areas that require further test excavation and/or salvage excavation in Zones 1, 2, 5, 6, 7, 9 and 10 would only take place following the completion of the salvage excavation program.

Where these works are occurring prior to Construction (i.e. approval of the CEMP), they will be undertaken as Low Impact Works as defined in Table 1 of the Infrastructure Approval (SSI-9406) and in accordance with CoA A17. Low Impact Works will require assessment by JHG and the LIW assessments will be revised and endorsed by IRPL and the ER prior to commencement.

The following mitigation measure sourced from CoA E127 – 129 and E134 and the UMMs will be implemented to ensure these areas are not impacted by geotechnical or construction activities. Also refer to Section 9.9 for additional general mitigation measures in relation to the protection of Aboriginal sites.

- JHG must not destroy, modify or otherwise physically affect any heritage items, including Aboriginal objects or Aboriginal places, outside of the CSSI construction boundary (CoA E127).
- JHG must not wilfully harm, modify, or otherwise impact human remains uncovered during the construction of the CSSI. Where identified, remains must be managed through the Unexpected and Incidental Finds Protocol (CoA E128), which includes unexpected heritage and humans remains finds. Refer to Section 9.5 and Appendix B for further details.
- Identified impacts to heritage items must be minimised through both design and construction (CoA E129 and RMM AH-1).
- Aboriginal cultural heritage sites and objects, including culturally modified trees within the Project site are to be protected in accordance with ARTC's standard operational environmental management procedures (CoA E134). Culturally modified trees are to be given a 50m buffer where possible and surrounded by high visibility fencing. In accordance with RMM AH-7, this applies to scarred trees ARTC6, ARTC18, ARTC19. The sites will also be clearly marked on Sensitive Area Maps, Site Environment Plans and other relevant mapping and plans used by contractors working on the project. Scarred tree ARTC20 which is located within the Project site, should be marked on all mapping and plans used by contractors working on the project and should be fenced with high visibility fencing to avoid accidental impact during

construction works. Potential excavation near the tree should include consideration of a tree protection zone, defined in consultation with an arborist.

- In accordance with RMM AH-8, clearing extents/site boundary/limit of works will be consistent with project extents defined in the Infrastructure Approval (9406) and would be clearly defined with flagging or marking tape, signage or other suitable means to delineate no-go areas. Also refer to the Biodiversity Management Sub-Plan for further details of clearing procedures.

In addition to the above, the following good practice measures will be implemented to protect Aboriginal sites.

- Zones of Aboriginal sensitivity (no-ground disturbance zones) will be identified on the ground with a 25m buffer.
- Bollards will be placed to temporarily delineate the Zones of Aboriginal Sensitivity / No-Ground Disturbance Zones.
- All site personnel will be inducted to the Project before the commencement of geotechnical activities. This induction will include a visual depiction of the no-ground disturbance zones and their restrictions.
- On-site personnel will be regularly briefed on the exact locations of the no-ground disturbance zones.
- Hard-copies of maps showing the no-ground disturbance zones will be placed in site vehicles and provided to all JH site personnel via email.
- Site personnel will be provided access to geospatial data which show the no-ground disturbance zones (including the 25m buffer).

## 9.3 Aboriginal Cultural Values Plan

The Aboriginal Cultural Values Plan (ACVP) will be prepared in accordance with CoA E133. This specialist assessment will involve the engagement of First Nations cultural knowledge holders and stakeholders and consider available ethnohistorical records (documentary and oral). The approach for this assessment will follow Heritage NSW guidelines and best practice, drawing on the Government Architect's Connection to Country Framework to develop culturally responsive inputs to elements including infrastructure built form, naming and landscaping.

The plan outlines how interpretive themes and cultural values will be implemented, with a specified timeframe for their integration during construction. It recognises the spiritual, intangible, linguistic, and cultural significance of the sites to Aboriginal people, reflecting their perspective on the landscape through Aboriginal design elements, motifs, and visual interpretations. The ACVP is developed in collaboration with the Aboriginal community and stakeholders, in alignment with the Aboriginal Community and Stakeholder Engagement Strategy. The plan is to be submitted for approval to the Planning Secretary one month prior to the commencement of construction and will be fully implemented throughout the Project.

## 9.4 Additional Works Required

This section details the additional works required in relation to Aboriginal heritage Project requirements. Table 9-1 summarises which of these works are required for each zone, however it's noted that the purpose of this table is to provide an indicative summary and may be subject to change which would not require revision of this HMSP.

**Table 9-1 – Summary of additional works for each zone**

| Zone No. | Activities remaining | Indicative Timing for activity completion | Commencement of construction | Relevant CoAs |
|---|---|---|---|---|
| Zone 1 | • Salvage of artefacts associated with Site Zone 1 and Zone 1 – High density scatter (50-5-0280).<br>• Surface collection of ARTC 4 (50-5-0276) | Quarter 4, 2025 | Once salvage methodology has been reviewed by RAPs and archaeological salvage excavation and surface collection is complete in accordance with CoA E136. | E136 + E140 |
| Zone 2 | • Salvage of artefacts associated with site Zone 2 (50-5-0287).<br>• Protection of scarred tree ARTC6 (50-5-0277) in accordance with E134 | Quarter 4, 2025 | Once salvage methodology has been reviewed by RAPs and archaeological salvage excavation is complete in accordance with CoA E136. | E136, E140 + E134 |
| Zone 3 | • Protection of scarred trees ARTC18 (50-5-0286) and ARTC20 (50-5-0297) in accordance with E127 | Quarter 2, 2025 | Following confirmation of protection measures for ARTC 18 and ARTC20 | E127 |
| Zone 4 | • No further archaeological investigation required | NA | August 2025 | |
| Zone 5 | • Archaeological survey to determine areas that require archaeological test excavation.<br>• Salvage excavation, subject to the results of archaeological test excavation<br>• Scarred tree inspection. | Quarter 2, 2025<br>Quarter 4, 2025 | Once survey and test excavation has been completed in accordance with E135. If salvage excavation is required, once the salvage excavation has been completed in accordance with E136.. | E135, E136 |
| Zone 6 | • Archaeological survey to determine areas that require archaeological test excavation.<br>• Salvage excavation, subject to the results of archaeological test excavation<br>• Scarred tree inspection. | Quarter 2, 2025<br>Quarter 4, 2025 | Once survey and test excavation has been completed in accordance with E135. If salvage excavation is required, once the salvage excavation has been completed in accordance with E136. | E135, E136 |
| Zone 7 | • Collection of isolated stone artefacts not re-located by GML (ARTC10, 11, 12 & ARTC16).<br>• This is to be conducted as part of survey and test excavations.<br>• AHIMS record update required on completion of surface collection. | Quarter 2, 2025 | Once surface artefacts have been collected in accordance with E140<br>and the AHIMS site cards have been updated in accordance with E141. | E140 and E141 |
| Zone 8 | • No further archaeological investigation required | NA | August 2025 | |

| Zone No. | Activities remaining | Indicative Timing for activity completion | Commencement of construction | Relevant CoAs |
|---|---|---|---|---|
| Zone 9 | • Archaeological survey to determine areas that require archaeological test excavation.<br>• Salvage excavation, subject to the results of archaeological test excavation<br>• Scarred tree inspection. | Quarter 2, 2025<br><br>Quarter 4, 2025 | Once survey and test excavation has been completed in accordance with E135. If salvage excavation is required, once the salvage excavation has been completed in accordance with E136 | E135, E136 |
| Zone 10 | • Archaeological survey to determine areas that require archaeological test excavation.<br>• Salvage excavation, subject to the results of archaeological test excavation<br>• Scarred tree inspection. | Quarter 2, 2025<br><br>Quarter 4, 2025 | Once survey and test excavation has been completed in accordance with E135. If salvage excavation is required, once the salvage excavation has been completed in accordance with E136 | E135, E136 |
| Zone 11 East | • Collection of isolated stone artefact ARTC10 (50-2-0054).<br>• Protection of Scarred Tree ARTC19 (50-5-0058)<br>• AHIMS record update required. | NA | Once surface artefacts have been collected in accordance with E140<br><br>and the AHIMS site cards have been updated in accordance with E141. | E140 and E141 |
| Zone 11 | • No further archaeological investigation required | NA | August 2025 | |
| Land not within a Indigenous Survey Zone | • No further archaeological investigation required<br>• Prepare HMP in consultation with RAPs | HMP to be approved by DPHI one month prior to construction commencing | August 2025 | |

### 9.4.1 Archaeological Survey and Test Excavation

Zones 5, 6, 9 and 10 were not accessible during preparation of the EIS and will be subject to archaeological survey and test excavation to identify Aboriginal sites and PAD, prior to the ground disturbance works in those zones. The methodology for survey and test excavation will follow the DECCW (now Heritage NSW) *Code of practice for archaeological investigation of Aboriginal objects in NSW* (DECCW, 2010) and will also be subject to consultation with Heritage NSW and the RAPs in accordance with CoA E135. A copy of the approved survey and test excavation is included as Appendix D.

The timing of these activities is determined by consultation requirements and CoA E138, which requires a methodology to be submitted to DPHI 1 month prior to test or salvage excavations within those zones. The results of archaeological test excavation will inform the Aboriginal archaeological salvage methodology (Section 9.4.2), which will be subject to RAP review and submitted to DPHI in accordance with the CoA.

Also refer to the indicative consultation timeframe in relation to archaeological survey, test excavations and associated methodologies in Section 4.2.5.

Due to Zones 5, 6, 9 and 10 were not accessible during preparation of the EIS, additional archaeological survey and test excavation undertaken in accordance with the Aboriginal Archaeological Salvage Excavation Methodology (5-0019-220-PES-00-MS-0002) identified a number of new Aboriginal heritage sites within Zones 5, 6 and 9. These sites comprise low-density artefact deposits and isolated finds. The identified archaeological material is generally characterised by low artefact densities, limited stratigraphic integrity and low scientific significance, although all sites retain high cultural significance.

Based on the results of test excavation and assessment of artefact density thresholds, no areas within Zones 5, 6 and 9 met the criteria for salvage excavation. As such, these sites are considered appropriate for either unmitigated impact or surface collection, in accordance with the approved methodology.

Following completion of works Aboriginal Site Impact Recording Forms (ASIRFs) will be submitted to AHIMS to document impacts to each site as well as site records to be updated to reflect the nature and extent of impact (e.g. partial or total harm) and any recovered artefacts will be managed in accordance with the approved salvage methodology and consultation outcomes.

This approach is consistent with the findings of the salvage excavation program and ensures compliance with Conditions of Approval E135–E141.

### 9.4.2 Salvage Measures

A detailed archaeological salvage methodology will be prepared by a qualified archaeologist in consultation with RAPS in accordance with CoA E136 and E138 and once approved by the RAPs and Heritage NSW, will be attached to this HMSP. This methodology will be informed by the test excavation results from Zones 5, 6, 9 and 10 and will include salvage excavation of PAD identified within Zones 1 and 2. Artefacts recovered from this process will be managed in accordance with the NPW Act, including those recovered from PADs within Zones 1 and 2, and possibly Zones 5, 6, 9 and 10.

The methodology will outline the consultation process with Heritage NSW and RAPs, following relevant guidelines, and will address the management and care of salvaged objects. RAPs will assist in the salvage, managed by an appropriately qualified archaeologist. Detailed analysis and reporting of cultural material collected would be provided to DPHI.

Following completion of the archaeological salvage and issuing of heritage clearance, ground disturbing works can commence in those zones.

Also refer to the indicative consultation timeframe in relation to archaeological salvage and associated methodologies in Section 4.2.5.

### 9.4.3 Surface Artefact Collection

Surface artefact collection is required in Zones 5, 6 and 9 and 10, as these zones were not accessible to GML Heritage and in Zone 7, where the isolated stone artefacts were not re-located. No surface collection is required in Zones 1, 2, 3 ,4, 8 and 11, as those artefacts have already been collected by GML during the EIS or there were no surface artefacts identified.

Where surface collection of artefacts is required or further identified in Zones 5,6,9 and 10, all collection will be undertaken at the same time as the salvage excavation program (currently only required in Zone 1 and 2), This activity will be included in the salvage excavation methodology described above and will be conducted in these zones prior to construction activities to ensure that salvage for all artefacts is undertaken in a consistent manner.

### 9.4.4 Inspection of Scarred Trees

Inspection of scarred trees in Zones 5, 6, 9 and 10 will take place as part of the archaeological survey. This survey will be conducted by heritage specialists and will involve RAP representatives. Trees with evidence of cultural scarring will be identified and mapped to ensure protection during construction activities under the guidance of a qualified heritage specialist in consultation with the RAPs. All scarred trees identified in these zones and Scar tree ARTC18 in Zone 3 will be fenced during construction.

In accordance with RMM-AH-9, investigation of the anthropogenic nature of scarred trees within the Project area will be undertaken by a specialist in Aboriginal cultural heritage.

### 9.4.5 AHIMS Records

In accordance with RMM AH-12, several updates to AHIMS records have been made for sites that are no longer considered to be sites, as determined in the EIS. These sites are listed below.

- Zone 1—low density scatter (AHIMS 50-5-0280) (part)
- Zone 3 – Scarred Tree 50-5-0117 (AHIMS 50-5-0117)
- Zone 3 – Scarred Tree 50-5-0120 (AHIMS 50-5-0120)
- Zone 3 – Scarred Tree 50-5-0121 (AHIMS 50-5-0121)
- Zone 7 – PAD Zone 7 North (AHIMS 50-5-0281)
- Zone 7 –PAD Zone 7 South (AHIMS 50-5-0288)Zone 8 –PAD Zone 8 (AHIMS 50-5-0282)
- Zone 11 –PAD Zone 11 (AHIMS 50-2-0056)
- Zone 11 –PAD Zone 11 East (AHIMS 50-2-0057).

Where Aboriginal sites are identified during additional surface collection, test excavation, salvage excavations and any unexpected finds, Aboriginal Site Impact Recording Forms (ASIRF) must be submitted to the AHIMS and evidence provided of submission to the AHIMS Registrar in accordance with CoA E141.

Further, in line with AH-5, the pre-construction survey would also be undertaken to update the AHIMS record and/or confirm the locations of the AHIMS sites which could not be located during the site survey undertaken as part of the EIS. Surveys would be undertaken with RAPs in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*. If the sites are located, impacts would be avoided, as far as practicable, and protection measures put in place in accordance with RMM AH-9. Any sites with the potential to be impacted would be managed in accordance with the salvage methodology (RMM AH-2). These sites that are identified as cultural sites in the EIS that would require location and protection where possible prior to construction are listed below.

- Zone 7 – Artefact Sites ARTC, 12 and 16 (AHIMS , 50-5-0268, 50-5-0272)
- Zone 11 – Artefact Sites ARTC10 and 11 (AHIMS 50-2-0054. 50-2-0055).

## 9.5 Unexpected and Incidental Finds Protocol

In accordance with CoA A17, the Projects Unexpected and Incidental Finds Protocol (Appendix B) would be used for any unexpected Aboriginal, non-Aboriginal heritage and human skeletal finds discovered during the Project.

## 9.6 Management of Salvaged Aboriginal Objects

The management and repatriation of salvaged Aboriginal objects will be subject to agreement by the RAPs and included in the salvage excavation methodology detailed in Section 9.4.2. The following standard procedure for the management of salvaged Aboriginal objects will be followed:

- Artefacts recovered during the test excavation program will be temporarily stored in a secure location at the heritage consultant's office, to allow for initial artefact cataloguing and analysis;
- During the archaeological test excavation program, the long-term storage of artefacts will be discussed with the RAPs and an agreement will be reached on a desired keeping place. Various options will be discussed with the RAPs including a secure keeping place on Country or a suitable reburial site;
- Once an agreement by the RAPs is reached, the management and repatriation of salvaged Aboriginal objects will be documented in the salvage excavation methodology. This methodology will be issued to RAPs, Heritage NSW and submitted to DPHI in accordance with the CoA E138; and
- On completion of the salvage excavation program, salvaged Aboriginal objects recovered during the archaeological investigation will be stored in the agreed location. This location will be documented in the Aboriginal Excavation Report which will be supplied to DPHI in accordance with CoA E139.

This procedure is detailed further below.

### 9.6.1 Temporary Storage of Salvaged Objects

During the analysis of any Aboriginal artefacts, it is proposed that the salvaged materials will be temporarily stored at the offices of the archaeological consultant undertaking the works.

### 9.6.2 Long-term Care of Salvaged Objects

The long-term management of any salvaged artefacts will be subject to consultation with the RAPs.

## 9.7 Care Agreement Not Required - Reburial of Objects

The requirements for reburial will be discussed with RAPs as part of the archaeological program. Depending on the results of this consultation, the chosen reburial site will be documented in the Aboriginal Excavation Report which will be supplied to DPHI in accordance with CoA E139.

## 9.8 Protection of Non-Aboriginal Heritage

As described in section 7.6, there are two heritage sites within the Project area (Stockinbingal Conservation Area and Stockinbingal Railway Station). Controls will be implemented around these sites while construction works are being undertaken. The implementation of mitigation measures described below in section 9.9 will adequately control risks when works are being undertaken in proximity (within 50 metres) of these sites. It is also anticipated that the implementation of these mitigation measures will ensure the risk of impacts to heritage sites outside of the Project area also remains low. This is also the case for sites listed in section 7.6.1 that are potential items that will be treated and maintained in the same manner as the items listed above.

## 9.9 Heritage Mitigation and Management Measures

In addition to the mitigation and management measures provided in previous sections, the following general mitigation and management measures associated with Aboriginal and non-Aboriginal heritage in Table 9-2 will be implemented throughout the Project. These have been sourced from the Infrastructure Approval, RMMs, relevant ARTC specifications and other relevant guidelines, documents and procedures.

**Table 9-2 Heritage mitigation and management measures**

| Ref | Measure / Requirement | Timing / Frequency | Responsibility | Reference / Source |
|---|---|---|---|---|
| **General** | | | | |
| H1 | All Personnel will undergo site inductions that will include the following specific components for heritage:<br>• Aboriginal and non-Aboriginal heritage values in the Project area, and the importance of protecting and preserving these values;<br>• Mitigation and control measures;<br>• The requirements of this plan and any relevant legislative and contractual obligations;<br>• Unexpected finds procedures in the event of an unanticipated discovery or accidental damage of a heritage item or place. | Prior to works | JH Environment Manager | Good practice<br>JH EMS<br>Appendix B |
| H2 | Cultural heritage awareness training will be provided to relevant Project personnel. Cultural heritage awareness training will be provided by an Aboriginal representative at the commencement of substantial works for the Project. | Prior to construction | JH Environment Manager | RMM AH-10 |
| H3 | Non-Aboriginal historical heritage awareness training will be provided to relevant Project personnel prior to commencement of construction works. The awareness training will promote an understanding of heritage items that may be impacted during the works, and the requirements of the unexpected finds procedure. Non-Aboriginal awareness training is to include a flow chart of the procedure on the findings of skeletal remains. | Prior to construction | JH Environment Manager | RMM NAH-3<br>RMM NAH-4<br>Appendix B |
| H4 | The location of heritage sites and heritage no-go zones must be identified in Sensitive Area Plans, Site Environmental Plans/Environmental Controls Maps and communicated and made available to relevant personnel. | At all times | JH Environment Manager | JH EMS<br>Good practice |
| H5 | Heritage management measures from this HMSP will be included in relevant Activity Method Statements (AMS), Environmental Work Method Statements (EWMS) and any other Project risk management documentation. | Prior to relevant works | JH Environment Manager<br>JH Construction Manager | JH EMS<br>Good practice |
| H6 | Erosion and sediment controls will be design and implemented to minimise the potential for erosion impacts to Aboriginal sites located close to watercourses/drainage lines in accordance with the | At all times | JH Environment Manager | RMM AH-9 |

| Ref | Measure / Requirement | Timing / Frequency | Responsibility | Reference / Source |
|---|---|---|---|---|
| | Managing Urban Stormwater: Soils and construction – Volume 1 (Landcom, 2004). See the Soil and Water Management Sub-plan (SWMSP) for further details. | | JH Site Supervisor | SWMSP |
| H7 | Clearing extents/site boundary/limit of works will be consistent with Project extents defined in a condition of approval and would be clearly defined with flagging or marking tape, signage or other suitable means to delineate no-go areas. See the Flora and Fauna Management Sub-plan (FFMSP) for further details. | During construction | JH Environment Manager<br>JH Site Supervisor | RMM AH-8 |
| H8 | Where previously unidentified Aboriginal, non-Aboriginal or human skeletal remains are discovered, all work must immediately cease in the vicinity of the affected area and the Unexpected and Incidental Finds Procedure must be implemented. See Appendix B for further details. | At all times | All personnel | RMM NAH-4<br>Appendix B |
| H9 | JH will not wilfully harm, modify, or otherwise impact human remains uncovered during the construction of the CSSI. Where identified, remains must be managed through the Unexpected Heritage Finds and Human Remains Procedure required by Condition E143. | At all times | All personnel | CoA E128<br>Appendix B |
| H10 | Construction work is to be carried out to comply with safe work distances for sensitive heritage structures as detailed in the Noise and Vibration Management Sub-plan (NVMSP). Where safe distances cannot be achieved, plant specifications and/or work methodologies are to be modified to not cause damage to sensitive heritage items.<br>Vibration monitoring will be undertaken where vibration intensive activities are carried out within safe working distances to ensure relevant criteria is not exceeded. Further detailed are provided in the NVMSP. | At all times | JH Environment Manager<br>JH Construction Manager | NVMSP |
| **Aboriginal Heritage** | | | | |
| H11 | Detailed design and construction planning will be undertaken to avoid direct impacts on identified items/sites of Aboriginal heritage significance as far as reasonably practicable. The location of construction compounds and associated access routes will be reviewed to ensure, as far as practicable, they are not located in areas of medium or high archaeological potential. | During design and construction | JH Environment Manager<br>JH Construction Manager<br>JH Design Manager | RMM AH-1 E134 |
| H12 | All reasonable steps must be taken so as not to harm, modify or otherwise impact Aboriginal objects, Aboriginal values or Aboriginal places except as authorised by the Infrastructure Approval. | At all times | JH Environment Manager<br>JH Construction Manager | CoA E130 |

| Ref | Measure / Requirement | Timing / Frequency | Responsibility | Reference / Source |
|---|---|---|---|---|
| H13 | JH will not destroy, modify or otherwise physically affect any heritage items, including Aboriginal objects or Aboriginal places, outside of the Project construction boundary. | At all times | JH Environment Manager<br>JH Construction Manager | CoA E127 |
| H14 | As detailed in Section 9.2, for registered AHIMS sites and Aboriginal sites identified during archaeological surveys located in close proximity to, but outside of, the Project site, the extent of these sites will be demarcated with high visibility fencing as far as practicable to avoid accidental impact during construction impacts. This particularly applies to scarred trees ARTC6, ARTC18 and ARTC19. The sites will also be clearly marked on all mapping and plans used by contractors working on the Project.<br>Scarred tree ARTC20 which is located within the Project site, should be marked on all mapping and plans used by contractors working on the Project and should be fenced with high visibility fencing to avoid accidental impact during construction works. Potential excavation near the tree should include consideration of a tree protection zone, defined in consultation with an arborist. | Prior to works<br>During construction | JH Environment Manager<br>JH Site Supervisor | RMM AH-7 |
| H15 | As identified by the RAPs, a 50 m buffer should be provided between the final alignment and the locations of all scarred trees. | At all times | JH Environment Manager<br>JH Site Supervisor | EIS, Chapter 15, s15.4.1 |
| H16 | As detailed in Section 9.3, an Aboriginal cultural values plan will be prepared in consultation with Aboriginal parties prior to construction and implemented as part of the CEMP. The HMSP will be updated to reflect the results of the Aboriginal Cultural Heritage Management Plan (i.e. this HMSP) and identify:<br>• the traditional Aboriginal use of the landscape in the area surrounding the Project<br>• the archaeological and contemporaneous expression of that use<br>• the intangible cultural values of the landscape<br>• the cultural value of Aboriginal cultural heritage artefacts and scarred trees identified in the Project area<br>• stories for interpretation drawn from the key thematic areas, identify audiences, locations and options to provide this interpretation<br>• how the findings will be represented by the Project, for example in design finishes, art, landscaping and cultural food sources. | Prior to construction | JH Environment Manager<br>MTS Heritage | RMM – AH3<br>CoA E133 |
| H17 | As detailed in Section 6.2.4, an Aboriginal Community and Stakeholder Engagement Strategy will be finalised prior to the commencement of construction and implemented, in consultation with Heritage NSW, relevant RAPs, and LALCs. The Strategy will detail and include, but not be limited | Prior to construction | JH Environment Manager | CoA E131, E132, E133 |

| Ref | Measure / Requirement | Timing / Frequency | Responsibility | Reference / Source |
|---|---|---|---|---|
| | to, the consultation process with Aboriginal stakeholders for the integration of Aboriginal Cultural Values into the CSSI. | | | |
| H18 | An Unexpected and Incidental Finds Protocol (Appendix B) would be developed and included in the Aboriginal cultural heritage management plan to provide a consistent method for managing any unexpected Aboriginal heritage items discovered during construction, including potential heritage items or objects and a flow chart of the procedure on the findings of skeletal remains. | Prior to works | JH Environment Manager | RMM AH-11 |
| H19 | Where previously unidentified Aboriginal objects or Aboriginal Places are discovered, all work must immediately stop in the vicinity of the affected area. Works potentially affecting the previously unidentified objects or places must not recommence until Heritage NSW has been informed. The measures to consider and manage this process must be specified in the Unexpected Heritage Finds and Human Remains Procedure required by Condition E143 and include registration in the AHIMS. | At all times | All personnel | CoA E142 |
| H20 | The RAPs must be kept regularly informed about the Project and nature of the works. The RAPs must continue to be provided with the opportunity to be consulted about the Aboriginal cultural heritage management requirements throughout the Project. | At all times | JH Environment Manager | CoA E131 |
| H21 | As detailed in Section 9.4, Additional Aboriginal Archaeological Survey Methodology and Aboriginal Test Excavation Methodology will be prepared prior to the commencement of ground disturbing works at Zones 5, 6, 9 and 10, to confirm the precise nature and extent of the archaeological resource and to inform the selection of the applicable mitigation measures. The methodologies for survey and test excavations must be provided to RAPs for their review and comment. | RAPs provided 28 days for review<br>Prior to ground disturbance in Zones 5, 6, 9 and 10 | JH Environment Manager<br>MTS Heritage | RMM AH-3<br>CoA E135<br>CoA E138 |
| H22 | Additional mitigation and management measures will be developed, in consultation with the RAPs, for areas or items of Aboriginal cultural heritage significance identified during the Additional Aboriginal Archaeological Survey Methodology and Aboriginal Test Excavation Methodology (mitigation measure AH-3). | Prior to ground disturbance in Zones 5, 6, 9 and 10 | JH Environment Manager<br>MTS Heritage | RMM AH-4 |
| H23 | Following completion of the archaeological survey and test excavation, an Aboriginal Archaeological Salvage Excavation Methodology must be prepared and implemented for Zones 1, 2 and potentially 5, 6, 9 and 10 (pending outcome of the archaeological survey and test excavation). Following completion and issuing of a heritage clearance, ground disturbing works can be undertaken in those zones. | Prior to ground disturbance in Zones 1, 5, 6, 9 and 10 | JH Environment Manager<br>MTS Heritage | CoA E136 |
| H24 | The detailed salvage methodology would be prepared by a suitably qualified archaeologist in consultation with RAPs. The process of developing the methodology would be included in the Aboriginal cultural heritage management plan (i.e. this HMSP) to ensure any artefacts salvaged are managed in accordance with the requirements of the NPW Act. This includes artefacts within the areas of Zone 1 and Zone 2. | RAPs provided 28 days for review<br>Prior to ground disturbance in | JH Environment Manager<br>MTS Heritage | RMM AH-2 |

| Ref | Measure / Requirement | Timing / Frequency | Responsibility | Reference / Source |
|---|---|---|---|---|
| | The methodology would include the process for consultation with Heritage NSW and RAPs in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW*, the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, and the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW*. It would also include requirements in relation to the management of, and care and control plans for, salvaged objects.<br>RAPs would be engaged to assist in the salvage, which would be managed by an appropriately qualified archaeologist engaged to support the process.<br>Detailed analysis and reporting of cultural material collected would be provided to DPHI. | Zones 5, 6, 9 and 10 | | |
| H25 | The Additional Aboriginal Archaeological Survey Methodology, Aboriginal Archaeological Test Excavation Methodology and Aboriginal Archaeological Salvage Excavation Methodology must be prepared by a suitably qualified expert in consultation with Heritage NSW and RAPs and provided to the Planning Secretary for information at least one month prior to test or salvage excavation. | Prior to ground disturbance in Zones 5, 6, 9 and 10 | JH Environment Manager<br>MTS Heritage | CoA E136<br>CoA E138<br>CoA E140 |
| H26 | As detailed in Section 9.4, surface collection (salvage) of artefacts that were identified in Zones 1, 2, 7 and 11 would occur prior to construction in accordance with the approved salvage methodology. | Prior to ground disturbance in Zones 1, 2, 7 and 11 | JH Environment Manager<br>MTS Heritage | RMM AH-6 |
| H27 | At the completion of Aboriginal cultural heritage survey and test and salvage excavations, an Aboriginal Cultural Heritage Excavation Report(s) must be prepared by a suitably qualified expert. The Aboriginal Cultural Heritage Excavation Report(s), must:<br>(a) be prepared in accordance with the *Guide to Investigation, assessing and reporting on Aboriginal cultural heritage in NSW, OEH 2011* and *the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, DECCW 2010*; and<br>(b) document the results of the archaeological survey and test excavations and any subsequent salvage excavations (with artefact analysis and identification of a final repository for finds).<br>The RAPs must be given a minimum of 28 days to consider the report and provide comments before the report is finalised. | RAPs provided 28 days for review<br>Submission within 24 months of Aboriginal archaeological excavation completion | JH Environment Manager<br>MTS Heritage | CoA E139 |
| H28 | The final Aboriginal Cultural Heritage Excavation Report(s) must be provided to the Planning Secretary, Heritage NSW, the relevant Councils, relevant LALCs and the RAPs within 24 months of the completion of the Aboriginal archaeological excavations (both test and salvage). | Submission within 24 months of Aboriginal archaeological excavation completion | JH Environment Manager | CoA E139 |
| H29 | Ground disturbance works and construction work may not commence in those areas where archaeological excavation and surface collection of Aboriginal objects is required (including areas | Prior to ground disturbance | JH Environment Manager | CoA E140 |

| Ref | Measure / Requirement | Timing / Frequency | Responsibility | Reference / Source |
|---|---|---|---|---|
| | identified as requiring further assessment) until the archaeological works described in the Aboriginal Cultural Heritage Assessment reports listed in Condition A1 have been completed. | | JH Construction Manager | |
| H30 | As detailed in Section 9.4, a pre-construction survey would be undertaken to update the AHIMS record and/or confirm the locations of the previously listed AHIMS sites that could not be located during the site survey:<br>• Artefact Sites ARTC12 and 16 (AHIMS 50-5-0268, 50-5-0272)<br>• Artefact Sites ARTC10 and 11 (AHIMS 50-2-0054, 50-2-0055).<br>Surveys would be undertaken with RAPs in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010a).<br>If the sites are located, impacts would be avoided, as far as practicable, and protection measures (fencing, exclusion zones) put in place in accordance with Section 9.2.<br>Any sites with the potential to be impacted would be managed in accordance with the salvage methodology (mitigation measure AH-2). | Prior to ground disturbance in those areas | JH Environment Manager<br>MTS Heritage | RMM AH-5 |
| H31 | AHIMS records would be updated for AHIMS Register locations no longer considered to be sites as detailed in Section 9.4.5. | At completion of surface collection, test and salvage excavation | JH Environment Manager<br>MTS Heritage | RMM AH-12 |
| H32 | At the completion of surface collection, test excavations, and salvage excavations, Aboriginal site impact recording forms (ASIRF) must be submitted to the AHIMS and evidence provided of submission to the AHIMS Registrar. | At completion of surface collection, test and salvage excavation | JH Environment Manager<br>MTS Heritage | CoA E141 |
| **Non-Aboriginal Heritage** | | | | |
| H33 | The existing fencing and signage around Stockinbingal Railway Station would be maintained to avoid impacts during construction. | At all times | JH Environment Manager<br>JH Construction Manager | RMM NAH-5 |
| H34 | The Billabong Creek rail underbridge would be fenced and marked on site plans within the CEMP as an area to be avoided during construction. | Prior to works | JH Environment Manager | RMM NAH-5 |
| H35 | Detailed design and construction planning would avoid direct impacts on identified items/sites of non-Aboriginal heritage significance as far as reasonably practicable. This would include the following listed items within the construction footprint:<br>• Stockinbingal Railway Station | During design | JH Design Manager<br>JH Environment Manager | RMM NAH-1 |

| Ref | Measure / Requirement | Timing / Frequency | Responsibility | Reference / Source |
|---|---|---|---|---|
| | • Stockinbingal Heritage Conservation Area. | | | |
| H36 | During the detailed design and construction planning phase, IRPL will continue engagement with Heritage NSW and relevant local councils to ensure impacts on non-Aboriginal heritage assets are minimised and mitigated. | During design and construction | IRPL | RMM NAH-2 |
| H37 | Prior to ground disturbing works occurring between chainage 11,600 and 11,700, the Projects heritage consultant is to undertake an assessment of the area to identify the existence, location and subsequent archaeological potential of the historic saw mill site. Any resulting management actions will be implemented by JHG and/or IRPL. | Prior to ground disturbance between chainage 11,600 and 11,700 | JH Environment Manager | EIS Section 15.3.3.3 |
| H38 | Opportunities to enhance heritage enhance heritage values will be investigated and where reasonable and feasible, implemented during the Project. | Pre-construction, construction | JH Sustainability Manager | ISC v1.2 |
| H39 | Construction activities will be planned to consider the proximity of work to any local or state listed heritage structures and to apply safe working distances when using vibration intensive equipment (where possible). Where this is not possible, protection measures will be investigated and implemented as required. | Prior to construction and during construction | JH Environment Manager | Noise & Vibration Management Plan |

# 10 Compliance Management

## 10.1 Roles and Responsibilities

Roles and responsibilities related to the environment discipline and the Projects organisational structure are outlined in Section 7.1 of the CEMP.

Specific roles and responsibilities relevant to heritage management and this HMSP are provided in Table 9-2,Section 9.9 and outlined in the table below.

**Table 10-1 Roles & Responsibilities**

| Role | Responsibility |
|---|---|
| Registered Aboriginal Participants (RAPs) | • Consult with the Project Archaeologist<br>• If invited, be engaged as Cultural Monitors during archaeological fieldwork, including survey, test excavation and salvage excavation.<br>• Provide feedback and advice to JHG |
| Project Archaeologist | • Provide support and advice to the construction team for any matters associated with heritage management<br>• Coordinate on-site investigations such as test pitting, salvage and unexpected finds<br>• Coordinate onsite activities with RAPs<br>• Coordinate the development of documents and issue to RAPs for review and discussion<br>• Provide training and support to all site staff in matters associated with aboriginal and non-aboriginal heritage.<br>• Undertake pre-construction clearance and update AHIMS records, as required. |
| Environment & Sustainability Manager | • Liaise with the Project Archaeologist and Project Manager(s) to ensure compliance with relevant approvals, the HMSP and the Unexpected and Incidental Finds Protocol |
| Project Manager(s) | • Assist the Project Archaeologist to ensure all heritage requirements are met and procedures implemented<br>• Advise the Environment & Sustainability Manager when heritage requirements are satisfied<br>• Ensure that the Unexpected and Incidental Finds Protocol is followed |
| Site Supervisor(s) | • Notify the Project Manager and Environment & Sustainability Manager of any unexpected heritage finds and support the Project Archaeologist in following the Unexpected and Incidental Finds Protocol. |

| Role | Responsibility |
|---|---|
| Workforce | • Attend all heritage inductions<br>• Notify the Site Supervisor of any unexpected heritage finds, as per the Unexpected and Incidental Finds Protocol and follow all procedures. |

## 10.2 Training

All employees and contractors working on site will undergo site induction training prior to commencing work which will include Aboriginal and non-Aboriginal heritage. The induction will address elements including (but not limited to):

- The location of known heritage items
- The unexpected and incidental finds protocol and procedure
- The cultural importance of any Aboriginal and Historic sites
- The appropriate method of working around heritage items and/ or places
- Care, control and management of Aboriginal and Historic Areas
- Employees obligations under the legislation (e.g. NPW Act).

Training will also include Toolbox Talks and Prestart Meetings in which the topics of the site induction will be revisited.

In addition to the above, the following heritage specific training will be provided. This training will be delivered at the commencement of construction, and annually afterwards.

- In accordance with RMM AH-10, cultural heritage awareness training will be provided to all relevant Project personnel which will be prepared and/or delivered by an Aboriginal representative.
- In accordance with RMM NAH-3, non-Aboriginal heritage training will be provided to relevant Project personnel which will promote an understanding of heritage items that may be impacted during the works, and the requirements of the Unexpected and Incidental Finds Protocol (Appendix B).

Refer to Section 7.4 of the CEMP for further detail.

## 10.3 Monitoring and Inspections

Table 10-2 details the inspections related to heritage management required to be undertaken during for the Project. A full list of inspections is provided in Section 9 of the CEMP.

**Table 10-2 – Monitoring and inspection requirements**

| Inspection type | Frequency | Standards/forms | Reporting | Responsibility |
|---|---|---|---|---|
| Environmental site inspection | Weekly | Weekly Environmental Inspection Checklist | Closed out Weekly Environmental Inspection Checklist | Project Environment Team |
| Daily visual surveillance (site diary entries) | Daily (as required) | Project EMS | Foreperson's Logbook / Site Diary | JH Site Supervisor |

| Inspection type | Frequency | Standards/forms | Reporting | Responsibility |
|---|---|---|---|---|
| Shutdown Environmental inspections | Prior to site shut down (e.g. Christmas period) | Project EMS | Inspection checklist | Project Environment team |
| IRPL environmental inspections | Fortnightly or as determined based on risk level | NA | Environmental inspection checklist/notes | IRPL personnel |
| ER site inspections | Fortnightly or as determined based on risk level | Environmental Representative Protocol | ER Inspection Report ER Monthly Report | ER |
| AHIMS pre-construction inspection | Prior to commencing construction | AHIMS site cards | Heritage NSW (AHIMS database) | JH Environment & Sustainability Manager |

## 10.4 Non-Compliance and Non-Conformance

Non-compliances and non-conformances, including those related to heritage management, are detailed in Section 9.3 of the CEMP. This includes the definitions of non-compliance and non-conformance, corrective and preventative actions, communication of corrective and preventative actions to staff and non-conformance close-out.

## 10.5 Incident Response

Incident management, including heritage management, are detailed in Section 8 of the CEMP. This includes incident classification, notification and reporting including to external authorities, incident investigation and closeout.

## 10.6 Auditing

Audits (both internal and external) will be undertaken to assess the effectiveness of environmental controls, compliance with this sub plan, CoA and other relevant approvals, licenses and guidelines. Audit requirements are detailed in Section 9.4 of the CEMP.

## 10.7 Reporting

Reporting will be undertaken in accordance with Section 9.5 of the CEMP. Heritage specific reporting required for the Project is provided in Table 10-3.

**Table 10-3 – Heritage reporting requirements for the Project**

| Reporting Output | Recipient | Timing | Reference |
|---|---|---|---|
| Additional Aboriginal Archaeological Survey Methodology | DPHI, RAPs, Heritage NSW | Submitted to DPHI one (1) month before the survey commences | CoA E135 |
| Aboriginal Archaeological Test Excavation Methodology | DPHI, RAPs, Heritage NSW | Submitted to DPHI one (1) month before the survey commences | CoA E135 |
| Aboriginal Archaeological Salvage Excavation Methodology | DPHI, RAPs, Heritage NSW | Submitted to DPHI one (1) month before the salvage excavation | CoA E138 |

| Reporting Output | Recipient | Timing | Reference |
|---|---|---|---|
| Aboriginal Cultural Heritage Excavation Report | DPHI, RAPs, Heritage NSW, relevant councils, relevant LALCs | Submitted to DPHI within 24 months of the completion of Aboriginal archaeological excavations (both test and salvage) | CoA E139 |
| Aboriginal Community and Stakeholder Engagement Strategy | Heritage NSW, relevant RAPs, and Local Aboriginal Land Councils (LACL) | Prior to the commencement of construction | CoA E131 |
| Aboriginal Cultural Values Plan | DPHI, RAPs, Heritage NSW | Submitted to DPHI one (1) month before the commencement of construction | CoA E133 |

## 10.8 Complaints Management

Section 7.6 of the CEMP details communication and complaints management processes and procedures. The CCS identifies key stakeholder groups that will be consulted and engaged with during the Project and outlines the communication tools that will be used to consult and engage with these groups. A link to the Project CCS is provided below. This CCS has been approved by DPHI and in place in accordance with CoA B1-B5.

Community Communication Strategy - Illabo to Stockinbingal

During construction, any comments, feedback or complaints relating to biodiversity management issues will be addressed through the Complaints Management System. The Complaints Management System includes complaints register within the stakeholder database.

# 11 Review and Improvement

## 11.1 Continuous Improvement

Continuous improvement of this plan will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets for the purpose of identifying opportunities for improvement.

The continuous improvement process is designed to:

- Identify areas of opportunity for improvement of environmental management and performance;
- Determine the cause or causes of non-conformances and deficiencies;
- Develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies;
- Verify the effectiveness of the corrective and preventative actions;
- Document any changes in procedures resulting from process improvement; and
- Make comparisons with objectives and targets.

## 11.2 Plan Amendments and Version Control

In accordance with Section 9.7.2 of the CEMP, each management plan must be reviewed and, where necessary, updated every six (6) months or as otherwise required by the Project management Requirements or requested by IRPL. The processes described in Section 3.10 of the CEMP may result in the need to update or revise this Plan. Only the Environment Manager, or delegate, has the authority to change any of the environmental management documentation. Likewise with regards to activities that are required to be undertaken for the duration of the Project (i.e. survey, testing, salvage etc.) the findings of these works will be incorporated into future updates of this Plan.

# 12 Appendices

## Appendix A – Consultation Records

### Junee Council and Cootamundra- Gundagai Regional Council

| Date | Details of Engagement / Attempted Engagement |
|---|---|
| 15/04/2025 | Two presentations to Junee Council and Cootamundra- Gundagai Regional Council undertaken as face to face sessions that captured SIMP and environmental management plans for council review (including the Heritage Management Plan). |
| 22/04/2025 | Provision of the presentation meeting minutes from the 15/04 to both councils for review. The minutes included a slide capturing upcoming management plans being prepared for council consultation as per Condition C17 of the CoA. |
| 26/06/2025 | Submission of the Heritage Management Plan to both councils via Aconex. This submission was made by IRPL. |
| 26/06/2025 | Monthly meeting held with Junee Council via Teams. Discussion and agreement made in this meeting to undertake a face-to-face workshop on the C17 management plans (including the Heritage Management Plan). |
| 17/06/2025 | Weekly meeting held with Cootamundra Gundagai Council via Teams. Discussion and agreement made in this meeting to undertake a face-to-face workshop on the C17 management plans (including the Heritage Management Plan). |
| 1/07/2025 | Face to face workshop held with Junee Council, IRPL and JHG staff. Comments and questions made on the Heritage Management Plan (see attached meeting minutes). |
| 1/07/2025 | Face to face workshop held with Cootamundra Gundagai Council, IRPL and JHG staff. Comments and questions made on the Heritage Management Plan (see attached meeting minutes). |
| 7/07/2025 | Provision of meeting slides to Junee Council with a follow up request to confirm if the Council would be providing any further comments on the Plan. |
| 8/07/2025 | Confirmation from Cootamundra Gundagai Council that no further comments on the Heritage Management Plan. |
| 10/07/2025 | Provision of meeting minutes to Junee Council with a follow up request to confirm if the Council would be providing any further comments on the Plan. |
| 21/07/2025 | Email from JHG to Junee Council requesting confirmation that the comments had been closed out and that no further comments anticipated. Meeting minutes from the face-to-face workshop were provided on 10/07/2025 with follow up meeting minutes with close out of actions on the Heritage Management Plan included and submitted via email on 21/07/2025 |

| Comment Raised | Project Response | Where addressed | Status |
|---|---|---|---|
| **Cootamundra- Gundagai Council-** no further comments | Nil | NA | NA |
| **Junee Council**<br><br>Note- TfNSW has found artefacts on the southern side of Billabong Bridge after test pitting and surface artefacts.<br><br>• ST asked if there will be walking trails or wayfinding along there?<br>• DL advised this is TBC as part of the works to complete the Cultural Values Plan (separate<br><br>CoA requirement) that will feed into the visual landscape design and potentially some signage like viewing markers.<br><br>• ST has a reserve up there with interpretive signage - offered to include Inland Rail information at Billabong reserve along new walking trail where they are going to be putting signs.<br><br>**ACTION: JHG said yes that would be great and will note for the designers to contact Junee Council for this opportunity.** | JH can confirm, the Cultural Values Plan (CoA E133) is being finalised with local indigenous groups and knowledge keepers now. JHG can confirm that one option identified during the workshops was to incorporate signage during operations that can capture local & regional cultural history and elements.<br><br>This information has been passed on to the designers preparing the Visual Landscape and Impact Mitigation Plan (E126) to incorporate these elements into the urban design.<br><br>Section 9,3 of the HMP describes this process for completion of the Plan under E133 and incorporation of these findings into the design.<br><br>Further discussions between JHG, IRPL and Junee Council will be developed for opportunities to incorporate signage elements into local roads, landmarks etc. | Cultural Values Plan and Section 9.3 | Closed ((In the event that JHG receive further comments from Junee Council, these will be incorporated into the Plan where relevant to Heritage). |

## Registered Aboriginal Participants (RAPs)

| Date | Details of Engagement / Attempted Engagement |
|---|---|
| 17/06/2025 | Email from MTS Heritage to all RAPs providing a copy of the Heritage Management Plan and Stakeholder Engagement Strategy for consultation. |
| 17/06/2025 | Follow up email from MTS Heritage to RAP (Mark Sadler) providing feedback following a phone call discussion with feedback for inclusion in the Plan (see comment included below). |
| 17/06/2025 | Email from RAP (Sonione Rogers) and MTS Heritage requesting and providing appendices that were mentioned in the original email with the Heritage Management Plan attached. |
| 23/06/2025 | Email from RAP (Yurwang Gundana) with comments provided to JHG. |

| Comment Raised | Project Response | Where addressed | Status |
|---|---|---|---|
| As promised, I have noted down your feedback – that you are disappointed that there is no acknowledgement of country on the cover page of the JHG Heritage Management Sub-Plan and the Aboriginal Community and Stakeholder Engagement Strategy. I will discuss this with John Holland and it can hopefully be rectified. | JHG have included an acknowledgement of country on the cover page of this Plan. | Front page of the plan | Closed (response provided to the RAP to confirm that this has been considered) |
| I'd like to take a look please at the file (appendices referenced in the email) | MTS Heritage provided a copy of the Appendices on the same day 17/06/2025 | NA | Closed |
| **1. Need for Genuine Partnership**<br>While we acknowledge the commitments set out in the Strategy, it is essential that Aboriginal cultural heritage is not treated as a passive 'consultation' matter, but one requiring ongoing *partnership*. We request that **Yurwang Gundana** be included as an *active cultural partner* in all key phases — including finalisation of management plans, monitoring, salvage, design integration, and ongoing site stewardship. | The Project is committed to ongoing consultation with every RAP throughout the Project. Each RAP has been consulted on the making of the Heritage Management Plan, Aboriginal Community and Stakeholder Consultation Strategy and Excavation and Testing Methodology. Further consultation will be undertaken to support the future salvage methodology, site inspections and potential opportunities for RAPs to be involved in salvage activities. | NA | Closed<br><br>(response provided to the RAP to confirm that this has been considered) |

| Comment Raised | Project Response | Where addressed | Status |
|---|---|---|---|
| **2. Cultural Monitors for All Ground Disturbance**<br>We strongly recommend that qualified Cultural Monitors be present for all **archaeological and ground-disturbing works**, including surveys, test excavation, salvage, construction, and post-construction works. Monitoring must not be limited to 'opportunities for participation' — we seek formal recognition of this role with appropriate cultural authority and decision-making input. | RAPs with a cultural connection with Wiradjuri Country and/or that responded to the questionnaire distributed on 21 March 2025 have been engaged as Cultural Monitors for archaeological fieldwork, including survey, test excavation and salvage excavation, | Table 10-1 | Closed (response provided to the RAP to confirm that this has been considered) |
| **3. Role in the Aboriginal Cultural Values Plan**<br>Given the importance of embedding Aboriginal cultural values into the design and public-facing elements of this project, **Yurwang Gundana** requests active participation in the finalisation and delivery of the Aboriginal Cultural Values Plan (ACVP). Our team brings cultural knowledge and relationships with the local community that are vital to ensure cultural values are genuinely reflected — beyond symbolic inclusion. | JHG and IRPL understand that Yurwang Gundana identify as Ngunnawal. It is therefore not considered culturally appropriate that Yurwang Gundana play an active role in preparation of the ACVP. Aboriginal Stakeholders who have a connection with Wiradjuri Country have participated in the CVP workshops. A copy of the ACVP will be sent to Yurwang Gundana. | NA | Closed (response provided to the RAP to confirm that this has been considered) |
| **4. Protection of Cultural Knowledge and IP**<br>All cultural knowledge or material shared by Traditional Custodians must remain under community control. Prior approval from community representatives must be sought before any use, publication, or dissemination of this material (including through project communications or public materials). | JHG and IRPL note that cultural knowledge shared by Traditional Custodians should remain under local community control and is not the property of JHG or IRPL.<br><br>Any use of such material will be approved by group who provided the content before being used in any communication or public event. | NA | Closed (response provided to the RAP to confirm that this has been considered) |
| **5. Cultural Landscape Approach**<br>The Strategy tends to reference Aboriginal heritage in a site-based manner. We strongly advocate for a Cultural Landscape approach — recognising broader cultural relationships with Country that extend beyond known sites (trees, artefacts) to include Songlines, stories, plants, water, and ceremonial routes. | JHG and IRPL are addressing cultural landscape through cultural heritage workshops with Aboriginal stakeholders that have a cultural connection with Wiradjuri Country. The results of these workshops will be documented in the Aboriginal Cultural Values Plan, which is currently drafted and with Aboriginal Stakeholders for comment. | NA | Closed (response provided to the RAP to confirm that this has been considered) |
| **6. Artefact Handling & Reburial**<br>Yurwang Gundana seeks to play an active role in decisions relating to | JHG and IRPL understand that Yurwang Gundana identify as Ngunnawal. It is therefore not considered culturally | NA | Closed (response |

| Comment Raised | Project Response | Where addressed | Status |
|---|---|---|---|
| handling, conservation, and potential reburial of all artefacts or cultural material. We request that no decisions be made in isolation or purely by archaeological contractors. | appropriate that Yurwang Gundana play an active role in decision-making around artefact handling and reburial. This will be decided with groups with a cultural connection to Wiradjuri Country. | | provided to the RAP to confirm that this has been considered) |
| **7. Indigenous Business & Employment Pathways**<br>We seek to be part of future discussions regarding Aboriginal employment and Indigenous business procurement under this project. Opportunities must prioritise culturally safe workplaces and long-term capacity-building, not just short-term engagements. | The John Holland Illabo to Stockinbingal Workforce Management Sub Plan, and Industry & Local and Indigenous Industry Participation Sub-Plan guide the projects commitments and engagement for Aboriginal employment and Indigenous business procurement. The plans outline key partners including the Local Aboriginal Land Councils, local Aboriginal groups, Supply Nation, NSW Indigenous Chamber of Commerce, Yarpa Hub and the Industry Capability Network.<br><br>John Holland will work with these partners to ensure we are engaging in a Culturally safe way and to understand what opportunities are beneficial for the local Aboriginal community.<br><br>This information on project targets, initiatives and tracking of these commitments are collated in the Project Social Impact Management Plan (SIMP) required by CoA E109. This condition incorporates all of the social considerations including aboriginal employment, business procurement and training opportunities | Social Impact Management Plan | Closed (response provided to the RAP to confirm that this has been considered) |
| We formally request that **Yurwang Gundana** be included as a core cultural partner moving forward, with clear participation in:<br><br>• Finalisation of the Aboriginal Cultural Values Plan<br>• Finalisation of the Construction Environmental Heritage Management Sub-Plan<br>• All archaeological programs (survey, test, salvage) | Copies of all heritage reports will be sent to RAPs, including Yurwang Gundana.<br><br>Please see comments above regarding incorporation of Yurwang Gundana in ACVP, Unexpected Finds Process and archaeological programs. | Section 6.2.3 | Closed (response provided to the RAP to confirm that this has |

| Comment Raised | Project Response | Where addressed | Status |
|---|---|---|---|
| • All construction and post-construction ground disturbance<br>• Interpretation, education, and cultural design components<br>• Review of any Unexpected Heritage Finds processes. | | | been considered) |

## Heritage NSW

| Date | Details of Engagement / Attempted Engagement |
|---|---|
| 24/03/2025 | Meeting on teams between Heritage NSW (HNSW), IRPL and JHG teams to discuss the upcoming Heritage Management Plan, excavation and salvage methodologies and consultation requirements, time frames and expected content/detail required. |
| 23/06/2025 | IRPL submission via email of the Heritage Management Plan to HNSW for consultation. |
| 8/07/2025 | Email from HNSW team to IRPL confirming that access to the Heritage Management Plan was causing IT issues. HNSW request another copy. |
| 15/07/2025 | Email to HNSW team from JHG with a new link and word, pdf and separate attachments for HNSW review. |
| 16/07/2025 | Email from HNSW to JHG team confirming that no further issues with accessing the Plan. |
| 16/07/2025 | Official comments provided by HNSW to JHG team for consideration in the Heritage Management Plan (see comments below). |

| Comment Raised | Project Response | Where addressed | Status |
|---|---|---|---|
| Heritage NSW notes that due to the length of time since preparation of the Environmental Impact Statement (EIS), consultation was restarted for the project in early 2025 to ensure a thorough and inclusive process. Please clarify if Registered Aboriginal Parties registered | Previously registered RAPs were automatically included in consultation in line with the contact details provided by GML. An introductory letter was sent to all previously registered RAPs on 7 Jan 2025 and they were included in consultation from the point of sending out the Additional Survey and Test Excavation Methodology onwards. | Section 6.2.3 | Closed |

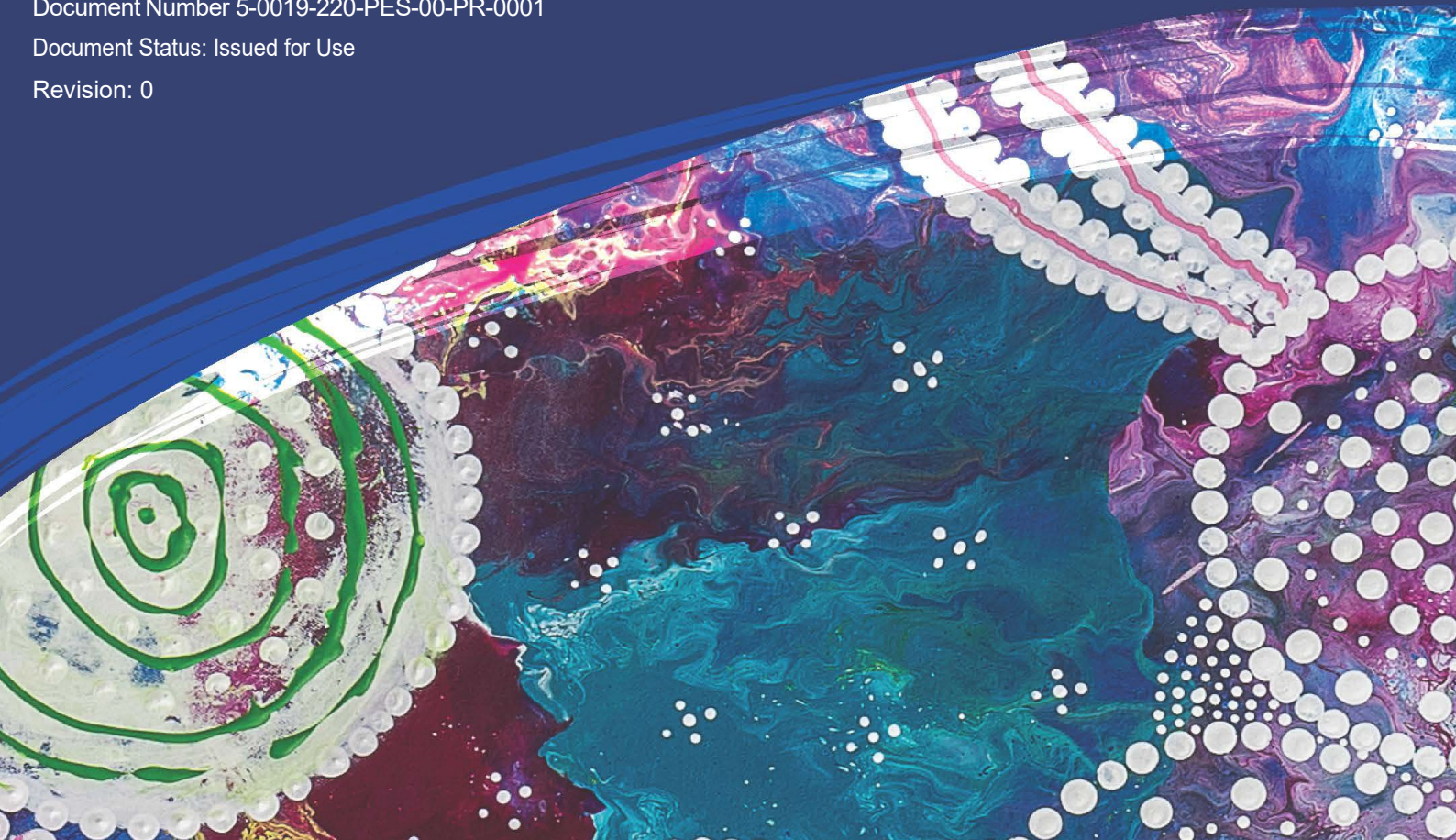
| Comment Raised | Project Response | Where addressed | Status |
|---|---|---|---|
| previously for the project were invited to re-register in the secondary process. | | | |
| Please provide documentation relating to the ongoing consultation for the project including evidence that the RAPs were consulted during development of the management plan and a consultation log showing details of all consultation to date. | Consultation with RAPs during development of this management plan are detailed in Appendix A. A standalone Consultation Log has been developed and is being updated for the Project and can be provided to Heritage NSW, if further details are required. | Appendix A | Closed |

# Appendix B – Unexpected and Incidental Finds Protocol

JOHN HOLLAND

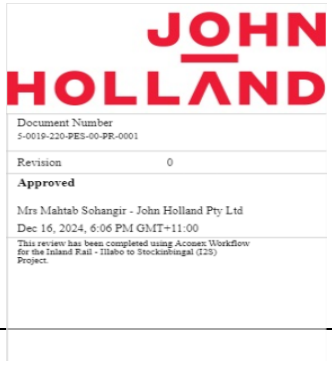
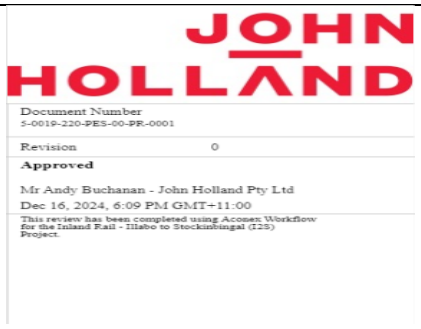
# INLAND RAIL
# ILLABO TO STOCKINBINGAL PROJECT
## Unexpected and Incidental Finds Protocol

Document Number 5-0019-220-PES-00-PR-0001
Document Status: Issued for Use
Revision: 0



## Document Control

| | |
|---|---|
| **Document Tite** | Unexpected and Incidental Finds Protocols and Procedure |
| **IRPL Document No.** | 5-0019-220-PES-00-PR-0001 |
| **Document Owner** | Hugh Goymour |

| **Revision status** | | |
|---|---|---|
| **Revision A** | | |
| **Company name** | Apical Environmental Consultants | |
| **Specialists** | Scott Grunsell, Planning Approval Specialist | |
| **Revision B** | | |
| **Company name(s)** | Intiapac and NGH Consulting | |
| **Approvals Specialist** | Lahnie Cooper, Environment and Compliance Specialist | |
| **Heritage Specialist** | Matthew Barber, Technical Director | |
| **Contamination Specialist** | Nicola Smith, Technical Lead Environmental Management | |
| **Ecology Specialist** | Jane Love, Technical Lead Environmental Management | |
| **Document Owner** | Hugh Goymour | |
| | **REVIEWED BY** | **APPROVED BY** |
| **Name** | Mahtab Sohangir | Andy Buchanan |
| **Title** | Environment & Sustainability Manager | Project Manager |
| **Signature**<br>**Date** |  |  |

| **Review and endorsement by site auditor** | |
|---|---|
| **Endorsed By** | Julie Evans |
| **Date** | 3/12/2024 |

## Revision History

| REVISION | DATE ISSUED | DESCRIPTION |
|---|---|---|
| A | 25/10/2024 | Issued for Review |
| B | 3/12/2024 | Issued for Review |
| C | 13/12/2024 | Issued for Review |
| D | 16/12/2024 | Issued for Review |
| 0 | 16/12/2024 | Issued for Use |

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Appendix D – Interim Audit Advice

# 1.0 Revisions and Distribution

## 1.1 Revisions

Draft issues of this document are identified as Revision A, B, C etc. Following acceptance by the document approver, the first finalised revision will be Revision 0. Subsequent revisions will have an increase of “1” in the revision number (1, 2, 3 etc.).

## 1.2 Distribution

The controlled master version of this document is available for distribution as appropriate and maintained on the document management system being used on the project. All circulated hard copies of this document are deemed to be uncontrolled.

**Distributions**

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| Client’s Representative | Conrad Strachan - IRPL |
| Project Director | Rob Pitt - JHG |
| Project Manager | Andy Buchanan - JHG |
| Quality & Completions Manager (Project Quality Representative) | Shane Aberdeen - JHG |
| Environmental Manager | Hugh Goymour - JHG |
| Environmental Representative | Ricardo Prieto-Curiel – Wolfpeak |
| Environmental Representative | Derek Low– Wolfpeak |
| Environmental Representative | Steven Fermio– Wolfpeak |

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# 2.0 Definitions / Abbreviations

**Table 2-1: Definitions and Abbreviations**

| Term/Abbreviation | Definition |
|---|---|
| **Aboriginal object** | Any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction and includes Aboriginal remains as per the *National Parks and Wildlife Act 1974*<br>Examples:<br>- Stone tool artefacts<br>- Axe grinding grooves<br>- Pigment or engraved rock art<br>- Burial sites<br>- Scarred trees |
| **ACM** | Asbestos Containing Material |
| **ARTC** | Australian Rail Track Corporation |
| **ASS** | Acid Sulphate Soils |
| **BAM** | Biodiversity Assessment Method |
| **BC Act** | *Biodiversity Conservation Act 2016* |
| **CEMP** | Construction Environmental Management Plan |
| **CA Act** | *Coroner's Act 2009* |
| **CoA** | Conditions of Approval |
| **CSSI** | Critical State Significant Infrastructure |
| **DPHI** | Department of Planning Housing and Infrastructure |
| **Environmental Assessment Documentation** | • Inland Rail – Illabo to Stockinbingal Environmental Impact Statement (ARTC 2022)<br>• Illabo to Stockinbingal Project Response to Submissions (ARTC 2023)<br>• Response to Submissions – Appendix E - Biodiversity Development Assessment Report version 12 (IRDJV, June 2024)<br>• I2S – Mitigation Measures (Inland Rail, April 2024)<br>• Illabo to Stockinbingal (SSI-9604) Additional and Appropriate Measures for Box Gum Woodland Impacts (Inland Rail, June 2024)<br>• Technical and Approvals Consultancy Services: Illabo to Stockinbingal – Box Gum Woodland Gum Flat Rehabilitation Opportunity (IRDJV, June 2024) |
| **EPA** | NSW Environment Protection Authority |
| **EPBC Act** | *Environment Protection and Biodiversity Conservation Act 1999* |
| **ER** | Environmental Representative |
| **Heritage Act** | *Heritage Act 1977* |
| **HNSW** | Heritage NSW |
| **Human remains** | Human remains may be identified as either Aboriginal objects or non-Aboriginal relics, depending on the individual's ancestry and the burial context. Remains are considered to be archaeological when it is suspected that they date back 100 years or more. |
| **IRPL** | Inland Rail Pty Ltd |
| **I2S** | Illabo to Stockinbingal |
| **JH** | John Holland |
| **LALC** | Local Aboriginal Land Council |

| Term/Abbreviation | Definition |
|---|---|
| **LGA** | Local Government Area |
| **LIW** | Low Impact Works<br><br>Work defined as low impact includes:<br>(a) survey works including carrying out general alignment surveys, installing survey controls (including installation of global positioning system (GPS)), installing repeater stations, carrying out surveys of existing and future utilities and building and road dilapidation surveys;<br>(b) investigations including investigative drilling, contamination investigations and excavation;<br>(c) installation of mitigation measures including erosion and sediment controls, temporary exclusion fencing for sensitive areas and acoustic treatments;<br>(d) property acquisition adjustment work including installation of property fencing;<br>(e) archaeological testing under the Code of practice for archaeological investigation of Aboriginal objects in NSW (Department of Environment Climate Change and Water, 2010) or archaeological monitoring undertaken in association with Low Impact work to ensure that there is no impact on heritage items;<br>(f) archaeological and cultural salvage undertaken in accordance with a strategy or salvage operation required by the conditions of this approval;<br>(g) maintenance work to existing buildings and structures as required to facilitate the carrying out of the CSSI; and<br>(h) other activities determined by the ER to have minimal environmental impact which may include relocation and connection of utilities, establishment of minor ancillary facilities in accordance with Condition C9 construction of minor access roads (other than access roads' connection to the road network), temporary relocation of pedestrian paths and the provision of property access.<br>(i) Site establishment work approved under a Site Establishment Management Plan in accordance with Condition C5.<br><br>Despite the above, the following works are not Low Impact Work:<br>(i) where heritage items, or threatened species or their habitat, or threatened ecological communities (within the meaning of the Biodiversity Conservation Act 2016), are adversely affected or potentially adversely affected by any low impact work as defined in (a) to (n) above, that work is construction, unless otherwise determined by the Planning Secretary in consultation with Heritage NSW, EHG BCS or DPI Fisheries (in the case of impact upon fish, aquatic invertebrates or marine vegetation); and<br>(ii) any Work undertaken outside the hours specified in Condition E1 that exceeds noise management and vibration levels as identified in Condition E3 (b).<br><br>*Notes:*<br>*1. Early stages of Work are not necessarily low impact work.*<br>*2. Low Impact work is not Construction as defined by this approval.*<br>*3. The low impact work described in this definition becomes Construction with the approval of a CEMP. Where low impact work has already commenced, this is considered to remain as low impact work and is managed in accordance with the framework under which it commenced.* |
| **Non-Aboriginal heritage items** | "Any deposit, artefact, object or material evidence that relates to the settlement of the area that comprises NSW, not being Aboriginal settlement; and is of State or local heritage significance" as defined by the *Heritage Act*.<br>Items may include:<br>- Archaeological relics<br>- Other historic items (i.e., works, structures, buildings, or movable objects). |
| **NPW Act** | *National Parks and Wildlife Act 1974* |

| Term/Abbreviation | Definition |
|---|---|
| **NSW** | New South Wales |
| **PCBs** | Polychlorinated biphenyls |
| **POEO Act** | *Protection of the Environment Operations Act 1997* |
| **Protocol** | This Unexpected and Incidental Finds Protocol |
| **RAP** | Registered Aboriginal Party |
| **Relics** | Relics are archaeological items of local or state significance in NSW, reflecting past domestic, industrial, or agricultural activities. Examples include bottles, pottery, and building materials. |
| **TEC** | Threatened Ecological Communities |
| **UEMM** | Updated Environmental Management Measures |
| **Unexpected Heritage Find** | An Aboriginal or non-Aboriginal object, relic, feature, or place discovered (or suspected to be present) during the carrying out of the CSSI of heritage significance which was not identified in the documents listed in CoA A1. An unexpected heritage find can include human remains if they are deemed to be historical. |
| **Work** | Any physical work for the purpose of the CSSI including construction and low impact work, but not including operational maintenance work. |

# 3.0 Introduction

## 3.1 Background

Inland Rail is an approximate 1,600 kilometres (km) freight rail network that will connect Melbourne and Brisbane via regional Victoria, New South Wales (NSW) and Queensland. Comprising 12 sections, a staged approach is being undertaken to deliver Inland Rail.

The Australian Rail Track Corporation (ARTC), with Inland Rail Pty Ltd (IRPL) as its subsidiary for the Inland Rail project, received infrastructure approval for the Illabo to Stockinbingal (I2S) section of Inland Rail in September 2024. The approval for I2S (the Project) was granted by the Minister for Planning and Public Spaces under section 5.19 of the NSW Environmental Planning and Assessment Act 1979 (EP&A Act).

The Project is located in south-western New South Wales (NSW) in the Riverina region (Figure 1.1). Illabo is a small town of approximately 132 people (Australian Bureau of Statistics, 2021) located at the southern end of the alignment, 16 kilometres (km) north-east of Junee in the Junee Local Government Area (LGA). Stockinbingal is a town of approximately 347 people (Australian Bureau of Statistics, 2021) is situated at the northern end of the project, approximately 20 km north-west of Cootamundra in the Cootamundra–Gundagai Regional LGA. The major towns surrounding the project are Wagga Wagga, about 50 km to the south, Young to the north-east and Cootamundra to the east.

The Project comprises a new rail corridor that would connect Illabo to Stockinbingal. The alignment branches out from the existing rail line north-east of Illabo and travels north to join the Stockinbingal–Parkes Line west of Stockinbingal. The route will travel primarily through undeveloped land predominantly used for agriculture. The project includes modifications to the tie-in points at Illabo and Stockinbingal to allow for trains to safely enter and exit the Illabo to Stockinbingal section of Inland Rail. The alignment also crosses several local and private roads, watercourses and privately owned properties. Additionally, no major towns are located within the project site between Illabo and Stockinbingal.

The Project will include a total extent of approximately 42.5 km, including 39 km of new, greenfield railway which will incorporate the following key features:

- Connection to other rail lines, including Stockinbingal to Parkes line, Lake Cargelligo line, and Main Southern Railway
- One crossing loop and maintenance siding
- Level crossings and stock crossings
- Bridges over rivers and other watercourses, floodplains, and roads
- Upgrades of around 3.5 km of existing track for the tie-in works to the existing Main South Line at Illabo
- New track to maintain Lake Cargelligo line connection either side of the proposal
- Realignment and road-over rail bridge for a section of the Burley Griffin Way at Stockinbingal

- Realignment of Ironbong Road to allow for safe sight lines at the new active level crossing
- Ancillary infrastructure to support the proposal, inclusive of signalling and communications, drainage, drainage control areas, signage and fencing, and services and utilities
- Construction infrastructure, including ancillary facilities, and a temporary workforce accommodation facility.

The Project will also include upgrades to approximately 3 km of existing track associated with tie-in works and construction of an additional 1.7 km of new track to maintain the existing rail network connections. Road upgrade works will also be undertaken to re-align approximately 1.4 km of Burley Griffin Way to provide a road-over-rail bridge at Stockinbingal. Re-alignment of Ironbong Road will also be completed to allow for safe sight lines. A temporary workforce accommodation camp will also be constructed to house the workforce for the duration of works. Key features of the Project are shown on Figure 1.2.

This Unexpected and Incidental Finds Protocol (Protocol) details the actions to be taken should any unexpected or incidental finds occur relating to:

- Threatened species or threatened ecological communities (TEC)
- Contamination hazards or contaminated land
- Aboriginal Cultural Heritage and non-Aboriginal Heritage and human remains.

The Protocol also details the response procedures, reporting and notification requirements in the case of unexpected and incidental finds.

This Unexpected and Incidental Finds Protocol (Protocol) applies to all works, including low impact works (LIW).

## 3.2 Scope

This Protocol is applicable to any physical work for the purpose of the Critical State Significant Infrastructure (CSSI), including construction and LIW, but not including operational maintenance work. This Protocol should be read in conjunction with the Construction Environmental Management Plan (CEMP) and relevant Sub-Plans. This Protocol outlines how John Holland (JH) proposes to manage unexpected and incidental finds, related to the following aspects, during works associated with the I2S Project:

- Threatened species and threatened ecological communities
- Contamination, hazards and contaminated land
- Aboriginal cultural heritage
- Non-Aboriginal heritage
- Human remains.

The Protocol outlines procedures for stopping work near unexpected or incidental finds to prevent further impact, along with steps for notifying relevant stakeholders and state agencies in writing through an established notification pathway.

The existence of this Protocol does not replace the need to prepare Environmental Work Method Statements and/or Safe Work Method Statements where required in accordance with other documents e.g. CEMP. This document is not intended to provide management controls required to protect human safety or meet health and safety industry requirements.

This document has been prepared by suitably qualified persons (in each discipline associated with the Unexpected Finds Protocol). These suitably qualified persons (SQE's) have over 5 years' experience in each field for similar projects to that of I2S (contamination, ecology, non-Aboriginal Heritage and Aboriginal Heritage) and hold the relevant qualifications required to act as SQE's in the preparation and endorsement of this document.

## 3.3 Purpose

This Protocol has been developed in accordance with Condition of Approval (CoA) A17, the Unexpected Heritage Finds and Human Remains Procedure prepared under CoA E143 (Appendix B) and the Unexpected Finds Procedure for Contamination under CoA E161 (Appendix C). This Protocol will be implemented in the event of an unexpected find relating to biodiversity, heritage (both Aboriginal and non-Aboriginal), human remains and contamination. An unexpected find is considered when an item relating to any of these aspects is uncovered that has not been previously identified within site investigations undertaken as part of the Environmental Assessment Documentation listed under CoA A1.

In the event of an unexpected or incidental find, specialist consultants, and relevant technical specialists, will be engaged to advise on the management and potential assessment of the unexpected find identified during work. Response procedures for unexpected finds are provided in Appendix A, B and C.

This Protocol and associated procedures will be implemented for the duration of all LIW and construction work associated with the I2S Project.

## 3.4 Objectives

The key objective of this Protocol is to provide a framework outlining appropriate environmental response procedures to be implemented during LIW and construction activities. These procedures will be implemented to minimise risks associated with unexpected and incidental finds relating to threatened species or threatened ecological communities (TEC), contamination, hazards or contaminated land, Aboriginal Cultural Heritage, non-Aboriginal Heritage and suspected human remains.

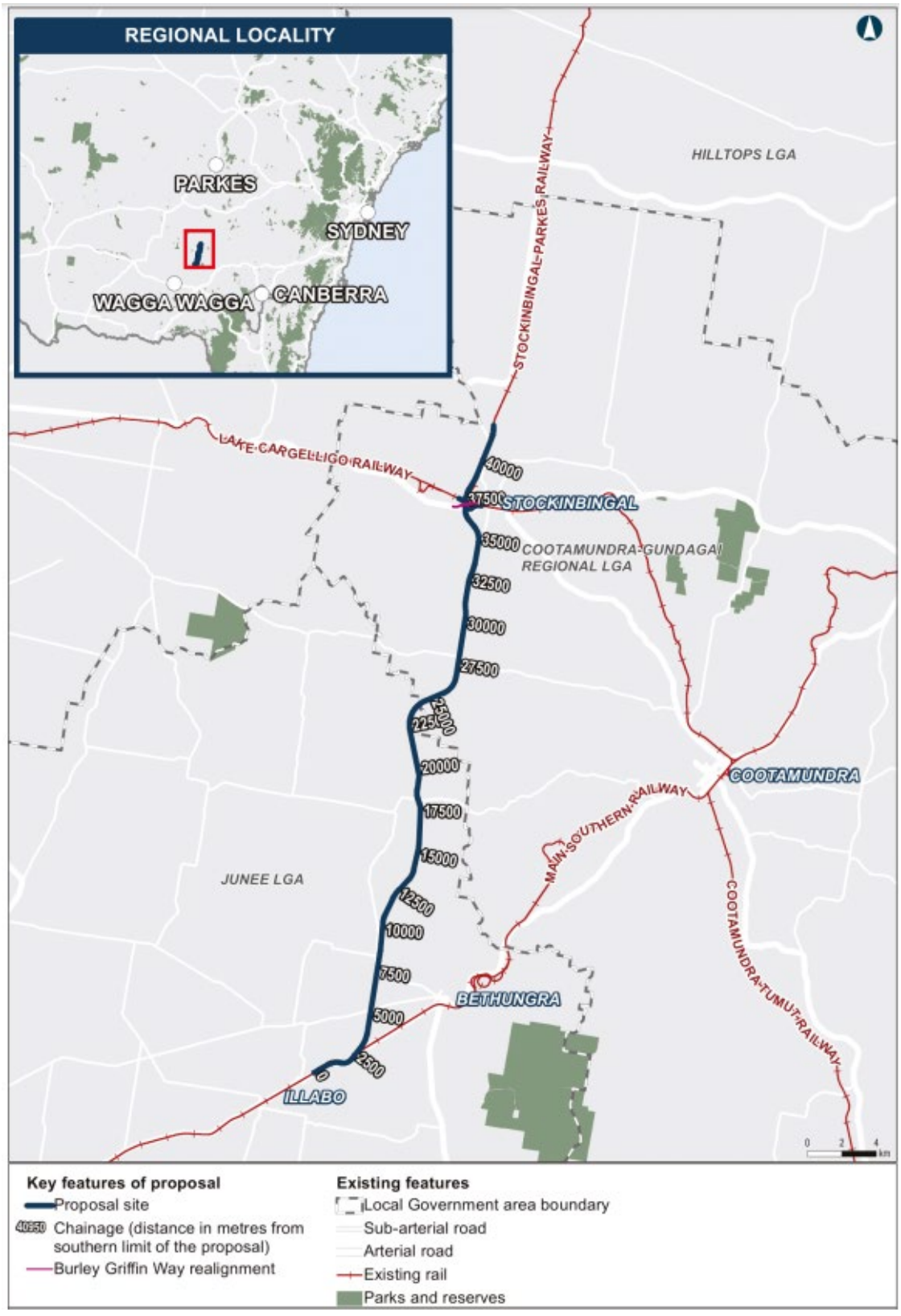



**Figure 1.1 Project Locality.** ***From Illabo to Stockinbingal EIS, Chapter 1***

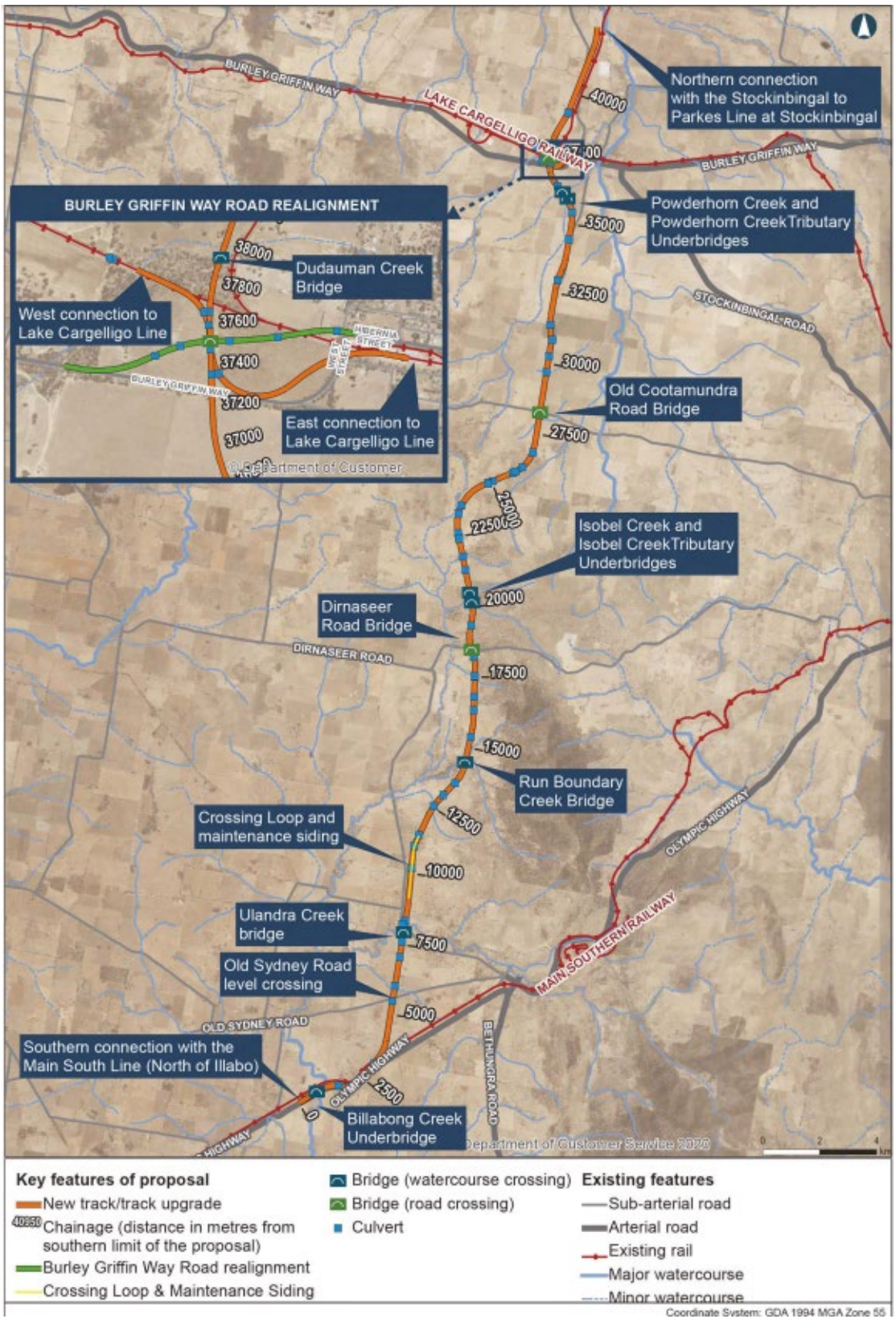



**Figure 1.2 Key features of proposal. From Illabo to Stockinbingal EIS, Chapter 1**

## 3.5 Relevant Legislation and Guidelines

Table 3-1 lists the principal legislation, regulation, plans, policies, guidelines, specifications, and Australian Standards that apply to this Protocol for the I2S Project.

*Table 3-1: Relevant Legislation and Guidelines*

| | |
|---|---|
| **Legislation** | ***Commonwealth Legislation***<br>• *Environment Protection and Biodiversity Conservation Act 1999*<br>***NSW Legislation***<br>• *Biodiversity Conservation Act 2016*<br>• *Fisheries Management Act 1994*<br>• *National Parks and Wildlife Act 1974*<br>• *Biosecurity Act 2015*<br>• *Protection of the Environment Operations Act 1997*<br>• Protection of the Environment Operations (General) Regulation 2022<br>• Protection of the Environment Operations (Waste) Regulation 2014<br>• *State Environmental Planning Policy (Resilience and Hazards) 2021*<br>• *Contaminated Land Management Act 1997*<br>• Contaminated Land Management Regulation 2022<br>• *Heritage Act 1977*<br>• Heritage Regulation 2012 |
| **Guidelines and Specifications** | • Due Diligence Code of Practice (DECCW 2010)<br>• Biodiversity Guidelines (Protecting and Managing Biodiversity on RTA Projects)<br>• National Environmental Protection Measure (Assessment of Site Contamination) 1999 (as amended 2013) (National Environment Protection Council 2013)<br>• Waste Classification Guidelines (NSW EPA 2014)<br>• Guidelines for Consultants Reporting on Contaminated Land (NSW EPA, 2020)<br>• Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (NSW EPA 2015)<br>• Guidelines for the NSW Site Auditor Scheme, 3rd Edition (NSW EPA 2017)<br>• Guideline for the Management of Contamination (Roads and Maritime Services 2013c)<br>• Environment Protection Authority: Sampling design part 1 - application, Contaminated Land Guidelines (NSW EPA, 2022)<br>• Environment Protection Authority: Sampling design part 2 - interpretation, Contaminated Land Guidelines (NSW EPA, 2022)<br>• Preparing Environmental Management Plans for Contaminated Land (NSW EPA, 2022)<br>• Guidelines for biological survey and mapped data (Commonwealth of Australia, 2018)<br>• Biodiversity Assessment Method (BAM) (DPE 2020)<br>• Skeletal Remains Guidelines for the Management of Human Skeletal Remains under the *Heritage Act 1977* (NSW Heritage Office, 1997)<br>• Assessing Significance for Historical Archaeological Sites and 'Relics' (Heritage Branch of the Department of Planning, 2009)<br>• *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (OEH 2011)*<br>• *Code of Practice for Archaeological Investigations of Aboriginal Objects in New South Wales (DECCW 2010)*<br>• *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW 2010)* |

## 3.6 Conditions of Approval

*Table 3-2: Relevant CoAs (SSI-9406)*

| CoA No. | Commitment | Section Reference |
|---|---|---|
| A17 | Prior to the commencement of low impact work, an Unexpected and Incidental Finds Protocol must be developed for:<br>a) threatened species and threatened ecological communities;<br>b) contamination, hazards and contaminated land;<br>c) Aboriginal Cultural Heritage; and<br>d) non-Aboriginal Heritage.<br>The Unexpected and Incidental Finds Protocol must include procedures for:<br>(i) all Work in the associated location to stop to prevent further impact; and<br>(ii) notifying the Planning Secretary and relevant state agencies in writing.<br>Work must not recommence until the relevant state agencies have been consulted and any required approvals have been obtained. The Unexpected and Incidental Finds Protocol must be made publicly available prior to low impact work commencing and must be implemented during low impact work | This Protocol<br><br>Appendix A<br>Appendix B<br><br>Appendix C |
| E143 | An Unexpected Heritage Finds and Human Remains Procedure must be prepared to manage unexpected heritage finds in accordance with any guidelines and standards prepared by Heritage NSW and submitted to the Planning Secretary for information before the commencement of Work. | Appendix B |
| E144 | The Unexpected Heritage Finds and Human Remains Procedure, as submitted to the Planning Secretary, must be implemented for the duration of Work.<br>*Note: Human remains that are found unexpectedly during the carrying out of Work may be under the jurisdiction of the NSW State Coroner and must be reported to the NSW Police immediately.* | Appendix B |
| E161 | An Unexpected Finds Procedure for Contamination must:<br>a) be prepared prior to the commencement of Work and must be followed should unexpected contamination or asbestos (or suspected contamination) be excavated or otherwise discovered<br>b) include details of who will be responsible for implementing the unexpected finds procedure and the roles and responsibilities of all parties involved<br>c) be reviewed by the Site Auditor and interim audit advice or a Section B Site Audit Statement provided certifying that the Unexpected Finds Procedure is appropriate<br>d) be provided to the Planning Secretary and the EPA upon request with a copy of the interim audit advice or Section B Site Audit Statement attached<br>e) be implemented throughout work. | Appendix C |

## 3.7 Updated Environmental Mitigation Measures

*Table 3-3: Relevant Updated Environmental Mitigation Measures*

| UEMM No. | Issue | Mitigation Measure | Section Reference |
|---|---|---|---|
| AH-11 | Unexpected Finds | An unexpected finds procedure would be developed and included in the Aboriginal cultural heritage management plan to provide a consistent method for managing any unexpected Aboriginal heritage items discovered during construction, including potential heritage items or objects and a flow chart of the procedure on the findings of skeletal remains. | Appendix B |
| NAH-4 | Unexpected finds including human skeletal remains | An unexpected finds procedure would be developed as part of the CEMP to provide a consistent method for managing any unexpected heritage or archaeological items and unexpected human skeletal remains.<br>Non-Aboriginal awareness training (mitigation measure NAH-3) is to include a flow chart of the procedure on the findings of skeletal remains. | Appendix B |
| SC-7 | Contamination Management | A contaminated land and hazardous materials management plan would be prepared and implemented as part of the CEMP. The plan would include but not be limited to:<br>- procedures for incident management and managing unexpected contamination finds (an unexpected finds protocol). | Appendix C |

# 4.0 Implementation

## 4.1 Training and Inductions

All site personnel (including sub-contractors) will be inducted on the potential for unexpected and incidental finds occurring, or likelihood of occurrence, within the project area and the required process under this Protocol. Training will include inductions, toolbox talks, pre-starts and targeted awareness training as required.

The project induction will include the following mandatory topics:

- How to identify suspected heritage relics and objects, including both Aboriginal and non-Aboriginal materials
- How to identify potential contamination
- How to identify threatened biodiversity
- Provide guidance on how to appropriately respond to unexpected finds
- Guidance on how personnel are to apply the Protocol on how to appropriately manage human remains, including notification and response procedures.

## 4.2 Roles and Responsibilities

An outline of responsibilities for site personnel relating to unexpected and incidental finds is included in Table 4-1.

*Table 4-1: Roles and Responsibilities*

| Role | Responsibility |
|---|---|
| Project Manager (JHG) | • Manage project construction and site activities in line with this Protocol<br>• Report environmental matters to the Project Director<br>• Allocate appropriate contractor resources to meet environmental requirements<br>• Plan and schedule construction while ensuring compliance with regulatory legislation and Protocol<br>• Ensure site personnel are informed of changes to this Protocol e.g. via toolboxes and pre-starts<br>• Notify ARTC/IRPL of incidents that have occurred including near misses<br>• Notify the relevant regulatory agencies where JHG has hold the licence and permit |
| Environmental and Sustainability Manager | • Assisting Site Supervisor with the implementation of this Protocol<br>• Liaise with specialist consultants and ARTC/IRPL (as directed by Project Manager)<br>• Notify Site Supervisor and or Project Manager of incidents as required |

| | |
|---|---|
| | • Complete incident investigation and reporting (where required)<br>• Updates to this Protocol and management plans (where required) and any changes are communicated to the Project Team. |
| Site Supervisors (JHG) | • Oversee on-site project management and control<br>• Ensure that the Protocol and procedures are communicated to all site personnel under their management and are being fully implemented on site e.g. via attendance to site inductions, toolboxes and pre-starts<br>• Ensure site personnel are informed of changes to this Protocol e.g. via toolboxes and pre-starts<br>• Stop work as required<br>• Delineate the area<br>• Contact Environmental Manager and Project Manager<br>• Manage access into and out of the site |
| Environmental Representative (ER) | • Provide environmental advice to the Project management team to assist them with achieving compliance with this Protocol<br>• Undertake regular site inspections to ensure activities are adhering to this Protocol<br>• As considered necessary, recommend to the Proponent any improvements that may be made to work practices to avoid or minimise adverse impacts to the environment and to the community<br>• Monitor the implementation of the Unexpected Finds Protocol to ensure implementation is undertaken in accordance with the terms of the approval |
| Specialist consultants – Ecologist, Archaeologist, Contaminated Land Expert. | • Advise on the nature of any find, including whether it should be considered “unexpected” in terms of the Planning Approval<br>• Indicate the required exclusion area or “no-go” zone for any nearby works<br>• Advise on any controls that should be put in place to manage the find and the likely impact from the proposed work<br>• Develop any required management plan (or equivalent) for the management of any unexpected find.<br>• Call on other technical specialists as required to assist in any identification and management of the unexpected find.<br>• Assist in the completion of any required notifications in consultation with the Project Environment Team |

| | |
|---|---|
| | • Notify RAPs and LALC's in the event of an unexpected find associated with Aboriginal Heritage or suspected Aboriginal remains. |
| Site Auditor (Contamination) | • A Site Auditor(s) is to oversee the management of contamination issues.<br>• The Site Auditor is to review all documentation relevant to contamination, including previous site audits, and provide a written opinion on the contamination risk and the appropriateness of the reports and any proposed management measures of the site, including (but not limited to):<br>• the management and monitoring plans in Conditions C12 and C17, where relevant, including any updates or amendments to those plans;<br>• Sampling and Analysis Quality Plan in Condition E154;<br>• Detailed Site Investigation Report(s) in Condition E155;<br>• Remedial Action Plans in Condition E156;<br>• Unexpected Finds Procedure for Contamination in Condition E161; and<br>• Post-remediation validation reports. |
| Construction Personnel | • Complete an environmental induction before accessing the site<br>• Comply with legislative requirements<br>• Stop work in the event of an unexpected find<br>• Report all unexpected finds or human remains, environmental incidents or potential hazards to area supervisor<br>• Follow environmental plans, protocols and procedures |
| ARTC / IRPL | • Make notifications to the Planning Secretary under the terms of the MCoA A34 and A35.<br>• Notify and liaise between relevant government agencies in the event that an impact has occurred or is likely to occur in relation to the unexpected find.<br>• Provide written approval to recommence work (as required)<br>• IRPL will need to report any unexpected find identified in accordance with ARTC /IRPL Approvals.<br>• Where an event occurs within the ARTC rail corridor and JHG is operating under the ARTC EPL the event must be reported to both ARTC and IRPL |
| UGL Regional Link (CRN) | • Where an event occurs within the UGL Regional Link rail corridor and JHG is operating under the UGL Regional Link EPL the event must be reported to both UGL Regional Link and IRPL |

## 4.3 Emergency Contacts

A list of key emergency contacts is provided in Table 4-2.

*Table 4-2: Emergency Contacts*

| Emergency Contact | Contact Details | When to contact |
|---|---|---|
| Environment Protection Authority (EPA) | 131 555 | In the event of confirmed contamination |
| Department of Planning, Housing and Infrastructure | 1300 305 695 | In the event of an environmental incident resulting in environmental contamination or harm |
| Department of Climate Change, Energy, the Environment and Water (Cth) | 1800 920 528 | In the event of a discovery of actual or potential impacts to Commonwealth listed threatened communities or species. |
| Biodiversity Conservation Science Division | 1300 992 688 | In the event of confirmed threatened species and/or TEC |
| SafeWork NSW | 131 050 | In the event of confirmed contamination |
| RSPCA / WIRES | 1300 094 737 | To report injury to wildlife |
| Heritage NSW | (02) 9873 8500 | In the event of confirmed heritage item or suspected human remains |
| NSW Enviro Line | 131 555 | In the event of unexpected finds or suspected heritage finds or human remains |
| NSW Police | (02) 6922 2599 (Wagga Wagga District Command)<br>000 (emergency only) | In the event of suspected human remains |

## 4.4 Review

This Protocol will be reviewed as needed in response to an unexpected find, audit finding, incident or near miss.

## Appendix A - Unexpected Finds Procedure - Biodiversity

### Introduction

This procedure describes how to manage unexpected finds associated with threatened flora species, fauna species and/or Threatened Ecological Community (TEC) during works. This procedure has been prepared to meet the requirements of the Conditions of Approval, particularly CoA A17.

This Procedure is applicable to any physical work for the purpose of the CSSI including construction and low impact work (LIW) but not including operational maintenance work, and will support the Construction Environmental Management Plan (CEMP) and relevant Sub-Plan.

### Relevant Legislation and Guidelines

Legislation and guidelines relevant to this procedure are detailed in Section 3.5.

### Reporting

A record of the unexpected finds will be maintained by the Contractor and will include the following details as a minimum:

- Date, time, and location of unexpected find
- Details of discovery site (GPS points, description of vegetation, soil types, microhabitat and/or any other features present)
- Photographs of items observed
- Details regarding assessment by the Environmental and Sustainability Manager (and advice from suitably qualified ecologist or specialist)
- Actions undertaken before work recommenced
- Relevant sign off on approval to recommence works.

If an Unexpected Find is also an incident as defined the MCoA, all Incident Notification and Reporting must follow SSI -9406 CoA A34 & A35 and EPBC 2018/8233 CoA 35 & 36 (where required) including the requirements set out in Appendix A of the Infrastructure Approval SSI-9406.

### Unexpected Finds Procedure- Biodiversity

In the event an unexpected, threatened flora or fauna species or TEC is encountered during works, the procedure outlined below must be followed.

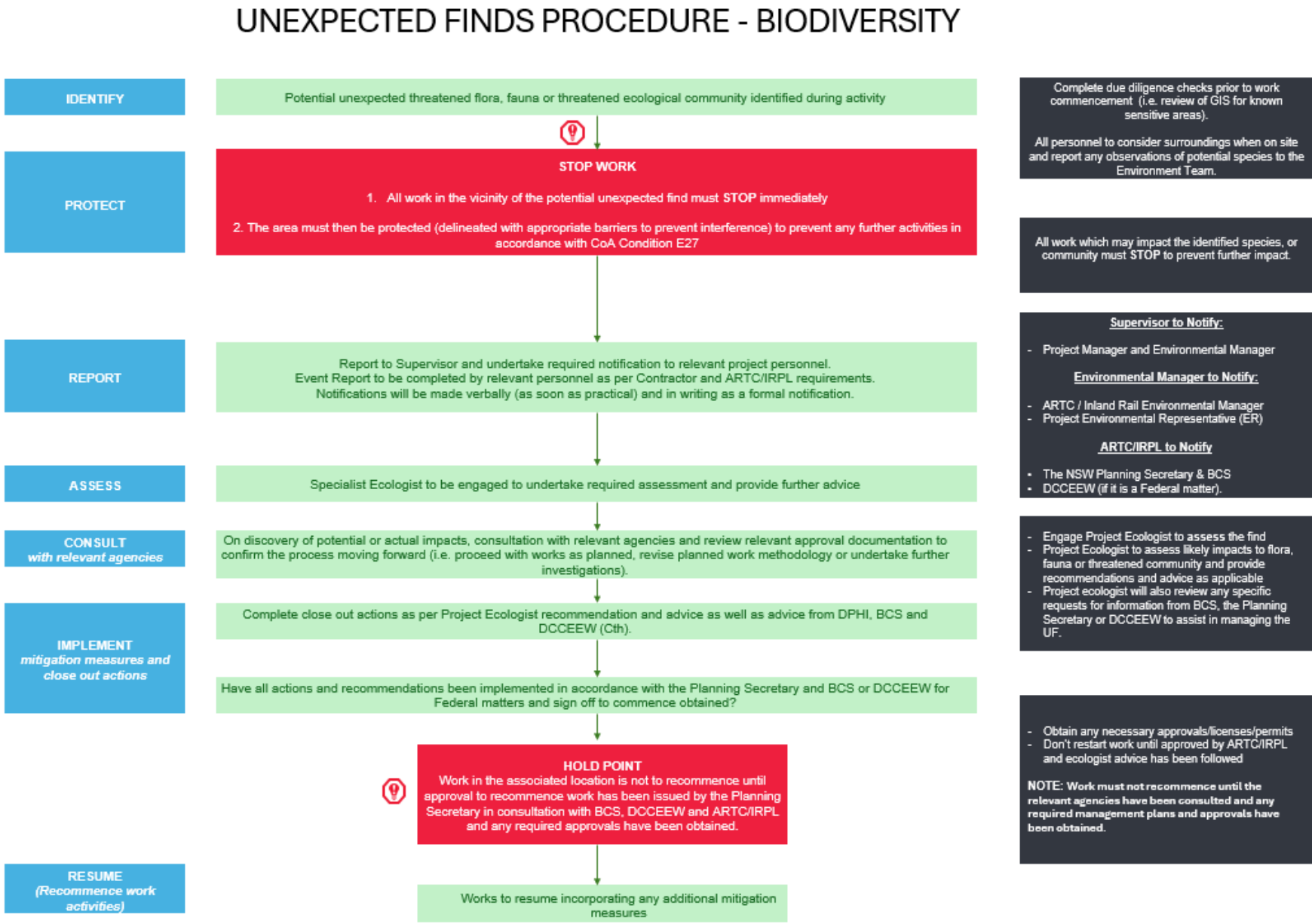



**Figure A1: Unexpected Finds Procedure, Biodiversity**

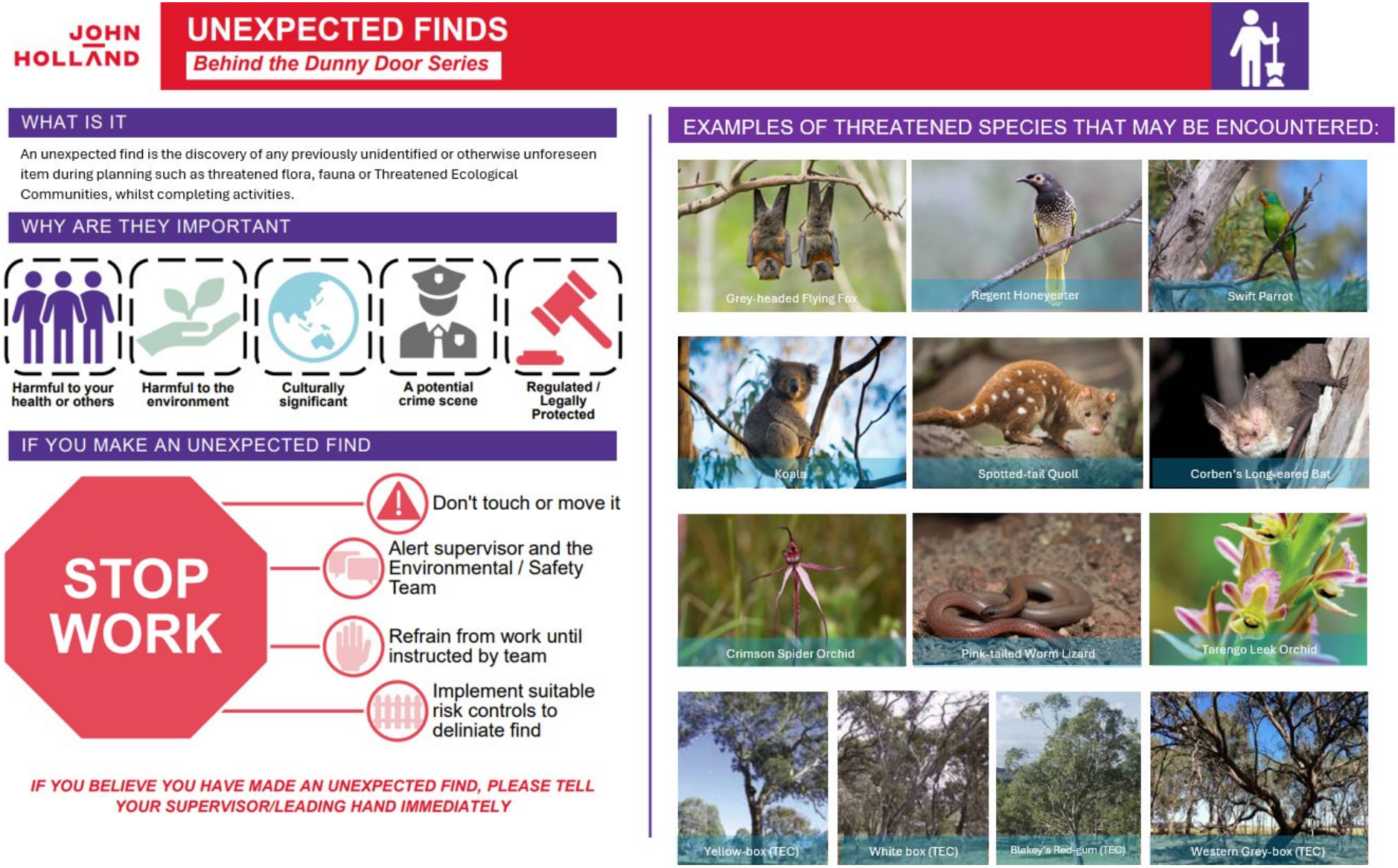



**Figure A2: Unexpected Finds, Biodiversity**

## Appendix B - Unexpected Finds Procedure – Heritage and Human Remains

### Introduction

This procedure describes how to manage unexpected encounters associated with both Aboriginal and non-Aboriginal heritage items, as well as suspected human remains, during works. This procedure has been prepared to meet the requirements of the CoA, specifically CoA A17, E143 and E144 and environmental mitigation measures AH-11 and NAH-4.

This Procedure is applicable to any physical work for the purpose of the CSSI including construction and low impact work (LIW) but not including operational maintenance work and will support the Construction Environmental Management Plan (CEMP) and relevant Sub-Plan.

In accordance with section 3.2 and CoA C23(f), this document has been prepared by suitably qualified person with over 20 years' experience in the field of Aboriginal and Non-Aboriginal Heritage. These person/s have experience on similar projects to that of I2S and hold the relevant qualifications (Bachelor of Archaeology and Pre-History, with Honours) required to act as SQE's in the making and endorsement of this document.

### Relevant Legislation and Guidelines

Legislation and guidelines relevant to this procedure are detailed in Section 3.5.

### Reporting

A record of the unexpected finds will be maintained by the Contractor (in accordance with Appendix A of the SSI- 9406) and will include the following details:

- Date, time, location, written description and photographic evidence of the unexpected find
- Details regarding assessment by the Environment and Sustainability Manager (and advice from suitably qualified heritage specialist and/or archaeologist)
- Actions undertaken before work recommenced
- Relevant sign off on approval to recommence works.

If an Unexpected Find is also an incident as defined the MCoA, all Incident Notification and Reporting must follow CoA A34 and A35 including the requirements set out in Appendix A of the Infrastructure Approval SSI-9406.

### Unexpected Finds Procedure – Heritage and Human Remains

Figure B1 below provides an overview of the procedure to be implemented in the event that any newly observed cultural material or suspected human remains are identified during the LIW and construction phases of the project. Figures B2 and B3 provide a detailed breakdown of steps to be undertaken in the event a potential Heritage items or suspected human remains are uncovered during work.

The recording of the item(s) and any proposed mitigation measures must be completed by a heritage specialist with participation of the Registered Aboriginal Party (RAP) and/or Local Aboriginal Land Council (LALC) representatives and Heritage NSW (where appropriate). Avoidance of newly identified Aboriginal objects is always the preferred heritage outcome where feasible. Mitigation measures will be employed to ensure that impacts are avoided or where it can be reasonably demonstrated that avoidance is not possible that mitigation measures will be put in place to reduce impacts as much as possible. All sites that cannot be avoided must be assessed for their archaeological significance prior to impacts in accordance with best practice heritage guidelines.

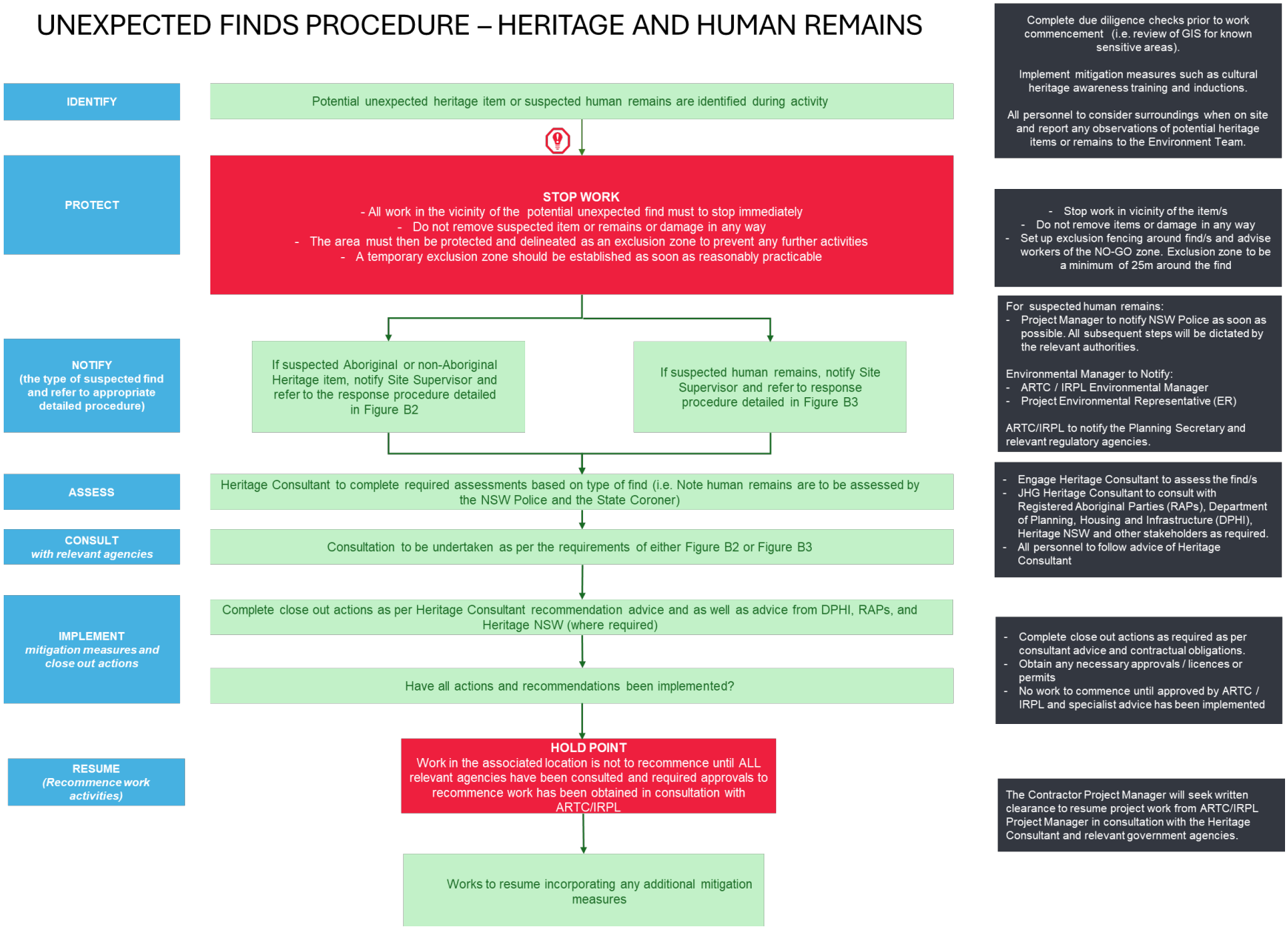



**Figure B1 Unexpected Finds Procedure – Heritage and Human Remains**

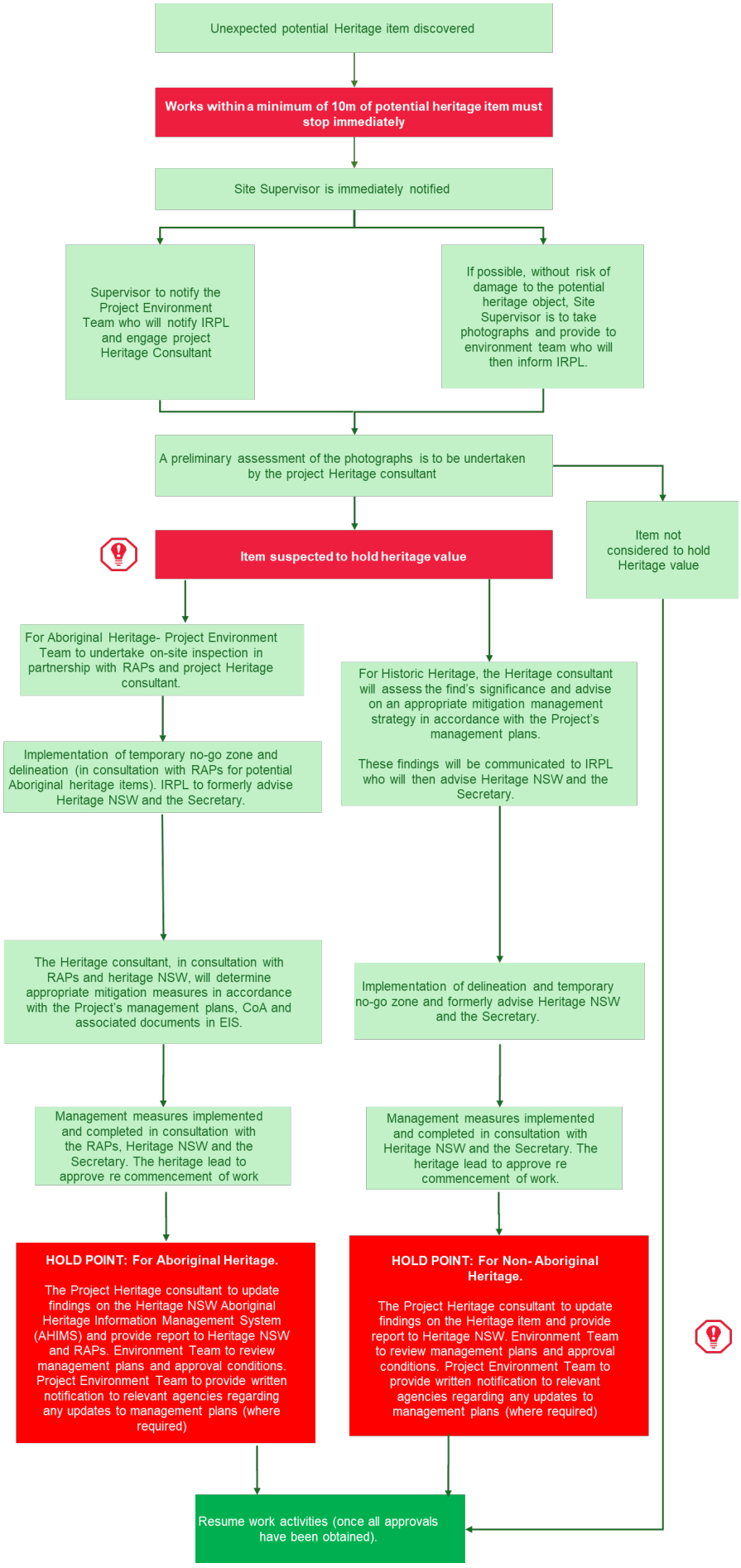



**Figure B2 Unexpected Finds Procedure – Heritage Item**

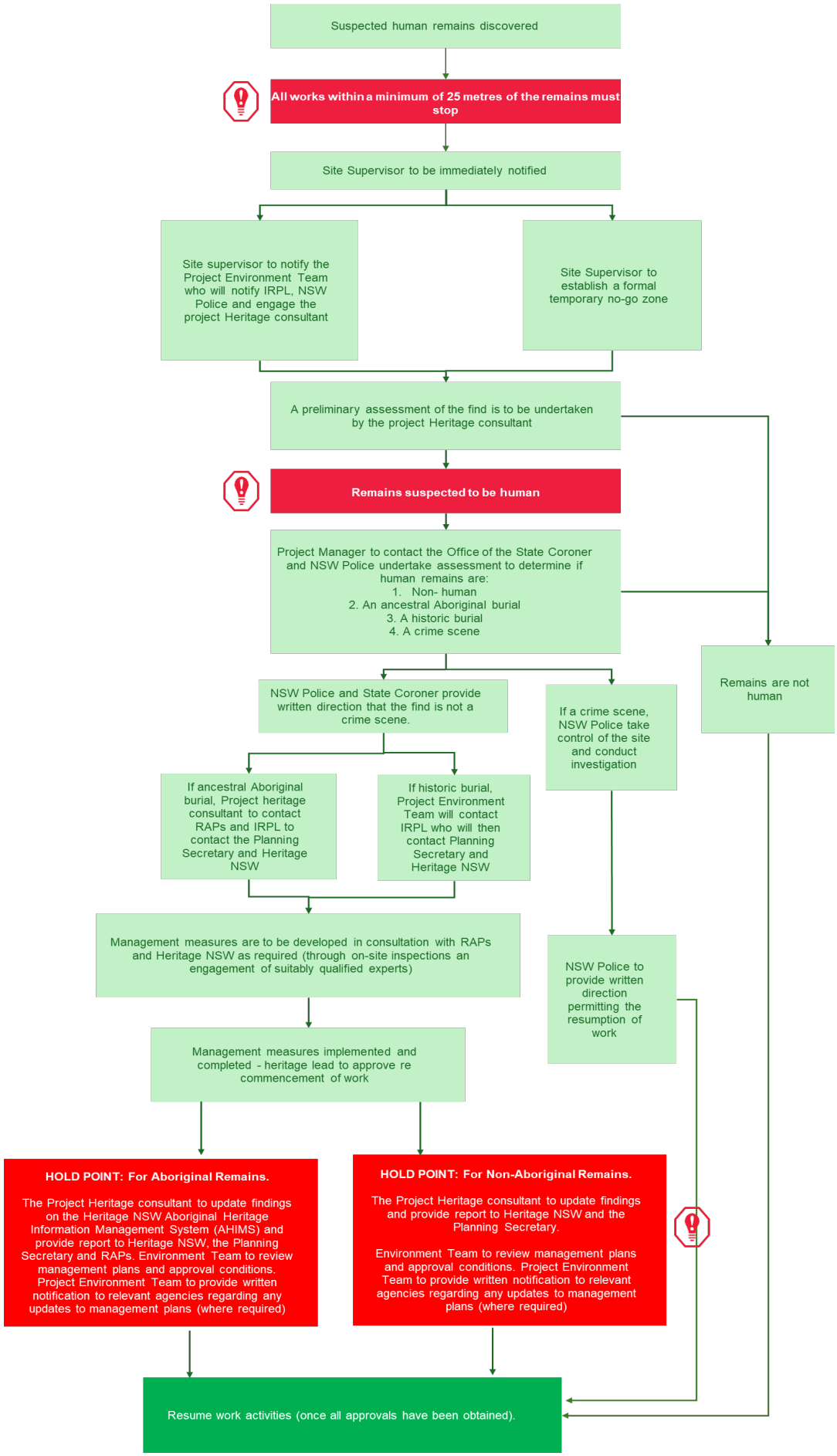



**Figure B3 Unexpected Finds Procedure – Human Remains**

**Figure B4: Unexpected Finds, Heritage**

## Appendix C - Unexpected Finds Procedure – Contamination

### Introduction

This procedure describes how to manage unexpected encounters of land that contains (or is suspected of containing) substances that are actually (or potentially) hazardous to health or the environment.

Contaminants may include:

- Hydrocarbons
- Per- and polyfluoroalkyl substances (PFAS)
- Polycyclic aromatic hydrocarbons (PAHs)
- Polychlorinated biphenyls (PCBs)
- Pesticides
- Heavy metals such as lead, arsenic, cadmium and mercury
- Asbestos containing material (ACM)
- Biologically pathogenic materials and waste
- Acid sulphate soils (ASS).

This procedure has been prepared to meet the requirements of the CoA, specifically CoA A17 and E161 and environmental mitigation measure SC-7.

This Procedure is applicable to any physical work for the purpose of the CSSI including construction and low impact work (LIW) but not including operational maintenance work, and will support the Construction Environmental Management Plan (CEMP) and relevant Sub-Plan.

### Relevant Legislation and Guidelines

Legislation and guidelines relevant to this procedure are detailed in Section 3.5.

### Reporting

A record of the unexpected contamination finds will be maintained by the Contractor and will include the following details as a minimum:

- Date, time, location and photographic evidence of unexpected find, including depth
- Details regarding assessment by Environment Manager (and advice from suitably qualified contamination specialist)
- Where remediation of the contamination is recommended by the contamination specialist and supported by the contaminated site auditor, details on the remediation will be captured and reported in accordance with the *Contaminated Land management Act* and Conditions E151-160.
- All waste will be tracked in accordance with the *Protection of the Environment Operations Act 1997 (POEO Act)* and Condition E165-166. Transport and disposal undertaken in accordance with the Protection of the Environment Operations (Waste) Regulation 2005

and the Waste Classification Guidelines (EPA 2014). All contractors transporting waste from the site must be licenced to transport the identified type of waste and must only dispose of the waste at a facility that is licenced to accept the waste classification and volume.

If an Unexpected Find is also an incident as defined the MCoA, all Unexpected Find is also an incident as defined the MCoA, all Incident Notification and Reporting must follow CoA A34 and A35 including the requirements set out in Appendix A of the Infrastructure Approval SSI-9406.

**Unexpected Finds Procedure – Contamination, Hazards and Contaminated Land**

In the event an unexpected contamination find is encountered during works, the procedure outlined below must be followed. The Unexpected Finds Procedure for Contamination, Hazards and Contaminated Land (see Appendix C) must be included and implemented throughout works and construction.

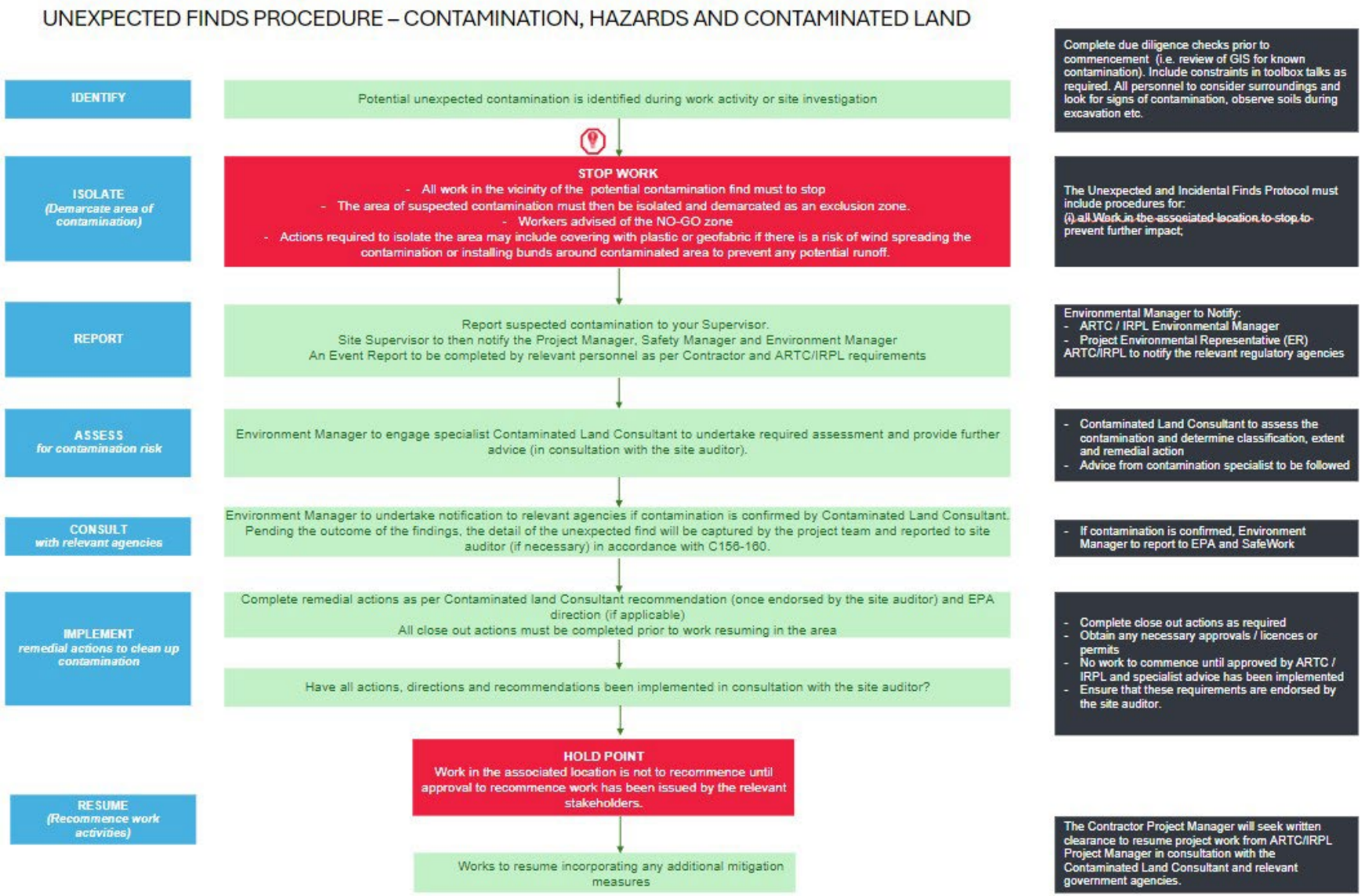



**Figure C1: Unexpected Finds Procedure, Contaminated Land**

JOHN HOLLAND

# UNEXPECTED FINDS

*Behind the Dunny Door Series*

## WHAT IS IT

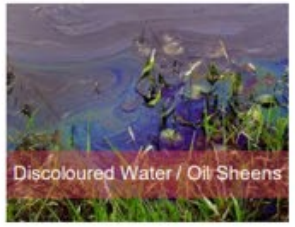
An unexpected find is the discovery of any previously unidentified or otherwise unforeseen item during planning, such as contamination

## WHY ARE THEY IMPORTANT

## IF YOU MAKE AN UNEXPECTED FIND

***IF YOU BELIEVE YOU HAVE MADE AN UNEXPECTED FIND, PLEASE TELL YOUR SUPERVISOR/LEADING HAND IMMEDIATELY***

## EXAMPLES OF CONTAMINATION THAT MAY BE ENCOUNTERED:



**Unexpected finds can include but not limited to as being:**

- Distinctively different to other soils on-site – both in texture, colour, smell and moisture content
- Underground tanks and structures (e.g. former fuel tanks)
- Appear to be concentrated to a localised area (i.e. waste burial pits)
- Stained, oil soaked or containing a petroleum sheen.
- Includes other products such as batteries etc.
- May contain offensive odours, including sulphur-based leachate impacts or sewerage, including acid sulfate soils
- Buried building products and debris/waste or other anthropogenic materials
- May contain potential asbestos containing materials
- May contain buried animal carcasses or evidence of decomposition including potential remains.

**Figure C2: Unexpected Finds, Contamination**

# Appendix C – Aboriginal Heritage detailed mapping

INLAND RAIL

Heritage

# Illabo to Stockinbingal

MAP 1 OF 28

SCAR TREE

ZONE 11

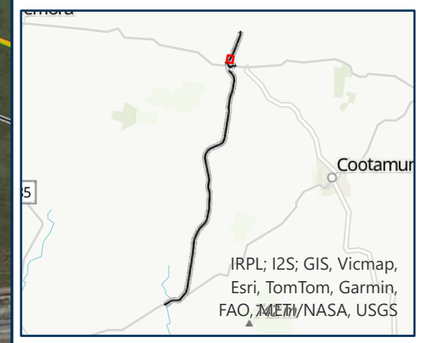
455450 455500 455550 455600 455650 455700 455750 455800 455850 455900 455950 456000 456050 456100 456150 456200 456250 456300 456350 456400 456450

38000 38100 38200 38400 38500 38600 38700 38800 38900

IRPL; I2S; GIS, Esri Community Maps Contributors, Vicmap, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, METI/NASA, USGS, Credits test.

## Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
- Rail Alignment
- AHIMS Sites Modified
- Ring Tree
- Historical Sites
- Indigenous Sites
- Indigenous Survey Zones
- Areas of Aboriginal Archaeological Potential
- Areas of Predicted Sensitivity
- PAD Highdensity
- PAD Low Density




Coordinate System: GDA2020 MGA Zone 55

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Date: 6/05/2025
Author: JH GIS (PH)
Approver: ###

Paper: A3
Scale: 1:3,000
Rev: A

Data Sources: IRPL, JH

INLAND RAIL

Heritage

# Illabo to Stockinbingal

MAP 2 OF 28

## Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
- Rail Alignment
- AHIMS Sites Modified
- Ring Tree
- Historical Sites
- Indigenous Sites
- Indigenous Survey Zones
- Areas of Aboriginal Archaeological Potential
- Areas of Predicted Sensitivity
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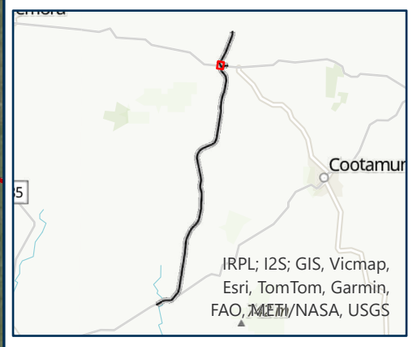
- PAD Low Density

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Paper: A3
Scale: 1:3,000
Rev: A

Data Sources: IRPL, JH

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INLAND RAIL

Heritage

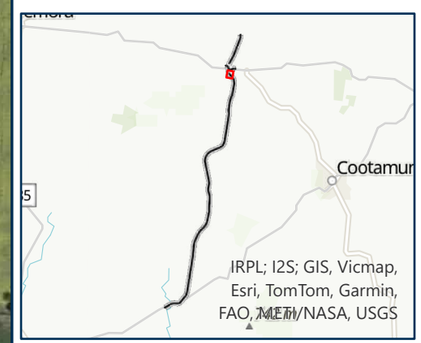
# Illabo to Stockinbingal

MAP 3 OF 28

ZONE 10

## Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
- Rail Alignment
- AHIMS Sites Modified
- Ring Tree
- Historical Sites
- Indigenous Sites
- Indigenous Survey Zones
- Areas of Aboriginal Archaeological Potential
- Areas of Predicted Sensitivity
- PAD Highdensity
- PAD Low Density




Coordinate System: GDA2020 MGA Zone 55

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Date: 6/05/2025
Author: JH GIS (PH)
Approver: ###

Paper: A3
Scale: 1:3,000
Rev: A

Data Sources: IRPL, JH

# INLAND RAIL

**Heritage**

## Illabo to Stockinbingal

MAP 4 OF 28

## Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
- Rail Alignment
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- Historical Sites
- Indigenous Sites
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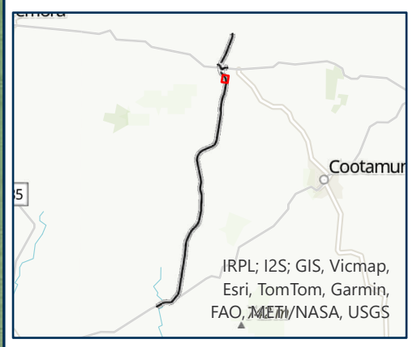
- PAD Low Density




Coordinate System: GDA2020 MGA Zone 55

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Date: 6/05/2025
Author: JH GIS (PH)
Approver: ###

Paper: A3
Scale: 1:3,000
Rev: A

Data Sources: IRPL, JH

INLAND RAIL

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# Illabo to Stockinbingal

MAP 5 OF 28

ZONE 9

Dudauman Road

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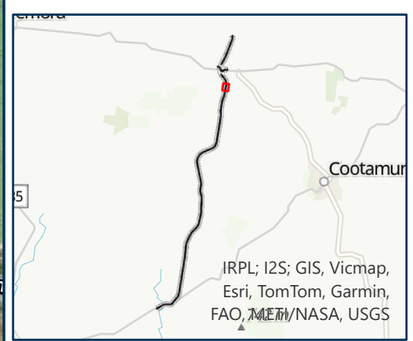
## Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
- Rail Alignment
- AHIMS Sites Modified
- Ring Tree
- Historical Sites
- Indigenous Sites
- Indigenous Survey Zones
- Areas of Aboriginal Archaeological Potential
- Areas of Predicted Sensitivity
- PAD Highdensity
- PAD Low Density

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Approver: ###

Paper: A3
Scale: 1:3,000
Rev: A

Data Sources: IRPL, JH

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# Illabo to Stockinbingal

MAP 6 OF 28

## Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
- Rail Alignment
- AHIMS Sites Modified
- Ring Tree
- Historical Sites
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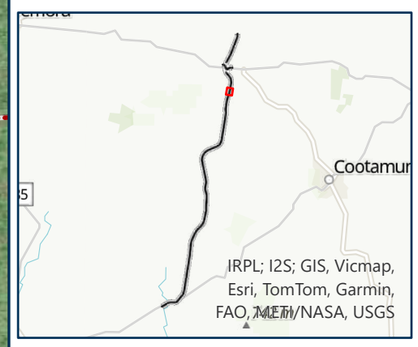


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Rev: A

Data Sources: IRPL, JH

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Aconex No.

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# Illabo to Stockinbingal

MAP 7 OF 28

## Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
- Rail Alignment
- AHIMS Sites Modified
- Ring Tree
- Historical Sites
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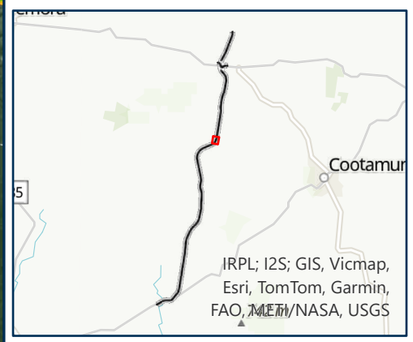


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Approver: ###

Paper: A3
Scale: 1:3,000
Rev: A

Data Sources: IRPL, JH

INLAND RAIL

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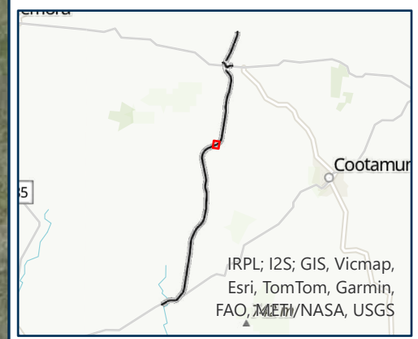
# Illabo to Stockinbingal

MAP 8 OF 28

ZONE 8

## Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
- Rail Alignment
- AHIMS Sites Modified
- Ring Tree
- Historical Sites
- Indigenous Sites
- Indigenous Survey Zones
- Areas of Aboriginal Archaeological Potential
- Areas of Predicted Sensitivity
- PAD Highdensity
- PAD Low Density

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Rev: A

Data Sources: IRPL, JH

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ZONE 7

ARTC 13

ARTC 12

44050 44100 44150 44200 44250 44300 44350 44400 44450 44500 44600 44650 44700 44750 44800 44850 44900 44950 45000 45050 45100 45150 45200

23600 23700 23800 23900 24100 24200 24300 24400 24500 24600

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## Illabo to Stockinbingal

MAP 9 OF 28

## Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
- Rail Alignment
- AHIMS Sites Modified
- Ring Tree
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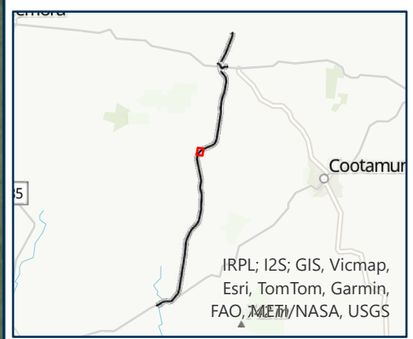


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Rev: A

Data Sources: IRPL, JH

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# Illabo to Stockinbingal

MAP 10 OF 28

ARTC 17

ARTC 16

ARTC 15

ZONE 7

## Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
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- Ring Tree
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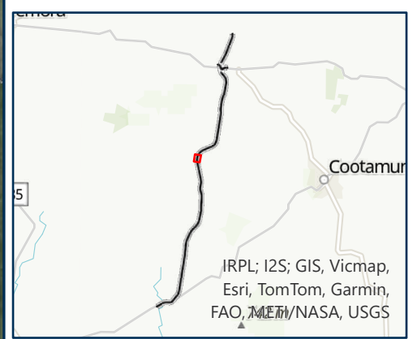


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Author: JH GIS (PH) Scale: 1:3,000
Approver: ### Rev: A

Data Sources: IRPL, JH

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Aconex No.

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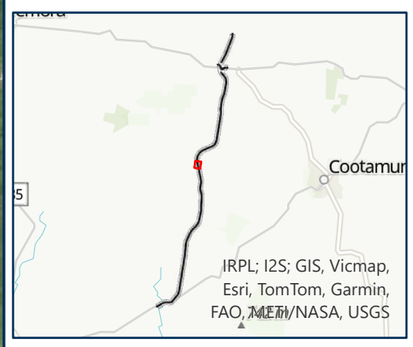
# Illabo to Stockinbingal

MAP 11 OF 28

ZONE 7

## Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
- Rail Alignment
- AHIMS Sites Modified
- Ring Tree
- Historical Sites
- Indigenous Sites
- Indigenous Survey Zones
- Areas of Aboriginal Archaeological Potential
- Areas of Predicted Sensitivity
- PAD Highdensity
- PAD Low Density

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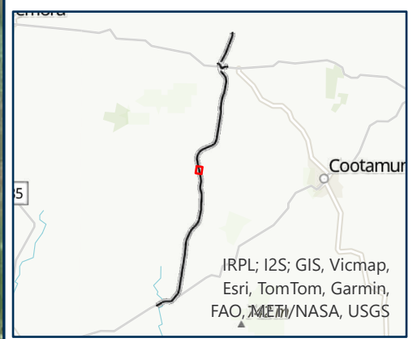
# Illabo to Stockinbingal

MAP 12 OF 28

## Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
- Rail Alignment
- AHIMS Sites Modified
- Ring Tree
- Historical Sites
- Indigenous Sites
- Indigenous Survey Zones
- Areas of Aboriginal Archaeological Potential
- Areas of Predicted Sensitivity
- PAD Highdensity
- PAD Low Density

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ZONE 6

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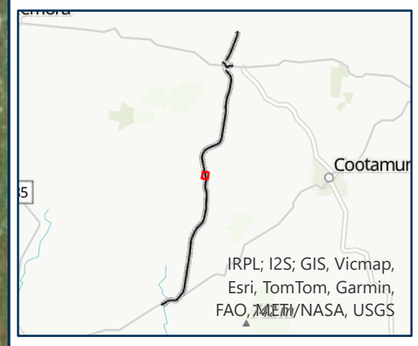
# Illabo to Stockinbingal

MAP 13 OF 28

ZONE 6

## Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
- Rail Alignment
- AHIMS Sites Modified
- Ring Tree
- Historical Sites
- Indigenous Sites
- Indigenous Survey Zones
- Areas of Aboriginal Archaeological Potential
- Areas of Predicted Sensitivity
- PAD Highdensity
- PAD Low Density

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Approver: ###

Paper: A3
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Rev: A

Data Sources: IRPL, JH

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# Illabo to Stockinbingal

MAP 14 OF 28

ZONE 6

## Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
- Rail Alignment
- AHIMS Sites Modified
- Ring Tree
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- Indigenous Sites
- Indigenous Survey Zones
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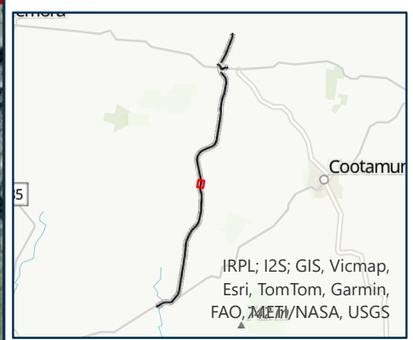


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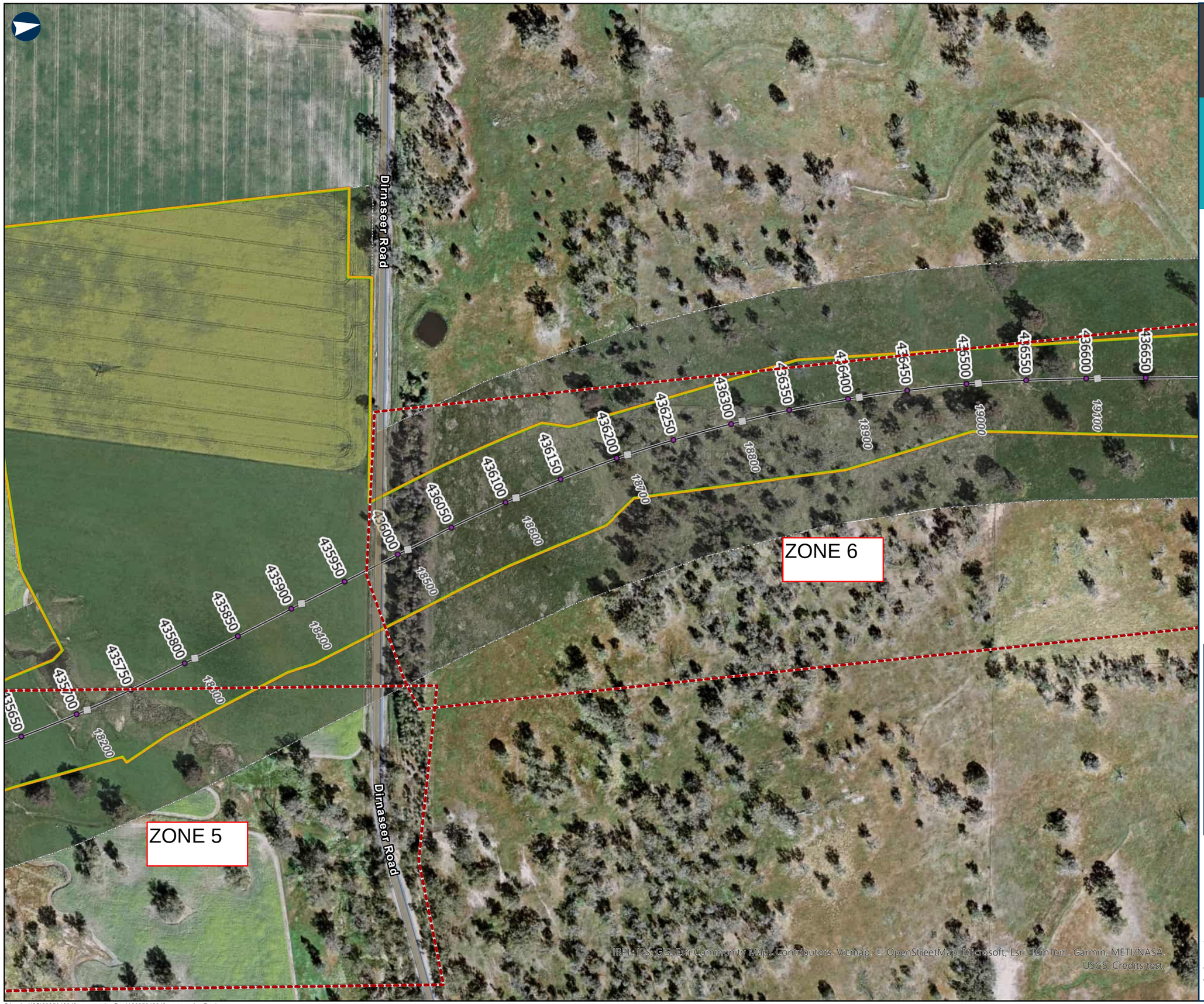
# Illabo to Stockinbingal

MAP 15 OF 28




## Legend

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- CIZ - Project WIP - Utility
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- CIZ - Project WIP - Outer Extents
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- AHIMS Sites Modified
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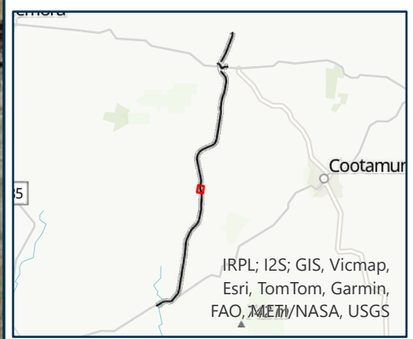


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Approver: ###

Paper: A3
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Rev: A

Data Sources: IRPL, JH

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# Illabo to Stockinbingal

MAP 16 OF 28

ZONE 5

## Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
- Rail Alignment
- AHIMS Sites Modified
- Ring Tree
- Historical Sites
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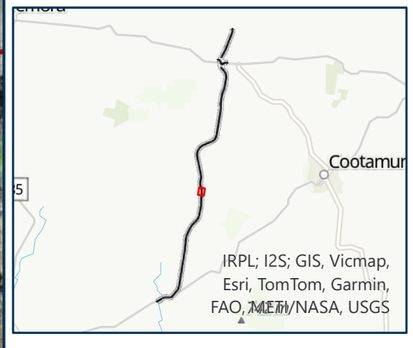


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ZONE 5

433900 433950 434000 434050 434100 434150 434200 434250 434300 434350 434400 434450 434500 434550 434600 434650 434700 434750 434800 434850

16400 16500 16600 16700 16800 16900 17000 17100 17200 17300

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## Illabo to Stockinbingal

MAP 17 OF 28

## Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
- Rail Alignment
- AHIMS Sites Modified
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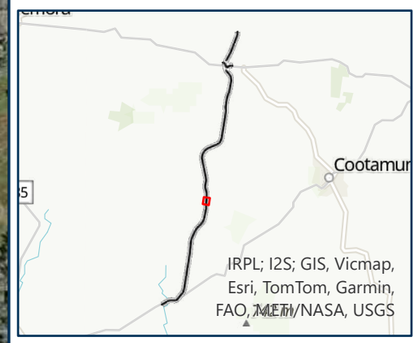


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Approver: ###

Paper: A3
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Rev: A

Data Sources: IRPL, JH

INLAND RAIL

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# Illabo to Stockinbingal

MAP 18 OF 28

ZONE 5

## Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
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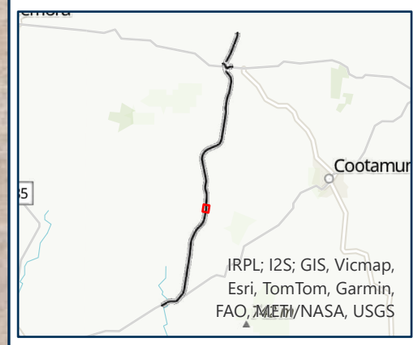


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# Illabo to Stockinbingal

MAP 19 OF 28

ZONE 5

## Legend

- Indigenous Survey Zones
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- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
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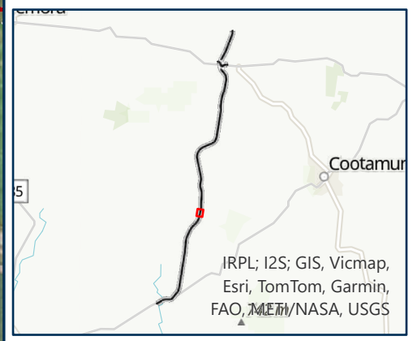
- PAD Highdensity
- PAD Low Density

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Author: JH GIS (PH)
Approver: ###

Paper: A3
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Rev: A

Data Sources: IRPL, JH

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INLAND RAIL

Heritage

# Illabo to Stockinbingal

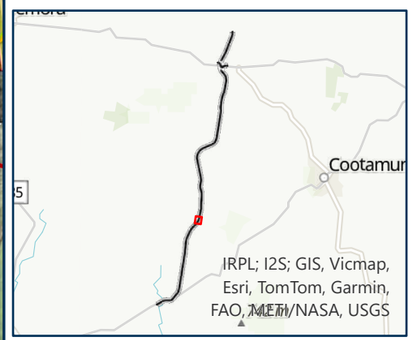
MAP 20 OF 28

ZONE 5

ZONE 4

## Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
- Rail Alignment
- AHIMS Sites Modified
- Ring Tree
- Historical Sites
- Indigenous Sites
- Indigenous Survey Zones
- Areas of Aboriginal Archaeological Potential
- Areas of Predicted Sensitivity
- PAD Highdensity
- PAD Low Density

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INLAND RAIL

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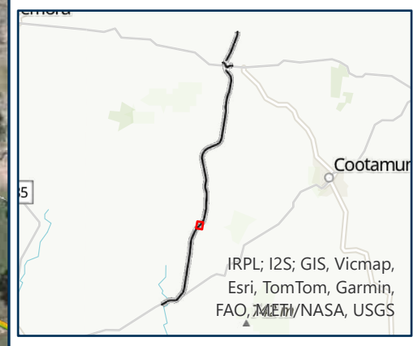
# Illabo to Stockinbingal

MAP 21 OF 28

ZONE 4

## Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
- Rail Alignment
- AHIMS Sites Modified
- Ring Tree
- Historical Sites
- Indigenous Sites
- Indigenous Survey Zones
- Areas of Aboriginal Archaeological Potential
- Areas of Predicted Sensitivity
- PAD Highdensity
- PAD Low Density

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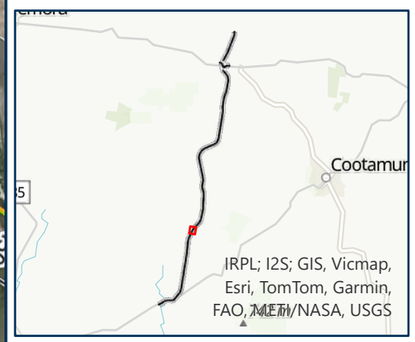
# Illabo to Stockinbingal

MAP 22 OF 28

## Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
- Rail Alignment
- AHIMS Sites Modified
- Ring Tree
- Historical Sites
- Indigenous Sites
- Indigenous Survey Zones
- Areas of Aboriginal Archaeological Potential
- Areas of Predicted Sensitivity
- PAD Highdensity
- PAD Low Density

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Approver: ###

Paper: A3
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Data Sources: IRPL, JH

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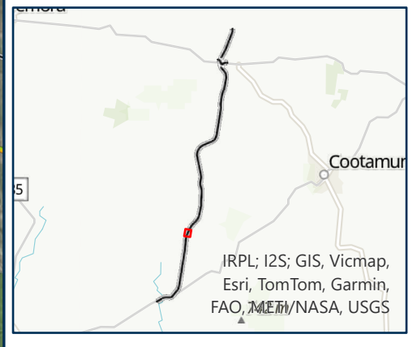
## Illabo to Stockinbingal

MAP 23 OF 28

## Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
- Rail Alignment
- AHIMS Sites Modified
- Ring Tree
- Historical Sites
- Indigenous Sites
- Indigenous Survey Zones
- Areas of Aboriginal Archaeological Potential
- Areas of Predicted Sensitivity
- PAD Highdensity
- PAD Low Density

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Rev: A

Data Sources: IRPL, JH

INLAND RAIL

Heritage

# Illabo to Stockinbingal

MAP 24 OF 28

ZONE 2

Ironbong Road

Ironbong Road

425850 425900 425950 426000 426050 426100 426150 426200 426250 426300 426350 426400 426450 426500 426550 426600 426650 426700 426750 426800

8400 8500 8600 8700 8800 8900 9000 9100 9200 9300

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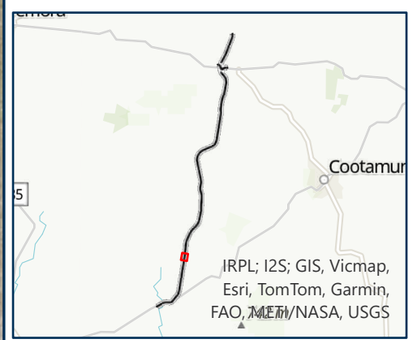
- PAD Low Density

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# Illabo to Stockinbingal

MAP 25 OF 28

ARTC 6

ZONE 2

Salvage area (Zone 2).

Ironbong Road

Ironbong Road

424950 425000 425050 425100 425150 425200 425250 425300 425350 425400 425450 425500 425550 425600 425650 425700 425750 425800 425850 425900

7500 7600 7700 7800 7900 8000 8100 8200 8300 8400

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## Legend

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- CIZ - Project WIP - Utility
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- Chainage
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- Ring Tree
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Data Sources: IRPL, JH

INLAND RAIL

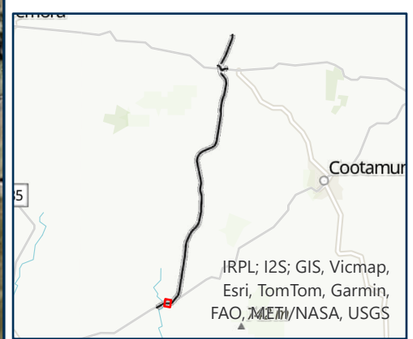
**Heritage**

## Illabo to Stockinbingal

MAP 26 OF 28

### Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
- Rail Alignment
- AHIMS Sites Modified
- Ring Tree
- Historical Sites
- Indigenous Sites
- Indigenous Survey Zones
- Areas of Aboriginal Archaeological Potential
- Areas of Predicted Sensitivity
- PAD Highdensity
- PAD Low Density

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INLAND RAIL

Heritage

# Illabo to Stockinbingal

MAP 27 OF 28

Note: Comprising two deposits (one at the marker and one 30m directly south.

Salvage area (high density pad)

ZONE 1

ARTC 1

ARTC 2

ARTC 3

ARTC 5

Olympic Highway

Billabong Creek

Billabong Creek

A41

## Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
- Rail Alignment
- AHIMS Sites Modified
- Ring Tree
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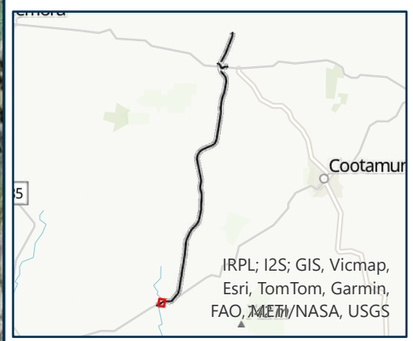
- Indigenous Sites
- Indigenous Survey Zones
- Areas of Aboriginal Archaeological Potential
- Areas of Predicted Sensitivity
- PAD Highdensity
- PAD Low Density

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INLAND RAIL

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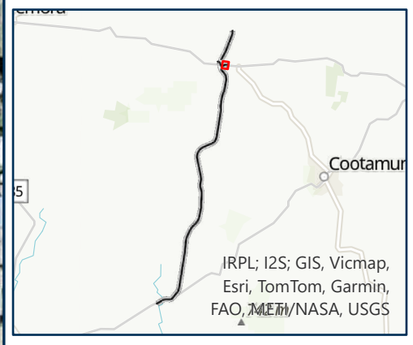
# Illabo to Stockinbingal

MAP 28 OF 28

## Legend

- Indigenous Survey Zones
- CIZ - Project WIP - Utility
- CIZ - Project WIP - Construction
- CIZ - Project WIP - Outer Extents
- Chainage
- Rail Alignment
- AHIMS Sites Modified
- Ring Tree
- Historical Sites
- Indigenous Sites
- Indigenous Survey Zones
- Areas of Aboriginal Archaeological Potential
- Areas of Predicted Sensitivity
- PAD Highdensity
- PAD Low Density

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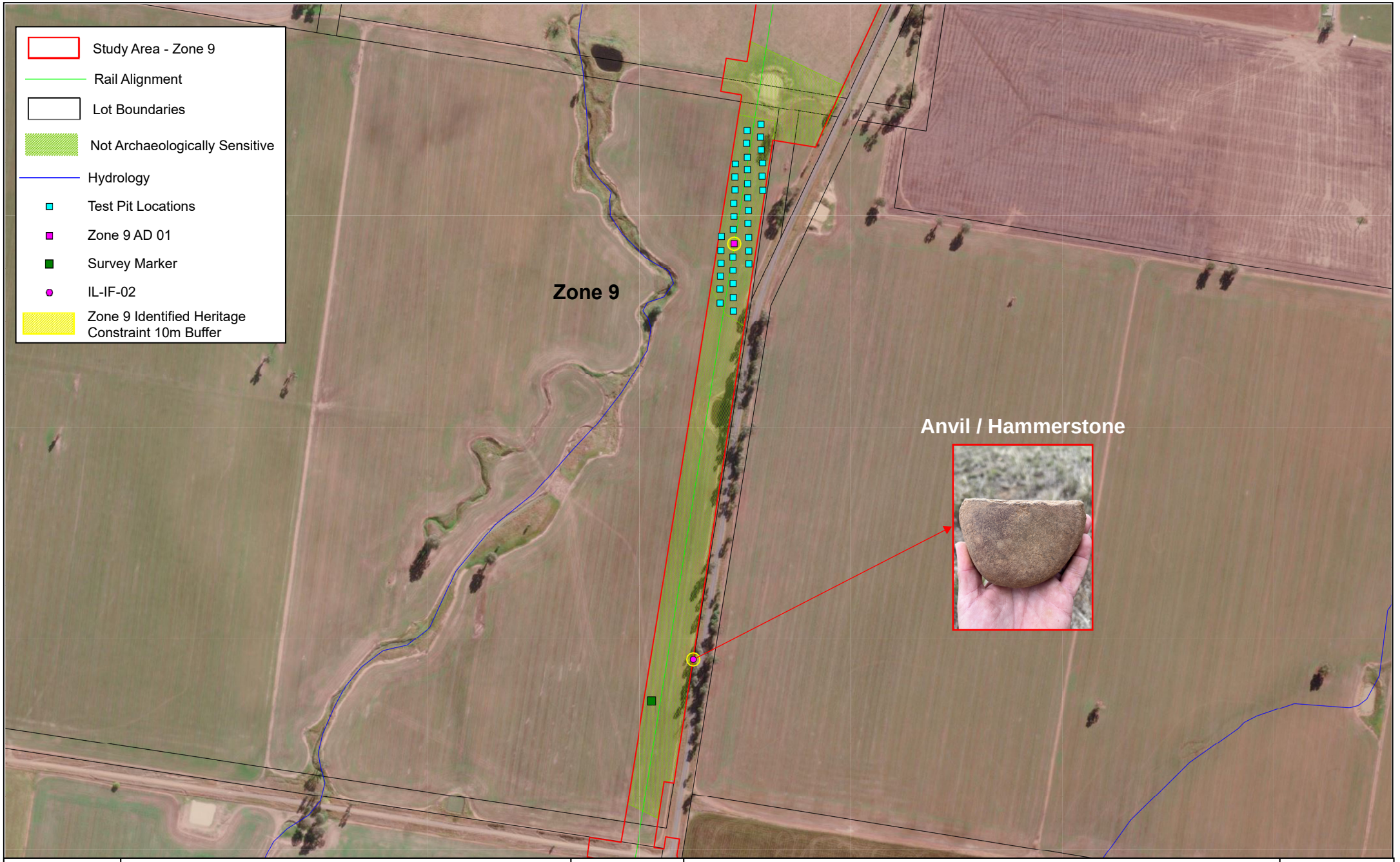



PO Box 236
NOWRA
NEW SOUTH WALES 2541

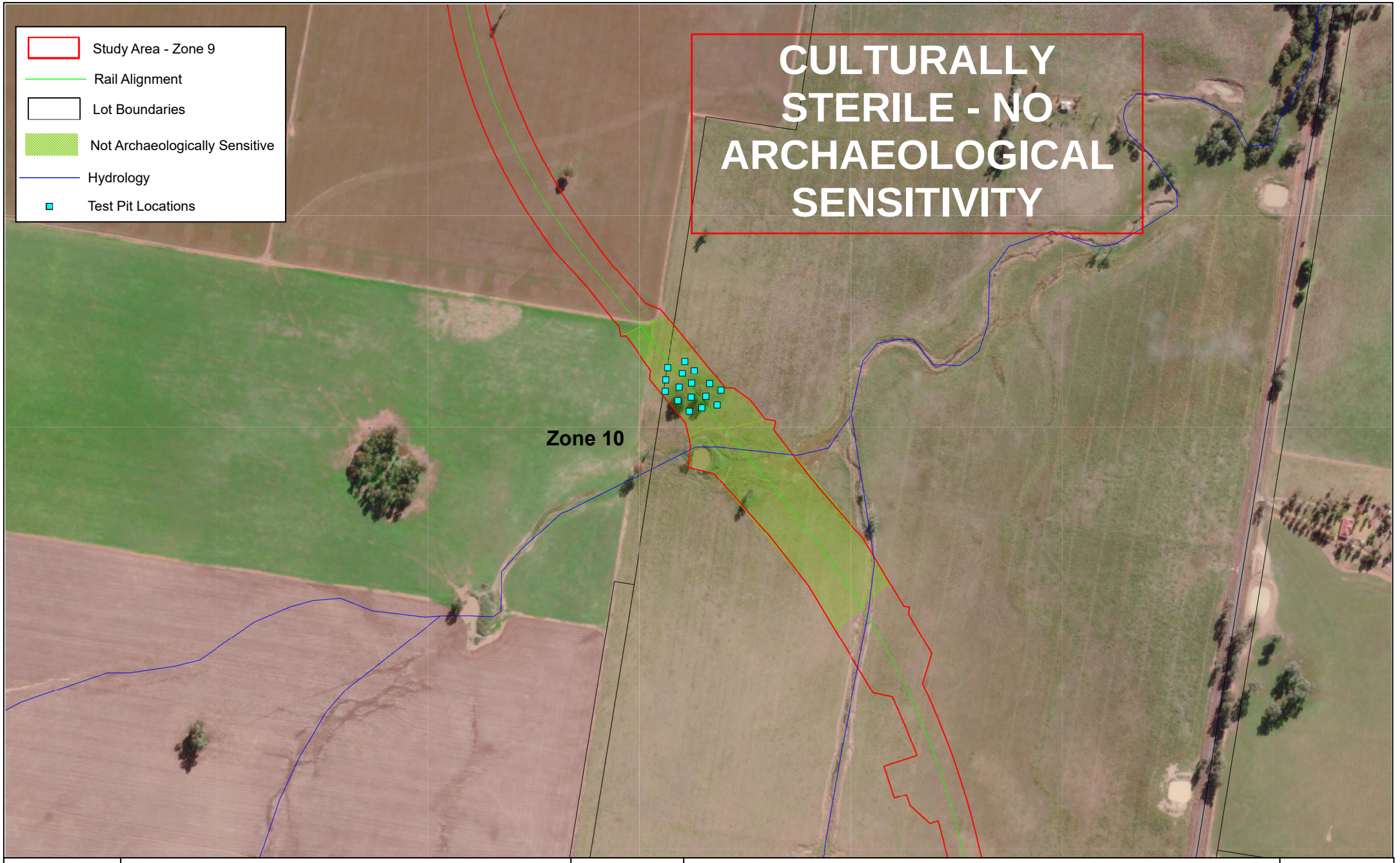
0 310 620

metres

Projection:
MGA Zone 55 (GDA 94)
Base Map:
Bing Aerial
Image Date: 2025
Final - Version 1

Figure 1: Zone 9 archaeological status.

N
W E
S




PO Box 236
NOWRA
NEW SOUTH WALES 2541

0 310 620
metres

Projection:
MGA Zone 55 (GDA 94)
Base Map:
Bing Aerial
Image Date: 2025
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Figure 2: Zone 10 archaeological status.

N
W E
S

PO Box 236
NOWRA
NEW SOUTH WALES 2541

0 175 350

metres

Projection:
MGA Zone 55 (GDA 94)
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Figure 1: Zone 5 PAD 1 South Test Pit Locations and Identified Artefact Deposits

N
W E
S

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0 175 350
metres

Projection:
MGA Zone 55 (GDA 94)
Base Map:
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Figure 2: Zone 5 PAD 1 North Test Pit Locations, Identified Artefact Deposit and Isolated Find

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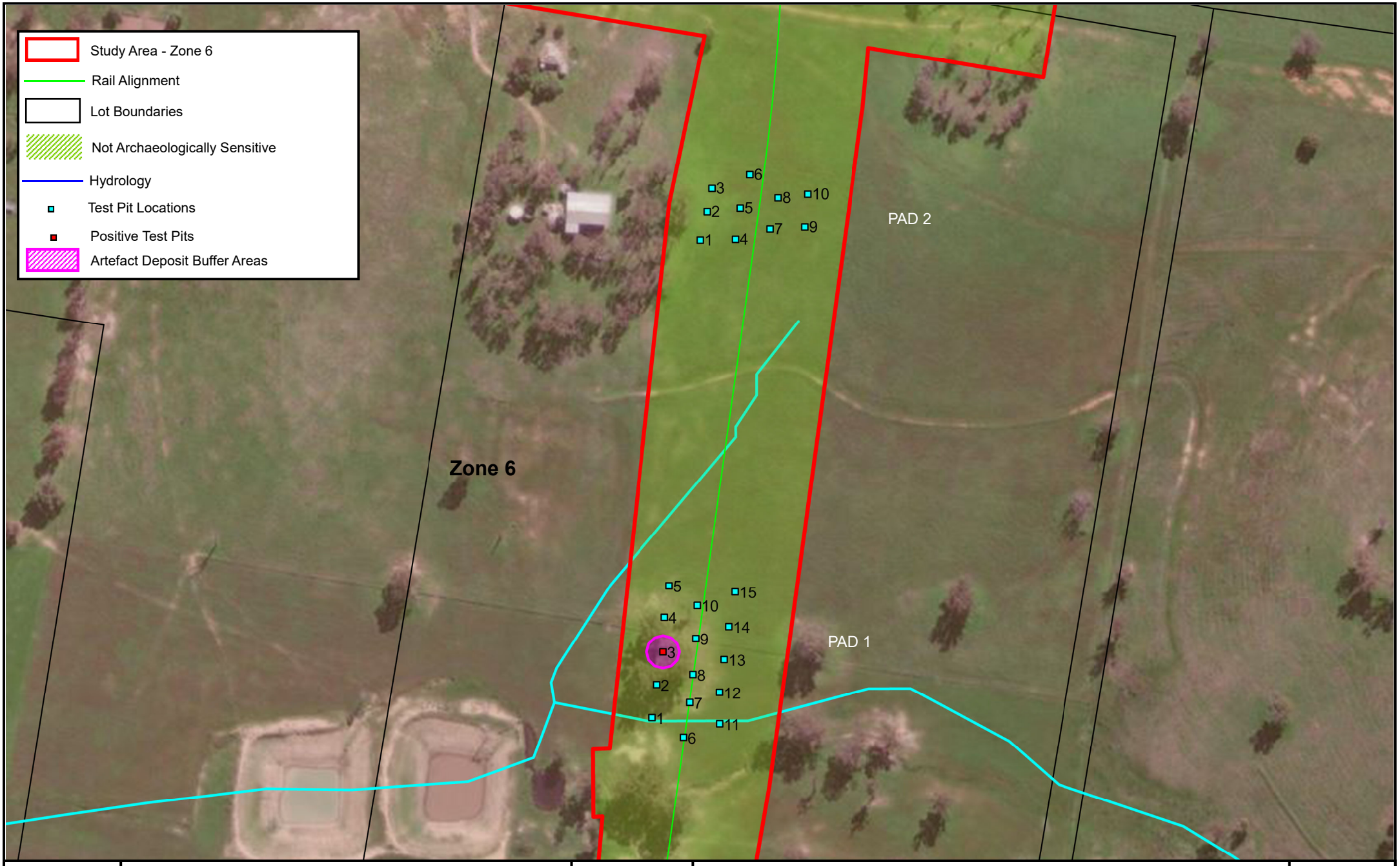


PO Box 236
NOWRA
NEW SOUTH WALES 2541

0 125 250
metres

Projection:
MGA Zone 55 (GDA 94)
Base Map:
Bing Aerial
Image Date: 2025
Final - Version 1

Figure 3: Zone 6 PAD 1 & 2 Test Pit Locations and Identified Artefact Deposit.

N
W E
S

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NEW SOUTH WALES 2541

0 95 190
metres

Projection:
MGA Zone 55 (GDA 94)
Base Map:
Bing Aerial
Image Date: 2025
Final - Version 1

Figure 4: Zone 6 PAD 3 & 4 Test Pit Locations, Identified Artefact Deposit and Isolated Find.

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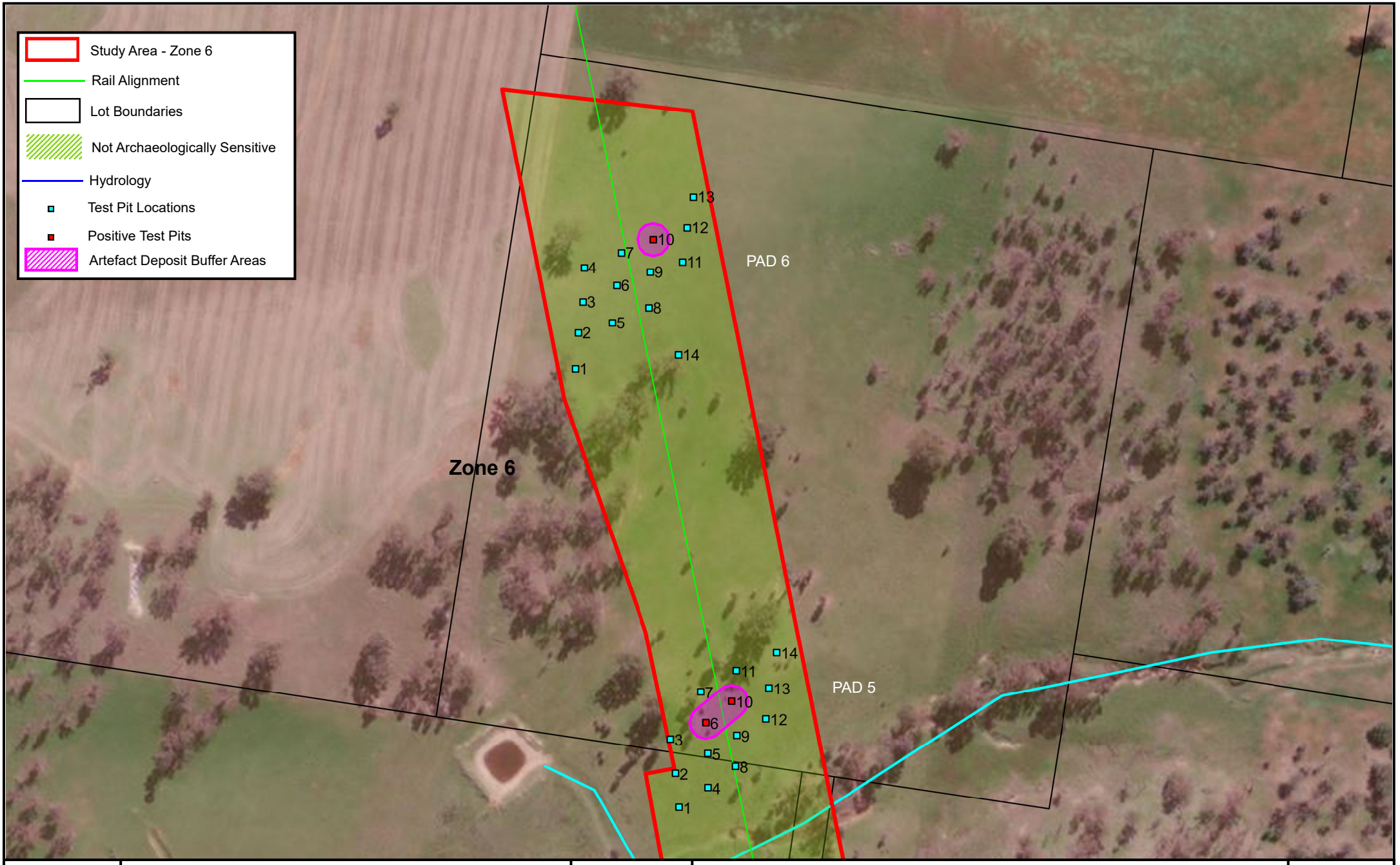



PO Box 236
NOWRA
NEW SOUTH WALES 2541

0 125 250
metres

Projection:
MGA Zone 55 (GDA 94)
Base Map:
Bing Aerial
Image Date: 2025
Final - Version 1

Figure 5: Zone 6 PAD 5 & 6 Test Pit Locations and Identified Artefact Deposit and Isolated Find.

N
W E
S

# Appendix D – Copy of the approved Aboriginal Survey and Test Excavation Methodology

JOHN HOLLAND

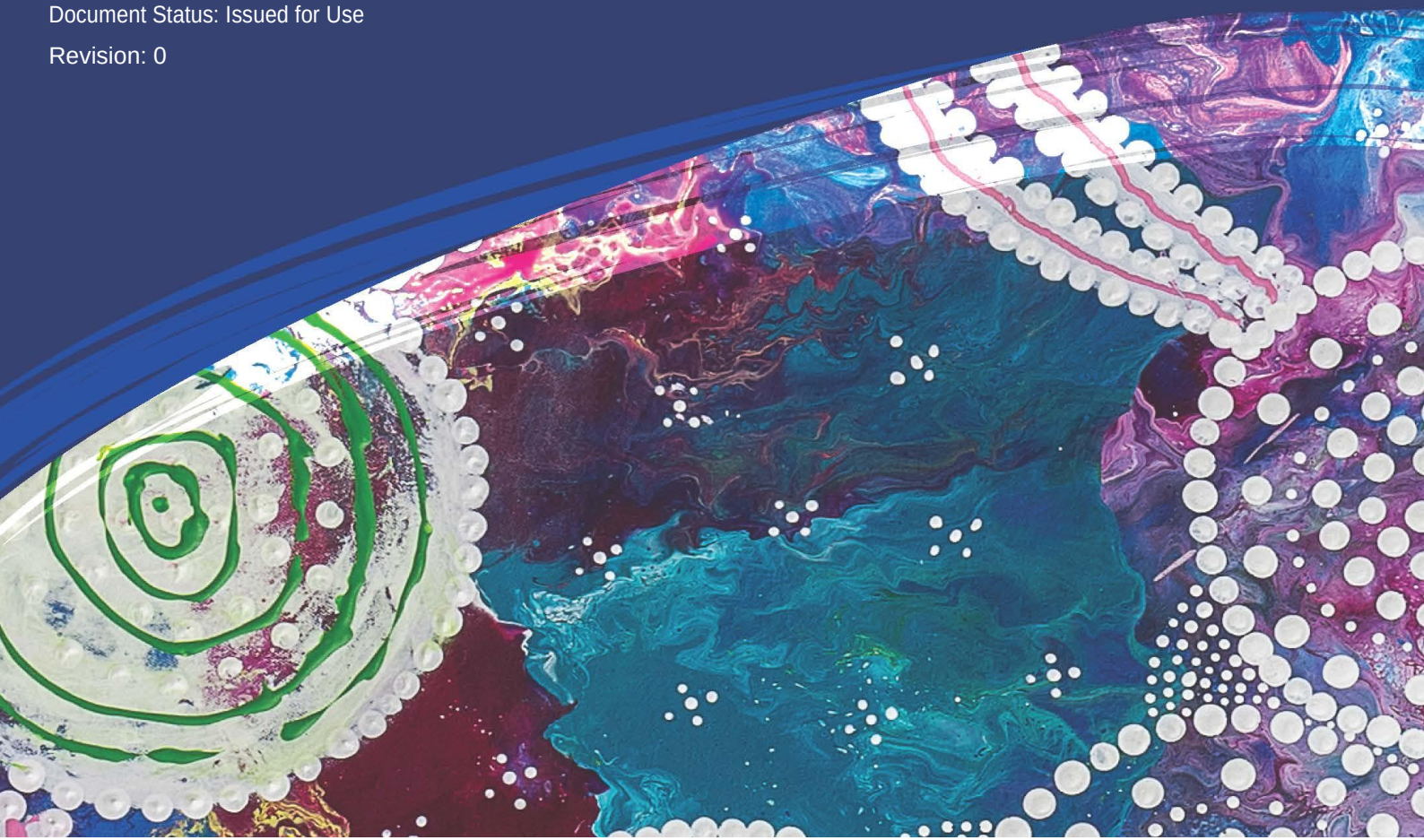
# INLAND RAIL
# ILLABO TO STOCKINBINGAL PROJECT

## Additional Survey and Test Excavation Methodology

Document Number: 5-0019-220-PES-00-MS-0001

Document Status: Issued for Use

Revision: 0



# Document Control

| | |
|---|---|
| **Document Title** | Additional Survey and Test Excavation Methodology |
| **IRPL Document No.** | 5-0019-220-PES-00-MS-0001 |
| **Prepared By** | Jenni Bate (Apex Archaeology) |
| **Document Owner** | Andy Robertson |
| **REVIEWED BY** | |
| **Name** | Andy Robertson |
| **Title** | Environment and Sustainability Manager |
| **Signature**<br>**Date** | |

**Revision History**

| REVISION | DATE ISSUED | DESCRIPTION |
|---|---|---|
| A | 16/01/2025 | Issued for Review |
| B | 26/02/2025 | Issued for Review |
| 0 | 29/04/2025 | Issued for Use |
| | | |

ILLABO TO STOCKINBINGAL RAIL CORRIDOR PROJECT

# Additional Survey and Test Excavation Methodology

LGAs: Cootamundra-Gundagai and Junee

April 2025

PO Box 236, Nowra, NSW 2541 | heritage@apexarchaeology.com.au | www.apexarchaeology.com.au

ABN 56 625 618 993

Revision No: 0
Issue Date: 29/04/2025
Document Number: 5-0019-220-PES-00-MS-0001

*When printed this document is an uncontrolled version and must be checked against the Aconex electronic version for validity*

Apex Archaeology would like to acknowledge the Aboriginal people who are the traditional custodians of the land in which this project is located. Apex Archaeology would also like to pay respect to Elders both past and present.

## Document Control

The following register documents the development and issue of the document entitled 'Inland Rail, Illabo to Stockinbingal: Draft Additional Survey and Test Excavation Methodology', prepared by Apex Archaeology in accordance with its quality management system.

| Revision | Prepared | Reviewed | Comment | Issue Date |
|---|---|---|---|---|
| 1 – Draft | Jenni Bate | Leigh Bate and Fiona Leslie, Mountains Heritage | Issue for client review | 20 Dec 2024 |
| 2 – Draft | Jenni Bate | IRPL | Issue for client review | 25 Feb 2025 |
| 3 – Draft | Jenni Bate | IRPL | Issue for RAP review | 21 Mar 2025 |
| 4 – Final | Jenni Bate | RAPs | Issue of final | 28 April 2025 |

# GLOSSARY OF TERMS

| | |
|---|---|
| **Aboriginal Object** | An object relating to the Aboriginal habitation of NSW (as defined in the NPW Act), which may comprise a deposit, object or material evidence, including Aboriginal human remains. |
| **ACHA** | Aboriginal Cultural Heritage Assessment |
| **ACHAR** | Aboriginal Cultural Heritage Assessment Report |
| **ACHCRs** | The DECCW April 2010 *Aboriginal cultural heritage consultation requirements for proponents 2010* |
| **ACVP** | Aboriginal Cultural Values Plan |
| **AHIMS** | Aboriginal Heritage Information Management System maintained by Heritage NSW, detailing known and registered Aboriginal archaeological sites and Aboriginal Places within NSW |
| **BP** | Before Present, defined as before 1 January 1950. |
| **Code of Practice** | The DECCW September 2010 *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* |
| **Consultation** | Aboriginal community consultation in accordance with the DECCW April 2010 *Aboriginal cultural heritage consultation requirements for proponents 2010.* |
| **CoA** | Conditions of Approval |
| **CSSI** | Critical State Significant Infrastructure |
| **DCCEEW** | Department of Climate Change, Energy, the Environment, and Water |
| **EIS** | Environmental Impact Statement |
| **GSV** | Ground Surface Visibility |
| **Heritage NSW** | Heritage NSW in the Department of Climate Change, Energy, the Environment, and Water, responsible for heritage matters within NSW |
| **Harm** | To destroy, deface or damage an Aboriginal object; to move an object from land on which it is situated, or to cause or permit an object to be harmed |
| **I2S** | Illabo to Stockinbingal Project area |
| **LALC** | Local Aboriginal Land Council |
| **LGA** | Local Government Area |
| **NPW Act** | NSW *National Parks and Wildlife Act* 1974 |
| **OEH** | Office of Environment and Heritage – now Heritage NSW |
| **PAD** | Potential Archaeological Deposit |
| **RAP** | Registered Aboriginal Party |
| **RAPs** | Registered Aboriginal Parties |

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# 1.0 Introduction

Inland Rail Pty Ltd (IRPL - the Proponent) has engaged John Holland Group to undertake construction works for the Illabo to Stockinbingal (I2S) section of the Inland Rail Project (the project). Mountains Heritage and Apex Archaeology have joined together to assist John Holland Group in the additional archaeological work required for the project prior to construction commencing. This work builds on the work undertaken previously by GML Heritage Pty Ltd (GML) and is required to meet the conditions of consent for the project.

The I2S Rail Corridor is located between Illabo in the south and Stockinbingal in the north, and falls within two Local Government Areas (LGAs), being Junee LGA in the south and Cootamundra-Gundagai LGA in the north. It is located within the Wagga Wagga Local Aboriginal Land Council (LALC) boundaries to the south, and Young LALC to the north. The study area varies in width for operational reasons such as construction compounds and stockpiles.

Key features of the proposal include:

- Connection to other rail lines, including Stockinbingal to Parkes line, Lake Cargelligo line and Main Southern Railway;
- One crossing loop and maintenance siding;
- Level crossing and stock crossings;
- Bridges over river and other watercourses, floodplains and roads;
- Upgrade of around 3.5km of existing track for the tie-in works to the existing Main South Line at Illabo;
- New Track to maintain Lake Cargelligo line connection either side of the proposal;
- Realignment and road-over bridge for a section of the Burley Griffin Way at Stockinbingal;
- Realignment of Ironbong Road to allow for safe sight lines at the new active level crossing;
- Ancillary infrastructure to support the proposal, inclusive of signalling and communications, drainage, drainage control areas, signage and fencing and services and utilities; and
- Construction infrastructure, including ancillary facilities, and a temporary workforce accommodation facility.

## 1.1 Project Background

GML prepared an Aboriginal Cultural Heritage Assessment Report (ACHAR) to inform the Environmental Impact Statement (EIS) for the project in August 2022. As part of their assessment, they undertook consultation with the Aboriginal community, as well as surveying accessible portions of the study area, and completing test excavations

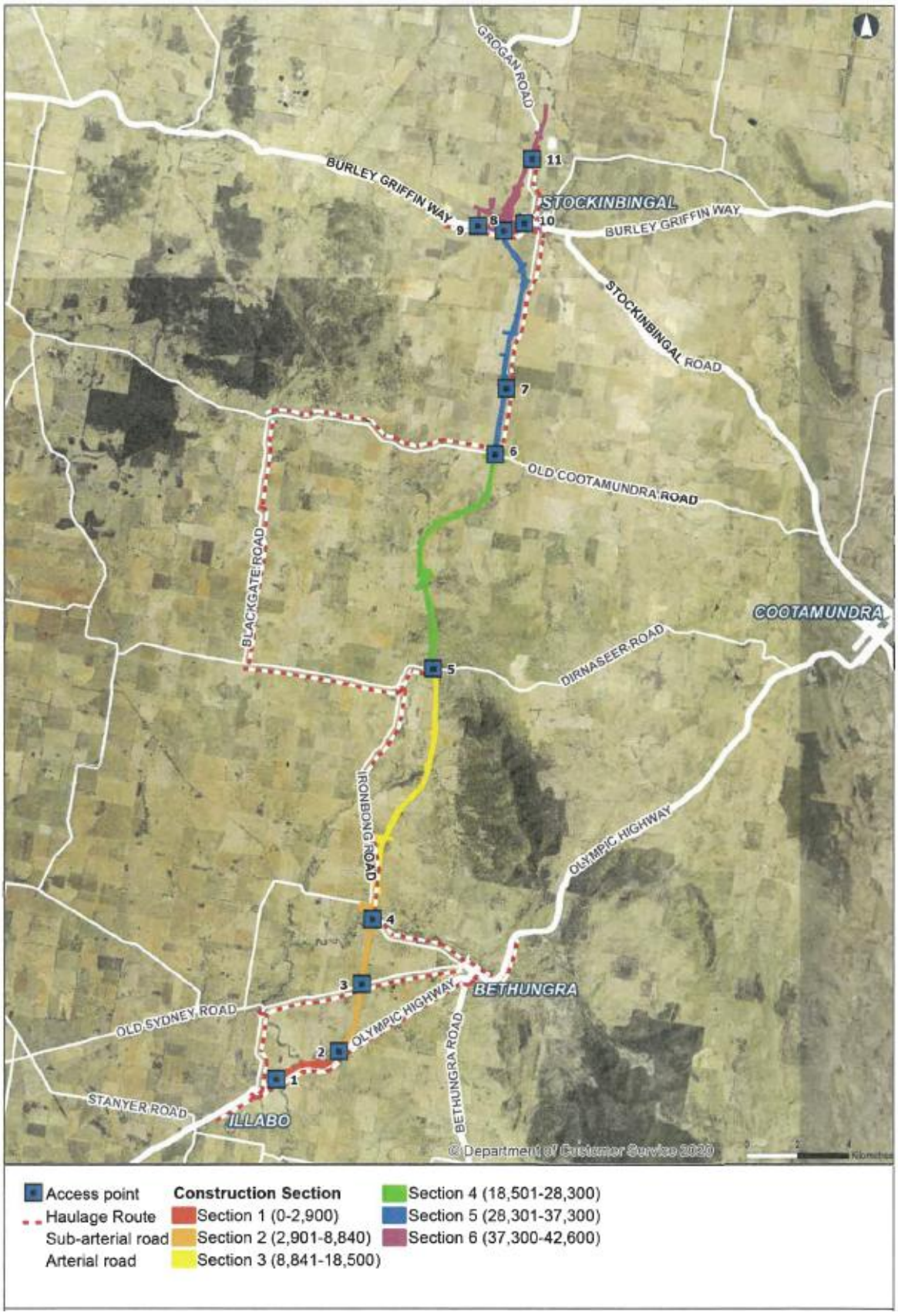


Figure 1: Study Area (Source: I2S EIS)

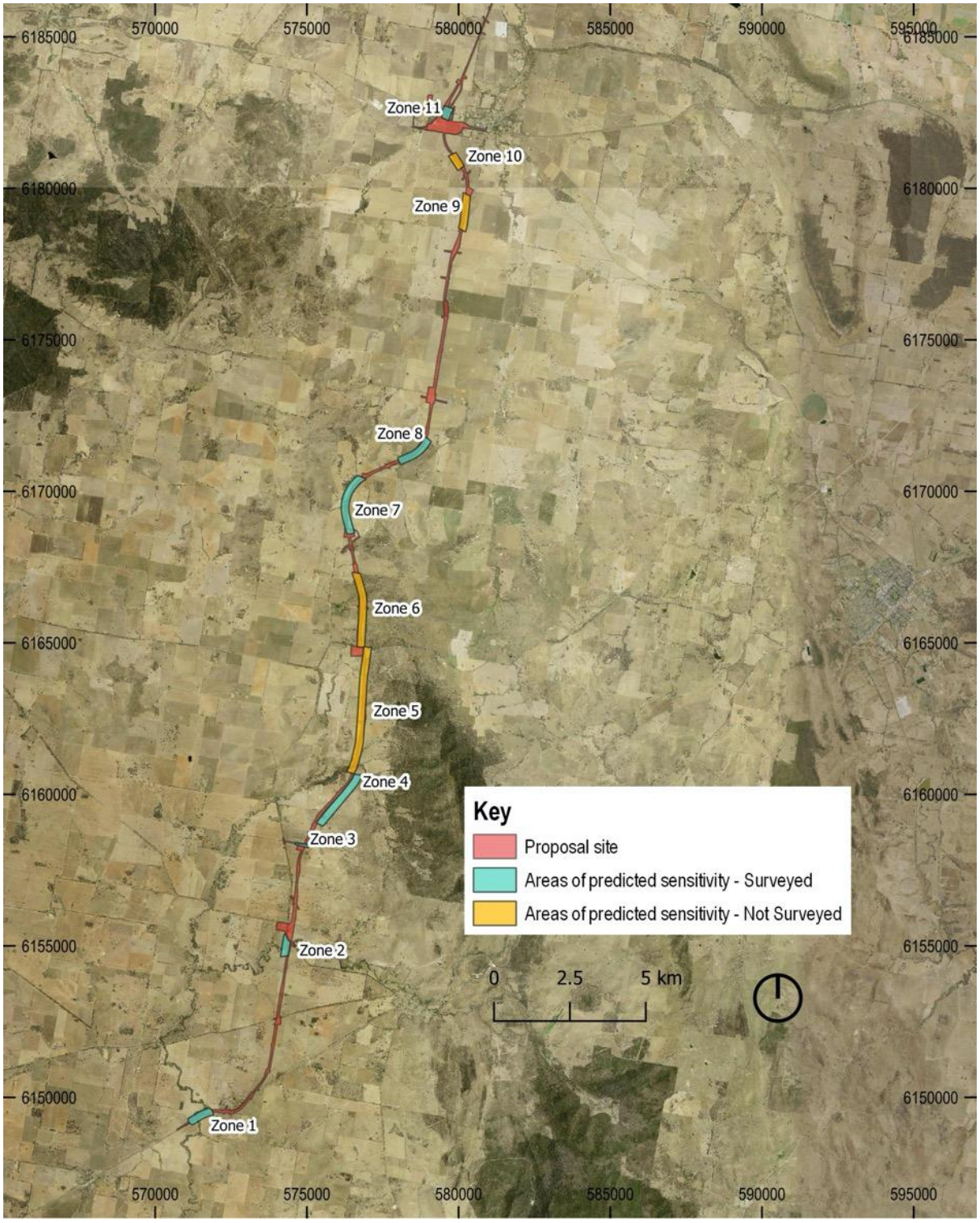


**Figure 2: Survey Zones established by GML in 2022 (Source: Figure 5.1 of GML, 2022: 57). Note Zone 11 East is not shown on this figure and is located just west of Zone 11.**

within areas that were considered likely to have subsurface potential archaeological deposits (PAD).

The study area has been separated into zones for assessment purposes, and GML undertook test excavations within Zones 1, 2, 4, 7 South, 7 North, 8, 11 and 11 East. Some parts of these zones and test excavation areas are located outside the formal EIS boundaries defined for the project as the ACHA considered a wider corridor that was later reduced to form the EIS curtilage.

Areas of sensitivity were predicted to be located within Zones 5 and 6 but were not tested due to lack of access.

A total of 231 test excavation units were excavated by GML within those zones, with 133 stone artefacts recovered from subsurface deposits during the test excavations. Zones 7 and 8 did not contain artefacts within the test excavation units excavated.

GML then finalised their ACHAR which detailed the assessment they had completed for the project. Subsequent to the submission of the ACHAR as a part of the EIS for the project, Heritage NSW reviewed the ACHAR and issued a letter of advice on 22 October 2022 with a number of concerns regarding the test excavation and surface collection that were undertaken.

During preparation of the ACHAR, the zones of sensitivity/PAD initially identified within Zones 5 and 6 were refined following completion of the GML test excavations in other zones, based on the results obtained within the other zones which allowed refinement of the predictive modelling within the entire area. Additionally, GML did not consider that Zones 9 and 10 were likely to contain areas of potential and this also contributed to this area not being subject to archaeological survey during preparation of the ACHAR as part of the EIS process.

Subsequent to completion and approval of the EIS, the NSW Department of Planning, Housing and Infrastructure issued Conditions of Approval (CoA) for the project on 6 September 2024. CoA E135 requires these zones to be archaeologically surveyed and test excavation undertaken as necessary within the zones to determine the nature and extent of any archaeological sites present within the areas.

Additional Survey and Test Excavation within Zones 5, 6, 9 and 10, which were not completed by GML due to access restrictions along with predictive modelling, will now need to be undertaken in order to completely assess the potential impact of the proposed works on the Aboriginal heritage values of the study area.

The following document provides information about the project, and outlines the detailed methodology for field survey and test excavation that Apex Archaeology are proposing to undertake with the support of Mountains Heritage, along with the proposed heritage management activities. Apex Archaeology and Mountains Heritage will also be preparing a Heritage Management Sub-Plan to provide

guidance prior to, during, and after construction of the new rail line, in order to meet CoA C12.

## 1.2 Conditions of Approval

As part of the project approval, a number of CoA relating to Aboriginal heritage were included, with these required to be met prior to construction works commencing within specific zones. The CoAs relevant to Aboriginal cultural heritage are outlined below.

| CoA # | CoA Requirement |
|---|---|
| E133 | An Aboriginal Cultural Values Plan must be prepared to inform how Aboriginal Cultural Values will be integrated into the broader design of the SSI including design elements (form and fabric), landscaping (the collection, propagation and replanting of traditional plant resources), language; and cultural design principles. The Plan must identify how interpretive themes and cultural values will be implemented and provide a timeframe for their provision during construction.<br>The Plan must recognise the spiritual, intangible, linguistic and cultural values of the sites to Aboriginal people and address the full story of the place (s) (i.e. landscape through the eyes of Aboriginal people); Aboriginal design and story elements, patterns and motifs or other appropriate visual interpretations.<br>The Plan will be developed in conjunction with the Aboriginal Community and Stakeholder Engagement Strategy. The Strategy will detail the consultation process with Aboriginal stakeholders and identify the Aboriginal Cultural Values to be incorporated into the design of the CSSI.<br>The Aboriginal Cultural Values Plan shall be submitted for the approval of the Planning Secretary one (1) month prior to commencing construction. The Aboriginal Cultural Values Plan must be implemented. |
| E134 | Aboriginal cultural heritage artefacts and culturally modified trees that are to be retained within the rail corridor are to be protected during routine maintenance and repair activities during operation in accordance with ARTC's standard operational environmental management procedures. |
| E135 | Prior to the commencement of any ground disturbance work within areas identified as requiring archaeological investigation or salvage identified in documents listed in Condition A1, the Proponent must prepare and implement an Additional Aboriginal Archaeological Survey Methodology and an Aboriginal Archaeological Test Excavation Methodology. The methodology must include procedures for additional archaeological survey of Zones 5, 6, 9, and 10, and management protocols including consultation with the Registered Aboriginal Parties, for any Aboriginal objects and sites identified during the survey. |
| E136 | Following analysis of the test excavation results, the Proponent must prepare and implement an Aboriginal Archaeological Salvage Excavation Methodology. |
| E137 | Following additional survey, test and salvage excavation, if sites are identified that exceed the expected level of significance identified in the Aboriginal Cultural Heritage Assessment Report, further consultation with Heritage NSW and the RAPs must be undertaken and consideration given, where feasible, for avoidance by the project. |
| E138 | The Additional Aboriginal Archaeological Survey Methodology, Aboriginal Archaeological Test Excavation Methodology and Aboriginal Archaeological Salvage Methodology must be prepared by a suitably qualified expert in consultation with Heritage NSW and RAPs, and provided to the Planning Secretary for information at least one month prior to test or salvage excavation. |

| | |
|---|---|
| E139 | At the completion of Aboriginal cultural heritage survey and test and salvage excavations, an Aboriginal Cultural Heritage Excavation Report(s) must be prepared by a suitably qualified expert. The Aboriginal Cultural Heritage Excavation Report(s) must:<br>a) Be prepared in accordance with the Guide to Investigating, assessing and reporting on Aboriginal cultural heritage in NSW, OEH 2011 and the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, DECCW 2010a; and<br>b) Document the results of the archaeological survey and test excavations and any subsequent salvage excavations (with artefact analysis and identification of a final repository for finds).<br>The RAPs must be given a minimum of 28 days to consider the report and provide comments before the report is finalised. The final report must be provided to the Planning Secretary, Heritage NSW, the relevant Councils, relevant LALCs and the RAPs within 24 months of the completion of the Aboriginal archaeological excavations (both test and salvage). |
| E140 | Ground disturbance works and construction work may not commence in those areas where archaeological excavation and surface collection of Aboriginal objects is required (including areas identified as requiring further assessment) until the archaeological works described int eh Aboriginal Cultural Heritage Assessment reports listed in Condition A1 have been completed. |
| E141 | At the completion of surface collection, test excavations, and salvage excavations, Aboriginal Site Impact Recording Forms (ASIRF) must be submitted to the Aboriginal Heritage Information Management System (AHIMS) and evidence provided of submission to the AHIMS Registrar. |
| E142 | Where previously unidentified Aboriginal objects or Aboriginal Places are discovered, all work must immediately stop in the vicinity of the affected area. Works potentially affecting the previously unidentified objects or places must not recommence until Heritage NSW has been informed. The measures to consider and manage this process must be specified in the Unexpected Heritage Finds and Human Remains Procedure required by Condition E143 and include registration int eh Aboriginal Heritage Information Management System. |
| E143 | An Unexpected Heritage Finds and Human Remains Procedure must be prepared to manage unexpected heritage finds in accordance with any guidelines and standards prepared by Heritage NSW and submitted to the Planning Secretary for information before the commencement of Work. |
| E144 | The Unexpected Heritage Finds and Human Remains Procedure, as submitted to the Planning Secretary, must be implemented for the duration of Work. |

This methodology has been prepared in accordance with Conditions of Approval E135, E139, E140, and E141, and CoAs E136, E137 and E138 are also relevant to this methodology as well as future works.

# 2.0 ADDITIONAL ARCHAEOLOGICAL METHODOLOGIES

In accordance with the Critical State Significant Infrastructure (CSSI) CoA for the project, both an additional Aboriginal Archaeological Survey Methodology and Aboriginal Archaeological Test Excavation Methodology is required for Zones 5, 6, 9 and 10, as they have not yet been subject to detailed Aboriginal archaeological assessment. This section outlines the proposed methodologies for both aspects of the project, along with methodologies for recording various other site types if encountered.

## 2.1 SURVEY METHODOLOGY

As required by the CoA for the project, additional archaeological survey of Zones 5, 6, 9 and 10 is required. These zones are shown in Figure 2 above. The survey of these areas would cover the entirety of the EIS disturbance footprint so as to inform management recommendations for the project, and to provide recommendations as to the requirement for test excavation within the area. None of these four zones have been surveyed during the original ACHA process, although areas of predicted archaeological sensitivity have been identified based on predictive modelling for the area (GML 2022). As these zones have not yet been surveyed, the entirety of the zones would be surveyed to identify any Aboriginal objects or places within these zones.

Survey of the four separate zones would be undertaken in accordance with *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (the Code of Practice – DECCW 2010a); and the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (April 2011). The field survey is not necessarily intended to be an opportunity for gathering information regarding the cultural significance of the area, but rather is a scientific inspection of the area to determine the current state and archaeological potential of the site. However, should any RAPs in attendance choose to share cultural knowledge they wish recorded and incorporated into the assessment, this will occur in line with the RAP's wishes.

There will be subsequent site visits with RAPs to visit sites within the study area to discuss their cultural heritage values. This forms part of a separate Aboriginal Cultural Values Plan (ACVP) being undertaken by Mountains Heritage and Navin Officer. This report will be prepared for JHG on behalf of IRPL. A methodology for the ACVP will be sent in due course, for review and comment. Preparation of this plan is in accordance with CoA E133.

The archaeological survey will be undertaken in accordance with the following methodology:

- The start and end points of survey transects, along with their length, will be recorded by handheld GPS;
- Each zone will be visually inspected by pedestrian survey;
- Appropriate metric scales will be used for all photography in line with the Code of Practice requirements;
- If stone artefacts are identified on the ground each item will have a flag placed at its location;
- The archaeologist and RAPs will record each item as per the lithic site recording form and lithic item recording form detailed below;
- The study area will be recorded using survey recording forms. The following is a list of attributes that will be recorded for each area surveyed:
    - Survey area;
    - Recorder name;
    - Date;
    - Landform element;
    - Slope;
    - Soils;
    - Distance to watercourse;
    - Vegetation;
    - Land surface;
    - Rock outcrops;
    - Detection limiting factors; and
    - Ground disturbance.
- The zones will be divided into survey units based on landform and given ratings in the following categories:
    - Survey area (as defined by the length of area surveyed multiplied by two. A participant in this instance can only see 1m either side at a time. Survey area covered increases when more participants are added);
    - Total area surveyed;
    - Percentage of sample inspected;
    - Archaeological visibility (this is a percentage of potential within the landform);
    - Surface visibility;
    - Exposure type; and
    - Effective survey coverage
- Photos of each survey unit will be taken.
- Aboriginal lithic site recording forms will be used to record artefact scatters and isolated finds. The following list of attributes will be recorded for each site:
    - Site Number;
    - Survey Area;
    - Date;
    - Recorder name;
    - Total number of artefacts recorded;
    - Visible extent of artefacts;
    - Extent of surface exposure;
    - GPS reading;
    - Sub-surface potential;

- Research potential;
- Raw stone material available;
- Ground Disturbance;
- Vegetation;
- Photographs of site; and
- Site plan.

- Each artefact will be recorded using a lithic item recording form with the following attributes recorded:
  - Artefact number;
  - Locus;
  - Colour;
  - Stone material;
  - Lithic item type;
  - Length, Width & Thickness (mm);
  - Cortex Percentage;
  - Cortex type; and
  - Comments.
- Artefacts will be retained on site and no surface artefacts will be moved or relocated from their original location; and
- Relevant site recording forms will be utilised for any other site type identified during the survey (modified tree, stone arrangement, etc) in accordance with the below methodologies.

## 2.2 Modified Tree Methodology

During the survey, or as appropriate at any point while on site, mature trees will be assessed for the presence of potential cultural modification. Any trees considered to exhibit cultural modification (or potential to be culturally modified) will have their attributes recorded on a Modified Tree Recording Form, including the following information:

- GPS coordinate location of the tree will be taken;
- Photographs of the tree in context and of the modification, utilising an appropriate scale;
- The number of visible scars;
- The condition of the tree, including its status (standing/felled etc);
- Estimated age of the tree or circumference of the tree at chest height to assist in determining age;
- The context of the tree including:
  - Land form;
  - Distance to water;
  - Surrounding vegetation;
  - Approximate slope
- The visible height, width and depth of the scar;
- The estimated original height width and depth of the scar;
- The shape of the scar;

- The height of the scar from the ground;
- Whether axe marks are visible on scars;
- The species of the tree;
- Scale drawings of the modification as appropriate.

This will be recorded in line with the AHIMS site card requirements.

It is noted that previous research has identified the following:

> *Based on a failure by most people to understand both the rate of tree and wound growth and also the many natural causes that can lead to scarring, the age and cause of scarring are often frequently misinterpreted. As a result, both trees and scars present in live trees today are most likely much younger than most people consider. This make the likelihood of scarring being [cultural] related unlikely.*
>
> *In addition, it should be noted that a tree would initially have had to have been of a reasonable size to have been used (scarred) for Aboriginal purpose. Hence, scar age is normally much younger than tree age which makes the probability of scarring being of Aboriginal origin even lower (Burns 2014).*

Criteria for assessing trees for cultural modification in the form of scars is based on the criteria developed by Kamminga and Grist (2000), Irish (2004), and Long (2005) as follows:

- Culturally modified scars do not generally reach the ground;
- Culturally modified scars which do reach the ground generally have roughly parallel sides;
- Culturally modified scars are usually symmetrical, and have parallel sides or are concave in form;
- Regrowth is generally regular around all edges of the scar;
- The ends of the scar are usually squared or tapered;
- The presence of axe or adze marks shows the scar is likely to be of human origin;
- The age of the scar must be appropriate for the area – for example, trees needed to be a certain age for modification to occur; the original age must be considered when assessing the current age and potential for the modification to be cultural in origin;
- The tree exhibiting the scar must be endemic to the area in which it is located;
- The heartwood (ie xylem) of the tree is generally exposed and flat, but it is noted that older scars can be completely occluded by regrowth;
- The grain pattern visible on the xylem is usually parallel to the trunk or branch on which it is located;
- Association with other Aboriginal cultural objects such as artefacts or hearths generally increases the likelihood of a scar being of cultural origin;

- Consideration of the form of scars on nearby trees may assist in determining whether a scar is natural or cultural in origin;
- Consider whether the scar may have been a surveyor's mark or similar and whether it was formed by European actions rather than Aboriginal.

Consideration of the above will guide assessment of whether a tree is likely to have been culturally modified or if scars may be natural in origin.

Questions that would also assist in identifying Aboriginal culturally modified trees compared to naturally occurring scars include the following (Long 2005):

- What has happened in the local environment?
- What impacts have occurred in the vicinity of the scar?
- How old is the tree on which the scar occurs, and how long has the scar been there?
- What impacts have occurred to the tree, and can you work out the order in which they occurred?
- Can you identify the form and size of the original scar on the tree?
- Is the tree providing enough opportunity to determine the origin of the scar from a surface inspection only?

Specialist advice from an arborist may be sought as appropriate to provide additional advice and guidance.

## 2.3 Stone Arrangement Methodology

Stone arrangements may identify culturally significant areas, such as bora or corroboree grounds, or other special places. Where identified, the following will be recorded:

- GPS coordinate location will be taken, generally in the centre of the arrangement when entry does not cause damage to the arrangement;
- Extent of the arrangement (ie length x width);
- Type of stone used to create the arrangement;
- Landscape context;
- Distance to water;
- Photographs of the context of the arrangement and the arrangement itself will be taken with an appropriate scale;
- Measured drawings will be produced as appropriate.

## 2.4 Burial Methodology

In the event that suspected or identified human remains are identified during the survey, test excavations, or salvage works, John Holland Group's Unexpected Finds and Human Remains Procedure will be followed. The NSW Police and the Coroner's Office will be notified. If the finds are confirmed to be human and of Aboriginal

origin, further assessment by an archaeologist experienced in the assessment of human remains, including engagement of a bioarchaeologist or forensic archaeologist if necessary. Avoidance and protection of the remains would be the highest priority; although the nature of this protection would be guided by the Aboriginal community, Heritage NSW, John Holland Group and Inland Rail.

## 2.5 Defining Site Boundaries

In accordance with Requirement 6 of the Code of Practice, any identified sites will be described as follows:

- The spatial extend of the visible objects will be recorded;
- Obvious physical boundaries will be described;
- Cultural information provided by the RAPs regarding the extent of sites will be recorded where appropriate and where RAPs are comfortable sharing such.
- All identified sites will be recorded utilising appropriate recording forms which consider the attributes listed on the AHIMS recording form for new sites.

## 2.6 Test Excavation

In accordance with CoA E135, it is necessary to undertake test excavation **as appropriate and necessary** within Zones 5, 6, 9, and 10. As such, we are proposing to undertake the necessary test excavations within these zones to determine the nature and extent of any identified areas of sensitivity within each of these zones, subsequent to completion of survey. GML (2022) identified areas of sensitivity within Zones 5 & 6 (Figure 3) but were unable to undertake test excavation within these areas due to access restrictions.

It is noted that GML predict that Zones 9 and 10 are unlikely to contain areas of sensitivity, sites or artefacts; and the need for test excavation within these two zones will be determined following completion of the site survey. However, indicated zones of sensitivity were identified by GML within Zones 5 and 6 and these will be investigated as part of the test excavation proposed, with the areas refined as appropriate following completion of the site survey. Indicative test pit maps based on the GML sensitivity assessment are shown on Figures 6 to 8. However, it is not possible to provide indicative test pit locations within Zones 9 and 10 as no areas of sensitivity have yet been identified within those areas. Test pit locations would be determined on completion of the site survey, and would only be located within areas considered to have archaeological potential.

### Excavation Permits

As the project is an approved SSI project, with CoA issued, no permits from Heritage NSW are required for undertaking archaeological test excavation. This document, once reviewed by the RAPs, forms the basis of undertaking these works in accordance with the CoA.

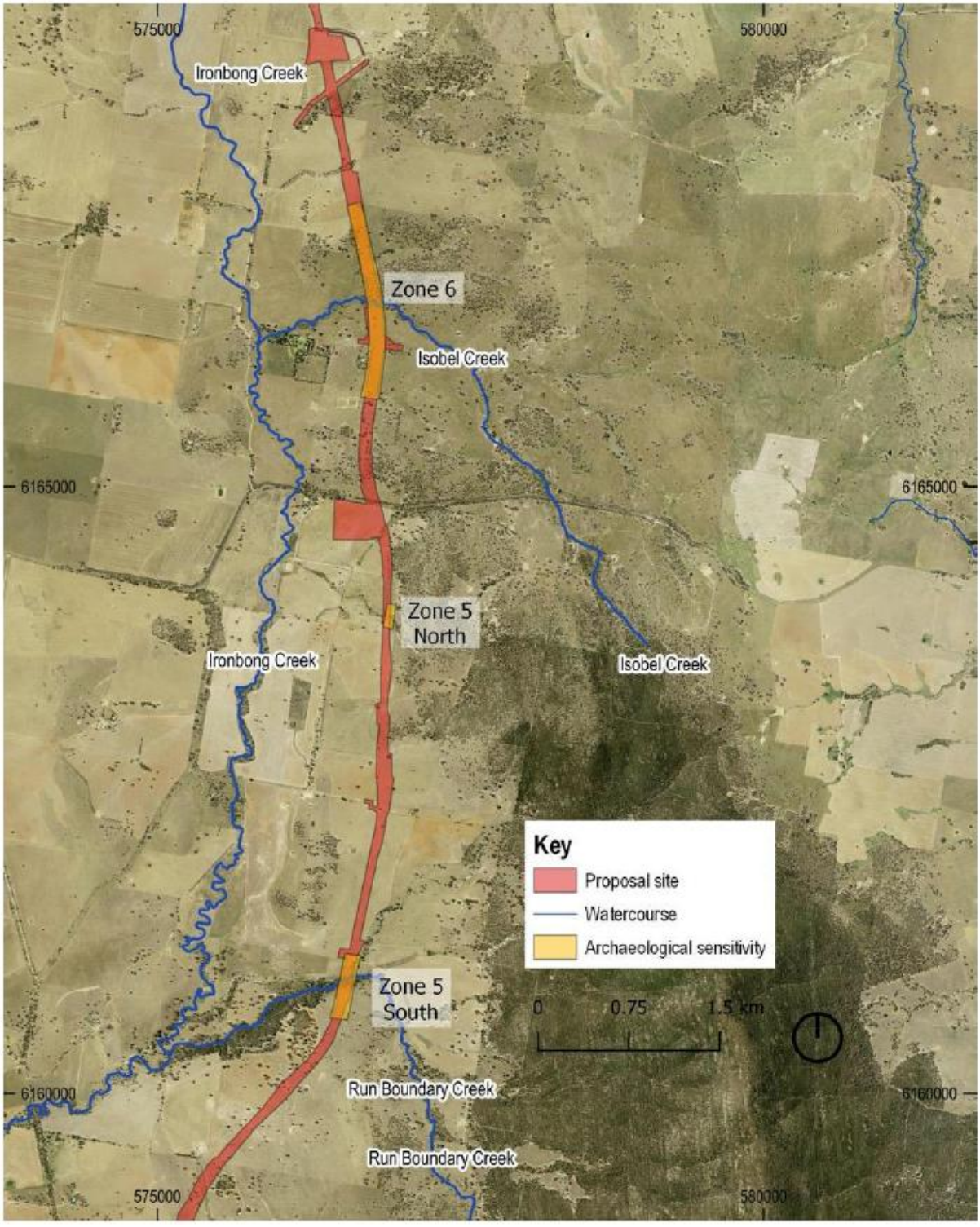


**Figure 3: Revised, indicative areas of sensitivity within Zones 5 & 6, based on results of GML (2022) assessment (Source: Figure 6.2 of GML 2022)**

PO Box 236
NOWRA
NEW SOUTH WALES 2541

0 190 380
metres

Projection:
MGA Zone 55 (GDA 94)
Base Map:
Bing Aerial
Image Date: 2024
Final - Version 1

Figure 4: Indicative test pit locations within Zone 5 south.

N
W E
S

PO Box 236
NOWRA
NEW SOUTH WALES 2541

0 95 190
metres

Projection:
MGA Zone 55 (GDA 94)
Base Map:
Bing Aerial
Image Date: 2024
Final - Version 1

Figure 5: Indicative test pit locations within Zone 5 north.

N
W E
S

PO Box 236
NOWRA
NEW SOUTH WALES 2541

0 450 900
metres

Projection:
MGA Zone 55 (GDA 94)
Base Map:
Bing Aerial
Image Date: 2024
Final - Version 1

Figure 6: Indicative test pit locations within Zone 6.

N
W E
S

Undertaking a Dial Before You Dig (DBYD) assessment is the responsibility of the proponent as archaeological test and salvage excavations are undertaken in areas considered to have archaeological integrity. Areas clearly disturbed or with evidence of subsurface services would be avoided as these are unlikely to have archaeological potential. Further, archaeological excavation is undertaken by hand and as such, is able to rapidly identify subsurface disturbance such as that created by construction of subsurface services, and excavation can cease prior to any potential impact occurring.

### RESEARCH QUESTIONS

The purpose of undertaking archaeological test excavations is to define the nature and extent of any potential archaeological deposits identified within the area of interest. In order to allow analyses to be comparable between different stages of the assessment process (ie the original GML 2022 assessment and the current additional works), the research questions posited by GML to assist in defining the nature and extent of the areas of sensitivity will also guide the test excavations undertaken as part of the current assessment. These questions are as follows and are reproduced verbatim from the GML 2022 ACHAR:

1) *What are the characteristics of soil horizons across the study area?*
   a) *How has the land use history impacted the study area and survival of soils and thus archaeological material?*
   b) *At each location, is the deposit consistent? Or does it possess characteristics that tell of different depositional or formation events?*
2) *Are there archaeological deposits present?*
   a) *Are the deposits stratified?*
   b) *Is there archaeological evidence which can be dated (both through scientific methods, carbon dating, OSL and/or relative dating)?*
   c) *Do the deposits have different degrees of archaeological potential with depth?*
   d) *What evidence—if any—other than stone artefacts is present for Aboriginal occupation and/or use of the study area?*
   e) *How do the archaeological deposits relate to the predictive modelling?*
   f) *Is there variation in the nature of the archaeological deposits across different areas of the study corridor?*
3) *What is the general nature of stone artefacts recovered from the study area? How can the stone artefact assemblage be characterised?*
   a) *What raw materials are represented in the stone artefact assemblage?*
   b) *Can any information be ascertained from the stone artefact assemblage regarding the intensity of stone artefact reduction and discard?*
   c) *Can a difference between stone artefact deposits be identified by different strata in the assemblage over time? If so, what is the nature of that difference?*
   d) *Can a difference between stone artefact deposits be identified across different areas of the study corridor?*
4) *How can the deposit be interpreted?*
   a) *Is there any evidence for variation in landscape use and selection strategies?*
   b) *Can deposits or features be dated? What is the antiquity of the evidence?*

c) *Does the archaeological deposit vary spatially within one location/site? How?*
d) *What does the archaeological deposit tell us about Aboriginal use of this landscape?*

5) *Can the archaeology be interpreted in a regional context?*
   a) *What is the source of the artefactual stone? How does this correlate with current regional research and knowledge of stone resources?*
      i) *Is raw stone material for artefact manufacture readily present within or near the study corridor?*
      ii) *Has stone been brought into the study corridor? From how far away has the stone been brought?*
      iii) *What is the main discard and reduction strategy pattern that can be observed for different raw materials across the study corridor?*
   b) *Do the archaeological deposits within this study corridor conform to the distance from water regional predictive model and theories or not?*
6) *Is the archaeological deposit culturally significant?*
   a) *What is the heritage value of the deposit, both scientifically and culturally?*
   b) *How does the Aboriginal community view and value the deposit identified?*
7) *Is there a deposit worthy of conservation or of future research?*
   a) *Where and what deposits should be conserved for future generations?*
   b) *Which deposits should be subject to more extensive investigations?*

### TEST PIT LAYOUT

Test pits will be placed in relation to the identified PAD extent. The exact locations of the test pits will be determined on completion of the field survey and will take into account existing disturbance or obstacles within the site, which will be avoided. At this stage, 71 test pits are proposed within Zone 5 south; 33 within Zone 5 north and approximately 190 within Zone 6. It is not yet possible to estimate where test excavation may be required within Zones 9 and 10.

The following methodology would be implemented during the completion of test excavations within the areas of sensitivity within each zone:

- Transects will be spaced at 20m intervals, in a 'checkerboard' arrangement, in accordance with the method described in Orton (2000:90) whereby a staggered square grid is considered more efficient than a square grid for undertaking subsurface sampling;
- Notwithstanding the nominated appropriate spacing outlined above, test pits will be separated by at least 5m where altered spacing is required;
- Test pits will be oriented north – south using a handheld compass for accuracy;
- Test pits will avoid clearly disturbed areas, with transects avoiding disturbance in the first instance, and individual test pits moved no more than 2m in any direction from their original location to avoid discrete disturbance;
- If moving the test pit 2m in any direction from its original location does not avoid the disturbance, that test pit location will be abandoned and the next pit in the transect excavated as appropriate;
- Test pits will not exceed a maximum surface area of more than 0.5% of the entire PAD area identified;

- The location of the north west corner of the first test pit will be recorded by GPS (or alternative accurate system as available and appropriate), and following pits will be tied into the transect using the distance and bearing technique. This method requires a 60m or 100m tape measure and compass to measure from the initial test pit. The tape is run out from the first pit and subsequent pits laid out at 20m intervals; and
- Each test pit will have a flag placed in the north-west corner with the test square number in sequence and Easting and Northing of its location written on it, taken from the GPS coordinate for the initial pit and extrapolated based on the location of the pit in relation to the initial pit.

### EXCAVATION METHODOLOGY

- Test pits will be 50 x 50cm;
- All test pits will be excavated in 5cm spits by hand using a shovel, mattock and trowel. Spit depths will be consistently checked with a hand tape measure to ensure accuracy of excavation depth. Once the first test pit has been excavated and an understanding of the stratigraphy has been obtained, following test pits for that transect may be excavated stratigraphically or in 10cm spits, as considered appropriate for the site;
- Notwithstanding the above, 5cm spits are considered appropriate to assist in obtaining as much stratigraphical information as possible from a site which may assist in answering research questions, including assessment of site integrity and distribution of archaeological material;
- Test pit excavation will cease on reaching basal clay, bedrock or a culturally sterile layer, or at the discretion of the archaeologist;
- Test pits may be combined to form 1m² squares by digging four contiguous 50 x 50 cm test pits to determine if artefact concentrations continue (ie 5 or more artefacts in a single 50x50 test pit; identification of a hearth, heat treatment pit, knapping floor, etc);
- If artefact concentrations warrant further expansion (ie 20 or more artefacts in a single 1m² pit; identification of a hearth, heat treatment pit, knapping floor, etc), continuation of 1m² test pits into a 3m² open area may also be necessary. This is the maximum open area allowed for under the Code of Practice and assumes this is not more than 0.5% of the total PAD area. If artefact concentrations are still high once a 3m² area has been excavated then this area would be prioritised for salvage during a subsequent stage of the project;
- If cultural features (e.g. hearths, heat treatment pits, knapping floors) are identified during excavation, excavation with hand tools (e.g. mattock and shovel) will cease and continue with trowel and small hand tools only, with these pits expanded as outlined above;
- Charcoal samples may be taken from half sectioned hearths, leaving at least half of the hearth intact and in situ, with the charcoal sent for carbon dating as appropriate;
- Locations of identified features will be planned onto 1mm graph paper. X, Y and Z coordinates of individual artefacts from in-situ knapping floors will be recorded prior to removal (where possible) and continuation of excavation;
- Under no circumstances will artefacts be deliberately removed from the section of a test pit;

- The soil from each spit will be placed in 10L plastic buckets and transported to the sieving station;
- To ensure sufficient control of each spit excavated, a bag and tag will be written to accompany the buckets from each spit. The following information will be recorded on each bag and tag: site name, date, pit location (easting & northing) and name of excavator;
- All material from each test pit will be dry sieved where possible however should the soil matrix preclude dry sieving (high clay content/moist or wet from rain fall) then wet sieving will be required. All soil will be sieved through table sieves (1 x 1m) with a wire mesh aperture gauge of 5mm and depending on the soil matrix and recovery of micro debitage we may switch to 3mm gauge;
- All material recovered from the sieving process will be checked by a qualified archaeologist with experience in artefact identification prior to being placed into the spit bag; and
- Artefact counts will be recorded for each spit.

### RECORDING

- Each test pit will be recorded on a pit sheet with the following information:
  - site name;
  - date;
  - excavator name;
  - spit number;
  - spit depth;
  - pit location (easting & northing)/pit number;
  - start levels & end levels;
  - section drawing and/or photographs of sections clearly demonstrating stratigraphy/the soil profile;
  - bucket count and end total bucket count;
  - soil description;
  - description of disturbance;
  - description of artefacts (material type & artefact type if in situ);
  - in situ recording of artefacts where possible (xyz coordinates); and
  - photograph details (from surface and of each section).
- A record of Aboriginal objects will be kept to allow an up to date comparison between areas subject to test excavation.

### ARTEFACTS AND CHAIN OF CUSTODY

Any artefacts that are recovered from the test excavation will be analysed by an archaeologist experienced in artefact analysis and interpretation. Artefacts will be temporarily held at Apex Archaeology's office during the analysis and stored in a lockable safe. Artefacts may be analysed by Dr Beth White or another suitably qualified lithics expert, and would be securely transported to their office for analysis if required. The temporary location of the artefacts must be notified to AHIMS as soon as practicable on completion of works, through submission of a site card or ASIRF. At the conclusion of the project all artefacts will be reburied on site in accordance with Requirement 26 of the Code of Practice. In the event salvage

excavation is required, all artefacts will be reburied at the same time. Once the artefacts are reburied, the location will be recorded and provided to AHIMS. It is likely that reburial cannot occur until the development has been completed and a suitable location identified. The final location of the artefacts may be determined in consultation with the RAPs and could include an alternative Keeping Place. The final location would be recorded and provided to AHIMS.

#### Cessation of Excavation

Excavations will cease upon reaching basal clay, bedrock or a culturally sterile layer, or at the discretion of the archaeologist (for example, if it becomes unsafe to continue excavation due to depth).

#### Backfill

At the conclusion of the testing program, all test pits will either be backfilled (by collapsing the sides of the test pit in with a shovel or mattock where pits are very shallow, and/or filling with spoil or clean fill to return the pit to original ground level). Back fill may also take place by sieving back into the test pits if possible. If a test pit has yielded a significant artefact deposit requiring further salvage, then the pit will be lined with geofab or similar material, and backfilled until salvage can be completed, so that expansion (open area excavation) can be undertaken more easily.

#### Post Archaeological Assessment Works

On completion of test excavations, an Aboriginal Site Impact Recording Form (ASIRF) must be submitted to AHIMS for each AHIMS site subject to test excavation. Additionally, site cards must be submitted to AHIMS for any newly identified sites from the survey or test excavation process. These forms must be submitted as soon as practicable following completion of the relevant activity.

## 2.7 Works in Remaining Zones

It is necessary to undertake some works within the project area prior to undertaking additional survey and subsequent archaeological works, as outlined below.

#### Geotechnical Activities

Within certain parts of the Project area, geotechnical activities are required to be completed, including undertaking the following:

- Bore holes
- Test pits
- Auger holes
- Survey
- Geophysics
- Pot holing
- Slot trenching
- Pavement cores

At present, ground disturbing geotechnical activities are only planned outside the Zones of Aboriginal Sensitivity as identified by GML (2022), and will not occur within Zones 5, 6, 9 and 10 prior to survey and further archaeological investigation (as appropriate) of these areas. Geotech works will also avoid known Aboriginal sites located outside of the Zones of Aboriginal Sensitivity. Furthermore, mitigation measures have been proposed for activities outside of Zones of Aboriginal Sensitivity, as outlined below:

- The Zones of Aboriginal Sensitivity will be identified on the ground with a 25m buffer. Bollards will be placed to temporarily delineate these no-ground disturbance zones. This will be defined by accurate geospatial data to ensure accurate identification and marking of no-go zones.
- All site personnel will be inducted to the Project before the commencement of geotechnical activities. This induction will include a visual depiction of the no-ground disturbance zones and their restrictions.
- On-site personnel will be regularly briefed on the exact locations of the no-ground disturbance zones.
- Har-copies of maps showing the no-ground disturbance zones will be placed in site utes and provided to all JHG and subcontractor site personnel via email.
- Site personnel will be provided access to geospatial data which show the no-ground disturbance zones (including the 25m buffer).
- The Unexpected and Incidental Fines Procedures for Heritage are available in all site utes and provided to all JHG and subcontractor site personnel via email.

It is noted that vehicular and pedestrian access will be required within Zones of Aboriginal Sensitivity to validate and visually assess these areas for future geotechnical investigations. As these will not result in any ground disturbance, these works are permissible within all Zones. Existing vehicle tracks should be used wherever possible to reduce any potential ground disturbance.

Works outside of Zones of Aboriginal Sensitivity will likely occur prior to the commencement of survey works in accordance with this methodology. Within Zones 4, 8 and 11 East, ground disturbing geotechnical works will be undertaken concurrently with survey and test excavation works, as these zones were assessed by GML (2022) to have low potential for PAD or archaeological sensitivity, with no further archaeological assessment recommended for those three zones.

### Surface Artefact Collection

Within Zones 7 and 11, four isolated artefacts were identified but could not be relocated by GML during their assessment. It is proposed to collect these artefacts during the survey if they can be relocated. This will occur prior to the commencement of ground disturbing geotechnical works in these zones. No further archaeological work is recommended for those zones. All collected artefacts would be recorded

using GPS (or appropriate alternative) and placed into robust ziplock bags with their site name, AHIMS number, and project name recorded on the bag in indelible pen. The attributes of each item would be recorded in line with the requirements of AHIMS and ASIRFs would be submitted for each site. The items would be safely stored at the temporary storage location until they can be safely returned to site, likely on completion of salvage excavation works and/or construction works for the Project.

#### Tree Protection

Protection measures for registered scarred trees or suspected culturally modified trees must be established prior to any geotechnical activities or other works occurring in the vicinity of the tree. This would include identification of the tree and placement of bollards with a 5m radius buffer around the tree trunk to ensure no ground disturbing works occur in the immediate vicinity of the tree.

## 2.8 Subsequent Salvage Excavation and Ongoing Management

On completion of the additional survey and test excavation, a separate Aboriginal Archaeological Salvage Methodology will be prepared and distributed to RAPs for review and comment. This report will:

- detail the results of the survey and testing program;
- outline the scope and methodology for subsequent archaeological salvage within all zones that have been identified as requiring mitigation; and
- provide management strategies to be implemented prior to, during, and after construction works, as appropriate. These strategies will include avoidance or conservation of sites, along with the surface collection of objects on the ground surface. These strategies will be developed in consultation with all RAPs for the project, the proponent, and Heritage NSW.

On completion of the salvage excavation, an Aboriginal Cultural Heritage Excavation Report will be prepared to detail the results. All RAPs would be provided with a copy of the draft report and would have an opportunity to comment on the results, prior to its finalisation. A copy of the final Aboriginal Cultural Heritage Excavation Report will be sent to all RAPs within 24 months of completing the salvage excavation and all RAPs would have 28 days to comment on the report prior to its finalisation. The final report would also be provided to the Planning Secretary, Heritage NSW, AHIMS, relevant Councils, and IRPL within 24 months of completion of archaeological excavation works.

## 3.0 FEEDBACK REQUESTED

This methodology was provided to all RAPs for their review and comment on 21 March 2025, with comments initially accepted until 18 April 2025. When it was noted that 18 April 2025 was a public holiday, the comment period was extended to 23 April 2025.

The following feedback was requested: We would like to respectfully request that you provide any questions or comments you may have on the methodology so that it can be incorporated into the final methodology. Please let us know if there are any alternative policies or procedures you wish to see incorporated into the methodology.

In addition to the archaeological investigations, an Aboriginal Cultural Values Plan (ACVP) is being prepared. RAPs are asked to consider the answer to the following questions:

*If you have lived or worked on this country:*

- *What do you think are the cultural values associated with the archaeological sites in the project area?*
- *Do any particular sites stand out as having cultural values, other than their archaeological or scientific value?*
- *Do you know of any important places that are not also archaeological sites in the project area? If so, can you describe those places?*
- *What cultural values (apart from archaeological ones) in the project area do you think are important to maintain for future generations?*
- *Can you suggest local people/ Elders from this area that you believe would be able to provide information relating to the cultural values of the project area?*

We look forward to working with you on this project.

### 3.1 COMMENTS RECEIVED

Comments were received from two RAPs, being Young LALC and Yurwang Gundana.

Young LALC provided feedback on representatives able to assist with fieldwork. No formal comments on the methodology were provided.

Yurwang Gundana advised that they had “read the report and agree with how this project is being handled”. They also advised that they wish to be part of the fieldwork.

No other comments were received. Copies of all correspondence are attached to this methodology.

# 4.0 BIBLIOGRAPHY


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Irish, P. 2004, 'When is a scar a scar? Evaluating scarred and marked trees at Sydney Olympic Park. *Australian Archaeology* 59:59-61

Kamminga, J. and M. Grist. 2000, *Yarriambiack Creek. Aboriginal Heritage Study.* Report to Aboriginal Affairs Victoria.

Long, A. 2005, *Aboriginal scarred trees in New South Wales: a field manual.* Department of Environment and Conservation (NSW), Hurstville.

OEH 2011. *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW.* OEH, Sydney South.

Orton, C, 2000. *Cambridge Manuals in Archaeology: Sampling in Archaeology.* Cambridge University Press, Cambridge.

# RAP CORRESPONDENCE

| | |
|---|---|
| **From:** | jenni@apexarchaeology.com.au |
| **To:** | "Undisclosed Recipients" |
| **Cc:** | "Fiona Leslie"; "Lisa Goodman" |
| **Bcc:** | barkingowlcorp@gmail.com; btlalc@bigpond.net.au; Cherylpenrith84@gmail.com; Colinameadows2014@gmail.com; corroboreecorp@bigpond.com; gulgunyaNHAC@hotmail.com; Ingram.james1959@gmail.com; jennybeath@bigpond.com; marksad@live.com.au; Paulam@intereach.com.au; Pd.ngunawalconsultancy@gmail.com; prbeath@yahoo.com.au; Robert.carroll1971@gmail.com; sonionerogers@yahoo.com; thunderstonemg@gmail.com; wingarrawilay@yahoo.com; wiradjuriengineeringservices@outlook.com; Younglalc62@gmail.com; Yurwang.gundana.c.h.s@outlook.com |
| **Subject:** | Illabo to Stockinbingal section of the Inland Rail Project - Archaeological Methodology |
| **Date:** | Friday, 21 March 2025 4:05:58 PM |
| **Attachments:** | Questionnaire.docx<br>23093 I2S Draft Methodology .pdf |

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Good afternoon,

Thank you again for your registration of interest in the Illabo to Stockinbingal (I2S) section of the Inland Rail Project. Please find attached further information regarding the project and the draft methodology for the further archaeological assessment that is required for the project.

We welcome your thoughts and comments on the methodology and if there are any changes you would like to see made to the document. Could you please send through any comments by CoB Friday 18 April 2025?

You will also find a questionnaire attached for you to fill in if you would like, asking how you might like to be involved as this project progresses. I look forward to receiving your responses.

Please don't hesitate to get in touch if you have any questions about the project, the methodology or the questionnaire.

Kind regards,

APEX ARCHAEOLOGY

Jenni Bate
DIRECTOR - ARCHAEOLOGIST

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| | |
|---|---|
| **From:** | jenni@apexarchaeology.com.au |
| **To:** | "Undisclosed Recipients" |
| **Cc:** | "Fiona Leslie"; "Lisa Goodman" |
| **Bcc:** | barkingowlcorp@gmail.com; btlalc@bigpond.net.au; Cherylpenrith84@gmail.com; Colinameadows2014@gmail.com; corroboreecorp@bigpond.com; gulgunyaNHAC@hotmail.com; Ingram.james1959@gmail.com; jennybeath@bigpond.com; marksad@live.com.au; Paulam@intereach.com.au; Pd.ngunawalconsultancy@gmail.com; prbeath@yahoo.com.au; Robert.carroll1971@gmail.com; sonionerogers@yahoo.com; thunderstonemg@gmail.com; wingarrawilay@yahoo.com; wiradjuriengineeringservices@outlook.com; Younglalc62@gmail.com; Yurwang.gundana.c.h.s@outlook.com |
| **Subject:** | FW: Illabo to Stockinbingal section of the Inland Rail Project - Archaeological Methodology |
| **Date:** | Tuesday, 15 April 2025 4:35:32 PM |
| **Attachments:** | Questionnaire.docx<br>23093 I2S Draft Methodology .pdf |

Good afternoon,

Thank you again for your registration of interest in the I2S project. This email is a gentle reminder to send through any comments you may have on the methodology (attached for your reference) and the questionnaire about your involvement in the project (also attached).

I note the original closing date for the comments falls on Good Friday. We have extended the date for comments to Wednesday 23 April 2025 to allow additional time over the Easter long weekend. I look forward to receiving any comments you may have.

Kind regards,

APEX ARCHAEOLOGY

Jenni Bate
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---

**From:** jenni@apexarchaeology.com.au <jenni@apexarchaeology.com.au>
**Sent:** Friday, 21 March 2025 4:06 PM
**To:** 'Undisclosed Recipients' <jenni@apexarchaeology.com.au>
**Cc:** 'Fiona Leslie' <fiona.leslie@mtsheritage.com.au>; 'Lisa Goodman' <lgoodman@inlandrail.com.au>
**Subject:** Illabo to Stockinbingal section of the Inland Rail Project - Archaeological Methodology

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Please don't hesitate to get in touch if you have any questions about the project, the methodology or the questionnaire.

Kind regards,

APEX ARCHAEOLOGY

Jenni Bate
DIRECTOR - ARCHAEOLOGIST

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WWW.APEXARCHAEOLOGY.COM.AU

**From:** jenni@apexarchaeology.com.au
**To:** "yurwang gundana"
**Subject:** RE: Illabo to Stockinbingal section of the Inland Rail Project - Archaeological Methodology
**Date:** Tuesday, 8 April 2025 11:54:20 AM
**Attachments:** image003.png
Questionnaire.docx

Thanks so much for getting back to me, Merekai.

There was a questionnaire attached to the methodology email which I have reattached for your reference. Could you please complete that and send it back? That will assist us in scheduling participants in the fieldwork for the project.

Kind regards,

APEX ARCHAEOLOGY
Jenni Bate
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0422 229 179
JENNI@APEXARCHAEOLOGY.COM.AU
WWW.APEXARCHAEOLOGY.COM.AU

**From:** yurwang gundana <Yurwang.Gundana.C.H.S@outlook.com>
**Sent:** Tuesday, 8 April 2025 10:50 AM
**To:** jenni@apexarchaeology.com.au
**Subject:** Re: Illabo to Stockinbingal section of the Inland Rail Project - Archaeological Methodology

Yumalindi, I hope you're doing well.

Yurwang Gundana strongly supports the methodology being used and is very eager to be involved in this fieldwork. We believe our experience and deep knowledge in this area could contribute significantly to the project.

Please let me know when you receive this, that would be much appreciated.

Merekai Bell
CEO & Head Consultant
I am a Proud Ngunawal Man with Wiradjuri & Gamilaraay Connections
Yurwang.Gundana.C.H.S@outlook.com
0499020045
YURWANG GUNDANA C.H.S

**From:** jenni@apexarchaeology.com.au <jenni@apexarchaeology.com.au>
**Sent:** 21 March 2025 16:32
**To:** 'Undisclosed Recipients' <jenni@apexarchaeology.com.au>
**Cc:** 'Fiona Leslie' <fiona.leslie@mtsheritage.com.au>; 'Lisa Goodman' <lgoodman@inlandrail.com.au>
**Subject:** RE: Illabo to Stockinbingal section of the Inland Rail Project - Archaeological Methodology

My apologies, I have just noted some missing figures. These are now included in the attached document.

Have a lovely weekend.

Kind regards,

APEX ARCHAEOLOGY
Jenni Bate
DIRECTOR - ARCHAEOLOGIST
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JENNI@APEXARCHAEOLOGY.COM.AU
WWW.APEXARCHAEOLOGY.COM.AU

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**Cc:** 'Fiona Leslie' <fiona.leslie@mtsheritage.com.au>; 'Lisa Goodman' <lgoodman@inlandrail.com.au>
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Kind regards,

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DIRECTOR - ARCHAEOLOGIST

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JENNI@APEXARCHAEOLOGY.COM.AU
WWW.APEXARCHAEOLOGY.COM.AU

**From:** yurwang gundana
**To:** jenni@apexarchaeology.com.au
**Cc:** "Fiona Leslie"; "Lisa Goodman"
**Subject:** Re: Illabo to Stockinbingal section of the Inland Rail Project - Archaeological Methodology
**Date:** Wednesday, 23 April 2025 11:49:20 AM
**Attachments:** Outlook-kcoebcqi.png
Questionnaire - FILLED IN.docx

Yumalindi, I hope this finds you well today

Yurwang Gundana has read the report and agrees with how this project is being handled and wishes to be apart of the fieldwork that is happening soon, I have also filled out the questionnaire, please let me know if there is anything else you would like from us

Thanks so much

**From:** jenni@apexarchaeology.com.au <jenni@apexarchaeology.com.au>
**Sent:** 15 April 2025 16:35
**To:** 'Undisclosed Recipients' <jenni@apexarchaeology.com.au>
**Cc:** 'Fiona Leslie' <fiona.leslie@mtsheritage.com.au>; 'Lisa Goodman' <lgoodman@inlandrail.com.au>
**Subject:** FW: Illabo to Stockinbingal section of the Inland Rail Project - Archaeological Methodology

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Kind regards,

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**From:** jenni@apexarchaeology.com.au <jenni@apexarchaeology.com.au>
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**Cc:** 'Fiona Leslie' <fiona.leslie@mtsheritage.com.au>; 'Lisa Goodman' <lgoodman@inlandrail.com.au>
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|---|---|
| **From:** | Norma Freeman |
| **To:** | jenni@apexarchaeology.com.au |
| **Cc:** | Fiona Leslie; Lisa Goodman |
| **Subject:** | Re: FW: Illabo to Stockinbingal section of the Inland Rail Project - Archaeological Methodology |
| **Date:** | Sunday, 20 April 2025 12:42:30 PM |
| **Attachments:** | Alona.docx<br>Alona Apps experience.docx<br>Enid.docx<br>Jirrah Freeman experience.docx<br>Gail.docx<br>Jahnayah Freeman experience.docx<br>Jahnayah .docx<br>Keith Freeman experience.docx<br>Norma Freeman experience.docx<br>Marnie Freeman experience.docx<br>Keith.docx<br>Marnie.docx<br>Norma.docx<br>Questionnaire Brodie.docx<br>Questionnaire Jirrah.docx<br>Questionnaire Tori.docx<br>Enid Clarke - experience.docx |

---

Hi Jenni

Hope all is well,

Please see attached the questionnaire and Experience.

Cheers

On Tue, Apr 15, 2025 at 4:35 PM <jenni@apexarchaeology.com.au> wrote:

> Good afternoon,
>
> Thank you again for your registration of interest in the I2S project. This email is a gentle reminder to send through any comments you may have on the methodology (attached for your reference) and the questionnaire about your involvement in the project (also attached).
>
> I note the original closing date for the comments falls on Good Friday. We have extended the date for comments to Wednesday 23 April 2025 to allow additional time over the Easter long weekend. I look forward to receiving any comments you may have.
>
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**Cc:** 'Fiona Leslie' <fiona.leslie@mtsheritage.com.au>; 'Lisa Goodman' <lgoodman@inlandrail.com.au>
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--

**Norma Freeman**
**Chief Executive Officer**
**Young Local Aboriginal Land Council**
**247 Boorowa Street**
**Young NSW 2594**

**Ph: 02 63825669**
**Mob: 0439 649 443**
**Fax: 02 63822522**
**I acknowledge that Young LALC stands on Aboriginal Land in Wiradjuri Country. I acknowledge the Traditional Custodians of the lands on which I Live, Walk & Work, & pay my respects to all Elders Past and Present.**

# Appendix E – Aboriginal Archaeological Salvage Methodology

JOHN HOLLAND

# INLAND RAIL
## ILLABO TO STOCKINBINGAL PROJECT

### I2S | Aboriginal Archaeological Salvage Methodology

Document Number: 5-0019-220-PES-00-MS-0002
Document Status: Issued for Use
Revision: 0

# Document Control

| | |
|---|---|
| **Document Title** | I2S | Aboriginal Archaeological Salvage Methodology |
| **IRPL Document No.** | 5-0019-220-PES-00-MS-0002 |
| **Prepared By** | Jenni Bate (Apex Archaeology) |
| **Document Owner** | Andy Robertson |
| **REVIEWED BY** | |
| **Name** | Andy Robertson |
| **Title** | Environment & Sustainability Manager |
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| | | |

ILLABO TO STOCKINBINGAL (I2S)
SECTION OF THE INLAND RAIL PROJECT

# Aboriginal Archaeological Salvage Excavation Methodology

Prepared for John Holland Group
on behalf of Inland Rail

LGAs: Junee & Cootamundra-Gundagai

November 2025

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Apex Archaeology acknowledges and pays respect to the past, present and future Traditional Custodians and Elders of this nation and in whose land this assessment took place, and to the continuation of cultural, spiritual and educational practices of Aboriginal and Torres Strait Islander peoples.

## Document Control

The following register documents the development and issue of the document entitled 'Illabo to Stockinbingal (I2S) Section of the Inland Rail Project: Aboriginal Archaeological Salvage Excavation Methodology', prepared by Apex Archaeology in accordance with its quality management system.

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# GLOSSARY OF TERMS

| | |
|---|---|
| **AASEM** | Aboriginal Archaeological Salvage Excavation Methodology |
| **Aboriginal Object** | An object relating to the Aboriginal habitation of NSW (as defined in the NPW Act), which may comprise a deposit, object or material evidence, including Aboriginal human remains. |
| **ACHAR** | Aboriginal Cultural Heritage Assessment Report |
| **AHIMS** | Aboriginal Heritage Information Management System maintained by Heritage NSW, detailing known and registered Aboriginal archaeological sites within NSW |
| **AHIP** | Aboriginal Heritage Impact Permit |
| **ASIRF** | Aboriginal Site Impact Recording Form |
| **BP** | Before Present, defined as before 1 January 1950. |
| **COA** | The Minister's Conditions of Approval for the project |
| **Code of Practice** | The DECCW September 2010 *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* |
| **Consultation** | Aboriginal community consultation in accordance with the DECCW April 2010 *Aboriginal cultural heritage consultation requirements for proponents 2010.* |
| **DCCEEW** | Department of Climate Change, Energy, the Environment and Water |
| **EIS** | The Environmental Impact Statement referred to in Condition A1 submitted to the Planning Secretary seeking approval to carry out the CSSI described in it, as revised if required by the Planning Secretary under the EP&A Act, and including any additional information provided by the Proponent in support of the application for approval of the project |
| **GSV** | Ground Surface Visibility |
| **GTAs** | General Terms of Approval |
| **Harm** | To destroy, deface or damage an Aboriginal object; to move an object from land on which it is situated, or to cause or permit an object to be harmed |
| **Heritage NSW** | Heritage NSW in the Department of Climate Change, Energy, the Environment and Water – responsible for heritage matters in NSW |
| **LALC** | Local Aboriginal Land Council |
| **LGA** | Local Government Area |
| **LEP** | Local Environmental Plan |
| **Mitigation** | Mitigation in the archaeological context refers to specific measures to mitigate the potential harm arising from works within or adjacent to archaeological sites. This may include avoidance, surface collection/salvage, or salvage excavations, among other measures |
| **NPW Act** | NSW *National Parks and Wildlife Act* 1974 |
| **OEH** | The Office of Environment and Heritage – now Heritage NSW |
| **RAPs** | Registered Aboriginal Parties |
| **Unmitigated impact** | Unmitigated impact in the archaeological context refers to development works proceeding with no further archaeological mitigation measures necessary prior to commencement of work. |

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# 1.0 INTRODUCTION

Inland Rail Pty Ltd (IRPL - the Proponent) has engaged John Holland Group to undertake construction works for the Illabo to Stockinbingal (I2S) section of the Inland Rail Project (the Project). Mountains Heritage and Apex Archaeology have joined together to assist John Holland Group in the additional archaeological work required for the Project prior to construction commencing. Approval for the Project was granted on 4 September 2024 by the Minister for Planning (SSI-9406) and was subject to a number of Conditions of Approval (CoA). This work builds on the work undertaken previously by GML Heritage Pty Ltd (GML) and is required to meet the CoA for the Project.

The I2S Rail Corridor is located between Illabo in the south and Stockinbingal in the north, and falls within two Local Government Areas (LGAs), being Junee LGA in the south and Cootamundra-Gundagai LGA in the north. It is located within the Wagga Wagga Local Aboriginal Land Council (LALC) boundaries to the south, and Young LALC to the north. The study area varies in width for operational reasons such as construction compounds and stockpiles.

Key features of the proposal include:

- Connection to other rail lines, including Stockinbingal to Parkes line, Lake Cargelligo line and Main Southern Railway;
- One crossing loop and maintenance siding;
- Level crossing and stock crossings;
- Bridges over river and other watercourses, floodplains and roads;
- Upgrade of around 3.5km of existing track for the tie-in works to the existing Main South Line at Illabo;
- New Track to maintain Lake Cargelligo line connection either side of the proposal;
- Realignment and road-over bridge for a section of the Burley Griffin Way at Stockinbingal;
- Realignment of Ironbong Road to allow for safe sight lines at the new active level crossing;
- Ancillary infrastructure to support the proposal, inclusive of signalling and communications, drainage, drainage control areas, signage and fencing and services and utilities; and
- Construction infrastructure, including ancillary facilities, and a temporary workforce accommodation facility.

Figure 1: Study Area (Source: I2S EIS)

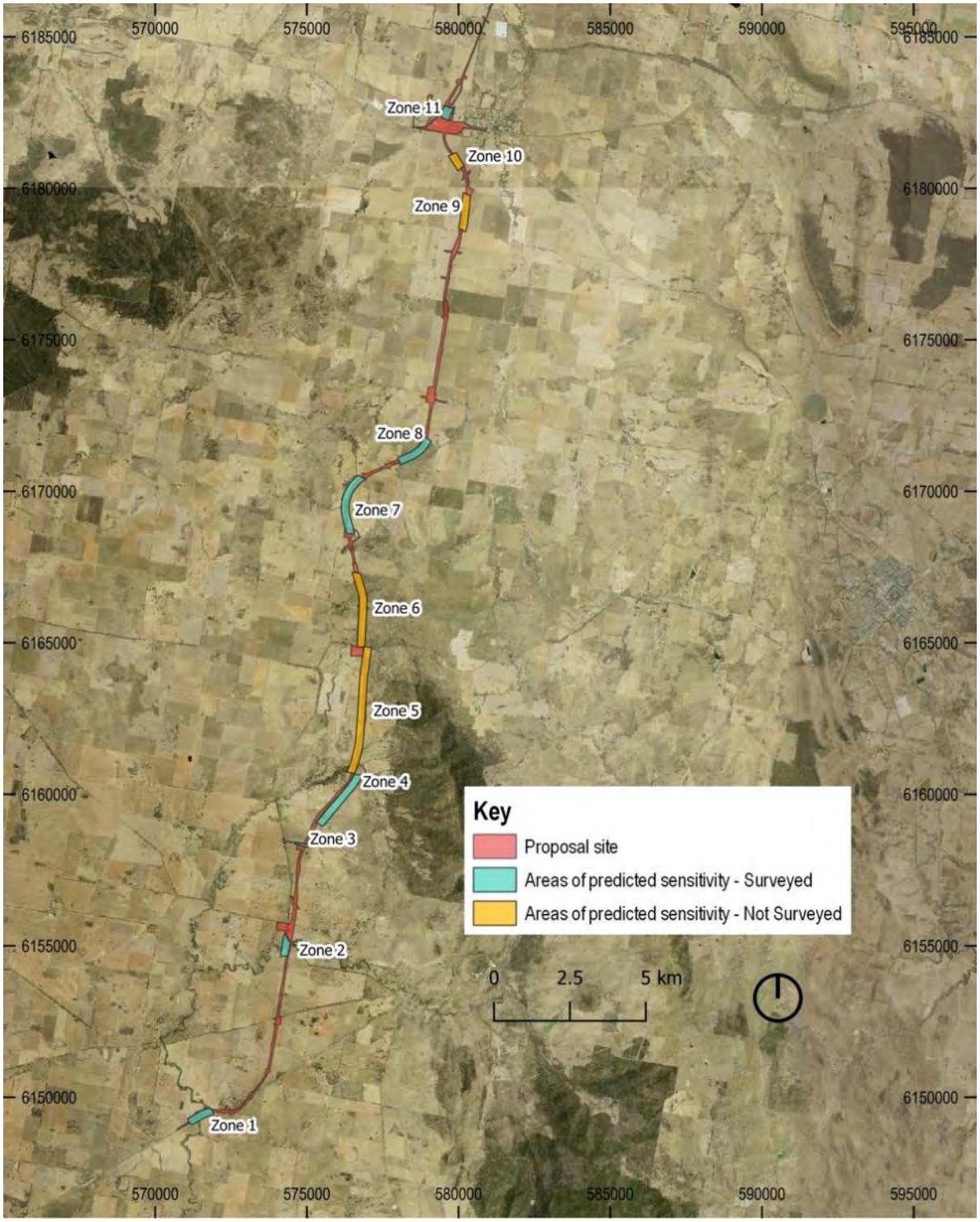


**Figure 2: Survey Zones established by GML in 2022 (Source: Figure 5.1 of GML, 2022: 57). Note Zone 11 East is not shown on this figure and is located just west of Zone 11.**

## 1.1 PROJECT BACKGROUND

GML prepared an Aboriginal Cultural Heritage Assessment Report (ACHAR) to inform the Environmental Impact Statement (EIS) for the project in August 2022. As part of their assessment, they undertook consultation with the Aboriginal community, as well as surveying accessible portions of the study area, and completing test excavations within areas that were considered likely to have subsurface potential archaeological deposits (PAD).

The study area has been separated into zones for assessment purposes, and GML undertook test excavations within Zones 1, 2, 4, 7 South, 7 North, 8, 11 and 11 East. Some parts of these zones and test excavation areas are located outside the formal EIS boundaries defined for the project as the ACHAR considered a wider corridor that was later reduced to form the EIS curtilage.

Areas of sensitivity were predicted to be located within Zones 5 and 6 but were not tested by GML due to lack of access.

A total of 231 test excavation units were excavated by GML within those zones, with 133 stone artefacts recovered from subsurface deposits during the test excavations. Zones 7 and 8 did not contain artefacts within the test excavation units excavated.

GML then finalised their ACHAR which detailed the assessment they had completed for the project. Subsequent to the submission of the ACHAR as a part of the EIS for the project, Heritage NSW reviewed the ACHAR and issued a letter of advice on 22 October 2022 with a number of concerns regarding the test excavation and surface collection that were undertaken.

During preparation of the ACHAR, the zones of sensitivity/PAD initially identified within Zones 5 and 6 were refined following completion of the GML test excavations in other zones, based on the results obtained within the other zones which allowed refinement of the predictive modelling within the entire area. Additionally, GML did not consider that Zones 9 and 10 were likely to contain areas of potential and this also contributed to this area not being subject to archaeological survey during preparation of the ACHAR as part of the EIS process.

Subsequent to completion and approval of the EIS, the NSW Department of Planning, Housing and Infrastructure issued Conditions of Approval (CoA) for the project on 6 September 2024. CoA E135 requires these zones to be archaeologically surveyed and test excavation undertaken as necessary within the zones to determine the nature and extent of any archaeological sites present within the areas.

Apex Archaeology have now completed the survey and test excavation within these additional zones as required under CoA E135. This document presents preliminary results of this additional assessment, and provides further information regarding the next steps required for the management of Aboriginal archaeological sites within the overall I2S EIS boundary.

## 1.2 CONDITIONS OF APPROVAL

As part of the project approval, a number of CoA relating to Aboriginal heritage were included, with these required to be met prior to construction works commencing within specific zones. The CoAs relevant to Aboriginal cultural heritage are outlined below.

| CoA # | CoA Requirement |
|---|---|
| E133 | An Aboriginal Cultural Values Plan must be prepared to inform how Aboriginal Cultural Values will be integrated into the broader design of the SSI including design elements (form and fabric), landscaping (the collection, propagation and replanting of traditional plant resources), language; and cultural design principles. The Plan must identify how interpretive themes and cultural values will be implemented and provide a timeframe for their provision during construction.<br>The Plan must recognise the spiritual, intangible, linguistic and cultural values of the sites to Aboriginal people and address the full story of the place (s) (i.e. landscape through the eyes of Aboriginal people); Aboriginal design and story elements, patterns and motifs or other appropriate visual interpretations.<br>The Plan will be developed in conjunction with the Aboriginal Community and Stakeholder Engagement Strategy. The Strategy will detail the consultation process with Aboriginal stakeholders and identify the Aboriginal Cultural Values to be incorporated into the design of the CSSI.<br>The Aboriginal Cultural Values Plan shall be submitted for the approval of the Planning Secretary one (1) month prior to commencing construction. The Aboriginal Cultural Values Plan must be implemented. |
| E134 | Aboriginal cultural heritage artefacts and culturally modified trees that are to be retained within the rail corridor are to be protected during routine maintenance and repair activities during operation in accordance with ARTC's standard operational environmental management procedures. |
| E135 | Prior to the commencement of any ground disturbance work within areas identified as requiring archaeological investigation or salvage identified in documents listed in Condition A1, the Proponent must prepare and implement an Additional Aboriginal Archaeological Survey Methodology and an Aboriginal Archaeological Test Excavation Methodology. The methodology must include procedures for additional archaeological survey of Zones 5, 6, 9, and 10, and management protocols including consultation with the Registered Aboriginal Parties, for any Aboriginal objects and sites identified during the survey. |
| E136 | Following analysis of the test excavation results, the Proponent must prepare and implement an Aboriginal Archaeological Salvage Excavation Methodology. |
| E137 | Following additional survey, test and salvage excavation, if sites are identified that exceed the expected level of significance identified in the Aboriginal Cultural Heritage Assessment Report, further consultation with Heritage NSW and the RAPs must be undertaken and consideration given, where feasible, for avoidance by the project. |
| E138 | The Additional Aboriginal Archaeological Survey Methodology, Aboriginal Archaeological Test Excavation Methodology and Aboriginal Archaeological Salvage Methodology must be prepared by a suitably qualified expert in consultation with Heritage NSW and RAPs, and provided to the Planning Secretary for information at least one month prior to test or salvage excavation. |
| E139 | At the completion of Aboriginal cultural heritage survey and test and salvage excavations, an Aboriginal Cultural Heritage Excavation Report(s) must be prepared by a suitably qualified expert. The Aboriginal Cultural Heritage Excavation Report(s) must: |

| CoA # | CoA Requirement |
|---|---|
| | a) Be prepared in accordance with the Guide to Investigating, assessing and reporting on Aboriginal cultural heritage in NSW, OEH 2011 and the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, DECCW 2010a; and<br>b) Document the results of the archaeological survey and test excavations and any subsequent salvage excavations (with artefact analysis and identification of a final repository for finds).<br>The RAPs must be given a minimum of 28 days to consider the report and provide comments before the report is finalised. The final report must be provided to the Planning Secretary, Heritage NSW, the relevant Councils, relevant LALCs and the RAPs within 24 months of the completion of the Aboriginal archaeological excavations (both test and salvage). |
| E140 | Ground disturbance works and construction work may not commence in those areas where archaeological excavation and surface collection of Aboriginal objects is required (including areas identified as requiring further assessment) until the archaeological works described in the Aboriginal Cultural Heritage Assessment reports listed in Condition A1 have been completed. |
| E141 | At the completion of surface collection, test excavations, and salvage excavations, Aboriginal Site Impact Recording Forms (ASIRF) must be submitted to the Aboriginal Heritage Information Management System (AHIMS) and evidence provided of submission to the AHIMS Registrar. |
| E142 | Where previously unidentified Aboriginal objects or Aboriginal Places are discovered, all work must immediately stop in the vicinity of the affected area. Works potentially affecting the previously unidentified objects or places must not recommence until Heritage NSW has been informed. The measures to consider and manage this process must be specified in the Unexpected Heritage Finds and Human Remains Procedure required by Condition E143 and include registration in the Aboriginal Heritage Information Management System. |
| E143 | An Unexpected Heritage Finds and Human Remains Procedure must be prepared to manage unexpected heritage finds in accordance with any guidelines and standards prepared by Heritage NSW and submitted to the Planning Secretary for information before the commencement of Work. |
| E144 | The Unexpected Heritage Finds and Human Remains Procedure, as submitted to the Planning Secretary, must be implemented for the duration of Work. |

This methodology has been prepared in accordance with Conditions of Approval E136, E137, E138, E140 and E141.

## 1.3 Revised Mitigation Measures

The following Revised Mitigation Measures (RMMs) are relevant to Aboriginal Cultural Heritage.

| Ref | Issue | Mitigation |
|---|---|---|
| AH-1 | Avoiding and minimising impacts on Aboriginal heritage | Detailed design and construction planning would avoid direct impacts on identified items/sites of Aboriginal heritage significance as far as reasonably practicable. The location of construction compounds and associated access routes would be reviewed to ensure, as far as practicable, they are not located in areas of medium or high archaeological potential. |
| AH-2 | Management of salvaged items | A detailed salvage methodology would be prepared by a suitably qualified archaeologist in consultation with relevant registered Aboriginal parties. The methodology would be |

| Ref | Issue | Mitigation |
|---|---|---|
| | | included in the Aboriginal cultural heritage management plan (mitigation measure AH-9) to ensure any artefacts salvaged are managed in accordance with the requirements of the *National Parks and Wildlife Act 1974*). This includes artefacts within the areas of Zone 1 and Zone 2.<br>The methodology would include the process for consultation with Heritage NSW and registered Aboriginal parties in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW, 2010a) the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010b), and the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011a). It would also include requirements in relation to the management of, and care and control plans for, salvaged objects.<br>Registered Aboriginal parties would be engaged to assist in the salvage, which would be managed by an appropriately qualified archaeologist engaged to support the process.<br>Detailed analysis and reporting of cultural material collected would be provided to the NSW Department of Planning and Environment. |
| AH-3 | Management of salvaged items | Archaeological survey and test excavation (if required) would be performed prior to the commencement of impact works at Zone 5, 6, 9 and 10, to confirm the precise nature and extent of the archaeological resource and to inform the selection of the applicable mitigation measures. |
| AH-4 | Management of salvaged items | Additional mitigation and management measures would be developed, in consultation with the registered Aboriginal parties, for areas or items of Aboriginal cultural heritage significance identified during the archaeological survey (mitigation measure AH-3). The additional measures would be included in the Aboriginal cultural heritage management plan (mitigation measure AH-9). |
| AH-6 | Impacts on artefact scatters | Surface collection (salvage) of artefacts that were identified in Zones 1, 2, 4, 7 and 11 would occur prior to construction in accordance with the approved salvage methodology. |
| AH-9 | Protecting Aboriginal heritage and minimising impacts during construction | An Aboriginal cultural heritage management plan would be prepared prior to construction and implemented as part of the CEMP. The plan would include measures to minimise the potential for impacts and manage Aboriginal heritage, including:<br>• **A salvage methodology (mitigation measure AH-2)**<br>• An unexpected finds procedure (mitigation measure AH-11)<br>• Plans and installation procedures for fencing and protective coverings<br>• Induction package for construction workers and supervisors<br>• Erosion and sediment controls in accordance with Managing Urban Stormwater: Soils and construction – Volume 1 (Landcom, 2004) to minimise the potential for erosion impacts to Aboriginal sites located close to watercourses/drainage lines |

| Ref | Issue | Mitigation |
|---|---|---|
| | | • Investigation of the anthropogenic nature of scarred trees within the project area by a specialist in Aboriginal cultural heritage<br>• Measures to manage the potential for impacts to potential Aboriginal heritage items (including burial sites) located in sensitive landscapes (such as alluvium landscapes)<br>• **Measures to protect sites close to the proposal site from inadvertent impacts**<br>• **Outcomes of further investigations (mitigation measures AH-3 and AH-5)**<br>• **A repatriation process for collected artefacts**<br>The plan would be prepared in consultation with registered Aboriginal parties and the NSW Department of Planning and Environment. |

This methodology has been prepared in accordance with RMMs AH-1, AH-2, AH-3, AH-4, AH-6 and AH-9, specifically those shown in **bold** above.

## 1.4 PURPOSE

This Aboriginal Archaeological Salvage Excavation Methodology (AASEM) has been prepared to address the requirement of cultural heritage management to be considered in the construction and development of the study area, and ensure sites are managed appropriately during the construction period.

The document has been designed to minimise impacts from development activities within the study area on Aboriginal cultural heritage by describing strategies for the management of Aboriginal sites during the undertaking of these activities.

Specifically, the AASEM has been developed in order to:

- Establish appropriate measures to avoid, minimise, or mitigate identified impacts;
- Outline the protection that will be established for sites which should be avoided;
- Provide a methodology for undertaking salvage works at sites that cannot be avoided and require salvage, whether surface collection or salvage excavation;
- Document the roles and responsibilities of the proponent, their contractors, the community, and RAPs, during each stage of the development and into the future;
- Detail the results of the Aboriginal community consultation undertaken for the project, and to provide guidelines for future consultation with RAPs for the project; and
- Document the tasks that must be completed to ensure long term protection of the Aboriginal cultural heritage values of the area designated for praotection.

## 1.5 CONSULTATION

Consultation has been undertaken for the project with both Registered Aboriginal Parties (RAPs) and Heritage NSW, and methodologies along with management and mitigation measures have been prepared in consultation with RAPs and Heritage NSW.

A draft of this document was circulated to all RAPs, and any feedback or comments have been incorporated into the AASEM as appropriate. The draft was sent to all RAPs on 29 September 2025. Comments were received from two RAPs and are detailed below.

Norma Freeman responded on behalf of Young LALC and noted some minor errors in text which were corrected (names had been inadvertently transposed), and additionally asked two questions as follows:

- *5.2 Mitigation measures – were there any Scar Trees in the pathway of the new Rail?*
- *5.7 Artefacts & Chain of Custody – did all RAPs agree to the Reburial? Some may be held in the LALC for teaching purpose/s. (I just wanted to clarify this as I wouldn't like someone to come back and say they were not asked.)*

Jenni Bate responded with thanks for identifying the minor errors, and stated the following:

> *This document is essentially asking all RAPs what they would like to see happen, with the most feasible option included in the draft methodology for comment. However, if anyone says that they do not want to see items reburied and say they have alternative requests, this will absolutely be considered for long term management of the artefacts.*
>
> *There are no Scar Trees in the rail pathway itself. There are a number on the outskirts of the corridor but these will all be avoided with high vis fencing around them to make sure they aren't impacted. There are a number of management plans for the work and known scar trees have been included in a separate plan – this current document is specifically about the remaining salvage works and management of newly identified sites after the test excavation.*

Merekai Bell responded on behalf of Yurwang Gundana with a lengthy discussion of the AASEM, essentially providing a summary of the document and emphasising the need for RAP engagement and involvement. No specific cultural information or amendments to the AASEM were included in the document. Jenni Bate provided a response to Merekai, acknowledging the comments and confirming that they either have or will be implemented in the process moving forward.

No other responses were received from any of the RAPs. Copies of the consultation are attached to this document.

# 2.0 ADDITIONAL SURVEY AND TEST EXCAVATION RESULTS

An Additional Survey and Test Excavation Methodology (ASTEM) was developed and provided to the Registered Aboriginal Parties (RAPs) as part of the consultation process completed for the project. The methodology included assessment of all landforms within Zones 5, 6, 9 & 10 that have the potential to be impacted by the proposed development. Areas considered likely to have archaeological potential were closely scrutinised, although the entire study area was considered.

The sampling strategy outlined in the ASTEM included assessment of the entirety of the study area within Zones 5, 6, 9 & 10 accessible due to the nature of the proposal in order to provide an accurate assessment of the study area in relation to the proposed impacts.

## 2.1 SITE INSPECTION

A site survey was undertaken across zones 5, 6, 9 & 10 over three days on 2nd, 3rd and 6th June 2025 by Leigh Bate and Peta Rice, Archaeologists with Apex Archaeology, accompanied by Leonard Lyons, Darryl Charles and Nathan Williams from Wagga LALC on 2nd and 3rd June 2025, and Marnie Freeman & Makali Tonpi from Young LALC on 6th June 2025. Tess Anastakis, Graduate Environmental Scientist from John Holland Group assisted with the inspection of all four additional survey zones.

## 2.2 SURVEY COVERAGE

The survey was conducted on foot for the purposes of discovering Aboriginal objects within the study areas, including areas considered to have potential for subsurface objects to be present, and to assist in identifying intangible cultural values in consultation with the Aboriginal community. The survey was undertaken in accordance with the sampling strategy prepared for the project.

Zones 5, 6, 9 & 10 were surveyed in in their entirety from one end of each zone to the other and back.

Each participant was responsible for inspecting a 2m wide portion of the transect walked. This meant that on each pass an area covering 8m to 10m would be observed for archaeological material by the survey team. Some areas of the zones were inaccessible with high grass cover and no visibility, so areas of exposure were targeted as a priority.

| | | | |
|---|---|---|---|
| **Survey Unit:** | 1 | **Survey Area:** | Zone 5 |
| **Number of Survey Participants:** | 4 | | |
| **Landform Elements:** | Flat/Gentle Slope/Creek Bank/Modified | **Distance to Watercourse:** | 0m (Run Boundary Creek) |
| **Slope:** | Gentle (>1.45°-5.45°) | **Vegetation:** | Cleared/Regrowth |
| **Detection Limiting Factors:** | Grass, Gravels, Leaf Litter, Redeposited Sediment | **Ground Disturbance:** | Low to Moderate |
| **Survey Unit Length:** | 7,975m | **Ground Surface Visibility:** | 40% |
| **Total Area surveyed** | 63,800m² | **Archaeological Visibility:** | 10% |

Plate 1: Looking south from the northern end of Zone 5 along the proposed rail alignment.

Plate 2: Looking south across Zone 5 PAD 1 North.

Plate 3: Looking south towards Run Boundary Creek across Zone 5 PAD 1 South.

Plate 4: Looking south towards southern end of Zone 5.

| | |
|---|---|
| **AHIMS Sites within or in close proximity to the study area:** | None |
| **Areas of sensitivity identified by GML (2022)** | Zone 5 PAD 1 North; Zone 5 PAD 2 South |
| **Newly Recorded Sites:** | IR-IF-01 |
| **Areas of sensitivity confirmed:** | Zone 5 PAD 1 North, Zone 5 PAD 2 South |

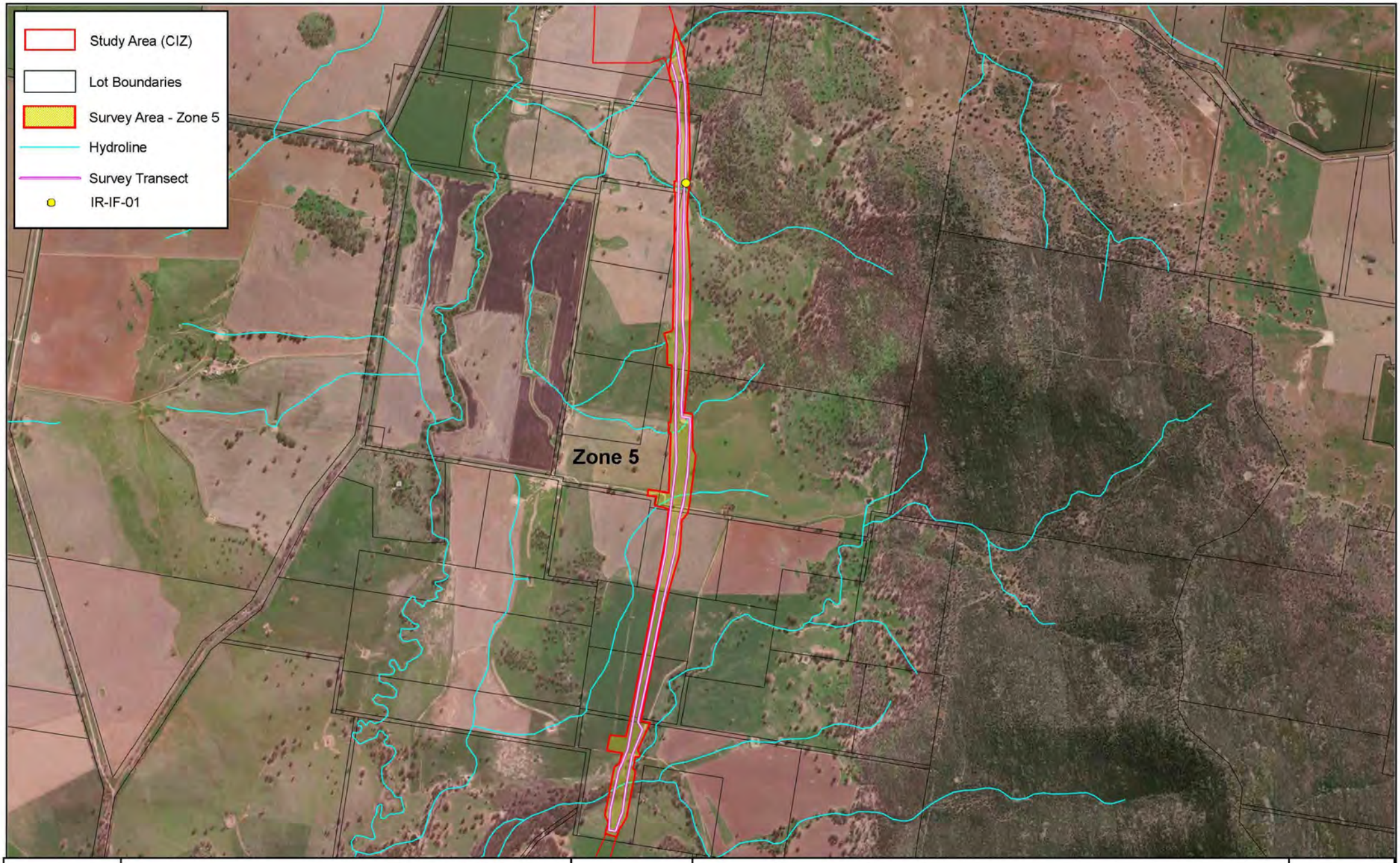


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Figure 3: Survey transect and newly identified Aboriginal site (Zone 5).

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|---|---|---|---|
| **Survey Unit:** | 2 | **Survey Area:** | Zone 6 |
| **Number of Survey Participants:** | 4 | | |
| **Landform Elements:** | Flat/Gentle Slope/Creek Bank/Modified/Ridge | **Distance to Watercourse:** | 0m (Isobel Creek) |
| **Slope:** | Moderate (>5.45°-18°) | **Vegetation:** | Grass, Regrowth |
| **Detection Limiting Factors:** | Grass, Gravels, Leaf Litter, Redeposited Sediment | **Ground Disturbance:** | Low to Moderate |
| **Survey Unit Length:** | 4,882m | **Ground Surface Visibility:** | 40% |
| **Total Area surveyed** | 39,056m² | **Archaeological Visibility:** | 15% |

Plate 5: Looking north from southern end of Zone 6 from Dirnaseer Road.

Plate 6: Looking north upslope within Zone 6.

Plate 7: Looking north from ridgeline above Isobel Creek.

Plate 8: Looking north towards northern end of Zone 6.

| | |
|---|---|
| **AHIMS Sites within or in close proximity to the study area:** | None |
| **Areas of sensitivity identified by GML (2022):** | Zone 6 PAD |
| **Newly Recorded Sites:** | IR-IF-03 |
| **Areas of sensitivity confirmed:** | Zone 6 PAD 1, Zone 6 PAD 2, Zone 6 PAD 3, Zone 6 PAD 4, Zone 6 PAD 5, Zone 6 PAD 6 |

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Figure 4: Survey transect and newly identified Aboriginal site (Zone 6).

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| **Survey Unit:** | 1 | **Survey Area:** | Zone 9 |
| **Number of Survey Participants:** | 4 | | |
| **Landform Elements:** | Flat/Gentle Slope | **Distance to Watercourse:** | 60m (Powder Horn Creek) |
| **Slope:** | Gentle (>1.45°-5.45°) | **Vegetation:** | Cleared/Regrowth |
| **Detection Limiting Factors:** | Grass, Gravels, Leaf Litter, Redeposited Sediment | **Ground Disturbance:** | Moderate |
| **Survey Unit Length:** | 2,417m | **Ground Surface Visibility:** | 40% |
| **Total Area surveyed** | 19,336m² | **Archaeological Visibility:** | 15% |

Plate 9: Looking north through Zone 9 from the southern end.

Plate 10: Looking north along Zone 9.

Plate 11: Looking north towards the northern end of Zone 9 within Zone 9 PAD 1.

Plate 12: Northern end of Zone 9.

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| **AHIMS Sites within or in close proximity to the study area:** | None |
| **Newly Recorded Sites:** | IR-IF-02 & Zone 9 PAD 1 |

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Figure 5: Survey transect and newly identified Aboriginal site (Zone 9).

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|---|---|---|---|
| **Survey Unit:** | 2 | **Survey Area:** | Zone 10 |
| **Number of Survey Participants:** | 4 | | |
| **Landform Elements:** | Creek Bank/Flat/Gentle Simple Slope | **Distance to Watercourse:** | 0m (Powder Horn Creek) |
| **Slope:** | Moderate (>5.45°-18°) | **Vegetation:** | Grass, Regrowth |
| **Detection Limiting Factors:** | Grass, Gravels, Leaf Litter, Redeposited Sediment | **Ground Disturbance:** | Moderate |
| **Survey Unit Length:** | 1,041m | **Ground Surface Visibility:** | 55% |
| **Total Area surveyed** | 8,328m² | **Archaeological Visibility:** | 10% |

Plate 13: Looking north west from the southern end of Zone 10.

Plate 14: Looking west across area of PAD within Zone 10.

Plate 15: Looking south east across area of PAD within Zone 10 from northern end.

Plate 16: Northern boundary of Zone 10 looking south east.

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| **AHIMS Sites within or in close proximity to the study area:** | None |
| **Newly Recorded Sites:** | Zone 10 PAD 1 |

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Figure 6: Survey transect and newly identified Aboriginal site (Zone 10).

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Table 1: Survey units within study area

| Unit name | Landform Element | Number of participants | Total Length |
|---|---|---|---|
| Survey Unit 1 | Flat/Gentle Slope/Creek Bank/Modified | 4 | 7,975m |
| Survey Unit 2 | Flat/Gentle Slope/Creek Bank/Modified/Ridge | 4 | 4,882m |
| Survey Unit 3 | Flat/Gentle Slope | 4 | 2,417m |
| Survey Unit 4 | Creek Bank/Flat/Gentle Simple Slope | 4 | 1,041m |

During the survey completed by Apex Archaeology, the study area was inspected for Aboriginal archaeological evidence. An assessment of landform element and slope was made for the study area, with the results presented in Table 1.

The total survey coverage (meaning the areas physically inspected for archaeological evidence) was approximately 130,520m². A range of factors were considered and recorded during the survey, including the surface visibility (percentage of bare ground within a survey unit); archaeological visibility (amount of bare ground within an area in which artefacts could be expected to be identified if present); exposure type (A or B soil horizon) and calculations of how effective the survey coverage was. The results of the survey coverage are presented in Table 2.

Table 2: Survey coverage results

| Survey Area # | Total Area Surveyed (m²) | Surface Visibility (%) | Arch Vis (%) | Exposure Type (A/B) | Effective Coverage (m²) | % Total Effective Survey Coverage of Context |
|---|---|---|---|---|---|---|
| SU01 | 63,800m² | 40 | 10 | A/B | 2,552m² | 4 |
| SU02 | 39,056m² | 40 | 15 | A/B | 2,343.36m² | 6 |
| SU03 | 19,336m² | 40 | 15 | A/B | 1160.16m² | 6 |
| SU04 | 8,328m² | 55 | 10 | A | 458.04m² | 5.5 |

Surface visibility across the study areas was generally quite good due to the nature of the area being assessed (cultivated farmland). Total effective survey coverage of the survey transects ranged from 4% to 6% (Table 2). Total effective survey coverage for each study area zone ranged from 0.14% to 0.84% (Table 3).

Table 3: Total effective survey coverage results SU01 to SU04

| Survey Area # | Total Area of Study Area (m²) | Total Area Effectively Surveyed (m²) | Surface Visibility (%) | Arch Vis (%) | Exposure Type (A/B) | % Effective Survey Coverage of Context (Total Area) |
|---|---|---|---|---|---|---|
| SU01 | 331,400m² | 2,552m² | 40 | 10 | A/B | 0.77 |
| SU02 | 268,900m² | 2,343.36m² | 40 | 15 | A/B | 0.87 |
| SU03 | 811,700m² | 1160.16m² | 40 | 15 | A/B | 0.14 |
| SU04 | 54,090m² | 458.04m² | 55 | 10 | A | 0.84 |

## 2.3 Survey Results

The study areas have clearly been disturbed by historic land clearance and ongoing agricultural activity. The levels of disturbance were assessed as being overall low to moderate due to the levels of modification relating to landscape modification and farming practices.

Ground surface visibility (GSV) was moderate throughout the study area. GSV was rated at 40% to 55% overall for the areas surveyed.

Ten areas of potential archaeological deposit (PAD) were identified as an outcome of the additional survey work undertaken. Previously, the entirety of Zone 6 along with two areas in Zone 5, were identified by GML via a desktop analysis as being predicted areas of Aboriginal sensitivity/PAD. During the survey these areas were reassessed and refined to specific focal areas within the landscape that were considered to meet the occupation predictive model for Aboriginal site locations.

Specifically, in Zone 6 the entirety of the predicted area of Aboriginal sensitivity/PAD was refined into 6 smaller areas, targeting ridgelines and areas bordering creeks and removing significant slopes or areas of disturbance which were considered unlikely to have been utilised for habitation, or to retain archaeological evidence.

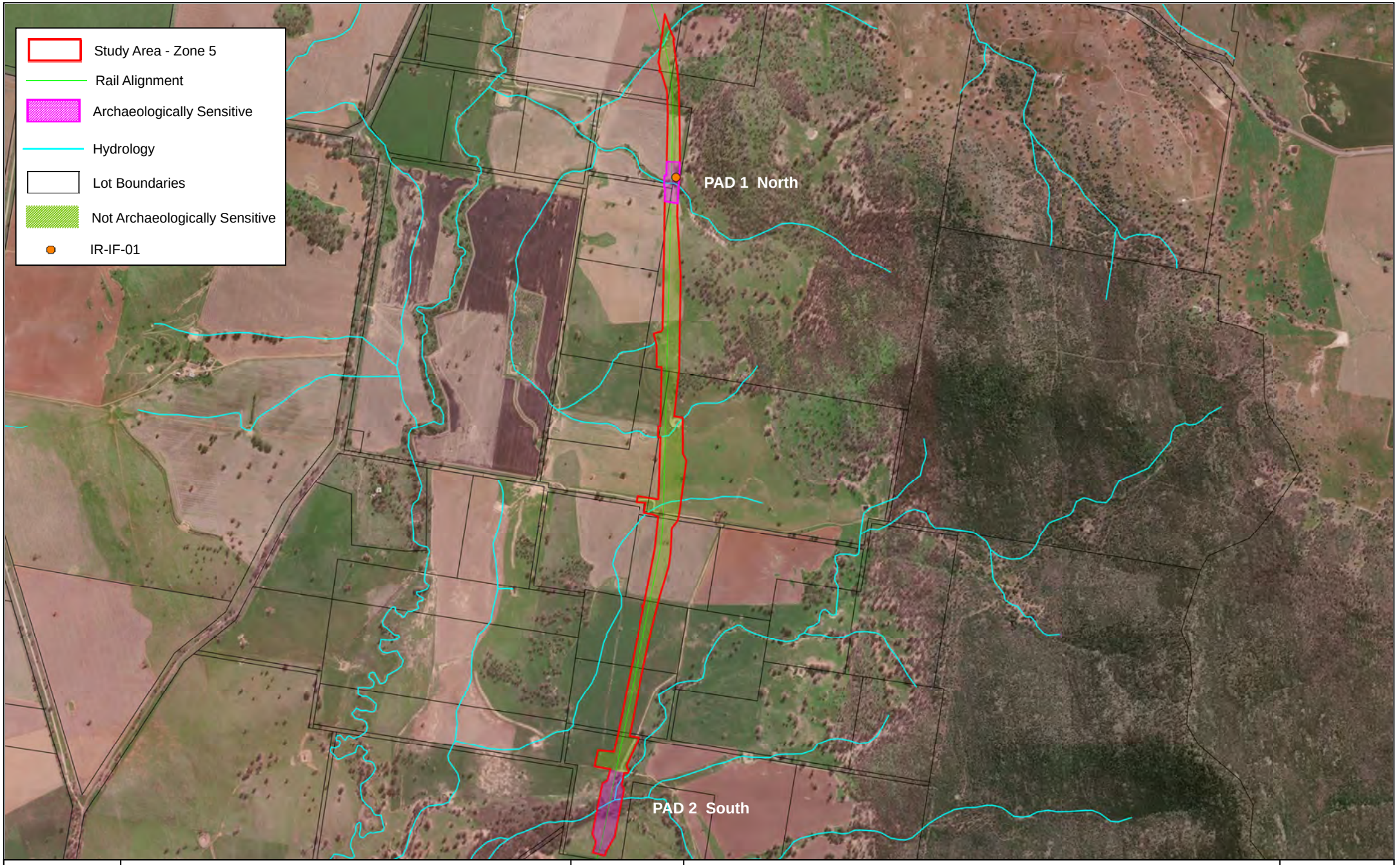


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Figure 7: Refined areas of PAD within Zone 5

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Figure 8: Refined areas of PAD within Zone 6.

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Figure 9: Refined areas of PAD within Zone 9.

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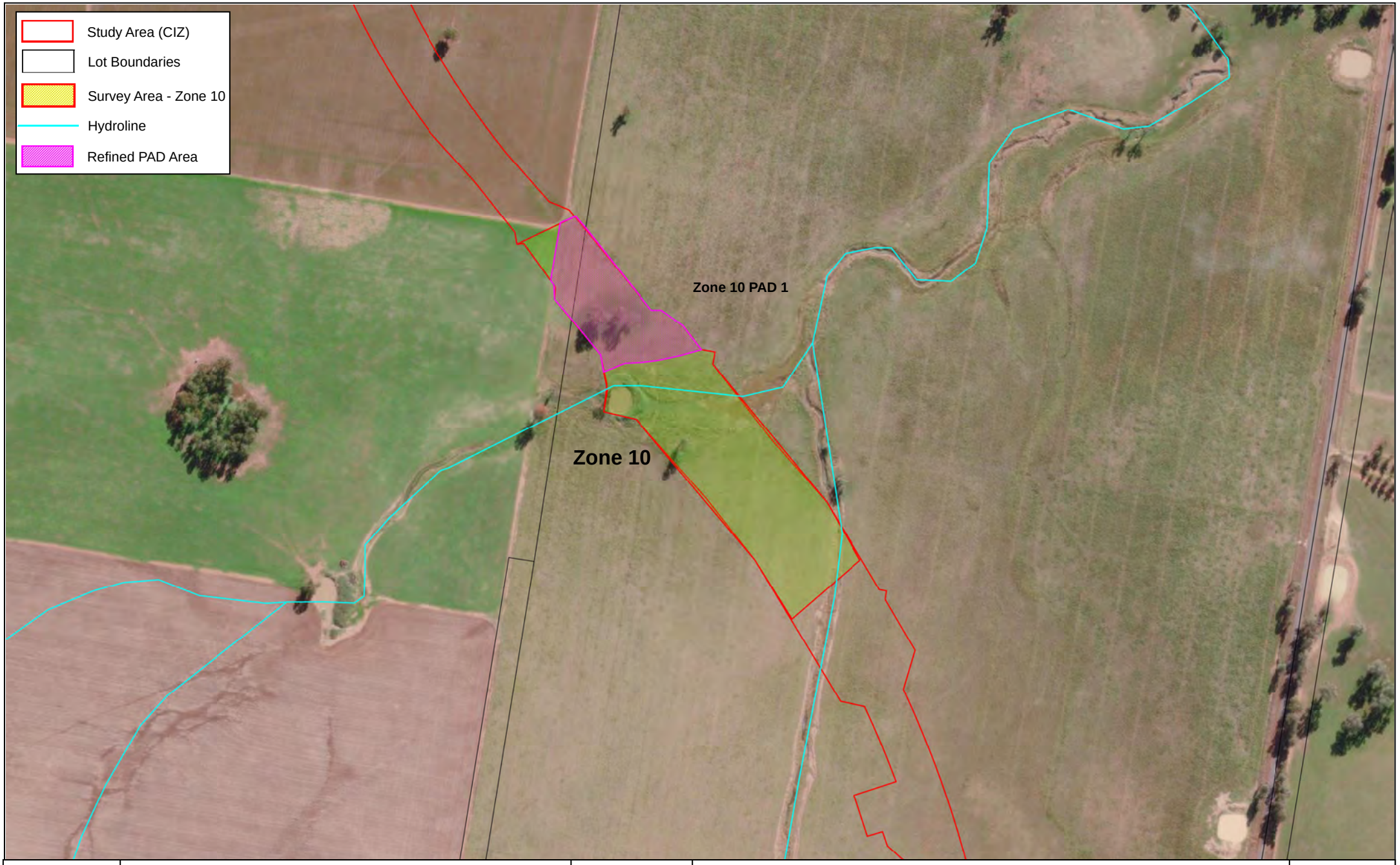


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Figure 10: Refined area of PAD within Zone 10.

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## 2.4 New Sites

A number of new artefact sites were identified during the site inspection. No surface artefacts identified as new sites were removed from their identified location, and these objects remain on site. Further mitigation measures are outlined in this AASEM.

### 2.4.1 IR-IF-01 (AHIMS #50-5-0311)

IR-IF-01 consists of a single quartz flake located along the fence line within Zone 5 towards the northern end of the zone. The isolated find is located on the northern side of an unnamed ephemeral first order creek line. Site is located approximately 900m south of Dirnaseer Road within the CIZ. The coordinates of the site are GDA94 Zone 55 576910E:6163957N.

Plate 17: Quartz Flake – Ventral Surface.

Plate 18: Quartz Flake – Dorsal Surface.

Plate 19: Context – IR-IF-01 – North – Close Up.

Plate 20: Context – IR-IF-01 – North – Expanded view.

### 2.4.2 IR-IF-02 (AHIMS #50-5-0310)

IR-IF-02 consists of a broken hammer stone/anvil located along the fence line within Zone 9 approximately 9m west of Dudauman Road and approximately 250m north of the southern end of Zone 9. The coordinates of the site are GDA94 Zone 55 580154E:6178877N.

Plate 21: Looking north along eastern boundary fence of Zone 9 over IR-IF-01 site location.

Plate 22: Looking east towards Dudauman Road across IR-IF-01.

Plate 23: Broken Hammer Stone/Anvil.

Plate 24: Broken Hammer Stone/Anvil.

### 2.4.3 IR-IF-03 (AHIMS # 50-5-0312)

Site consists of a single basalt edge ground axe located within an area of PAD whilst test excavation was being undertaken. The axe was identified by opportunistic survey. Axe blade exhibits use wear along blade edge and edge damage from agricultural movement. The axe also appears to have been heavily utilised as an anvil with deep pitting on one side and potential use as a hammer stone from pitting alone the edges. Site is located 1.6km north of Dirnaseer Road within Zone 6 PAD 3. The coordinates for the site are GDA94 Zone 55 576781E:6166447N.

Plate 25: Close up of IR-IF-03 in situ.

Plate 26: Site context looking south west.

Plate 27: Basalt Edge Ground Axe.

Plate 28: Basalt Edge Ground Axe.

Plate 29: Basalt Edge Ground Axe.

Plate 30: Basalt Edge Ground Axe.

## 2.5 Surface Collection (Zone 7 and 11)

### Surface Artefact Collection

Within Zones 7 and 11, four isolated artefacts were identified but could not be relocated by GML during their assessment. In accordance with the ASTEM, these artefact sites were revisited to provide the RAPs an opportunity to relocate and collect these items associated with these sites if they could be relocated. Both Wagga LALC (Daryl Lyons) and Young LALC (Norma Freeman) attended the collection of these sites. These sites are as follows:

- 50-5-0268
- 50-5-0272
- 50-2-0054
- 50-5-0273

These sites are shown on Figures 11 and 12. There are additional sites in the area, as shown on these figures, with these sites either having been confirmed as being Not a Site following test excavation, or outside the works area and thus not impacted as part of the project works.

Collection was attempted at all four sites prior to the commencement of ground disturbing geotechnical works in these zones. Where the associated artefacts could not be relocated, no further archaeological work was recommended.

| AHIMS # | Item Relocated | Impact |
|---|---|---|
| 50-5-0268 | No | Unmitigated |
| 50-5-0272 | No | Unmitigated |
| 50-2-0054 | Yes | Mitigated (Surface collection has occurred) |
| 50-5-0273 | No | Unmitigated |

Plate 31: Context of AHIMS site 50-2-0054 looking north west.

Plate 32: Identified lithic item from AHIMS site 50-2-0054.

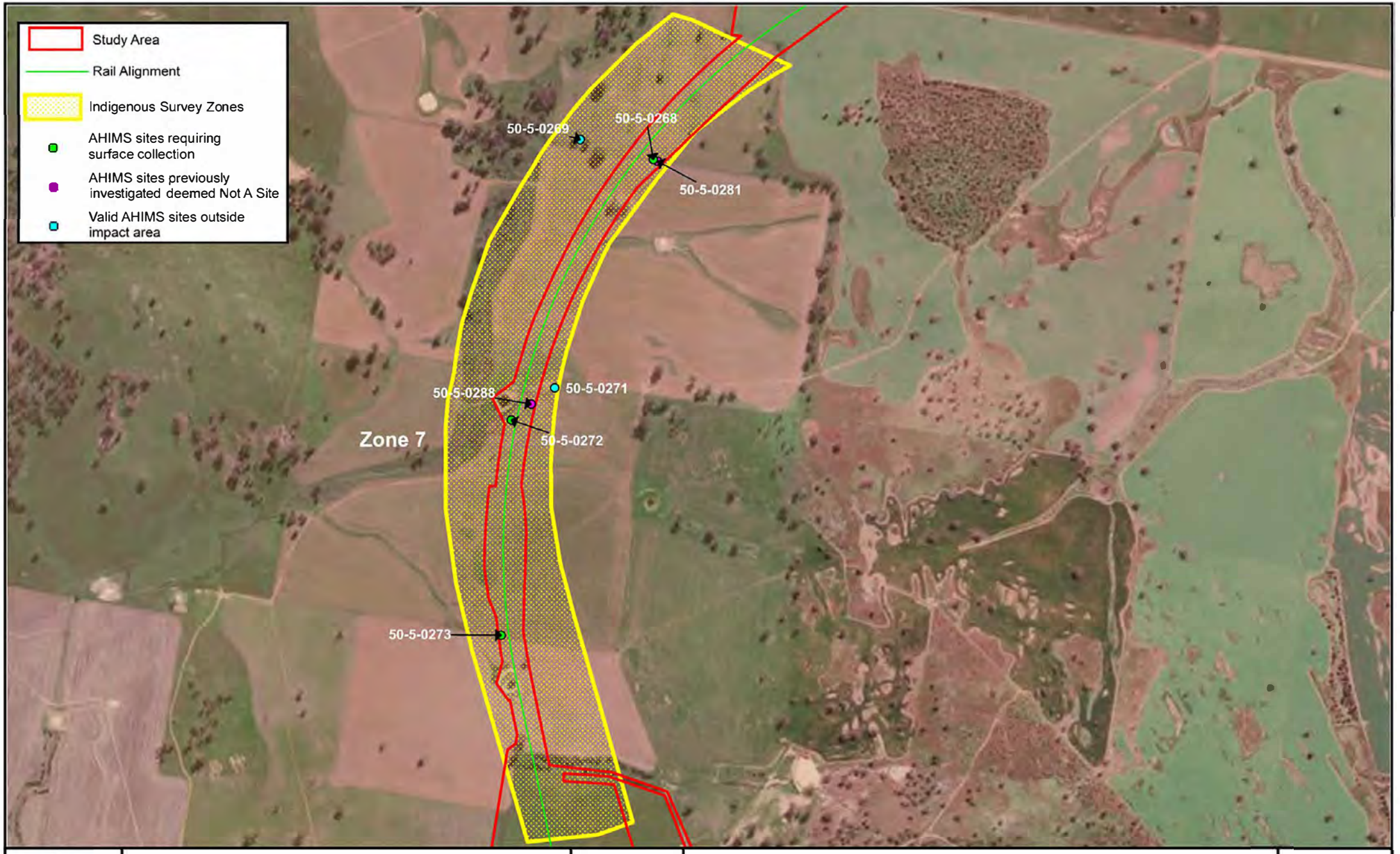


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Figure 11: AHIMS sites within Zone 7

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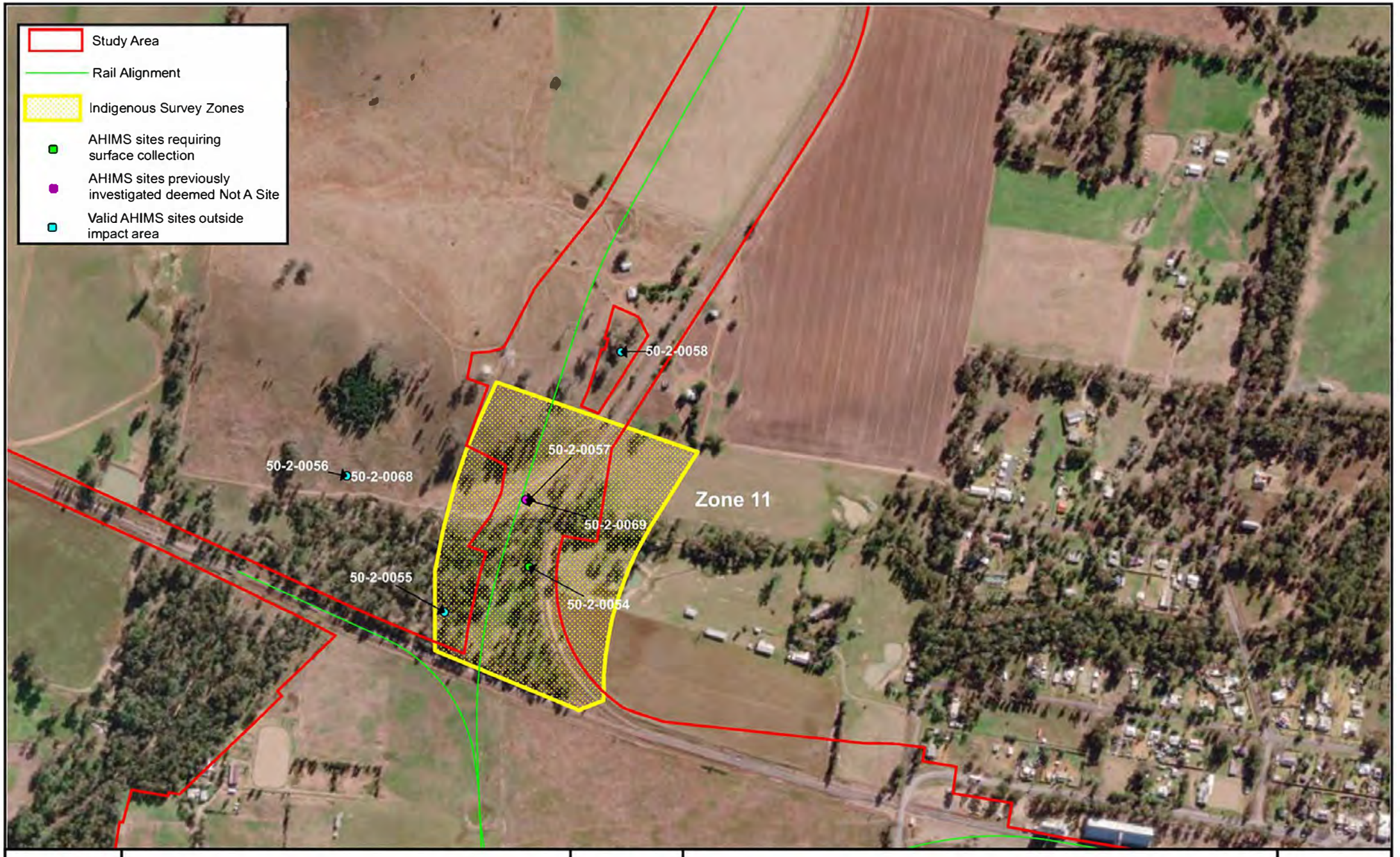


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Figure 12: AHIMS sites within Zone 11

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## 2.6 Results of GML Test Excavation

GML undertook test excavations within Zones 1, 2, 4, 7, 8, 11, and 11 East. Zone 3 was not considered to have subsurface potential and as such, no test excavations were considered necessary within these areas. The results of the test excavations are shown in Table 4. It should be noted that the number of artefacts reported by GML within each zone included both surface finds and results from test pits.

Table 4: Number of test pits excavated within each Zone and number of artefact bearing test pits within each area tested by GML

| Zone | Test pits excavated | # of test pits with artefacts | # of artefacts |
|---|---|---|---|
| 1 | 60 | 26 | 64 |
| 2 | 22 | 7 | 35 |
| 4 | 18 | 5 | 12 |
| 7 | 26 | 0 | 0 |
| 8 | 35 | 0 | 0 |
| 11 | 41 | 3 | 9 |
| 11 East | 29 | 7 | 13 |

Based on the results of the test excavations, GML recommended salvage excavations occur within the higher density areas identified within Zones 1 and 2. Specifically, test pit 19 (571491E:6149441N) within Zone 1 contained nine artefacts, while test pit 88 (574437E:6155021N) within Zone 2 contained five artefacts. Although not expressly outlined in the GML 2022 reporting as test pits requiring salvage, these are the test pits identified by Apex Archaeology as the most appropriate to focus salvage works on within each zone.

The results of the test excavations within Zones 4, 7, 8, 11 and 11 East were considered by GML to represent low density artefact deposits or nil artefacts, and as such, no further archaeological salvage excavation was recommended within these zones.

## 2.7 Test Excavation Results

Test excavation was undertaken across the four remaining zones to be assessed, being Zone 5, 6, 9 and 10. All test pits were excavated in 50 cm x 50 cm squares initially, with 5 cm spits, in accordance with the approved ASTEM. Where necessary, 50 cm x 50 cm test pits were excavated immediately adjacent to create a 1m$^2$ test unit. This was intended to be undertaken if test pits met thresholds for expansion in line with the triggers listed in the ASTEM; however, no test pits within these zones reached the threshold of five artefacts per 50 cm x 50 cm test pit and as such, no expansion occurred.

This section includes preliminary results of the test excavations, including preliminary artefact analysis. Detailed results will be included in the Aboriginal Cultural Heritage Excavation Report (ACHER) to be prepared on completion of all archaeological excavation within the I2S Construction Impact Zone (CIZ). A summary of the results of the test excavation program is shown in Table 5.

Photographs and descriptions of all test pits are included in Appendix B.

Table 5: Number of test pits excavated at Zone and number of artefact bearing test pits within each area tested

| Zone | PAD Area | Test pits excavated | # of test pits with artefacts |
|---|---|---|---|
| 5 | PAD 1 S | 35 | 8 |
| | PAD 1 N | 15 | 2 |
| 6 | PAD 1 | 15 | 1 |
| | PAD 2 | 10 | 0 |
| | PAD 3 | 18 | 4 |
| | PAD 4 | 2 | 0 |
| | PAD 5 | 14 | 2 |
| | PAD 6 | 14 | 1 |
| 9 | PAD 1 | 35 | 1 |
| 10 | PAD 1 | 14 | 0 |

### 2.7.1 ZONE 5

Two areas of PAD were identified in Zone 5 and were designated Zone 5 PAD 1 South and Zone 5 PAD 1 North. A total of 35 test pits were excavated in Zone 5 PAD 1 South and 15 in Zone 5 PAD 1 North. From these test pits, eight in Zone 5 PAD 1 South were confirmed to contain artefacts, while two test pits in Zone 5 PAD 1 North contained artefacts.

Test pits were excavated to a maximum depth of 100 cm, although the average depth was approximately 45 cm. The test pits closer to Run Boundary Creek within Zone 5 PAD 1 South demonstrated evidence potentially related to flood deposits, in the form of clear stratigraphic difference between horizons (refer Plate 33). Test pits further from the creek tended to be shallower than those located closer to the creek.

A total of 16 artefacts were recovered from Zone 5, comprising 13 items from Zone 5 PAD 1 South and three items from Zone 5 PAD 1 North. Test Pit 20 within Zone 5 PAD 1 South contained a total of three artefacts, Test Pit 9 and Test Pit 33 within Zone 5 PAD 1 South each contained two artefacts, and two were recovered from Test Pit 7 within Zone 5 PAD 1 North. All other artefact bearing test pits within both PAD 1 North and PAD 1 South contained single items.

Plate 33: Potential evidence of flood deposit within TP 22, Zone 5 PAD 1 South

### 2.7.2 ZONE 6

Six areas within Zone 6 were assessed as having subsurface potential, with a total of 73 test pits excavated within these areas. Test pits within Zone 6 often demonstrated potential flood deposits visible in their stratigraphy, although test pit depth generally decreased with distance from the watercourses present within this zone.

Test pits in Zone 6 PAD 1 were generally quite deep, reaching depths of 70-80cm. PAD 1 was in proximity to an ephemeral creekline, meaning there was potential for fluvial deposits from floodwaters within this location. Soils in the area were generally a medium to light brown sandy silt, with a darker brown deposit overlying this in some instances and considered to be related to flood deposits.

Plate 34: TP 5 from Zone 6 PAD 1

Test pits within Zone 6 PAD 2 were slightly shallower than in PAD 1, with a red-brown silty deposit present. Test pits were excavated to an approximate depth of 20-30cm, although some reached a depth of 55-60cm.

Plate 35: TP 3 from Zone 6 PAD 2

Test pits in Zone 6 PAD 3 were excavated to an approximate depth of 50cm, although some were shallower and some deeper. The deposit was generally a mid brown clayey silt.

Plate 36: TP 4 from Zone 6 PAD 3

The test pits in Zone 6 PAD 4 were excavated to approximately 35cm with a mid brown sandy silt present.

In Zone 6 PAD 5, test pits reached 30-40cm, with a brown silty loam deposit, while in Zone 6 PAD 6 test pits were excavated to an approximate depth of 25-30cm. An orangey-brown clayish loam was present in many of the test pits.

A total of 11 artefacts were recovered from the test pits excavated within the six PADs in Zone 6. PAD 3 was considered to have the highest number of artefacts identified, with a total of seven items recorded from four separate test pits.

Plate 37: TP 1 from Zone 6 PAD 5

Plate 38: TP 5 from Zone 6 PAD 6

### 2.7.3 ZONE 9

A total of 35 test pits were excavated within Zone 9, with one test pit confirmed to contain three artefacts. Test pits in Zone 9 ranged from 20-45cm depth and were generally brown silty loam.

The three artefacts identified within Test Pit 12 in Zone 9 were all formed from a black volcanic material and may have been knapped during the same flaking event.

Plate 39: TP 6 from Zone 9

### 2.7.4 ZONE 10

A total of 14 test pits were excavated within Zone 10. No test pits yielded any artefacts. As such, this PAD was confirmed to be sterile and no further archaeological mitigation is necessary within this zone. The deposit within Zone 10 comprised a red-brown silty loam and test pits were generally excavated to a depth of 35-40cm.

Plate 40: TP 3 from Zone 10

## 2.8 Sites Identified within the Study Area

The results of the test excavation and survey confirmed the presence of Aboriginal archaeological material within the study area, comprising subsurface material only. New sites identified as a result of the test excavations are presented in Table 6 and shown in Figure 13 to Figure 18. Buffers were placed around artefact bearing test pits in proximity to each other. Where no adjacent test pits were identified to contain artefacts, a 10m buffer was placed around the single artefact bearing test pit/s. the artefact bearing area of Zone 5 PAD 1 South AD 01 was considered to represent the potential for further, low density artefacts to be in the area, but their actual location would be impossible to predict.

Table 6: Details of confirmed archaeological deposits within the study area

| Site Name | Site ID | Description |
|---|---|---|
| Zone 5 PAD 1 South AD01 | 50-5-0300 | Six test pits containing nine artefacts |
| Zone 5 PAD 1 South AD02 | 50-5-0301 | A single test pit containing one artefact |
| Zone 5 PAD 1 South AD03 | 50-5-0302 | Two test pits containing three artefacts |
| Zone 5 PAD 1 North AD01 | 50-5-0303 | Two test pits containing three artefacts |
| Zone 6 PAD 1 AD01 | 50-5-0304 | A single test pit containing one artefact |
| Zone 6 PAD 3 AD01 | 50-5-0305 | Three test pits containing six artefacts |
| Zone 6 PAD 3 AD02 | 50-5-0306 | A single test pit containing one artefact |
| Zone 6 PAD 5 AD01 | 50-5-0307 | Two test pits containing two artefacts |
| Zone 6 PAD 6 AD01 | 50-5-0308 | A single test pit containing one artefact |
| Zone 9 AD 01 | 50-5-0309 | A single test pit containing three artefacts |

## 2.9 DISCUSSION

The test pits excavated identified a low density, discontinuous artefact deposit across Zones 5, 6, and 9. No artefacts were recovered from test pits in Zone 10. None of the test pits within Zones 5, 6 and 9 met the threshold for expansion in line with the triggers in the ASTEM, and salvage excavations within those areas are considered unwarranted based on the assemblage recovered. As such, unmitigated impact is considered appropriate for these areas, once surface collection of any surface artefacts has been completed.

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Figure 13: Zone 5 PAD 1 South Test Pit Locations and Identified Artefact Deposits

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Figure 14: Zone 5 PAD 1 North Test Pit Locations, Identified Artefact Deposit and Isolated Find

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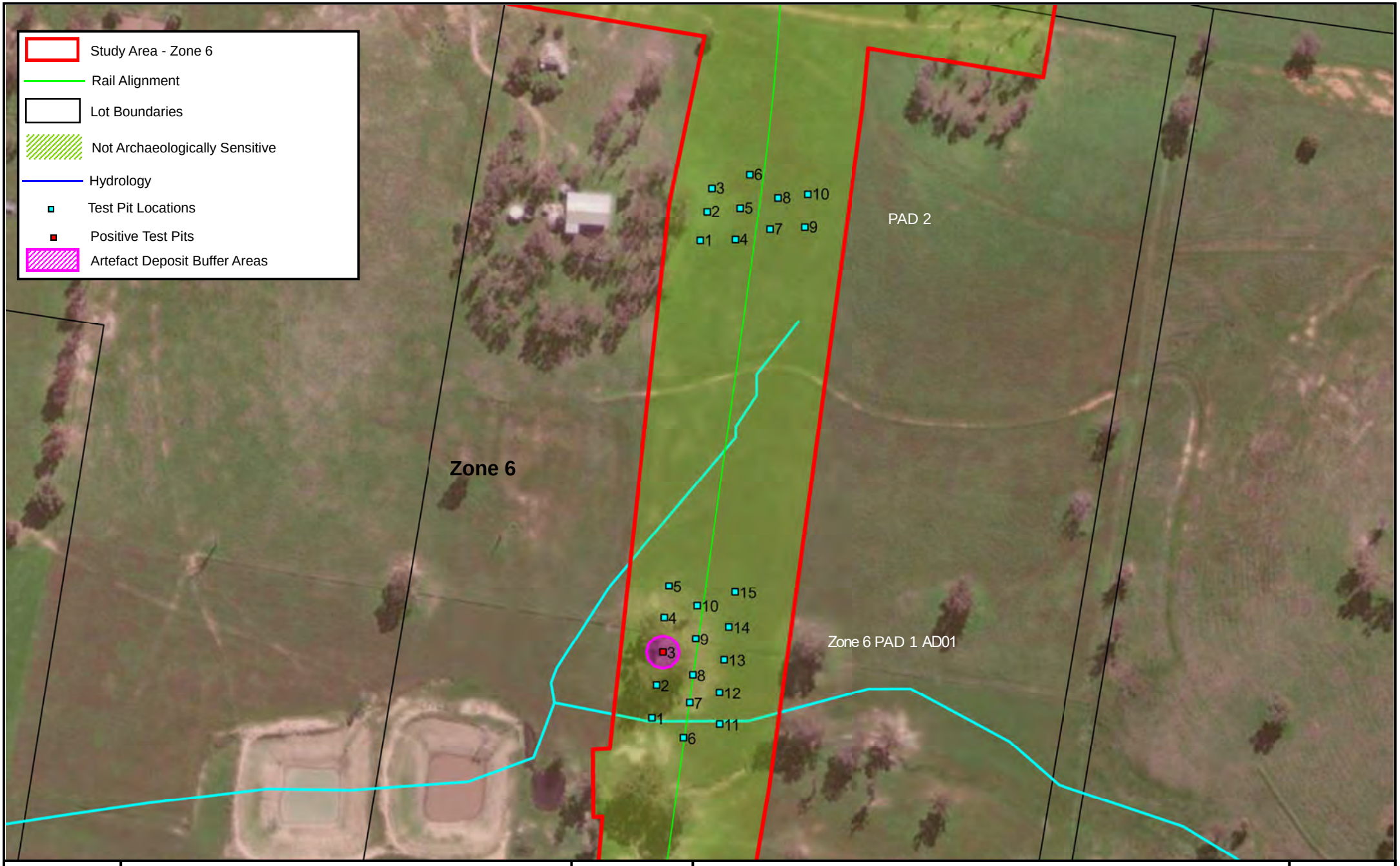


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Figure 15: Zone 6 PAD 1 & 2 Test Pit Locations and Identified Artefact Deposit.

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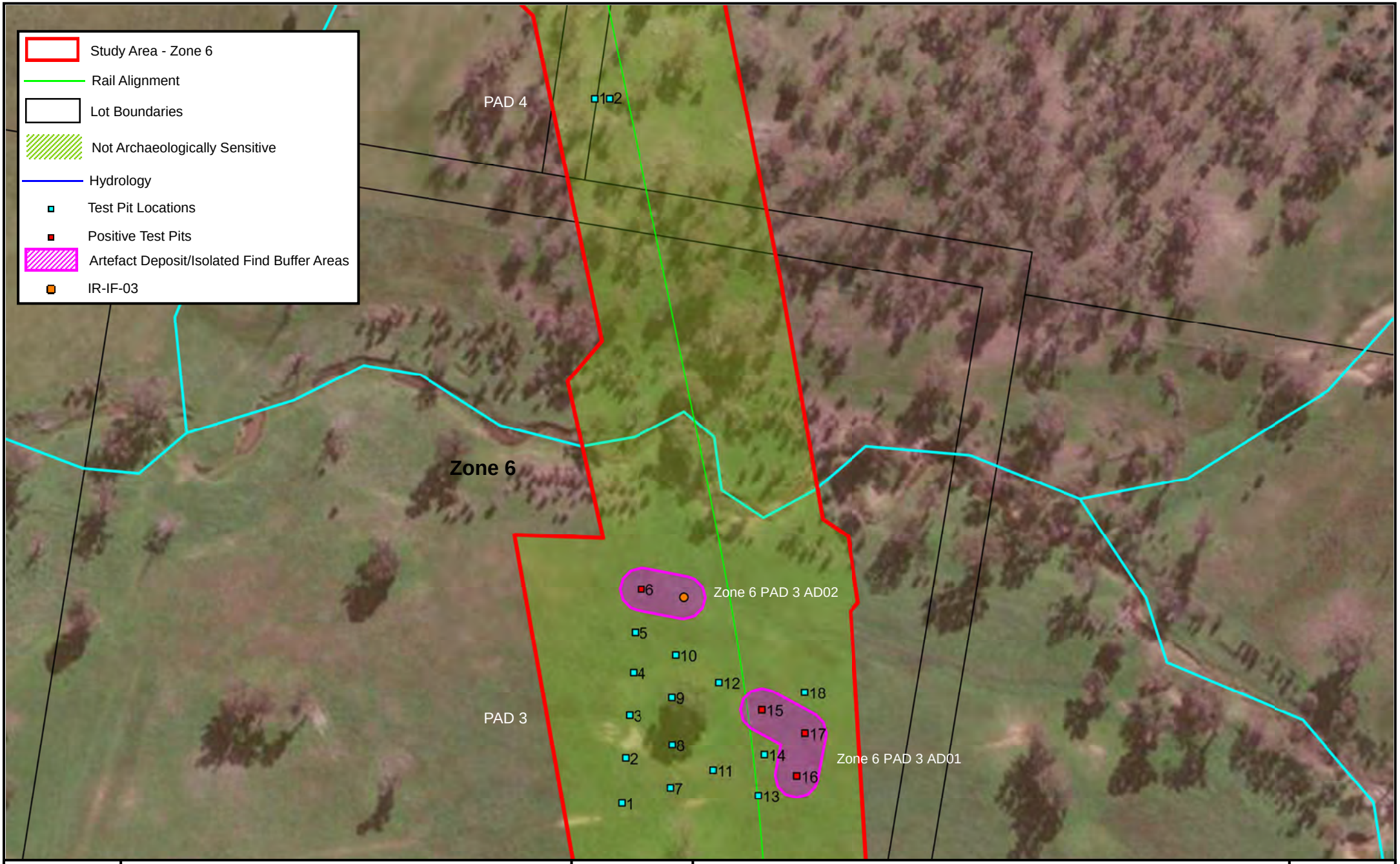


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Figure 16: Zone 6 PAD 3 & 4 Test Pit Locations, Identified Artefact Deposit and Isolated Find.

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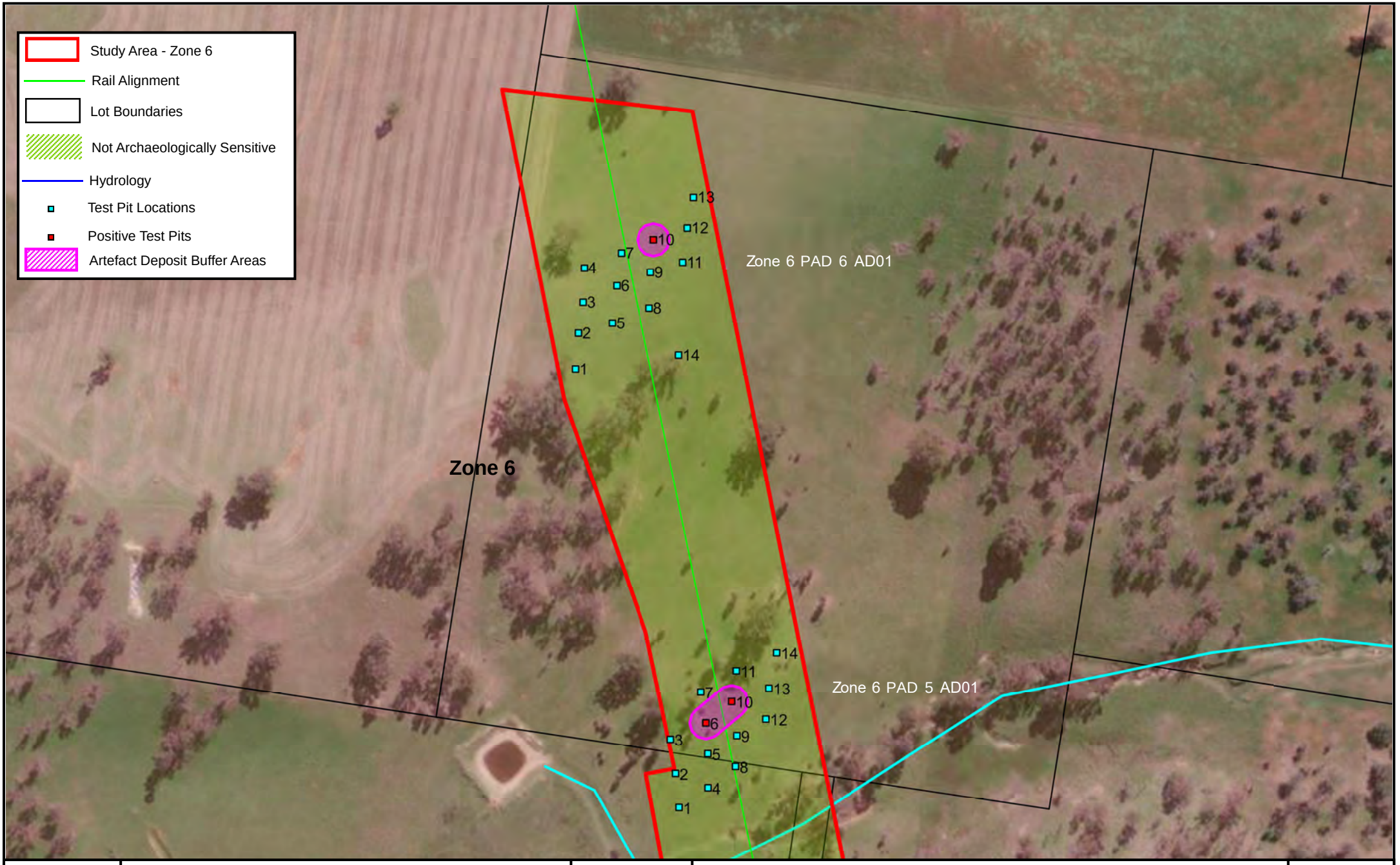


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Figure 17: Zone 6 PAD 5 & 6 Test Pit Locations and Identified Artefact Deposit and Isolated Find

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Figure 18: Zone 9 Test Pit Locations and Identified Artefact Deposit and Isolated Find.

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# 3.0 LITHIC ANALYSIS

This section has been prepared by Jenni Bate, Director/Archaeologist of Apex Archaeology, in order to detail the results of the analysis of the Aboriginal objects recovered during the test excavations within the study area.

## 3.1 SUMMARY OF RESULTS

30 stone objects were recovered from excavation of 122 test pits across the four remaining archaeological zones (5, 6, 9 & 10). The 30 objects are summarised in Table 7 and recorded in detail in Table 8. A selection are shown in Plate 41 to Plate 43.

Table 7: Summary of artefacts recovered

| Zone | PAD | Pit | # of artefacts |
|---|---|---|---|
| 5 | 1S | 2 | 1 |
| 5 | 1S | 9 | 2 |
| 5 | 1S | 18 | 1 |
| 5 | 1S | 20 | 3 |
| 5 | 1S | 21 | 1 |
| 5 | 1S | 23 | 1 |
| 5 | 1S | 27 | 1 |
| 5 | 1S | 33 | 2 |
| 5 | 1S | 34 | 1 |
| 5 | 1N | 7 | 2 |
| 5 | 1N | 13 | 1 |
| 6 | 1 | 3 | 1 |
| 6 | 3 | 6 | 1 |
| 6 | 3 | 15 | 2 |
| 6 | 3 | 16 | 3 |
| 6 | 3 | 17 | 1 |
| 6 | 5 | 6 | 1 |
| 6 | 5 | 10 | 2 |
| 9 | 1 | 12 | 3 |

## 3.2 THE STONE OBJECTS

Quartz was the predominant raw material identified during the test excavation (n=19; 63%), with a lower number of quartzite artefacts (n=3; 10%) and small numbers of silcrete (n=1; 4%), river cobbles (n=1; 4%) fine grained silicious (FGS) (n=2; 6%) and volcanic materials (n=4; 13%) (refer Chart 1).

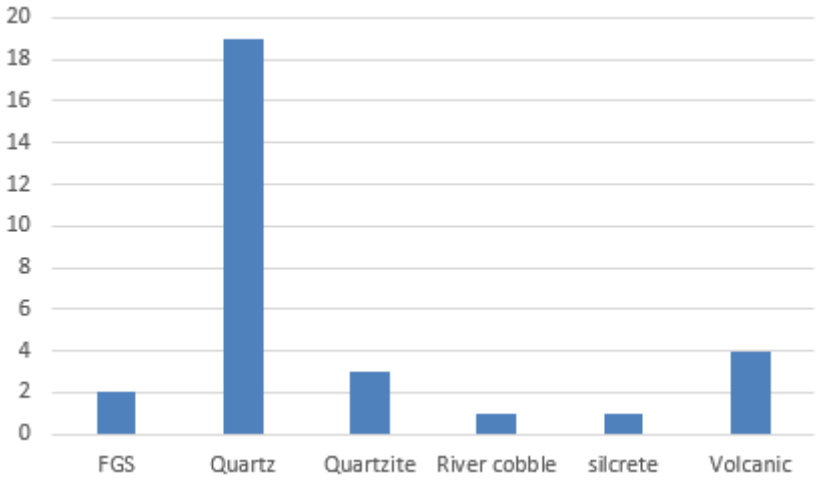


Chart 1: Breakdown of raw material types identified in artefact assemblage

The majority of items were recovered from Spit 3 (n=13; 43%), followed by Spit 4 (n=4; 13%) and Spit 5 (n=3; 10%). Only four items in total were recovered from Spit 1 across all of the additional areas investigated.

Flakes were the most common artefact type identified within the assemblage (n=15; 50%), followed by flaked pieces (items which do not retain flaking, grinding or pitting and do not meet other criteria for artefact types but are considered to have been formed through cultural activities) (n=5; 16%), and two examples each of cone split flakes, cores, medial flakes and proximal flakes (refer Chart 2).

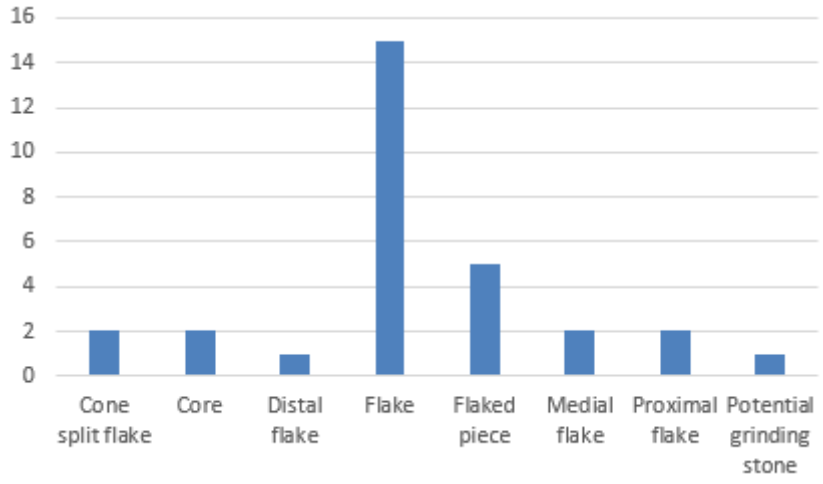


Chart 2: Distribution of identified artefact types within assemblage

The assemblage recovered during the additional test excavations is similar in composition and identified artefact densities to that identified during GML's 2022 test excavations. The spatial distribution of artefacts is shown on Figure 19 to Figure 25.

**Plate 41: Silcrete flake from Zone 5 PAD 1 South TP18.**
Ventral and dorsal surfaces. Scale in 1mm increments.

**Plate 42: Quartzite flake from Zone 5 PAD 1 North TP13**
Ventral and dorsal surfaces. Scale 5 mm long in 1mm increments.

**Plate 43: Volcanic proximal fragment from Zone 9 TP12.**
Ventral and dorsal surfaces. Scale 5 mm long in 1mm increments.

Table 8: Stone objects recovered by the test excavation (Zone 5 PAD 1 South).

| Zone | PAD | Pit | Square | Spit | Material | Description | Cortex % | Maximum size mm | Type | Cross-section | Distal | Length | Width | Thickness |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 1S | 2 | 554E 007N | 4 | Quartz | white | none | 30 | flake | low angle weak ridge | step | 22 | 30 | 7.5 |
| 5 | 1S | 9 | 573E 991N | 3 | Quartz | Grey/white | none | 20.8 | Flake | High angle strong ridge | Feather | 20.8 | 10.5 | 4.1 |
| 5 | 1S | 9 | 573E 991N | 3 | Quartz | White | None | 17.9 | Cone split flake | n/a | feather | 17.9 | (10.3) | 3.8 |
| 5 | 1S | 18 | 502E 767N | 2 | silcrete | Grey | none | 12.9 | Flake | Low angle strong ridge | Feather | 12.9 | 12.4 | 2.9 |
| 5 | 1S | 20 | 494E 726N | 1 | Quartz | White | None | 10.1 | Flake | Low angle weak ridge | Feather | 10.1 | 7.5 | 2.4 |
| 5 | 1S | 20 | 494E 726N | 2 | Quartz | White/pink | None | 20 | Flake | High angle strong ridge | Hinge | 20 | 11.1 | 4.8 |
| 5 | 1S | 20 | 494E 726N | 5 | Quartz | White/brown | 10 | 36 | Flake | High angle strong ridge | Step | 36 | 16.4 | 8 |
| 5 | 1S | 21 | 489E 707N | 2 | Quartz | White | None | 12.1 | Medial flake | Low angle weak ridge | | (10.3) | 12.1 | 2.1 |
| 5 | 1S | 23 | 539E 829N | 1 | Quartz | White | None | 8.3 | Flaked piece | | | | | |
| 5 | 1S | 27 | 514E 733N | 5 | Quartz | White | None | 14.9 | Flake | Low angle weak ridge | Step | 10.7 | 14.4 | 3.1 |
| 5 | 1S | 33 | 538E 738N | 1 | FGS | Grey | 40 | 19.1 | Flaked piece | | | | | |
| 5 | 1S | 33 | 538E 738N | 4 | Quartz | White | None | 16.3 | Medial flake | High angle strong ridge | | (15.6) | 7.6 | 6 |
| 5 | 1S | 34 | 534E 718N | 1 | Quartzite | White/brown | None | 22.8 | Distal flake | Low angle weak ridge | Feather | (14.9) | 22.8 | 4.7 |
| 5 | 1N | 7 | 870E 907N | 3 | Quartzite | Grey | 20 | 26.6 | Proximal flake | High angle strong ridge | | (24.3) | 18.9 | 8.1 |
| 5 | 1N | 7 | 870E 907N | 4 | Quartz | White | None | 13.9 | Flaked piece | | | | | |
| 5 | 1N | 13 | 881E 856N | 5 | Quartzite | White | None | 32.3 | Flake | High angle strong ridge | Feather | 32.3 | 24 | 7.8 |
| 6 | 1 | 3 | 743E 777N | 11 | Quartz | White | None | 16.2 | Flake | Low angle weak ridge | Feather | 16.2 | 15.2 | 3.3 |
| 6 | 3 | 6 | 761E 451N | 3 | Quartz | White | None | 14.3 | Flake | Low angle strong ridge | Feather | 14.3 | 13.1 | 4.4 |
| 6 | 3 | 15 | 817E 394N | 3 | Quartz | White | None | 9.9 | Flaked piece | | | | | |
| 6 | 3 | 15 | 817E 394N | 3 | Quartz | White | None | 18.3 | Flake | High angle strong ridge | Feather | 18.3 | 15.5 | 6.5 |
| 6 | 3 | 16 | 833E 363N | 3 | Quartz | White | none | 31.5 | Core | | | 31.6 | 21.8 | 17.9 |
| 6 | 3 | 16 | 833E 363N | 3 | Quartz | White | None | 15.1 | Flake | Low angle strong ridge | Feather | 15.1 | 7.4 | 2.4 |

| Zone | PAD | Pit | Square | Spit | Material | Description | Cortex % | Maximum size mm | Type | Cross-section | Distal | Length | Width | Thickness |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 3 | 16 | 833E 363N | 4 | Quartz | Grey | None | 13.9 | Flaked piece | | | | | |
| 6 | 3 | 17 | 837E 383N | 3 | Quartz | White | None | 18.3 | Flake | High angle weak ridge | Feather | 18.3 | 12.4 | 4.1 |
| 6 | 5 | 6 | 696E 924N | 3 | FGS | Grey | None | 13.1 | Cone split flake | | Feather | 13.1 | (8.5) | 3.2 |
| 6 | 5 | 10 | 712E 937N | 7 | Volcanic | Grey/black | None | 50.4 | Flake | Low angle weak ridge | Step | 38.2 | 44.4 | 13.3 |
| 6 | 6 | 10 | 666E 222N | 2 | River cobble | Brown | 60 | 66.4 | Potential grinding stone; striations on cortex | | | | | |
| 9 | | 12 | 222E 502N | 3 | Volcanic | Black | 30 | 35.3 | Core | | | 35.3 | 30.3 | 7.9 |
| 9 | | 12 | 222E 502N | 3 | Volcanic | Black | None | 25.8 | Flake | Low angle weak ridge | Step | 11.7 | 25.8 | 4.9 |
| 9 | | 12 | 222E 502N | 3 | Volcanic | Black | None | 13.2 | Proximal flake | Low angle weak ridge | | 13.2 | 12.8 | 3.5 |

Note to Table 8: Length measures in brackets indicate broken dimensions.

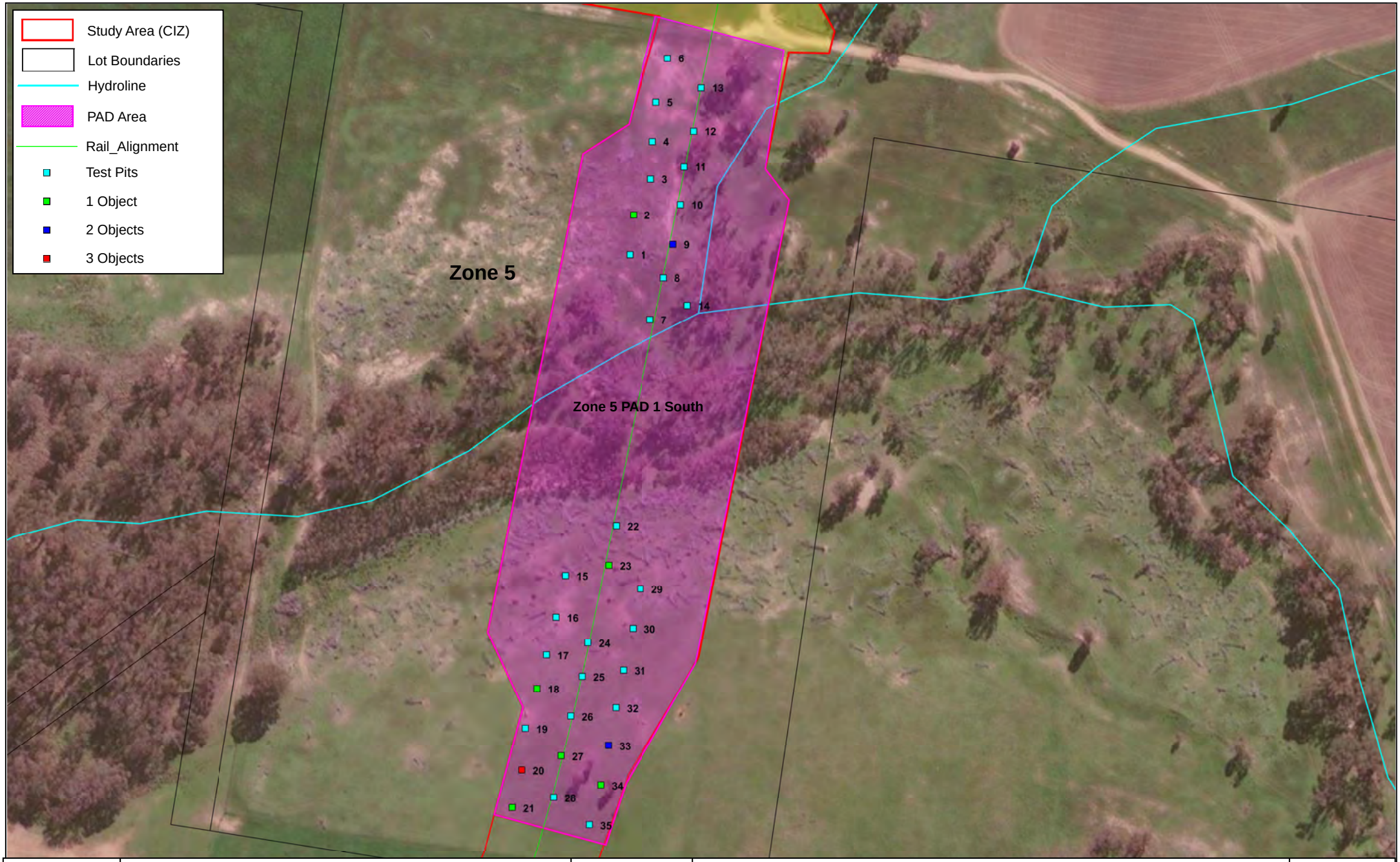


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Figure 19: Spatial distribution of objects in test pits (Zone 5 PAD 1 South).

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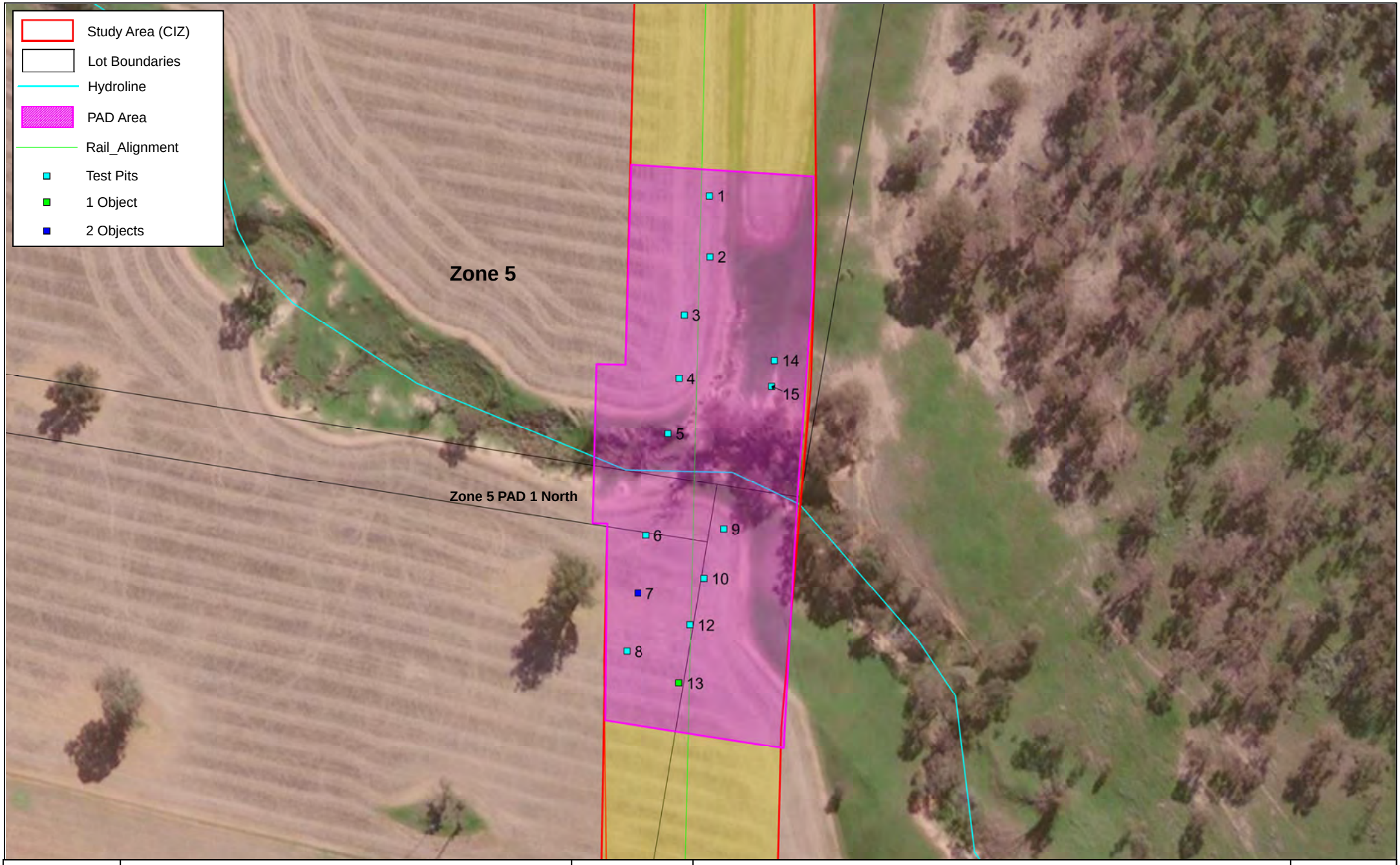


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Figure 20: Spatial distribution of objects in test pits (Zone 5 PAD 1 North).

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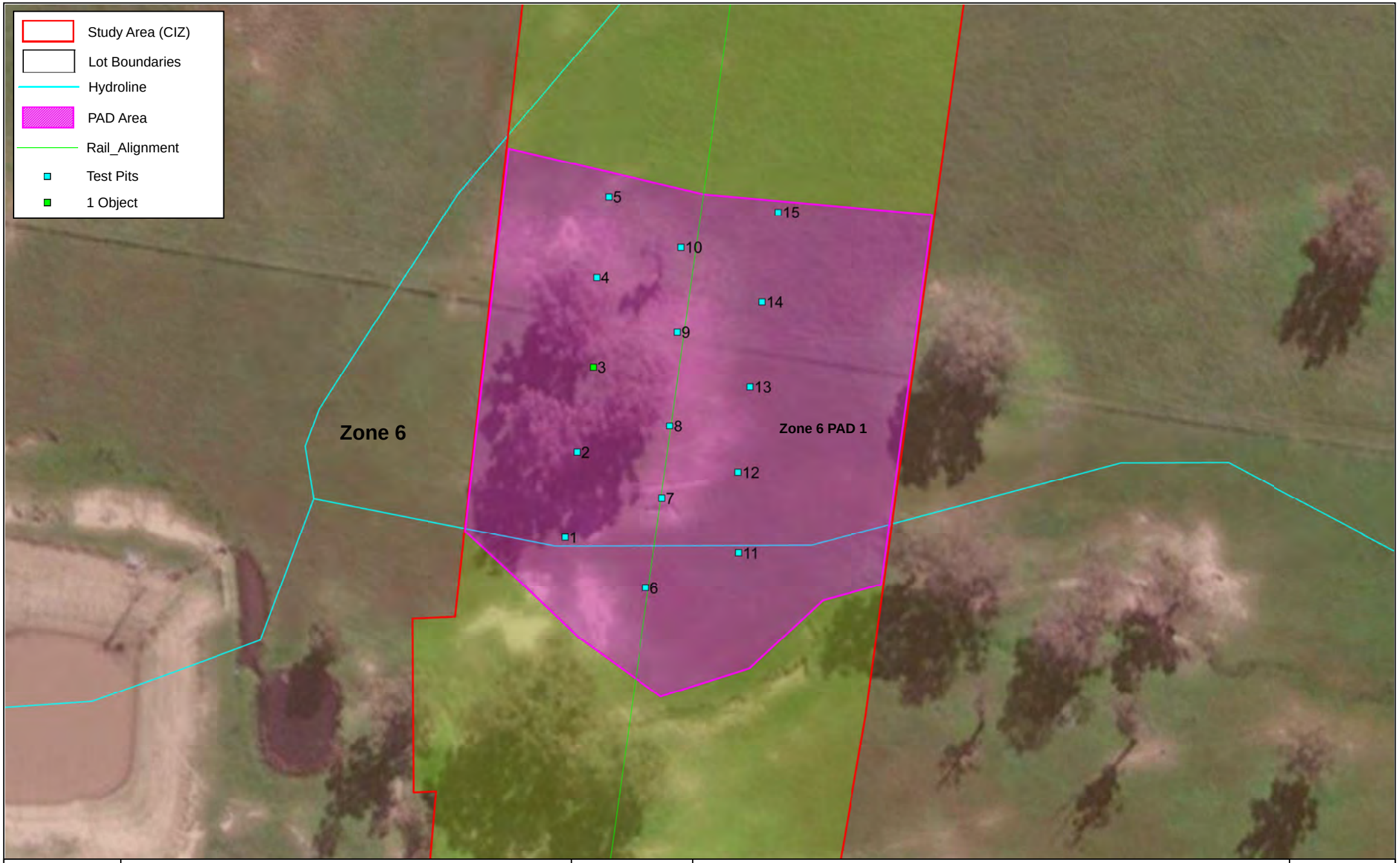


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Figure 21: Spatial distribution of objects in test pits (Zone 6 PAD 1).

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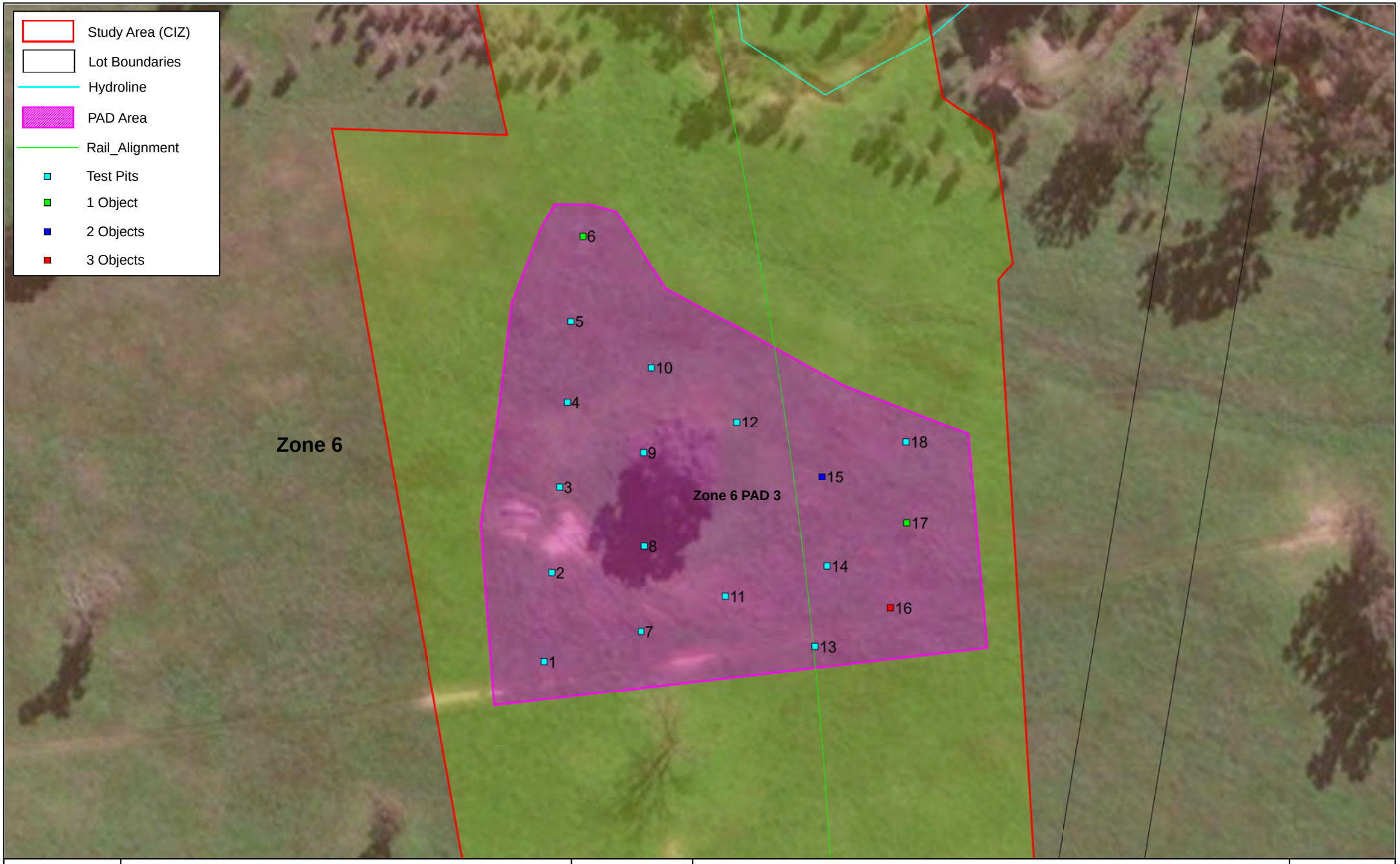


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Figure 22: Spatial distribution of objects in test pits (Zone 6 PAD 3).

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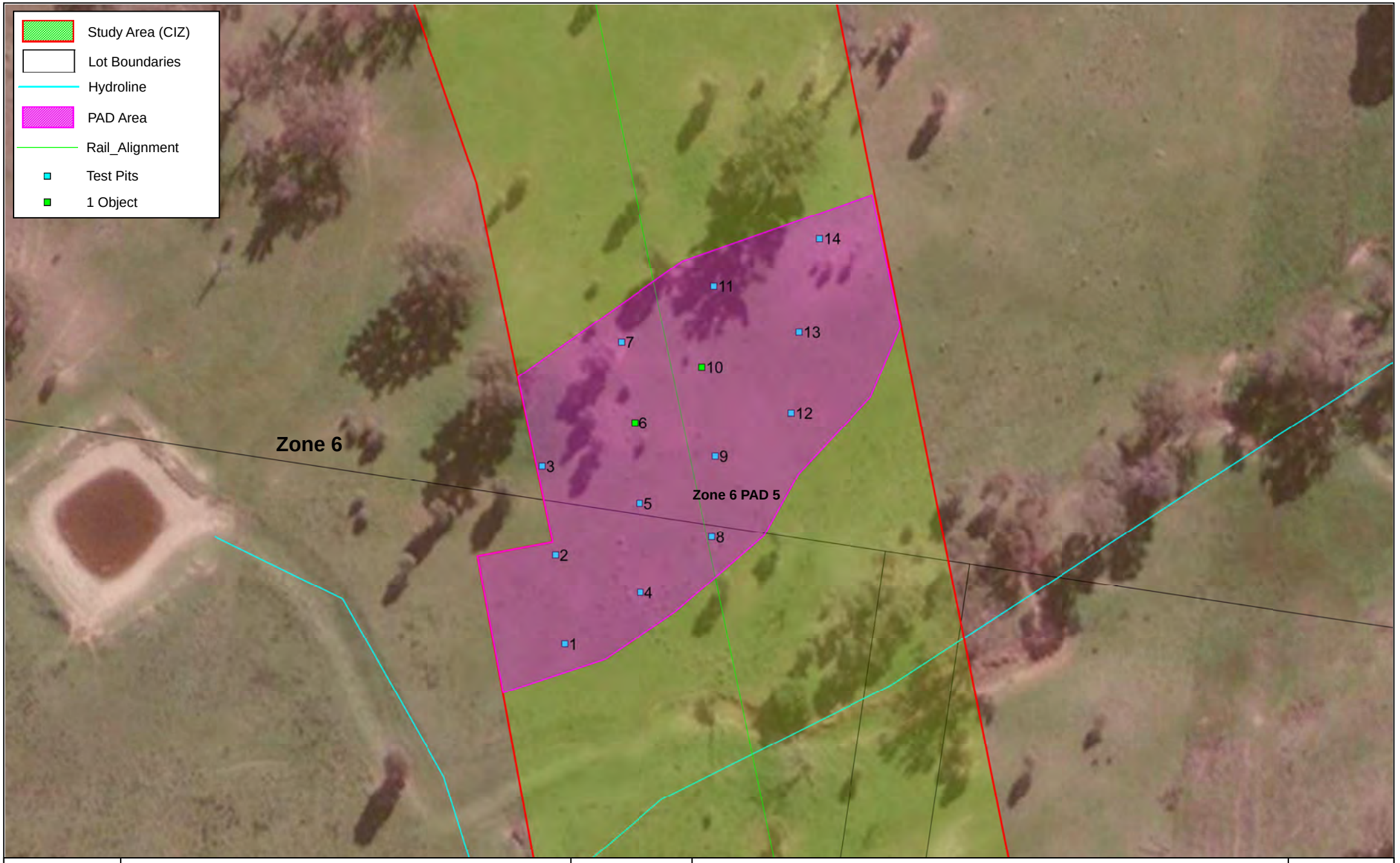


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Figure 23: Spatial distribution of objects in test pits (Zone 6 PAD 5).

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Figure 24: Spatial distribution of objects in test pits (Zone 6 PAD 6).

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Figure 25: Spatial distribution of objects in test pits (Zone 9 PAD 1).

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# 4.0 Significance Assessment

## 4.1 Introduction

The *Aboriginal cultural heritage consultation requirements for proponents 2010* acknowledge that:

- Aboriginal people have the right to maintain their culture, language, knowledge and identity
- Aboriginal people have the right to directly participate in matters that may affect their heritage
- Aboriginal people are the primary determinants of the cultural significance of their heritage

Undertaking consultation with Aboriginal people ensures that potential harm to Aboriginal objects and places from proposed developments is identified and mitigation measures developed early in the planning process. This section presents a significance assessment of the newly identified sites within the additional survey and test excavation zones.

## 4.2 Criteria

The Burra Charter is considered an appropriate framework for the assessment of cultural heritage, which can be made based on the following assessment criteria:

- **Social value:** Also referred to as cultural value, this criterion considers the spiritual, traditional, historical or contemporary associations an area or place has for Aboriginal people
- **Historic value:** the relationship between a place and people, events, phases or activities of importance to the Aboriginal community; specifically considering the "associations of a place with a historically important person, event, phase or activity in an Aboriginal community" (DECCW 2010)
- **Scientific value:** assessment under this criterion considered the ability of a landscape, place, area or object to inform scientific research and/or analysis and to assist in answering research questions
- **Aesthetic value:** the ability of a place, area, landscape or object to demonstrate aesthetic characteristics, or possess creative or technical values

Additionally, archaeological significance is assessed based on the archaeological or scientific values of an area. These values can be defined as the importance of the area relating to several criteria. Criteria used for determining the archaeological significance of an area are as follows:

- **Research or educational potential:** Can the site contribute to an understanding of the area/region and/or the state's natural and cultural history? Is the site able to provide information that no other site or resource is able to do?

- **Representativeness:** is the site representative of this type of site? Is there variability both inside and outside the study area? Are similar site types conserved?
- **Rarity:** is the subject area a rare site type? Does it contain rare archaeological material or demonstrate cultural activities that no other site can demonstrate? Is this type of site in danger of being lost?
- **Integrity/Intactness:** Has the site been subject to significant disturbance? Is the site likely to contain deposits which may possess intact stratigraphy?

Further, an assessment of the grade of significance is made, based on how well the item fulfils the assessment criteria. The Heritage Branch of the Department of Planning (now the Heritage Division of the Department of Planning, Industry and Environment) 2009 guideline *Assessing Significance for Historical Archaeological Sites and 'Relics'* defines the grading of significance as follows:

Table 9: Grading of significance, from Heritage Branch 2009

| Grading | Justification |
|---|---|
| Exceptional (E) | Rare or outstanding item of local or State significance. High degree of intactness. Item can be interpreted relatively easily. |
| High (H) | High degree of original fabric. Demonstrates a key element of the item's significance. Alterations do not detract from significance. |
| Moderate (M) | Altered or modified elements. Elements with little heritage value but which contribute to the overall significance of the item. |
| Little (L) | Alterations detract from significance. Difficult to interpret. |
| Intrusive (I) | Damaging to the item's heritage significance. |

Whilst this was developed for the assessment of significance of historical items, the criteria are applicable to Aboriginal significance assessments as well. It is important to note that the below assessment is specific to Aboriginal cultural heritage and does not consider the non-Aboriginal significance of the site.

## 4.3 Significance Assessment

The significance of the sites within the study area has been assessed and summarised in the following table, with discussion around the significance assessment for the study area as a whole following.

Table 10: Summary of significance for sites within the study area

| Site | AHIMS | Social | Historic | Scientific | Aesthetic | Represent | Rarity | Integrity | Overall |
|---|---|---|---|---|---|---|---|---|---|
| Zone 5 PAD 1 South AD01 | 50-5-0300 | H | L | L | L | L | L | L | L |
| Zone 5 PAD 1 South AD02 | 50-5-0301 | H | L | L | L | L | L | L | L |
| Zone 5 PAD 1 South AD03 | 50-5-0302 | H | L | L | L | L | L | L | L |
| Zone 5 PAD 1 North AD01 | 50-5-0303 | H | L | L | L | L | L | L | L |
| Zone 6 PAD 1 AD01 | 50-5-0304 | H | L | L | L | L | L | L | L |

| Site | AHIMS | Social | Historic | Scientific | Aesthetic | Represent | Rarity | Integrity | Overall |
|---|---|---|---|---|---|---|---|---|---|
| Zone 6 PAD 3 AD01 | 50-5-0305 | H | L | L | L | L | L | L | L |
| Zone 6 PAD 3 AD02 | 50-5-0306 | H | L | L | L | L | L | L | L |
| Zone 6 PAD 5 AD01 | 50-5-0307 | H | L | L | L | L | L | L | L |
| Zone 6 PAD 6 AD01 | 50-5-0308 | H | L | L | L | L | L | L | L |
| Zone 9 AD01 | 50-5-0309 | H | L | L | L | L | L | L | L |
| IR-IF-01 | 50-5-0311 | H | L | L | L | L | L | L | L |
| IR-IF-02 | 50-5-0310 | H | M | L | L | M | M | L | M |
| IR-IF-03 | 50-5-0312 | H | M | L | L | M | M | L | M |

### Social value

The Aboriginal community are best placed to make a determination of the social or cultural value of the study areas. Feedback from RAPs has been that the area is considered extremely culturally significant to the community. Cultural material provides a tangible link to elders and ancestors and as such, the area is considered to be culturally significant. All sites have been assessed as being of high cultural significance.

### Historic value

The study area is not known to be associated with any specific Aboriginal individuals or historical events and thus is considered to have limited significance under this criterion. A grind stone and an edge ground axe are considered to have moderate significance under this criterion due to their demonstration of specific activities undertaken by Aboriginal people within the area.

### Scientific value

The study area itself is considered to have low scientific value. Evidence of Aboriginal cultural material is located both on the ground surface and within subsurface contexts, although the surface material was within a disturbed context. The artefacts identified are limited in range and number, and as such have limited scientific value.

### Aesthetic value

Generally, aesthetic value is determined by the response evoked by a setting. The study area is considered to hold limited aesthetic significance with regards to Aboriginal heritage, based on its context within a gently undulating landscape, often with significant views and vistas.

### Research Potential

The study area is considered to possess limited research potential regarding Aboriginal heritage. It is noted that the artefact assemblage has the ability to provide some additional, limited information about the way Aboriginal people utilised the area in the past.

#### REPRESENTATIVENESS

The study area is somewhat representative of Aboriginal cultural values as it demonstrates evidence of continuity of occupation within the region. Overall, the identified sites are considered to be representative of low density artefact concentrations.

#### RARITY

The study area is considered to have low value under this criterion due to the level of disturbance present and the location of the artefactual material within a disturbed context. The limited range of artefacts and their ability to demonstrate Aboriginal occupation within the area is not considered rare within the local context. However, intact edge ground axes and hammer stones/anvils are relatively rare within the wider area. These sites have a moderate rarity which is limited due to their broken nature.

#### INTEGRITY/INTACTNESS

The study area is considered to be disturbed and thus is not considered to be overly intact or to have significant integrity under this criterion.

## 4.4 CULTURAL SIGNIFICANCE ASSESSMENT

Generally, all Aboriginal sites are of high significance and importance to the Aboriginal community, both locally and more broadly. The Aboriginal social or cultural value of the study area can only be determined by the Aboriginal community. The RAPs for the project have indicated that all sites are considered to be of high cultural significance as evidence of Aboriginal connection to the area. This section will be updated in the final report if any further comments are provided by the RAPs for the project.

It is acknowledged that the overall significance of a site is determined by both the cultural and scientific values of the area; with cultural values potentially extending beyond a specific study area and incorporating cultural landscapes in many cases. The cultural significance of an area can only be determined by the Traditional Owners of that area. Generally, all sites with evidence of Aboriginal occupation are considered significant to Aboriginal people as part of a larger cultural landscape.

## 4.5 STATEMENT OF ARCHAEOLOGICAL SIGNIFICANCE

The study area is considered to have low archaeological significance based on its limited research potential, representativeness, rarity and integrity. Overall, the potential for the site to contribute a greater understanding of the archaeological record is considered low, although it is noted that identification of edge ground axes and hammer stones/anvils is relatively rare within the wider context.

# 5.0 MANAGEMENT STRATEGIES

This AASEM has been prepared to provide strategies for the management of Aboriginal cultural heritage within the study area. It should be read in conjunction with the Heritage Management Sub Plan for the I2S Project (April 2025) and is an extension of that document. It also builds on management recommendations made by GML (2022) for recommendations that have not yet been enacted.

The following sections outline the required archaeological work within each zone.

Management measures have been developed in reference to measures recommended in the GML 2022 ACHAR and assessment of requirements based on current proposed works as needed to deliver the project.

Where no further archaeological mitigation is recommended, this is due to low densities of artefacts being identified within the area, or no archaeological objects being identified within that specific zone. In those areas, works are permitted to proceed with caution without the need for any additional archaeological mitigation.

## 5.1 WORKS REQUIRED

### 5.1.1 ZONE 1

- Salvage excavation of site Zone 1 – High density scatter (formerly 50-5-0280; now 50-5-0293 - Figure 26)
- ARTC2 (50-5-0267) – site registered as two artefacts. One artefact can be avoided and has been bunded off to ensure impact is avoided; the other artefact is located on boundary of CIZ and will be collected

### 5.1.2 ZONE 2

- Salvage excavation of site Zone 2 (formerly 50-5-0278; now 50-5-0294 - Figure 27)
- Surface collection of high density zones identified by GML (originally identified artefacts have been collected; but any additional items will be collected)

### 5.1.3 ZONE 3

- No further archaeological mitigation necessary

### 5.1.4 ZONE 4

- No further archaeological mitigation necessary

### 5.1.5 ZONE 5

- Surface collection of site IR-IF-01 (AHIMS # 50-5-0311)
- Unmitigated impact to Zone 5 PAD 1 South AD01, Zone 5 PAD 1 South AD02, Zone 5 PAD 1 South AD03, and Zone 5 PAD 1 North AD01 (AHIMS # 50-5-0300, 50-5-0301, 50-5-0302, 50-5-0303)

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Figure 25: Artefact counts within test pits for Zone 1 (excavated by GML Heritage).

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Figure 26: Artefact counts within test pits for Zone 2 (excavated by GML Heritage).

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### 5.1.6 Zone 6

- Surface collection of site IR-IF-03 (AHIMS # 50-5-0312)
- Unmitigated impact to Zone 6 PAD 1 AD01, Zone 6 PAD 3 AD01, Zone 6 PAD 3 AD02, Zone 6 PAD 5 AD01, Zone 6 PAD 6 AD01 (AHIMS # 50-5-0304, 50-5-0305, 50-5-0306, 50-5-0307, 50-5-0308)

### 5.1.7 Zone 7

- No further archaeological mitigation necessary

### 5.1.8 Zone 8

- No further archaeological mitigation necessary

### 5.1.9 Zone 9

- Surface collection of IR-IF-02 (AHIMS # 50-5-0310)
- Unmitigated impact to Zone 9 AD01 (AHIMS # 50-5-0309)

### 5.1.10 Zone 10

- No further archaeological mitigation necessary

### 5.1.11 Zone 11 East

- No further archaeological mitigation necessary

### 5.1.12 Zone 11

- No further archaeological mitigation necessary

### 5.1.13 Areas not within an Indigenous Survey Zone

- No further archaeological mitigation necessary

### 5.1.14 Access Tracks

It is noted that occasionally artefacts may be located on access tracks which may be impacted by vehicles utilising the tracks for access to the Project area. Avoidance of these artefacts would not be feasible and as such, these should be collected as part of the salvage works. The original location of the artefacts should be recorded and a site card submitted (where a site has not been previously registered on AHIMS), with a subsequent ASRIF submitted noting that the site has been destroyed. This should be undertaken in accordance with the Aboriginal cultural heritage unexpected finds procedure for the Project.

## 5.2 Mitigation Measures

In addition to avoidance of known scarred trees within and adjacent to the CIZ, as outlined in the HMSP, mitigation measures comprise surface collection, salvage excavations, and unmitigated impact.

### 5.2.1 Surface Collection

Surface artefacts requiring collection will be relocated on the ground. All collected artefacts would be recorded using GPS (or appropriate alternative) and placed into

robust ziplock bags with their site name, AHIMS number, and project name recorded on the bag in indelible pen. The attributes of each item would be recorded in line with the requirements of AHIMS and ASIRFs would be submitted for each site. The item/s will be photographed. The items would be safely stored at the temporary storage location until they can be safely returned to site, likely on completion of salvage excavation works and/or construction works for the Project.

### 5.2.2 Archaeological Salvage Excavations

In some areas, GML (2022) recommended salvage excavations where artefact densities were comparatively higher. These areas are within Zones 1 and 2, where several test pits with relatively higher artefact densities than surrounding test pits were identified. These were defined as high density PADs and salvage excavations were recommended within these high density PADs. Areas where test pits had fewer than five artefacts in a single test excavation unit were recommended for unmitigated impact. This same approach has been applied to developing recommendations for Zones 5, 6, 9, and 10. None of the test pits excavated in these areas reached the threshold of five or more artefacts in a single pit and as such, no salvage excavation was recommended in these zones.

It is noted that several of the GML test pits identified for salvage excavation within Zone 1 are located just outside the CIZ for the project. This is likely due to amendment of the impact corridor subsequent to GML completing their test excavation within a wider corridor than the final CIZ. However, the overall higher density areas identified by GML (Figures 26 & 27) do extend into the CIZ, and it is likely that the required salvage excavations within these higher density zones will extend into the CIZ to adequately salvage these sites in line with the requirements of CoA E140, whereby “ground disturbance works may not commence in an area where archaeological excavation and surface collection of Aboriginal objects is required... until the archaeological works described in the Aboriginal Cultural Heritage Assessment Reports listed in Condition A1 have been completed”.

### 5.2.3 Unmitigated Impact

Unmitigated impact in an archaeological context refers to impacts occurring with no further archaeological mitigation prior to the commencement of impact activities. This is generally recommended when archaeological sites are considered to have limited scientific significance and are unable to provide additional information regarding the Aboriginal occupation of the area.

### 5.2.4 Avoidance

There are a number of culturally modified trees and artefact sites that are in proximity to, but outside of, the CIZ for the project. These sites can be conserved in situ through avoidance. Where there is any potential for inadvertent impact to occur to these sites, avoidance is recommended to include high visibility fencing to remain in place during construction works.

### 5.2.5 AWARENESS

Awareness of the potential for additional Aboriginal cultural material to be present in the wider area, as well as the existence of known Aboriginal objects and sites within the Project Area, is an important mitigation strategy to assist in preventing inadvertent impact to unexpected finds or known sites that are proposed for avoidance. All personnel are required to undertake cultural heritage awareness training as part of the project.

## 5.3 STAGED SALVAGE STRATEGY

The salvage excavations within Zones 1 and 2 will be a staged salvage excavation, based on best practice and evidence of what Heritage NSW will expect for sub-surface open area excavation within NSW.

The following zones will be targeted as per the results indicated within Table 7.1 from the GML ACHAR (2022), comprising Zone 1 and 2. GML Test Pits (TP) 19 & 46 will be relocated and expanded within Zone 1. TP 88 from Zone 2 will be expanded. A total of three areas of high density artefact deposits from the test excavation will be targeted for expansion within these zones, as follows:

- Stage 1 – three areas of 3 x 3m ($9m^2$) will be excavated around three test pits identified as having the highest artefact counts (Zone 1 TP 19 & 46 – Zone 2 TP 88).
- Stage 2 – Expansion of each open area to an additional maximum of $25m^2$ depending on artefact concentrations. This will be determined by artefact counts recovered from Stage 1.

Total maximum amount of salvage open area = $102m^2$

In the event the exact test pit to be targeted for salvage cannot be relocated on the ground, the coordinate location of the test pit will be used to get as close as possible to the recorded location of the original test pit.

### 5.3.1 RE-LOCATION/EXPANSION OF GML HERITAGE TEST PITS – STAGE ONE

- Three of the test pits previously excavated by GML Heritage within Zone 1 and 2 will be reidentified and re-excavated;
- Surrounding each test pit, eight 1 $m^2$ salvage pits will be excavated to form a 3 × 3 metre (9 $m^2$) open-area grid;
- Salvage pits will be oriented north–south using a handheld compass for consistency;
- Artefact concentrations will be recorded on graph paper to track density and distribution patterns;
- The results of Stage One will be used to guide the scale and location of any Stage Two excavation.

### 5.3.2 Open Area Salvage – Stage Two

- Open-area salvage excavation may extend to a maximum additional amount of 25m² across each of the stage one expansion areas, depending on artefact density, artefact type and material, stratigraphic integrity, and presence of cultural features;
- The need for and extent of Stage Two excavation will be determined based on Stage One results and in consultation with Registered Aboriginal Parties;
- Total excavation across both stages will not exceed 102 m².

### 5.3.3 Excavation Methodology

- All pits will be 1m² and excavated in 5cm spits by hand using a shovel, hand shovel and trowel as appropriate. Spit depths will be consistently checked with a hand tape measure to ensure accuracy of excavation depth;
- If cultural features (e.g. hearths, heat treatment pits, knapping floors) are identified during excavation, excavation with hand tools (e.g. hand shovel and shovel) will cease and continue with trowel only;
- Locations of identified features will be planned onto 1mm graph paper. X, Y and Z coordinates of individual artefacts from in-situ knapping floors will be recorded and photographed prior to removal (where possible) and continuation of excavation;
- Charcoal samples for dating ($C_{14}$) will only be taken during in-situ excavation of accurately identified cultural features (e.g. hearths and heat treatment pits);
- Any charcoal samples will be recovered and placed into aluminium foil, securely sealed, and placed into zip lock bags, clearly labelled and provenanced;
- The soil from each spit will be placed in 10L plastic buckets and transported to the sieving station;
- To ensure sufficient control of each spit excavated, a bag will be written to accompany the buckets from each spit. The following information will be recorded on each bag: site name, date, pit location (easting & northing) and name of excavator;
- All material from each salvage pit will be dry sieved through table sieves (1 x 1m) with a wire mesh aperture gauge of 5mm, with the option to include 3mm mesh depending on the soil matrix and micro debitage recovery.
- Wet sieving may be necessary depending on the soil matrix/weather conditions, and will be implemented if necessary;
- All material recovered from the sieving process will be checked by a qualified archaeologist with experience in artefact identification prior to being placed into the spit bag;
- Artefact counts will be recorded for each spit; and
- Lithic analysis on completion of the salvage excavation will be undertaken by Dr Beth White who is a specialist with suitable experience (30+ years); or an alternative lithic analyst with appropriate skills and experience.

### 5.3.4 Expansion Triggers

The presence of any one or combination of the following triggers will determine if further excavation will continue in any of the initial open area expansion sites (Stage One) and will be utilised during further expansion in Stage Two:

- The relative density of artefact frequencies. If higher numbers of artefacts are identified in one or more parts of the initial excavation, they will be further explored;
- Based on the results of the current test excavation, pits with five or more items in any 1m$^2$ area would be expanded, up to the maximum areas outlined in Section 6.3.1 and 6.3.2;
- Pits with 4 or fewer items would not be expanded further;
- Variations of raw materials that warrant further investigation;
- Unusual artefact types are found, e.g. complete flakes, tools, cores, other types such as ground edged implements etc;
- Evidence of artefact manufacture is found, e.g. conjoining artefacts, flaking debitage, micro-debitage, complete flakes, broken flakes; tool manufacture or maintenance;
- Evidence of different activities, indicated by different artefact types e.g. backed artefacts, partly made backed artefacts and backing debitage, tool retouching debitage, debitage with dorsal grinding and retouched and/or used tools, different raw materials and raw materials with distinctive banding or inclusions;
- Chronological material (any materials that can be used to date artefactual materials);
- Taphonomic/site formation indicators; and
- Any other relevant features appropriate for further investigations, e.g. archaeological features such as evidence of burning in a hearth, stone features; clay features etc.

### 5.3.5 Cessation of Excavation

Excavations will cease upon reaching basal clay, bedrock or a culturally sterile layer, or at the discretion of the archaeologist – for example, if excavation becomes unsafe due to depth. Additionally, excavations would cease upon excavation of an assemblage sufficient to answer the questions. The decision to cease based on sufficiency would be made in consultation with the lithic analyst for the project.

Excavation would also cease in the event evidence of contact archaeology is identified, and Heritage NSW would be contacted to determine the appropriate approach. The site is not considered likely to have potential for contact archaeology to be present.

Further, salvage pits would not be expanded (ie would not have adjacent salvage pits excavated) if four or few items are identified in any 1m$^2$ salvage pit.

## 5.4 Hold Points

In the event regionally significant or highly culturally significant deposits are identified during the salvage excavations (for example, significantly higher artefact densities than identified during test excavations; unusual or unexpected artefact types, or other unexpected archaeological finds), works will halt and consultation with the RAPs, Heritage NSW and the Department of Planning, Housing and Infrastructure will be undertaken to determine if additional mitigation or management actions are necessary prior to works proceeding.

If necessary, consideration will be given to redesigning the project to avoid or reduce impacts wherever possible.

## 5.5 Research Questions

The following research questions should guide the archaeological salvage excavations of the site.

- What do the salvage results indicate about the past Aboriginal occupation of the area and within the wider area?
- Can site formation processes be identified, and how do these formation processes impact the integrity of the archaeological deposits present?
- How do the salvage excavation results compare to other local and regional archaeological results and predictive models?
- Are the raw material sources consistent with those identified within the wider area? Are they different? Is there change over time? Can this be related to Aboriginal use of the area and does topography influence the results?
- Is it possible to determine the activities undertaken within the site based on the characteristics of the artefact assemblage?
- Can conjoining artefacts be identified within the deposit? What is the vertical and/or horizontal displacement of these artefacts?

## 5.6 Recording

- Each spit will be recorded on a standard spit sheet with the following information:
    - site name;
    - date;
    - excavator name;
    - spit number;
    - spit depth;
    - pit location (easting & northing);
    - start levels & end levels;
    - bucket count and end total bucket count;
    - soil description;
    - description of disturbance;
    - description of artefacts (material type & artefact type if *in situ*);

- in situ recording of artefacts where possible (xyz coordinates); and
- photograph details (from surface and of each spit to base).

## 5.7 Artefacts and Chain of Custody

Any artefacts that are recovered from the salvage excavation will initially be stored at Apex Archaeology's office in a lockable cupboard. The artefacts will then be transferred to be analysed by Dr Beth White, who is an archaeologist experienced in artefact analysis and interpretation; or an alternate lithic analyst with appropriate skills and experience. During the analysis the artefacts will be temporarily and securely stored at the analyst's office. On completion of the analysis the artefact assemblage will be transferred back to Apex Archaeology's office until reburial on site can occur. Once the artefacts are reburied, the location will be recorded and provided to AHIMS.

The proposed location/s for reburial of the collected assemblage must be an area that would not be subject to additional impact in future, and will be determined in consultation with the RAPs and the proponent to ensure the location is appropriate. The artefacts will avoid known Aboriginal site locations and the new location of the items would be registered with AHIMS as a new site.

## 5.8 Backfill and Salvage Excavation

It is considered likely that construction works would start on completion of salvage excavations and as such, the civil contractor will deal with the open area pits as part of the site works. In the event clean fill is required, the civil contractor will be responsible for the supply and backfill being completed.

## 5.9 Site Clearance

On completion of archaeological works within a zone, a clearance certificate will be issued to John Holland Group by MTS Heritage/Apex Archaeology stating that the archaeological work within that area has been completed, in accordance with CoA E140 and this AASEM. This requirement states that "ground disturbance works and construction work may not commence in those areas where archaeological excavation and surface collection of Aboriginal objects is required (including areas identified as requiring further assessment) until the archaeological works described in the Aboriginal Cultural heritage Assessment reports listed in Condition A1 have been completed".

A clearance certificate will be issued on completion of activities in accordance with this AASEM, stating that all salvage activities as required in this document have been completed within a specific zone, and no further archaeological work in specific areas is considered necessary. This clearance certificate will then be provided to Inland Rail, who will review and provide acknowledgement of the clearance certificate prior to ground disturbing works commencing.

The clearance certificate will inform works in line with John Holland and Inland Rail's internal environmental management systems and processes.

## 5.10 Post-Excavation Analysis

On completion of salvage works within the study area, any surface and subsurface, artefacts recovered would be analysed by Dr Beth White (or an alternative analyst) as outlined in Section 6.7. Further, an Aboriginal Cultural Heritage Excavation Report (ACHER) detailing the results of any surface collection and salvage excavations would be prepared and provided to all RAPs for the project for review and comment, as well as to AHIMS for inclusion on the report database. This report would be prepared in line with CoA E139 for the project.

ASIRFs would be prepared for the impacted sites, detailing the results of the surface and subsurface salvage works undertaken within the area.

On reburial of artefacts recovered during all archaeological activities within the site, a new site card would be submitted to AHIMS detailing the location of the reburied items.

## 5.11 ASIRFs

Preparation of an ASIRF is required when impact has occurred to a site under a project approval. ASIRFs are prepared and submitted online to the AHIMS Registrar via the AHIMS Quarantine Station. Where a site has been impacted, the site status should be updated to record the harm that has occurred. This may be noting that the site has been partially or fully destroyed in accordance with the project approval. Where a site is confirmed to have archaeological material present that will not be impacted (for example, areas of subsurface or surface deposits extending outside of the CIZ for the Project), the AHIMS record should be updated to note that the site has been partially destroyed.

No new sites should be created as part of this process unless it is a previously unrecorded site. Records should be associated with the existing AHIMS site number so as to ensure records of all actions applicable to the existing site are recorded accurately. If necessary, where a site has been subject to partial impact, the coordinate location of the site should be updated as part of the ASIRF process to reflect the remaining portion of the site outside of the impact area.

Copies of approved ASIRFs should be attached to any salvage reports prepared to document the archaeological work undertaken to meet requirement E141 of the CoA.

## 5.12 Aboriginal Consultation

A copy of the AASEM will be provided to all RAPs for their review and comment. Copies of the consultation documentation are attached to the AASEM and any responses will be detailed in the final document.

Any further consultation with the Aboriginal community would relate to any unexpected finds within the site during works, as well as consultation regarding the salvage works and their results.

## 5.13 SUMMARY OF MANAGEMENT RECOMMENDATIONS

The following section outlines known Aboriginal sites within and in the vicinity of the Project area, and outlines the appropriate management strategies moving forward.

Table 11: Management recommendations (sci sig = Scientific Significance)

| Zone | Site ID | AHIMS ID | Sci sig | Type of harm | Degree of harm | Comments | Recommendations |
|---|---|---|---|---|---|---|---|
| Zone 1 | Artefact sites ARTC1 and ARTC4 | 50-5-0266, 50-5-0276 | Low | Nil | Nil | Located inside the Project area but outside the construction zone | Avoidance; may require fencing if potential for impact exists |
| | Artefact site ARTC2 | 50-5-0267 | Low | Direct | Partial | Located partially inside the Project area | Partial impact; part of site has been securely bunded off to avoid impact during works; part of site will be subject to surface collection<br>ASIRF noting site "partially destroyed" |
| | Artefact sites ARTC3 | 50-5-0274 | Low | Nil | Nil | Located outside the Project | Avoidance |
| | Artefact site ARTC5 | 50-5-0275 | Mod | Nil | Nil | No longer valid. Artefact collected during test excavation<br>ASIRF noting site "destroyed" previously submitted | No further mitigation necessary |
| | Site Zone 1—high density scatter | 50-5-0293 | Mod | Direct | Partial—less than 20% | Original PAD (50-5-0280) no longer valid, replaced by artefact site (50-5-0293)<br>The southern edge of two of the three high-density areas in Zone 1 will be impacted by the construction zone | Salvage excavations within high density areas within CIZ<br>ASIRF noting site "partially destroyed"<br>Amend co-ordinate location via ASIRF to reflect location of deposit outside CIZ |
| | Site Zone 1—low density scatter | 50-5-0293 | Low | Direct | Partial—75% | Original PAD (50-5-0280) no longer valid, replaced by artefact site (50-5-0293)<br>The two lower-density areas in Zone 1 will be substantially impacted by the construction zone | No further mitigation necessary<br>Amend co-ordinate location via ASIRF to reflect location of deposit outside CIZ |
| | Ring tree | - | - | Nil | Nil | Located outside the Project | Avoidance |
| Zone 2 | Scarred tree ARTC 6 | 50-5-0277 | High | Indirect | Nil | Located outside the Project | Avoidance |

| Zone | Site ID | AHIMS ID | Sci sig | Type of harm | Degree of harm | Comments | Recommendations |
|---|---|---|---|---|---|---|---|
| | Site Zone 2—high density scatter | 50-5-0294 | Low | Direct | Total | Original PAD (50-5-0278) no longer valid, replaced by artefact site (50-5-0294) The two higher-density areas of in Zone 2 will be completely impacted by the construction zone | Salvage excavations within high density areas within CIZ ASIRF noting site "partially destroyed" Amend co-ordinate location via ASIRF to reflect location of deposit outside CIZ |
| | Site Zone 2—low density scatter | 50-5-0294 | Low to mod | Direct | Total | Original PAD (50-5-0278) no longer valid, replaced by artefact site (50-5-0294) The one low-density area of in Zone 2 will be completely impacted by the construction zone | No further mitigation necessary Amend co-ordinate location via ASIRF to reflect location of deposit outside CIZ |
| Zone 3 | Scarred trees | 50-5-0117, 50-5-0120, 50-5-0121 | Nil | Nil | Nil | Determined not to be culturally modified trees. Deregistered from AHIMS | No further mitigation necessary |
| | Scarred tree ARTC18 | 50-5-0287 | High | Indirect | Nil | Located inside the Project area | Avoidance |
| | Scarred tree ARTC20 | 50-5-0297 | High | Indirect | Nil | Located inside the Project area | Avoidance |
| Zone 4 | Artefact site ARTC7 | 50-5-0285 | Low | Nil | Nil | Located outside the Project | Avoidance |
| | ARTC8 | 50-5-0284 | Low | Nil | Nil | Located outside the Project | Avoidance |
| | ARTC9 | 50-5-0283 | Low | Nil | Nil | Located outside the Project | Avoidance |
| Zone 5 | Zone 5 PAD 1 South AD01 | 50-5-0300 | Low | Direct | Total | Located inside the Project area. Confirmed to contain low density artefact concentration | No further mitigation necessary ASIRF to be submitted after impact to update site as destroyed |
| | Zone 5 PAD 1 South AD02 | 50-5-0301 | | | | | |

| Zone | Site ID | AHIMS ID | Sci sig | Type of harm | Degree of harm | Comments | Recommendations |
|---|---|---|---|---|---|---|---|
| | Zone 5 PAD 1 South AD03 | 50-5-0302 | | | | | |
| | Zone 5 PAD 1 North AD01 | 50-5-0303 | | | | | |
| | IR-IF-01 | 50-5-0311 | Low | Direct | Total | | |
| Zone 6 | Zone 6 PAD 1 AD01 | 50-5-0304 | Low | Direct | Total | Located inside the Project area. Confirmed to contain low density artefact concentration | No further mitigation necessary ASIRF to be submitted after impact to update site as destroyed |
| | Zone 6 PAD 3 AD01 | 50-5-0305 | | | | | |
| | Zone 6 PAD 3 AD02 | 50-5-0306 | | | | | |
| | Zone 6 PAD 5 AD01 | 50-5-0307 | | | | | |
| | Zone 6 PAD 6 AD01 | 50-5-0308 | | | | | |
| | IR-IF-03 | 50-5-0312 | Low | Direct | Total | Located inside the Project area. | No further mitigation necessary ASIRF to be submitted after impact to update site as destroyed |
| Zone 7 | Artefact sites ARTC12 and ARTC16 | 50-5-0268, 50-5-0272 | Low | Direct | Total | Located inside the Project area and construction zone Isolated artefacts could not be found again during the testing program | |
| | Artefact sites ARTC13–15 | 50-5-0269, 50-5-0270, 50-5-0271 | Low | Nil | Nil | Located outside the Project | |
| | Artefact site ARTC17 | 50-5-0273 | Low | Direct | Total | Located inside the Project area and construction zone | |
| Zone 8 | Outside the Project | | | | | | |

| Zone | Site ID | AHIMS ID | Sci sig | Type of harm | Degree of harm | Comments | Recommendations |
|---|---|---|---|---|---|---|---|
| Zone 9 | Zone 9 AD01 | 50-5-0309 | Low | Direct | Total | Located inside the Project area | No further mitigation necessary<br>ASIRF to be submitted after impact to update site as destroyed |
| | IR-IF-02 | 50-5-0310 | | | | Located inside the Project area | Surface collection<br>ASIRF to be submitted after impact to update site as destroyed |
| Zone 10 | - | - | Nil | Nil | Nil | No sites identified within this zone | No further mitigation necessary |
| Zone 11 | Outside the Project | | | | | | |
| Zone 11 East | Artefact sites ARTC10 | 50-2-0054 | Low | Direct | Total | Located inside the Project area and construction zone<br>Isolated artefacts could not be found again during testing program | No further mitigation necessary<br>ASIRF to be submitted after impact to update site as destroyed |
| | Artefact site ARTC11 | 50-2-0055 | Low | Nil | Nil | Located inside the Project area but outside the construction zone | Avoidance |
| | Scarred tree ARTC19 | 50-5-0058 | High | Indirect | Nil | Located outside the Project | Avoidance |

# 6.0 REFERENCES

Apex Archaeology. 2025. *Illabo to Stockinbingal Rail Corridor Project: Additional Survey and Test Excavation Methodology.* Report prepared for John Holland Group and Inland Rail Pty Ltd.

DECCW. 2010, *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales.* DECCW, Sydney South.

DECCW. 2010, *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*. DECCW, Sydney South.

DECCW. 2010, *Aboriginal cultural heritage consultation requirements for proponents 2010*. DECCW, Sydney South.

GML. 2022, *Inland Rail – Illabo to Stockinbingal Aboriginal Cultural Heritage Assessment Report.* Report to ARTC.

MTS Heritage. 2025, *Inland Rail – Illabo to Stockinbingal I2S Heritage Management Sub-Plan.* Report to John Holland Group.

OEH. 2011, *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW*. OEH, Sydney South.

Orton, C, 2000. *Cambridge Manuals in Archaeology: Sampling in Archaeology.* Cambridge University Press, Cambridge.

# APPENDIX A: ABORIGINAL COMMUNITY CONSULTATION FOR AASEM


*When printed this document is an uncontrolled version and must be checked against the Aconex electronic version for validity*

| | |
|---|---|
| **From:** | jenni@apexarchaeology.com.au |
| **To:** | "Undisclosed Recipients" |
| **Cc:** | "Leigh Bate"; "Fiona Leslie" |
| **Bcc:** | admin@waggawaggalalc.org.au; barkingowlcorp@gmail.com; btlalc@bigpond.net.au; Cherylpenrith84@gmail.com; colinameadows@hotmail.com; Colinameadows2014@gmail.com; corroboreecorp@bigpond.com; dylancodyingram92@gmail.com; gulgunyaNHAC@hotmail.com; Ingram.james1959@gmail.com; jennybeath@bigpond.com; marksad@live.com.au; Paulam@intereach.com.au; Pd.ngunawalconsultancy@gmail.com; prbeath@yahoo.com.au; Robert.carroll1971@gmail.com; sonionerogers@yahoo.com; thunderstonemg@gmail.com; wingarrawilay@yahoo.com; wiradjuriengineeringservices@outlook.com; Younglalc62@gmail.com; Yurwang.gundana.c.h.s@outlook.com |
| **Subject:** | Stockinbingal to Illabo section of the Inland Rail project: Salvage Methodology |
| **Date:** | Monday, 29 September 2025 7:25:26 PM |

Good afternoon,

I hope you're well. We have put together a methodology for archaeological salvage works within the Stockinbingal to Illabo (I2S) section of the Inland Rail project. The document is available to download here: https://we.tl/t-g22vXmwrkh

The document gives some information about the test excavation Apex Archaeology did in Sections 5, 6, 9 & 10 earlier this year, and outlines exactly what works are required prior to construction works starting along the entire I2S route. This includes surface collection of artefacts, salvage excavations, and areas where no further archaeological work is recommended.

Please have a read through the document and let us know if you have any questions or comments. I'd love to hear from you by CoB 27 October 2025.

Kind regards,

APEX ARCHAEOLOGY

Jenni Bate
DIRECTOR - ARCHAEOLOGIST

0422 229 179
JENNI@APEXARCHAEOLOGY.COM.AU
WWW.APEXARCHAEOLOGY.COM.AU

**From:** jenni@apexarchaeology.com.au
**To:** "Norma Freeman"
**Subject:** RE: Stockinbingal to Illabo section of the Inland Rail project: Salvage Methodology
**Date:** Tuesday, 30 September 2025 7:15:39 PM

Thanks so much Norma, I appreciate your feedback and apologise that those errors have slipped in. They will definitely be amended.

This document is essentially asking all RAPs what they would like to see happen, with the most feasible option included in the draft methodology for comment. However, if anyone says that they do not want to see items reburied and say they have alternative requests, this will absolutely be considered for long term management of the artefacts.

Thanks again and we will be in touch as the process progresses.

Kind regards,

APEX ARCHAEOLOGY
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**From:** Norma Freeman <younglalc62@gmail.com>
**Sent:** Tuesday, 30 September 2025 11:33 AM
**To:** jenni@apexarchaeology.com.au
**Subject:** Re: Stockinbingal to Illabo section of the Inland Rail project: Salvage Methodology

Hi Jenni

Thank you for your email. Hope you and Leigh are doing well.

Jenni just a couple of comments.

- Wrong spelling of Marnie Freeman - you have Marni
- 2.5 Surface Collection- Please swap LALC RAPs. Young LALC is Norma Freeman, Wagga LALC is Darryl Charles
- 5.2 Mitigation measures- Were there any Scar Trees in the pathway of the new Rail?
- 5.7 Artefacts & Chain of Custody- Did All RAPs agree to the Reburial? Some may be held in the LALC for teaching purpose/s. (I just wanted to clarify this as I wouldn't like someone to come back and say they were not asked.)

That's all Young LALC has to respond with.

Thank you kindly

On Mon, Sep 29, 2025 at 7:25 PM <jenni@apexarchaeology.com.au> wrote:

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Norma Freeman
Chief Executive Officer
Young Local Aboriginal Land Council
247 Boorowa Street
Young NSW 2594

Ph: 02 63825669
Mob: 0439 649 443
Fax: 02 63822522

I acknowledge that Young LALC stands on Aboriginal Land in Wiradjuri Country.  I acknowledge the Traditional Custodians of the lands on which I Live, Walk & Work,  & pay my respects to all Elders Past and Present.

**From:** jenni@apexarchaeology.com.au
**To:** "Norma Freeman"
**Subject:** RE: Stockinbingal to Illabo section of the Inland Rail project: Salvage Methodology
**Date:** Tuesday, 30 September 2025 7:45:21 PM

Sorry Norma, I missed your question about the Scar Trees – none are in the rail pathway itself. There are a number on the outskirts of the corridor but these will all be avoided with high vis fencing around them to make sure they aren't impacted. There are a number of management plans for the work and known scar trees have been included in a separate plan – this current document is specifically about the remaining salvage works and management of newly identified sites after the test excavation.

Please feel free to give me a call if you have any other questions about the process, I'm very happy to chat through it with you.

All the best,

APEX ARCHAEOLOGY
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Norma Freeman
Chief Executive Officer
Young Local Aboriginal Land Council
247 Boorowa Street
Young NSW 2594

Ph: 02 63825669
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I acknowledge that Young LALC stands on Aboriginal Land in Wiradjuri Country.  I acknowledge the Traditional Custodians of the lands on which I Live, Walk & Work,  & pay my respects to all Elders Past and Present.

**From:** jenni@apexarchaeology.com.au
**To:** "yurwang gundana"
**Subject:** RE: Stockinbingal to Illabo section of the Inland Rail project: Salvage Methodology
**Date:** Monday, 27 October 2025 10:37:32 AM
**Attachments:** image004.png

Good afternoon Merekai,

Thank you so much for your thoughtful and detailed response regarding the salvage methodology for the I2S project. It is greatly appreciated. I have provided responses below in red. Any further guidance would also be gratefully received.

Kind regards,

APEX ARCHAEOLOGY
Jenni Bate
DIRECTOR - ARCHAEOLOGIST
0422 229 179
JENNI@APEXARCHAEOLOGY.COM.AU
WWW.APEXARCHAEOLOGY.COM.AU

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**From:** yurwang gundana <Yurwang.Gundana.C.H.S@outlook.com>
**Sent:** Thursday, 16 October 2025 10:42 PM
**To:** jenni@apexarchaeology.com.au
**Subject:** Re: Stockinbingal to Illabo section of the Inland Rail project: Salvage Methodology

On behalf of **Yurwang Gundana Cultural Heritage Services**, we submit the following consolidated response to the Methodology report. Our representatives involved in this project bring **between 10 to 40 years of experience** in Aboriginal cultural heritage, archaeology, community-led site management, oral history, and Country-based interpretation.

**1. Representation and Recognition of Aboriginal Participation**

Aboriginal participation must be fully recognised as integral to the heritage management process. The contributions of all Registered Aboriginal Parties (RAPs) must be clearly and respectfully acknowledged in both the reporting structure and the interpretive outcomes of the report. We are not supplementary stakeholders; our involvement is foundational. Absolutely noted and recognised, and we endeavour to ensure all RAPs are consulted and their views considered and integrated as appropriate.

Our team includes Aboriginal representatives with 10 to 40 years of experience in cultural heritage work, including salvage excavations, community consultations, and cultural interpretation. Their expertise must be reflected in the significance assessments, methodology reviews, and final recommendations. Noted and appreciated; any comments and reflections regarding significance assessment, methodology and final recommendations will be implemented and acknowledged in reporting.

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**2. Methodology, Aims & Fieldwork Participation**

We acknowledge the proposed methodology across three stages:

- **Stage 1:** Excavation Phase
- **Stage 2:** Artefact Analysis
- **Stage 3:** Reporting and Recommendations

We support the general framework but expect full and ongoing engagement in every stage of the process. Cultural monitors from our organisation bring extensive experience in managing both tangible and intangible cultural heritage and must be present for all mechanical and hand excavations.

We request:

- Advance coordination for fieldwork activities
- Pre-excavation briefings with all RAPs
- Input into interpretation of landforms, site stratigraphy, and artefact patterning

This is noted and appreciated; however it should be appreciated that consultation does not necessarily equal engagement. Should the proponent wish to engage Yurwang Gundana for fieldwork, appropriate notification and coordination would be undertaken. The methodology recently provided for the proposed salvage works essentially comprises a pre-excavation briefing and has been provided to all RAPs. Any input regarding knowledge of the study area landforms and known site patterning is gratefully received and will be incorporated as appropriate. However, it should be noted that Aboriginal participation in the salvage program will occur.

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**3. Cultural Protocols**

The following cultural protocols are non-negotiable:

- **Elders & Knowledge Holders** must be consulted with cultural respect.
- **Men's and Women's Business** must be identified and managed under guidance from appropriate cultural authorities.

- **Cultural Safety** must be maintained throughout.
- **Respect for Country** must be practiced in all stages of the work.

Noted, appreciated, and implemented.

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**4. Communication & Transparency**

We require clear and ongoing communication regarding:

- Fieldwork schedules (with minimum two weeks' notice)
- Draft reports for review and comment
- Updates on methodology or scope changes
- Inclusion in all RAP meetings and team briefings

Yurwang Gundana CHS must be consistently included in all communications from Curio Projects.
Noted and appreciated. See above response. Also, Apex Archaeology includes all RAPs in consultation and will continue to do so. Please note, this is not a Curio Projects project and they are not involved in any aspect of the Illabo to Stockinbingal (I2S) section of the Inland Rail project.

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**5. Artefact and Site Management**

Artefacts must not be removed, analysed, or interpreted without direct involvement from RAPs. We request a group consultation to review all artefact management protocols. All decisions regarding storage, repatriation, display, or reporting must be made in collaboration with Traditional Owners.

Noted and appreciated; the methodology has been sent in fulfillment of this requirement. We will implement any requested artefact management protocols.

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**6. Confidentiality and Consent**

No cultural knowledge shared by RAPs may be published, paraphrased, or presented without explicit written consent. This includes:

- Cultural stories
- Traditional place names
- Oral histories
- Interpretations of landforms and sites

Noted and appreciated; cultural knowledge is always respectfully received and only presented with explicit written consent from the knowledge holder.

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**7. Roles and Responsibilities**

RAPs are not passive contributors. We are active cultural authorities and should be listed as co-authors or contributors to key report sections. This includes methodology reviews, site significance assessments, and management recommendations.
Noted and appreciated. Any contributions received from any RAPs will be acknowledged appropriately in reporting.

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**8. Timing and Scheduling**

We request:

- At least two weeks' notice before fieldwork
- A detailed daily schedule of expected activities
- Cultural flexibility for community obligations

Noted and appreciated; please refer to response to section 2.

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**9. Feedback on Visual Methodology Sections**

We support:

- Final reporting
- Artefact analysis
- Consultation facilitation

However, "consultation" must reflect true co-design. Aboriginal knowledge should not be extracted or reworded without collaborative input from

the knowledge holders.

Noted and appreciated; any Aboriginal knowledge shared will be acknowledged and referenced appropriately.

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**10. Final Notes**

This submission must be recorded in the consultation section of the project's reporting structure. We expect to continue working collaboratively, ensuring that cultural values and responsibilities are embedded throughout the project.

Noted, appreciated and implemented.

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**Expanded Comments Based on Methodology Sections**

**2.1 Site Inspection** We support thorough on-country inspections by Traditional Owners with cultural knowledge of this landscape. All inspections must be conducted in accordance with our cultural protocols and led by those connected to Country. Noted and appreciated; all surveys for this project have been completed.

**2.2 Survey Coverage** We advocate for full visual access beyond transects, including open assessment of creek lines, grinding grooves, scar trees, and landforms. Our teams must be free to assess cultural values not visible through Western archaeological frameworks. Noted and appreciated; all surveys for this project have been completed.

**2.3 Survey Results** Survey results must be explained in plain language and shared transparently. We offer interpretive sessions to co-analyse both scientific data and cultural meanings. Noted and appreciated; all surveys for this project have been completed.

**2.4 New Sites (IR-IF-01 to IR-IF-03)** New discoveries must be protected with buffer zones. Our experienced representatives can provide cultural context not found in data alone. Noted and appreciated; buffer zones have been implemented to date and the salvage methodology requests any further guidance or context be provided.

**2.5 Surface Collection (Zone 7 and 11)** Ethical collection must be supervised by Aboriginal monitors. Items must not be removed without consent, and should be available for cultural education. Noted and appreciated. The salvage methodology forms the approval documentation for collection works to be undertaken.

**2.6 Results of GML Test Excavation** These findings must be cross-referenced with cultural knowledge including Dreaming narratives and oral histories. Science alone cannot define significance. Noted and appreciated. The salvage methodology requests any further guidance or context be provided.

**2.7 Test Excavation Results (Zones 5–10)** Lack of artefacts does not mean lack of cultural value. Aboriginal knowledge must be used to assess the entire cultural landscape, including intangible values. Noted and appreciated. The salvage methodology requests any further guidance or context be provided.

**2.8 Sites Identified within the Study Area** We request the inclusion of Elders and young people in reviewing these sites to support intergenerational knowledge transfer and site protection. Noted and appreciated. The salvage methodology requests any further guidance or context be provided.

**2.9 Discussion** All final discussions must prioritise Aboriginal voices. Our lived knowledge and ancestral stories provide insights not found in archaeology. Noted, appreciated and implemented.

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**3.0 Lithic Analysis**

**3.1 Summary of Results** Scientific summaries must be balanced with cultural interpretations of stone use, sourcing, and ceremonial meaning. Some unmodified stones may hold spiritual significance. Noted and appreciated. The salvage methodology requests any further guidance or context be provided.

**3.2 The Stone Objects** These are not mere data points. They are links to our Ancestors and must be treated accordingly. Our reps with decades of field knowledge can interpret stone use, reworking, and social function. Noted and appreciated. The salvage methodology requests any further guidance or context be provided.

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**4.0 Significance Assessment**

**4.1 Introduction** Cultural significance cannot be measured solely through Western academic frameworks. We contribute stories, ceremonial uses, and spiritual connections.

**4.2 Criteria** Criteria for significance must include Aboriginal worldviews—spiritual presence, ancestral sites, men's and women's business, and community ties.

**4.3 Significance Assessment** Assessments must be joint and consider archaeology, cultural knowledge, and local history equally.

**4.4 Cultural Significance Assessment** This must be Aboriginal-led. Our knowledge holders provide deep understanding of Country and its unseen layers of meaning.

**4.5 Statement of Archaeological Significance** This statement should be co-authored or endorsed by Aboriginal reps and reviewed for cultural sensitivity.

Noted and appreciated. The salvage methodology requests any further guidance or context be provided.

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**5.0 Management Strategies**

**5.1 Works Required (Zones 1–11 and Tracks)** All fieldwork must include cultural oversight from planning to post-works restoration. Our representatives are experienced in this supervision.
Noted and appreciated. The salvage methodology requests any further guidance or context be provided.

**5.2 Mitigation Measures**

- **Surface Collection:** Must be RAP-led; catalogue items with storylines.
- **Salvage Excavations:** Avoidance is preferred; excavation only as last resort.
- **Unmitigated Impact:** Must be reported with reparations.
- **Avoidance:** Should be built into project design. It should be noted that the project has been approved and there is minimal opportunity for redesign; however avoidance of any unexpected finds would be the first priority wherever possible.
- **Awareness:** Site workers must complete training by Traditional Custodians.

**5.3 Staged Salvage Strategy**

- **Test Pits:** RAP monitoring is required.
- **Open Area Salvage:** Must not proceed without full cultural approval. The current salvage strategy forms both a project and cultural approval; any further input is gratefully received.
- **Excavation Methodology:** Must be co-designed. Noted and appreciated. The salvage methodology requests any further guidance or context be provided.
- **Expansion Triggers:** Reassessment with RAPs required. Noted and appreciated. The salvage methodology requests any further guidance or context be provided.
- **Cessation:** Any significant cultural find must stop works immediately. Noted and included already in the methodology.

**5.4 Hold Points** Cultural Hold Points must be established. Only Traditional Owners may lift them.

**5.5 Research Questions** We request to shape research priorities—Country also speaks through our oral traditions. Noted and appreciated. The salvage methodology requests any further guidance or context be provided.

**5.6 Recording** All recording must use our terminology and involve co-authorship with RAPs.

**5.7 Artefacts and Chain of Custody** Artefacts must remain under RAP control or be returned after study. Custody chains must be clear and approved. Noted – please advise of any lithic analysts with appropriate experience to undertake the assessment. It is intended to rebury the artefacts on site on completion of works. Any further guidance around management is appreciated.

**5.8 Backfill and Salvage Excavation** Backfilling should follow ceremony and respect for Country.

**5.9 Site Clearance** No clearance should proceed unless RAPs approve it. Noted – the salvage methodology provides the mechanism for approval.

**5.10 Post-Excavation Analysis** RAPs must access all results and shape the final interpretations. Noted and appreciated. The salvage methodology requests any further guidance or context be provided.

**5.11 ASIRFs** Drafts must be reviewed by RAPs with time to provide input. Whilst this request is noted, the AHIMS quarantine station does not allow for this to occur.

**5.12 Aboriginal Consultation** Consultation must be ongoing, genuine, and inclusive. Our team spans 10–40 years of cultural heritage experience. Noted, appreciated and implemented.

**5.13 Summary of Management Recommendations** RAPs must co-author or review these. Cultural outcomes must be prioritised, not just project deliverables. Noted and appreciated. The salvage methodology requests any further guidance or context be provided.

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**From:** jenni@apexarchaeology.com.au <jenni@apexarchaeology.com.au>
**Sent:** 29 September 2025 19:25
**To:** 'Undisclosed Recipients' <jenni@apexarchaeology.com.au>
**Cc:** 'Leigh Bate' <leigh@apexarchaeology.com.au>; 'Fiona Leslie' <fiona.leslie@mtsheritage.com.au>
**Subject:** Stockinbingal to Illabo section of the Inland Rail project: Salvage Methodology

Good afternoon,

I hope you're well. We have put together a methodology for archaeological salvage works within the Stockinbingal to Illabo (I2S) section of the Inland Rail project. The document is available to download here: https://we.tl/t-g22vXmwrkh

The document gives some information about the test excavation Apex Archaeology did in Sections 5, 6, 9 & 10 earlier this year, and outlines exactly what works are required prior to construction works starting along the entire I2S route. This includes surface collection of artefacts, salvage excavations, and areas where no further archaeological work is recommended.

Please have a read through the document and let us know if you have any questions or comments. I'd love to hear from you by CoB 27 October 2025.

Kind regards,

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# APPENDIX B: TEST PIT DESCRIPTIONS

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| | | ZONE 5 PAD 1 SOUTH | | |
| TP 1 | 60cm | | 0-25cm: Lightly compacted damp, sandy silt, grass root inclusions (<2%).<br>25-45cm: light brown dry sandy silt. Minor gravel and rock inclusions throughout. Slightly more compact.<br>45-60cm: Medium brown damp, highly compacted sandy silt. Inclusions as above.<br>Base: Light orangey brown damp dense clay. | |
| TP 2 | 33cm | | 0-5cm: Medium brown lightly compacted damp sandy silt. Minor grass root inclusions (<10%).<br>5-15cm: As above, slightly drier soil with <5% grass roots.<br>15-30cm: Light brown moderately compact, slightly moist sandy silt.<br>30-33cm: As above, highly compact, tree root inclusion from 30-33cm.<br>Base: Light orangey brown damp dense bioturbated clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 3 | 55cm | | 0-10cm: Lightly compacted damp, sandy silt, grass root inclusions (<2%).<br>10-30cm: Medium brown damp, lightly compacted sandy silt (30-40% sand). Fine angular gravel and grass root inclusions (<10%)<br>30-40cm: As above, however, heavily compacted.<br>40-55cm: As above, clay content increasing towards base.<br>Base: Dense sticky mottled yellow clay. | |
| TP 4 | 100cm | | 0-10cm: Medium brown lightly compacted damp, sandy silt, grass root inclusions (<2%).<br>10-20cm: As above, however, lighter brown and with <5% gravel and rock inclusions.<br>20-50cm: Lightly compact moist sandy silt, degrading tree root, mild bioturbation.<br>50-100cm: Damp sand. No notable inclusions. Clay content increasing with depth. Pit terminated at 100cm due to depth (no triggers for expansion met and test pit unsafe to excavate) | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 5 | 90cm | | 0-5cm: Damp medium brown sandy silt topsoil, 20% grass roots.<br>5-25cm: Damp light brown loose sandy silt, semi compacted.<br>25-65cm: Slightly damp, friable compacted silty sand (~5% clay).<br>65cm-90cm: Damp clayey silt, slight speckles of orange clay nodules and fine grass roots throughout. Clay content increasing towards base, <1% noticeable gravel, heavily compacted.<br>Base: Light and dark grey dry sterile clay with minor silt sections due to bioturbation. | |
| TP 6 | 65cm | | 0-10cm: Damp, slightly compact medium brown sandy silt. Minor grass root inclusions (<2%).<br>10-20cm: As above, slightly drier with gravel inclusions.<br>20-35cm: Lightly compact dry sandy silt. Minor grass root and gravel inclusions (<3%).<br>25-45cm: As above, with 20-25% clay throughout.<br>45-65cm: As above, clay content increasing towards base, moderately compacted, around 5% rock and gravel inclusions.<br>Base: Slightly damp, grey and tan clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 7 | 53cm | | 0-10cm: Brown damp clayey silt, grass roots throughout (<1%).<br>10-25cm: Light brown moderately compacted damp silt.<br>25-45cm: Moderately compacted lighter brown friable silty sand, speckles of coffee rock, ironstone inclusions throughout.<br>45-53cm: Grey heavily compacted clayish sandy silt. Patches of dry orange clay and fine grass roots throughout.<br>Base: Grey and yellow mottled dry dense clay. | |
| TP 8 | 39cm | | 0-10cm: Brown damp clayey silt, grass roots throughout (<1%).<br>10-20cm: Brown damp lightly compacted silt.<br>20-30cm: Lighter brown moderately compact sandy clayey silt. Fine grass roots and gravel throughout (<2%).<br>30-40cm: White-tan dry sandy clayey silt. Inclusions as above.<br>Base: Orange-grey dehydrated cemented clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 9 | 58cm | | 0-10cm: Brown damp clayey silt, grass roots throughout (<1%).<br>10-15cm: Brown damp lightly compacted silt.<br>15-30cm: Brown damp moderately compact sandy silt.<br>30-50cm: Brown sandy clayey dry silt, tree root in western side of pit, heavily compacted.<br>50-58cm: Light tan heavily compacted dehydrated silty clay, charcoal and rock inclusions throughout (<2%).<br>Base: Orange-grey dehydrated cemented clay base. | |
| TP 10 | 65cm | | 0-15cm: Medium brown damp loose topsoil, sandy silt beneath, grass roots and scattered rock fragments throughout (<2%).<br>15-25cm: Moderately compacted sandy silt, grass root and charcoal throughout (<5%), degraded wood pieces throughout (<1%).<br>25-40cm: Light brown, loose slightly damp coarse grained river sand, charcoal throughout (<5%).<br>40-60cm: Loose light brown dry silt fine grass roots with evidence of bioturbation throughout. Inclusions as above.<br>60-65cm: Extremely compacted light brown sandy silt. Test pit terminated at a depth of 65cm on reaching compact clay. No artefacts were identified within the pit. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 11 | 65cm | | 0-20cm: Medium brown damp loose topsoil, sandy silt beneath, grass roots and scattered rock fragments throughout (<2%).<br>20-30cm: Loose lightly compacted grainy sand. Fine grass root and gravel inclusions (<1%).<br>30-40cm: Lighter brown coarse sandy silt. Inclusions as above.<br>40-45cm: Pure highly compacted sand.<br>45-65cm: As above, clay content increasing with depth, as well as ironstone fragments appearing. Colour darkening with depth also. Test pit terminated at a depth of 65cm on reaching clay. No artefacts were identified within the pit. | |
| TP 12 | 67cm | | 0-10cm: Yellow brown lightly compacted sandy silt (<10% sand). Fine gravels throughout (<1%).<br>10-25cm: Light brown damp sandy silt (10% sand), fine grass roots and gravel throughout (<1%).<br>25-40cm: As above, with about 5-10% clay. Clay content increasing with depth to be 20% clay at 40cm.<br>40-67cm: Heavily compacted sandy clay. Small ironstone inclusions (<1-5%). 50% clay at 45cm, clay content increasing with depth to be 75% clay at 67cm.<br>Base: Distinct dehydrated light grey mottled clay base. Slight speckling of disintegrating ironstone in north west corner. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 13 | 62cm | | 0-10cm: Brown, slightly damp, lightly compacted sandy silt. Slight grass roots and gravelly rock inclusions (<5%).<br>10-20cm: Light tan-brown, moderately compacted, damp sandy silt (25% sand). Fine grass roots, however, no visible rock inclusions.<br>20-30cm: Light tan-brown, clayish sand (10% clay). Inclusions as above.<br>30-50cm: Light brown sandy clay (50% clay, 5-10% sand, 40% silt). Minor gravelly inclusions (1-5%).<br>50-62cm: Moderately compact, damp, yellow-tan silty clay. Minor rock and grass root inclusions (<1%). Clay content increasing with depth (60% clay at 60cm).<br>Base: Highly compacted dry grey/yellow/orange clay base. | |
| TP14 | 60cm | | 0-15cm: Medium brown, damp, lightly compacted sandy silt. Grass roots and small gravelly rock fragments throughout (<2%).<br>15-30cm: Medium brown damp sandy silt, fragments of light grey gravel throughout. Small degrading ironstone throughout.<br>30-60cm: Light brown sandy silt with small clay particles throughout (<10%). Very fine gravel inclusions. Moderately compacted. Small charcoal flecks present and increasing with depth (5-15%).<br>Test pit terminated at a depth of 60cm on reaching clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP15 | 64cm | | 0-20cm: Lightly compacted, damp dark brown silt. Long grass roots, with minor rock inclusions (<1%).<br>20-35cm: Moderately compacted, damp, light brown sandy silt (25% sand), <5% observable angular quartz, fine grass roots (<1%).<br>35-45cm: Same as above, however, heavily compacted.<br>45-64cm: Yellow-brown, dry, heavily compacted silty clay (60-65% clay). Degraded wood and burnt charcoal present throughout. Clay content increasing with depth.<br>Base: Dehydrated yellow-grey-brown clay with ironstone flecks in base. | |
| TP 16 | 40cm | | 0-15cm: Dark brown damp sandy silt. Grass root and angular quartz inclusions throughout (<5%).<br>15-25cm: Heavily compact coarse sandy silt, fine grass roots throughout.<br>25-35cm: Lighter brown, heavily compact, dry sandy silt. Small angular gravel inclusions, small quartz and degrading ironstone inclusions. Very slight inclusion of clay appearing (<10%). Clay content increasing with depth<br>35-40cm: As above, ironstone and quartz inclusions with at least 50% of clay throughout. Difficult to reach 40cm due to quartzite chunks. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 17 | 28cm | | 0-5cm: Dark brown lightly compacted sandy silt (10-15% sand). Grass root and conglomerates of quartz (veiny and low quality) and ironstone inclusions (<2%).<br>5-10cm: As above, however, with 10% clay throughout.<br>10-15cm: Damp, reddish brown moderately compacted sandy clayey silt mix (10% sand, 40% clay, 50% silt). Fine grass roots and angular quartz fragments throughout (<1%).<br>15-28cm: Red-brown, damp, silty sandy clay (60% clay content). Quartz angular gravel throughout. Moderately compact.<br>Base: Yellow-red-brown, dense silty clay. | |
| TP 18 | 45cm | | 0-30cm: Dark brown, damp, lightly compacted silt. Angular poor quality quartz and grass root inclusions throughout (<5%). Clay appearing at 15cm deep, with clay content increasing in depth. Clay base identified at 20cm on south side of pit.<br>30-45cm: As above, however wet plastic clay appearing with depth in pockets. Clay base reached at 40-45cm in northern side of pit.<br>Base: Hard fired brown-black clay base with small fleck of gravelly poor quality quartz on top in south side, clean wet plastic black-brown clay base in northern side. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 19 | 39cm | | 0-20cm: Damp medium brown sandy silt. Grass root and gravelly rock inclusions (quartz and ironstone <3%). Clay inclusions throughout appearing around 7cm deep, increasing with depth. Moderately compacted.<br>20-30cm: Reddish brown moderately compacted silty clay with gravelly poor quality quartz.<br>30-39cm: Clean silt from root hole. | |
| TP 20 | 22cm | | 0-10cm: Damp dark brown sandy silt. Fine grass roots and gravelly rock inclusions throughout (<2%).<br>10-22cm: As above, medium brown, charcoal appearing around 10cm deep (<10%).<br>Base: Damp, yellowish brown clay. 90% pure, clean sticky base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 21 | 27cm | | 0-5cm: Damp dark brown sandy silt. Fine grass roots and gravelly rock inclusions throughout (<2%).<br>5-15cm: As above, medium brown, charcoal appearing around 10cm deep (<10%).<br>15-30cm: Medum brown sandy silty clay (60% clay, <5% sand and 35% silt), angular poor quality quartz and fine grass root inclusions <5%). Moderately compact. Clay content increasing with depth.<br>Base: Dense mottled grey-brown pure clay. | |
| TP 22 | 65cm | | 0-5cm: Damp dark brown sandy silt. Fine grass roots and gravelly rock inclusions throughout (<2%).<br>5-25cm: As above, medium brown, charcoal appearing around 10cm deep (<10%).<br>25-35cm: Light brown highly compact silty sand. Inclusions as above.<br>35-50cm: Coarse extremely compact grainy sand, quartz rock and ironstone inclusions (<10%).<br>50-65cm: Fine dehydrated silt, with minor clay inclusions (<5-10%). No other notable inclusions.<br>Test pit ceased at 65cm on reaching clay. | 7.5 YR 2.5/2 – 7.5YR 4/4<br>PH: 7-7.5 |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 23 | 50cm | | 0-5cm: Dark brown, damp, humic, sandy silt topsoil. Minor grass root inclusions (<5%).<br>5-20cm: Medium brown, loose sandy clay, clusters of orange clay (<20%).<br>20-40cm: Lighter brown, slightly damp sandy silt, fine grass root inclusions, small fragments of quartz and gravelly rock (<10%). Slight clay inclusions beginning at 30-35cm. Moderately compacted.<br>40-50cm: Dry, highly compacted light brown silty clay.<br>Base: Dark brown dehydrated dense clay. | |
| TP 24 | 18cm | | 0-10cm: Brown slightly damp sandy silt. Minor grass root and quartz inclusions (<10%). Lightly compacted.<br>10-15cm: As above, however moderately compacted and <15% clay inclusions.<br>15-18cm: Red-brown heavily compacted silty clay, large angular quartz rock inclusions (<10%).<br>Base: Yellow-brown dense clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 25 | 26cm | | 0-15cm: Dark brown, damp, humic, sandy silt topsoil. Minor grass root inclusions (<5%).<br>5-10cm: Medium brown, loose sandy clay, clusters of orange clay (<20%). Angular gravelly ironstone & quartz (20-40%).<br>15-20cm: Moderately compacted, damp silty clay (40% clay, 60% silt). Quartz and rock inclusions.<br>20-26cm: As above, however, 70% clay content.<br>Base: Yellow-brown dense, plastic sterile clay. | |
| TP 26 | 25cm | | 0-10cm: Damp, dark brown loose sandy silt. Grass root and angular quartz inclusions (<10%).<br>10-15cm: Damp, dark brown moderately compact sandy silt. Minor orangey clay clusters throughout (<10%). Large angular quartz and ironstone inclusions (<20%).<br>15-20cm: As above, however, larger clay cluster inclusions (<30%).<br>20-25cm: Medium brown silty clay with dense angular quartz and ironstone inclusions (<50%). Additional inclusions as above.<br>Base: Compact light brown (burning event due to tree root), and red loose clay in NW corner alongside iron rich shale. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 27 | 33cm | | 0-5cm: Dark brown, damp, humic, sandy silt topsoil. Minor grass root inclusions (<5%).<br>5-10cm: Medium brown, loose sandy clay, clusters of orange clay (<20%). Angular gravelly ironstone & quartz (20-40%).<br>10-15cm: Dark brown, damp, moderately compact sandy silt. Large angular ironstone, shale and quartz inclusions, as well as minor grass root inclusions.<br>15-30cm: Red-brown moderately compact sandy silt. Large chunks of poor quality quartz throughout (as large as 10cm).<br>30-33: Interface between the above soil and clay base, with burnt tree root in bottom.<br>Base: Red dense clean clay. Has previously been fired due to tree root and land clearance. | |
| TP 28 | 16cm | | 0-5cm: Dark brown, damp, humic, sandy silt topsoil. Minor grass root inclusions (<5%).<br>5-10cm: Medium brown, loose sandy clay, clusters of orange clay (<20%). Angular gravelly ironstone & quartz (20-40%).<br>10-16cm: Compact, damp, dark brown-orange and brownish-red silty clay.<br>Base: Hard compacted clay, dark brownish orange in colour. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 29 | 50cm | | 0-5cm: Dark brown, damp, humic, sandy silt topsoil. Minor grass root inclusions (<5%).<br>5-10cm: Medium brown, loose sandy clay, clusters of orange clay (<20%). Angular gravelly ironstone & quartz (20-40%).<br>10-17cm: Red-brown damp sandy silt, fine grass root and gravel inclusions (<1%).<br>17-50cm: Red-brown moderately compact sandy silt. Large chunks of poor quality quartz throughout (as large as 10cm). Clay content increasing with depth.<br>Base: Dark brown, dense clean, dehydrated clay. | |
| TP 30 | 24cm | | 0-5cm: Dark brown, damp, humic, sandy silt topsoil. Minor grass root inclusions (<5%).<br>5-10cm: Medium brown, loose sandy clay, clusters of orange clay (<20%). Angular gravelly ironstone & quartz (20-40%).<br>10-15cm: Dry, compacted light brown sandy silt, angular quartz and ironstone gravels throughout (<30%). Brownish-orange clay inclusions (10-15cm in size).<br>15-24cm: Brown-red silty clay, with 10-20% gravelly quartz inclusions.<br>Base: Dark red-brown mottled clean clay. | Munsell: 7.5YR 3/2 – 7.5YR 2.5/2.<br>PH: 6-7<br>Base Munsell: 2.5YR 3/4<br>PH: 7 |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 31 | 25cm | | 0-15cm: Dark brown to reddish brown damp silt with angular quartz and grass root inclusions (<2%), moderately compact. Clay inclusions (<10-15%) appearing around 12cm deep<br>15-25cm: Lighter medium to reddish brown, dry, heavily compacted clayey silt (clay inclusions about 20-30%), as well as iron stone inclusions (<30%).<br>Base: Reddish brown and grey-brown mottled clay. | 7.5YR 2.5/2<br>PH: 6-6.5 |
| TP 32 | 20cm | | 0-10cm: Loose, damp brown sandy silt. Grass root inclusions with heavy bioturbation. Large angular quartz inclusions (<30%).<br>10-20cm: Moderately compact, dark reddish brown clayey silt. Inclusions as above.<br>Base: Moderately compact dark brown-red clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 33 | 28cm | | 0-10cm: Loose, damp brown sandy silt. Grass root inclusions with heavy bioturbation. Large angular quartz inclusions (<30%).<br>10-15cm: Moderately compact, dark reddish brown clayey silt. Inclusions as above.<br>15-20cm: Dry, compacted light brown sandy silt, angular quartz and ironstone gravels throughout (<30%). Brownish-orange clay inclusions (10-15cm in size).so<br>20-28cm: Red-brown dry silty clay (70% clay). Fine grass roots, and burnt tree root at 27-28cm. Further inclusions as above.<br>Base: Red, dense, clean, dry burnt clay. No evidence of cultural burning; burning likely associated with bushfires or agricultural land clearing. | |
| TP 34 | 15cm | | 0-5cm: Compact, damp medium brown sandy silt. Grass root and angular quartz gravels throughout (<5%).<br>5-10cm: Moderately compacted dry sandy silt, quartz inclusions increasing (<15%).<br>10-15cm: Dry compacted light brown sandy silt. Ironstone inclusions appearing (<5%) and quartz increasing (<30%). Brown-clay inclusions also appearing (<5%).<br>Base: Extremely compact light brown fired clay, with patches of orange clay throughout. No evidence of cultural burning; burning likely associated with bushfires or agricultural land clearing. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 35 | 21cm | | 0-5cm: Compact, damp medium brown sandy silt. Grass root and angular quartz gravels throughout (<5%).<br>5-10cm: Moderately compacted dry sandy silt, quartz inclusions increasing (<15%).<br>10-21cm: Highly compacted, damp red-brown silty clay (70% clay). Ironstone and quartz gravel throughout (<10-15%).<br>Base: Yellow-brown dense, slightly damp clay. | |
| **ZONE 5 PAD 1 NORTH** | | | | |
| TP 1 | 50cm | | 0-15cm: Dark brown damp sandy silt. Lightly compacted, fine grass roots (<2%), however, minimal topsoil (recently ploughed).<br>15-20cm: Light grey damp sandy silt, moderately compacted. Minor gravelly rock inclusions (<1%).<br>20-40cm: Light brown lightly compacted clayey sand. Small charcoal inclusions (<5%).<br>40-50cm: As above, however, highly compacted (70% clay).<br>Base: Light brown-yellow dehydrated clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 2 | 47cm | | 0-20cm: Light brown, slightly damp silty sand. Minor grass roots and bioturbation throughout (<2%). Small angular quartz inclusions (<10%). Moderately compacted.<br>20-30cm: Lighter brown, moderately compact, coarse grainy sand. Minor grass root inclusions (<5%), also degraded ironstone inclusions (<10%).<br>30-46cm: Light brown highly compacted silty sand. Clusters of reddish-brown clay appearing (<20-40%). Clay content increasing with depth, being 80-90% clay at 46cm.<br>Base: Red-brown dehydrated clay as well as grey-tan mottled clay base. | |
| TP 3 | 45cm | | 0-20cm: Dark brown damp sandy silt. Lightly compacted, fine grass roots (<2%), however, minimal topsoil (recently ploughed).<br>20-40cm: Light grey damp sandy silt, moderately compacted. Minor gravelly rock inclusions (<1%). Small clusters of light orange clay appearing at 40-45cm.<br>Base: Light brown-yellow dehydrated clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 4 | 51cm | | 0-10cm: Light brown, slightly damp silty sand. Minor grass roots and bioturbation throughout (<2%). Small angular quartz inclusions (<10%). Moderately compacted.<br>10-20cm: Medium brown damp fine sandy silt. Inclusions as above.<br>20-35cm: Light brown damp sandy silt. Moderately compacted. Angular ironstone throughout (<5%).<br>35-51cm: Light brown damp sandy silt. Highly compacted. Clay content appearing and increasing with depth (<20-30%).<br>Base: Mottled white and dehydrated dense clay. | |
| TP 5 | 75cm | | 0-10cm: Lightly compacted dark brown sandy silt. Grass root and fine gravel inclusions (<2%).<br>10-30cm: As above, however, with higher sand content. Inclusions as above.<br>30-40cm: Medium brown slightly damp sandy silt. Inclusions as above.<br>40-50cm: Very light brown compacted silt.<br>50-75cm: Light yellow-brown highly compacted silt. Minor gravelly quartz inclusions throughout (<2%).<br>Base: Very dehydrated light yellow-brown highly compact clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 6 | 100cm | | 0-15cm: Damp medium brown loose sandy silt. Grass root and minor charcoal inclusions (<5%).<br>15-30cm: Damp loosen black-brown silt.<br>30-80cm: Moderately compacted, dry light brown sandy silt. Charcoal flecks and angular quartz inclusions throughout (<10%).<br>80-100cm: Extremely compacted, dry, very light brown-grey silt. Orange degraded ironstone inclusions throughout (<10%). Charcoal appearing on south wall (<5%).<br>Pit was terminated at 100cm due to depth and safety. Pit not expanded to allow deeper excavation due to lack of cultural material. | 5YR 2.5/2 – 10YR 4/2.<br>PH: 7-8. |
| TP 7 | 70cm | | 0-15cm: Damp medium brown loose sandy silt. Grass root and minor charcoal inclusions (<5%).<br>15-30cm: Damp loosen black-brown silt.<br>30-60cm: Moderately compacted, dry light brown sandy silt. Charcoal flecks and angular quartz inclusions throughout (<10%).<br>60-70cm: Extremely compacted, dry, very light brown-grey silt. Orange degraded ironstone inclusions throughout (<10%).<br>Pit was terminated at 70cm due to reaching clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 8 | 55cm | | 0-10cm: Light brown, loose/friable silt. Minor grass root inclusions (<5%).<br>10-40cm: Warm orange-brown moderately compacted silt. Minor gravelly quartz inclusions (<10%). Soil becoming more compacted with depth.<br>40-55cm: Orange-brown compact, grainy clayey silt. Flecks of ironstone throughout (<1%). Clay content increasing with depth.<br>Base: Orange-brown dehydrated clay. | |
| TP 9 | 60cm | | 0-15cm: Damp medium brown loose sandy silt. Grass root and minor charcoal inclusions (<5%).<br>15-30cm: Damp loosen black-brown silt.<br>30-40cm: Moderately compacted, dry light brown sandy silt. Charcoal flecks and angular quartz inclusions throughout (<10%).<br>40-60cm: Heavily compacted grey-tan silt. Consistent fine charcoal flecks throughout, alongside small ironstone gravels (<15%).<br>Test pit terminated at 60cm due to reaching clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 10 | 75cm | | 0-40cm: Mid grey-brown loose silt. Gravelly quartz throughout (<10%). Minor grass root inclusions (<2%). Minor insect bioturbation.<br>40-70cm: Light grey-brown moderately compacted sily sand. Som angular quartz (<5%). Charcoal appearing and increasing with depth (5-10%).<br>70-75cm: Soft, friable sand. Inclusions as above.<br>Test pit terminated at 75cm due to depth and safety. | |
| TP 11 | 29cm | | 0-10cm: Medium brown damp sandy silt, lightly compacted. Grass root inclusions (<10%).<br>10-15cm: Lighter brown moderately compacted damp sandy silt.<br>15-20cm: Slightly less damp light brown moderately compacted sandy silt.<br>20-29cm: Reddish-brown heavily compacted sandy silt. Clay clusters appearing at 20cm (<20-30%) and increasing with depth (<80-90% at 29cm).<br>Base: Reddish brown dry dehydrated clay in south side of pit, and grey-tan dehydrated clay in north side of pit. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 12 | 36cm | | 0-20cm: Mid-brown friable silt. Minor grass root inclusions (<2%). Clay appearing at 15cm and increasing with depth (<10-15%).<br>20-30cm: Lighter brown loose silt. Clay content increasing (<25-75%).<br>30-36cm: Clay base removal layer due to silt veins in clay – 0.5cm of clay removed. | 7.5YR 2.5/2 – 7.5YR 4/3<br>PH: 7-7.5<br>Base: 7.5YR 5/3<br>PH: 7.5 |
| TP 13 | 50cm | | 0-15cm: Medium brown damp clayey silt. Grass and tree root inclusions (<10%).<br>15-35cm: Light yellow-brown sandy silt. Inclusions as above.<br>35-45cm: Compacted slightly damp light yellow-brown sandy silt.<br>45-50cm: Heavily compacted light yellow-brown sandy silt.<br>Base: Medium brown-orange compacted fired clay. Firing likely related to agricultural land clearing or potential bushfire events. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 14 | 74cm | | 0-15cm: Disturbed overturned clay-silt fill. Clay nodules throughout (<10%).<br>15-20cm: Original ground level encountered at 15cm deep - medium brown damp clayey silt. Grass and tree root inclusions (<10%).<br>20-30cm: Slightly damp yellow-brown silty sand. Moderately compacted.<br>30-50cm: Very compacted very light brown silty sand.<br>50-74cm: Dry friable light yellow-brown silty sand. Clay content appearing with depth.<br>Base: Yellow-brown dehydrated clay at 72-74cm deep. | |
| **ZONE 6 PAD 1** | | | | |
| TP 1 | 66cm | | 0-35cm: Dark brown loose sandy silt. Grass roots and charcoal throughout (<5%).<br>35-66cm: Moderate to extremely heavily compacted grey silt. Charcoal increasing with depth (<10-40%). Small degrading ironstone inclusions (<2%).<br>Base: Dehydrated grey clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 2 | 66cm | | 0-5cm: Dark brown loose silt. Grass root inclusions (<2%).<br>5-20cm: Light orangey brown silt.<br>20-40cm: Light orangey brown silty sand.<br>40-60cm: As above, clay content appearing at 40cm, increasing with depth.<br>60-66cm: Interface between clay base and sandy clay soil. Very highly compacted.<br>Base: Extremely solid dehydrated mottled orange-brown clay. | |
| TP 3 | 72cm | | 0-15cm: Slightly damp medium brown sandy silt. Minor grass roots and tree bark throughout (<2%).<br>15-35cm: Light brown, moderately compact coarse sandy silt. Degrading ironstone inclusions (<5%).<br>35-67cm: Light beige fine sandy silt. Ironstone inclusions increasing (<10-15%).<br>Note: 1cm clay lens at 38cm deep.<br>70-72cm: Orangey tan silty clay. Highly compact (cemented) dry, with tree root in bottom. Ironstone inclusions becoming less frequent (<2%).<br>Base: Dehydrated highly compacted yellow-orange mottled clay. | 7.5YR 3/4 – 7.5YR 5/6<br>PH: 6.5-7<br>Base: 7.5YR 5/8<br>PH: 7 |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 4 | 80cm | | 0-15cm: Slightly damp medium brown sandy silt. Minor grass roots and tree bark throughout (<2%).<br>15-35cm: Light brown, moderately compact coarse sandy silt. Degrading ironstone inclusions (<5%).<br>35-70cm: Light beige fine sandy silt. Ironstone inclusions increasing (<10-15%).<br>70-80cm: Orangey tan silty clay. Highly compact (cemented) dry, with tree root in bottom. Ironstone inclusions becoming less frequent (<2%).<br>Base: Dehydrated highly compacted yellow-orange mottled clay. | |
| TP 5 | 71cm | | 0-15cm: Slightly damp medium brown sandy silt. Minor grass roots and tree bark throughout (<2%).<br>15-30cm: Light brown, moderately compact coarse sandy silt.<br>30-55cm: Light grey-brown heavily compacted sandy silt. Degrading ironstone fragments (<10-20%).<br>55-71cm: As above, however clay content appearing and increasing with depth.<br>Base: Very dry mottled yellow-brown-grey cemented clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 6 | 48cm: | | 0-15cm: Dark brown loose sandy silt. Grass roots and charcoal throughout (<5%).<br>15-48cm: Moderate to extremely heavily compacted grey silt. Small degrading ironstone inclusions (<2%).<br>Base: Hard dehydrated grey-brown clay. | |
| TP 7 | 45cm | | 0-15cm: Slightly damp medium brown sandy silt. Minor grass roots and tree bark throughout (<2%). Evidence of disturbance with clusters of clay appearing between 5 and 10cm.<br>15-25cm: Lighter medium brown alluvial sandy lens.<br>25-45cm: Yellow-brown, damp, clayish sand. Clay content increasing with depth (<10%-40%).<br>Base: Wet yellow-brown clay in NW corner, remaining base is hard orange clay with burnt tree root in base. | M: 10YR 3/2 – 3/3, 10YR 4/4 – 10YR 5/6<br>PH: 7-8 |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 8 | 60cm | | 0-10cm: Lightly compacted red-brown silt. Grass root and gravelly quartz inclusions (<1%).<br>10-37cm: Light brown lightly compacted silt, quartz increasing – very poor quality and veiny (<10-20%). Sandy lens appearing around 30cm deep.<br>37-55cm: Reddish-brown highly compacted sandy clay (65% clay content). Quartz increasing (<30%).<br>55-60cm: Dry, concreted slightly sandy clay (85% clay content). Inclusions as above.<br>Base: 80% pure clay with laterite geology crumbled into base. | |
| TP 9 | 60cm | | 0-10cm: Red-orangey brown, damp, lightly compacted silt. Grass root inclusions (<2%).<br>10-25cm: Lighter red-orangey brown lightly compacted silt. Charcoal throughout (<10%).<br>25-45cm: Lighter warm orangey dry sandy silt. Gravelly quartz throughout (<5-10%). Minor orange fired clay inclusions (<5%).<br>45-50cm: Light orange-brown silt. Inclusions as above.<br>50-60cm: Vibrant orange-brown heavily compacted silty clay. Inclusions as above.<br>Base: Orange-brown dehydrated clay with dried tree roots on NW side and SW side of the pit. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 10 | 50cm | | 0-15cm: Lightly compacted, damp medium brown sandy silt. Grass root inclusions (<2%).<br>15-35cm: Lighter brown sandy silt. Degrading ironstone inclusions (<10%). Small fragmented quartz inclusions (<5%).<br>35-45cm: As above, clay content beginning to appear at 35cm and increasing with depth (<10-30%).<br>45-50cm: Yellow-orange-brown silty clay.<br>Base: Dehydrated hard yellowish orange clay base. | |
| TP 11 | 50cm | | 0-23cm: Mid-brown damp clayey silt. Grass root and gravelly quartz inclusions (<2-5%).<br>23-34cm: Damp, moderately compacted light brown silt. Inclusions as above.<br>34-45cm: Heavily compacted light tan sandy silt. Clay content appearing around 40cm deep and increasing with depth (<10-20%).<br>45-50cm: Concreted, extremely dry clayey silt (50/50 clay and silt). Fine gravelly inclusions (<2%).<br>Base: Hard dehydrated grey-brown clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 12 | 52cm | | 0-15cm: Damp, medium brown sandy silt. Light to moderately compacted with grass root inclusions (<2%).<br>15-40cm: Medium brown sandy silt. Gravelly quartz and ironstone inclusions (<10-40%). Charcoal appearing around 17cm deep (<25%-30%).<br>40-45cm: Light brown sandy silt, clay beginning to appear in the northern side of the pit.<br>45-52cm: Very light brown compacted sandy clayey silt.<br>Base: Yellow-grey-brown dehydrated solid clay reached at 50cm on northern side of pit. Pit terminated at 52cm on south side on reaching clay. | |
| TP 13 | 53cm | | 0-10cm: Damp, medium brown sandy silt. Lightly compacted. Grass root inclusions (<5%).<br>10-25cm: Lighter medium brown sandy silt. Grass root and gravelly quartz inclusions (<10%).<br>25-45cm: Light beige-brown sandy silt with ironstone inclusions (<10-20%).<br>45-53cm: Orangey tan silty clay. Highly compact (cemented) dry. Ironstone inclusions becoming less frequent (<2%).<br>Base: Dehydrated highly compacted yellow-orange mottled clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 14 | 60cm | | 0-10cm: Damp, medium brown sandy silt. Lightly compacted. Grass root inclusions (<5%).<br>10-30cm: Lighter medium brown sandy silt. Grass root and gravelly quartz inclusions (<10%).<br>30-45cm: Light beige-brown sandy silt with ironstone inclusions (<10-20%).<br>45-60cm: Light grey-brown heavily compacted sandy silt. Degrading ironstone fragments (<10-20%).<br>Base: Heavily compacted, brown clay. | |
| TP 15 | 75cm: | | 0-10cm: Damp, medium brown sandy silt. Lightly compacted. Grass root inclusions (<5%).<br>10-45cm: Rich red-brown damp silt. Gravelly poor quality quartz inclusions (1-5mm in size) (<10-15%).<br>45-60cm: Moderately compacted, damp, red-brown clayey silt (<10-20%). Inclusions as above.<br>60-75cm: Damp, yellow-orange moderately compact silty clay (60-80% clay). Small gravelly quartz inclusions (<5%).<br>Base: Heavily compacted, mottled red and yellow-brown clay. | M: 7.5YR 4/6, 7.5YR 5/6, 7.5YR 5/8<br>PH: 5.5-7<br>Base: 7.5YR 6/8<br>PH: 7.5 |

**ZONE 6 PAD 2**

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 1 | 55cm | | 0-15cm: Red-brown, damp, lightly compacted silt. Quartz gravel inclusions (<10-15%). Grass root inclusions (<5%).<br>15-35cm: As above, however, with large quartz chunks throughout (<30%).<br>35-45cm: As above, however, also large chunks of degrading geology appearing (10-15cms in size).<br>45-50: As above, however, no more quartz fragments.<br>50-55cm: Red-brown, very crumbly clayey silt (40% clay). Very large chunks of geology throughout (<30-40%).<br>Base: Damp, clean, red dense clay. Disintegrating laterite gravel geology peeking through. | |
| TP 2 | 25cm | | 0-15cm: Red-brown, damp, lightly compacted silt. Quartz gravel inclusions (<10-15%). Grass root inclusions (<5%).<br>15-25cm: As above, however, with large quartz chunks throughout (<30%).<br>Base: Damp, clean, red dense clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 3 | 25cm | | 0-15cm: Red-brown, damp, lightly compacted silt. Quartz gravel inclusions (<10-15%). Grass root inclusions (<5%).<br>15-25cm: As above, however, with large quartz chunks throughout (<30%).<br>Base: Damp, clean, red dense clay. | M: 5YR 3/4 – 5YR 4/6<br>PH: 6.5<br>Base: 2.5YR 3/6<br>PH: 6 |
| TP 4 | 22cm | | 0-15cm: Red-brown, damp, lightly compacted silt. Quartz gravel inclusions (<10-15%). Grass root inclusions (<5%).<br>15-22cm: As above, however, with large quartz chunks throughout (<30%).<br>Base: Damp, clean, red dense clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 5 | 25cm | | 0-15cm: Red-brown, damp, lightly compacted silt. Quartz gravel inclusions (<10-15%). Grass root inclusions (<5%).<br>15-25cm: As above, however, with large quartz chunks throughout (<30%).<br>Base: Damp, clean, red dense clay. | |
| TP 6 | 38cm | | 0-5cm: Warm brown moist silt. Grass root inclusions (<2%).<br>5-20cm: Red-brown soft silt. Minor charcoal inclusions (<5%).<br>20-38cm: Red, soft clayey silt. Inclusions as above.<br>Base: Damp, clean, red dense clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 7 | 29cm | | 0-15cm: Red-brown, damp, lightly compacted silt. Quartz gravel inclusions (<10-15%). Grass root inclusions (<5%).<br>15-29cm: As above, however, with large quartz chunks throughout (<30%).<br>Base: Damp, clean, red dense clay. | |
| TP 8 | 29cm | | 0-15cm: Red-brown, damp, lightly compacted silt. Quartz gravel inclusions (<10-15%). Grass root inclusions (<5%).<br>15-29cm: As above, however, with large quartz chunks throughout (<30%). High ant bioturbation between 20-25cm.<br>Base: Damp, clean, red dense clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 9 | 64cm | | 0-5cm: Red-brown, damp, lightly compacted silt. Grass root inclusions (<5%).<br>5-10cm: As above, however, no roots.<br>10-15cm: Lightly compacted red-brown clayey silt (10% clay). Small angular quartz pieces throughout (<5%).<br>15-30cm: Vibrant red lightly compacted silt. Clay content increasing (<20%).<br>30-45cm: Damp, extremely bright red, lightly compacted clayey silt. Very fine angular gravel (<1%), very fine grass roots (<1%).<br>45-54cm: As above, however, becoming moderately compact. Large conglomerate chunks of rock (grey/white in colour) throughout (<15%).<br>54-64cm: Yellow-red, very crumbly, dry silty clay (60-70% clay), moderately compact. Rocky quartz inclusions throughout (<15%), as well as disintegrating geology (<30-50%).<br>Base: Disintegrating laterite geology as well as dense red dehydrated clay. | 2.5YR 4/6 – 2.5YR 4/8<br>PH: 6-7<br>Base: 5YR 4/6<br>PH: 7 |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 10 | 27cm | | 0-15cm: Red-brown, damp, lightly compacted silt. Quartz gravel inclusions (<10-15%). Grass root inclusions (<5%).<br>15-27cm: As above, however, with large quartz chunks throughout (<30%). High ant bioturbation between 20-25cm.<br>Base: Damp, clean, red dense clay. | |
| **Zone 6 PAD 3** | | | | |
| TP 1 | 45cm | | 0-16cm: Brown silty loam.<br>16-45cm: Orange clayey silty loam.<br>Base: Orange compact sticky clay. Tree root burnt in base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 2 | 40cm | | 0-16cm: Brown silty loam.<br>16-40cm: Orange clayey silty loam.<br>Base: Orange compact sticky clay. | |
| TP 3 | 35cm | | 0-16cm: Brown silty loam.<br>16-35cm: Orange clayey silty loam.<br>Base: Orange compact sticky clay. Degrading tree root in north west corner. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 4 | 50cm | | 0-15cm: Mid brown damp clayey silt. Minor grass roots throughout (<1%).<br>15-35cm: Mid brown compact clayey silt. Small ironstone inclusions (<5-10%). Small amount of manganese (<1%). Increasing clay content (<20%).<br>35-50cm: Mottled horizon to pale grey silt. Heavily compacted/concreted alluvium. Sparse ironstone inclusions (<2%).<br>Base: Light grey compacted clay base. | |
| TP 5 | 50cm | | 0-40cm: Brown silty loam.<br>40-50cm: Compact grey sandy loam.<br>Base: Light grey compacted clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 6 | 50cm | | 0-15cm: Mid brown damp clayey silt. Minor grass roots throughout (<1%).<br>15-35cm: Mid brown compact clayey silt. Small ironstone inclusions (<5-10%). Small amount of manganese (<1%). Increasing clay content (<20%).<br>35-50cm: Mottled horizon to pale grey silt. Heavily compacted/concreted alluvium. Sparse ironstone inclusions (<1%). Heavy charcoal inclusions in North section. Likely burnt tree root (8cm L x 6cm W at 33cm deep).<br>Base: Highly compacted light brown clay. | |
| TP 7 | 50cm | | 0-15cm: Mid brown damp clayey silt. Minor grass roots throughout (<1%).<br>15-35cm: Mid brown compact clayey silt. Small ironstone inclusions (<5-10%). Small amount of manganese (<1%). Increasing clay content (<20%).<br>35-50cm: Orangey red moderately compacted clayey silt.<br>Base: Mid brown hard damp clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 8 | 50cm | | 0-15cm: Mid brown damp clayey silt. Minor grass roots throughout (<1%).<br>15-35cm: Mid brown compact clayey silt. Small ironstone inclusions (<5-10%). Small amount of manganese (<1%). Increasing clay content (<20%).<br>35-45cm: Mottled horizon to pale grey silt. Heavily compacted/concreted alluvium. Sparse ironstone inclusions (<2%).<br>45-50cm: Concreted alluvium in NW corner, undulating down to the south, abutted by red-brown clay along the southern section.<br>Base: Light orangey brown hard basal clay. | |
| TP 9 | 50cm | | 0-5cm: Grey-brown loose sandy silt.<br>5-35cm: Pale orangey-yellow loose sandy silt. Small grass root inclusions (<25).<br>35-50cm: As above, however, becoming more compact with depth.<br>Base: Warm brown sandy clay. | 0-5cm: 10YR 2/2, PH: 7<br>25-30cm: 7.5YR 4/4<br>PH: 7<br>40-45cm: 10YR 4/6<br>PH: 7<br>Base: 10YR 3/4<br>PH: 7.5 |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 10 | 50cm | | 0-15cm: Mid brown damp clayey silt. Minor grass roots throughout (<1%).<br>15-35cm: Mid brown compact clayey silt. Small ironstone inclusions (<5-10%). Small amount of manganese (<1%). Increasing clay content (<20%).<br>35-50cm: Mottled horizon to pale grey silt. Heavily compacted/concreted alluvium. Sparse ironstone inclusions (<1%).<br>Base: Concreted light grey brown clay. | |
| TP 11 | 50cm | | 0-15cm: Mid brown damp clayey silt. Minor grass roots throughout (<1%).<br>15-35cm: Mid brown compact clayey silt. Small ironstone inclusions (<5-10%). Small amount of manganese (<1%). Increasing clay content (<20%).<br>35-50cm: Orangey red moderately compacted clayey silt.<br>Base: Mid brown-orange hard damp clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 12 | 50cm | | 0-15cm: Mid brown damp clayey silt. Minor grass roots throughout (<1%).<br>15-35cm: Mid brown compact clayey silt. Small ironstone inclusions (<5-10%). Small amount of manganese (<1%). Increasing clay content (<20%).<br>35-50cm: Orangey red moderately compacted clayey silt.<br>Base: Mid brown-orange hard damp clay. | |
| TP 13 | 45cm | | 0-16cm: Brown silty loam.<br>16-45cm: Orange clayey silty loam.<br>Base: Orange compact sticky clay. Tree root burnt in base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 14 | 50cm | | 0-15cm: Mid brown damp clayey silt. Minor grass roots throughout (<1%).<br>15-35cm: Mid brown compact clayey silt. Small ironstone inclusions (<5-10%). Small amount of manganese (<1%). Increasing clay content (<20%). Poor quality quartz throughout (<40%).<br>35-50cm: Orangey red moderately compacted clayey silt.<br>Base: Mid brown-orange hard damp clay. | |
| TP 15 | 55cm | | 0-15cm: Mid brown damp clayey silt. Minor grass roots throughout (<1%).<br>15-35cm: Mid brown compact clayey silt. Small ironstone inclusions (<5-10%). Small amount of manganese (<1%). Increasing clay content (<20%). Poor quality quartz throughout (<40%).<br>35-55cm: Orangey red moderately compacted clayey silt.<br>Base: Mid brown-orange hard damp clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 16 | 50cm | | 0-15cm: Mid brown damp clayey silt. Minor grass roots throughout (<1%).<br>15-35cm: Mid brown compact clayey silt. Small ironstone inclusions (<5-10%). Small amount of manganese (<1%). Increasing clay content (<20%). Poor quality quartz throughout (<40%).<br>35-50cm: Orangey red moderately compacted clayey silt.<br>Base: Mid brown-orange hard damp clay. | |
| TP 17 | 50cm | | 0-15cm: Mid brown damp clayey silt. Minor grass roots throughout (<1%).<br>15-35cm: Mid brown compact clayey silt. Small ironstone inclusions (<5-10%). Small amount of manganese (<1%). Increasing clay content (<20%). Poor quality quartz throughout (<40%).<br>35-50cm: Mottled horizon to pale grey silt. Heavily compacted/concreted alluvium. Sparse ironstone inclusions (<2%). Tree root in base.<br>Base: Mid brown-orange hard damp clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 18 | 35cm | | 0-5cm: Mid-brown loose sandy silt topsoil.<br>5-20cm: Pale yellow-brown compact sandy silt.<br>20-25cm: Red clay, potential post hole in south east. Highly compacted and plastic/sticky.<br>20-35cm: Historic disturbance. Dark brown clayey silt. Only south east corner excavated. Ends at same clay base as above at 35cm. | |
| **Zone 6 PAD 4** | | | | |
| TP 1 | 34cm | | 0-5cm: Mid-brown sandy silt. Angular coarse quartz cobbles throughout (<3%).<br>5-34cm: Pale, tan-yellow silty sand. Inclusions as above. Some ant bioturbation.<br>Base: Clay and geology. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 2 | 35cm | | 0-5cm: Mid-brown sandy silt. Angular coarse quartz cobbles throughout (<3%).<br>5-35cm: Pale, tan-yellow silty sand. Inclusions as above. Some ant bioturbation.<br>Base: Heavily compacted pale grey-brown clay and geological bedrock. | 10YR 3/3 – 10YR 5/3<br>PH: 6.5-7 |
| **Zone 6 PAD 5** | | | | |
| TP 1 | 34cm | | 0-15cm: Brown silty loam, grass root inclusions (<5%).<br>15-34cm: Orange silty clay loam.<br>Base: Orange compact basal clay | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 2 | 40cm | | 0-15cm: Brown silty loam, grass root inclusions (<5%).<br>15-40cm: Orange silty clay loam.<br>Base: Orange compact basal clay | |
| TP 3 | 40cm | | 0-15cm: Brown silty loam, grass root inclusions (<5%).<br>15-40cm: Orange silty clay loam. Tree root in base.<br>Base: Orange compact basal clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 4 | 30cm | | 0-15cm: Brown silty loam, grass root inclusions (<5%).<br>15-30cm: Orange silty clay loam.<br>Base: Orange compact basal clay. | |
| TP 5 | 35cm | | 0-15cm: Brown silty loam, grass root inclusions (<5%).<br>15-35cm: Orange silty clay loam.<br>Base: Orange compact basal clay.<br>Undulating, high point in north east corner. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 6 | 26cm | | 0-15cm: Brown silty loam, grass root inclusions (<5%).<br>15-26cm: Orange silty clay loam.<br>Base: Orange compact basal clay | |
| TP 7 | 30cm | | 0-15cm: Brown silty loam, grass root inclusions (<5%).<br>15-30cm: Orange silty clay loam. Loose friable large grain quartz in curved cavity in south east corner (likely animal burrow).<br>Base: Orange compact basal clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 8 | 32cm | | 0-15cm: Brown silty loam, grass root inclusions (<5%).<br>15-32cm: Orange silty clay loam.<br>Base: Orange compact basal clay | |
| TP 9 | 35cm | | 0-15cm: Brown silty loam, grass root inclusions (<5%).<br>15-35cm: Orange silty clay loam.<br>Base: Orange compact basal clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 10 | 35cm | | 0-15cm: Brown silty loam, grass root inclusions (<5%).<br>15-35cm: Orange silty clay loam.<br>Base: Orange compact basal clay. | |
| TP 11 | 33cm | | 0-15cm: Brown silty loam, grass root inclusions (<5%).<br>15-33cm: Orange silty clay loam.<br>Base: Orange compact basal clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 12 | 27cm | | 0-15cm: Brown silty loam, grass root inclusions (<5%).<br>15-27cm: Orange silty clay loam.<br>Base: Orange compact basal clay. | 10YR 3/3, 10YR 4/3, 10YR 4/4, 10YR 4/6, 10YR 3/6<br>PH: 6.5-7 |
| TP 13 | 40cm | | 0-15cm: Brown silty loam, grass root inclusions (<5%).<br>15-40cm: Orange silty clay loam.<br>Base: Orange compact basal clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 14 | 25cm | | 0-10cm: Clayey silt, highly diffuse horizons.<br>10-25cm: Mostly same as TP 13, however, clay beginning higher (from 20cm). Little to no inclusions.<br>Base: Smooth clay | 10YR 3/2, 10YR 3/3, 10YR 4/4<br>PH: 6.5-7 |
| | | **Zone 6 PAD 6** | | |
| TP 1 | 25cm | | 0-5cm: Brown silty loam rocky topsoil.<br>5-10cm: Orangey clayish loam. Poor quality quartz inclusions (<5%).<br>10-25cm: Orangey clayey silt.<br>Base: Orange compact clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 2 | 30cm | | 0-5cm: Brown silty loam rocky topsoil.<br>5-10cm: Orangey clayish loam. Poor quality quartz inclusions (<5%).<br>10-30cm: Orangey clayey silt.<br>Base: Orange compact clay. | |
| TP 3 | 30cm | | 0-10cm: Red-brown clayey loam. Lightly compacted, damp. Quartz gravelly inclusions (<5%). Small charcoal flecks throughout (<5%).<br>10-17cm: Damp brown-red clayey silt. Moderately compacted. Inclusions as above.<br>17-30cm: Brown-red silty clay. Quartz gravel inclusions (<5%).<br>Base: Orange sticky clay base | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 4 | 22cm | | 0-22cm: Orange silty clay loam. Clay increasing with depth. Poor quality quartz fragments and grass roots throughout (<10%).<br>Base: Orange sticky clay base. | |
| TP 5 | 20cm | | 0-20cm: Orange silty clay loam. Clay increasing with depth. Poor quality quartz fragments and grass roots throughout (<10%).<br>Base: Orange sticky clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 6 | 25cm | | 0-10cm: Red-brown clayey loam. Lightly compacted, damp. Quartz gravelly inclusions (<5%). Small charcoal flecks throughout (<5%).<br>10-17cm: Damp brown-red clayey silt. Moderately compacted. Inclusions as above.<br>17-25cm: Brown-red silty clay. Quartz gravel inclusions (<5%).<br>Base: Orange-brown sticky clay base. | |
| TP 7 | 18cm | | 0-18cm: Orange silty clay loam. Clay increasing with depth. Poor quality quartz fragments and grass roots throughout (<10%).<br>Base: Orange sticky clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 8 | 33cm | | 0-10cm: Dark brown clayey silt. Quartz gravelly inclusions (<5%). Small charcoal flecks throughout (<5%).<br>10-25cm: Pale brown clayey silt. Inclusions as above.<br>25-33cm: Red-brown silty clay. Grey-yellow clay inclusions.<br>Base: Orange sticky clay base. | |
| TP 9 | 16cm | | 0-16cm: Orange silty clay loam. Clay increasing with depth. Poor quality quartz fragments and grass roots throughout (<10%).<br>Base: Orange sticky clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 10 | 25cm | | 0-25cm: Orange silty clay loam. Clay increasing with depth. Poor quality quartz fragments and grass roots throughout (<10%).<br>Base: Orange sticky clay base. | |
| TP 11 | 23cm | | 0-23cm: Orange silty clay loam. Clay increasing with depth. Poor quality quartz fragments and grass roots throughout (<10%).<br>Base: Orange sticky clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 12 | 19cm | | 0-19cm: Orange silty clay loam. Clay increasing with depth. Poor quality quartz fragments and grass roots throughout (<10%).<br>Base: Orange sticky clay base. | |
| TP 13 | 25cm | | 0-10cm: Dark brown clayey silt. Quartz gravelly inclusions (<5%). Small charcoal flecks throughout (<5%).<br>10-25cm: Red-brown silty clay. Grey-yellow clay inclusions.<br>Base: Orange sticky clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 14 | 14cm | | 0-14cm: Brown silty loam. Gravelly poor quartz inclusions (<20-30%). Grass roots inclusions (<5%).<br>Base: Orange compacted clay base. | |
| | | **Zone 9** | | |
| TP 1 | 20cm | | 0-15cm: Light brown silty loam. Grass root inclusions (<10%).<br>15-20cm: Brown silty clay loam. Inclusions as above.<br>Base: Orange basal clay, moist and compact. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 2 | 42cm | | 0-7cm: Dark brown loam with humic material. Lightly compacted. Grass root inclusions (<5%).<br>7-11cm: Brown friable silt. High bioturbation throughout.<br>11-18cm: Reddish brown clayey silt. Grass root inclusions and bioturbation as above.<br>18-33cm: Brownish red clayey silt, small gravelly inclusions (<5%).<br>33-42cm: Mottled red and grey-brown clay. Inclusions as above.<br>Base: Yellow-brown sticky clay base | |
| TP 3 | 30cm | | 0-10cm: Warm dark brown loose/friable silt. Minimal topsoil. Minor grass root inclusions (<5%).<br>10-20cm: Orangey brown loose/friable silt. Inclusions as above.<br>20-30cm: Orange loose clayey silt. Minor charcoal in bottom (<2%).<br>Base: Mottled sticky orange clay base. | 7.5YR 3/4, 5YR 5/6.<br>PH: 6.5-7 |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 4 | 40cm | | 0-15cm: Light brown silty loam. Minor grass root inclusions (<5%).<br>15-40cm: Orange clayey loam.<br>Base: Orange, highly compact basal clay. | |
| TP 5 | 33cm | | 0-5cm: Dark brown silt. Grass root inclusions (<5%).<br>5-15cm: Orange loose silt. Small charcoal flecks throughout (<2%).<br>15-33cm: Very bright orange loose clayey silt. Inclusions as above.<br>Base: Orange, highly compact basal clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 6 | 36cm | | 0-15cm: Brown silty loam.<br>15-30cm: Light brown-orange silty clay loam.<br>30-36cm: Transition to basal clay. Light grey silty loam with orange clay inclusions (<15%).<br>Base: Compact orange clay | |
| TP 7 | 38cm | | 0-6cm: Dark brown friable loam. Grass root inclusion (<2%).<br>6-14cm: Brown silt. Inclusions as above.<br>14-30cm: Reddish brown clayey silt. Gravelly quartz inclusions (<10%).<br>30-38cm: Highly compacted light brown/grey silt. Inclusions as above.<br>Base: Mottled compacted grey and red clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 8 | 23cm | | 0-8cm: Dark brown silt. Clumpy and moist. Grass root inclusions (<5%).<br>8-20cm: Orangey clayey silt. Plastic and clumpy. Inclusions as above.<br>20-23cm: Hard orange silty clay.<br>Base: Hard orange sticky clay. Water ripples throughput base. | |
| TP 9 | 23cm | | 0-15cm: Dark brown silt. Clumpy and moist. Grass root inclusions (<5%).<br>15-23cm: Orangey clayey silt. Plastic and clumpy. Inclusions as above.<br>Base: Hard orange sticky clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 10 | 24cm | | 0-5cm: Dark brown clumpy silt. Grass root inclusions (<5%).<br>5-15cm: Orangey brown clumpy yet friable silt. Inclusions as above.<br>15-25cm: Orange clayey silt. Large grass roots in western wall (<10%).<br>Base: Hard orange sticky clay. | |
| TP 11 | 26cm | | 0-15cm: Light brown silty clay loam. Grass root inclusions (<5%).<br>15-27cm: Orange silty clay loam.<br>Base: Hard orange sticky clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 12 | 27cm | | 0-8cm: Dark brown silt. Clumpy and moist. Grass root inclusions (<5%).<br>8-20cm: Orangey clayey silt. Plastic and clumpy. Inclusions as above.<br>20-27cm: Hard orange clayey silt.<br>Base: Hard orange sticky clay. Water ripples throughput base. | |
| TP 13 | 29cm | | 0-15cm: Dark brown loamy silt, damp, lightly compact. No visible inclusions. High bioturbation (<15%).<br>15-23cm: Reddish-brown silt, moist, lightly compact. Small gravel inclusions throughout (<10%). Grass root inclusions (<10%). Bioturbation as above.<br>23-28cm: Mottled grey and reddish brown, moist silty clay. Highly compact. Gravelly quartz inclusions (<20%).<br>Base: Greyish red-brown moist clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 14 | 34cm | | 0-15cm: Brown clay loam. Grass root inclusions (<10%).<br>15-30cm: Orange silty clay loam.<br>30-32cm: Interface of above and below, chalky grey silty material.<br>32-34cm: Orange hard/compact clay base. | |
| TP 15 | 34cm | | 0-8cm: Dark brown, lightly compact, moist loamy silt. Grass root inclusions (<5%).<br>8-13cm: Brown moist silt, lightly compacted. Grass root inclusions (<5%).<br>13-25cm: Red-brown silt, moist, moderately compact. Small ironstone/manganese gravel inclusions (<10%) as well as angular quartz inclusions (<5%). | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 16 | 35cm | | 0-15cm: Brown silty loam. Grass root inclusions (<5%).<br>15-30cm: Orange silty clay loam.<br>30-33cm: Transition to clay base.<br>Base: Orange compact clay base. | |
| TP 17 | 30cm | | 0-15cm: Dark brown moist silty loam. Lightly compact. Charcoal flecks and grass roots throughout (<10%). Some bioturbation.<br>15-28cm: Pale brown moist silt. Light to moderately compacted. Small ironstone/manganese gravel inclusions (<10%) as well as angular quartz inclusions (<5%).<br>28-30cm: Mottled grey and reddish brown silty clay. Highly compacted. Inclusions as above.<br>Base: Grey to red-brown mottled hard clay. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 18 | 30cm | | 0-15cm: Dark brown moist silty loam. Lightly compact. Charcoal flecks and grass roots throughout (<10%). Some bioturbation.<br>15-30cm: Orange silty clay loam. Inclusions as above.<br>Base: Orange compact clay base. | |
| TP 19 | 28cm | | 0-10cm: Dark brown moist silty loam. Lightly compact. Charcoal flecks and grass roots throughout (<10%). Some bioturbation.<br>15-30cm: Orange silty clay loam. Inclusions as above.<br>Base: Orange compact clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 20 | 35cm | | 0-7cm: Very dark brown moist silty loam. Lightly compact. Grass root inclusions (<5%).<br>7-17cm: Brown, moist lightly compacted silt. Inclusions as above. Some bioturbation throughout (<5%).<br>17-28cm: Reddish light brown moderately compact silt. Small gravelly quartz and ironstone inclusions (<20%).<br>28-34cm: Highly compacted mottled grey-orange silty clay. Inclusions as above.<br>Base: Mottled grey-orange hard clay base. | |
| TP 21 | 27cm | | 0-15cm: Brown silty loam. Grass root inclusions (<5%).<br>15-27cm: Orange silty clay loam.<br>Base: Orange compact clay base | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 22 | 30cm | | 0-15cm: Brown silty loam. Grass root inclusions (<5%).<br>15-30cm: Orange silty clay loam.<br>Base: Orange compact clay base | |
| TP 23 | 33cm | | 0-15cm: Brown silty loam. Grass root inclusions (<5%).<br>15-33cm: Orange silty clay loam.<br>Base: Orange extremely compact clay base | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 24 | 26cm | | 0-15cm: Brown silty loam. Grass root inclusions (<5%).<br>15-27cm: Orange silty clay loam.<br>Base: Orange extremely compact clay base | |
| TP 25 | 33cm | | 0-8cm: Dark brown moist silty loam. Grass roots inclusions (<5%).<br>8-15cm: Brown lightly compacted moist silt. Inclusions as above.<br>15-32cm: Pale brown moist lightly compacted clayey silt. Ironstone and quartz gravel inclusions (<10%). Grass root inclusions (<2%).<br>32-39cm: Highly compacted mottled grey-orange silty clay. Inclusions as above.<br>Base: Mottled grey-orange hard clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 26 | 23cm | | 0-15cm: Brown silty loam. Grass root inclusions (<5%).<br>15-27cm: Orange silty clay loam.<br>Base: Orange extremely compact clay base. | |
| TP 27 | 38cm | | 0-16cm: Dark brown moist silty loam. Grass roots inclusions (<5%).<br>16-38cm: Reddish brown lightly compacted damp silty clay. Small charcoal flecks throughout (<10%).<br>Base: Hard reddish brown clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 28 | 33cm | | 0-15cm: Brown silty loam. Grass root inclusions (<5%).<br>15-33cm: Orange silty clay loam.<br>Base: Orange extremely compact clay base. | |
| TP 29 | 17cm | | 0-15cm: Brown silty loam. Grass root inclusions (<5%).<br>15-17cm: Orange silty clay loam.<br>Base: Orange extremely compact clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 30 | 44cm | | 0-22cm: Dark brown moist silty loam. Grass roots inclusions (<5%).<br>22-34cm: Reddish brown lightly compacted damp clayey silt.<br>34-44cm: Mottled pale brown to orange-red silty clay.<br>Base: Mottled grey-orange hard clay base. | |
| TP 31 | 43cm | | 0-22cm: Dark brown moist silty loam. Grass roots inclusions (<5%).<br>22-34cm: Reddish brown lightly compacted damp clayey silt.<br>34-43cm: Mottled pale brown to orange-red silty clay. Historical disturbance (ripple lines) diagonally through it.<br>Base: Mottled grey-orange hard clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 32 | 35cm | | 0-22cm: Dark brown moist silty loam. Grass roots inclusions (<5%).<br>22-35cm: Reddish brown lightly compacted damp clayey silt.<br>Base: Mottled grey-orange hard clay base. | |
| TP 33 | 22cm | | 0-15cm: Brown silty loam. Grass root inclusions (<5%).<br>15-22cm: Orange silty clay loam.<br>Base: Orange extremely compact clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 34 | 20cm | | 0-22cm: Dark brown moist silty loam. Grass roots inclusions (<5%).<br>22-35cm: Reddish brown lightly compacted damp clayey silt. Tree root 1cm in diameter throughout.<br>Base: Mottled pale brown to orange-red hard clay base. | |
| TP 35 | 20cm | | 0-8cm: Dark brown moist silty loam. Grass roots inclusions (<5%).<br>8-17cm: Red-brown damp moderately compacted silt. Charcoal flecks throughout (<10%). Small quartz and ironstone fragments throughout (<10%). Minor bioturbation.<br>17-20cm: Mottled grey/pale to orange-brown silty clay. Heavily compacted. Inclusions as above.<br>Base: Mottled grey-orange hard clay base. | |

**Zone 10**

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 1 | 40cm | | 0-30cm: Brown silty sandy loam.<br>30-40cm: Orange clayey loam. Clay content increasing towards base.<br>Base: Orange sticky clay. | |
| TP 2 | 39cm | | 0-10cm: Dark brown moist silty loam. Grass roots inclusions (<5%). Recently ploughed.<br>10-28cm: Pale red-brown damp silt. Inclusions as above.<br>28-35: Pale brown damp lightly compacted clayey silt. Gravelly quartz inclusions (<10%).<br>35-39cm: Mottled grey/orange-brown silty clay.<br>Base: Grey-orange hard clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 3 | 40cm | | 0-10cm: Brown silty sandy loam.<br>10-40cm: Orange clayey loam. Clay content increasing towards base.<br>Base: Orange sticky clay. Degraded tree root through base. | |
| TP 4 | 36cm | | 0-8cm: Dark brown moist silty loam. Grass roots inclusions (<5%). Recently ploughed.<br>8-27cm: Pale red-brown damp silt. Inclusions as above.<br>27-30: Pale brown damp lightly compacted clayey silt. Gravelly quartz inclusions (<10%).<br>30-36cm: Mottled grey/orange-brown silty clay.<br>Base: Grey-orange hard clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 5 | 23cm | | 0-23cm: Light brown silty loam/sandy clay. Grass root inclusions (<5%).<br>Base: Orange compact clay base. | |
| TP 6 | 33cm | | 0-10cm: Dark brown moist silty loam. Grass roots inclusions (<5%). Recently ploughed.<br>10-30cm: Pale red-brown damp silt. Inclusions as above.<br>30-33cm: Mottled grey/orange-brown silty clay.<br>Base: Grey-orange hard clay base. Tree roots through base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 7 | 37cm | | 0-10cm: Brown silty sandy loam.<br>10-37cm: Orange clayey loam. Clay content increasing towards base.<br>Base: Orange sticky clay. Degraded tree root through base. | |
| TP 8 | 37cm | | 0-10cm: Dark brown moist silty loam. Grass roots inclusions (<5%). Recently ploughed.<br>10-32cm: Pale red-brown damp silt. Inclusions as above.<br>32-37cm: Mottled grey/red orange-brown silty clay. Higher clusters of orange clay throughout (<10%).<br>Base: Grey-orange hard clay base. Tree roots through base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 9 | 38cm | | 0-10cm: Dark brown moist silty loam. Grass roots inclusions (<5%). Recently ploughed.<br>10-32cm: Pale red-brown damp silt. Inclusions as above.<br>32-38cm: Mottled grey/red orange-brown silty clay.<br>Base: Grey-orange hard clay base. | |
| TP 10 | 38cm | | 0-15cm: Dark brown moist silty loam. Grass roots inclusions (<5%). Recently ploughed.<br>15-27cm: Pale red-brown damp silt. Inclusions as above.<br>27-35cm: Pale brown clayey silt. Small gravel inclusions (<5%)<br>35-38cm: Mottled grey/red orange-brown silty clay.<br>Base: Grey-orange hard clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 11 | 37cm | | 0-10cm: Brown silty sandy loam.<br>10-37cm: Orange clayey loam. Clay content increasing towards base.<br>Base: Orange sticky clay. Degraded tree root through base. | |
| TP 12 | 43cm | | 0-14cm: Dark brown moist silty loam. Grass roots inclusions (<5%). Recently ploughed.<br>14-31cm: Red-brown damp silt. Inclusions as above.<br>31-40cm: Pale brown clayey silt. Small gravel inclusions (<5%)<br>40-43cm: Mottled grey/red orange-brown silty clay.<br>Base: Grey-orange hard clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 13 | 44cm | | 0-3cm: Dark brown humic topsoil.<br>3-28cm: Light brown silty sandy loam.<br>28-44cm: Orange sandy clay loam.<br>Base: Orange compacted basal clay. | |
| TP 14 | 40cm | | 0-14cm: Dark brown moist silty loam. Grass roots inclusions (<5%). Recently ploughed.<br>14-31cm: Red-brown damp silt. Inclusions as above.<br>31-35cm: Pale brown clayey silt. Small gravel inclusions (<5%)<br>35-40cm: Mottled grey/red orange-brown silty clay.<br>Base: Grey-orange hard clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 15 | 33cm | | 0-14cm: Dark brown moist silty loam. Grass roots inclusions (<5%). Recently ploughed.<br>14-31cm: Red-brown damp silt. Inclusions as above.<br>31-33cm: Mottled grey/red orange-brown silty clay.<br>Base: Grey-orange hard clay base. | |
| TP 16 | 40cm | | 0-14cm: Dark brown moist silty loam. Grass roots inclusions (<5%). Recently ploughed.<br>14-34cm: Red-brown damp silt. Inclusions as above.<br>34-40cm: Mottled grey/red orange-brown silty clay.<br>Base: Grey-orange hard clay base. | |

| Pit Name | End Depth | Pictures | Soil Description | Munsell and PH |
|---|---|---|---|---|
| TP 17 | 37cm | | 0-10cm: Brown silty sandy loam.<br>10-37cm: Orange clayey loam. Clay content increasing towards base.<br>Base: Orange sticky clay. Degraded tree root through base. | |

# Appendix F– Updated Heritage Advice on potential former sawmill

MTS Heritage Pty Ltd
Suite 1A, 167-169 Macquarie Road,
Springwood, NSW 2777
ABN: 68 668 095 458

10 February 2026

Tess Anastakis
Environment Coordinator
John Holland Pty Ltd
Level 5, 15 Bourke Road
Mascot NSW 2020

Via email: Tess.Anastakis@jhg.com.au

**RE: Inland Rail, Illabo to Stockinbingal – Updated Heritage Advice on potential former sawmill**

Dear Tess,

Thank you for requesting heritage advice on an unexpected heritage find located at Lot 185 DP 751396 between chainage 11600 and 11700 within Junee LGA, NSW as part of the Illabo to Stockingbingal Inland Rail Project (I2S Project).

We understand that anecdotal evidence was collected by GML relating to this find being a potential former sawmill site, as part of the Inland Rail Environmental Impact Statement (EIS) (WSP, 2022). The potential sawmill was reported to date from the 1960s although the actual history of this site was unable to be confirmed. The location of the potential former sawmill site is shown in Figure 15-4, as verified during the site inspection (Figure 1).

Preliminary advice regarding the unexpected find was issued on 11 March 2025. The following heritage advice letter includes a supplementary assessment of significance of the potential sawmill site, with updated management recommendations. The following heritage advice letter also considers whether the proposed development would disturb any potential historical archaeological relics. It includes the following information:

- a description of the site location and its extent;
- a summary of the history of the potential sawmill site;
- the results of a brief site inspection;
- an assessment of heritage significance;
- an assessment of historical archaeological potential;
- an assessment of potential impacts on any heritage items or values; and
- a conclusion and recommendations.

**Site Location**

The unexpected heritage find, 'potential sawmill', is located at Lot 185 DP 751396 between chainage 11600 and 11700 within Junee LGA, NSW as part of the Illabo to Stockinbingal Inland Rail Project (I2S Project). The potential sawmill is located at WGS84 -34.712116, 147.819412, as depicted in Figure 1 overleaf. The site is accessed via Ironbong Road. The site is not heritage listed.

**Figure 1: Plan showing the location of the unexpected heritage find (Source: WSP, 2022: 15-31)**

**Summary History**

The following summary site history has been provided to inform the heritage assessment of the site and provide a broader historical context for agricultural activities in the region.

An c.1885 parish map shows Ironbong Road and large agricultural holdings either side, with the subject site numbered W. R. 596 (possibly indicating 'Water reserve'). At this date the subject site had not yet been applied for by a selector and remained Crown land (NSW LRS: Pastoral Run No. 70, Map 572936). By 1891, the subject site was part of Ironbong pastoral holding, and had been applied for purchase by local farmer Henry Monument. The site was described on a plan (Figure 2) as "Open Box forest with medium soil and stony ridge" (CP 3076-1578).

The following year, the site was declared as part of 'Special area No. 16329', proclaimed 17 Sep 1892. The site was sold at £1 s10 per acre (CP 3047-1578). In 1893, James William Norton applied for the conditional purchase of the subject site (Figure 3). The purchase conditions included paying a deposit of one quarter of the purchase price, adding improvements to the value of £1 per acre, the selector residing on the land, and the requirement to occupy the land for three years.

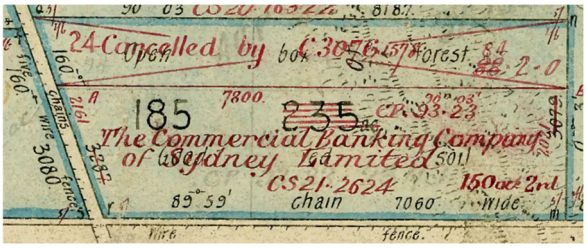


**Figure 2: 1891 plan of the subject site (NSW LRS CP 3076-1578).**

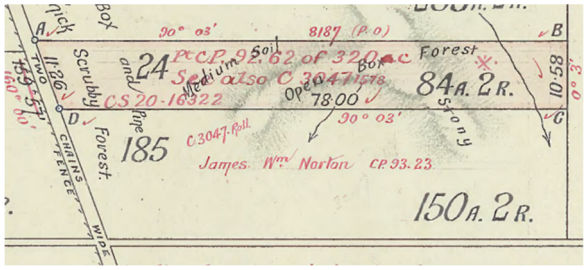


**Figure 3: 1893 plan of the subject site (NSW LRS CP 93-23).**

On 14 Mar 1922, the subject site at 150 acres 2 roods 0 perches was purchased by CommBank as a conditional sale CS 21.2624 for £150 (NSW LRS 3297-25). CommBank applied to revoke the 'Special Area' the same year. In 1936, the subject site was purchased by Lindsay George Meares, Melbourne Grazier (NSW LRS 4786-03). Meares was a WW2 veteran who won the DFC for service with 51 Squadron, "As air gunner sorties against targets in Germany." Meares lived at "Oak Hill" Bethungra, (possibly 125 Bethungra Road) with his wife Hattie Juliet (nee Ranger), daughter of Mr and Mrs Rupert Kiddle, pioneer grazing family of Wagga (The Mercury, 5 Dec 1945: 10).

Ownership of the site was transferred to Narveno Pty Ltd on 18 January 1955. Narveno Pty. Limited was registered on 29/6/54 with a capital of £200,000 in £1 shares, with the stated objective to "carry on business as station owners, farmers, graziers, etc. (Dun's Gazette, 16 Jul 1954, V.92, No.3)" The subscribers were Lindsay G. Meares and Hattie J. Meares with 1 share each. The Meares (as Narveno Pty Ltd) subdivided the land, shown in Figure 4.

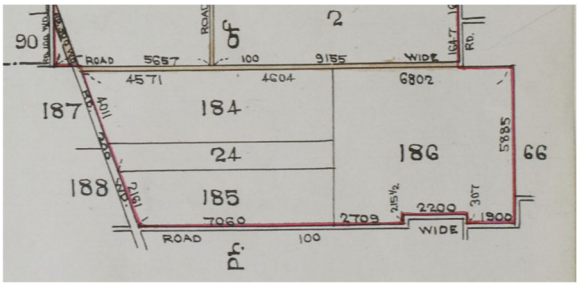


**Figure 4: 1955 plan of the subject site as subdivided (NSW LRS 6913-202).**

**Figure 5: 1961 Aerial imagery with subject site outlined – no structures shown (NSW Historic Aerial Imagery Viewer).**

Besmaw Pty Ltd purchased the site on 1 November 1963 (NSW LRS 6913-202). Besmaw Pty Ltd was a family company formed of five different groups descended from colonial businessman Thomas Holt. The Dun & Bradstreet listing for Besmaw Pty Ltd gives information on the types of investments they held, including Nonmetallic Mineral Mining and Quarrying, Mining (except Oil and Gas), Mining, Quarrying, and Oil and Gas Extraction, Industrial sand mining, and other holding companies.

In 1978 the site was purchased by Alan John Bond, Toorak medical practitioner and his wife Jennifer as joint tenants (NSW LRS 13581-195). An aerial photo from the same year shows a track leading to the site of the potential sawmill, but no structures (Figure 6).

The following year, in February 1979, the site was purchased by William Frederick Leak, a Bethunga Farmer (NSW LRS 13581-195). Leak was formerly of 'Ulandra View' (Dun's Gazette, 4 Feb 1949, V81 No5: 38) Under Leak's ownership, a shed was erected in the approximate position of the unexpected find (Figure 7).

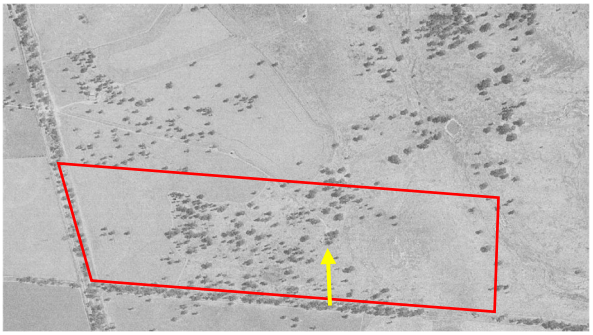

**Figure 6: 1978 aerial photo. Shows track to site of unexpected find (yellow arrow) (NSW Historic Aerial Imagery Viewer).**

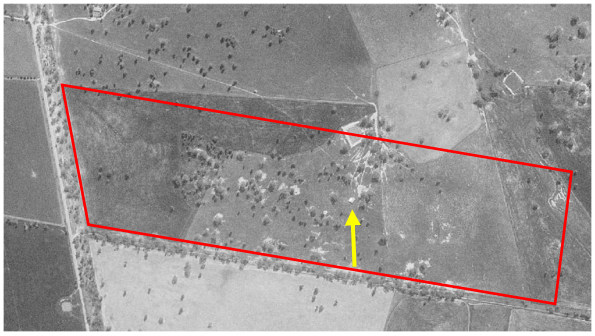

**Figure 7: 1986 aerial image – shows shed structure in location of unexpected find (NSW Historic Aerial Imagery Viewer).**

The site was sold to Bruce Raymond Taprell on 21 March 1988 (NSW LRS 13581-195). Taprell soon sold the site off on 29 September 1989 to John Douglas Hardie and Joan Alva Hardie as joint tenants in 2/3 share, with Ian Douglas Hardie as a joint tenant in 1/3 share (NSW LRS 13581-195). Later owners are unavailable due to the conversion of titling into the computer folio system; however a 2015 image shows a shed situated on the subject site (Figure 8).

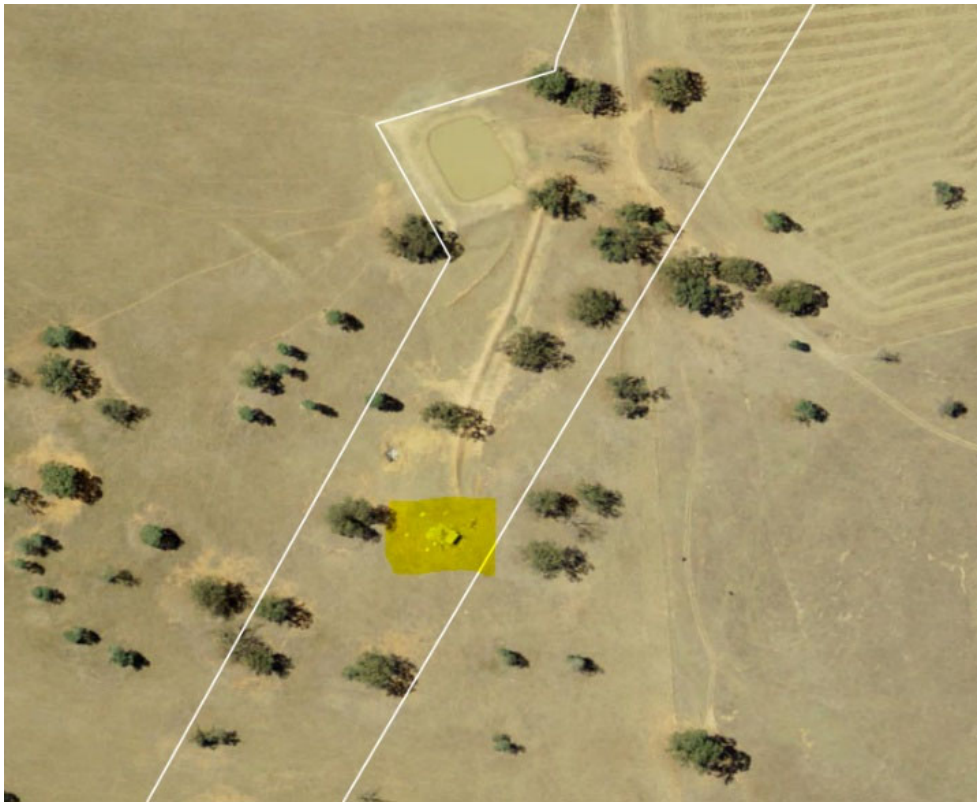

**Figure 8: 2015 aerial image of the subject site showing shed (NSW SixMaps, imagery date 22-02-2015).**

The site was transferred to the ARTC in 2022 (NSW LRS 13581-195; Lot 185 DP 751396).

Historical research undertaken for this assessment has not found any evidence of the site being associated with a former sawmill. Local recollections of a Sawmill include Tiger McLean's sawmill, on Sir Graham & Lady Waddell's "Glen Iris" property, about 10 miles south of Bethungra on the Nangus Road. McLean later operated a sawmill adjoining the Bethungra Dam site (Graham Levett, *pers. comm*, via Friends of Ulandra Nature Reserve). Both these descriptions do not match the unexpected find location.

**Results of site inspection**

The potential sawmill site was inspected on 11 December 2025 by Emily Pickering (Archaeologist, MTS Heritage) with assistance from Maria Orlova (Environmental Adviser, JHG). The site measures 7 metres wide east to west, and 18.5 metres north to south. The site slopes to the southwest, towards a fenced paddock. The site comprises a cluster of agricultural machines embedded within separate concrete bases that have been lifted from elsewhere, seen in Plate 1 to Plate 4.

Machine 1 is a rusted metal double sided mechanical planer machine with a large roller and gears on the side. It has no visible manufacturer marks. It measures approximately 1 metre wide at the base by 1.3 metres tall. It appears to have been hand driven with a hand crank wheel, and has potentially been adapted to suit another use. This machine has registration dials for controlling the width and thickness of a plank of wood. (See Plate 5 to Plate 7). Between Machines 1 and 2, there are two modern galvanised metal water tank enclosures with lids. These measure 1010mm tall, with bases 1 m by 1m (Plate 5).

Machine 2 is a yellow tractor engine that has been separated from the rest of the vehicle. It has possibly been adapted to be used as a standalone engine for a power supply. It measures approximately 1.2 metres by 300mm wide at the base, by 1.3 metres tall. The tractor engine features an extremely rusted very illegible logo that was once painted along the side of the engine

hood, possibly _EA___. A manufacturer mark reads: “Made by International Harvester Company Chicago Illinois USA”. (Plate 8 to Plate 10).

Machine 3 is a light blue painted ‘Campbell Loader’ bucket, with gears on either side to control the opening of bucket. Machine 3 measures approximately 900 mm tall and 1.5 m wide at the base (Plate 11 and Plate 12). Between Machines 3 and 4, a substantial amount of broken non-friable asbestos sheeting was noted on the ground surface. The loader bucket is stamped “A B Campbell and Sons”. A B Campbell & Sons was an engineering company in Gloucester in the Upper Manning Valley. They built Logging Arches or ‘dobbies’ in 3 sizes. They were sold all over Australia and exported to Papua and the Solomon Islands. They also built rippers. In 1954 they were described as local engineers manufacturing farm equipment, including the “Campbell Loader” front end loader bucket (Source: The Gloucester Advocate, 3 Aug 1954: 1).

Machine 4 is a US motors generator, serial number RX1-WX03. It appears to date to the 1950's or later. A circular medallion on the machine reads: “Brinsmead Sydney Australia.” There is exposed wiring on this machine and a homemade galvanised metal cover that has since blown off, suggesting it has been adapted by the former owner for a different purpose than originally intended. The generator has a "Hercules engines No. 6" extra fuel tank strapped to the original fuel tank (Plate 13 to Plate 16). Machine 4 measures approximately 2.4 metres long by 800mm wide at the base. It is 1.2 metres tall.

There are two voids / areas of disturbed ground situated 1 metre west of Machine 3. Void 1 is approximately 450mm wide north south by 450mm wide east west (Plate 17). Void 1 is 450mm deep, with agricultural waste visible inside including rusted metal fencing wire, a wooden beam, a piece of corrugated metal and a disturbed concrete block. Void 2 measures 700mm wide east west by 1 m wide north south (Plate 18). It is also fairly collapsed and disturbed. Bent rusted star pickets have been placed over the hole, presumably to prevent stock from falling in. There is a large 230mm diameter tree root growing inside the void.

20 metres southwest of the potential sawmill site, along the fence line is a scatter of asbestos and post 1960s earthenware sewerage pipe, suggesting agricultural waste disposal.

Machines 1 and 2 are bolted to an approximately 300mm high concrete base. The concrete bases are not in situ and show clear signs that the machines have been transported to the subject site from elsewhere (Plate 20). The concrete is grey in colour with 50% aggregate. The machines appear to be c.1950s in origin, with later modifications and adaptations, while the concrete bases appear to date to the 1960's - 70s.

**Plate 1: Looking north along corridor to potential sawmill site**

**Plate 2: Machine 1 to left, Machine 2 to right**

Plate 3: Looking west to potential sawmill site

Plate 4: Looking southwest to potential sawmill site showing slope

Plate 5: Detail of Machine 1 and modern crates

Plate 6: Detail of Machine 1 showing registration dial for width of wooden plank

Plate 7: Detail of machine 1 showing registration dial for thickness of wooden plank

Plate 8: Machine 2 looking west

Plate 9: Machine 2 looking east

Plate 10: Machine 2 detail showing manufacturer's mark

Plate 11: Machine 3 showing slope to southwest

Plate 12: Machine 3 looking west

Plate 13: Machine 4 looking north

Plate 14: Machine 4 showing US Motors badge

Plate 15: Detail of machine 4

Plate 16: Detail of machine 4 showing manufacturer

Plate 17: Void 1 to the southwest of machine 3

Plate 18: Void 2 to the southwest of machine 3

Plate 19: Concrete slab in centre of site

Plate 20: Detail of concrete slab on the base of machine 2 showing not in situ

**Assessment of heritage significance**

The EIS states: "*A site of this type is unlikely to have any historical archaeological potential… however, the historical significance of the equipment is unknown… No areas of significant archaeological potential relevant to non-Aboriginal heritage have been identified within the study area including through the site survey. However, due to the historical land uses identified, the potential presence of archaeological remains could not be discounted.*"

*Criterion (a) an item is important in the course, or pattern, of NSW's cultural or natural history (or the local area);*

The unexpected find location (possible sawmill site) and associated machines do not meet the threshold for local significance under this criterion. A shed was situated on the approximate location of the unexpected find in 1986, under the ownership of Bethungra farmer William Frederick Leak. Later owners Bruce Raymond Taprell (1988), and the Hardie family (1989) presumably utilised the shed to store agricultural machinery. The shed remained on site until c.2015 and was demolished prior to 2022. The historical record provides no evidence of the establishment of a sawmill at the site or the site's former owners having an association with sawmilling. The only machine at the site that can be tenuously linked with sawmilling is one mechanical plane that is no longer *in situ*. The site has only a very recent history of development (post 1986), the machines are in poor condition with little overall site integrity, and therefore cannot be said to be important in the history of Bethungra and surrounding area.

*Criterion (b) an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the local area);*

The site and machines have no strong or special associations with individuals important in the development of Bethungra and surrounding area.

*Criterion (c) an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area);*

The site and machines do not demonstrate aesthetic, creative or technical achievement. They are in poor condition, defunct (no longer operational), and have been subject to numerous alterations over time including improvised repairs and makeshift parts replacements for purposes other than originally intended.

*Criterion (d) an item has strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons (or the local area);*

There is no evidence that the unexpected find location is important to the Illabo, Bethungra or Stockinbingal communities for any reason.

*Criterion (e) an item has potential to yield information that would contribute to an understanding of NSW's cultural or natural history (or the local area);*

The site is a disturbed and unproductive patch of land likely used as an informal waste dump. The site has been subject to extensive disturbance from the demolition of the c.1986 shed and therefore possesses no research potential for either works or relics to be discovered.

*Criterion (f) an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the local area); and*

The site is currently functioning as an agricultural machinery and waste dump. This is a common fixture of agricultural landholdings across rural Australia. The machines themselves date to c.1950 or later and are in poor, non-functional condition. They are not rare within the local area.

*Criterion (g) an item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places or cultural or natural environments (or the local area).*

The site does not demonstrate evidence of any class of cultural place and has no representative value at the local level.

*Statement of heritage significance*

Given the range of machines situated at the unexpected find location, the find appears to relate to former farming activities with no obvious association with a former sawmill. This corresponds with the chronology of the site, with previous owners listed as farmers and graziers. There was no physical evidence of former saw milling activities observed on site. The historical record provides no evidence of the establishment of a sawmill at the site or the site's former owners having an association with sawmilling. Given that the engine and planer footings are not *in-situ*, it can be presumed that they originated elsewhere and were dumped in the current location. The only evidence of former buildings at the site comes from the 1986 aerial image – which shows a shed structure near the location of the find. It is possible that the farm equipment was formerly located within this shed, but following its demolition, was dumped in its current location. The machines themselves date to the mid-to-late twentieth century and are commonly found on rural properties across Australia. The loader bucket was manufactured by A B Campbell & Sons, local engineers who manufactured farm equipment that was sold all over Australia and exported to Papua and the Solomon Islands. The find is not rare. From the information provided, the find would not reach the threshold for local or State heritage significance.

**Assessment of historical archaeological potential**

The dumping of asbestos and c.1960s earthenware pipe, combined with evidence of agricultural waste from Voids 1 and 2 suggests that after the shed was demolished, this already disturbed and unproductive patch of land was used as an informal waste dump, in the absence of formal waste disposal. The land was likely then graded and the defunct machines were lifted and removed from their original position and placed on the surface. The site has been subject to extensive disturbance and therefore possesses no archaeological potential.

**Description of proposed works**

JHG is proposing to dispose of the agricultural machinery as it is situated within the active rail corridor for the project. After the machinery is disposed of, the soil will be remediated and the asbestos properly disposed of according to WHS guidelines.

**Assessment of potential impacts to heritage significance**

The unexpected heritage find site and machinery has been assessed as possessing little to no heritage significance. Therefore, the disposal of the machines and soil remediation would not result in an adverse heritage impact.

**Conclusion and recommendations**

From the information provided, the find would not reach the threshold for local or State heritage significance and no further recording or investigation is required.

The machinery should be responsibly disposed of and the asbestos removed according to WHS regulations.

If any additional information is required or you have any questions or concerns, I can be contacted on 0412 468 950 or via email – fiona.leslie@mtsheritage.com.au

Yours sincerely,

Fiona Leslie
Director / Principal Heritage Consultant

**Reference:**
WSP Australia Pty Ltd (2022) *Illabo to Stockinbingal: Environmental Impact Assessment.* Unpublished report to Australian Rail Track Corporation

# Appendix G – Clearance Certificates

15 December 2025

**RE: Illabo to Stockinbingal (I2S) section of the Inland Rail Project – Surface Collection of Zone 5 (IR-IF-01 - AHIMS # 50-5-0311), Zone 6 (IR-IF-03 - AHIMS # 50-5-0312) and Zone 9 (IR-IF-02 (AHIMS # 50-5-0310).**

This document is to confirm that three AHIMS sites (#50-5-0311, 50-5-0312 and 50-5-0310) have been collected in accordance with the approved Illabo to Stockinbingal (I2S) Section of the Inland Rail Project: Aboriginal Archaeological Salvage Excavation Methodology (AASEM). Section 5.0 of the AASEM details the management strategies and surface collection required specifically within section 5.1.5, 5.1.6 and 5.1.9. All three sites were relocated and the artefacts associated with each site collected.

IR-IF-02 (AHIMS # 50-5-0310) which is located within Zone 9 was collected on Monday 1 December 2025 with the assistance of Marnie Freeman, Senior Sites officer from Young Local Aboriginal Land Council and Apex Archaeology archaeologists Leigh Bate and Jason Barr.

IR-IF-01 (AHIMS # 50-5-0311) located in Zone 5 and IR-IF-03 (AHIMS # 50-5-0312) located in Zone 6 was collected on Tuesday 2 December 2025 with the assistance of Darryl Charles, Senior Sites officer from Wagga Wagga Local Aboriginal Land Council and Apex Archaeology archaeologists Leigh Bate and Jason Barr.

The items were collected in accordance with Section 5.7 of the AASEM, and will be provided to the lithic analyst as part of the complete artefact assemblage for analysis. The items will then be securely stored until such time as they can be reburied.

This fulfils the requirements of CoA E140, and ground disturbing works within Zones 5, 6 and 9 may proceed as there are no further Aboriginal heritage constraints within those zones.

Please don't hesitate to contact me if you have any questions regarding the above.

**Kind Regards,**
**Jenni Bate**

**Director/Archaeologist**
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