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Quality Management Plan

Parkes to Narromine Inland Rail Project

Project # 808 – J013

Job No.:	**808 - J013**		
Principal:	**Australian Rail Track Corporation, (ARTC)**		
Authorised by:	**Gerard O'Connor**	**Date:**	**24/08/2020**
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Quality Management Plan (QMP)

Parks to Narromine Inland Rail
Project # 808 – J013

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Attachment K **Hold Point / Witness Point Register**

Glossary of Terms

Term	Definition
ARTC	Australian Rail Track Corporation (Principal)
ATMS	Advanced Train Management System
BMD	BMD Constructions
CAR	Corrective Action Request
CEMP	Construction Environmental Management Plan
GBSM	The Group Business Systems Manager
INLink	Contractor Joint Venture (Fulton Hogan | BMD Constructions)
IPMP	Integrated Project Management Plan
ITP	Inspection and Test Plan
MSDS	Material Safety Data Sheet
MSPM	Management System Procedures Manual
NCR	Non-Conformance Report
OFSC	Office of the Federal Safety Commissioner
P2N	Parkes to Narromine
PQR	Project Quality Representatives
PTOS	Phoenix Train Order System
QMP	Quality Management Plan
RFI	Request for Information
RMP	Records Management Plan
RMS	Roads and Maritime Services
SMP	Safety Management Plan
SVMP	Survey Management Plan
WRMP	Workplace Relations Management Plan

1 Introduction

This Quality Management Plan has been developed in accordance with ARTC document 0-0000-900-PVP-00-SP-0001 (Revision 0 – Dated 05/04/2018).

With BMD Constructions (BMD) undertaking the role of Principal Contractor for the Project on behalf of INLink, this plan is primarily based on the BMD Group Management Systems.

1.1 Application

The purpose of this Quality Management Plan (QMP) is to provide a complete management document to be used on a day-to-day basis by on-site project staff. The QMP is part of INLink's Integrated Project Management Plan (IPMP), which is a dynamic document subject to ongoing review due to potential changes to the contract, management practices, legislation, industry best practice, international standards and internal review. These changes are implemented as they are necessary to improve the efficiency and quality of the project as it progresses. INLink is committed to meeting the needs and expectations of the client, legal and regulatory bodies; this commitment to quality and continual improvement is documented in the BMD Quality Policy and Management Systems Policy (Refer to Attachment B).

This QMP has been developed to provide a framework for the management of all quality aspects and impacts associated with the construction of the Inland Rail – Parkes to Narromine (P2N) Project.

1.2 Scope

The aim of the Quality Management Plan (QMP) is to ensure that the delivery of the Inland Rail – Parkes to Narromine (P2N) Project maintains and produces work of a high quality. The works are to be conducted in an environmentally conscientious manner with health and safety of all staff and public considered.

1.3 Integrated Project Management Policy

The Management Systems Policy (Refer to Attachment B) will be available to all personnel working on the project (including Subcontractor's Workers) as part of the induction process.

1.4 Management System

BMD has a documented management system meeting the requirements of:

- AS/NZS ISO 9001:2015 (Quality Management Systems);
- AS/NZS ISO 14001:2015 (Environmental Management Systems); and,
- AS/NZS 4801:2001 (Occupational Health and Safety Management Systems).

The BMD integrated management system has been designed in accordance with HB 139: 2003 "Guidance on Integrating the Requirements of Quality, Environment and Health and Safety Management System Standards".

BMD has third party certification to AS/NZS ISO 9001:2015, AS/NZS ISO 14001:2015, AS/NZS 4801: 2001 and accreditation with State and Territory authorities, including the Office of the Federal Safety Commissioner (OFSC). Details of BMD's accreditations are documented on the BMD Certifications Register.

This QMP should be read in conjunction with the following documents:

- 5-0012-240-PEN-00-PJ-0001 - Integrated Project Management Plan (IPMP);
- 5-0012-240-EEC-00-PJ-0003 - Construction Environmental Management Plan (CEMP);
- 5-0012-240-POS-00-PJ-0003 - Safety Management Plan (SMP);
- 5-0012-240-ISV-00-PJ-0001 - Survey Management Plan (SVMP);
- 5-0012-240-PVP-00-PJ-0002 - Completion and Handover Management Plan (CHMP).

2 Project Overview

2.1 Project Overview

This document has been prepared for the Inland Rail – Parkes to Narromine (P2N) Project.

Project Number: 808-J013

Project Start: December 2018 (Actual start: Feb 2018)

Project Completion: September 2020

Figure 1 – Location Map of Parkes to Narromine (P2N)

2.1.1 Extents of Work

- 449.200km to 547.300km (brownfield upgrade) plus tie in works either side; and
- The North-West Connection (greenfield section).

2.2 Project Information Overview

Inland Rail will complete the backbone of Australia's national freight network, linking Australia's five largest capital cities, top four agricultural regions and seven major ports to help make the agricultural and resource industries more competitive. This proposed standard gauge inland railway comprises a ~1,730km alignment to provide an efficient freight link to meet future demand for inter-capital domestic containerised freight between Melbourne and Brisbane.

The Parkes to Narromine (P2N) Project is a brownfield section of rail upgrade within the Inland Rail Programme. The Project is approximately 107km long. The project involves upgrading the existing track and the design of approximately 5.3km of the new Parkes North-West Connection in a greenfield corridor.

2.3 Description of Works

The work required to be carried-out by INLink under the contract includes, however, is not limited to the following elements:

- Upgrading approximately 107km of the existing track and earthworks, including installing new and concrete sleepers and reconstructing sections of the existing track structure and formation;
- Constructing 3 new crossing loops at Nanardine, Peak Hill and Timjelly including ARTC engineering sidings;
- Renewal / upgrade of existing turnouts on the main line. This includes 16 turnouts providing access to existing grain sidings etc.;
- Replacing approximately 156 culverts to meet the future proofed structural load requirement;
- Upgrading, relocating or consolidating 71 level crossings on the existing brownfield alignment, including changing property access and local road networks in some locations as a result of the rationalisation of level crossings;
- Constructing the approximately 5.3km new Parkes North-West Connection greenfield corridor. This includes track and civil works, approximately 21.3 hectares of property acquisition and a new level crossing at Brolgan Road;
- Potential relocation/protection of 45 electricity crossings (Essential Energy), 256 communication crossings (Telstra / Nextgen), 6 gas crossings (APA);
- Local signalling works including revised naming conventions for push button operated motorised points on the new loops with the addition of train detection to facilitate this functionality. A review of currently operating Phoenix Train Order System (PTOS) and Phoenix displays will be required, noting that this system will ultimately be upgraded to an Advanced Train Management System (ATMS), as part of the broader Inland Rail Programme; and
- Ancillary works also include flood immunity works, improving stormwater and drainage, and establishing or upgrading existing fencing of the rail corridor.

Refer to Attachment E for a full list of the Construction Method Statements (CMS's) and Construction Procedures (CP's) which highlight the INLink procedures and methodologies adopted in the delivery of the Inland Rail – Parkes to Narromine (P2N) Project.

3 Management

3.1 Project Management Team

The project team involved with the delivery of the Inland Rail – Parkes to Narromine (P2N) Project includes but is not limited to the personnel listed in the below table. Emergency personnel will be detailed in the Emergency Response Plan 5-0012-240-POS-00-PJ-0004 and displayed in locations throughout the project site. Refer to ***Attachment I*** for Project Organisational Chart for the project team at last approved revision of this plan. Due to project nearing completion this chart is indicative only and latest remaining project team is identified through various project meetings and forums.

3.2 Staff Responsibilities

Quality responsibilities for all key site-based project staff are defined as follows. All shifts / roster will have a changeover period where quality issues will be discussed and coordinated to ensure continuity of work and, quality is maintained throughout the entire length of the project.

The responsibilities of each staff member are listed below. Each section highlights responsibilities specific to project roles in the delivery of the Inland Rail – Parkes to Narromine (P2N) Project. These responsibilities will be reviewed and modified as required throughout the life of the project.

3.2.1 Project Director

The responsibilities of the Project Director are as follows:

- Manage the work performance of self and direct reports as required for project quality outcomes.
- Encourage an environment of sharing knowledge and ideas to ensure continuous improvement within the team and the project
- Lead by example to set a standard of excellence in all aspect of performance
- Always strive to monitor and ensure to minimise rework and to contribute to a project culture of quality excellence
- Manage implementation of BMD's project quality systems and use knowledge to establish and assign various engineering roles and responsibilities to ensure appropriate system outcomes.
- Ensure subcontractors are compliant to project's quality management system and plan.
- Contribute to identification of pre-construction forums where the upcoming works requires the project team to communicate processes and responsibilities.
- Identify and promote 'lessons learnt' forums.

3.2.2 Construction Manager

The roles and responsibilities of the Construction Manager include, but are not limited to the following:

- Lead and manage the delivery of the construction process, in relation to Quality management across all sites in conjunction with the Quality Manager
- Formal communication with the ARTC Project Manager, Colin Forde, for the contract
- Authority to direct personnel and/or subcontractors to carry out actions to avoid or minimise rework and non-conforming work for Parkes to Narromine Inland Rail Project
- Communication to all staff, suppliers, subcontractors, adjoining landholders and the general-public of the relevant aspects of project management arrangements
- Review and approve key quality management documents such as Management Plans and Construction procedures relevant to the construction of the Project
- Ensure sufficient resources are allocated to quality management
- Support project managers and coordinate management level assistance to the project managers.
- Ensure the General Superintendent is familiar with the QMP and related documents and the
- responsibilities allocated to the Superintendents within them.
- Ensure compliance with this Plan, construction procedures and Inspection and Test plans.
- Ensuring all Project personnel attend an induction prior to commencing works

3.2.3 Project Manager

The responsibilities of the Project Manager are as follows:

- Successful completion of the project, including the exercise of contract management and cost control functions.
- Ensuring that adequate resources are available to each project discipline, including appropriately qualified and experienced staff.
- Communication to all staff, suppliers, subcontractors, adjoining landholders and the general-public of the relevant aspects of project management arrangements.
- Assessments of training needs for all project staff and to ensure adequate training is provided.
- Formal communication with the ARTC Project Manager, Colin Forde, for the contract.
- Obtaining the Principal's agreement for all nominated activities or actions.
- Negotiation of contract variations with Australian Rail Track Corporation (ARTC).
- Detailed project planning.
- Ensure the Project team perform to the quality set and monitor the quality of that performance.
- Review and approval of the Integrated Project Management Plan (IPMP).
- Ensuring documents and records are stored and managed as per the Documents and Records Management Standard.

- Review of all project related non-conformances and subsequent remedial actions and, the corrective and preventive actions initiated by (or instigated by) the non-conformance and closing-out in a timely manner.
- Assist the Quality Manager with the development and review of the Quality Management Plan and the development of quality related deliverables.
- Overseeing the Project / Site Engineers and Quality Coordinator in maintaining ITPs and other quality related documentation.
- Acting to resolve quality problems, including tracking non-conformance trends and assisting engineers with lessons learnt & long-term recommendations.
- Ensuring that Drawings, codes, and other technical data on site are current.

3.2.4 Project Engineer / Site Engineer

The responsibilities of the Project Engineer / Site Engineer are as follows:

- Responsible to the Project Manager for all site operations and management.
- Assists Quality Manager and Quality Co-ordinator in ensuring that a high standard of quality is maintained throughout the delivery of the project.
- Monitoring performance of all suppliers of products and services including Subcontractors.
- Document and Drawing control.
- Establishment and maintenance of the IPMP.
- Establishment and maintenance of Inspection and Test Plans (ITPs) including the management of inspection and test functions.
- Establishment and maintenance of project identification and traceability procedures including the Lots Management system and other controls to be implemented by project staff, Subcontractors and testing service providers.
- Prepare recommendations for project variations including work processes, cost estimates and contract variation negotiations.
- Assessment of project non-conformances including recommendations for corrective and preventative actions and the review of these actions.
- The point of contact for any internal or external audits and to ensure that any issues found as a result of the audit are dealt with in an appropriate and timely manner.
- To assess the project resource requirements.
- Liaise with the Group Business Systems Manger (GBSM) on issues concerned with the management system.

- Verify implementation of solutions.
- Control further processing/delivery/installation of non-conforming product until deficiencies or unsatisfactory conditions have been corrected.
- Supply notification to the Principal's Representative of upcoming Hold Point's required for the project.
- Acting to resolve quality problems, including tracking non-conformance trends and assisting engineers with lessons learnt & long-term recommendations.

3.2.5 Site Superintendent / Foreman

The responsibilities of the Site Superintendent / Foreman are as follows:

- Direction of Sub-Foreman and Leading Hands as well as the direct labour force.
- Assisting with review and subsequent awarding of Subcontractors, supply agreements and plant hire agreements.
- Directing and monitoring of Subcontractors, suppliers and plant hirers.
- Direction and monitoring of project survey resources.
- Under direction from the Project Engineer, assist Site Engineers in monitoring and maintaining relevant process control plans.
- Reporting of all project non-conformances and suggestion of recommendations for corrective and preventive action.
- Assist with assessment of project resource requirements including the training of staff and engaging specially qualified personnel.
- Assist in the preparation of project variations including work processes, cost estimates and contract variation negotiations.
- Monitoring and maintaining construction programs which have been set by the Project Manager or Project Engineer.
- Communication to the workforce.

3.2.6 Leading Hand / Worker

The responsibilities of the Leading Hand / Worker are as follows:

- To assist Project Management Staff and Superintendent in carrying out the quality objectives of the project.

3.2.7 Subcontractor

The responsibilities of Subcontractors are as follows:

- To assist project management staff in carrying out the quality objectives of the project.
- Perform Works in accordance with the contract requirements.
- Complete the applicable INLink inductions and comply with system requirements.
- Provide the relevant documentation, as required.

3.2.8 Surveyors

Lead Surveyor and Project Surveyor/s responsibilities for the delivery of the Parkes to Narromine (P2N) Project are highlighted in the Survey Management Plan (SVMP). The SVMP includes details such as how Survey Controls will be established onsite as well as the methodology and requirements for undertaking survey conformance.

3.2.9 Principal and Principal Representative (ARTC)

Principal – Defined as the ARTC Project Manager

Principal Representative – Defined as the ARTC Project Manager Representative

3.3 Project Quality Representative/s

The INLink Quality Manager, Tejas Shah, will act as the Project Quality Representative (PQR) for the delivery of the Inland Rail – Parkes to Narromine Project.

The PQR is responsible for ensuring that the quality requirements outlined in the IPMP and relevant Sub-plans as well as the associated management system procedures are implemented and maintained on the project.

The PQR in conjunction with the Construction Manager, The Project Manager, Engineering Team and other Quality Assurance resources, has the responsibility to ensure that a high-level of quality is maintained throughout the delivery of the project. This involves but is not limited to; assisting with developing NCR's (where required), ensuring lots are being signed-off and closed in a timely manner and providing feedback on construction methodologies/construction procedures to maintain a high-quality finished product throughout the project.

If the resource level appears to be insufficient for effective implementation of the IPMP, the Project Manager and/or PQR will raise their concerns with Regional Management. Regional Management will then assign other resources as appropriate to the circumstances. If the Principal or Principal's Representative is concerned as to the appropriateness of resource levels, the first point of contact is the Project Manager. The PQR may be contacted if the Principal considers it appropriate.

The Project Manager, Engineering Team and other Quality Assurance resources will support the PQR to ensure a high-level of quality is maintained throughout the delivery of the Inland Rail – Parkes to Narromine (P2N) Project.

3.3.1 Quality Manager

The responsibilities of the Quality Manager are as follows:

- Ensuring that the requirements of the Project QMP are established, implemented, maintained and communicated and that responsibilities for implementing the plan are understood by the Project teams.
- The Quality Manager will act as the Project Quality Representative (PQR).
- Maintaining quality objectives and Key Performance Indicators (KPIs) for the Program.
- Developing, issuing, and managing the implementation of the Program Audit and Review Schedule.
- Maintaining the NCR database within the Project SharePoint Site.
- Reviewing, monitoring, evaluating, and reporting the effectiveness of the INLink documentation management system and verifying compliance with Project Requirements, Specifications, Codes and Standards.
- Ensuring INLink quickly closes-out quality issues and non-conformances.
- Ensuring that suitable adjustments are made to the management system documentation, as required.
- Acting to resolve quality problems and making recommendations for improvement and communicating lessons learnt.
- Ensuring Corrective and Preventive Actions are implemented effectively.
- Coordinating the audit of the INLink QMS including its document and data control system to ensure that all program documentation and project deliverables are being properly collected, collated, indexed, and stored such that they can be effectively identified and readily retrieved.
- Developing, maintaining, and undertaking audits and monitoring schedule for all activities relating to quality within the scope of the Program.
- Maintaining ITPs and other quality related documentation. Conducting audits and reviews (on-site and off-site) of Subcontractor and supplier documentation prior to submission to the ARTC.
- Review the QMP periodically and update every 3 calendar months or as required.

3.3.2 Quality Assurance Coordinator

The responsibilities of the Quality Assurance Coordinator are as follows:

- Assist the Project Quality Manager with the implementation of the Project Quality Plan and the development of quality related deliverables.

- Assist engineering team with preparing Inspection & Test Plans (ITPs) and construction procedures to ensure quality requirements are captured.
- Ensuring that quality files and records are kept up-to-date.
- Coordinate closure and ensure completeness of all Quality records.
- Assist the Project Quality Manager by reviewing and verifying compliance of QA records and deliverables prior to being compiled into the Manufacturer's Data Report (MDR) or handover package.
- Assist the Project Quality Manager in preparing and carrying out of audits on suppliers, subcontractors and production to ensure satisfactory implementation of applicable management systems and compliance to specified contract deliverables.
- Ensure Corrective Actions and Non-conformances are registered upon identification.
- Actively monitor the project Corrective Actions and Non-conformance Registers to ensure timely close out and measure the effectiveness to preventive actions.
- Investigate all non-conformances with efficiency and ensure debriefs are conducted and corrective actions are closed out.
- Maintain up-to-date register of calibration certificates and ensure inspection, measuring and test equipment is within calibration or removed from use.

3.4 Group Business Systems Manager

The Group Business Systems Manager (GBSM) has the defined authority and responsibility for ensuring that the requirements of the Management System are implemented and maintained. The GBSM is Patrick Pearl, available on telephone 0419 728 118, or e-mail Patrick.Pearl@bmd.com.au. The GBSM will schedule periodical audits of the project to ensure that the systems are complying with the standards and legislation that affects the project. Monthly reports will be forwarded to the GBSM / Management Systems Coordinators by the Project Manager for reporting to regional management at the Senior Leadership Group (SLG) meeting.

4 Planning and Process Control

4.1 Construction Program

A construction program has been developed to help plan and monitor the progress of the project. This program will generally be held with the Project Manager who will track the progress of the project and make amendments to the program as required. The ARTC Project Manager receives a copy of the amendments as they are prepared for review and approval.

4.2 Communication Process

All formal communication (i.e. document submission, upcoming works) is to be through the Construction Aconex Portal unless approved otherwise.

4.3 Risk Management & Quality Risk Register

This is a construct only project with minor temporary works involves design risks. Full Project Risk Management review is carried out comprehensively during project start-up phase and then at regular interval depending on project progress and introduction of new activities and risk.

There is Master project HSEQ Risk Register prepared on Share Point HSEQ Risk Register Database. The Risk Register is designed to assist the project to determine which project activities involve levels of risk requiring formal documented controls.

The development of the Risk Register will be in accordance with the BMD Risk Management Standard and the relevant statutory requirements commencing in the early project planning. A team of INLink Quality Manager, Project Manager/s & Construction Manager will undertake a Quality risk workshop to identify, review and assess project specific activities and the appropriate control measures in accordance with the relevant Standards and processes. Latest Risk Register is kept up-to-date on SharePoint HSEQ Risk Register database.

5 Identification and Traceability

5.1 Lots

All items of Work are to be subdivided into Lots or discrete Work areas. A Lot will consist of any part of the Works which INLink considers to be a continuous portion of homogenous and/or representative material or end-product produced under essentially constant conditions. The Project / Site Engineer will determine the extent of each Lot and include a Lot Map to clearly identify the boundary of the Lot.

The bounds of each Lot will be determined before sampling and will be set so that each Lot is represented by a single tested sample, except where statistical methods (which require several tested samples to represent a Lot) are used. Each acceptance criteria may have different Lot boundaries.

Work on a Lot will not commence until the Lot identification has been established and is understood by relevant staff.

All works shall be divided into Lot for the purpose of following:

- positive identification and traceability of all work activities, measurements and test;
- monitoring the quality of product;
- submission of work to the ARTC Project Manager under cover of a conformance report;
- rejection of work;
- application of concessions provisions for below standard work.

Maximum Lot size will be specified in the relevant Inspection Test Plan (ITP) as an internal INLink sign-off point. A Lot map will also be included in each Lot Conformance Record to clearly define the boundary of works.

Discrete portions of a Lot which are visually non-homogenous and/or non-representative will be excluded from the Lot and will either be treated as separate Lots or reworked to the satisfaction of the ARTC Project Manager. The ARTC Project Manager has the right to reject a Lot that is visually non-homogenous and/or non-representative.

Where the non-conforming Lot is reworked and subjected to a fresh compliance testing program or is subdivided into smaller Lots, a new Lot number, or numbers, will be allocated to the reworked/subdivided Lot(s). The original lot shall be cross referenced in the reworked/subdivided lots.

5.1.1 Lots Management System

The Lots Management System in the Project SharePoint Site will be used to track the status and record details (i.e. location, description) of each Lot. Each Lot will be given a unique Lot number. Each Lot number will start with a specific series number in relation to the type of activity; new Lots will be assigned the next sequential number to identify the elements that make up the Lot.

Any items related to a particular Lot shall be linked and referenced against each individual database entry for available SharePoint Database items. This includes, however, is not limited to the following:

- Requestion for Information (RFI) (Aconex RFI reference Numbers only)
- Inspection and Test Plans (ITPs)
- Test Requests and Results
- Hold/Witness Points
- Non-Conformance Reports (NCRs); including Corrective or Improvement Actions
- Chainage Reference
- Unique ID for locations etc.

5.2 Completed Lots

Information relating to a conforming Lot will be submitted to the ARTC Project Manager or respective ARTC Engineers at the completion of Works via a Lot Conformance Report and supporting documentation. Where a Lot is subject to delayed testing, these Lots shall be submitted to the ARTC Project Manager when the final results become available The ARTC Project Manager may approve the use of Indicative Conformance procedures for testing and/or analysis. An Indicative Conformance report for the construction Lot may be submitted before the listed testing and/or analysis is carried out. Lots that fall under this scenario include: a) Moisture Content (Degree of Saturation), b) Moisture Content (General Earthworks) and c) Testing of concrete on the basis of slump or spread and/or strength.

Non-conforming results will be processed in accordance with Section 9 – Control of Non-Conformances.

If a Lot does not achieve the specified characteristic value, the Project Engineer / Site Engineer or appropriate delegate will investigate the Lot with a view to determine why the characteristic value was not obtained. This process may involve a review of test results to determine if it is a material problem (e.g. excess or deficient moisture), and/or checking with the Foremen and operators as to the actual process and circumstances applicable to that Lot. A Corrective or Improvement Action will be raised in the Project Site NCR system where required in accordance with Section 9 – Control of Non-Conformances.

The Quality Manager/ PQR or appropriate delegate will ensure all Lots are closed-out and signed-off.

5.3 Traceability

All materials, samples and test results will be identified by a Lot number and field location to which they relate; records will be stored on the Project SharePoint Site under the Lots Management System.

5.4 Lot Notification and Status

A daily works notification will be submitted daily to the ARTC Project Manager by either the Project Engineer, Site Engineer, Quality Manager or delegate. The daily works notification will include Lot Number, location, description, Date, approximate time, Hold Point Witness Point and Inlink Rep. This will ensure that ARTC are notified of all Lots where works commenced or were completed on the preceding working day.

A detailed Lot register report (including a list of NCR's and RFI's) will be submitted weekly to the ARTC Project Manager by either the Quality Manager or Quality Assurance Coordinator. The Lot report will include Lot Number, Lot Description, Lot Status, Chainages, Offsets, Date Works Commenced, Date Works Completed and Date Lot Closed.

Lot accurate status to be updated regularly and maintained within Lot Database such as Lot "date work started", "Date work completed" etc. All engineers need to keep this status data accurate and live. Once "date work completed" entered, it is important that all required QA records (Survey records, Test results etc) are collated and Lot conformance pack prepared and forwarded to INLink QA team for review as soon as practicable.

6 Inspection and Testing

6.1 Inspection and Test Plans (ITPs)

Inspection and Test Plans (ITPs) will be prepared for all construction activities. ITP's will include controls for receiving, in process and final inspection, and testing. The sequence of all activities identified in an ITP will be concisely described in the INLink Construction Procedures (CP's) and/or Construction Method Statements (CMS's).

Inspection and Test Plans shall be submitted to the ARTC Project Manager for approval at least 14 days prior to any work commencing, unless otherwise specified.

Unless otherwise specified, the Foreman or appropriate delegate will be responsible for arranging all inspections and tests on Work in progress. This may be coordinated through the Project Engineer / Site Engineer for soil tests, proof rolls etc. ITP's are to be progressively signed-off as Works are completed, signed and closed-out.

The NATA Accredited Project Testing Laboratory will be provided with all information, including relevant parts of the Contract, Specifications, approved Inspection and Test Plans (ITP's), to ensure that the laboratory performs sampling and testing in accordance with the Contract and relevant specifications.

Inspection and Tests Plans (ITP's) for material and equipment packages will cover all phases of manufacturing and construction to ascertain that all Works comply with the relevant Drawings and Specifications, and with the applicable codes and standards. ITPs will also be used to ensure that materials and workmanship are of appropriate quality and that all parts of the Works are appropriate for the purposes that they are intended.

Refer to Attachment D for indicative list of the INLink Inspection and Test Plans (ITPs). A live ITP register is maintained and kept up-to-date on SharePoint which is located here.

6.2 Sampling and Testing

The Project Engineer / Site Engineer or appropriate delegate will be responsible for arranging tests of materials at source or in stockpile. Inspection and testing status for a particular Lot can be determined by reference to the checklist for the Lot.

All test locations will have E:N co-ordinates, RL and chainage references included on all geotechnical reports for traceability.

All sampling and testing will be undertaken by suitably qualified personnel approved by the ARTC Project Manager. All sampling and testing will be carried out in laboratories accredited by NATA and certified for the appropriate tests.

Selection of sampling and test locations shall comply with Standard Test Method Q050 Random selection of sampling or test locations which requires Random Stratified Sampling procedures unless an alternative procedure is specified.

Tests shall be arranged using the Test Requests system in the Project SharePoint site.

6.3 Frequency of Testing

Appropriate frequencies for inspection and testing will be detailed on the ITP. Frequencies will be in accordance with the relevant specifications or applicable Australian Standards.

The Project Quality Representative (PQR) in conjunction with the Project Manager, Quality Manager and Quality Assurance Coordinator will review the appropriateness of the frequency of testing nominated in the ITP's. Such review will consider the frequency of non-conformity detected, including non-conformities remedied by simple reworking.

INLink, with the approval from the ARTC Project Manager, may adopt the Reduced Testing Level stated in the relevant Technical Specifications after no nonconformances have occurred in four consecutive lots and it has been demonstrated that INLink's processes are under control and consistent.

Where INLink is operating at the Reduced Testing Level and a nonconformance occurs for any requirement for a lot, INLink shall immediately revert to the Normal Testing Level for all standards and requirements. INLink may then after no nonconformances have occurred in four consecutive lots and it has been demonstrated that INLink's processes are under control and consistent, reapply for approval to adopt the Reduced Testing Level stated in the relevant Technical Specifications.

6.4 Inspection and Test Status

The inspection and test status of any Lot may be determined by reference to the Lots Management System on the Project SharePoint Site, completed or partially completed checklists, and associated measurements or test results.

INLink will submit to the ARTC Project Manager on a weekly basis a summary of all tests requested through Test Request register. Test results and associated information is presented with progressive lot ITP sign-off and/or for Hold Point / Witness Point sign-offs and verified again at the time of Lot conformance sign-off by ARTC representatives. All the information is accessible full time for verification on project site office within INLink's SharePoint Lot Database.

6.5 Inspection and Test Records

Records for each Lot will clearly show or reference the actual results obtained for any inspection and/or test and demonstrate conformity with the specified requirements. Records will include the frequency of testing (or number of tests) required and the actual frequency of testing (or number of tests) to confirm that the required frequency has been achieved.

All the inspection and Test information is accessible full time for verification on project site office within INLink's SharePoint Lot Database. Records will be presented for evaluation by the ARTC Project Manager or ARTC Engineers at the completion of work as part of Lot Conformance Records review & verification. A detailed Lot report (Lot register) showing associated NCR's, status and notes submitted weekly to ARTC. Refer to Section 5.4 – Lot Report for more details.

6.6 Measuring and Testing Equipment

Measuring and test equipment shall include measuring equipment for production purposes (e.g. concrete batching plant).

The Project Engineer / Site Engineer shall identify all inspection, measuring and test equipment (other than laboratory equipment) maintained and calibrated by Subcontractors, which is used or proposed to be used for work on the contract. For all on-site activities where inspection, measuring and test equipment is maintained and calibrated by a Subcontractor, the Project Engineer / Site Engineer will ensure that the Subcontractor holds a valid calibration certificate, or a copy of the Subcontractor's equipment register showing the calibration status of the equipment. This documentation will be stored electronically as per the Project Checklist for Forms and Templates and a hard copy held at the location where the subcontracted work is being carried-out.

Measurements for specific environmental compliance criteria such as noise levels, dust levels, vibration levels, water pH, etc. will be taken as applicable. Equipment used for such measurement will be of suitable precision, in good working order and recorded in the Calibration Register maintained on SharePoint HSEQ equipment Register.

All sampling will be carried out by competent geotechnical testers. All testing will be carried out in laboratories accredited by NATA and certified for the appropriate tests.

6.7 Hold Points / Witness Points

Work shall not proceed past a **HOLD POINT** until the ARTC Project Manager or delegated Representative has released the Hold Point.

The Foreman, Project Engineer or Site Engineer will ensure that the ARTC Project Manager is given adequate notice of upcoming Hold Points & Witness Points. Unless agreed otherwise by the ARTC Project Manager, INLink shall notify the nominated release authority a minimum of 48 hours prior to the date of witness of any Hold Point.

Hold Points will be released by:

- written release/wet signature on the relevant ITP;
- separate written Hold Point and Witness Point Release (via an Aconex / email correspondence);
- written site instruction approving the release (i.e. via project correspondence book).

All Hold Points identified through ITP development process are to be recorded in the SharePoint Project Site via a Hold Point / Witness Point Register. This is a live register and will be kept up-to-date on SharePoint.

Where a verbal release is given however there is no written record provided by the ARTC Project Manager, the Foreman, Project Engineer or Site Engineer will ensure that written confirmation of the Hold Point Release is sent or given to the ARTC Project Manager at the earliest opportunity. Such confirmation will include: details of the date; time; location; item and stage of Work; what was approved; who approved it; and, who was present from INLink and/or INLink's Subcontractors. The Hold Point Release correspondence will also be attached to the relevant ITP or recorded within the comments section of the relevant ITP.

Witness Points are an inspection point in the construction or manufacturing process that will be witnessed or verified. Witness Points will be stipulated in Inspection Test Plans where required.

Unless specified otherwise, INLink shall give ARTC Project Manager, or delegated representative, a minimum of 48 hours-notice of all upcoming Witness Points but may proceed when the period of notice has expired whether or not the ARTC Project Manager, or delegated representative, elects to witness an activity.

All Witness Points are to be recorded in the SharePoint Project Site via a Hold Point / Witness Point Register. Refer to Attachment K for the indicative Hold Point / Witness Point Register. This is a live register and will be kept up-to-date on SharePoint

6.8 External Quality Audits

The ARTC Project Manager may, from time to time, conduct an external audit of INLink's QMS. All audit records should be entered into the INLink Project SharePoint Audits Database, as per the Audit Management Standard.

For more details on Internal and External Audits, Refer to Section 13 – Monitoring and Review.

7 Purchasing and Subcontract Controls

7.1 Products and Materials

7.1.1 Product Selection

Products and services will be selected on the quality of the product or service, past experience with INLink or associated companies, those materials required by the specification and the product or services' risk to health and safety, and/or the environment.

7.1.2 Materials Supplied by the Client

Material supplied by ARTC shall be inspected and stored to prevent undue damage or deterioration. Prior to the handover of all materials supplied by ARTC, a joint inspection is undertaken between ARTC and INLink. ITP's and/or Checklists will be developed by INLink identifying the inventory management procedures including, handling, storage and inspection criteria for approval of the ARTC Project Manager.

7.1.3 Materials Handling, Packaging and Delivery

All precautions shall be taken to protect products from abuse, misuse, damage, deterioration and unauthorised use.

The Foreman shall ensure that all employees are adequately trained for safe execution of activities assigned to them. The Foreman shall ensure all Workers have the appropriate safety equipment or personal protective equipment to safely carry-out the task.

Materials subject to segregation and/or contamination, for example, road base gravel shall be handled to prevent segregation or contamination, namely materials will be stockpiled on prepared slabs/suitable lay down areas and suitably separated.

The INLink Project Manager is responsible for ensuring that all lifting equipment is properly maintained and rated for the loads placed on them. This requirement also applies to equipment used by INLink's Subcontractors and hired machinery.

Goods, products, and materials delivered to site shall be received and stored to prevent damage or theft. Goods, products, and materials shall be checked to ensure that are of the correct type & quantity are delivered and that they are free from damage.

Delivered products of significant value, critical items, and long lead time products shall be checked by signing-off ITP's. The completed documents shall be filed within the Project SharePoint along with the relevant Certificates where required (i.e. Certificate of Conformance with Reinforced Concrete Pipes).

A program for preventative maintenance shall be established, as required, based on the manufacturer's recommendations for permanent equipment delivered and stored on the site prior to installation. Non-conforming products will be returned to the supplier.

7.1.4 Materials Storage

Materials subject to deterioration, or likely to be damaged if left unprotected, shall be stored in containers, sheds or in other secured storage areas in accordance with supplier specifications and/or recommendations.

All chemicals and waste materials shall be handled and stored in a manner that ensures potential hazards or environmental damage is avoided and, as defined in this document and relevant material Safety Data Sheet (SDS). To detect deterioration, the condition of material being stored shall be assessed by the Foreman or the appropriate delegate at regular intervals.

The Project Manager, Foreman, Site Supervisor, Project Engineer / Site Engineer or appropriate delegate shall have authority to receive goods into, or dispatch goods from, secure storage areas.

7.1.5 Use of Purchased Products

The Foreman will ensure that materials and purchased products that are handled, stored and combined with other products, are installed and used in accordance with the manufacturers' recommendations. The Foreman, Project Engineer and/or Site Engineer will ensure that the materials are compatible with the other products and Works.

Where required, INLink will ensure that relevant certificates of conformance are provided either through Aconex or attached to the relevant Lots (i.e. Certificate of Conformance for Reinforced Concrete Pipes in accordance with relevant specifications). Inspection and Test Plans will also include Hold Points, where required, to ensure materials are compliant with the relevant specifications.

Materials in storage will be checked by the Foreman or appropriate delegate for the Work prior to installation for signs of deterioration. The Foreman shall be notified of any material subject to deterioration for the appropriate corrective action.

Any supplier product non-conformities will be recorded in the Project Site NCR system and managed as per Section 9 – Control of Non-Conformance.

7.1.6 Purchase and Use of Products with Recycled Content

Recycled content products and materials may be used where these are cost and performance competitive and, where their environmental performance is at least equivalent to the non-recycled product(s). The cost competitiveness of a product or material will be assessed by the Project Manager on a project lifecycle basis, considering issues such as impacts on construction practices, future maintenance and disposal requirements.

7.1.7 Process of Rail Inspection

The rail inspection is carried out in three stages;

(1) Initially at the stockpile, where rail is inspected for damage at rail ends, where damage is noticed, the damage is highlighted using white spray paint, this allows the loader operator to drag the rail within the damaged length.

(2) The rail is then dragged atop the formation where a detailed inspection by three parties, ARTC, INLink and Fastrak is carried out. To comply with the NCR process, all rail damage is assessed, ARTC

inspector will then determine whether the damage (existing or new) can remain and become part of the track or is deemed too severe and must be removed.

(3) The third stage of the inspection occurs once the rail has been final tamped. During the inspection, ARTC inspector will again assess the damage with INLink and Fastrak representatives, ARTC inspector will determine whether the damage can remain and become part of the permanent track or is deemed too severe and must be removed.

- inspections are organized at times convenient for INLink and ARTC representatives with at least 24 hours' notice through daily meetings. Triggers may include respective ITPs, hold points, witness points and final inspections for sign off.
- Materials are inspected against ARTC specifications
- Respective rail or sleeper register is updated by INLink for any defects, damage, ARTC inspector, root causes, remedial actions and preventative actions and in conjunction with approved Remedial plan 5-0012-240-CTR-PL-0001.
- Register is transmitted to ARTC each working block (fortnightly)
- This register is part of QA records.

7.1.8 Process of Sleeper Inspection

A system of inspection is currently in place whereby sleepers considered to be excessively damaged in the stockpile are quarantined for ARTC inspection prior to incorporation into works, this type of damage is mainly cracks through the body of the sleeper or significantly exposed pre-stressed strands as a result of a large concrete chipping. Damage to the side and bottom of the sleepers where no strands are exposed are incorporated into the works as per past site recommendations by ARTC. Chippings to the top surface of the sleepers will all be patched using the approved concrete repair procedure. Where sleepers are damaged beyond repair during construction works, they are to be removed and replaced, details of location and quantity are to be recorded in the sleeper register.

- inspections are organized at times convenient for INLink and ARTC representatives with at least 24 hours' notice through daily meetings. Triggers may include respective ITPs, hold points, witness points and final inspections for sign off.
- Materials are inspected against ARTC specifications
- Respective rail or sleeper register is updated by INLink for any defects, damage, ARTC inspector, root causes, remedial actions and preventative actions and in conjunction with approved Remedial plan 5-0012-240-CTR-PL-0001.
- Register is transmitted to ARTC each working block (fortnightly)
- This register is part of QA records.

Above sections 7.1.7 and 7.1.8 to be read in conjunction with NCR process for Rail & sleepers under Section 9.6 of this plan.

7.2 Subcontractors

7.2.1 Quality Control

Subcontractors and suppliers engaged by INLink will be required to either submit and have approved their own HSEQ systems or operate under the INLink HSEQ systems. This is in accordance with the BMD Subcontractor HSEQ Management Standard.

8 Design Controls

8.1 General

Design works that are subject to control include design in respect of:

- temporary structures and the checking of permanent structures for construction loadings;
- lifting devices for manufactured items requiring transport;
- any alternative permanent structure or structural component proposed for the Works;
- concrete mixes for structures and pavements and, asphalt mixes for permanent Works;
- traffic control, temporary roadways and detours; and,
- permanent Works where the design control is nominated in the specifications.

All temporary works will be managed in accordance with project Temporary Works Management Plan 5-0012-240-PMA-00-PJ-0001.

9 Control of Non-Conformances

9.1 Non-Conformances

All nonconformances that occur within the delivery of the Inland Rail – Parkes to Narromine (P2N) Project, will be captured within a Non-Conformance Report (NCR). Where required, INLink will raise NCR's including the details of the incident/scenario, the root cause and the Corrective or Improvement Actions proposed and/or implemented. The ARTC Project Manager will be notified of each nonconformance within one working day of each detection where:

- there is potential for progress of the work to be seriously affected
- the non-conformance will have an impact on train or third-party operations
- the non-conformance will remain for an extended period
- the proposed action to correct the nonconformance will result in work not complying with the requirements of the Contract
- the Contractor has failed to comply with the time requirements of the Contract
- the nonconformance may cause a health and safety hazard
- the nonconformance has resulted from a deficiency in the drawings or Technical Specification
- client-supplied product is involved
- the ARTC Project Manager has directed that specific types of nonconformances be notified
- material or serious environmental harm has occurred
- items of cultural heritage significance are discovered, or
- contaminated land or contaminated materials delivered to the Site are identified.

An NCR will then be issued to the ARTC Project Manager as soon as possible and attached to the relevant Lot packages along with the ITP, survey reports and/or geotechnical reports. All NCR's will be recorded on the INLink Project SharePoint Site via the NCR Database.

In the case where the ARTC Project Manager observes a nonconformance on site, the ARTC Project Manager may issue a Corrective Action Request. INLink will then raise a Non-Conformance Report (NCR) within 1 working day or an agreed period.

Defects will be managed in accordance with the Defects Procedure outlined in the Completion and Handover Management Plan.

As mentioned in Section 5.4 – Lot register report, a detailed Lot report will be provided to the ARTC Project Manager weekly which will incorporate a full list of the current NCR's.

9.2 Continual Corrective or Improvement Actions

Work involving non-conforming items will not be authorised to continue unless the Corrective or Improvement Action/s has been approved by the ARTC Project Manager via written response and

implemented by INLink or the relevant Subcontractor. The Corrective or Improvement Actions will be entered into the Project SharePoint via the NCR Database.

In the case where the ARTC Project Manager observes a nonconformance on site, the ARTC Project Manager may issue a Corrective Action Request. INLink will then raise a Non-Conformance Report (NCR) within 1 working day or an agreed period. The NCR will list INLink's proposed Corrective or Improvement Actions in full detail for the review and approval of the ARTC Project Manager.

Non-Conformance Reports are the most common internal documents used to identify the actual or potential need for Corrective and Improvement Actions and/or Opportunities. However, in both formal and informal situations, the following can be used to prevent the occurrence and/or re-occurrence of NCR's:

- Maintaining Inspection and Test Plans (ITPs);
- ARTC and other Industry Standard Published Documentation;
- Health, Safety, Environmental and Quality Reports/Inspections;
- Program Review Meetings;
- Quality Review Meetings;
- Risk Assessments and Hazard Analysis;
- General INLink / ARTC Meetings;
- ABC's (Activity Based Conversations).

9.3 Preventive Action

Suitable analysis of the non-conformance and the implemented Corrective or Improvement Action/s will be undertaken by site management to determine appropriate measures that could be implemented to prevent a repeat of the non-conformance.

9.4 Review of Non-Conformances

The Quality Manager in conjunction with the Senior Project Engineer/s, and other relevant personnel will ensure that Corrective or Improvement Actions are closed out in a timely manner as outlined in the NCR.

The Quality Manager in conjunction with the Senior Project Engineer/s and other relevant personnel will continually review the NCR Database within the Project SharePoint Site and monitor NCR trends to ensure that measures are being taken to prevent the re-occurrence of NCR's.

9.5 NCR Database

The NCR Database located on the Project SharePoint Site will track all NCR's raised throughout the delivery of the Inland Rail – Parkes to Narromine (P2N) Project. The NCR Database includes the NCR Status, NCR Details, Corrective or Improvement Actions and any other relevant attachments. The NCR Database will be maintained by the Quality Manager with assistance from Project Engineers / Site Engineers.

9.6 Rail and Sleeper Non-Conformance

Lessons learnt during the construction of NWL indicated that it is ideal to contain rail and sleeper damage to one NCR per LOT. At completion of NWL construction, a total of 5 NCRs were raised for rail damage. Furthermore, daily inspections which are happening currently were not part of the daily routine which meant that any rail with major defects determined to be removed occurred after the rail had been installed in track. Moving forward for the mainline, one NCR each per LOT for sleeper and rail damage is to be raised once the initial damage is detected (new or existing), the damage is to be recorded in the Rail Inspection Register which also comprising of three columns, Remedial Action, Preventative Action and Root Cause. This ensures that any existing and new defects are removed prior to the rail being installed in track.

Process of Rail Inspection and Sleeper Inspection to be followed in accordance with section 7.1.7 & 7.1.8 of this plan.

10 Document Control

10.1 Submission of Documentation

All formal communication and document submission (i.e. Upcoming Works, NCR's, RFI's) is to be through the Construction Aconex Portal unless approved otherwise. INLink will submit all documentation through the ARTC Construction Aconex Portal in accordance with the ARTC Inland Rail Naming Convention (Refer to Document Numbering Standard 0-0000-900-PAD-00-SD-0001) and Programme Aconex User Guide (Refer to Document 0-0000-900-PAD-00-GU-0001).

10.2 Control of Project Documents and Records

As per the above all project correspondence and document submission will be through the ARTC Construction Aconex Portal in accordance with the relevant ARTC Guidelines and Standards.

As an internal process INLink will maintain all project correspondence and documentation via the Project SharePoint Site. The file naming convention to be adopted is to be as per the document J013_HSEQ_QDS_DOC_REG_File Naming Convention and stored within the appropriate locations on the Project SharePoint Site. Copies of specifications, drawings, specified Test Methods and ISO 9001 must always be readily accessible on site.

It will be the responsibility of the entire INLink team to ensure that all project correspondence and documentation is stored and saved correctly on the Project SharePoint Site, with the Quality Manager and Quality Assurance Coordinator overseeing the process.

10.3 Drawing Management

A INLink Master Drawing Register is established on the Project SharePoint Site to control all drawings. Such drawings may include:

- File Name
- Title
- Discipline
- Category
- Stage
- Document Number
- Revision
- Date
- Retired
- Comments

The INLink Master Drawing Register will list the drawing name, the current revisions and the holders of the drawings listed on the register. As drawings become superseded, the Quality Manager or

appropriate delegate will ensure the new drawings are issued to the project team and major subcontractors. All superseded drawings will be marked as such and will be kept behind the latest controlled drawings in hard-copy controlled set at INLink office for records and reviews.

INLink Master register on Sharepoint can be found here.

10.4 Project Specifications

All project specifications are stored on INLink Project SharePoint site and readily available. All project specifications are listed in Project Specification register which is kept up-to-date on SharePoint. Specification register can be accessed on SharePoint here.

10.5 Documents to be Kept On-Site

Documents to be kept on- SharePoint site at all times include:

- Monthly Construction Report;
- Site Attendance Hours;
- Technical Specifications; and
- Drawings.

10.6 Request for Information (RFI's), Non-Conformance Reports (NCR's), Meeting Minutes

All RFI's, NCR's and Meeting Minutes will be submitted to the ARTC Project Manager through the ARTC Construction Aconex Portal in accordance with the relevant ARTC Guidelines and Standards.

INLink will adopt the Request for Information (RFI) template set-up by ARTC within the Construction Aconex Portal. This template highlights the RFI initiator, discipline, details of the request, impact on the Works along with other details.

INLink developed Non-Conformance Reports (NCR's) formatted in the Standard INLink NCR Template and submit via the ARTC Construction Aconex Portal. This Standard INLink NCR Template, was submitted via Construction Aconex Portal to the ARTC Project Manager for review and approval. INLink will also maintain an NCR Database via the Project SharePoint Site which includes the details of the NCR, the root cause and the Corrective or Improvement Actions.

The ARTC Project Manager will chair and arrange for recording of minutes at monthly meetings between ARTC and INLink. Within one week of the meeting, the ARTC Project Manager will issue INLink personnel with a copy of the minutes. INLink will then notify the ARTC Project Manager, within three working days, in there are differing opinions to what was recorded within the meeting minutes.

11 Records

11.1 Records

All formal communication and document submission (i.e. Upcoming Works, ITPs, Construction Procedures, construction Method Statement, Management Plans, NCR's, RFI's) is to be through the Construction Aconex Portal unless approved otherwise. INLink will submit all documentation through the ARTC Construction Aconex Portal in accordance with the ARTC Inland Rail Naming Convention (Refer to Document Numbering Standard 0-0000-900-PAD-00-SD-0001) and Programme Aconex User Guide (Refer to Document 0-0000-900-PAD-00-GU-0001).

Documentation to be submitted via the Construction Aconex Portal includes, however, not limited to:

- A daily work notification will be submitted to the ARTC Project Manager via email includes any Hold Point and Witness Point daily and detailed Lot report (showing associated NCR and status) to be submitted weekly to the ARTC Project Manager;
- Conformance Reports/Lot Packages including signed-off and closed ITP's, geotechnical test results, survey reports etc.;
- Non-Conformance Reports (NCR's) to be submitted to the ARTC Project Manager, as required;
- As Constructed Drawings to be submitted to the ARTC Project Manager.
- Construction Procedures/ Method Statement to be submitted to the ARTC Project Manager.
- Management Plans to be submitted to the ARTC Project Manager.
- Inspection and Test Plans to be submitted to the ARTC Project Manager.

With the approval of the ARTC Project Manager, all other records will be stored in electronic format on the Project SharePoint Site. The file naming convention to be adopted is to be as per the document J013_HSEQ_QDS_DOC_REG_File Naming Convention and stored within the appropriate locations on the Project SharePoint Site.

Records which will be kept as applicable include, however, are not limited to:

- commercial components;
- site attendance and inductions;
- records of quality compliance;
- test results;
- technical specification(s);
- drawings;
- environmental and safety monitoring/inspection reports;
- internal audit reports;
- external audit reports;

- correspondence;
- reports of health and safety, environment and quality incidents, non-conformances, complaints and follow-up actions;
- minutes of management review meetings;
- evidence of action taken as a result of such meetings/events;
- induction and training records; and,
- Records of monitoring by Subcontractors against compliance limits.

The project completion and handover procedure is outlined in the Completion and Handover Management Plan.

12 Survey Controls

12.1 Survey Controls Process

Refer to the Survey Management Plan (Document. No. 5-0012-240-ISV-00-PJ-0001).

Trackwork Survey Management Plan (Document No. 5-0012-240-ISV-00-PJ-0003)

13 Monitoring and Review

13.1 Internal and External Audits

All internal audits will be conducted, stored and circulated as stipulated in the Audit Management Standard. Where an internal audit has been undertaken, a summary of the internal audit will be provided to the ARTC Project Manager within the INLink monthly HSEQ report.

The ARTC Project Manager may, from time to time, conduct an external audit of INLink's QMS. INLink shall supply any information, documentation, access and assistance including key project personnel requested for the completion of audits and the outcomes (report) will be managed/actioned in the INLink QMS.

All audit records should be entered into the INLink Project SharePoint Audits Database, as per the Audit Management Standard.

13.2 Audit Schedule

The Project Audit Schedule will be developed and maintained by the Quality Manager, or Delegate, in conjunction with the Systems Representative and will be made available to the ARTC Project Manager on request.

Audits will be conducted at regular intervals (in accordance with the Audit Management Standard) to a pre-determined risk-based schedule to ensure the documented procedures and processes are being followed. The audit schedule will be developed to identify timings of the audits and the areas/sectors to be audited. The frequency of the audits will be set such that specific processes will be reviewed on a regular basis.

Audits will be conducted on the activities carried out by the Project team, Subcontractors and suppliers. Construction processes, supplier and Subcontractor audits will be carried out.

For the INLink Internal Audit Schedule, Refer to Attachment A – Audit Schedule.

NB: The Audit Schedule (in Attachment A) reflecting the frequency of internal audits will be reviewed and updated as required during construction works.

13.3 Adjustment to Audit Schedule

The audit schedule will be adjusted when one (1) or more of the following conditions exist:

- when the results of previous audits indicate the need for a higher/lower audit frequency;
- when significant changes are made to functional areas of the quality system, including reorganisations and revisions to procedure(s);
- when safety, performance or reliability of the product is in jeopardy, or suspected to be in jeopardy, due to non-conformity in the quality system;
- when necessary to verify that the required corrective/preventive action has been taken;
- when required due to changes in INLink's construction programme; and,

- in the case where NCR trends become evident and the proposed Corrective or Improvement Actions are not effective in preventing re-occurrence.

13.4 Unplanned Audits

Specific components of the management system may be audited more frequently where the General Manager, Group Business Systems Manager, Project Manager or Systems Representative determines that:

- deterioration in performance of the system may occur rapidly if not audited more frequently;
- any deterioration in functioning is found to have significant effect on work output; and,
- significant system modification warrants particular attention to its performance.

The Group Business Systems Manager or Management Systems Coordinator may also initiate unscheduled audits where non-conformances suggest that a special review of a segment of the Management System is warranted.

13.5 Quality Management Plan Review

The Quality Management Plan is to be reviewed periodically and updated quarterly or as required. This review will be undertaken by the Quality Manager in conjunction with the Project Manager and relevant project team members to identify opportunities for improvement. The review shall be undertaken following the Project Manager's instruction or after any deficiencies in the system are identified, or significant changes (e.g. during audits, or additional Work packages being awarded).

The revised Quality Management Plan is to be clearly marked with changes and re-submitted to the ARTC Project Manager for acceptance within five (5) Business Days of the Plan's revision. The ARTC Project Manager will review the revised Quality Management Plan and respond to the INLink team with acceptance and/or comments within twenty (20) Business Days of submission.

13.6 Adjustment to Quality Management Plan Review

As specified in the section above the Quality Management Plan will be reviewed and updated quarterly however may be subject to additional reviews if the following conditions exist:

- in the case where NCR trends become evident and the proposed Corrective or Improvement Actions are not effective in preventing re-occurrence;
- when the results of previous audits indicate the need for a higher/lower audit frequency;
- when significant changes are made to functional areas of the quality system, including reorganisations and revisions to procedure(s); and,
- when safety, performance or reliability of the product is in jeopardy, or suspected to be in jeopardy, due to non-conformity in the quality system.

14 Handover

14.1 As Constructed Drawings

INLink's Quality Manager and Quality Assurance Coordinator maintains a complete set of latest Controlled set of Construction Drawings on SharePoint. This set is then downloaded as required by individual Area champion engineers as the working drawings to be used for "red-line mark-ups. Delegated engineer/s work on these PDF working drawings to mark them up (PDF mark-ups) progressively on their local drives. These drawings are reviewed progressively by Senior Project Engineers and QA team for the progress and will be transferred to SharePoint at the time of area/stage handover. These 'Red Line Mark-Ups' will assist with the development of the As Constructed Drawings.

As Constructed Drawings will be in accordance with ARTC Works Specification - Vol 1 - General Requirements 3-0001-240-PEN-00-SP-0002_0 and as per approved Survey management Plan. As Constructed Drawing will be provided to ARTC no more than four weeks after Completion.

14.2 As Constructed Surveys

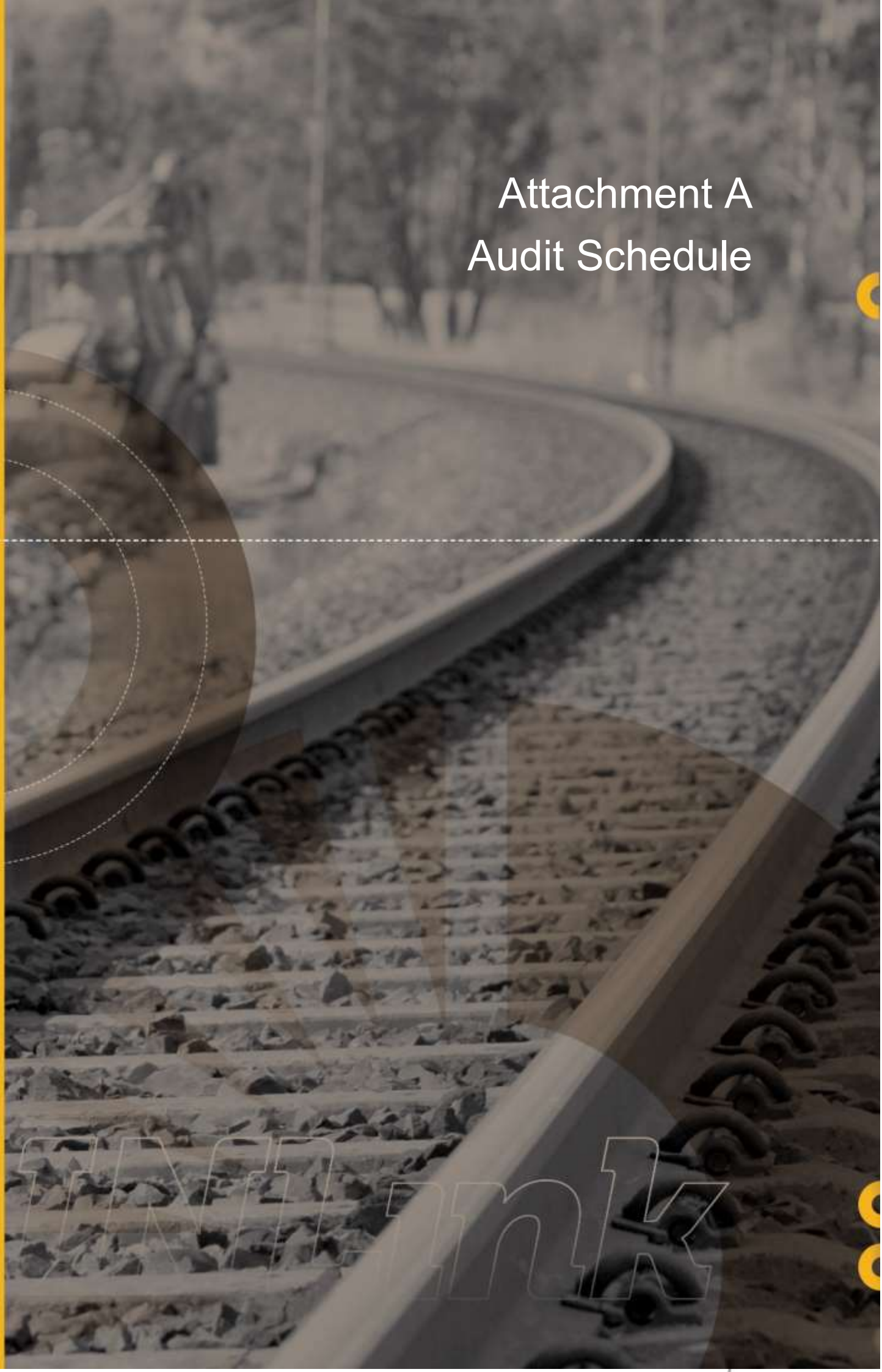
Refer to the Survey Management Plan (SVMP ARTC Doc. No.5-0012-240-ISV-00-PJ-0001).

Trackwork Survey Management Plan (Doc. No. 5-0012-240-ISV-00-PJ-0003)

14.3 Handover Documentation

Refer to the Completion and Handover Management Plan (CHMP ARTC Doc. No5-0012-240-PVP-00-PJ-0002).

Attachment A
Audit Schedule



Audit Schedule

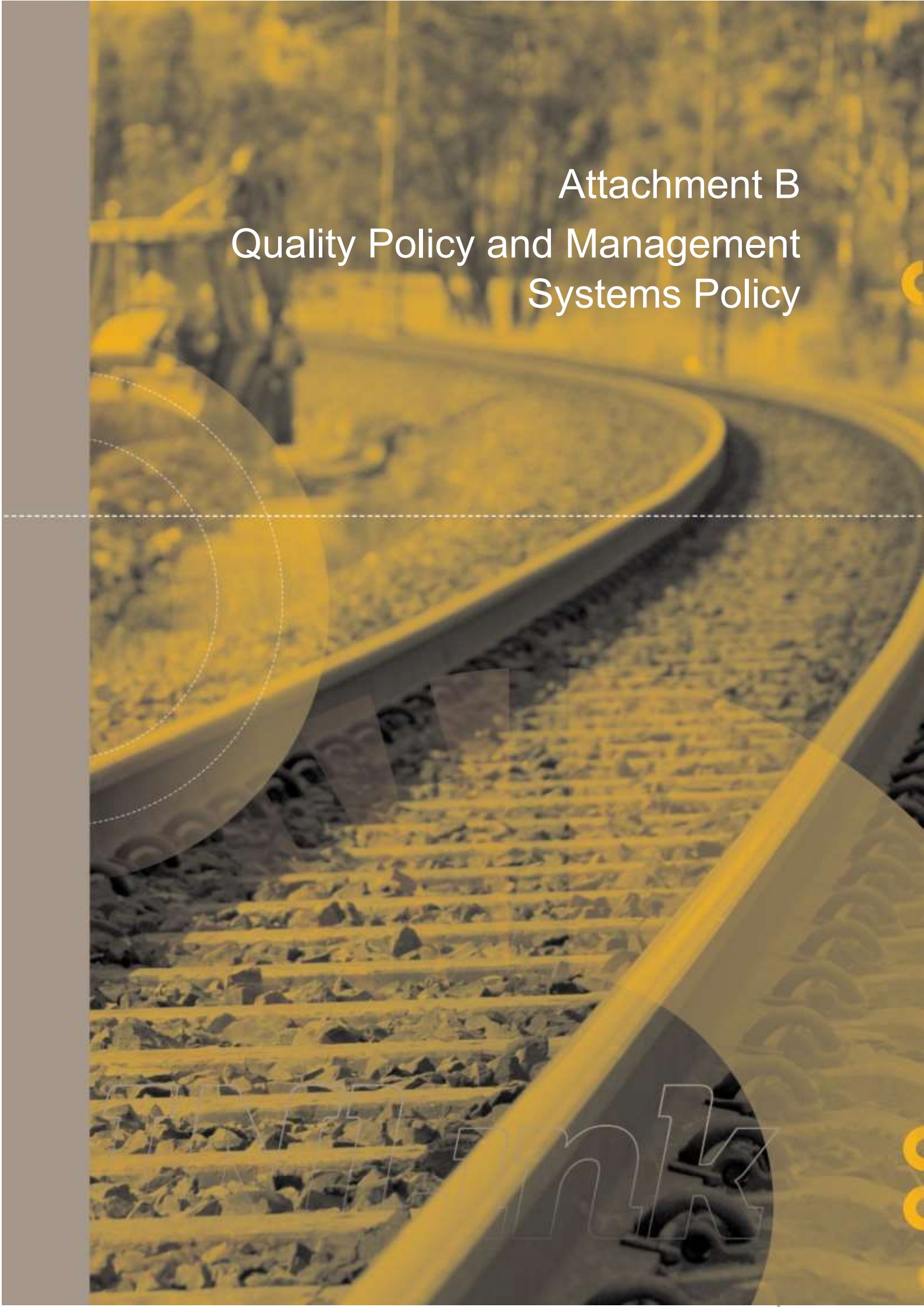
Project No.: #808-J013 **Project Name:** Parkes to Narromine Inland Rail Project

Schedule Prepared By: Tejas Shah – Quality Manager **Rev. No.:** 6 **Rev. Date:** 01/08/2020

Scheduled Completed

Function	Audit Type (Internal / External)	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	July-20	Aug-20	Sept-20	Oct-20
ARTC Supply of Materials (Culvert, Rail, Sleepers, Turnouts, Signalling, Ballast, Culverts)	Internal							27/06/19 (Informal)								21 Mar 2020	21 Mar							
Trackwork Construction (Ballast, Sleeper Installation, Rail Installation & welding, NDT Testing tamping, Stressing, Track Monument, KM Post & Signage)	Internal						23/05/19					23-24/10/19					25 Mar 2020				22/07/20			
Imported Quarry Source Material (Structural Fill, Capping, General Fill, Ballast, Rock Fill, Select Material Zone, Granular Material, Dense Graded Base etc.) / Testing Lab (MacGeo)	Internal							05/06/19								17 Mar 2020	17 Mar							
Signalling (Signalling Foundation, Install Huts/ Locs, Equipment room, LX Hut, Mechanically Install Signal Post, F/Lights, Cable Installation, Testing and Commisioning, etc.)	Internal											22/10/2019					06 Mar 2020				23/07/20	04-Aug 20		
Manufacture of Culvert, Precast Wingwalls, Headwalls, etc.	Internal							03-04/07/19	03-04/07/19				29/11/19											
Project Audit by Regional System Representative																								
Quality System Audit (Corporate Quality Management System Audit)	External	04/12/18					7/05/19				25 Sep					06 Feb 2020						18 Aug 20		
Quality System Audit (Corporate Quality Management System Audit)	Internal			22/02/19						14-15 Aug						10 Mar 2020	10 Mar							

Note: In addition to the above, external audits (i.e. Client) must be captured on this project audit schedule.
Note: All audits are to be recorded within the Audit Database and have all relevant documentation (including the audit checklist/report) attached.



Attachment B

Quality Policy and Management Systems Policy

Quality Policy

BMD

Quality Policy

This policy encompasses all BMD Group subsidiaries including BMD Constructions, BMD Urban, Empower Engineers & Project Managers, JMac Constructions and Urbex. For ease of reference, the term 'BMD' is used throughout this policy to reference the BMD Group and its subsidiaries. This policy also applies to projects involving BMD being carried-out under a joint venture arrangement where no other policy of this type exists.

BMD workers, including contractors, are committed to the quality of our service and stated quality objectives by:

- ensuring our Quality Management System meets or exceeds the requirements of our clients, as well as legal and regulatory obligations
- maintaining a Quality Management System to meet or exceed the requirements of the ISO 9001:2015 Standard
- continually reviewing and improving the effectiveness of our management system
- the Business Management Systems team periodically reviewing the performance of the management system and quality objectives
- develop and sustain a culture that continuously strives to succeed in providing quality products and services
- ensuring the Quality Policy is communicated and available to our workers, and reviewed by the management team for continuing suitability
- maintaining a profitable operation to establish our competitive position in the market and reward our stakeholders
- promoting the Quality Management System by ensuring effective implementation and training is provided. Review of the effectiveness is achieved by undertaking internal auditing, management review, corrective and preventative actions.

It is the responsibility of every worker within BMD to:

- understand and apply the required statutory obligations, business policies, procedures and associated documentation as described in the Business Management Systems as it applies to their scope of work
- have input into the continued improvement of the Business Management System.

Scott Power
Group Executive Director - Operations

Mick Power, AM
Group Board Chairman and Managing Director

BMD BMD Empower JMAC urbex

CRP-POL-00278
Rev 4 (16/10/2017)

Page 1 of 1

Management Systems Policy

BMD

Management Systems Policy

This policy encompasses all BMD Group subsidiaries including BMD Constructions, BMD Urban, Empower, JMac Constructions and Urbex. For ease of reference, the term 'BMD' is used throughout this policy to reference the BMD Group and its subsidiaries. This policy also applies to projects involving BMD being carried-out under a joint venture arrangement where no other policy of this type exists.

BMD's systems, information and records are a corporate asset, vital for both ongoing operations and in providing valuable evidence of business decisions and activities. The significance and commitment are demonstrated by the implementation of a standardised and integrated Business Management System (BMS). The BMS provides direction, guidance and objectives to ensure business needs, accountability and expectations are satisfied. BMD management and workers are dedicated and strive to:

- ensure compliance with all relevant statutory obligations in every jurisdiction in which BMD operates, that includes however may not be limited to quality, safety, environment, Commonwealth, State and Local Government requirements
- provide or assign the resources necessary to meet requirements
- comply with and exceed client's requirements and expectations (refer to BMD's Quality Policy)
- eliminate work related injuries and illness (refer to BMD's Safety Policy)
- prevent environmental harm (refer to BMD's Environmental and Sustainability Policies)
- comply with other requirements placed on BMD from external sources
- develop and sustain a culture that continuously strives to succeed in providing quality products and services
- establish measurable objectives and targets to ensure continual improvement of our BMS, and the operations it underpins
- promote the BMS by ensuring effective implementation and training is provided. Review of the effectiveness is achieved by undertaking internal auditing, management review, corrective and preventative actions.

A number of BMD operational groups currently hold industry recognised multi-site certifications for the BMS which covers either individually or collectively quality, safety and environment. BMD is committed to a program of extending applicable certifications to other groups to maintain our position and reputation as a leader in our industry.

It is the responsibility of every worker within BMD to:

- understand and apply the required statutory obligations, business policies, procedures and associated documentation as described within the BMS as it applies to their scope of work
- have input into the continual improvement of the BMS.

Scott Power
Group Executive Director – Operations

Mick Power AM
Group Board Chairman and Managing Director

BMD BMD Empower JMAC urbex

CRP-POL-00021
Rev. 5 (14/12/2018)

Page 1 of 1
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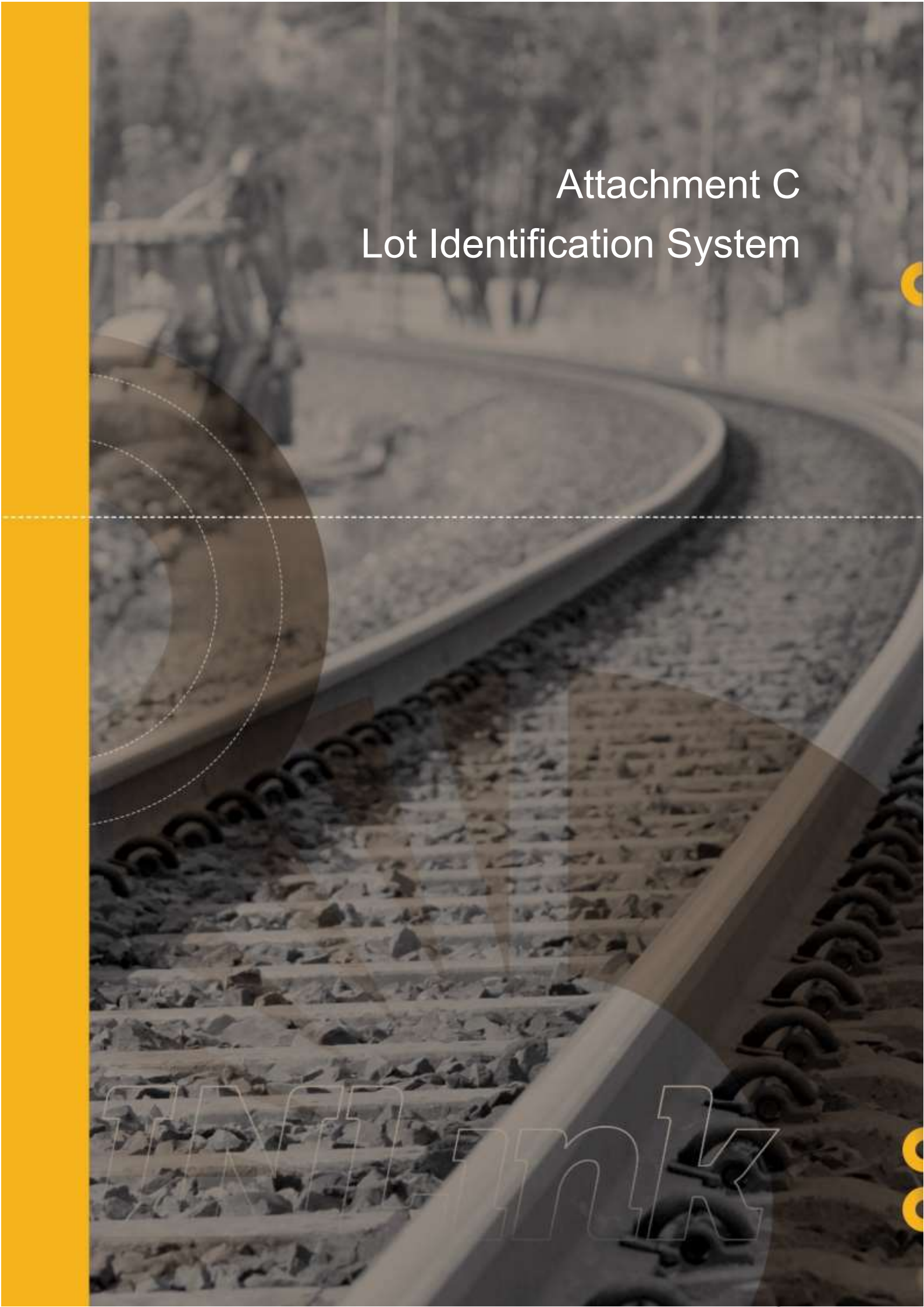


Attachment C
Lot Identification System

Lot Identification Systems

Lots shall have a unique number that will identify the Process, Subprocess and Area. The lot name shall take the following form:

Process – Subprocess – Area – Unique Number (e.g. CO-CW-S2-0001)

As mentioned in Section 5.1.1, each new Lot will be assigned the next sequential number to identify the elements that make up the Lot.

The below tables specify the names for each part that form the unique Lot number.

Table C1 – Lot Process Name

Lot Process Name	Code
Clearing and Grubbing	CNG
Concrete Works	CNC
Demolition	DMO
Drainage	DNG
Earthworks	EWK
Electrical	ELE
Footpath	FTP
Geotextiles	TXT
Landscaping	LND
Material Supply	MTS
Pavement	PVT
Preliminary Works	PRE
RAIL	RAL
Rail Construction	RAIL
Reticulation – Water	RTW
Road Works	ROW
Services	SER
Signalling	SGN
Site Establishment	SET
Traffic Management	TFM

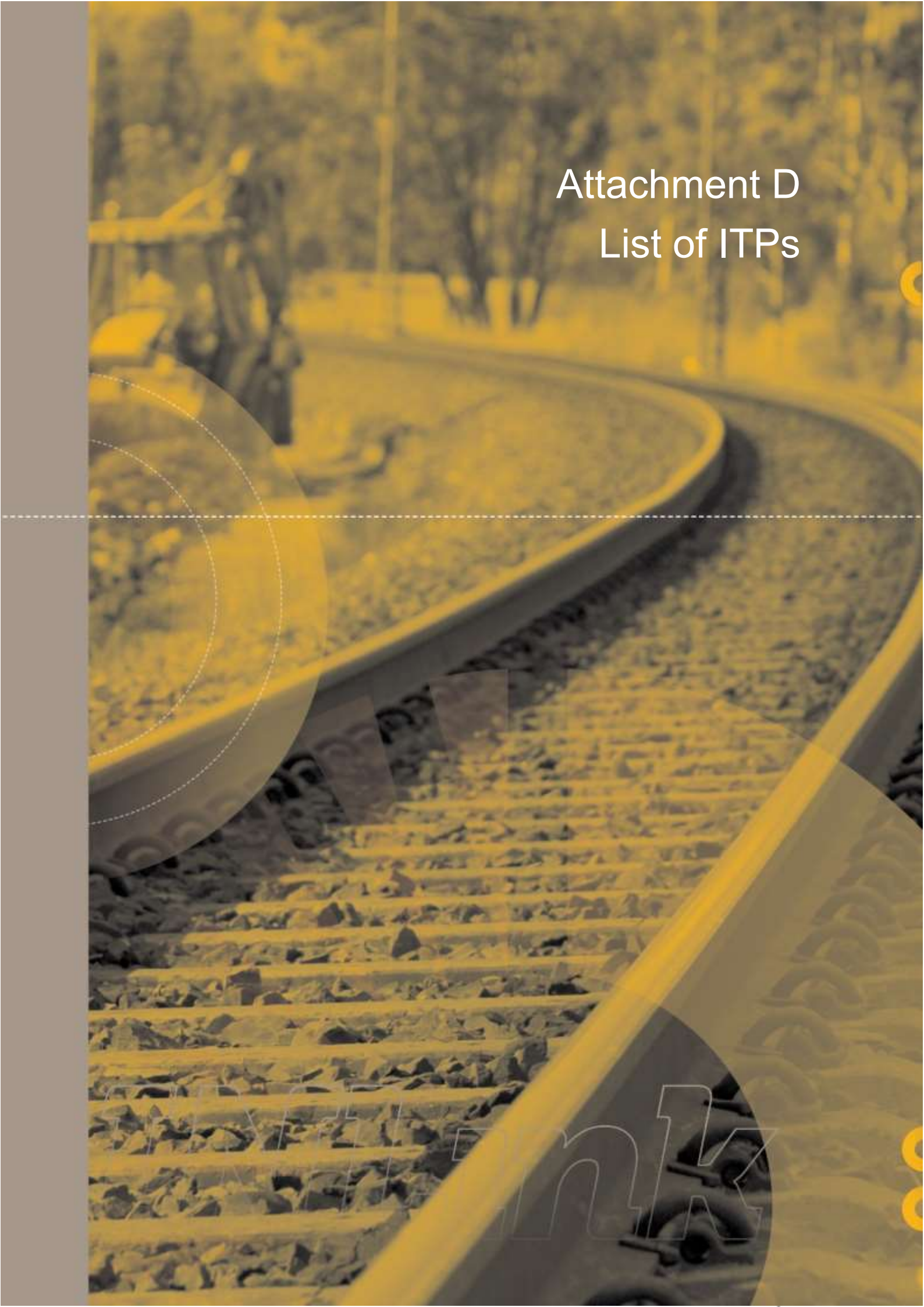
Table C2 – Lot Sub-Process Name

Lot Sub-Process Name	Code
Aluminothermic Welding	ATW
Asphalt	ASP
Backfill	BCK
Ballast	BAL
Base	BAS
Box Culverts	BOC
Capping Layer	CAP
Clearing	CLR
Communications	COM
Concrete	CNC
Concrete Pour	CCP
Conduits and Pits	CIP
Demolition of Drainage Structures	DMO
Demolition of Structures	DMS
Drainage	DNG
Earthworks Stabilising	STB
Electrical	ELE
Embankments	EMB
Erosion and Sediment Control	ESC
Excavation	EXC
Fencing	FEN
Fit Axle Counters	FAC
Flash Butt Welding	FBW
Footings	FOT
Geotechnical	GEO
Ground Surface Treatment	GST
Gullies and Pits	GAP
In Situ Pavement Stabilisation	IPS
Insitu Earthworks Stabilisation	STB
Install Location Huts	HUT
Installation of Precast Signal Base (A Points)	IPS
Kerb and Channel	KAC
Landscaping	LND

Lot Sub-Process Name	Code
Level Crossing Assemblies	LCA
Level Crossing Foundation	LCF
Line Marking	LNM
Mechanical Fit Out of Points	MFO
Mechanical Ground Frames	MGF
Open Drains	OPD
Pavement	PVT
Pavement Marking	PVM
Pits	PIT
Prime	PRI
Quarry Source Material	QSM
Rail	RAL
Rail Construction	RLC
Rail Steel Level Crossing	LVX
Reinforced Concrete Pipes	RCP
Relocation of Existing Services	RES
RMAR Construction	RMAR
Road Furniture	ROF
Road Lighting	RDL
Rock Protection	ROC
Seal	SEA
Select Fill Material	SLM
Selected Material Zone	SMZ
Signage	SGN
Signal Post Installation	SPI
Signalling Equipment	SGE
Sleeper	SLP
Sprayed Bituminous Surfacing and Precoated Aggregate	SBS
Steel Level Crossings	LVX
Stripping Topsoil	ST
Structural Fill	STF
Subbase	SUB
Subsoil Drains	SSD
Survey	SUR

Lot Sub-Process Name	Code
Temporary Points Detection & Solar Loc Post Installation Post Installation (A Points)	TPD
Temporary Works	TMP
Testing	TST
Track Adjusting	TRA
Track Construction	TRC
Track Rail Supply	TRL
Track Removal	TRR
Track Resurfacing	TRS
Track Sleeper Supply	TSS
Track Turnout Supply	TTS
Traffic Management	TFM
Traffic Signals	TFS
Trenching	TRE
Turnout	TRN
Turnout Construction	TOC
Turnout Removal	TOR
Watermain Relocation	WTR

Lot Area / Stage	Code
Stage A1.1 (CH467.829 - CH482.5)	A1.1
Stage A1/2 (CH482.5 - CH501.5)	A1/2
Stage A3.1 (CH501.5 - CH520)	A3.1
Stage A3.2 (CH520 - CH547.55)	A3.2
Stage B1 (CH460.6-CH449.142)	B1
Stage B2 (CH460.6 - 467.829)	B2
North West Link North West Connection (CH-40 – CH5004) North West Connection – Eastern (CH-40 – CH1248)	NWL
Entire Site (Site wide)	ES



Attachment D
List of ITPs

ITP's are site specific and need to be modified according to

List of project ITPs

project specific requirements. A live register listing all the ITP's will be maintained on the Project SharePoint Site as well as being submitted via Aconex to ARTC as required.

The below table is the latest ITP for Parkes to Narromine (P2N) Project. Live ITP register is maintained on SharePoint and submitted regularly as part of Monthly report.

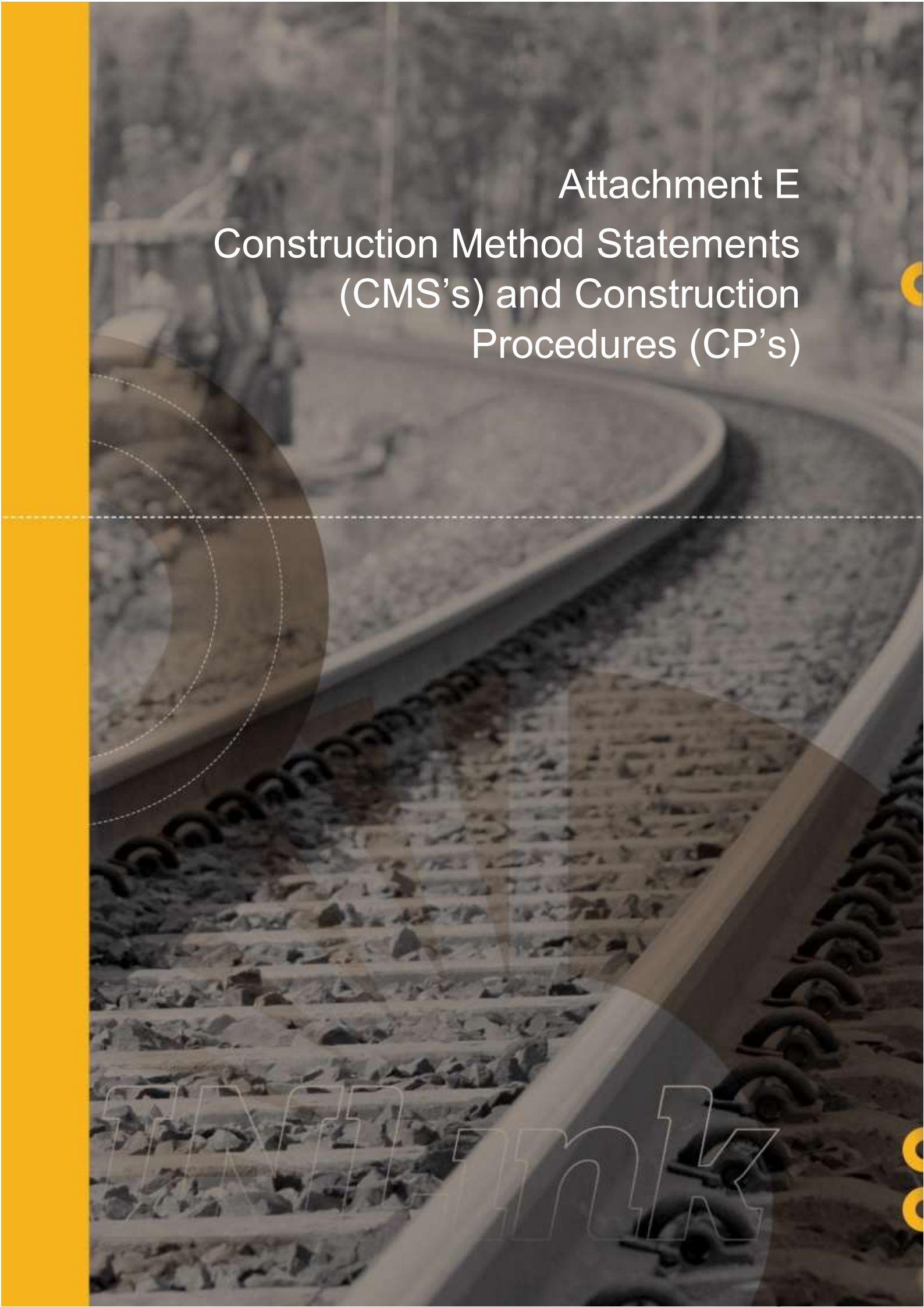
ITP No.	ITP Name	Specs Source	ARTC Document Number
0001	Master Template	ARTC	5-0012-240-PVP-00-TE-0001
0003	Clearing and Grubbing	ARTC	5-0012-240-PVP-00-TE-0003
0004	Topsoil Stripping - Rail	ARTC	5-0012-240-PVP-00-TE-0004
0005	Ground Surface Treatment - Rail	ARTC	5-0012-240-PVP-00-TE-0005
0006	Excavation - Rail	ARTC	5-0012-240-PVP-00-TE-0006
0007	Embankments	ARTC	5-0012-240-PVP-00-TE-0007
0010	Subbase Layer	RMS	5-0012-240-PVP-00-TE-0010
0011	Base Course Layer	RMS	5-0012-240-PVP-00-TE-0011
0013	Reinforced Concrete Pipes	ARTC and RMS	5-0012-240-PVP-00-TE-0013
0014	Box Culverts	ARTC and RMS	5-0012-240-PVP-00-TE-0014
0017	Flash Butt Welding	ARTC	5-0012-240-PVP-00-TE-0017
0018	Aluminothermic Welding	ARTC	5-0012-240-PVP-00-TE-0018
0019	Concrete Works	RMS	5-0012-240-PVP-00-TE-0019
0020	Insitu Earthworks Stabilisation - Rail	ARTC	5-0012-240-PVP-00-TE-0020
0021	Insitu Formation Stabilisation (Capping)	ARTC	5-0012-240-PVP-00-TE-0021
0022	Sprayed Bituminous Surfacing and Precoated Aggregate	RMS	5-0012-240-PVP-00-TE-0022
0023	Insitu Formation Stabilisation (SF & Capping)	ARTC	5-0012-240-PVP-00-TE-0023
0024	Pavement Marking	RMS	5-0012-240-PVP-00-TE-0024
0025	Landscaping Works	RMS	5-0012-240-PVP-00-TE-0025

ITP No.	ITP Name	Specs Source	ARTC Document Number
0026	Watermain Relocation	RMS	5-0012-240-PVP-00-TE-0026
0027	Conduits and Pits	RMS	5-0012-240-PVP-00-TE-0027
0028	Situ Stabilisation of Pavement Layers Road	ARTC	5-0012-240-PVP-00-TE-0028
0029	Temporary Points Detection & Solar Loc Post Installation Post Installation (A Points)	ARTC	5-0012-240-PVP-00-TE-0029
0030	Road Lighting	RMS	5-0012-240-PVP-00-TE-0030
0031	Installation of Steel Level Crossings	RMS	5-0012-240-PVP-00-TE-0031
0032	Installation of Precast Signal Base (A Points)	ARTC	5-0012-240-PVP-00-TE-0032
0034	Demolition of Structures	RMS	5-0012-240-PVP-00-TE-0034
0035	Fencing	RMS	5-0012-240-PVP-00-TE-0035
0036	Structural Fill – Rail	ARTC	5-0012-240-PVP-00-TE-0036
0037	Capping Layer _ Rail	ARTC	5-0012-240-PVP-00-TE-0037
0038	Open Drains	ARTC and RMS	5-0012-240-PVP-00-TE-0038
0039	Select Fill Material Zone Layer	RMS	5-0012-240-PVP-00-TE-0039
0042	Signposts	RMS	5-0012-240-PVP-00-TE-0042
0043	Safety Barriers	RMS	5-0012-240-PVP-00-TE-0043
0044A	ARTC Supplied Material – Culvert	ARTC and RMS	5-0012-240-PVP-00-TE-0044A
0044B	ARTC Supplied Material – Sleeper	ARTC	5-0012-240-PVP-00-TE-0044B
0044C	ARTC Supplied Material – Turnout	ARTC	5-0012-240-PVP-00-TE-0044C
0044D	ARTC Supplied Material – Rail	ARTC	5-0012-240-PVP-00-TE-0044D
0044E	ARTC Supplied Material – Signalling Equipment	ARTC	5-0012-240-PVP-00-TE-0044E
0045	Ballast Blend	ARTC	5-0012-240-PVP-00-TE-0045
0047	Imported Material – Quarry Source Material	ARTC and RMS	5-0012-240-PVP-00-TE-0047
0048	Push Button Box & Post Installation	ARTC	5-0012-240-PVP-00-TE-0048
0050	Demolition of Drainage Structures	ARTC and RMS	5-0012-240-PVP-00-TE-0050
0051	Rock Protection	ARTC	5-0012-240-PVP-00-TE-0051

ITP No.	ITP Name	Specs Source	ARTC Document Number
0052	Install Location Huts	ARTC	5-0012-240-PVP-00-TE-0052
0053	Level Crossing Foundations	ARTC	5-0012-240-PVP-00-TE-0053
0054	Level Crossing Assemblies	ARTC	5-0012-240-PVP-00-TE-0054
0055	Mechanical Fit Out of Points	ARTC	5-0012-240-PVP-00-TE-0055
0056	Install Cables	ARTC	5-0012-240-PVP-00-TE-0056
0057	Signal Post Installation	ARTC	5-0012-240-PVP-00-TE-0057
0058	Fit Axle Counters	ARTC	5-0012-240-PVP-00-TE-0058
0059	Track Removal	ARTC	5-0012-240-PVP-00-TE-0059
0060	Turnout Removal	ARTC	5-0012-240-PVP-00-TE-0060
0061	Track Construction	ARTC	5-0012-240-PVP-00-TE-0061
0062	Turnout Construction	ARTC	5-0012-240-PVP-00-TE-0062
0063	Track Adjusting	ARTC	5-0012-240-PVP-00-TE-0063
0064	Topsoil Stripping - Road	RMS	5-0012-240-PVP-00-TE-0064
0065	Cuttings - Road	RMS	5-0012-240-PVP-00-TE-0065
0066	Embankments - Road	RMS	5-0012-240-PVP-00-TE-0066
0067	Foundation Treatment - Road	RMS	5-0012-240-PVP-00-TE-0067
0068	Resurfacing	ARTC	5-0012-240-PVP-00-TE-0068

Attachment E

Construction Method Statements (CMS's) and Construction Procedures (CP's)



(CMS's) and Construction Procedures (CP's)

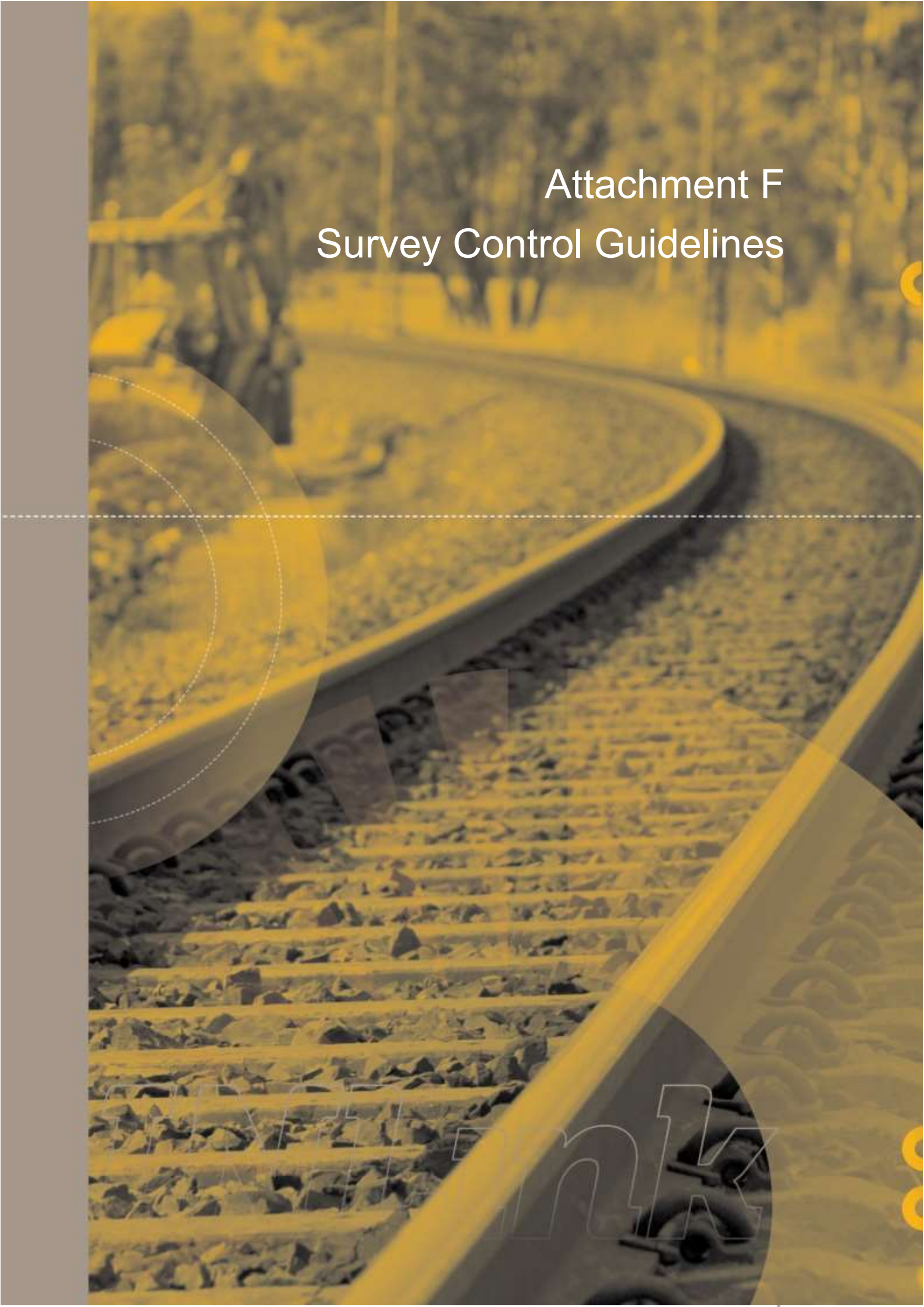
The Construction Method Statements (CMS's) and Construction Procedures (CP's) are site specific procedures & methodologies that will need to be modified according to project specific requirements. A live register listing all the CMS's and CP's is maintained on the Project SharePoint Site as well as being submitted via Aconex to ARTC as required. All CMS's and CP's will be submitted to the ARTC Project Manager in accordance with the Construction Quality Requirements for Service Providers (Document No. 0-0000-900-PVP-00-SP-0001 (Revision 0 – Dated 05/04/2018).

The below tables show the CMS/CP Register which are developed for the delivery of the Inland Rail – Parkes to Narromine (P2N) Project. Latest register available on SharePoint.

Table E1 – CMS / CP Register

CP No.	CP Name	ARTC Document Number
00	Master Template	5-0012-240-PEN-00-PR-0001
01	Removal and Installation of RCBC	5-0012-240-SCU-00-PR-0001
02	Removal of Site Redundant Materials	5-0012-240-PEN-00-PR-0002
03	Level Crossing Removal and Protection	5-0012-240-CXR-00-PR-0001
04	Removal and Installation of RCP	5-0012-240-SCU-00-PR-0002
05	Installation of Signalling Equipment	5-0012-240-RSG-00-PR-0001
06	Testing and Commissioning of Signalling Equipment	5-0012-240-RSG-00-PR-0002
07	Identification and Relocation of Utilities	5-0012-240-PUP-00-PR-0001
08	Level Crossing Transition	5-0012-240-CXR-00-PR-0002
09	Installation of Road Furniture	5-0012-240-DRF-00-PR-0001
10	Compound Setup	5-0012-240-PEN-00-PR-0003
11	Road ~~Earthworks~~ Construction	5-0012-240-DCW-00-PR-0001
12	Clearing and Grubbing	5-0012-240-CCW-00-PR-0001

CP No.	CP Name	ARTC Document Number
14	Rail Earthworks	5-0012-240-CCW-00-PR-0002
15	Trackside Signage Removal/Replacement	5-0012-240-CFU-00-PR-0001
17	Access Road Maintenance	5-0012-240-DCW-00-PR-0002
18	Resurfacing	5-0012-240-DCW-00-PR-0003
19	Top Ballast Installation	5-0012-240-CTR-00-PR-0001
20	Sleeper and Rail Installation	5-0012-240-CTR-00-PR-0002
21	Track Removal	5-0012-240-CDE-00-PR-0001
22	Turnout Construction	5-0012-240-CTR-00-PR-0003
23	Turnout Installation	5-0012-240-CTR-00-PR-0004
24	Track Monument Installation	5-0012-240-CTR-00-PR-0005
25	Bottom Ballast Installation	5-0012-240-CTR-00-PR-0006
26	Free Welding Rail using Mobile Flash Butt Welder	5-0012-240-CTR-00-PR-0007
27	Rail Adjustment	5-0012-240-CTR-00-PR-0008
28	Patching and Repairs of Concrete Structures	5-0001-240-SCU-00-PR-0003
29	Form, Reo, Pour	5-0001-240-SCU-00-PR-0004
30	Concrete Curing	5-0001-240-SCU-00-PR-0005
CMS -00	Master Template	5-0012-240-PEN-00-MS-0001
CMS -01	Level Crossings	5-0012-240-CXR-00-MS-0001
CMS -02	Rail Formation	5-0012-240-CFM-00-MS-0001
CMS -03	Track Structure	5-0012-240-CTR-00-MS-0001
CMS -04	Broken Hill Line Turnout Connections	5-0012-240-CTR-00-MS-0002
CMS -05	Stabilisation Quality Plan and Construction Method Statement	5-0012-240-CCW-00-MS-0001 5-0012-240-CCW-00-PJ-0001



Attachment F
Survey Control Guidelines

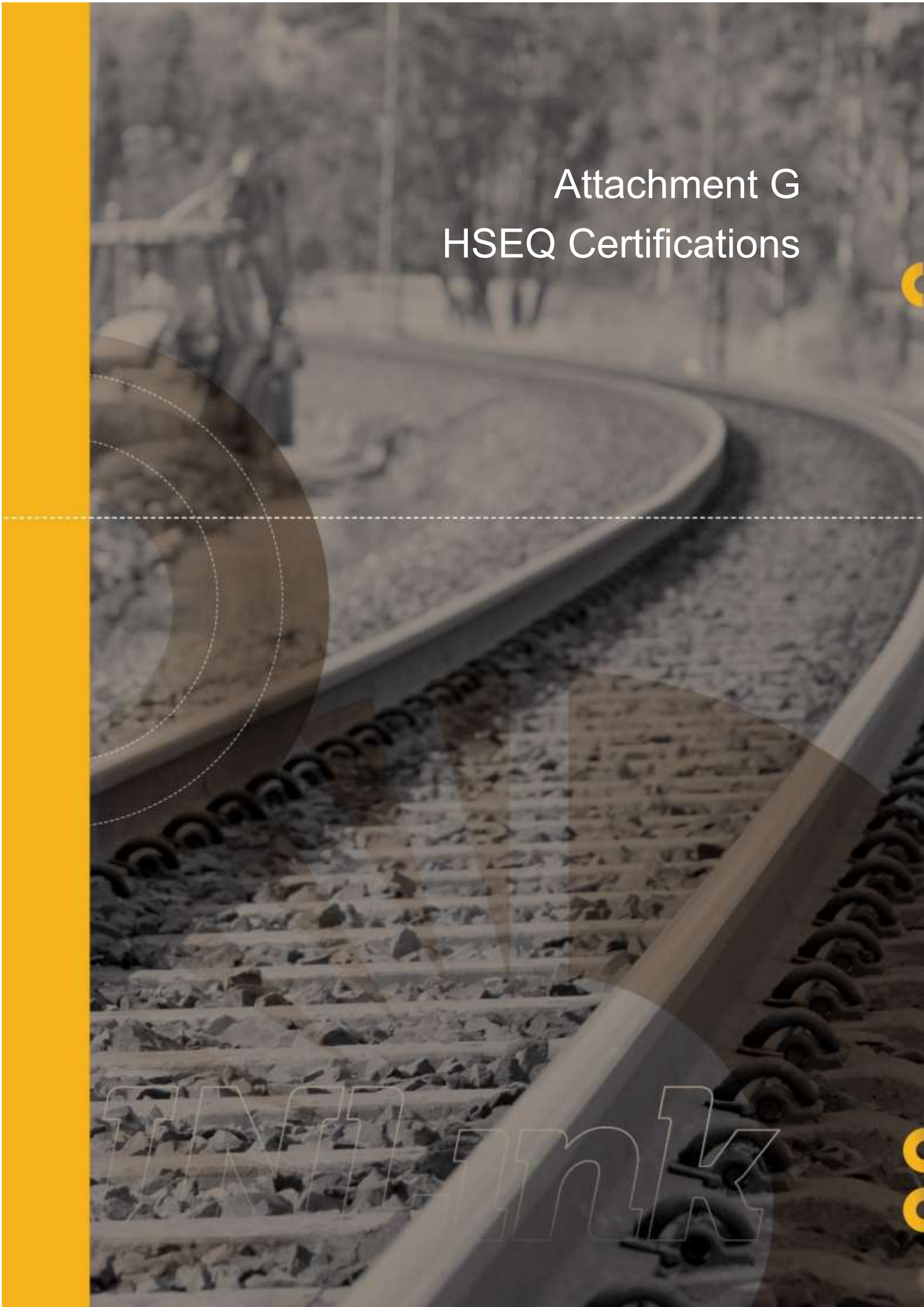
Survey Control Guidelines

All Survey works will be managed in accordance with

Survey management Plan Document No. 5-0012-240-ISV-00-PJ-0001

Trackwork Survey Management Plan No. 5-0012-240-ISV-00-PJ-0003

Attachment G
HSEQ Certifications



AS/NZS ISO 9001:2015 (Quality Management Systems)

Certificate AU97/0921

The management system of

BMD Group Pty Ltd

25 Cambridge Parade, Manly, QLD 4179
Australia

has been assessed and certified as meeting the requirements of

ISO 9001:2015

For the following activities

Provision of Building, Civil, Mechanical, Engineering, Structural, Consulting Services, Project Management, Water & Sewer, Landscaping, Design and Contracting Services.

This certificate is valid from 17 April 2018 until 17 April 2021 and remains valid subject to satisfactory surveillance audits.
Re certification audit due before 17 March 2021
Issue 15. Certified since May 1997

This is a multi-site certification.
Additional site details are listed on the subsequent page.

Authorised by

SSC Systems & Services Certification Australia Pty Ltd
10/585 Blackburn Road, Notting Hill VIC 3168, Australia
t(61-3) 9574 3200 f (61-3) 9574 3399 www.au.sgs.com

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www.jas-anz.org/register

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Certificate AU97/0921, continued

BMD Group Pty Ltd

ISO 9001:2015

Issue 15

Additional facilities

1 Sandpiper Avenue, Port of Brisbane, QLD 4178

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AS/NZS ISO 14001:2015 (Environmental Management Systems)

Certificate AU00/1336

The management system of

BMD Group Pty Ltd

25 Cambridge Parade, Manly, QLD 4179
Australia

has been assessed and certified as meeting the requirements of

ISO 14001:2015

For the following activities

Provision of Building, Civil, Mechanical, Engineering, Structural, Consulting Services, Project Management, Water & Sewer, Landscaping, Design and Contracting Services.

This certificate is valid from 17 April 2018 until 17 April 2021 and remains valid subject to satisfactory surveillance audits.
Re certification audit due before 17 March 2021
Issue 15. Certified since April 2000

This is a multi-site certification.
Additional site details are listed on the subsequent page.

Authorised by

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10/585 Blackburn Road, Notting Hill VIC 3168, Australia
t(61-3) 9574 3200 f(61-3) 9574 3399 www.au.sgs.com

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Certificate AU00/1336, continued

BMD Group Pty Ltd

ISO 14001:2015

Issue 15

Additional facilities

1 Sandpiper Avenue, Port of Brisbane, QLD 4178

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AS/NZS 4801:2001 (Occupational Health and Safety Management Systems)

Certificate AU03/1821

The management system of

BMD Group Pty Ltd

25 Cambridge Parade, Manly, QLD 4179
Australia

has been assessed and certified as meeting the requirements of

AS/NZS 4801:2001

For the following activities

Provision of Building, Civil, Mechanical, Engineering, Structural, Consulting Services, Project Management, Water & Sewer, Landscaping, Design and Contracting Services.

This certificate is valid from 17 April 2018 until 17 April 2021 and remains valid subject to satisfactory surveillance audits.
Re certification audit due before 17 March 2021
Issue 13. Certified since November 2003

This is a multi-site certification.
Additional site details are listed on the subsequent page.

Authorised by

SSC Systems & Services Certification Australia Pty Ltd
10/585 Blackburn Road Notting Hill VIC 3168 Australia
t +61 3 9574 3200 f +61 3 9574 3399 www.au.sgs.com
Page 1 of 2

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Certificate AU03/1821, continued

BMD Group Pty Ltd

AS/NZS 4801:2001

Issue 13

Additional facilities

1 Sandpiper Avenue, Port of Brisbane, QLD 4178

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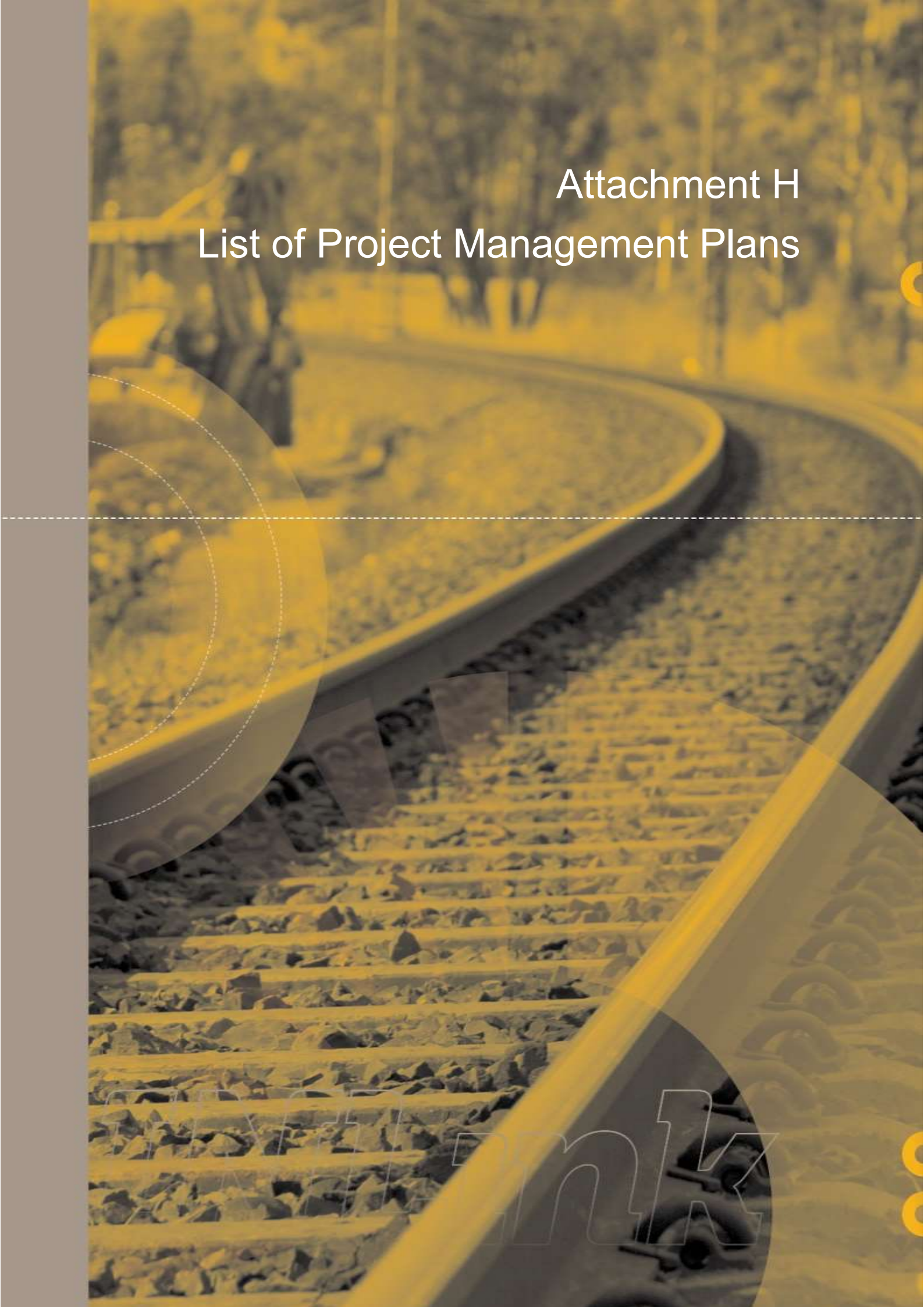


Attachment H
List of Project Management Plans

Document Structure

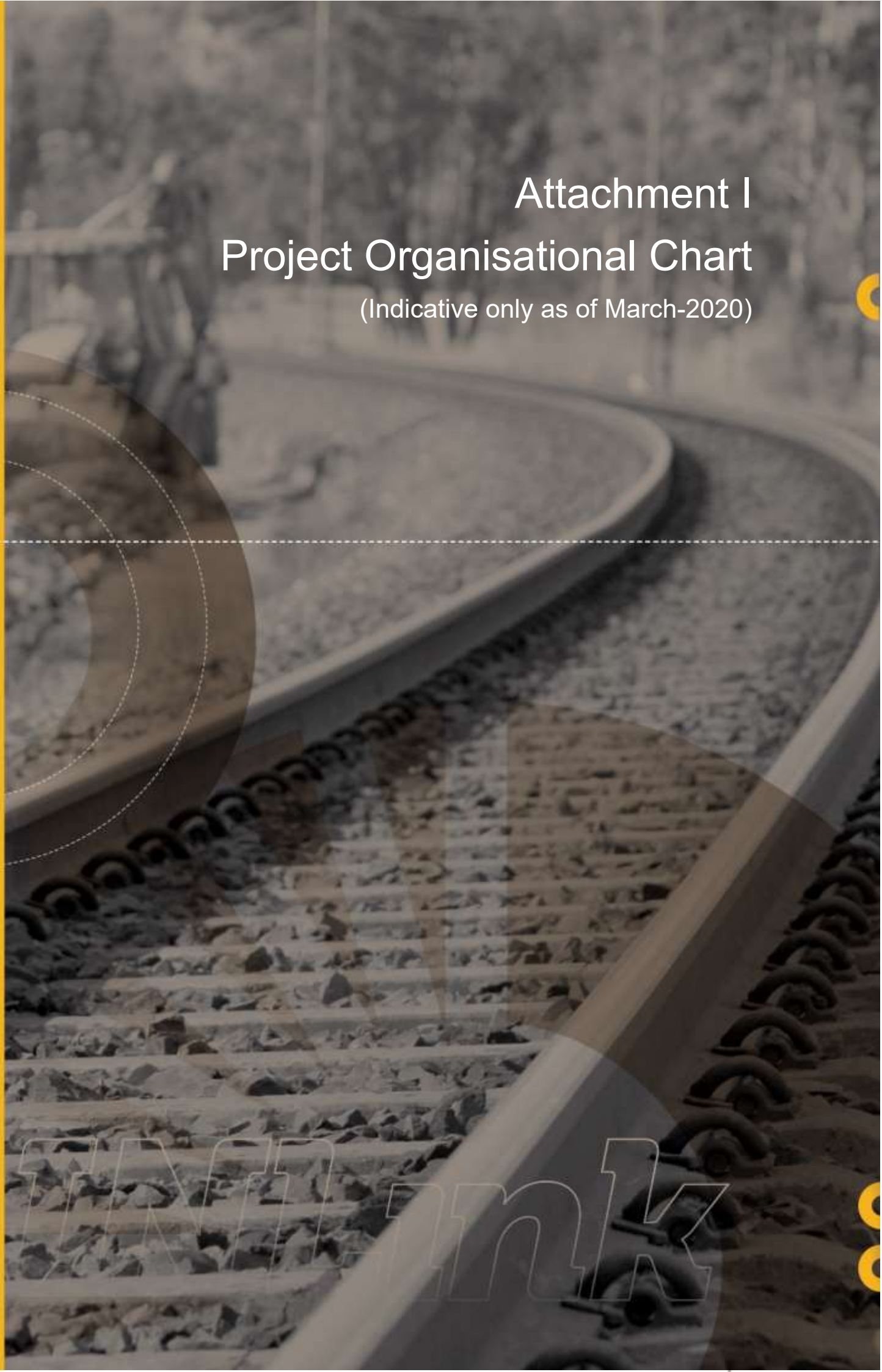
The IPMP is the project management document that links the various associated management system processes together (refer list of management plans below).

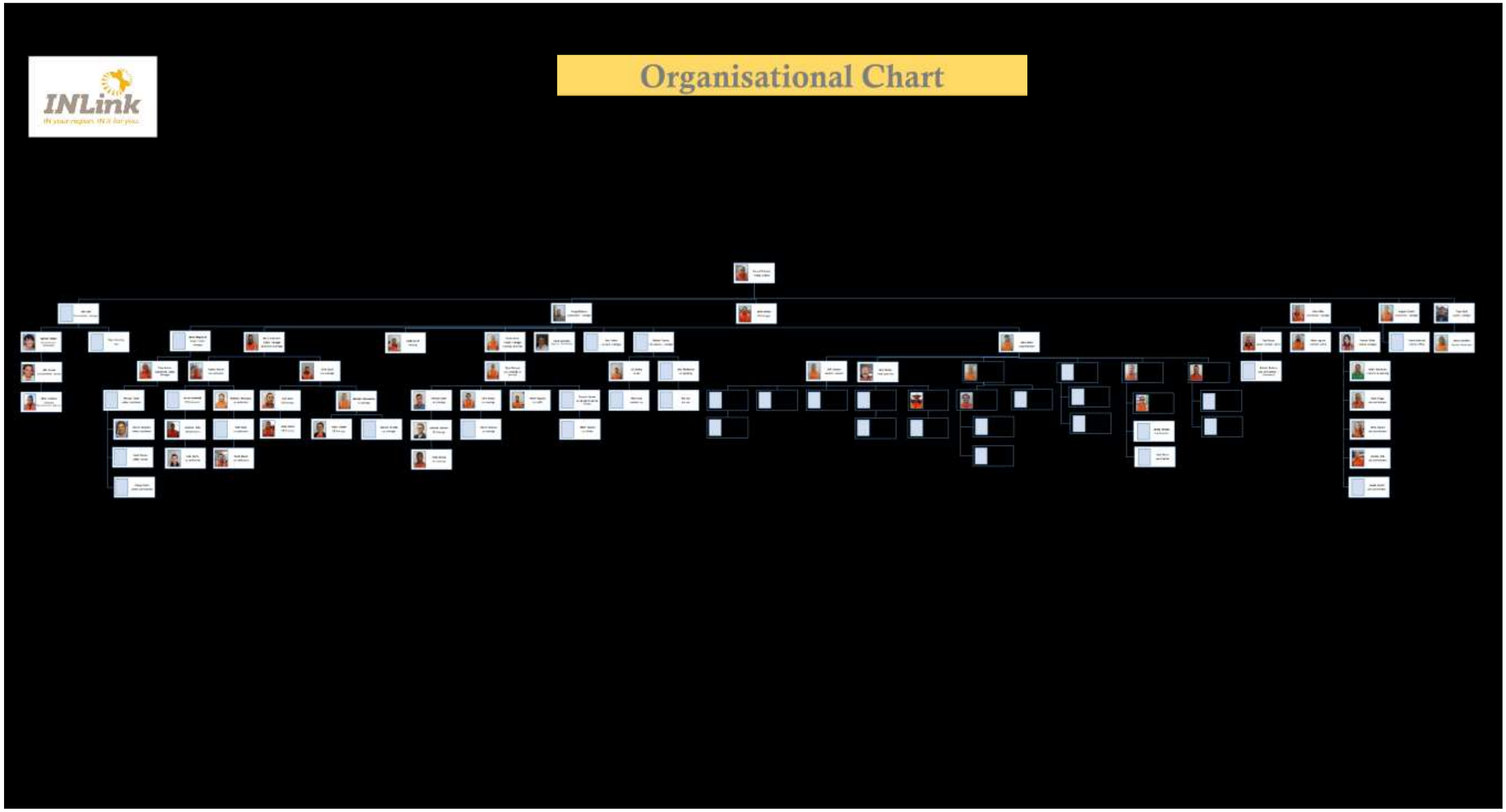
The IPMP and QMP should be read in junction with the following keystone documents:

- Management System Procedures Manual (MSPM)
- Safety Management Plan (SMP)
- Covid 19 Management Plan
- Fatigue Management Plan (FMP)
- Chain of Responsibility Management Plan
- Emergency Response Plan
- Construction Environmental Management Plan (CEMP) and its Sub-Plans
    - Air Quality Management Plan (AQMP)
    - Erosion and Sediment Control Plan (ESCP)
    - Flood Emergency Management Plan (FEMP)
    - Flora and Fauna Management Plan (FFMP)
    - Hazardous and Contaminated Materials Management Plan (HCMMP)
    - Heritage Management Plan (HMP)
    - Landscape and Visual Amenity Management Plan (LVAP)
    - Noise and Vibration Management Plan (NVMP)
    - Out of Hours Work Protocol
    - Pest and Weed Management Plan (PWMP)
    - Pollution Incident Response Management Plan (PIRMP)
    - Soil and Water Management Plan (SWMP)
    - Traffic, Transport and Access Management Plan (TTAMP)
    - Waste Management Plan (WMP)
- Quality Management Plan (QMP)
- Temporary Works Management Plan (TWMP)
- Workplace Relations Management Plan (WRMP)
- Code of Behaviour
- Communication and Community Engagement Management Plan
- Workplace Relations Management Plan (WRMP)
- Communications and Community Engagement Plan

- Traffic Management Plan
- Social Impact Management Plan (SIMP) and its Sub-Plans
    - Health and Community Wellbeing Management Plan
    - Indigenous Participation Plan
    - Local Industry Participation Plan
    - Workforce Management Plan
- Sustainability Management Plan
- Utility Management Plan (UMP) and its Sub-Plans
    - Utility Identification and Protection Plan (UIP)
    - APA Gas Management Plan
- Site Establishment Management Plan (SEMP)
- Survey Management Plan (SVMP)
- Completion and Handover Management Plan (CHMP)
- Trackwork Survey Management Plan
- Trackwork Remedial Plan

Attachment I
Project Organisational Chart
(Indicative only as of March-2020)

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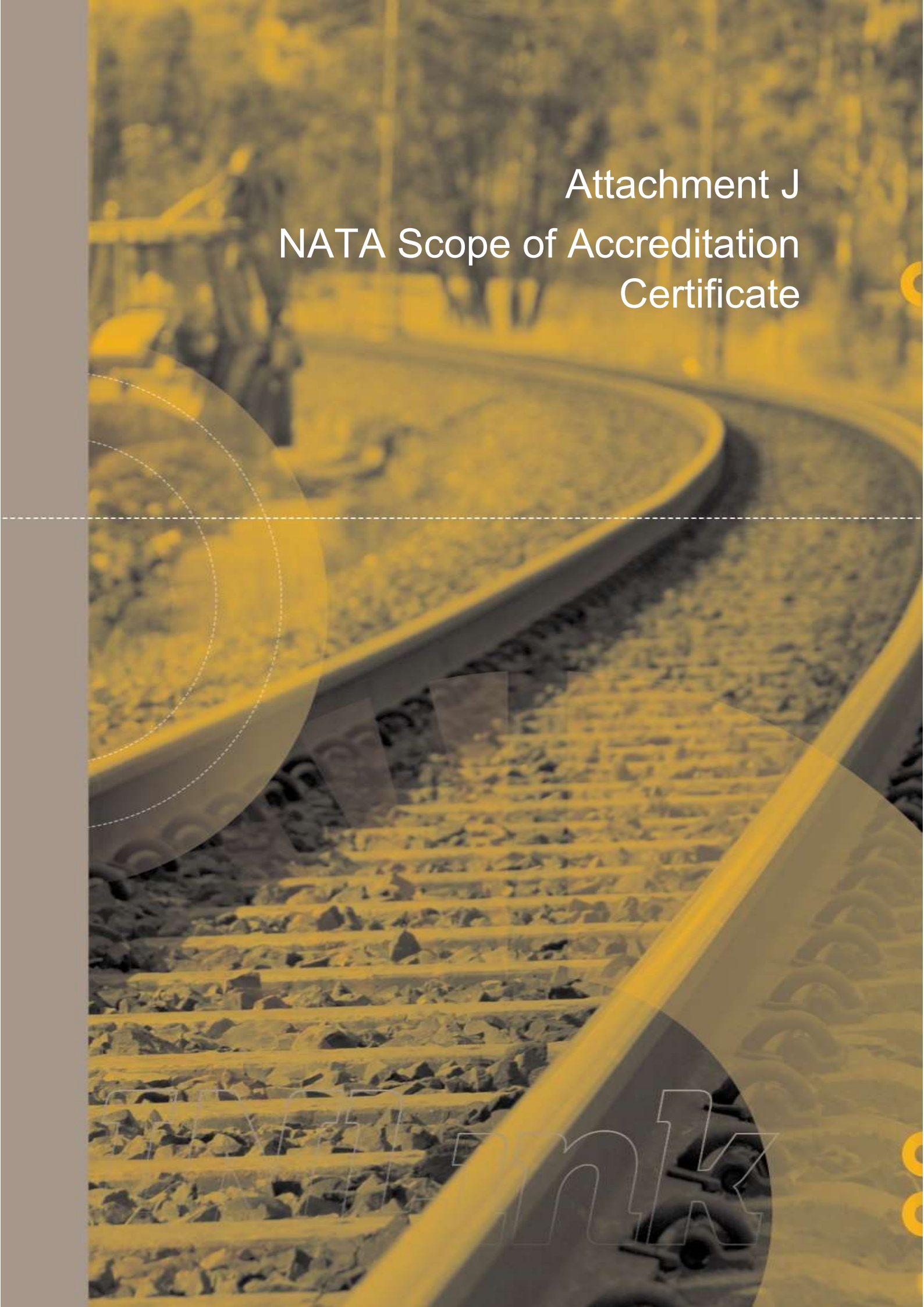
Organisational Chart



Attachment J
NATA Scope of Accreditation Certificate

NATA

NATA ACCREDITED LABORATORY

National Association of Testing Authorities, Australia
(ABN 59 004 379 748)

has accredited

Macquarie Geotechnical Pty Ltd
Sydney Laboratory

following demonstration of its technical competence to operate in accordance with

ISO/IEC 17025

This facility is accredited for the tests shown on the *Scope of Accreditation* issued by NATA

Jennifer Evans
Chief Executive Officer

Date of issue: 07 August 2018
Date of accreditation:23 July 2015
Accreditation number: 14874
Corporate Site Number: 22365

NATA is Australia's government-endorsed accreditor of laboratories, and a leader in accreditation internationally. NATA is a signatory to the international mutual recognition arrangements of the International Laboratory Accreditation Cooperation (ILAC) and the Asia Pacific Laboratory Accreditation Cooperation (APLAC).
APS-1-0 / Issue 4 / December 2017

Accreditation – Sydney lab

https://www.nata.com.au/entity_scope/?AccNo=14874&q1=h99&str=&&BEName=macquarie%20geotech

NATA

NATA ACCREDITED LABORATORY

National Association of Testing Authorities, Australia

(ABN 59 004 379 748)

has accredited

Macquarie Geotechnical Pty Ltd
Dubbo Laboratory

following demonstration of its technical competence to operate in accordance with

ISO/IEC 17025

This facility is accredited for the tests shown on the *Scope of Accreditation* issued by NATA

Jennifer Evans
Chief Executive Officer

Date of issue: 04 September 2018
Date of accreditation:27 April 2006
Accreditation number: 14874
Corporate Site Number: 16059

NATA is Australia's government-endorsed accreditor of laboratories, and a leader in accreditation internationally. NATA is a signatory to the international mutual recognition arrangements of the International Laboratory Accreditation Cooperation (ILAC) and the Asia Pacific Laboratory Accreditation Cooperation (APLAC).
APS-1-5 / Issue 4 / December 2017

NATA Scope of Accreditation – Dubbo lab

https://www.nata.com.au/entity_scope/?AccNo=14874&q1=ce3&str=&&BEName=macquarie%20Geotechnical&state=NSW

NATA

NATA ACCREDITED LABORATORY

National Association of Testing Authorities, Australia

(ABN 59 004 379 748)

has accredited

Macquarie Geotechnical Pty Ltd
Bathurst Laboratory

following demonstration of its technical competence to operate in accordance with

ISO/IEC 17025

This facility is accredited for the tests shown on the *Scope of Accreditation* issued by NATA

Jennifer Evans
Chief Executive Officer

Date of issue: 08 February 2019
Date of accreditation:6 August 2002
Accreditation number: 14874
Corporate Site Number: 15016

NATA is Australia's government-endorsed accreditor of laboratories, and a leader in accreditation internationally. NATA is a signatory to the international mutual recognition arrangements of the International Laboratory Accreditation Cooperation (ILAC) and the Asia Pacific Laboratory Accreditation Cooperation (APLAC).
AP6-1-9 / Issue 4 / December 2017

NATA Scope of Accreditation – Bathurst lab

https://www.nata.com.au/entity_scope/?AccNo=14874&q1=bl4&str=&&BEName=macquarie%20Geotechnical&state=NSW

NATA

NATA ACCREDITED LABORATORY

National Association of Testing Authorities, Australia

(ABN 59 004 379 748)

has accredited

Macquarie Geotechnical Pty Ltd
Parkes Laboratory

following demonstration of its technical competence to operate in accordance with

ISO/IEC 17025

This facility is accredited for the tests shown on the *Scope of Accreditation* issued by NATA

Jennifer Evans
Chief Executive Officer

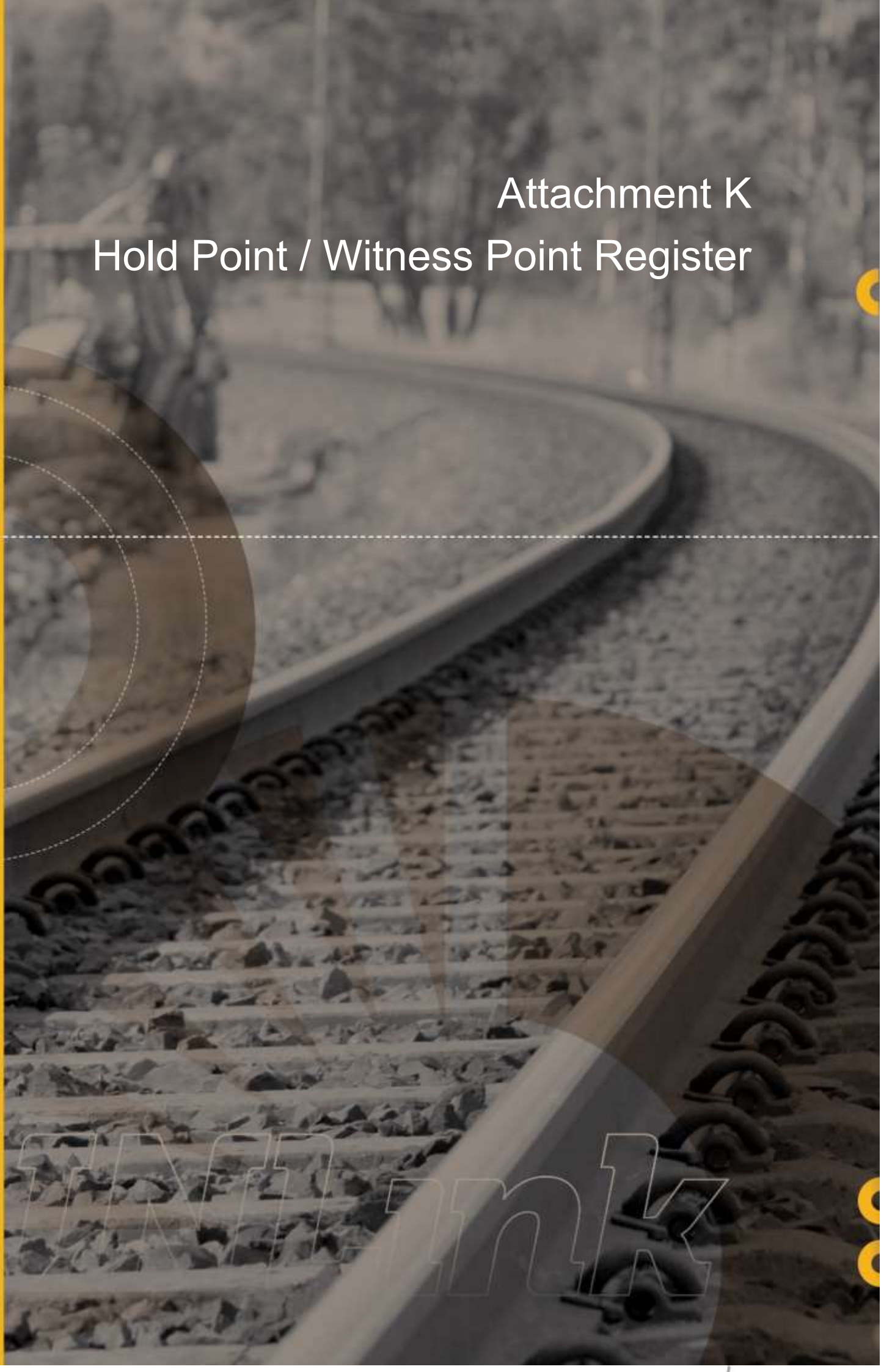
Date of issue: 17 January 2019
Date of accreditation:10 July 2017
Accreditation number: 14874
Corporate Site Number: 23345

NATA is Australia's government-endorsed accreditor of laboratories, and a leader in accreditation internationally. NATA is a signatory to the international mutual recognition arrangements of the International Laboratory Accreditation Cooperation (ILAC) and the Asia Pacific Laboratory Accreditation Cooperation (APLAC).
APS-1-9 / Issue 4 / December 2017

NATA Scope of Accreditation – Parkes lab

https://www.nata.com.au/entity_scope/?AccNo=14874&q1=i0h&str=&&BEName=macquarie%20Geotechnical&state=NSW

Attachment K
Hold Point / Witness Point Register



NB: Refer Aconex Document 5-0012-240-PVP-00-RG-0002 for the Hold Point / Witness Point Register.

For reference only. All Hold Points and Witness Points are included in Inspection & Test Plans

Job Name:	Inland Rail - Parkes to Narromine (P2N)
Job No:	808-J013
Updated Date:	29/05/2019
Notes:	All information in Grey represents Hold Points identified in the ITP's. All information in white represents Hold Points not identified in the ITP's.

Spec Details		Nominated Authority Release Prior to Works Commencing			Nominated Authority Release during Works		
Spec Name	**Spec No**	**Hold Point Description**	**Witness Point Description**	**Submission Details**	**Hold Point Description**	**Witness Point Description**	**Submission Details**
Clearing and Grubbing **5-0012-240-PVP-00-TE-0003** **J013_HSEQ_QDS_ITP_03**	Inlink internal process 3-0001-240-PEN-00-SP-0002 Cl 8.2	Define Lot		Maximum lot size is 6,000m2. Unless shown otherwise on the Drawings, the area to be cleared for the formation is that which will be occupied by the completed formation plus a clearance of 4m beyond tops of cuts and toes of embankments where the natural fall of the ground is towards the roadway and 2m beyond the tops of cuts and toes of embankments where the natural fall of the ground either slopes away from the roadway or is level. Approved plans signed by the Superintendent and Contractor showing extent of clearing and grubbing; and all the necessary approvals and consents (including environmental approvals).			
	3-0001-240-PEN-00-SP-0002 Cl 8	Written Notification of Intention to Clear		A clearing and grubbing plan, a report which lists any trees outside the limits of clearing which are unsound and likely to fall upon the roadway or onto private property and a written notice detailing the limits of clearing must be submitted to prior to the commencement of any clearing. A flagging protocol for all no-go areas, must be submitted to ARTC at least 7 days prior to the commencement of any clearing and grubbing work.			
	3-0001-240-PEN-00-SP-0002 Cl 8	Preclearance Checklist		A preclearance checklist must be completed by appropriately qualified personnel and will include: (a) identification of species and location of any weeds; (b) identifies all locations of threatened flora species and trees which have been marked for preservation; and (c) identification of all habitat and fauna including fauna relocations; and (d) lists and trees outside the limits of clearing which are unsound and likely to fall upon the rail or			
	3-0001-240-PEN-00-SP-0002 Cl 8				Post Clearance Notification		Following completion of each component of works involving vegetation clearing, a survey of the extent of vegetation cleared in relation to the approved extentrelevant property boundary and the designated road reserve, must be undertaken, and a spatial record made available to administering authorities on request. Notification that survey set out has been carried out, erosion and sedimentation controls have been implemented, and all works (including removal of cleared materials) have been completed.
Topsoil Stripping - Rail **5-0012-240-PVP-00-TE-0004** **J013_HSEQ_QD**	ETC-08-04 Cl 6.21				Embankment Foundation		If the area is to be a foundation for embankment - After preparation the Contractor is to present the area for inspection by the Superintendent prior to constructing embankment foundation treatments. Submission Details: a. Survey report; b. Notification of completion of clearing operations; c. Notification that topsoil has been removed in accordance with Section 5.8 (unless treatment Type E4, Type E5 or Type E6 are specified)
Ground Surface Treatment - Rail **5-0012-240-PVP-00-TE-0005** **J013_HSEQ_QDS_ITP_05**	ETC-08-04 Cl 6.2				Floor of Embankments		Contractor to prepare the embankment foundation for inspection by the Superintendent.
	ETC-08-04 Cl 5.9.1, 5.10				Unsuitable Material		The Contractor is to prove that the material is Unsuitable Material as per the Earthworks Material Specification. The Superintendent may direct removal or treatment of Unsuitable Material in accordance with Sections 5.9 and 5.10 respectively.
	ETC-08-04 Cl 5.9.1 HP [3]				Completion of Unsuitable Works		Superintendent to inspect surface after works. Contractor to supply survey or agreed volumes approved by the Superintendent for management of the Unsuitable Material.
	3-0001-240-CFM-00-DR-0101 ETC-08-04 Cl 13.5 HP [21]				Proof Roll		The Contractor shall complete proof rolling immediately following the excavation or placement and compaction of materials to be tested. Proof rolling shall be undertaken on a path parallel to the track centreline and along the full width and length of each Lot. Non-conformance of a prof roll is nominated as natural or compacted placed material that, in the opinion of the Superintendent, exhibits visible deformation, rutting, yielding, or shows signs of distress or instability. IF NO SOFT SPOTS ARE IDENTIFIED NO FURTHER SUBGRADE TREATMENTS ARE REQUIRED, THE CONTRACTOR CAN PROCEED TO SECTION 3, POST
	3-0001-240-CFM-00-DR-0101 ETC-08-04 Cl 13.5				Determination of Treatment		Conduct geotechnical testing to determine subgrade strength. The Contractor to submit the following to the Superintendent - Survey Report - Notification of completed clearing operations, including topsoil stripping - Notification that subgrade level has been achieved - Formation type - Any relevant test records Proof rolling may be directed by the Superintendent in accordance with Section 13.5 of ETC-08-04. The Superintendent and Contractor to follow the Flowchart for treatment types and
	ETC-08-04 Cl 5.10.3	Pre Excavation Checklist		A pre-excavation checklist must be completed by appropriately qualified personnel and will include: (a) identification of identification of contaminated materials (b) any environmental conditions			
	3-0001-240-CFM-00-DR-0101 , 001 & 002				Determine Levels		Determine minimum excavation levels using Subgrade Testing Diagram – Formation Selection. Refer to CRM- 00- DR-0001 and 0002 as guidance for indicative formation type

Spec Name	Spec No	Hold Point Description	Witness Point Description	Submission Details	Hold Point Description	Witness Point Description	Submission Details
Excavation - Rail 5-0012-240-PVP-00-TE-0006 J013_HSEQ_QDS_ITP_06	ETC-08-04 Cl 5.9.1 Cl 7 Cl 7.1 Cl 13				Excavation - Earthworks after Unsuitable Material is identified.		Existing ground level to be excavated to Examine (top of subgrade). All material encountered in the subgrade will be excavated and placed in embankments or if deemed unsuitable removed as spoil and treated in accordance with Section 5.9 of ETC-08-04. Identification and classification of Unsuitable Material, proposed actions to record the volumes, manage stockpiling, spoiling or treatment of the Unsuitable Material. The Superintendent will inspect the surfaces and the encountered materials, and may direct further action prior to authorising the release of the Hold Point. Material encountered in the subgrade will be remediated as per Section 13 of ETC-08-
	ETC-08-04 Cl 7.2 Cl 7.2.1				Non-Rippable Material		The Superintendent should witness the ripping test prior to the excavation of non-rippable material. All excavations in non-rippable material will be done in accordance with the drawings.
	ETC-08-04 Cl 7.4				Cuttings in Rock		Submit to the Superintendent all relevant survey reports and a plan for reuse of excavated material prior to excavation.
	ETC-08-04 Cl 7.4				Cuttings in Rock below top of cutting and below bench level		The Superintendent or Geotechnical Engineer will inspect the cleaned surfaces and may direct further action prior to Works continuing The Superintendent will consider the submitted documents, prior to authorising the release of the Hold Point
	3-0001-240-CFM-00-DR-0101				Procedure to Choose Subgrade		Conduct DCPs to determine strength at top of excavated level. (ie bottom of ash or 700mm below base of sleeper) The Superintendent to determine the subgrade treatment and formation type based on geotechnical testing.
Embankments 5-0012-240-PVP-00-TE-0007 J013_HSEQ_QDS_ITP_07	For Rock fill: ETC-08-03 Cl 4.7, Table 9 3-0001-240-PEN-00-SP-0007 Section 2 For General fill, Structural Fill 3-0001-240-PEN-00-SP-0004_0 Section 2, Fig. 2.1, 2.2 and 2.4	Material Conformance		Embankment shall be constructed from materials won during excavation and materials imported to site. These materials will require prior approval from the Superintendent prior to its incorporation into the embankment layer. Materials are to meet the requirements outlined in 3-0001-240-PEN-00-SP-0004_0 P2N Work Specification Section2, Figure 2.1, 2.2 and 2.4 for General Fill materials and design specific formation and shoulder geometry requirements, 3-0001-240-PEN-00-SP-0007_0 Earthwork Specification and ETC-08-03 Cl 4.7 table 9 for Rock Fill of the Earthworks Material Specification. Full-time surveillance of the works shall be provided in accordance with the requirements of level 1 earthworks supervision by a Geotechnical Independent Testing Authority as defined in AS2798-2007.			
	ETC-08-04 Cl 8.3 Cl 13				Rock Filled Embankments		Constituent particles must be of uniform strength and soundness. Material deemed not suitable for rockfill should be broken down into finer particles.
	ETC-08-04 Cl 13.3.3 HP [20]				Acceptance of trial section of rock fill		Verification, including test results, of conformity of each trial section including details of the proposed compaction procedure, any test results and survey reports. The Superintendent will consider the submitted documents, prior to authorising the release of the Hold Point.
	ETC-08-04 11.2.4					Placement of geotextile (if required)	Notification of the geotextile type, location, date and time of placement. The area on which the geotextile is to be placed shall be prepared by clearing and grading unless specified otherwise on the Drawings. Geotextiles shall be covered by relevant construction materials or suitable protective sheeting within 48 hours of being placed. Joints in geotextiles shall be as recommended by the manufacturer. Where geotextiles are used to line subsoil drainage trenches, the textiles shall fully envelop the drainage material in the trench and be folded over that material with a minimum 300 mm overlap at the top of the trench.
	ETC-08-04 Cl 13.5				Proof Roll		The material shall provide a stable, dense surface which displays no visible vertical movement under the construction equipment nominated below -Static smooth wheeled roller with mass greater than 12t -Highway truck with rear axle(s) loaded to greater than 8t each and tyre pressure of 600kPa At least 1 working day prior to the proof rolling, notify the ARTC and provide verification by all relevant testing certificates that the subject layer or surface conforms in all respects except proof rolling. ARTC will consider the submitted documents and visual observations made during the proof roll prior to authorising release of the Hold Point.
	Inlink Internal Process				Layer acceptance		Layer shall not be covered by a subsequent layer or by surfacing until all testing has been completed and the layer has been presented to the Superintendent for
Subbase Layer 5-0012-240-PVP-00-TE-0010 J013_HSEQ_QDS_ITP_10	RMS 3051 Cl 5.2.6 RMS 71 Cl 2.2	Certified Stockpiles		Submit details of the stockpile, statement of conformity and documentation specified in RMS 3051 regarding conformity. 5-0012-240-PVP-00-TE-0047 – Imported Material Quarry Source			
	RMS R71 Cl 7.2				Underlying Surface Level		Submit to principal a schedule of levels of the underlying surface to the Superintendent at least 7 days prior to commencement of work.
	RMS R71 Cl 6.3					Approval to Construct Trial Pavement	Notify the Superintendent at least 3 days prior to the placing of the pavement.

Spec Name	Spec No	Hold Point Description	Witness Point Description	Submission Details	Hold Point Description	Witness Point Description	Submission Details
	RMS R71 Cl 6.3				Construct Trial Pavement		Construct a trial section to the specified levels on drawing 3-0001-240-DPV-00-DR-0101. Submit the test results and conformity of material reports of the trial section to the
	RMS R71				Covering of Each Lot		Submit to the Superintendent the verification of conformity of each lot of material placed, with the accompany test results.
Base Layer 5-0012-240-PVP-00-TE-0011 J013_HSEQ_QDS_ITP_11	RMS R71 Cl 2.2 RMS 3051	Delivery of Materials from a certified stockpile to Site		Submission Details: Submit details of the stockpile, your statement of conformity and documentation specified in RMS 3051 regarding conformity. Release of Hold Point: The Principal will consider the submitted documents prior to authorising the release of the Hold Point. -Attach NATA endorsed test results to the statement. Refer to 5-0012-240-PVP-00-TE-0047 – Imported Material Quarry Source			
	RMS R71 Cl 7.2				Underlying Surface Level		Submit to principal a schedule of levels of the underlying surface to the Superintendent at least 7 days prior to commencement of work. Submission Details: Schedule of levels of the underlying surface. Release of Hold Point: The Principal will consider the submitted documents prior to authorising the release of the Hold Point.
	RMS R71 Cl 6.3					Approval to Construct Trial Pavement	Notify the Superintendent at least 3 days prior to the placing of the pavement. Submission Details: Notification of the construction of the trial section of pavement at least 3 working days prior to commencement.
	RMS R71 Cl 6.3, 3-0001-240-DPV-00-DR-0101				Construct Trial Pavement		Construct a trial section to the specified levels on drawing 3-0001-240-DPV-00-DR-0101. Submission Details: Documentation, including test results, verifying conformity of the trial section of pavement to the requirements of this Specification. Release of Hold Point: The Principal will consider the submitted documents prior to authorising the release of
	RMS R71				Covering of Each Lot		Submit to the Superintendent the verification of conformity of each lot of material placed, with the accompany test results.
Reinforce Concrete Pipes 5-0012-240-PVP-00-TE-0013 J013_HSEQ_QDS_ITP_13	RMS- R11 CL 2.6	Certificate of Conformity		Submit a Certificate of Conformity for any supplied manufactured drainage products to the Superintendent 7 days prior to incorporation into works.			
	RMS- R11 CL 4.3					Notification to Commence Works	Notification to the Superintendent, not later than 24 hours but not earlier than 5 working days, of the anticipated date of completion of excavation and preparation of foundations
	RMS- R11 CL 4.1.1				Setting out		Set out the stormwater drainage systems identifying the locations, lengths and levels at outlets and inlets of pipes; the locations and levels of gully pits, junction boxes, energy dissipaters, and inlet and outlet structures; and the locations and levels of the ends of wingwalls and headwalls; and the locations and levels of open drains Notification that set out of drainage system has been completed, and details of any design changes in locations and levels which are proposed by INLink. The Superintendent will inspect the set out, including any proposed changes and, if necessary, amend the design to suit the actual site conditions prior to authorising the release of the Hold Point.
	RMS- R11 CL 4.3					Excavation for Drainage Structure	The Contractor shall excavate all foundations to levels shown on the Drawings. Notification to the Principal, not later than 24 hours but not earlier than 5 working days, of the anticipated date of completion of excavation and preparation of foundations.
	RMS- R11 CL 4.3.3				Replacement of inadequate foundation material(if required)		Notification that inadequate foundation material has been excavated to the extent directed. The Superintendent will inspect the excavation and may direct further excavation prior
	RMS- R11 CL4.7.2					Foundation for "Other Drainage Structure"	Install the precast pit on top of a minimum 50mm thick DGB20 bedding material, complying with specification RMS3051, or controlled low strength flowable fill material complying with Appendix A in AS 3725, to support the precast pit uniformly. Notify the Superintendent at least 7 days prior to the date of commencement of the
	RMS- R11 CL 4.10 RMS- G2 CL22 Cl23				Construction Traffic(If required)		Completed drainage structures not to be trafficked until Superintendent has received verification of protective measures and 75% 28-day characteristic strength prior to trafficking over culvert structures. Where propose to move heavy construction plant and vehicles over pipe or box culvert structures, design and provide protective measures for each crossing in accordance with Specification RMS G2.
	RMS R11 CL 2.4.1 RMS R11 Cl 2.6 BMD&FHJV-RFI-000195	Certificate of Conformity		Submission of certified product drawings and details of methods for manufacture, testing and installation, prior to the supply of precast concrete structures Compliance to Superintendent 1 day prior to delivery. Release of Hold Point: The Principal will consider the documents and may audit the Quality Records prior to authorising the release of the Hold Point.			
	RMS- R11 CL 4.1.1				Setting-out		Set out the stormwater drainage systems identifying: (a) the locations, lengths and levels at outlets and inlets of pipes and box culvert structures; (b) the locations and levels of gully pits, junction boxes, energy dissipators, and inlet and outlet structures; (c) the locations and levels of the ends of wingwalls and headwalls Submission Details: Notification that set out of drainage system has been completed, and details of any design changes in locations and levels which are proposed by you. Release of Hold Point: The Principal will inspect the set out, including any proposed

Spec Name	Spec No	Hold Point Description	Witness Point Description	Submission Details	Hold Point Description	Witness Point Description	Submission Details
Box Culvert 5-0012-240-PVP-00-TE-0014 J013_HSEQ_QDS_ITP_14	ETC-08-04 Cl 5.9 , Cl 7, Cl 7.1, HP [3] RMS R11 Cl 4.3.2				Excavation		All material encountered in the subgrade will be excavated and placed in embankments or if deemed unsuitable removed as spoil and treated in accordance with Section 5.0 of ETC-08-04. Notify the Superintendent so that they can inspect the removed unsuitable material and the excavation. Extend the excavation so that all points of the walls of the structure are min 300mm clear of the face of the excavation. Submission Details: Identification and classification of Unsuitable Material, proposed actions to record the volumes, manage stockpiling, spoiling or treatment of the Unsuitable Material. Release of Hold Point: The Superintendent will inspect the surfaces and the
	RMS- R11 CL 4.3					Excavation for drainage structures and other drainage structures (if required)	Notify Superintendent within 24 hours but not earlier than 5 days of anticipated date of completion of excavation and preparation of foundations.
	3-0001-240-CFM-00-DR-0101 ETC-08-04 CL6.3, 13.5 HP [21] General Notes Sheet 4 Drawing. No. 3-0001-240-PEN-00-DR-0104 Cl 4 – Culvert Foundation Testing and acceptance				Proof Roll treated subgrade		Submission: After reaching the cutting Subgrade Level, At least 1 working day prior to the proof rolling, notify the Superintendent and provide verification by all relevant testing certificates that the subject layer or surface conforms in all respects except proof rolling. Proof roll details. Release of Hold Point: The Superintendent will consider the submitted documents and visual observations made during the proof roll prior to authorising release of the Hold Point If results from item 2.5 are compliant, Proof roll subgrade use compaction plant that has a pneumatic-tyred static roller not less than 22.5 tonnes per tyre and a 100KPa type pressure or similar compaction plant as approved by the Superintendent.
	3-0001-240-PEN-00-DR-0104 ETC-08-04 Cl 6.2.1, Cl 6.2.3, 6.3.1, Cl 6.3.3, 13.5 HP [21] (if required)				Treatment of Subgrade – If Required For Proof Roll of reworked area (if Required)		If subgrade springs or exceeds proof roll limits, excavate and remove soft spot and replace with structural fill compacted in layers as per the earthworks and construction specification ETC-08-04 (treatment type C2 and E2). Re-proof roll replaced area. Submission: After reaching the cutting Subgrade Level, At least 1 working day prior to the proof rolling, notify the Superintendent and provide verification by all relevant testing certificates that the subject layer or surface conforms in all respects except proof rolling. Proof roll details. Release of Hold Point: The Superintendent will consider the submitted documents and
	RMS- R11 Cl 4.10 RMS- G2 Cl 23				Construction Traffic		Moving heavy construction plant or vehicles over pipe or box culvert structures. Submission Details: Certificate and verification of protective measures. Release of Hold Point: The Principal may examine the submitted documents, prior to authorising the release of the Hold Point.
	3-0001-240-SCU-00-DR-0102				Ballast Mat Installation		Place 10mm thick PROJEX ballast matting or approved equivalent (ballast only culverts) and/or BIA44 geotextile, or approved equivalent, under capping where capping required as per IFC drawings. Refer RFI No. 0086 - Texcel 1209RP and Tensar TX190L in place of the specified ballast matting as per Drawing 3-0001-240-SCU-00-DR-0102.
	ETC-08-04 Cl 9.2 HP [11]				Covering of Structural Fill of Culvert and Transition Zones		Submission Details: Verification of conformity of each Lot of structural fill placed, with relevant test and survey reports. Release of Hold Point: The Superintendent will consider the submitted documents, prior to authorising the release of the Hold Point
Gullies and Pits 5-0012-240-PVP-00-TE-0015 J013_HSEQ_QDS_ITP_15	RMS- R11 CL 2.6, CL 2.4.3 CL 2.4.4, CL 2.4.5 Annexure R11/D	Certificate of Conformity		Submit a Certificate of Conformity of all drainage material to the Superintendent 7 days prior to incorporation into works. Certificate of conformity precast concrete units comply with the requirements of RMS-11. Precast Concrete Pits: Standard precast pit base units with thinned wall sections on all four sides are not acceptable.			
	RMS- R11 CL 4.7.2	Notification to Commence Works		Notify Superintendent 7 days prior to construction.			
	RMS- R11 RMS- R53 RMS 3051 Cl 4.7.2					Construction of Drainage Structures Other Than Pipes and Box Culverts	Install precast pit on top of a minimum 50mm thick DGB20 bedding material. Provide an unreinforced concrete base for drainage structures that differ from precast drainage pits that are no less than 50mm thick.
	RMS – B80 CL 3.8 General Notes 3-0001-240-SCU-00-DR-0103	Nominated Mix Design		At least 5 days prior to use, submit to the Superintendent the details of each concrete mix stating the nominated mix and its constituents. Concrete to be in accordance with RMS QA Bridgeworks specification B080 Concrete work for Bridges. Concrete to be used in each element of the works shall be as follows: Mass/ blinding concreteN20/20 In-situ ConcreteS40/20			
	RMS – B80 CL 5.2.4 RMS – B80 CL 7.3	Form and Falsework		Does not apply to Category A formwork. For Category B formwork – Placement of reinforcement. For Category C formwork – Erection of formwork. For Categories B and C, formwork documentation and Engineer's design certification in accordance with Clause 5.2. The Principal will consider the submitted documents prior to authorising the release of the Hold Point. Where the Principal has concerns about the adequacy of the formwork documentation or certification, the Principal may order an independent verification of the formwork design at INLink expense before			
	RMS – B80 CL 3.8	Nominated Curing Compound		5 days prior to use, submit to the Superintendent the details of any curing compounds proposed for use. A Certificate of Conformity from the supplier must be provided. All tests verifying conformity must have been completed within 3 years.			

Spec Name	Spec No	Hold Point Description	Witness Point Description	Submission Details	Hold Point Description	Witness Point Description	Submission Details
Box Culvert 5-0012-240-PVP-00-TE-0014 J013_HSEQ_QDS_ITP_14	ETC-08-04 Cl 5.9 , Cl 7, Cl 7.1, HP [3] RMS R11 Cl 4.3.2				Excavation		All material encountered in the subgrade will be excavated and placed in embankments or if deemed unsuitable removed as spoil and treated in accordance with Section 5.9 of ETC-08-04. Notify the Superintendent so that they can inspect the removed unsuitable material and the excavation. Extend the excavation so that all points of the walls of the structure are min 300mm clear of the face of the excavation. Submission Details: Identification and classification of Unsuitable Material, proposed actions to record the volumes, manage stockpiling, spoiling or treatment of the Unsuitable Material. Release of Hold Point: The Superintendent will inspect the surfaces and the
	RMS- R11 CL 4.3					Excavation for drainage structures and other drainage structures (if required)	Notify Superintendent within 24 hours but not earlier than 5 days of anticipated date of completion of excavation and preparation of foundations.
	3-0001-240-CFM-00-DR-0101 ETC-08-04 CL6.3, 13.5 HP [21] General Notes Sheet 4 Drawing. No. 3-0001-240-PEN-00-DR-0104 Cl 4 – Culvert Foundation Testing and acceptance				Proof Roll treated subgrade		Submission: After reaching the cutting Subgrade Level, At least 1 working day prior to the proof rolling, notify the Superintendent and provide verification by all relevant testing certificates that the subject layer or surface conforms in all respects except proof rolling. Proof roll details. Release of Hold Point: The Superintendent will consider the submitted documents and visual observations made during the proof roll prior to authorising release of the Hold Point If results from item 2.5 are compliant, Proof roll subgrade use compaction plant that has a pneumatic-tyred static roller not less than 22.5 tonnes per tyre and a 100KPa type pressure or similar compaction plant as approved by the Superintendent.
	3-0001-240-PEN-00-DR-0104 ETC-08-04 Cl 6.2.1, Cl 6.2.3, 6.3.1, Cl 6.3.3, 13.5 HP [21] (if required)				Treatment of Subgrade – If Required For Proof Roll of reworked area (if Required)		If subgrade springs or exceeds proof roll limits, excavate and remove soft spot and replace with structural fill compacted in layers as per the earthworks and construction specification ETC-08-04 (treatment type C2 and E2). Re-proof roll replaced area. Submission: After reaching the cutting Subgrade Level, At least 1 working day prior to the proof rolling, notify the Superintendent and provide verification by all relevant testing certificates that the subject layer or surface conforms in all respects except proof rolling. Proof roll details. Release of Hold Point: The Superintendent will consider the submitted documents and
	RMS- R11 Cl 4.10 RMS- G2 Cl 23				Construction Traffic		Moving heavy construction plant or vehicles over pipe or box culvert structures. Submission Details: Certificate and verification of protective measures. Release of Hold Point: The Principal may examine the submitted documents, prior to authorising the release of the Hold Point.
	3-0001-240-SCU-00-DR-0102				Ballast Mat Installation		Place 10mm thick PROJEX ballast matting or approved equivalent (ballast only culverts) and/or BIA44 geotextile, or approved equivalent, under capping where capping required as per IFC drawings. Refer RFI No. 0086 - Texcel 1209RP and Tensar TX190L in place of the specified ballast matting as per Drawing 3-0001-240-SCU-00-DR-0102.
	ETC-08-04 Cl 9.2 HP [11]				Covering of Structural Fill of Culvert and Transition Zones		Submission Details: Verification of conformity of each Lot of structural fill placed, with relevant test and survey reports. Release of Hold Point: The Superintendent will consider the submitted documents, prior to authorising the release of the Hold Point
Gullies and Pits 5-0012-240-PVP-00-TE-0015 J013_HSEQ_QDS_ITP_15	RMS- R11 CL 2.6, CL 2.4.3 CL 2.4.4, CL 2.4.5 Annexure R11/D	Certificate of Conformity		Submit a Certificate of Conformity of all drainage material to the Superintendent 7 days prior to incorporation into works. Certificate of conformity precast concrete units comply with the requirements of RMS-11. Precast Concrete Pits: Standard precast pit base units with thinned wall sections on all four sides are not acceptable.			
	RMS- R11 CL 4.7.2	Notification to Commence Works		Notify Superintendent 7 days prior to construction.			
	RMS- R11 RMS- R53 RMS 3051 CL 4.7.3					Construction of Drainage Structures Other Than Pipes and Box Culverts	Install precast pit on top of a minimum 50mm thick DGB20 bedding material. Provide an unreinforced concrete base for drainage structures that differ from precast drainage pits that are no less than 50mm thick.
	RMS – B80 CL 3.8 General Notes 3-0001-240-SCU-00-DR-0103	Nominated Mix Design		At least 5 days prior to use, submit to the Superintendent the details of each concrete mix stating the nominated mix and its constituents. Concrete to be in accordance with RMS QA Bridgeworks specification B080 Concrete work for Bridges. Concrete to be used in each element of the works shall be as follows: Mass/ blinding concreteN20/20 In-situ ConcreteS40/20			
	RMS – B80 CL 5.2.4 RMS – B80 CL 7.3	Form and Falsework		Does not apply to Category A formwork. For Category B formwork – Placement of reinforcement. For Category C formwork – Erection of formwork. For Categories B and C, formwork documentation and Engineer's design certification in accordance with Clause 5.2. The Principal will consider the submitted documents prior to authorising the release of the Hold Point. Where the Principal has concerns about the adequacy of the formwork documentation or certification, the Principal may order an independent verification of the formwork design at INLink expense before			
	RMS – B80 CL 3.8	Nominated Curing Compound		5 days prior to use, submit to the Superintendent the details of any curing compounds proposed for use. A Certificate of Conformity from the supplier must be provided. All tests verifying conformity must have been completed within 3 years.			

Spec Name	Spec No	Hold Point Description	Witness Point Description	Submission Details	Hold Point Description	Witness Point Description	Submission Details
Concrete Works 5-0012-240-PVP-00-TE-0019 J013_HSEQ_QDS_ITP_19	RMS – B80 CL 7.3	Embedded items		Embedded items in concrete (e.g. HD bolts, block outs, earth lugs) shall be of the type specified in the drawings and be fit for the intended purpose.			
	RMS B80 CL 6.7.3				Prefabricated Reinforcement Cages		Secure reinforcement in place by tying or tack welding. Note the design location of lifting and transport support points for prefabricated reinforcement cages on the cage during fabrication and show the lifting requirements on a durable drawing attached to the cage, all prior to lifting. At least two working days' notice of intention to transport cages to the Works. Prior to the proposed transport date, submit to the Principal a Certificate of Conformity in respect of load bearing weld sizes and locations, and conformity of finished welds, [illegible]
	RMS B80 CL 7.3 Concrete Pour Checklist				Final Formwork and Reinforcement Approval		At least two working days prior to each intention to place concrete in the Works, submit to the Principal a pour specific method statement detailing: (i) delivery rate; (ii) placement method and rate; and (iii) equipment on standby. At least 4 working hours prior to the proposed commencement of placing concrete (unless otherwise permitted by the Principal), submit to the Principal a Certificate of Conformity, endorsed by the Concrete Supervisor, in respect of formwork, reinforcement, embedments and screeding guide rails or height pins. This certificate must be accompanied by verification checklists and other details showing conformity to this Specification. The Principal will consider the submitted documents and may carry out further surveillance and audit, prior to authorising the release of the Hold Point. No concrete shall be placed in position until the positioning and fastening of the reinforcement, forms and supports or the foundation, has been completed. Submit to the principal a certificate of conformity, attached concrete pour checklist, at least 4 hours prior to the proposed commencement of placing concrete. The certificate is to be endorsed by the concrete supervisor in respect of formwork, reinforcement and embedment's. Before the placing of any concrete, all debris of any description shall be removed from
Insitu Earthworks Stabilisation - Rail 5-0012-240-PVP-00-TE-0020 J013_HSEQ_QDS_ITP_20	Inlink Stabilisation Quality Plan-5-0012-240-CCW-00-MS-0001 Cl 4.3 ETC-08-04 Cl 10.3 HP [15]	Trial Section		A trial section will be undertaken and completed with the, equipment and methods as stated in the Inlink Stabilisation Quality Plan a) Provision of a stabilised material test results which demonstrate compliance with design criteria and specification requirements. b) The Contractor's Project Specific Specification for stabilised materials inclusive of the results of the trial. The Superintendent will consider the submitted documents, prior to authorising the release of the Hold Point.			
	ETC-08-03 Cl 4.12 ETC-08-04 Cl 10.1 HP [14] Inlink Stabilisation Quality Plan -5-0012-240-CCW-00-MS-0001 Cl 3.2 AS1141.51 AS5101.4	Stabilised Material Design		Approval of a stabilised material design by submission and approval of Inlink's Project Specific Specification for stabilised material, including results and details of laboratory testing, stabilisation method, stabilisation trial section, stabilisation quality control and stabilisation quality assurance details. -Lime demand testing, -UCS testing (accelerated curing), -Atterberg Limit testing, -CBR testing In addition to CBR strength requirements, Unconfined Compressive Strength (AS1141.51 or AS5101.4) shall be <1.5 MPa at minimum 28 days curing and 4 hour soak using standard compactive effort to prevent cracking and preclude bound materials from within the formation. Provision of a stabilised material design by the Designer and Project Specific Specification for stabilised material, including results and details of laboratory testing, stabilisation method, stabilisation trial section, stabilisation quality control and stabilisation quality assurance details. The Superintendent will consider the submitted document, prior to authorising the release of the Hold Point.			
	ETC-08-04 Cl 13.5 HP [21]				Proof Rolling		Proof rolling shall be carried out at the following levels: •Foundation Level in cuttings •Subgrade Level Equipment: a) Static smooth wheeled roller with mass greater than 12 t; or b) Highway truck with rear axle(s) loaded to greater than 8 t each and tyre pressures of 600 kPa. At least 1 working day prior to the proof rolling, notify the Superintendent and provide verification by all relevant testing certificates that the subject layer or surface conforms in all respects except proof rolling. Proof roll details. The Superintendent will consider the submitted documents and visual observations made during the proof roll prior to authorising release of the Hold Point. Signed ITP by the Superintendent. Report indicating the Lot
RMS Insitu Earthworks/Stabilisation 5-0012-240-PVP-00-TE-0021 J013_HSEQ_QDS_ITP_21	RMS R50 Cl 3.1	Mix Design		Where the mix design is nominated by the Superintendent, details of the mix design are to be specified per section of works.			
	RMS R50 Cl 7.0 Cl 7.1				Trial Section		Trial section must be 100m-200m long. Notify principal prior to construction of trial section. Submission to Principal of all relevant documentation for hold point release.
	RMS R50 Layer ITP				Covering of Each Lot		Submit to the Superintendent the verification of conformity of each lot of material placed, with the accompany test results.

Spec Name	Spec No	Hold Point Description	Witness Point Description	Submission Details	Hold Point Description	Witness Point Description	Submission Details
Sprayed Bituminous Surfacing 5-0012-240-PVP-00-TE-0022 J013_HSEQ_QDS_ITP_22	RMS- R106 CL 1.2.4 CL 3.3.3 Annexure R106/D	Sealing operation using the proposed design		Submit documents referred to in Clause 1.2.4 and the proposed bituminous surfacing design together with certification for the nominated materials and design verification documentation at least seven days prior to the commencement of sprayed bituminous surfacing work. The Principal will consider the submitted documents prior to authorising the release of the Hold Point. The statement must include NATA endorsed test results for all specified tests. Attach a copy of your completed verification checklist.			
	RMS- R106 CL 3.4	Spray sealing for each work location		Aggregate Lot details and target application rates. The Principal will consider the submitted documents prior to authorising the release of the Hold Point.			
	RMS- R106 Table 106.5 CL 9					Sweeping and Loose Aggregate Removal	Ensure number of aggregate particles complies with Table 106.5 Carry out light brooming of loose aggregate Erect loose stone and slippery warning signs in 60km/h+ areas. Signs also to be placed in areas where final brooming has not yet been carried out. Final sweeping and loose aggregate measurement prior to opening to traffic. Notification of the time and location prior to commencement
Pavement Marking 5-0012-240-PVP-00-TE-0024 J013_HSEQ_QDS_ITP_24	RMS R141 Cl 3.8				Position, Dimensions, and Tolerances		Set out any pavement markings as per the drawings. The Superintendent may inspect the set out of pavement marking prior to authorising release of the Hold Point. 
	3-0001-240-PEN-00-SP-0009_0 CL12.2 Table 12.2 Cl 6.2.1 AS4419-2018	Topsoil Sampling and Testing Horizon A		A minimum of 2, 1kg topsoil samples are to be taken from each stockpile throughout the project Samples are to be taken from stockpiles throughout the project to represent the soil conditions in each area. Soils are to be reviewed in accordance with the NSW Blue Book and IECA guidelines. Topsoils are to be tested and assessed in accordance with AS4419 and be used to develop the amelioration requirements. Soil Assessment Report including results of soil sampling and testing of Horizon A in accordance with Section 12.3 of 3-0001-240-PEN-00-SP-0009_0 document for Project Specific Documents. ARTC will consider the submitted documents prior to			
	3-0001-240-PEN-00-SP-0009_0 CL12.2 Table 12.2 Cl 6.3.1 AS4419-2018	Subsoil Sampling and Testing Horizon B		A minimum of 10, 1kg subsoil samples are to be taken across the project. Subsoils are to be tested and assessed in accordance with AS4419 and be used to develop the amelioration requirements. Prepare soil assessment reports for each sample including soil sampling and testing results and submit to ARTC. Soil Assessment Report including results of soil sampling and testing of Horizon B in accordance with Section 12.3 of this document for Project Specific Documents. ARTC will consider the submitted documents prior to			
	3-0001-240-PEN-00-SP-0009_0 CL12.2 Table 12.2 Cl 6.2.3		Soil Treatment	Post soil testing, a treatment schedule for both the existing topsoil and subsoil is to be issued to address any non-compliant parameters outlined in the report. Submit this to ARTC for approval. Application rates are not to exceed those stated in Table 12.2. Soil Amelioration, refer to Section 12.3 of this document for Project Specific Documents. At least 2 working days prior, provide notice to ARTC representative of amelioration of Horizon A			
	3-0001-240-PEN-00-SP-0009_0 CL12.2 Table 12.2 RMS 178 CL2.1.3		Imported Topsoil	If imported Topsoil is required, it is to comply with the requirements of RMS R178. At least 7 days before delivery, a statement verifying soil complies with specified requirements as outlined in RMS178 ARTC will consider the submitted documents and may inspect the work prior to the release of the Hold Point			
	3-0001-240-PEN-00-SP-0009_0 CL12.2 Table 12.2 Cl 6.3.2					Ground Preparation	Prior to the ground preparation, area should be free from weed and rubbish. Tying is to take place on slopes shallower than 1:5 to a depth of 150mm. On slopes between 1:5 to 1:2 outside of creek areas are to be roughened to a depth of 50mm parallel to contours. Ground preparation, refer to Section 12.3 of this document for Project Specific Documents. At least 2 working days prior, provide notice to ARTC
	RMS R179 CL 3.4				Advice that the setting out of all planting positions is complete (If required)		Notify the Principal, not less than 2 working days prior to the intended time for commencement of planting operations, that the setting out of all trees, shrubs and ground cover planting positions is complete and available for inspection The Principal may inspect set out for the positions of all trees and shrubs prior to authorising the release of the Hold Point

Spec Name	Spec No	Hold Point Description	Witness Point Description	Submission Details	Hold Point Description	Witness Point Description	Submission Details
Landscaping 5-0012-240-PVP-00-TE-0025 J013_HSEQ_QDS_ITP_25	RMS R179 CL 3.6.2				Advice that planting holes are ready for inspection		Planting and backfilling of planting holes Give at least 2 days notice of the date and time at which planting holes will be ready for inspection The Principal may inspect excavated holes for soil conditioner and fertiliser tablets prior to authorising the release of the Hold Point
	3-0001-240-PEN-00-SP-0009_0 Cl.12.2 Table 12.2 Cl 6.2.4				Placement of topsoil		Topsoil should be evenly spread throughout the site. In batters where slope is < 1:5, soil depth should be 75mm. Where batters are > 1:5 soil depth should be 50mm. On site placement depth check. ARTC will undertake on-site check to determine whether topsoil depths are as per design drawing and specification requirements prior to release of the Hold Point.
	0-9000-000-PEN-SP-0009_0 Cl 12.2, Table 12.2 CL6.5					Topsoil Install – Wetting Agent	Where a soil wetting agent is used it is to meet the following criteria: •Have a life of at least 3 months •Reduce soil wetting repellance and soil surface tension •Allow water to penetrate the soil •Be free from matters toxic to plant growth ARTC are to witness the soil wetting agent's data sheets and all delivery dockets. At least 2 working days prior, provide notice to ARTC representative of intent to place soil wetting agent
	3-0001-240-PEN-00-SP-0009_0 Cl.12.2 Table 12.2 Cl 6.5 RMS 178 CL2.4					Topsoil Install – Fertiliser	If fertiliser is incorporated it must be suitable to both species and location. Placement of fertiliser including witnessing of material safety data sheets and all delivery dockets. At least 2 working days prior, provide notice to ARTC representative of intent to place fertiliser.
	3-0001-240-PEN-00-SP-0009_0 Cl.12.2 Table 12.2 CL 6.7					Topsoil install – Mulch and compost	If mulch or compost is proposed to be used, it shall preferably made on site. If not viable, alternatively imported. •Mulch or compost must not contain any weed seed materials, and if imported it must be from a licensed facility. •Must be free from contaminants, rubbish and deleterious materials. Placement of mulch and compost including witnessing of material safety data sheets and all delivery dockets. At least 2 working days prior, provide notice to ARTC representative of intent to place mulch and compost.
	3-0001-240-PEN-00-SP-0009_0 Cl.12.2 Table 12.2 Cl 6.8					Topsoil install – Herbicides and pesticides	If herbicides and pesticides are proposed to be used, these must be currently registered with Australian pesticides and veterinary authority for intended use and approved. Placement of herbicides and pesticides including witnessing of material safety data sheets and all delivery dockets. At least 2 working days prior, provide notice to ARTC representative of intent to place herbicides and pesticides.
	3-0001-240-PEN-00-SP-0009_0 Cl.12.2 Table 12.2 Cl 6.9 RMS R178 CL3.4.1				Topsoil install – hydro mulch and Binders		If hydro mulch and binders are proposed to be used. Relevant project plans, procedures and designs should identify how used of these products achieve relevant project requirements. Hydro mulch should be installed as followed; •Moisturise topsoil with water and wetting agent soluble. •Achieve uniform application by indirect, depressed spray pattern where each pass applied travelling opposite ways. •First pass shall include 100kg/ha of fibre, binder and fertiliser and 90% of the seed mix. •Second pass should contain 10% of seed mix, slurry water, balance of the fibre required and applied while ground is tacky. •Fibre should be applied to a minimum depth of 4mm and soil must not be visible after the application. •Allow binder to set by not watering at the day of application. Provide notice to ARTC of intent to use hydro mulch and binders, two days before application. Drill seeding shall be installed: •by blending a broadcast mixture of seed, fertiliser and a bulking agent such as dry, sharp sand or sawdust; •by broadcasting the blended mixture on the topsoil; •by lightly working the topsoil surface parallel to the contour by harrowing, raking, tracking or chain dragging, to ensure seeds are covered with topsoil; and by watering, on the day of installation, with a solution of water and wetting agent until the topsoil layer is moist. Watering shall be applied to ensure surface erosion does not occur. Submit application to ARTC for approval of final grades
	3-0001-240-PEN-00-SP-0009_0 Cl.12.2 Table 12.2 Cl 6.10				Seed mix and plant supply		Submit detail of suppliers and any substitutes to the proposed seed mixes listed in the specification for approval. ARTC will consider submitted document prior to the release of the Hold Point. Seed mix design is to reflect that specified in 3-0001-240-PEN-00-SP-0009_0 Cl.12.2 Table 12.2 Section 6.10 unless approved otherwise
	3-0001-240-PEN-00-SP-0009_0 Cl 12.2 Table 12.2 Cl 7.1				Stabilisation material		Submit samples of stabilisation materials to ARTC for approval. Stabilising materials are to be Geofabrics Jute Mash or an approved Equivalent product ARTC will consider the submitted sample prior to

Spec Name	Spec No	Hold Point Description	Witness Point Description	Submission Details	Hold Point Description	Witness Point Description	Submission Details
	3-0001-240-PEN-00-SP-0009_0 Cl.12.2 Table 12.2 Cl 8.2 BMD&FHJV-RFI-000169 0-0000-0000-PEN-SP-0001_Rev.B Cl 8.2 and Cl 10				Maintenance		The maintenance and establishment period shall be a 12 month period time commencing as agreed with ARTC and the contractor. During establishment and maintenance the contractor will be in charge of but not limited to: •Watering; •Fertilising weed control; •Pest and disease control; •Protection of revegetation works; •Evaluation of landscape works; •Repair and or re-installation of treatments; •Slashing; and •Monthly program and inspection reporting. •90% perennial grass coverage at the end of maintenance; •No rills or sheet erosion; •Contain no bare areas > 1m; and •Contain native seed strike. As set out in Clause 8.2 and Clause 10 of the Inland Rail – Landform Construction Specification. ARTC will consider the submitted documents prior to
	3-0001-240-PEN-00-SP-0009_0 Cl.12.2 Table 12.2 Cl 9 0-0000-0000-PEN-SP 0001_Rev.B Cl 10				Completion Criteria		Acceptance of final stabilisation and rehabilitation coverage. As set out in Clause 10 of the of the Inland Rail – Landform Construction Specification. ARTC will consider the submitted documents prior to authorising release of the Hold Point.
Watermain Relocation 5-0012-240-PVP-00-TE-0026 J013_HSEQ_QDS_ITP_26	3-0001-240-PEN-00-SP-0002 Cl 4.3.1 Table 4.1, G7 Cl 3.1	Commencement of excavation for utility adjustment work		At least 10 working days prior, provide notification that all existing utilities have been identified, their locations and the set- out locations of proposed utilities have been marked on the ground, and submit associated plans showing their locations, including potholing and survey results, details of any potential conflicts, and details of any additional utility services adjustment required. ARTC will consider the submission and may inspect the set-out locations of the proposed utilities and/ or request further information prior to authorising the release of the Hold Point.			
	3-0001-240-PEN-00-SP-0002 Cl 4.3.1 Table 4.2 Cl 4.5.3 G7 Cl 3.1	Commencement of utility adjustment work other than Excavation (For utility adjustment work not managed directly by the utility owner)		At least 5 working days prior, if required submit the name of the Contractor carrying out the utility adjustment work and evidence of accreditation, detailed construction work plan indicating when shutdowns and/ or cutovers are scheduled, details of any proposed temporary service connections, and evidence of the utility owner's approval for the adjustments. For Sydney Water asset adjustment works, where required in Appendix D.1.3, submit also copies of quotations from at least three Sydney Water accredited Constructors (refer Clause 4.5.3). ARTC will consider the submitted documents and may request further information prior to authorising the release of the Hold Point.			
	3-0001-240-PEN-00-SP-0002 Cl 4.7.1.1 Table 4.5	Commencement of work within or adjacent to APA's Pipeline Land		Copy of the Permit to Work, and if supervision by the APA Permit Issuing Officer is required, evidence that the Permit Issuing Officer has been notified and will be in attendance during the subject works. ARTC will consider the submitted documents prior to authorising the release of the Hold Point.			
	AS/NZS 2566.2:2002. Appendix M2				Pressure Test on New Line prior to connections		Perform pressure testing on new water main line as per AS/NZS 2566.2:2002. Appendix M2
	WSA 03—2011-3.1 CL 22.3.1, CL 22.3.2				Shutdown		Give 10 days' notice of the shutdown prior to the date the shutdown is required. Adhere to the maximum allowable shutdown time of 4 hours.
	WSA 03—2011-3.1 CL 22.2 AS/NZS 2566.2:2002. Appendix M2				Connection into existing water mains		Connections into the existing water mains are to be carried out as follows: 1)Connect into existing water main as per CL WSA 03—2011-3.1 22.2 2)Pressure test all the connections as per AS/NZS 2566.2:2002 Appendix M2 3)Electrical resistance of insulation joints as per AS/NZS 2566.2:2002 Appendix M2
Conduits and Pits 5-0012-240-PVP-00-TE-0027 J013_HSEQ_QDS_ITP_27	ESC-11.01 CL 3.2				Trench Inspection		Trenches and other excavations shall not be backfilled until inspected by the Contractors Site Supervisor and appropriately signed off.
	ESC-11-01 CL 3.3					Backfilling	Pipes and cable encase with clean sand to 50mm above the upmost pipe or cable. If excavation of track formation occurs, it shall have restored with compacted 20mm fine crushed rock to the top of capping layer. Rest of the back fill must be free from debris with no partial sizes more than 50mm. Excavated material shall be used as backfill. Prior to the issue of the Handover Certificate, all backfilled trenches and excavations shall be examined, and any depressions caused by settlement or erosion of the backfilling shall be corrected and the cause rectified.
						Pits and turning chambers	Concrete, concrete block, and brick pits shall have concrete base no less than 75mm thick. GRP, GRC, and polyester and cement pits and cable turning shall be bedded on stabilised sand no more than 75mm thick. Dimensions and manufacturers certificates to be provided and reviewed for conformance prior to installation. Any pit more than 600mm deep shall be large enough to provide for a person to stand

Spec Name	Spec No	Hold Point Description	Witness Point Description	Submission Details	Hold Point Description	Witness Point Description	Submission Details
Temporary Points Detection Post / Solar Loc Post Installation 5-0012-240-PVP-[illegible]	Signal Commissioning Plan				Commissioning		Loc Post is Commissioned in Accordance with the Signal Commissioning Plan
Road Lighting 5-0012-240-PVP-00-TE-0030 J013_HSEQ_QDS_ITP_30	RMS R53 Cl 1.4 General Notes 3-0001-240-SCU-00-DR-0103	Nominated Mix Design		At least 7 days prior to use, submit to the Superintendent the details of each concrete mix stating the nominated mix and its constituents. Concrete to be in accordance with RMS QA Bridgeworks specification B080 Concrete work for Bridges. Mass/ blinding concreteN20/20			
	RMS R53 CL 6.1 3-0001-240-DRL-00-DR-0001 ITP 5-0012-240-PVP-00-TE-0019				Plinths		•Erect formwork and install reinforcement for concrete plinths as per IFC drawings and at the locations shown on 3-0001-240-DRL-00-DR-0001 •Notify the principal, not less than 24 hours prior to intended time to place concrete. •Place concrete in accordance with Concrete Works ITP 5-0012-240-PVP-00-TE-0019
Installation of Precast Signal Base A Points 5-0012-240-PVP-00-TE-0032 J013_HSEQ_QDS_ITP_32	PC Inductions and SWMS	Authorisation to Commence Works		Each functional manager to review relevant authority approvals are in place.			
	Workplace Safety Plan - Excavation and Plant Work Permit	Excavation permit submitted and approved.		All underground services marked. No mechanical excavation within 1m of underground services unless service has been visually identified via non-destructive digging and an agreed method of protecting the service is employed.			
					Drawings are checked and IFC and inclusive of: •Signalling Plan •Signal Sighting Forms		• All associated documentation to be latest version and revision • Issued by INLink PC
Demolition of Structures 5-0012-240-PVP-00-TE-0034 J013_HSEQ_QDS_ITP_34	RMS-B341 C.L 3.1.4 RMS-B341 C.L 3.1.6, CL3.1.7	Engineering Investigations		If the conditions of RMS-B341 C.L 3.1.4 are present within the site, engage a qualified structural engineer to investigate the structure and prepare a safety report containing specific requirements. Report of results of preliminary investigation, and demolition Designer's Safety Report if applicable.			
	RMS-B341 C.L 3.5.1	Demolition plan		Five days Prior to commencement of work, submit a demolition plan to the principle, which includes a of the all the requirements listed in annexure B341/D – RMS-B341			
	EYP-01 CL 2		Historical records for buildings	After approval for demolition, a record must be compiled of the building prior to demolition, where photos may be required.			
Fencing 5-0012-240-PVP-00-TE-0035 J013_HSEQ_QDS_ITP_35	RMS R201 Cl 3.11	Certificate of Compliance		Submit Certificates of Compliance to the Superintendent at least seven days prior to commencement of works.			
	RMS-R201 CL 4.1				Fence Connection		-Submit proposal detailing the connection be-tween the new and existing fencing. Where new fencing intersects existing fencing that is not to be removed, submit your proposed connection details to the Principal for consideration. The pro-posal must show details of strainer posts, strainer post bracing and restraining of wire and reconnection of fencing fabric/wire netting
	RMS-R201 CL 4.4 CL 4.4.2				Clearing		Remove debris within 1m either side of fence line. Remove all trees 500mm above ground with a dimeter less than 100mm, Mark any trees within this area with a trunk diameter exceeding 100 mm, measured 500 mm above the ground, with coloured tape, but do not remove these trees unless approval is given by the Principal to do so.
Structural Fill 5-0012-240-PVP-00-TE-0036 J013_HSEQ_QDS_ITP_36	ETC-08-04 Cl 13.5 [HP 21]				Proof Roll		The material shall provide a stable, dense surface which displays no visible vertical movement under the construction equipment nominated below. -Static smooth wheeled roller with mass greater than 12t -Highway truck with rear axle(s) loaded to greater than 8t each and tyre pressure of 600kPa At least 1 working day prior to the proof rolling, notify the Superintendent and provide verification by all relevant testing certificates that the subject layer or surface conforms in all respects except proof rolling. Proof roll details. The Superintendent will consider the submitted documents and visual observations made during the proof roll prior to authorising release of the Hold Point. Signed ITP by the Superintendent. Report indicating the Lot number, location, date and time of the proof roll and the type, model, gross mass and tyre pressures (if applicable) of the test

Spec Name	Spec No	Hold Point Description	Witness Point Description	Submission Details	Hold Point Description	Witness Point Description	Submission Details
					Covering of Structural Fill Layer		Verification of conformity of each Lot of structural fill placed, with relevant test and survey reports. Verification of conformity of each Lot of structural fill placed, with relevant test and survey reports. The Superintendent will consider the submitted documents, prior to authorising the release of the Hold Point. Lot conformity records
Capping 5-0012-240-PVP-00-TE-0037 J013_HSEQ_QDS_ITP_37	ETC-08-03 Cl 4.2 ETC-08-04 Cl 9.3 HP [12]	Material Compliance		Ensure material compliance with ETC-08-03 Table 4. Test reports verifying conformity of each Lot of material for use in Capping Layer. The Superintendent will consider the submitted documents, prior to authorising the release of the Hold Point. Material Lot conformity record captured in Source Material Lot			
	ETC-08-04 Cl 13.5 HP [21]				Proof Roll		The material shall provide a stable, dense surface which displays no visible vertical movement under the construction equipment nominated below. -Static smooth wheeled roller with mass greater than 12t -Highway truck with rear axle(s) loaded to greater than 8t each and tyre pressure of 600kadreas Pa At least 1 working day prior to the proof rolling, notify the Superintendent and provide verification by all relevant testing certificates that the subject layer or surface conforms in all respects except proof rolling. Proof roll details. The Superintendent will consider the submitted documents and visual observations made during the proof roll prior to authorising release of the Hold Point. Signed ITP by the Superintendent. Report indicating the Lot number, location, date and time of the proof roll and the type, model, gross mass and tyre pressures (if applicable) of the test equipment.
	ETC-08-04 Cl 9.3 Cl 8.4.2 HP [13]				Covering of each Lot of Capping		Verification of conformity of each Lot of capping placed, with relevant test and survey reports. The top of the capping layer shall be graded and trimmed and additional capping material shall be added as necessary to produce an even, tight and dense surface. The finished rolled surface shall be true to profile to a tolerance as defined by Section 8.4.2 and shall be free of depressions and ruts. Table 11 Level Control Tolerance LocationTolerance from Design Profile (mm) Finished surface of the capping layer+0 to -15 3 m straight edge (or equivalent method) <10 mm difference Capping layer crossfallbetween 1V:25H and 1V:35H Notes: 1 Minus (-) is away from the track and plus (+) is towards the track. Tolerances are measured perpendicular to the formation surface. Verification of conformity of each Lot of Capping placed, with relevant test and survey reports. The Superintendent will consider the submitted documents, prior to authorising the release of the Hold Point.
Open Drains 5-0012-240-PVP-00-TE-0038 J013_HSEQ_QDS_ITP_38	IFC Drawings 3-0001-240-CDR-00-DR-0001 RMS R11 CL 4.2.1				Excavation and Grading with grade less than 0.5%		Excavate open drains to the dimensions set out in IFC Drawings. Grade the open drains to a slope of not less than 0.5% to ensure a free flow of water. Where this is not possible, notify the Superintendent. Open drain max. slope is 2:1 Notification that 0.5% minimum grade cannot be achieved. The Principal will consider the matter, and will direct you further, prior to authorising the release of the Hold Point.
Select Material Zone Layer 5-0012-240-PVP-00-TE-0039 J013_HSEQ_QDS_ITP_39	RMS R44 Cl 6.1.1 RMS 3071 Cl 6.2 CL 7 Cl 8.1.1 Cl 2.2	Delivery of site won material and imported material for the Upper Zone of Formation.		Submit to the Superintendent the proposed source locations, quantities and types of material, and a verification of conformity. Submit the details of the source lot (s) from which material is being supplied. Correlating Source Lot Number: _____ Provide verification that all possible on-site sources have been exhausted when importing material. If the material is not supplied from a certified stockpile, sample the material within 3 days of completing the site stockpile. If imported, verification that all possible sources of the material within the Site have been exhausted or allocated.			
	RMS R44 Cl 6.1.2				Select Material Zone Material Stockpile		Test reports verifying conformity of each Lot of stockpiled material for use in Selected Material Zone. The Principal will consider the submitted documents, prior to authorising the release of the Hold Point
						Deflection Testing	Notify the Superintendent at least 1 day prior to proof rolling of any surface within 1.5m of the underside of the Select Material Zone. Proof roll with a pneumatic tyre static roller (4.5 T per tyre and 600 kPa tyre pressure) or a 10,000 L water truck (10,000 L water and 600 kPa tyre pressure) as per T198.

Spec Name	Spec No	Hold Point Description	Witness Point Description	Submission Details	Hold Point Description	Witness Point Description	Submission Details
	RMS R44 Cl 7.8.2				Covering of Each Lot		At least 3 working days prior [to placing Selected Material Zone], submit deflection test results, Survey Report of the finished surface and verification of conformity of each Lot of formation. The Principal will consider the submitted documents prior to authorising release of the Hold Point.
Signposts 5-0012-240-PVP-00-TE-0042 J013_HSEQ_QDS_ITP_42	RMS R143 Cl 3.4.3 RMS Annexure R143/A RMS B80 Cl 3.8.1, 3.8.2 RMS R53 Cl 1.4	Mix Submission		Concrete for footings of the sign structures nominated in Annexure R143/A (refer Clause 2.3.2) must comply with Specification RMS B80. Concrete for all other footings must comply with Specification RMS R53. There are no items / structures identified in RMS annexure R143/A to comply with RMS B80. Concrete for all other footings Hold Point - as per RMS R53 At least 7 days prior to production, submit a statement signed by you verifying that the concrete, its constituent materials and curing compounds comply with specified requirements. Support the statement with the most recent Production Assessment Reports or by test reports where Production Assessment has not been carrier out or has been suspended since the most recent Production Assessment Report. The Principal will consider the submitted documents and may inspect test records prior to authorising he			
	RMS R143 Cl 3.2	Setting out					Orientate the signs as shown in Fig. R143.1 Submit to the Superintendent proposed location and orientation of sign support structures. Submission Details: Proposed location and orientation of each sign support structure. Release of Hold Point: The Principal will inspect the proposed sign locations, prior to authorising the release of
ARTC Supplied Material 5-0012-240-PVP-00-TE-0044A J013_HSEQ_QDS_ITP_44	3-0001-240-PEN-00-SP-0008 Volume 7 Clause 4, RMS R16 Cl 2 BMD&FHJV-RFI-000195				Delivery of Culvert Materials to site – Design Requirements and Procedures		-ARTC/Humes to provide certification of compliance with Culvert Check Sheets at least one day prior to commencement of delivery to site as advised through RFI response for BMD&FHJV-RFI-000195 -Visually inspect all materials for damage during delivery and before installation.
Ballast Blend 5-0012-240-PVP-00-TE-0045 J013_HSEQ_QDS_ITP_45	ETC-08-04 Cl 13.5 [HP 21]				Proof Roll		The material shall provide a stable, dense surface which displays no visible vertical movement under the construction equipment nominated below. -Static smooth wheeled roller with mass greater than 12t -Highway truck with rear axle(s) loaded to greater than 8t each and tyre pressure of 600kPa At least 1 working day prior to the proof rolling, notify the Superintendent and provide verification by all relevant testing certificates that the subject layer or surface conforms in all respects except proof rolling. Proof roll details. The Superintendent will consider the submitted documents and visual observations made during the proof roll prior to authorising release of the Hold Point. Signed ITP by the Superintendent. Report indicating the Lot number, location, date and time of the proof roll and the type, model, gross mass and tyre pressure (if applicable) of the test
	INLink Internal Process				Layer acceptance		Layer shall not be covered by a subsequent layer or by surfacing until all testing has been completed and the layer has been presented to the Superintendent for permission to proceed
	ETC-08-04 Cl 9.2 HP[11]				Covering of Structural Fill Layer		Verification of conformity of each Lot of structural fill placed, with relevant test and survey reports. Verification of conformity of each Lot of structural fill placed, with relevant test and survey reports. The Superintendent will consider the submitted documents, prior to authorising the release of the Hold Point. Lot conformity records
Imported Material – Quarry Source Material 5-0012-240-PVP-00-TE-0047 J013_HSEQ_QDS_ITP_47	ARTC ETC-08-03 CL 4.1, ARTC ETA-04-01, Works Specification - Appendix I – Volume 3 – Materials, RMS3071 CL4, 6.1, RMS3051 Cl 7.1, 8,	Approval		Materials and Supplier will require prior approval from the Superintendent prior to its incorporation into the works Supply of Information on: •Location of Source •Historical Test results •Source rock type and petrographic description •Supplier's Quality Management System (ISO 9001) •Proposed processing method and transportation •Summary of recent conforming test results from designated Source •Proposed Plan of Stockpiles (Lot Size)	Certified Stockpiles		At least five working days prior delivery of material from a new certified stockpile, provide notification of intended delivery and submit the details of the stockpile, statement of conformity and the documentation specified regarding conformity.
	RMS R71 CL2.2 RMS R3071 CL8				Certified Stockpiles		At least five working days prior delivery of material from a new certified stockpile, provide notification of intended delivery and submit the details of the stockpile, statement of conformity and the documentation specified regarding conformity.
Demolition of Drainage	3-0001-240-PEN-00-SP-0002 Cl 8	Predearance Checklist		A predearance checklist must be completed by appropriately qualified personnel and will include: (a)identification of species and location of any weeds; (b)identifies all locations of threatened flora species and trees which have been marked for preservation; (c)identification of all habitat and fauna including fauna relocations; and lists any trees outside the limits of clearing which are unsound and likely to fall upon the rail or roadway			

Spec Name	Spec No	Hold Point Description	Witness Point Description	Submission Details	Hold Point Description	Witness Point Description	Submission Details
Structures 5-0012-240-PVP-00-TE-0050 J013_HSEQ_QDS_ITP_50	RMS-B341 C.L 3.1.4 RMS-B341 C.L 3.1.6, CL3.1.7	Engineering Investigations		If the conditions of RMS-B341 C.L 3.1.4 are present within the site, engage a qualified structural engineer to investigate the structure and prepare a safety report containing specific requirements. Report of results of preliminary investigation, and demolition Designer's Safety Report if applicable.			
	RMS-B341 C.L 3.5.1	Demolition plan		A demolition plan must be submitted to the principal at least 5 working days prior to commencement of works. The plan must include as minimum of the all the requirements listed in annexure B341/D – RMS-			
	3-0001-240-PEN-00-DR-0102 Rev.0					Photography Requirement	The Proponent must undertake Heritage Photographic Archival Recordings of potential heritage items associated with the existing rail line (including culverts/underbridges with timber components and former rail station sites) which have been identified for demolition in the EIS and Submissions Report. The photographic recording must be undertaken in accordance with ARTC's Archival Recording Standard.
Rock Protection 5-0012-240-PVP-00-TE-0051 J013_HSEQ_QDS_ITP_51	3-0001-240-PEN-00-DR-0103 ETC-08-04 CL 8.5	Rock Material		Shall be obtained from sources approved by the Superintendent. Grading shall comply with specifications & general note 5, Rip Rap (Scour Rock) of 3-0001-240-PEN-00-DR-0103. Actual D50 shall be within 10% of the specified nominal diameter.  Minimum specific gravity of 2.4. Minimum point load strength index of 1MPA. Wet strength variation			
	ETC-08-04 CL 11.2.2	Geotextile Conformity		Submit documentation to the Superintendent (including certificate of compliance from supplier) that demonstrates the proposed geotextile meets requirements of ETC-08-04, CL 11.2.2 The Superintendent will consider the submitted documents and may inspect the geotextile or direct further action prior to release of the Hold Point, such as site sampling and testing in accordance with this Specification.			
	3-0001-240-CDR-00-DR-0002 ETC-08-04 CL 11.2.4					Installation of Geotextile	The area on which the geotextile is to be placed shall be prepared by clearing and grading and all sharp objects and large stones shall be removed. Geotextile BIDIM A44 or approved equivalent to be placed under rock protection areas unless specified otherwise. Notification of the geotextile type, location, date and time of Placement as per Witness Point Ref ETC-08-04 Cl 11.2.4
Install Location Huts 5-0012-240-PVP-00-TE-0052 J013_HSEQ_QDS_ITP_52	ARTC Standard ESC-11-01 Clause 4 ARTC Standard ESC-07-03 Clause 2.4.3	Mix Design Approval		Concrete strength at 28 days being not less than 20 MPa. At least 10 days prior to use, submit to the superintendant the drtails of each concrete mix stating the nominated mix and its consituents. Resubmission is required if Batch/Quraarry source changes.			
	ARTC Standard ESC-07-03 Clause 2.4.3 AS3600				Concrete Testing		Concrete is to reach a minimum 28-day compressive strength of 20MPa 1 Set of 3 Cylinders (1 – 7 Days and 2- 28 Days) will be tested alongwith a slump test
Level Crossings Foundations 5-0012-240-PVP-00-TE-0053 J013_HSEQ_QDS_ITP_53	Drawing 3-0001-240-DCW-00-DR-0081	Mix Design Approval		Concrete strength at 28 days being not less than 32 MPa. At least 10 days prior to use, submit to the superintendant the drtails of each concrete mix stating the nominated mix and its consituents. Resubmission is required if Batch/Quraarry source changes.			
	ARTC Standard ESC-03-01 Clause 2.12	Procurement of Hold Down Bolts		Holding down bolts in foundations shall be 24 mm hot dip galvanised steel and shall be fitted with galvanised flat washers, nuts and locknuts.			
Level Crossings Assemblies 5-0012-240-PVP-00-TE-0054 J013_HSEQ_QDS_ITP_54	As per IFC design	Signal Sighting		Position of the Level Crossing Light / Boom conforms to signal sighting requirements			
	ARTC Standards ESC-21-01 Cl 4 & 5, ESC-21-02 Cl 5-8				Commissionin		Level Crossing is Commissioned in Accordance with the Signal Commissioning Plan
Mechanical Fit out of Turnouts 5-0012-240-PVP-00-TE-0055 J013_HSEQ_QD	ARTC Standards ESC-21-01 Cl 3-5 ESC-21-02 Cl. 5-8				Final Signal Commissioning of Infrastructure		As per the approved Signal Commissioning Plan

Spec Name	Spec No	Hold Point Description	Witness Point Description	Submission Details	Hold Point Description	Witness Point Description	Submission Details
Install Cables 5-0012-240-PVP-00-TE-0056 J013_HSEQ_QDS_ITP_56	AS/NZS 5000.1, AS 1660.5.6 and AS/ACIF S008 (Ref standards) ARTC Specification ESA-11-01 Cl 8,9 ARTC Standard ESC-11-01 Cl 14	Cables have been tested on drum prior to installation		Each drum of cable shall be delivered with a test certificate attached. Copies of all test certificates shall be sent to the owner under separate cover. The Test Certificate shall include as a minimum the details below: 1. Test certificate number and cable identification drum No. 2. Description of the cable. Cables for Railway Signalling Applications – General Requirements ESA-11-01 Supplier Test and Certification Agreement This document is uncontrolled when printed. Version Number: 2.0 Date Reviewed: 24 Oct 18 Page 20 of 37 3. Relevant ARTC / Contractors order number and company works codes. 4. Conductors resistance tested (or corrected) at 20°C. 5. High voltage test and duration. 6. Spark test on cores 7. Insulation resistance as applicable: i. Between Cores. ii. Between Cores and Earth. 8. Core numbering test (for multi-conductor cables) In the case of Fibre Optic Cable, the test certificates shall include as a minimum the details shown below: 1. Test certificate number and cable identification drum No. 2. Description of the cable.			
	ESA-11-01 Cl 3 ESC-11-01 Cl 13 SPS 41 - (RIC Standard: SC 11 11 01 00 SP) Cl 3-7				Jointing of Cables		No joints in cables under rivers, creeks, flood prone areas, under roads or railway tracks, in buildings, in tunnels or within 10 metres of any earth mat. 'Joints in cables shall be kept to an absolute minimum'. 'No other cables shall be placed in high voltage (415v) jointing pits'.
	ARTC Standard ESC-11-01; Clause 14.1 ARTC Standard ESA-11-01 Cl 8					Testing of Cables post installation Cable ends are capped and made safe	Following the installation of cables, they shall be continuity and insulation tested in accordance with the requirements of ESA-11-01 Cables for Railway Signalling Applications – General Requirements and the Testing and Commissioning Standards. Test results will be recorded on Work Instructions (WI's) 022 (Cable Insulation Tests) issued by RCSA Testing is to be carried out by a qualified and competent person that has been approved to carry out the required testing. The cable ends shall be recapped (using heat shrink end caps) after testing unless such ends are located inside weather proof buildings or location cases and the cable
Signal Post Install 5-0012-240-PVP-00-TE-0057 J013_HSEQ_QDS_ITP_57	As per IFC design ARTC Standard ESC-04-01 Cl 2		Signal Sighting	Position of the Signal post conforms to signal sighting requirements			
	Signal Commissioning Plan				Commissioning		Signal Post is Commissioned in Accordance with the Signal Commissioning Plan
Fit Axle Counters 5-0012-240-PVP-00-TE-0058 J013_HSEQ_QDS_ITP_58	IFC Signal Design Issued				Mark up Final Position for Axle Counter prior to installation		Using IFC design / Calibrated Measuring wheel mark up the Axle Counter locations, ensuring the correct rail has been marked
	ESC-21-04 Clause 2 Signalling Commissioning Plan					Test and Commission Axle Counter	As per signalling commissioning plan
	ESC-21-04 Clause 2 Signalling Commissioning Plan				Final Signal Commissioning of Infrastructure		As per the approved Signal Commissioning Plan
Track Removal 5-0012-240-PVP-00-TE-0059 J013_HSEQ_QDS_ITP_59							
Turnout Removal 5-0012-240-PVP-00-TE-0060 J013_HSEQ_QDS_ITP_60							
Track Construction 5-0012-240-PVP-00-TE-0061 J013_HSEQ_QD							

Spec Name	Spec No	Hold Point Description	Witness Point Description	Submission Details	Hold Point Description	Witness Point Description	Submission Details
Turnout Construction 5-0012-240-PVP-00-TE-0062 J013_HSEQ_QD							
Track Adjusting 5-0012-240-PVP-00-TE-0063 J013_HSEQ_QD S_ITP_53							
Topsoil Stripping - Road 5-0012-240-PVP-00-TE-0064 J013_HSEQ_QD S_ITP_64	R44 Cl 2.3.3	Submission / Inspection		At least three working days before the proposed date for altering the surfaces, submit a Survey Report of the existing surface levels, and a notification that the set out specified in Clause 1.6.1, including set out of the cut/fill intersection point and extent of the Transition Zone as specified in Clause 3.5, have been carried out. The Principal will inspect the surfaces and set out, and may direct further action prior to authorising the release of the Hold Point. Further action may include altering the limits of the cut/fill transition.			
Cutting - Road 5-0012-240-PVP-00-TE-0065 J013_HSEQ_QD S_ITP_65	RMS R44 CL 4.2				Cuttings in Rock		Prior to excavating below the bench level for slopes of 1H:1V or steeper, present to the Superintendent a cleaned batter and bench/ floor surfaces for geotechnical inspection. The Principal will inspect the cleaned surfaces and may direct further action prior to authorising the release of the Hold Point. Further action may include additional cleaning (if the condition of the faces cannot, in the opinion of the Principal, be adequately assessed), and stabilisation works, prior to or concurrent with any further work within the cutting.
	RMS R44 CL 7.6.1 RMS T198 CL 3				Proof Roll		Notify the Superintendent at least 1 day prior to proof rolling of any surface within 1.5m of the underside of the Select Material Zone. At least 1 working day prior to the proof rolling, notify the Principal and provide verification that the subject layer or surface conforms in all respects except for proof rolling Proof roll with a pneumatic tyre static roller (4.5 T per tyre and 600 kPa tyre pressure) or a 10,000 L water truck (10,000 L water and 600 kPa tyre pressure) as per T198.
	RMS R44 7.6.2 Annexure R44/A4				Placement of subsequent layers		At least 3 working days prior, submit deflection test results, Survey Report of the finished surface and verification of conformity of each Lot of formation (subsequent layers) The Principal will consider the submitted documents, and where the characteristic deflection exceeds the value in Annexure R44/A4 or the standard deviation exceeds 0.2 mm when the characteristic deflection is less than 1.2 mm corrective action by you
Embankment Road 5-0012-240-PVP-00-TE-0066 J013_HSEQ_QD S_ITP_66	RMS R44 CL 6.1.1	Earthworks Materials – Upper Zone of Formation		Delivery of site won material and imported material for the Upper Zone of Formation. Proposed source locations, quantities and types of material, and verification of conformity. If imported, verification that all possible sources of the material within the Site have been exhausted or allocated The Principal will examine details and may inspect the source and stockpiles of material prior to authorising the release of the Hold Point Refer to separate ITP for Imported Material Quarry Source Material ITP: 5-0012-240-PVP-00-TE-0047 as required.			
	RMS R44 CL 6.2	Earthworks Materials - Verge Delivery of site won and imported material for the verges.		Proposed location, quantities and type of material, and verification of conformity. If imported, verification that all possible sources of the material within the Site have been exhausted. The Principal will examine details and may inspect the source and stockpiles of material prior to authorising the release of the Hold Point. Refer to separate ITP for Imported Material Quarry Source Material ITP: 5-0012-240-PVP-00-TE-0047 as			
	RMS R44 CL 7.5					Rock Fill Placing Conformity Trial Construction of each trial section of rock fill.	Notification of the place, date and time of construction of the trial section, at least 3 working days prior to commencement with details of; Test results of all previous Trial sections, Material Type and Specification, Plant type and Number of Roller Passes, Max & Min Roller Speed and frequency of Vibration, in-process testing regime and proof that there is no remaining internal settlement and proof that embankment stability exists.
	RMS R44 CL 7.5				Rock Fill Placing Conformity Trial Construction of remaining sections of rock fill		Verification, including test results, of conformity of each trial section including details of the proposed compaction procedure, and any test results and survey reports. The Principal will consider the submitted documents, prior to authorising the release of the Hold Point

Spec Name	Spec No	Hold Point Description	Witness Point Description	Submission Details	Hold Point Description	Witness Point Description	Submission Details
	RMS R44 CL 7.6.1					Proof Roll Proof rolling of any embankment fill layer, or any other surface within 1.5 m of the underside of the Selected Material Zone	At least 1 working day prior to the proof rolling, notify the Principal and provide verification that the subject layer or surface conforms in all respects except for proof rolling
	RMS R44 7.6.2				Placement of subsequent layers		At least 3 working days prior, submit deflection test results, Survey Report of the finished surface and verification of conformity of each Lot of formation (Subsequent Layer). The Principal will consider the submitted documents, and where the characteristic deflection exceeds the value in Annexure R440A4 or the standard deviation exceeds 0.2 mm when the characteristic deflection is less than 1.2 mm corrective action by you
Foundation Treatment 5-0012-240-PVP-00-TE-0067 J013_HSEQ_QDS_ITP_67	RMS R44 CL 2 CL 2.4.1 CL 2.4.5 3-0001-240-PEN-00-SP-0007_0 Cl 5.2 R44 A2.2 RMS R44 Cl 1.4				Identification of unsuitable material Replacement of each Lot of unsuitable material		Where unsuitable material is found treat as per 3-0001-240-DPV-00-DR-0102 Note 5. Notification that unsuitable material has been removed as directed The Principal will inspect the excavation and may direct removal of further material as unsuitable material prior to authorising the release of the Hold Point. Unsuitable material is likely to include: a)material from swamps, marshes and bogs b)logs, stumps and perishable materials c)material susceptible to spontaneous combustion d)dry or wet material to a depth of 300 mm or the depth of subgrade treatment, whichever is greater, which in the opinion of the Superintendent cannot be reasonably worked or conditioned to achieve specified requirements e)all material removed, where the material below the depth defined in Clause 1.4 Unsuitable material is, in the opinion of the Superintendent, unsuitable for compacting subsequent layers f.)material forming the foundation for a structure which has an allowable bearing pressure less than that nominated on the drawings g.)material forming the foundation for an embankment which has an allowable bearing pressure or CBR less than that stated on the Drawings or in R44 A2.2. h.)material containing biosecurity matter including noxious weeds and other matter which may adversely affect the local environment, except where these are treated in an appropriate manner. i.)acid sulfate soils from within the Site which cannot be treated or managed in accordance with ESCP. j.)stripped topsoil which is deemed not suitable as planting media and is not suitable for use elsewhere in the Works k.)building rubble including concrete, asphalt and other materials except where broken down or otherwise treated and proved to be suitable for use, and l.)abandoned Public Utility Plant and any associated material
	RMS R44 CL 3.2				Foundation Treatment of Embankments		Submit to the Principal all details regarding the treatment of each lot of embankment foundations. Submission Details: (a) Survey report; (b) Notification of completion of clearing operations; (c) In areas other than beneath Shallow Embankments, notification that: (i) topsoil has been removed in accordance with Clause 2.3; or (ii) grasses have been flattened/mowed if shown on the Drawings or specified;, (d) In areas beneath Shallow Embankments: (i) notification that topsoil has been removed and surface excavated in accordance with Clause 3.5.1; and (ii) CBR and PI test results, if required in accordance with Clause 3.5.1. The Principal: (a) will consider the submitted documents; (b) may inspect the excavated floor for the embankment foundation; and (c) may direct further action prior to authorising the release of the Hold Point. Further action may include removal of unsuitable material in accordance with Clause 2.4, or treatment in accordance with Clause 3.2.
	RMS R44 CL 3.4				Foundation Treatment of floors of cuttings		Submit to the Principal all details regarding the treatment of each lot of floors of cuttings Submission Details: (a) Notification of completion of excavation to: (i) Designed Floor Level, or Foundation Level, as appropriate; and (ii) depth specified for Cut/Fill Transition Zone (refer to Clause 3.5); (b) CBR and PI test results. (The submission must be concurrent with the submission for any adjoining Shallow Embankment foundation required by the Hold Point in Clause 3.2.) The Principal: (a) will consider the submitted documents; (b) will inspect the floor of the cutting; and (c) may direct further action prior to authorising the release of the Hold Point.
	RMS R44 CL 7.6.1 RMS T198 Cl 3					Proof Roll	Notify the Superintendent at least 1 day prior to proof rolling of any surface within 1.5m of the underside of the Select Material Zone. Proof roll with a pneumatic tyre static roller (4.5 T per tyre and 600 kPa tyre pressure) or a 10,000 L water truck (10,000 L water and 600 kPa tyre pressure) as per T198.

Spec Name	Spec No	Hold Point Description	Witness Point Description	Submission Details	Hold Point Description	Witness Point Description	Submission Details
	RMS R44 7.6.2				Placement of subsequent layers		At least 3 working days prior, submit deflection test results, Survey Report of the finished surface and verification of conformity of each Lot of formation (Subsequent Layer). The Principal will consider the submitted documents, and where the characteristic deflection exceeds the value in Annexure R44/A4 or the standard deviation exceeds 0.2 mm when the characteristic deflection is less than 1.2 mm corrective action by you is required may direct further action prior to authorising the release of the Hold Point.

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