

Installation Work Package – Civil and Structures

COR-FM-062

Applicability

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SMS

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Table of Contents

Glossary	4
1 Introduction.....	5
1.1 Authorisation of Installation Work Package	5
2 Register of General Working Documents	6
2.1 Register of IFC Drawings	6
2.2 Register of Construction Redline Mark-up Drawings	6
2.3 Register of Assets	6
2.4 Register of Temporary Works Design	7
2.5 Register of Defects.....	7
2.6 Register of Materials List.....	7
2.7 Register of Waivers and Type Approvals.....	8
2.8 Register of Track Clearances.....	8
3 Civil Working Documents	9
4 Structures Working Documents	10
5 Suppliers Information – Civil and Structures	11
5.1 Register of Equipment and Operating Manuals	11
5.2 Register of Maintenance Manuals	11
5.3 Register of Manufacturers Drawing	11
5.4 Register of Manufacturers ITP'S	12
5.5 Register of Manufacturers Shop Drawings	12
5.6 Register of Offsite Inspection and Testing Certificates (FAT, Pre-site Testing)	12
5.7 Register of Training Documentation	13
6 Inspection Walkthroughs	14
6.1 Register of Walkthrough.....	14
7 Register of Quality Assurance Documentation.....	15
7.1 Register of Lot Conformance Reports	15
7.2 Register of Lot Plan/ Lot Map.....	15
7.3 Register of Inspection and Test Plans	15
7.4 Register of Calibration Records/Certificates	16
8 Register of Non-Conformances	17
9 Register of Request for Information.....	18
10 Register of Construction Risk Assessments	19
11 Register of Certificates	20

11.1 Register of Pre-Installation Test Certificates.....	20
11.2 Register of NATA Certified Test Certificates.....	20
11.3 Register of Materials Certificates	21

List of Tables

Table 1 - Authorisation of Installation Work Package.....	5
Table 2 - IFC Drawings.....	6
Table 3 – Constructed Redline Mark-up Drawings.....	6
Table 4 - Asset List.....	6
Table 5 - Temporary Works Design.....	7
Table 6 - Defects Register	7
Table 7 - Material List	7
Table 8 – Waivers and type approvals	8
Table 9 - Track Clearances	8
Table 10 - Equipment and Operating Manuals.....	11
Table 11 - Maintenance Manuals	11
Table 12 - Manufacturers Drawing	11
Table 13 - Manufacturers ITP's	12
Table 14 - Manufacturers Shop Drawings	12
Table 15 - Offsite Inspection and Testing Certificates (FAT, Pre-site Testing).....	12
Table 16 - Training Documentation	13
Table 17 – Walkthrough records	14
Table 18 - Lot Conformance Reports	15
Table 19 - Lot Plan/Lot Map	15
Table 20 - Inspection and Test Plans	15
Table 21 - Calibration Records/Certificates.....	16
Table 22 - Non-Conformances (NCR)	17
Table 23 - Request for Information (RFI).....	18
Table 24 - Construction Risk Assessments.....	19
Table 25 - Pre-Installation Test Certificates	20
Table 26 - NATA Certified Test Certificates	20
Table 27 - Material Certificates.....	21

Glossary

Specific terms and acronyms used throughout this document are listed and described in the table below.

TERM	ACRONYM	DEFINITION
Project	“Project”	For the purpose of this Works Package, the following are considered to be representatives of the Project: <ul style="list-style-type: none">- Designer / Service Delivery Contractor- Construction Contractor- Environmental Representative.
ARTC Representative	“ARTC Representative”	For the purpose of this Works Package, the ARTC Representative is the Project Manager or Senior Project Manager.
Issued for Construction	IFC	IFC Drawings

1 Introduction

The Installation Work Package template shall be used by the Project to record the minimum requirements needed for the Construction Verification Hold Point and Acceptance phase.

The use of this Installation Work Package template applies to all ARTC Projects including Projects being delivered as part of the Inland Rail Program.

The Installation Work Package template is designed to be scalable and tailorable to meet the delivery strategy and completion and handover requirements for individual Projects.

Where documentation has been issued as an Aconex Transmittal, this can be referenced via the tables within this Work Package and include the Aconex Transmittal Number and a description of the purpose and content of the transmittal.

For all details pertaining to this document and the requirements, refer to the Completion and Handover Specification (COR-SP-001).

1.1 Authorisation of Installation Work Package

The section below outlines the acknowledgement from the ARTC Representative that the Work Package is accepted.

The Project shall provide all information referenced and ensure it meets the requirements of the Completion and Handover Specification (COR-SP-001).

Table 1 - Authorisation of Installation Work Package

Project:	
Stage:	
Work Package No:	
This Installation Work Package is accepted by:	
Position:	
Signature:	
Date:	

2 Register of General Working Documents

The Project shall provide all supporting documentation per the requirements below.

2.1 Register of IFC Drawings

The Project shall list all IFC drawings for civil and structure works issued as part the Installation Work Package scope.

Additional IFC drawings issued separately to the Project shall be listed in the table below.

Table 2 - IFC Drawings

DOCUMENT NUMBER	REV	DESCRIPTION
Example: 02-2601-62-003	0	Typical Underbridge Details General Arrangement – Sheet 1
Example: IR2600-GCOR-007378	-	Formal transmittal of N2NS IFC Drawings issued to Contractor on 31/10/2020.

2.2 Register of Construction Redline Mark-up Drawings

The Project shall provide a list of all changes made to the design during construction as Redline Mark-ups to the IFC Drawings.

Table 3 – Constructed Redline Mark-up Drawings

DOCUMENT NUMBER	REV	DESCRIPTION
Example: 02-2601-62-003	0.1	Typical Underbridge Details General Arrangement – Sheet 1
Example: IR2600-GCOR-007378	-	Formal transmittal of N2NS Redline Mark ups on IFC Drawings issued by Contractor on 31/10/2021

2.3 Register of Assets

The Project shall document any changed, altered, decommissioned and new civil and structure assets to the issued IFC Asset List.

Any changed, altered or new assets are to be marked up on the issued IFC Asset List in accordance with ARTC’s requirements and submitted to the ARTC Representative via an Aconex transmittal.

Table 4 - Asset List

DOCUMENT NUMBER	REV	DESCRIPTION
Example: 3-0001-260-PEN-00-RG-0009	0	Ellipse Asset List

2.4 Register of Temporary Works Design

The Project shall list all Temporary Works Designs associated with the civil and structure Works.

Table 5 - Temporary Works Design

DOCUMENT NUMBER	REV	DESCRIPTION
Example: 5-0018-260-CTP-00-DR-0001	0	Narrabri to North Star SP1 – Temporary Works Design for Croppa Creek Bridge Demolition
Example: IR2600-GCOR-007378	-	Formal transmittal of Temporary Works Designs for N2NS by Contractor on 10/04/2020.

2.5 Register of Defects

The Project shall provide an approved Defect List as part of the Construction Verification phase.

The Project shall ensure the Defect List meets the requirements specified in Section 2.5 of the Completion and Handover Specification (COR-SP-001).

The Master Defect List is to include defects identified by ARTC asset owners and operators at the Inspection Walkthrough.

Table 6 - Defects Register

DOCUMENT NUMBER	REV	DESCRIPTION
Example: 260-RG-QDS	0	Master Defect Register

2.6 Register of Materials List

The Project shall provide a list of all materials remaining post construction activities for acceptance by the ARTC Representative.

Table 7 - Material List

DOCUMENT NUMBER	REV	DESCRIPTION
Example: 5-0012-240-PVP-TE-0044	0	ARTC Supplied Materials – Reinforced Boxed Culverts
Example: IR2600-GCOR-007378	-	Formal transmittal containing a list of all remaining civil and structure materials, including culverts left over from N2NS construction dated 20/10/2020.

2.7 Register of Waivers and Type Approvals

The Project is to provide a list of all ARTC approved waivers and type approvals obtained during construction.

Table 8 – Waivers and type approvals

DOCUMENT NUMBER	REV	DESCRIPTION
Example: Waiver Number TC/0104	0	Approved Engineering Waiver for Reduction of minimum formation width, Narrabri to North Star (N2NS)

2.8 Register of Track Clearances

The Project shall provide a register of all track clearances, either temporary or permanent.

The Project shall use the ARTC Track Examination of Clearances Form ETE0701F-01 as the specified requirement.

Table 9 - Track Clearances

DOCUMENT NUMBER	REV	DESCRIPTION
Example: ETE0701F-01	1	Provides the horizontal and vertical clearance to structure and superelevation data.

3 Civil Working Documents

All civil working documents are to be detailed in Section 7.1 Register of Lot Conformance Reports.

Any further civil discipline-based deliverables that do not fall within the above requirements and registers are to be included in this section.

4 Structures Working Documents

All structure working documents for culverts, bridges, etc. are to be detailed in Section 7.1 Register of Lot Conformance Reports.

Any further structure discipline-based deliverables that do not fall within the above requirements and registers are to be included in this section.

5 Suppliers Information – Civil and Structures

All supplier information shall be provided by the Project including, but not limited to, supplied items detailed below for civil and structure disciplines:

- Culverts
- Bridges and or bridge components.

5.1 Register of Equipment and Operating Manuals

Where applicable, the Project shall list and provide all relevant and applicable operating manuals for installed equipment.

Table 10 - Equipment and Operating Manuals

DOCUMENT NUMBER	REV	DESCRIPTION
Example: 260-RG-QDS-0001	0	OEM Manuals Register - Structures

5.2 Register of Maintenance Manuals

Where applicable, the Project shall list and provide all relevant maintenance manuals for installed equipment.

Table 11 - Maintenance Manuals

DOCUMENT NUMBER	REV	DESCRIPTION
Example: 260-RG-QDS-0001	0	OEM Maintenance Manuals Register – Structures

5.3 Register of Manufacturers Drawing

Where applicable, the Project shall list and provide all relevant manufacturers drawings for installed equipment.

Table 12 - Manufacturers Drawing

DOCUMENT NUMBER	REV	DESCRIPTION
Example: 260-RG-QDS-0002	0	OEM Drawing Register – Structures

5.4 Register of Manufacturers ITP’S

Where applicable, the Project shall list and provide all relevant manufacturers ITP’s for installed equipment.

Table 13 - Manufacturers ITP’s

DOCUMENT NUMBER	REV	DESCRIPTION
Example: 5-0012-240-RSG-00-PR-0001	0	Inspection and Test Plan - ARTC Supplied Materials – Reinforced Boxed Culverts

5.5 Register of Manufacturers Shop Drawings

Where applicable, the Project shall list and provide all relevant manufacturers shop drawings for installed equipment.

Table 14 - Manufacturers Shop Drawings

DOCUMENT NUMBER	REV	DESCRIPTION
Example: 260-RG-QDS-0003	0	OEM Shop Drawings Register – Structures

5.6 Register of Offsite Inspection and Testing Certificates (FAT, Pre-site Testing)

Where applicable, the Project shall list and provide all relevant manufacturers inspection and testing certificates for installed equipment.

Table 15 - Offsite Inspection and Testing Certificates (FAT, Pre-site Testing)

DOCUMENT NUMBER	REV	DESCRIPTION
Example: 5-00018-26-PVP-00-CT-0002	0	Certificate of Approval for Precast Concrete Mix Design – Culverts

5.7 Register of Training Documentation

Where applicable, the Project shall list and provide all relevant training documentation and training requirements (maintenance and operation) for installed equipment.

Table 16 - Training Documentation

DOCUMENT NUMBER	REV	DESCRIPTION
Example: 260-RG-QDS-0005	0	OEM Training Manual Register – Structures

6 Inspection Walkthroughs

At the end of the Construction Verification phase the Project shall coordinate and conduct inspection walkthroughs in order to meet the requirements specified in Section 2.4 of the Completion and Handover Specification (COR-SP-001).

6.1 Register of Walkthrough

The Project shall provide all executed inspection walkthrough records and any associated documentation or artefacts provided to participants.

Table 17 – Walkthrough records

DOCUMENT NUMBER	REV	DESCRIPTION
Example: 260-RG-QDS-0010	0	Inspection Walkthrough Attendee Register – Civil
Example: 260-RG-QDS-0011	0	Inspection Walkthrough Attendee Register – Structures

7 Register of Quality Assurance Documentation

All quality assurance documentation assigned with the Installation Work Package is to be detailed below. All associated deliverables shall align to the Quality Systems Requirements as per the relevant ARTC Standard and Project Deed.

All listed documentation shall apply to civil and structure disciplines and respective construction activities.

7.1 Register of Lot Conformance Reports

The Project shall list and provide all accepted Lot Conformance Reports.

Table 18 - Lot Conformance Reports

LOT NUMBER	DESCRIPTION	STATUS	DATE WORKS CLOSED
Example: A1	Narrabri to North Star 490.610 km – 501.500 km - Drainage Lot	Closed	24/12/2020
Example: Lot A1	Formal transmittal of all Lot Reports for Formation Construction Work for N2NS 490.610 km – 501.500 km	Closed	24/12/2020

7.2 Register of Lot Plan/ Lot Map

The Project shall list and provide all accepted Lot Plans / Lot Maps.

Where Lot Plans / Maps have been issued as part of the Lot Reports, this can be noted in the table below.

Table 19 - Lot Plan/Lot Map

DOCUMENT NUMBER	REV	DESCRIPTION
Example: 260-DNG-A1-0058	0	Narrabri to North Star 490.610 km – 501.500 km - Drainage Lot Map

7.3 Register of Inspection and Test Plans

The Project shall list and provide accepted Inspection and Test Plan templates.

Table 20 - Inspection and Test Plans

DOCUMENT NUMBER	REV	DESCRIPTION
Example: 260-RG-ITP-0001	0	Inspection and Test Plan Register – Structures
Example: IR2600-GCOR-007378	-	Formal transmittal of Inspection and Test Plans for Formation Construction Works for N2NS 490.610 km – 501.500 km.

7.4 Register of Calibration Records/Certificates

The Project shall list and provide all calibration records / certificates.

This is to include all records and certificates from any works provider, either directly employed or sub-contracted and includes all laboratories and testing facilities.

Table 21 - Calibration Records/Certificates

SERIAL NO.	CALIBRATION DATE	EQUIPMENT DESCRIPTION	OWNER

8 Register of Non-Conformances

The Project shall list and provide details of all non-conformances.

Any Non-Conformance Reports that are not closed are to be identified and provided with justification at time of submission.

Table 22 - Non-Conformances (NCR)

NCR NO.	STATUS	DESCRIPTION
Example: 3-0001-260-PVP-00-RG-0002	For Information	N2NS Non-Conformance Register – Civil and Structures
Example: IR2600-GCOR-007378	For Information	Formal transmittal of all Non-Conformance Reports for Formation Construction Work for N2NS 490.610 km – 501.500 km

9 Register of Request for Information

The Project shall provide a list of all Requests for Information (RFIs).

Any RFIs that are not closed are to be identified and provided with justification at time of submission.

Table 23 - Request for Information (RFI)

RFI NO.	STATUS	DESCRIPTION
Example: 3-0001-260-PMA-00-RG-0003	For Information	N2NS RFI Register – Civil and Structures
Example: IR2600-GCOR-007378	For Information	Formal transmittal of all RFIs issued during Formation Construction Works for N2NS 490.610 km – 501.500 km, including responses and any outstanding RFIs.

10 Register of Construction Risk Assessments

The Project shall provide a list of all construction risk assessments relating to civil and structure works and identify any outstanding risks proposed to be transferred to ARTC or another Project.

Any outstanding risks shall be accepted by the ARTC Representative.

This includes all risk assessments conducted during construction including all temporary works.

Table 24 - Construction Risk Assessments

DOCUMENT NUMBER	REV	DESCRIPTION
Example: 3-0001-240-POS-00-RG-001	0	Construction Risk Assessment Register – Structure Construction Works
Example: IR2600-GCOR-007378	0	Formal transmittal of all Construction Risk Assessments conducted during Formation Construction Works for N2NS 490.610 km – 501.500 km.

11 Register of Certificates

The Project shall list and provide all certificates associated with testing and test results as per the requirements below.

11.1 Register of Pre-Installation Test Certificates

The Project shall list and provide all pre-installation test certificates for structure equipment prefabricated including precast units for bridges and culverts.

Table 25 - Pre-Installation Test Certificates

PRE-INSTALL TEST CERTIFICATE NO.	DATE OF ISSUE	DESCRIPTION
Example: QMS43904	04/08/2020	Certificate of Registration – Humes Concrete Products - manufacture and supply of reinforced concrete pipes and associated fittings and precast (wet and dry) and prestressed concrete items.
Example: IR2600-GCOR-007378	24/12/2020	Formal transmittal of all pre-installation test certificates issued during Culvert Construction Works.

11.2 Register of NATA Certified Test Certificates

The Project shall list and provide all NATA certified test certificates for civil and structure Works as required by appropriate Project Documents and the Deed.

Table 26 - NATA Certified Test Certificates

TEST CERTIFICATE NO.	DATE OF ISSUE	DESCRIPTION
Example: 7632-HUM-CT-PVP-0001	08/04/2020	NATA Accredited Laboratory Certificate – Humes Swanbank Laboratory
Example: IR2600-GCOR-007378	24/12/2020	Formal transmittal of NATA certified test certificates issued for civil materials and works.

11.3 Register of Materials Certificates

The Project shall list and provide all quality certificates for materials used in civil and structure Works.

Table 27 - Material Certificates

MATERIAL CERTIFICATE	DATE OF ISSUE	DESCRIPTION
Example: Precast Concrete	23/04/2020	Certificate of Registration to supply precast concrete small and large box culverts, steel-reinforced concrete pipes and general precast elements
Example: IR2600-GCOR-007378	24/12/2020	Formal transmittal of material quality certificates issued for civil materials and works.