Inspection and Test Plan (ITP) – *0006 Excavation - Rail*

Project Number and Name:	**808 – J013 – INLink – Parkes to Narromine (P2N)**	**Referred Specification/s:**	3-0001-240-PEN-00-SP-0007_0 – Volume 6 – Earthworks, ETC-08-04_A	**Date Opened:**		**Date Closed:**	
To Chainage:		**From Chainage:**		**To Offset:**		**From Offset:**	
Area/Stage:		**Drawing Reference:**	3-001-240-CAL-00-DR-2001 to 3-001-240-CAL-00-DR-6003, 3-0001-240-CFM-00-DR-0101, 3-0001-240-CFM-00-DR-0001, 3-0001-240-CFM-00-DR-0002, 3-0001-240-CFM-00-DR-0003	**Reviewed by:**	Tejas Shah	Sign	
Lot Number:		**Lot Description:**		**Authorised by:**	Mark Goulevitch	Sign	

Item	Work Step	Inspection / Test Method	Who By	Acceptance Criteria	References / Clauses	Frequency	Controls and Comments	Test Point Sign-Off		Date
								INLink	ARTC	
PM – Project Manager, F – Foreman, LH – Leading Hand, SPE – Senior Project Engineer, PE – Project Engineer, SE – Site Engineer, EM – Environmental Manager										
1. PRE-CONSTRUCTION										
1.1	Define Lot	Lot Map	SE	Maximum lot size is 6000m^2. Setout of lot onsite, Confirmed by Surveyor.	INLink Internal Process	Per Lot				
1.2	Service Location / Permit to Work near Services	Visual	SE/ F/LH	Service location to ascertain and mark on the ground the position of all underground services and structures within the limits of the work and within 10 metres beyond the limits of the work. All operators to have a copy of INLink Permit to Works (PTW) at all times. Vacuum excavation trucks to be used onsite as required.	Project Safety Plan. Project Service Control Plan. DBYD	Before commencing Works onsite				
1.3	Completion of Clearing/Grubbing /Topsoil Stripping	Lot Sign-Off	SE	Relevant clearing, grubbing, and topsoil stripping Lots signed off prior to works proceeding.	INLink Internal Process	Before commencing Works onsite				
1.4	Pre Excavation Checklist **HOLD POINT**	Checklist	EM	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	ETC-08-04 Cl 5.10.3	Before commencing Works onsite				

Item	Work Step	Inspection / Test Method	Who By	Acceptance Criteria	References / Clauses	Frequency	Controls and Comments	Test Point Sign-Off		Date
								INLink	ARTC	
2. CONSTRUCTION										
2.1	Determine Levels **HOLD POINT**	Flowchart	SE	Determine minimum excavation levels using Subgrade Testing Diagram – Formation Selection. Refer to CFM- 00- DR-0001 and 0002 as guidance for indicative formation type	3-0001-240-CFM-00-DR-0101 , 001 & 002	Per Lot	Superintendent and Superintendent and SE to mark-up flowchart, where required.			
2.2	Excavation - Earthworks after Unsuitable Material is identified. **HOLD POINT**	Visual	LH/ F	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 compacted as per Section 13 of ETC-08-04.	ETC-08-04 Cl 5.9.1 Cl 7 Cl 7.1 Cl 13	As required				
2.3	Excavation Adjacent to Existing Structures and Footings	Inspection	SE	The method of earthworks construction adjacent to structures shall be determined by the Superintendent and shall consider the age, condition, nature and quality of the structure. This may necessitate consultation with a structural engineer. Dilapidation surveys and Survey Monitoring are to be undertaken where specified or at the discretion of the Superintendent and as shown on the Drawings. ARTC need to be consulted and agreed for existing culverts to be reused.	ETC-08-04 Cl 5.13.3	As required				
2.4	Non-Rippable Material **HOLD POINT**	Visual/ Inspection	SE/ F	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 7.2 Cl 7.2.1	As required				
2.5	Cut Batters	Visual	SE/ F	Batter will require progressive flattening towards the end of cuttings. The surface of batters must be free of rills and all cut faces must be cleared regularly of any loose or unstable material throughout the excavation process.	ETC-08-04 Cl 7.3	As required				

<table>
<tr><th rowspan="2">Item</th><th rowspan="2">Work Step</th><th rowspan="2">Inspection / Test Method</th><th rowspan="2">Who By</th><th rowspan="2">Acceptance Criteria</th><th rowspan="2">References / Clauses</th><th rowspan="2">Frequency</th><th rowspan="2">Controls and Comments</th><th colspan="2">Test Point Sign-Off</th><th rowspan="2">Date</th></tr>
<tr><th>INLink</th><th>ARTC</th></tr>
<tr><td>2.6</td><td>Cuttings in Rock
HOLD POINT</td><td>Visual</td><td>SE/ F</td><td>Submit to the Superintendent all relevant survey reports and a plan for reuse of excavated material prior to excavation.</td><td>ETC-08-04
Cl 7.4</td><td>Prior to Excavation</td><td></td><td></td><td></td><td></td></tr>
<tr><td>2.7</td><td>Cuttings in Rock below top of cutting and below bench level
HOLD POINT</td><td>Inspection</td><td>SE/ F</td><td>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</td><td>ETC-08-04
Cl 7.4</td><td>As required</td><td></td><td></td><td></td><td></td></tr>
<tr><td>2.8</td><td>Procedure to Choose Subgrade
HOLD POINT</td><td>Flowchart</td><td>SE</td><td>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.</td><td>3-0001-240-CFM-00-DR-0101</td><td>Per Lot</td><td>Superintendent and SE to mark-up flowchart, where required.</td><td></td><td></td><td></td></tr>
<tr><td colspan="11">3. POST-CONSTRUCTION</td></tr>
<tr><td>3.1</td><td>Tolerances</td><td>Survey Report</td><td>SE</td><td>After excavation, the Contractor shall determine the surface levels at sufficient locations to determine the volume of excavation and filling for general earthworks and the volume of unsuitable material.
Batters:
Table 7 Cutting Batter Tolerances<table><tr><th rowspan="2">Location</th><th colspan="2">Tolerance from Design Profile (mm)</th></tr><tr><th>Slope 1H:1V or flatter</th><th>Steeper than 1H:1V</th></tr><tr><td>At level of toe of batter</td><td>+0 / –150</td><td>+0 / –200</td></tr><tr><td>2 m above toe of batter and beyond</td><td>+100 / –300</td><td>+100 / –300</td></tr><tr><td>Between level of toe of batter and 2 m above toe of batter</td><td>Interpolate</td><td>Interpolate</td></tr></table>Floor of Cutting:
Table 8 Cutting Level Control Tolerances<table><tr><th>Location</th><th>Tolerance from Design Profile (mm)</th></tr><tr><td>Floor of the cutting other than in rock</td><td>+0 to -40</td></tr><tr><td>Floor of the cutting in rock</td><td>+0 to -80</td></tr></table>The floor of cuttings other than rock shall not deviate more than 20mm over any 3m.</td><td>ETC-08-04
Cl 7.5.1
Cl 7.5.2</td><td>Post Construction</td><td></td><td></td><td></td><td></td></tr>
<tr><td>3.2</td><td>Geotechnical</td><td>Report</td><td>SE</td><td>Submission of geotechnical report with bearing capacity at final subgrade level.</td><td>3-0001-240-CFM-00-DR-0101</td><td>Post Construction</td><td></td><td></td><td></td><td></td></tr>
</table>

Comments/RFIs/NCR's:	

Sign-Off

Position	Name	Signature	Date
INLink Representative			
ARTC Representative			

SUBGRADE TESTING DIAGRAM - FORMATION SELECTION