

WORK AREA:	CONTRACT NAME:	DESCRIPTION OF ACTIVITY:	Rev	Originator	Date	Approved	Date
Gillingham Road	CON23041 Gillingham Road Bridge Replacement	Installation of stormwater pipes, manholes, catchpits, and downstream defenders	0	Akash Nada	02/04/2025	GvdLinde	
ITP No: 002			1				

Item No.	ITEM	ACTIVITY TASK	ACCEPTANCE CRITERIA	FREQUENCY	CERTIFYING DOCUMENTATION, RECORD OR CHECKSHEET	VERIFICATION SIGN OFFS	
						INTERNAL VERIFICATION AUTHORITY OR RESPONSIBILITY	CRITICAL HOLD POINT AUTHORITY
1	Site Preparation	Site Clearance	Visual Inspection	Prior to trench excavation	As per Engineer's acceptance	W	W
1.1	Concrete Pipes and Pre-cast Structures	Delivery of Pipes and Pre-cast structures	Visual Inspection – as per WSP T-WES00012 Section 2.3 pg. no. 262	Upon delivery on site	Delivery Dockets	R	W
1.2	Trench Fill Material	Trench fill material	MDD using NZS 4402 Test 4.1.3	One Week prior importing trench fill material	Copy of lab test report	H	H
2	Initial Set Out	Setting out M/H locations and Trench Alignment	As per approved drawings and design model provided	Prior to trench excavations	As per Engineer's acceptance	H	H
3	Trench Excavation	Trench Excavation	Visual Inspection – As per T-WES 00011 section 3.2.4 pg. no. 251	During and after excavation works	Checksheet	H	W
3.1	Pipe General Bedding	Place and Compact GAP20 Bedding or Approved, WDC EES Sheet 31	Visual Inspection	Prior to pipe laying	Checksheet	W	W
3.1.1	Steep Pipe – Concrete Bedding	Cement Stabilised AP20 bedding where required as per drawing (generally for trenches with >5% slope)	Visual Inspection – 40kg Cement to 1000kg aggregate, thoroughly mixed and compacted – T-WES 00012 section 3.1.5	Prior to pipe laying	Checksheet	H	W
3.2	Pipe Laying	Laying and Jointing of the pipes	Visual Inspection - Lay and joint pipes in accordance with the manufacturer's recommendations and AS/NZS 3725. – T-WES 00012 Section 3.1.1	During and upon completion of laying	Checksheet, As-Built information – Invert level, Gradient $\pm 0.1\%$	H	W

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3.3	Pipe Embedment	GAP65 or approved selected material compacted in 200mm layers	Clegg Hammer Test: 0-300mm DEPTH RANGE CLEGG READING NOT LESS THAN 45.  300-1500mm DEPTH RANGE CLEGG READING IS NOT LESS THAN 30.  1500mm TO TOP OF PIPE BEDDING MATERIAL CLEGG READING IS NOT LESS THAN 25.  WDC EES Sheet 31	Upon completion of each compacted layer	Clegg Hammer Test Record Sheet – Engineer to review at least weekly	H	H
			Nuclear Densometer or agree an alternative method with the Engineer where a Nuclear Densometer is not appropriate for the material type.  Minimum MDD not specified. T-WES 00012 section 4.5	Carry out one test every two layers per 50 m linear pipeline	Test Records - Engineer to review at least weekly	H	H
3.4	Trench Fill	Lay and compact in 200mm layers	Maximum dry density - ≥95% Road, paths and pavements  ≥90% in Berm.  Carry out compaction testing using a Nuclear Densometer or agree an alternative method with the Engineer where a NDM is not appropriate for the material type.	At least two layers of trench fill for every 50m of trench.	Test Records - Engineer to review at least weekly	H	H
4	Manhole and Catch-Pit Construction	Pre-cast Manhole base	Visual Inspection - 75mm min. of Bedding material.	Prior installation of Manhole Base	Checksheets	R	W
4.1	Manhole installation	Manhole risers and components	As per drawing DRAINAGE TYPICAL DETAILS SHEET 1	During and after installation	Checksheets	R	W

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4.2		Catch-Pit back entry and surrounding	As per drawing DRAINAGE TYPICAL DETAILS SHEET 1	For each Cath-Pit	Checksheet	R	W
5	<b>Downstream Defender</b>	Install and connect downstream defender	Typical Detail K – As per drawing DRAINAGE TYPICAL DETAILS SHEET 1	For each Downstream Defender	Checksheet	R	W
6	<b>Wingwall</b>	Wingwall installation	As per drawing DRAINAGE TYPICAL DETAILS SHEET 2	For each Wingwall installation	Checksheet	R	W
7	<b>Trapezoidal Swale</b>	Swale construction	As per Drawings and design model	Upon completion of the construction	As-built surface information	R	W
8	<b>Subsoil Drain</b>	Trench Excavation	As per drawing no. 1-14547.01 sheet no. C040	Prior to installation of subsoil drain	QF 007 Checksheet	R	R
8.1		Placing filter fabric around drainage aggregate	Engineer's approved filter fabric	Prior to placing drainage material	Checksheet	R	R
8.2		Install Subsoil drain	100m slotted subsoil drain with filter sock or approved	Prior to backfilling	Checksheet, As-built plans	R	R
8.3		Backfilling	20/7 drainage metal, Minimum 70mm below the drain  Minimum 300mm cover to subgrade improvement layer	Prior to pavement construction	Checksheet	R	R
9	<b>Testing</b>	Flush pipeline	Flush any debris	Prior testing	CCTV inspection	R	W
9.1	<b>Concrete pipes</b>	Leak Testing	Low-pressure air test, if a length fails use a hydrostatic test	Prior to final surfacing	Test record sheet	H	H
9.2	<b>CCTV</b>	CCTV Inspection of completed pipeline	Free from – Displaced joints, Ovality, Dips, Reverse grades, Debris in pipeline, particularly construction debris	Prior to final surfacing and after leak test	CCTV footage	H	R
9.3	<b>Manhole Testing</b>	Water drop test	As per T-WES 00012 section 4.7	Prior to final surfacing	Test Record sheet	H	H

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10	As Built & Final Design Documentation	Supply As-built Plans	Engineer to review and accept as-built Drawings	For all completed works	Engineer's acceptance of as-built drawings	H	H

# INSPECTION & TEST PLAN

## INSPECTION & TEST PLAN (ITP)

The ITP defines the required inspections during various stages of fabrication, construction and installation work. It is also a method of communicating these requirements to those doing the work and a verifying record that they have been carried out.

The ITP defines 2 different levels of inspection according to the following criteria:

- **Internal Verification:** This inspection or verification activity is required internally by United Civil. A Designated Internal Authority- Project Manager, Supervisor, Foreman or other authorised person is determined for the given inspection point or verification activity. Where a signature required verification is notified by signing the designated check sheet.
- **Critical Hold Points:** These are ONLY inspections required by the contract. It requires the Foreman/ Supervisor or Subcontractors Representative to notify the United Civil Project Manager that the hold point stage of inspection has been reached. Fabrication shall not proceed past this point unless the inspection has been carried out or approval to proceed is given in writing & signed by the Engineer's Representative.

The Engineer's Representative shall sign the Check sheet.

A Contract Hold Point is a contractual requirement. Where the Engineer's Rep has not signed or for whatever reason cannot sign the Hold Point off the Project Manager must signify verification by the Engineer by other means such email sign off or other formal correspondence and note as such on the ITP.

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