| **WORK AREA:**  **Gillingham Road** | **CONTRACT NAME:**  **CON23041 Gillingham Road Bridge Replacement** | **DESCRIPTION OF ACTIVITY:**  **Installation and Commissioning of Watermains** | **Rev** | **Originator** | **Date** | **Approved** | **Date** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **0** | **Akash Nada** | **03/04/2025** | **GvdLinde** |  |
| **ITP No: 003** | **1** |  |  |  |  |
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| **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 | Site clear of debris and vegetation | Prior to commencing watermain construction works | Visual Inspection | R | W |
| **2.** | **Pipe Delivery and Storage** | Delivery of Pipes and Fittings | Pipes and fittings free from damage, correct type and size | Upon being delivered on site | Visual Inspection,  Delivery Dockets | R | H |
| **2.1** |  | Storage of pipes and fittings | Pipes and fittings stored as per manufacturer’s recommendation | Upon being delivered on site | Visual Inspection | R | W |
| **3** | **Excavation and Bedding** | Initial set out | Setout as per drawings and provided design model | Prior to excavation works | Visual Inspection | R | H |
| **3.1** |  | Excavation | Excavation to correct depth and width, no damage to ex. Services | Prior to place bedding material | Visual Inspection, Checksheet | H | W |
| **3.2** |  | Place Pipe Bedding and Surround Material | Granular material for all pipe bedding and surround shall consist of uniformly sized particles between 5mm and 10mm and be composed of crushed blue metal or an approved alternative. – WDC Specification for the installation of watermains – Section 4.4 pg. n. 12 | Prior to installation of pipe | Visual Inspection,  Checksheet | H | W |
| **4** | **Pipe Installation** | Pipe laying | Pipes laid to line and grade; joints correctly made | Upon completion of jointing the pipes | Visual Inspection,  Checksheet | H | W |
| **4.1** |  | Pipe Jointing – Butt Weld | Joints made as per manufacturer’s instructions; data logged - WDC Specification for the installation of watermains – Section 5.1.6 | Each Joint | Data Logg,  Checksheet | H | W |
| **4.2** |  | Pipe Jointing – Electrofusion Welding | Joints made as per manufacturer’s instructions; data logged -WDC Specification for the installation of watermains – Section 5.1.6 | Each EF Joint | Data Logg,  Checksheet | H | W |
| **4.3** |  | Flanged Joints | For jointing ductile iron fittings to PE80 pipe stub or slim flanges with nylon coated backing plate shall be used. – Stainless steel 316- bolts and washers.  Torqued as per manufacturers instruction. - WDC Specification for the installation of watermains – Section 5.1.7  Denso | Each Flanged connection | Visual Inspection,  Checksheet | H | H |
| **5** | **Fittings Installation** | Installation of Valves | Valves installed as per drawings and specifications | Each valve connection | Visual Inspection | H | W |
| **5.1** |  | Installation of Hydrants | Hydrants installed as per drawings and specifications | Each Hydrant connection | Visual Inspection | H | W |
| **5.2** |  | Installation of Air Valve and Scour Valve | Valves installed as per drawings and specifications | Each valve connection | Visual Inspection | H | W |
| **6** | **Testing** | Pressure Test – Main larger than DN63mm PE80 – Decay Test Method as per approved WMS | No Leaks, pressure maintained as per specification | Each Sections | Data Logg,  Test Record Sheet | H | W |
| **6.1** |  | Weld Testing | Tests to verify if the butt weld is ductile and stronger than the pipe itself will be conducted in accordance with ISO 13953:2001. For EF welds, the required destructive test is the peel decohesion test, which must be performed in accordance with ISO 13954:1997. | Random Samples – typically between 1% and 2% of the total welds  WDC Specification for the installation of watermains – Section 5.1.8 | ISO-accredited lab test report | H | R |
| **8** | **Anchor Blocks** | Construction of Anchor Blocks | Visual Inspection – Completed as per approved drawing sheet no. C033C & C033D | Each Anchor block as per drawings | Prepour Inspection Checksheet,  Visual Inspection | H | H |
| **9** | **Backfilling** | Backfilling of the trench | Visual Inspection – Material as per specification, compacted in layers | Each layer | Compaction test record sheet | H | R |
| **10** | **Disinfection** | Disinfection of the watermain | Visual Inspection – in accordance with WDC Water Services – Hygiene Code of practice | Prior to connection with live main – Upon completion of backfilling and testing each section | Visual Inspection,  Record Sheet | H | W |
| **11** | **Water Main Commissioning** | Connection to live mains | New water mains must be connected to live mains within 10days of completing the disinfection process. | For each new water mains installed | Visual Inspection,  Record Sheet | H | W |
| **12** | **As Built & Final Design Documentation** | As-built Plans | Engineer to review and accept as-built Drawings | For all completed works | As-Built Plans,  Operation and Maintenance Manual | H | H |

# 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.