Inspection and test plan – HDPE, Stormwater, AOC and COC Installation

Project no. CC0398 **Project name** VIVA ULSG **Date** 20/12/2023 **Approved by** Ari Birch
ITP no. 033 **Revision no.** C **Revision date** 08/02/2024 **Plant and equipment used** Excavator, Compaction Plate, Moon buggy, Tandem Truck
Lot no. **Location (chainages, detailed description or marked up plan)**

Attach Dockets, Certificates and QA Documents to ITP

					Verification of acceptance by				Remarks / record (e.g. test frequency, reports, certificates, checklist etc)
					Symal Infrastructure		MDR/VIVA		
Item no.	**Activity**	**Ref docs**	**Acceptance criteria**	**Acceptance**	**Key**	**Sign date**	**Key**	**Sign date**	
1.0 Preliminaries									
1.1	Set out	Isometric Drawings	Is the position of the pipe in accordance with the drawings? IFC and latest available revision used?	☐ Yes ☐ No ☐ N/A	H		W		
1.2	IFC Submission & Approval	Isometric Drawings	Is IFC Construction Drawing and Most Current Revision Approved by the client?	☐ Yes ☐ No ☐ N/A	H		H		
1.3	Permits	Symal Safety Procedure	Have the below permits been created. -GPP -Working at Heights -Hot Works -Confined Space	☐ Yes ☐ No ☐ N/A	H		W		
1.4	Determine Lot Size		What is the lot size?	☐ Yes ☐ No ☐ N/A	S		W		
1.5	Free Issue Materials		Have the free issue materials been accepted and checklist completed? Have the materials and tag numbers/heat numbers been verified?	☐ Yes ☐ No ☐ N/A	W		W		☐ Material Inspection Checklist
1.6	Welding Pre-Qualification	Welder Qualifications and tickets. This ITP	Welding procedures, equipment to be used, welding qualifications and calibration of welding machines to be submitted and approved by the client, has this been completed?	☐ Yes ☐ No ☐ N/A	H		H		

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1.7	Bedding and Backfill Materials Approval	235929-000-CV-SP-00006 UG PIPE FAB and INSTALL Section 12.1.8	Has bedding and backfill materials been approved for use?	☐ Yes ☐ No ☐ N/A	H		H		
2.0 Excavation and bedding									
2.1	Service Location	DBYD & Services marked on current IFC drawings (if applicable)	Current DBYD documents received and works executed by qualified service locator	☐ Yes ☐ No ☐ N/A	H		S		
2.2	Excavation	235929-000-CV-SP-00006 UG PIPE FAB and INSTALL Section 12.1.12	Excavation shall be to depth adequate to provide full specified bedding depth of 100mm. Minimum trench width as per manufacture specifications pg. 17 is 1.25 x OD + 300mm. Earthworks for trenches shall be done in accordance with standard drawing, has this been completed?	☐ Yes ☐ No ☐ N/A	W		S		
2.3	Bedding material	235929-000-CV-SP-00006 UG PIPE FAB and INSTALL Section 12.1.8	Has the bedding material been installed as per the manufacturer's specification? Conforms IFC drawing (if applicable)? Bedding depth minimum 100mm Overlay depth minimum 300mm.	☐ Yes ☐ No ☐ N/A	S		S		☐ Delivery Dockets
3.0 Welding, Laying & Backfill									
3.1	Above ground fabrication	235929-000-CV-SP-00006 UG PIPE FAB and INSTALL	Have the lengths been welded as per the manufacturers spec and welding duration?	☐ Yes ☐ No ☐ N/A	W		S		☐ Welding Checklist

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		PIPA-POP014-Assessment-of-Polyethylene-Welds-Issue-1.1 ISO-21307 PWS-WP-01 Butt Fusion Procedure	Has the welding procedure in the reference documents been adhered to?						
3.2	Lifting into trench	235929-000-CV-SP-00006 UG PIPE FAB and INSTALL Section 12.2.1 Item 12.2.7	Before lowering in, caps shall be placed on open ends, flanges, etc., which shall remain in place until piping connection can be made. Particular attention shall be given to the need to protect pipes from damage due to loads from heavy plant, has this been completed? Have pipes been laid to true line and level? Has MDR been notified before the laying of pipework?	☐ Yes ☐ No ☐ N/A	W		S		☐ Survey compliance report
3.3	In ground fabrication	235929-000-CV-SP-00006 UG PIPE FAB and INSTALL PIPA-POP014-Assessment-of-Polyethylene-	Are the EF couplings if required sitting outside of the ground of the trench as to ensure that water can't enter the coupling? Have the welds been welded for the appropriate amount time?	☐ Yes ☐ No ☐ N/A	W		S		☐ Welding Checklist

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		Welds-Issue-1.1 ISO-21307							
3.4	Haunching	235929-000-CV-SP-00006 UG PIPE FAB and INSTALL	Has the backfill material shall be approved soil without large stones, organic matter or substances which may cause damage to the piping?	☐ Yes ☐ No ☐ N/A	W		S		
3.5	Back fill	235929-000-CV-SP-00006 UG PIPE FAB and INSTALL	Has Sand Back fill been placed to 300mm above Pipe? No compaction equipment to be used until 300mm above pipe. Has select backfill been placed in layers not exceeding 150mm loose thickness? No compaction equipment has been used between 0-300mm above top of pipe, light compaction equipment has only been used from 300-600mm. above pipe. Note: Backfill around joints/welds can not commence until testing has been completed.	☐ Yes ☐ No ☐ N/A	W		S		
3.6	Compaction	235929-000-CV-SP-00006 UG PIPE FAB and INSTALL	Sand Fill - not less than 90% of maximum density or 70% of relative density, except that under paved areas the entire depth shall be compacted in 150mm layers to not less than 95% of maximum density or 80% relative density. Select Fill - Backfill under pavements shall be compacted to a dry density ratio of no less than 98% modified comp active effort. Backfill to be in 250mm compacted layers.	☐ Yes ☐ No ☐ N/A	W		S		

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			Testing Frequency: Minimum 2 field density tests for each 185 m2 of each compacted fill layer, but no less than 3 tests for total area Has compaction testing been completed as per the project specifications?						
4.0 Testing and Conformance Check									
4.1	Test Pack		Has a test pack been provided prior to testing? Test pack to include. - Test Procedure - Test Map - Equipment Calibration - Equipment Details - Exclusion zones if require - Provision of testing log template	☐ Yes ☐ No ☐ N/A	H		H		☐ Testing Log
4.2	Hydrostatic Testing	235929-000-CV-SP-00006 UG PIPE FAB and INSTALL Section 13.2	Is the line a Pressurised Line? If yes refer to the below. Testing Equipment is calibrated within 12 months from a NATA certified laboratory. Has the pipework been tested at 30 bar for 2 hours specification for the required duration?	☐ Yes ☐ No ☐ N/A	H		H		☐ Testing Log
4.3	Leak Testing or Air Testing	235929-000-CV-SP-00006 UG PIPE FAB and INSTALL Section 13.3	Is the line an atmospheric line? Atmospheric lines to be “full of liquid” tested shall be filled with water for at least 24 hours before visible inspection of the complete test system by the inspection team, water level in the test system shall be checked and marked at the start of the test and rechecked after twenty-four (24) hours during visible inspection of the system. Concrete Sumps or other material that will absorb water shall remain full of water for minimum 24 hours prior to test running.	☐ Yes ☐ No ☐ N/A	H		H		☐ Testing Log

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			Note: Losses from seepage / absorption may not be higher than 0.5 l/m2 of wet surface during the first 6 hours.						
4.4	Survey		Tolerances in alignments shall be limited to +/- 25 mm vertically or horizontally, unless otherwise specified on engineering drawing, has this been completed? As-built Drawings	☐ Yes ☐ No ☐ N/A	W		W		As-built Survey

Comments:

Lot acceptance:

Symal Infrastructure representative name _____ MDR representative name _____

Symal Infrastructure representative signature _____ MDR representative signature _____

Inspection key: W – Witness, **H –** Hold Point, **S -** Surveillance