Fulton Hogan	Inspection and Test Plan - Control and Supervision of the Works	Document # ITP-002 Revision : 02 Date : 14/04/2022

Client: Yarra Trams	**Construction Process:**	Prepared by:	Reviewed by :	Approved by :
Project:	*Feeder Conduits and Pits*	Name: **Aaron Hatch**	Name: **Damon Bromwich**	Name: **Shaun Kent**
Contract No:	**Specifications: Yarra Trams Infrastructure - Tram Track Construction Standard (CE-019-ST-0033)**			
	Structure / Component: Tram Tracks	Signed :	Signed :	Signed :
	Location:	Date :14/04/2022	Date : 14/04/2022	Date : 14/04/2022

Lot No:	**Lot Details:**	**Lot Size/ Quantity:**

Item No.	Task/Activity Description	Inspection / Controls and Verification Detail					HP/ WP/ AP/ IP/ TP/ SCP	Responsibility	Checked by:			
		Frequency	Acceptance Criteria	Reference Documents	Inspection / Test Method	Record of conformity		Project Engineer Site Engineer Superintendent Surveyor Foreman	Client	Fulton Hogan	FH's Sub-contractor	Date
1	**Preliminary Works**											
1.1	Check for correct documentation	Prior to commencing any activity	Ensure that all employees and subcontractors are: - using the correct and complete set of drawings -all drawings are the latest revision	Drawings and drawing registers	Visual inspection	This ITP signed off	**HP***	Fulton Hogan Engineer	N/A		N/A	
1.2	Implementation of all measures and controls	Prior to commencing any activity	All necessary measures and controls are being implemented, that is: PSP, EMP, TMP, JSEA, SWMS & WP	PSP, EMP, TMP, JSEA, SWMS, WP	Visual Inspection	This ITP signed off	**HP***	Fulton Hogan Engineer	N/A		N/A	
1.3	Materials	Per Batch	• Electrical supply conduit to be Orange • Heavy Duty 100mm diameter UPVC • Modula Stakka pits to be used for feeder pit, entry for conduits to be cut with hole saw • All pit covers to be class D or greater and installed in accordance with manufacturer requirements.	CE-019-ST-0033 cl 4.4 AS 2053	Verify	This ITP signed	**HP***	Fulton Hogan Engineer	N/A		N/A	
2	**Construction Works**											
2.1	Survey set-out	As required	• Work is set out in accordance with drawings. • Ensure that pits are placed as shown on drawings and shall align with overhead poles which are suitable for connection with infrastructure from pits	Work procedure	Verify	This ITP signed	**HP***	Fulton Hogan Engineer	N/A		N/A	
2.2	Excavation and Trenching	Prior to Installation	• Minimum cover for underground conduits shall be 600mm • Open trenching only permitted in unpaved areas, line of trench to be at right angle to the track • Trench shall maintain a minimum clearance of 300mm from all existing services where possible	CE-019-ST-0033 cl 4.2.5 & 4.2.8	Verify	This ITP signed	**WP**	Fulton Hogan Engineer	N/A		N/A	

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2.3	Installation of Conduits and pits	Each Lot	• Conduits in the same run shall be spaced 50mm by using clean sand to pack voids Conduit shall be embedded in not less than 50mm sand and covered by >50mm - 75mm< sand • Mechanical protection shall be provided by installation of polymeric cable or cover strip of thickness not less than 3mm, and of a material equivalent of UPVC conduit complying to AS 2053. Protective material shall be placed not less than 100mm above the conduit, and shall not be less than 150mm wide. • Conduits shall be joined male to female ends and sealed with approved adhesive immediately prior to joining. • Conduits shall not be subject to construction loadings • Pits shall be constructed as to allow for class D rated covers • Bottom of lowest conduit shall maintain a minimum 100mm above pit floor, a 50mm gap between conduits shall be maintained as they enter pit face. • Conduits exiting the pit as 'stub ends' shall extend a minimum of 50mm beyond the pit face and shall be fitted with a spigot end and capped with UPVC electrical caps to prevent contamination to internal surface. • Conduits shal be placed a minimum of 100mm above pit floor • Conduits installed for future connections shall be installed to the track Margin • 100mm of concrete around and under pit lid	CE-019-ST-0033 cl 4.4	Visual inspection	This ITP signed	**WP**	Fulton Hogan Engineer/YT	N/A		N/A	
2.4	Inspection of conduit installation	Each Lot	Laying of conduits and installation of pits shall be inspection by superintendent and conform to design drawings before any backfilling procedure is to commence	Work procedure	Visual Inspection	This ITP Signed	***HP**	Fulton Hogan Engineer/YT			N/A	
2.5	Back Fill of Trenches	Each Lot	• Backfilling (Only to be used for road crossing trenches) - conduit trench shall be backfilled above marker tape with crushed rock or suitable excavated material and compacted to 90% standard compaction 150mm-200mm below sub base level, the last 150mm-200mm shall be compacted to 100% standard compaction	CE-019-ST-0033 cl 4.2.5	Verify	This ITP signed	**WP**	Fulton Hogan Engineer	N/A		N/A	
2.6	Installation of Draw Cords	Each Lot	Draw wire shall be provided for each conduit, with extra 3m length at each pit. Material shall be 6mm 'telstra rope'	CE-019-ST-0033 cl 4.4.6.2	Verify	This ITP signed	**WP**	Fulton Hogan Engineer	N/A		N/A	
2.7	Compaction	Each Lot	• Bedding and backfill material to be compacted using mechanical plant During compaction optimum moisture content of bedding and select fill is within 85% to 115%	CE-019-ST-0033 cl 4.2.8	Verify	This ITP signed	**IP**	Fulton Hogan Engineer	N/A		N/A	
2.8	Feeder Pits & Pit Lids	Each Lot	• Feeder Pits constructed and installed as per drawings • All conduit connections to cable pits shall be neatly made and ends of conduit trimmed off and the area between the conduit and pit wall stopped with cement mortar • Pits shall be constructed such that the level of the top of the pit lid matches surrounding finished surface level, top of pit wall is finished so that lid fits without movement • Gatic pit lids shall be filled with structural grade concrete.	CE-019-ST-0033 cl 4.4.7	Verify	This ITP signed	**WP**	Fulton Hogan Engineer	N/A		N/A	

Final Inspection

The signature below verifies that this ITP has been completed in accordance with the FH's Quality system Procedures and verifies lot compliance with specifications.

Print Name: Position: Signature: Date: / /

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		Frequency	Acceptance Criteria	Reference Documents	Inspection / Test Method	Record of conformity			Client	Fulton Hogan	FH's Sub-contractor	Date

Legend

HP	Hold Point	Work shall not proceed past the HP until released by the Superintendent	**IP**	Inspection point	Formal Inspection to be done and recorded
HP*	FH Hold Point	Work shall not proceed past the HP* until released by FH	**TP**	Test Point	Product compliance test to be undertaken and recorded/reported
WP	Witness Point	An inspection which must be witnessed by the Superintendent	**SCP**	Survey conformance point	A qualified surveyor to check product/section/structure and report
AP	Approval Point	Written or verbal approval given by the Superintendent			