Fulton Hogan	Inspection and Test Plan - Control and Supervision of the Works	Document # ITP-005 Revision : 0 Date : 30/11/2020

Client: Yarra Trams **Project:** **Contract No:**	**Construction Process:** *Track Drainage* **Specifications:** Yarra Trams Infrastructure - Tram Track Construction Standard (CE-021-ST-0044), Yarra Trams Standard Drawings and Technical Specification **Structure / Component: Tram Tracks** **Location**	Prepared by: Name: **Aaron Hatch** Signed : Date : 30/11/2020	Reviewed by : Name: **Ruan Dippenaar** Signed : Date : 30/11/2020	Approved by : Name: **Shaun Kent** Signed : Date : 30/11/2020

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

Item No.	Task/Activity Description	Inspection / Controls and Verification Detail					HP/ WP/ AP/ IP/ TP/ SCP	Responsibility Project Engineer Site Engineer Superintendent Surveyor Foreman	Checked by:			
		Frequency	Acceptance Criteria	Reference Documents	Inspection / Test Method	Record of conformity			Client	Fulton Hogan	FH's Sub-contractor	Date
1	**Preliminary Works**											
1.1	Check for correct documentation	Prior to commencing any activity	Drainage design satisfies requirements of all relevant catchment and drainage authorities, a copy of all drainage work approvals are to be forwaded to the superintendent	Drawings and drawing registers	Visual inspection	This ITP signed off	**HP***	Fulton Hogan Engineer	N/A		N/A	
1.3	Materials Check	Prior to commencing any activity	Ensure drainage pipes are of correct classification and are without damage Check triangle drains are of adequate quality, and are design according Ri57A rail profile Ensure lid and j-bolts being used are in accordance with STD T9022	CE-021-ST-0044 cl 4.3.1 STD T9021A STD T9020 STD T9022	Visual inspection Inspection Checklist	This ITP signed off Recievable Inspection Checklist	**HP***	Fulton Hogan Engineer	N/A		N/A	
1.4	Bedding Sand	Prior to commencing any activity	The bedding of all pipes shall be in accordance with AS.3500.3-2003 using sand complying to the following: Max. particle size of 5 mm, Not more than 5% by weight passing a 75 micron AS 1152 sieve, Free from organic impurities,Consisting of hard durable particles, and well graded.	CE-021-ST-0044 cl 4.3	Visual inspection	This ITP signed off	**HP***	Fulton Hogan Engineer	N/A		N/A	
2	**Construction Works**											
2.1	Set out drainage	Prior to commencing any activity	The position of all drainage lines are to be confirmed with the superintendent Track drain locations are to be identified and based off IFC drawings and sections.	Design Drawings and Register	Visual inspection	This ITP signed off	**HP***	Fulton Hogan Engineer	N/A		N/A	
2.2	Excavation (pipes)	Each Trench	Trenching to allow for minimum clearance depth of 100mm below UPVC pipe, and 15mm from bottom of rail to surface of pipe Track drains usually have invert for pipes at 400mm depth, with floor of pit 10mm deeper.	STD T9021 CE-021-ST-0044 cl 4.3	Visual Inspection	This ITP signed off	**IP**	Fulton Hogan Engineer	N/A		N/A	
2.3	Bedding	Each lot	Class 2 crush rock shall be compacted to refusal of 100mm minimum thickness	STD T9021A	Visual inspection	This ITP signed off	**IP**	Fulton Hogan Engineer	N/A		N/A	
2.4	Joining	Eaach lot	All UPVC pipes shall be joined utilising 'male' to 'female' ends.UPVC pipes shall be joined using appropriate plumbing adhesive immediately prior to connection.	CE-021-ST-0044 cl 4.3.2	Verify	This ITP signed off	**IP**	Fulton Hogan Engineer	N/A		N/A	

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2.5	Track Drain Installation	Each Lot	Track drains shall be welded to designated positions, and cleaned of all weld splatter . Weld shall be sealed after installation Rectangular 300 x 450mm junction pit & lid shall be used with 4 x j-bolts secured as per STD T9022	STD T9021A STD T9022	Visual inspection	This ITP signed off	**IP**	Fulton Hogan Engineer	N/A		N/A	
2.6	Points Drainage	Where required	The road motor box pit for automatic points shall be drained separately to the normal switch drain and care shall be taken to ensure that water cannot flow into the road motor box pit. Points drainage shall be constructed as shown on Standard Drawing STD_T0304, with 100mm dia UPVC pipe.	CE-021-ST-0044 cl 4.3 STD T0304 STD T0305	Visual inspection	This ITP signed off	**IP**	Fulton Hogan Engineer	N/A		N/A	
2.7	Concrete Pour	Each Lot	Ensure correct heights of sub grade, as to allow for minimum thickness 150mm concrete, to be poured in same period as track slab	STD T9021A	Visual inspection	This ITP Signed off	**IP**	Fulton Hogan Engineer	N/A		N/A	
2.8	Connection to local drainage	Each Lot	Drainage shall be connected to existing Principal's, VicRoads or the Local Authority's storm water drainage system using either UPVC pipe or reinforced concrete pipes, or an alternative approved by the relevant authority. The minimum pipe size shall be 150 mm.	CE-021-ST-0044 cl 4.3.2	Visual inspection	This ITP Signed off	**IP**	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: / /

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			