Fulton Hogan	**Inspection and Test Plan - Control and Supervision of the Works**	**Doc ID:** ITP 025 **REV:** 0

Client: Melbourne Airport	**Contract No:** CP14038-01	**Prepared By:** Giuliano Follacchio
Project: Taxiway Zulu Program	**Reviewed By:** Giuliano Follacchio	**Date:** 14/12/2023
Construction Process: AGL Conduit Installation	**Approved By:** Giuliano Follacchio	**Date:** 12/4/24
Specifications: ZULU-BECA-001-SPC-00004		
Structure / Component: AGL		

Lot No:	Lot Details:	Lot size/Quantity:	Date:

Item No.	Task/Activity Description	Inspection/Test					HP/ WP/ AP/ IP/ TP/ SCP	Responsibility	Checked by:			
		Frequency	Acceptance Criteria	Reference Documents	Inspection/ Test Method	Record of conformity		Project Engineer Principal's Rep. Surveyor Foreman	Subcontr-actor	Principal's Rep.	FH	Date
1.0	**Preliminary Activities – Permits, Documentation, Approvals, Survey Documentation**											
1.1	Check for correct documentation	Prior to commencing activity	Ensure that all employees and subcontractors are: - using the correct and complete set of drawings. - all drawings are the latest revision.	Drawings / Aconex Register	Verify	Drawings and drawing registers	HP*	Project Engineer				
1.2	Implementation of all measures and controls	Prior to commencing activity	All necessary measures and controls being implemented, that is PSP, EMP, TMP, SWMS & WP.	PSP, EMP, TMP, JSEA, SWMS, WP	Visual inspection	This ITP signed	HP*	Project Engineer				
1.3	Definition of the work area (survey)	Prior to commencing activity	Work area has been cleared and surveyed (marked on site). Limits of excavation clearly defined.	Drawings	Visual inspection	This ITP signed	HP*	Project Engineer / Surveyor				
1.4	Check conduit compliance	Prior to commencing activity	- Ensure that uPVC conduits comply with AS 1477 or equivalent AS 2053. Shall be heavy duty, orange for electrical services and white for communication services. - Ensure that pipe diameter is correct as per the drawings.	ZULU-BECA-001-SPC-00004 cl. 3.4 AS 1477 AS 2053	Verify	Aconex reference This ITP signed	IP	Project Engineer				
1.5	Check bedding material compliance	Prior to commencing activity	- Ensure that conduit bedding material is non-plastic granitic sand complying with Table 3-1 and 3-2 under cl. 3.8.3.3 of the Works Specification.	ZULU-BECA-001-SPC-00004 cl. 3.8.3.3	Verify	Aconex reference	TP	Project Engineer				

Fulton Hogan	**Inspection and Test Plan - Control and Supervision of the Works**	**Doc ID:** ITP 025 **REV:** 0
Client: Melbourne Airport	**Contract No:** CP14038-01	**Prepared By:** Giuliano Follacchio
Project: Taxiway Zulu Program	**Reviewed By:** Giuliano Follacchio	**Date:** 14/12/2023
Construction Process: AGL Conduit Installation	**Approved By:** Giuliano Follacchio	**Date:** 12/4/24
Specifications: ZULU-BECA-001-SPC-00004		
Structure / Component: AGL		

Item No.	Task/Activity Description	Inspection/Test					HP/ WP/ AP/ IP/ TP/ SCP	Responsibility	Checked by:			
		Frequency	Acceptance Criteria	Reference Documents	Inspection/ Test Method	Record of conformity		Project Engineer Principal's Rep. Surveyor Foreman	Subcontr-actor	Principal's Rep.	FH	Date
1.6	Locate and prove existing services	Prior to commencing activity	- Location of services to be found and marked on the ground within the works; - Contractor to obtain excavation permit from APAM prior to any demolition works. - Services located within the works area to be exposed/proven, recorded as survey data and also on a service plan which is to be attached to the Excavation Permit.	ZULU-BECA-001-SPC-00004 cl. 3.15	Verify	Melbourne Airport Excavation Permit	HP*	Project Engineer / Surveyor				
2.0	**Construction**											
2.1	Excavate trenches for conduits	Each lot	- Trenches for conduits shall be excavated to the width and depth required enabling construction of the conduits to the requirements specified on the drawings. - The level at the bottom of the trench shall not be above the required level at any point. - Any over excavation under pavements shall be restored using 5MPa lean mix concrete in conjunction with the embedment.	Drawings ZULU-BECA-001-SPC-00004 cl. 3.6	Visual inspection	This ITP signed	IP	Project Engineer / Foreman				
2.2	Existing services crossing new conduits	Each lot	- Only approved methods of excavation that has been approved by the Principal's Representative shall be used. - Location, level and configuration of existing service crossing to be recorded in as built	WMS002 – Working Near Existing Services	Visual inspection	As-built survey report	SCP	Project Engineer / Surveyor				

Item No.	Task/Activity Description	Inspection/Test					HP/ WP/ AP/ IP/ TP/ SCP	Responsibility	Checked by:			
		Frequency	Acceptance Criteria	Reference Documents	Inspection/ Test Method	Record of conformity		Project Engineer Principal's Rep. Surveyor Foreman	Subcontr-actor	Principal's Rep.	FH	Date
			documentation prior to backfill (including CAD model file)									
2.3	Laying and jointing of conduits	Each lot	- All conduits shall be rigidly supported and positioned by concrete or plastic spacer blocks so that no displacement occurs during backfill. - Where conduit ends are not open to a pit, UPVC end caps shall be temporarily fitted to each end. - Number of conduits and duct route to be confirmed for conformity with design.	ZULU-BECA-001-SPC-00004 cl. 3.7	Visual inspection	This ITP signed	IP	Project Engineer / Foreman				
2.4	Survey as-built	Prior to backfilling each lot	Surveyor to pick up completed conduit runs before backfill	FH QMP	Verify / Inspection	Survey report	SCP / IP	Project Engineer / Surveyor				
2.5	Pre-pour inspection	Prior to backfilling each lot	**WITNESS POINT** The Contractor must provide the Principal's Representative notice of the Contractor's intention to backfill trenches within a Lot. This must include details of the date, time and location of the proposed work.	ZULU-BECA-001-SPC-00004 cl. 3.8.1	Inspection	This ITP signed	**WP**	Project Engineer / **Principal's Representative**				
2.6	Backfilling conduits under pavement	Each lot	Concrete encasement of conduits: Conduits to be encased in 5MPa lean mix concrete as per drawings. Trenches in existing pavement: Surface shall be reinstated to match surrounding pavement. Unless noted otherwise, reinstate asphalt pavement surfaces to a minimum of 70mm (or to match existing depth (whichever is greater)). Trenches in new pavement:	Drawings ZULU-BECA-001-SPC-00004 cl. 3.8.2.1 cl. 3.8.2.2	Verify	Delivery docket This ITP signed	IP	Project Engineer/ Foreman				

Fulton Hogan	Inspection and Test Plan - Control and Supervision of the Works	**Doc ID:** ITP 025 **REV:** 0
Client: Melbourne Airport	**Contract No:** CP14038-01	**Prepared By:** Giuliano Follacchio
Project: Taxiway Zulu Program	**Reviewed By:** Giuliano Follacchio	**Date:** 14/12/2023
Construction Process: AGL Conduit Installation	**Approved By:** Giuliano Follacchio	**Date:** 12/4/24
Specifications: ZULU-BECA-001-SPC-00004		
Structure / Component: AGL		

Item No.	Task/Activity Description	Inspection/Test					HP/ WP/ AP/ IP/ TP/ SCP	Responsibility	Checked by:			
		Frequency	Acceptance Criteria	Reference Documents	Inspection/ Test Method	Record of conformity		Project Engineer Principal's Rep. Surveyor Foreman	Subcontr-actor	Principal's Rep.	FH	Date
			Pavement shall be constructed as per the drawings and specification.									
2.7	Backfilling conduits in grassed areas	Each Lot	**HOLD POINT** Conduits to be encased in compacted sand bedding. The material shall be non-plastic and comply with properties specified in Table 3-1 & 3-2 of the specification. Details of the proposed sand shall be submitted to the Principal's Representative. Backfill layers - Not exceeding 300mm compacted thickness. - Not less than 90% maximum dry density (test no. 5.1.1). - Not less than 70% of density index (test E6.1). Compaction testing carried out at a rate of not less than: - Bedding: 1 test per 400m of conduit laid (min. 3x). - Backfill: 1 test per 400m of conduit laid per 0.5m of backfill depth (min. 3x).	ZULU-BECA-001-SPC-00004 cl. 3.8.3.1 cl. 3.8.3.2 cl. 3.8.3.3 AS 1289 Test no. 5.1.1 Test no. E6.1	Verify	Test report Aconex reference This ITP signed	**HP** / TP / IP	Project Engineer / **Principal's Representative** / Foreman				
2.8	Conduit markers & warning tape	Each lot	• Pavement edge duct markers shall be installed at the edge of pavements immediately over the centreline of duct banks. • Warning tape shall be to AS 2648.1, and coloured orange for electrical/white for communications conduits.	ZULU-BECA-001-SPC-00004 cl. 3.11 cl. 3.12 AS 2648.1	Visual inspection	This ITP signed	IP	Project Engineer / Foreman				

Fulton Hogan	**Inspection and Test Plan - Control and Supervision of the Works**	**Doc ID:** ITP 025 **REV:** 0

Client: Melbourne Airport	**Contract No:** CP14038-01	**Prepared By:** Giuliano Follacchio
Project: Taxiway Zulu Program	**Reviewed By:** Giuliano Follacchio	**Date:** 14/12/2023
Construction Process: AGL Conduit Installation	**Approved By:** Giuliano Follacchio	**Date:** 12/4/24
Specifications: ZULU-BECA-001-SPC-00004		
Structure / Component: AGL		

Item No.	Task/Activity Description	Inspection/Test					HP/ WP/ AP/ IP/ TP/ SCP	Responsibility	Checked by:			
		Frequency	Acceptance Criteria	Reference Documents	Inspection/ Test Method	Record of conformity		Project Engineer Principal's Rep. Surveyor Foreman	Subcontr-actor	Principal's Rep.	FH	Date
2.9	Checking of conduit lines	Each lot	**HOLD POINT** Following installation, the conduit shall be checked by passing a mandrel (not less than 300mm long and having a diameter of not more than 6mm less than the diameter of the conduit) through each way, followed by a brush with stiff bristles to clean the conduit of any foreign materials.	ZULU-BECA-001-SPC-00004 cl. 3.9	Visual inspection	This ITP signed Avionics Primary Trenching Checklist	**HP**	Project Engineer / **Principal's Representative**				
2.10	Conduit draw cord	Each lot	Each duct way in each duct bank shall be fitted with a single unjointed length of draw cord of a length equal to the length of the duct plus 4m. The draw cord shall be nylon rope and be 6mm in diameter, blue in colour. The ends of the rope shall be coiled at the bottom of each pit or wound around a stake.	ZULU-BECA-001-SPC-00004 cl. 3.10	Visual	This ITP signed Avionics Primary/Secondary Trenching Checklist	IP	Project Engineer / Foreman				

Final Inspection
The signature below verifies that this ITP has been completed in accordance with the Fulton Hogan'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 Principal's Representative	**IP**	Inspection point	Formal Inspection to be done and recorded
HP*	Fulton Hogan Hold Point	Work shall not proceed past the HP* until released by Fulton Hogan	**TP**	Test Point	Product compliance test to be undertaken and recorded/reported
WP	Witness Point	An inspection which must be witnessed by the Principal's Representative	**SCP**	Survey conformance point	A qualified surveyor to check product/section/structure and report
AP	Approval Point	Written or verbal approval given by the Principal's Representative			

Fulton Hogan	**Inspection and Test Plan - Control and Supervision of the Works**	**Doc ID:** ITP 025 **REV:** 0

Client: Melbourne Airport	**Contract No:** CP14038-01	**Prepared By:** Giuliano Follacchio
Project: Taxiway Zulu Program	**Reviewed By:** Giuliano Follacchio	**Date:** 14/12/2023
Construction Process: AGL Conduit Installation	**Approved By:** Giuliano Follacchio	**Date:** 12/4/24
Specifications: ZULU-BECA-001-SPC-00004		
Structure / Component: AGL		

Notes	

Break into Existing PIT

Fitting ID:	
Light Type:	
Work Area:	
Drawing Number:	

Task Details	Signature:	Date:	Name:	Status:
Task number 1: ELECTRICAL WORKS - Ensure isolation are in placed (By Fulton Hogan). - Permit for excavate/coring completed, reviewed and approved for works (By Fulton Hogan). - Existing services identified and exposed in accordance with permit to excavate (By Fulton hogan).				
Task number 2: CIVIL WORKS - Ensure 1m of hydro-excavation is completed from the PITs edge - Complete excavation near PIT to allow for positioning of core rig on PIT edge				
Task number 3: CIVIL WORKS - Mark the position of the hole. - Core the hole as per requirements. - Install the conduit into the existing PIT.				
Task number 4: CIVIL WORKS - Backfill Topsoil TURF till top. - Clean area, FOD walk and demobilize.				

Asset:

Primary Trenching (Off-Pavement)

Conduit ID:	
Starting asset:	
finishing asset:	

Task Details	Signature:	Date:	Name:	Status:
Task number 1: PRE-WORKS - Area to be trenched identified, ensuring trench routes are marked out (By Fulton Hogan). - Permit to excavate completed, reviewed and approved for works (By Fulton Hogan). - Existing services identified and exposed in accordance with permit to excavate (By Fulton hogan). - Ensure isolation of all services in area (if required).				
Task number 2: CIVIL WORKS - Excavate trench for primary conduits as per specification and IFC drawings. Depth of 1100mm for 4 x100mm conduits, 950mm depth for 2 x 100mm. - Conduit checked for damage and length glued at joints. Ensuring correct size and quantities of conduit is installed as per drawings (i.e 100mm).				
Task number 3: CIVIL WORKS - Backfill trench with bedding sand (top and bottom 100mm layers) - Backfill trench in 300mm layers of classified fill. Ensuring each layer in compacted. Approx. total of 500mm of backfilled material. - Position warning tape half way between conduits and surface level.				
Task number 4: CIVIL WORKS Ensure compaction testing is completed as follows: - Bedding - 1 Soil test report from the Supplier per 300m3 of dust supplied. - Backfill - 1 test per 400m of conduit laid per 0.5m of backfill depth.				
Task number 5: CIVIL REINSTATEMENT WORKS - Install 150mm of topsoil on trench - Hydro mulch disturbed area (By Fulton Hogan) - Clean area, FOD check and demobilize.				
Task number 6: CIVIL WORKS - Ensure draw wire is installed as per IFC drawings (6mm GPO Yellow/Blue) - Clean area and demobilize.				

Asset:

Primary Trenching (On-Pavement - Concrete Encased)

AVIONICS LIMITED LIGHTING THE WAY	Conduit ID:	
	Starting asset:	
	finishing asset:	

Task Details	Signature:	Date:	Name:	Status:
Task number 1: PRE-WORKS - Area to be trenched identified, ensuring trench routes are marked out (By Fulton Hogan). - Permit to excavate completed, reviewed and approved for works (By Fulton Hogan). - Existing services identified and exposed in accordance with permit to excavate (By Fulton hogan). - Ensure isolation of all services in area (if required).				
Task number 2: .CIVIL WORKS - Ensure FCR or RCC bottom layer is complete (By Fulton Hogan). - Excavate primary trench as per spec (approx. 400mm wide and 300mm deep for 2 x 80mm conduits) - Ensuring primary trench is completed as per IFC drawings (correct interleaving design etc.) - Ensure compaction testing is complete as per spec (By Fulton Hogan)				
Task number 3: .CIVIL WORKS - Conduit checked for damage and length glued at joints. Ensuring correct size and quantities of conduit is installed as per drawings (i.e 100mm or 80mm). - Ensure primer is used on conduits and taped at joints - Ensure conduits are positioned and weighed down to maintain 50mm seperation between conduits and 75mm to concrete edge.				
Task number 4: CIVIL WORKS - Backfill with 5MPa Lean Mix Concrete. As per Requirements. - Ensuring concrete vibrators are used (where required) to remove all air voids throughout pouring. - Ensure concrete is tested as required (By Fulton Hogan) - Position warning tape on top of the concrete (where required) - Clean area, FOD walk and demobilize.				
Task number 5: CIVIL WORKS - Ensure draw wire is installed as per IFC drawings (6mm GPO Yellow/Blue) - Clean area and demobilize.				

Asset:

Secondary Trenching

AVIONICS LIMITED
LIGHTING THE WAY

Fitting ID:	
Light Type:	
Work Area:	
Drawing Number:	

Task Details	Signature:	Date:	Name:	Status:
Task number 1: PRE-WORKS - Area to be trenched identified, ensuring trench routes are marked out (By Fulton Hogan). - Permit to excavate completed, reviewed and approved for works (By Fulton Hogan). - Existing services identified and exposed in accordance with permit to excavate (By Fulton hogan). - Ensure isolation of all services in area (if required).				
Task number 2: CIVIL WORKS - Excavate Secondary Trench for a depth of 620mm (and width of approx. 350mm) - Position conduit between SIT Pit and Pavement edge. - Conduit checked for damage and length glued at joints. Ensuring correct size and quantities of conduit is installed as per drawings.				
Task number 3: CIVIL WORKS - Backfill trench with bedding sand (top and bottom 100mm layers) - Backfill trench in 300mm layers of classified fill. Ensuring each layer in compacted. Approx. total of 250mm of backfilled material. - Position warning tape half way between conduits and surface level.				
Task number 4: CIVIL WORKS Ensure compaction testing is completed as follows: - Bedding - 1 Soil test report from the Supplier per 300m3 of dust supplied. - Backfill - 1 test per 400m of conduit laid per 0.5m of backfill depth.				
Task number 5: CIVIL WORKS - Ensure the top surface of the trench is spayed with Bituminous (By Fulton Hogan). - Grass seed remainder of trench (By Fulton Hogan). - Clean area, FOD walk and demobilize.				
Task number 6: CIVIL WORKS - Ensure draw wire is installed as per IFC drawings (6mm GPO Yellow/Blue) - Clean area and demobilize.				

Asset: