Fulton Hogan	**Inspection and Test Plan - Control and Supervision of the Works**	**Doc ID:** ITP 028 **REV:** 0

Client: Melbourne Airport	**Contract No:** CP14038-01	**Prepared By:** Giuliano Follacchio
Project: Taxiway Zulu	**Reviewed By:** Giuliano Follacchio	**Date:** 12/4/24
Construction Process: AGL Luminaires	**Approved By:** Giuliano Follacchio	**Date:** 12/4/24
Specifications: ZULU-BECA-001-SPC-00003		
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 Project Engineer Superintendent Surveyor Foreman	Checked by:			
		Frequency	Acceptance Criteria	Reference Documents	Inspection/ Test Method	Record of conformity			Subcontractor	Beca	FH	Date
1.0	**Preliminary Works**											
1.1	Check for correct documentation	Prior to commencing any activity	Ensure that all employees and subcontractors are using the latest and complete set of drawings	IFC Drawings	Verify	Drawings	**IP**	Project Engineer				
1.2	Implementation of all measures and controls	Prior to commencing any activities	All necessary measures and controls are being implemented, that is PSP, EMP, TMP, SWMS & WP.	PSP, EMP, TMP, JSEA, SWMS, WP	Verify	Site and office Inspection	**HP***	Project Engineer / Site Supervisor				
1.3	Material/Equipment Approvals	Prior to start	All materials shall be proven to meet contractual requirements prior to acceptance. - MAGS shall be from ATG Airfield guidance signs range - Taxiway centre lights shall be from the ADB Safegate range only - Runway guard lights shall be from ADB Safegate only. - Intermediate hold position lights shall be from the ADB Safegate range only	ZULU-BECA-001-SPC-00003 cl 2.3	Verify	Aconex reference(s)	**HP***	Project Engineer				

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			- Stop Bar Lights shall be from the ADB Safegate - IWDI shall be from ALS Any deviation from the above suppliers shall be submitted to the Contract Administrator for approval prior to ordering.									
2.0	**Installation of AGL Base**											
2.1	MAG Sign Base	Each lot	Position of rectangular base to be as per set out coordinated listed in MAGS schedules. 150mm thick class 2 crushed rock base layer compacted to 98% STD on prepared subgrade 50mm blinding concrete between subgrade and foundation Slab thickness to be 300mm for all H<900mm signs (signage outside this range will require additional design) N12-200 top and bottom reinforcing bars with minimum 50mm cover from edge of concrete.	ZULU-BECA-023-DWG-07502	Visual Inspection	This ITP signed Avionics Installation of New MAG Slab and Sign checklist	**IP**	Project Engineer				

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			Sign mounting brackets and frangible coupling as per manufacturers guidelines									
2.2	Inset Luminaire Base	Each lot	Installed and backfilled in accordance with drawings. **Reinstatement in Flexible Pavement** - 500mm deep circular concrete block (500mm diameter for 8" cans, 600mm diameter for 12" cans). - Core depth and pavement embedment for can as per can/fitting manufacturers recommendation. - Epoxy sealant as per can/fitting manufacturer's specifications - DOWSIL 890SL to gap between AGL can and pavement. **Deep Can Installation for Rigid Pavement** - Concrete encasement for electrical conduit shall have 75mm minimum cover - 700mm diameter concrete foundation	ZULU-BECA-024-DWG-07501 ZULU-BECA-024-DWG-07506-8	Visual Inspection	This ITP signed Avionics Shallow Canister Installation checklist / Avionics Base Canister Installation checklist / Avionics Top Canister Installation checklist	**IP**	Project Engineer				

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		Frequency	Acceptance Criteria	Reference Documents	Inspection/ Test Method	Record of conformity			Subcontractor	Beca	FH	Date
			- Minimum 200mm from bottom of can to bottom of foundation - Concrete for deep base can foundation to be strength grade N32 - N12 reinforcement cage to be installed as per AGL details - Epoxy to manufacturers specifications									
2.3	Elevated Luminaire Base	Each lot	Installed and backfilled in accordance with drawings. - One-piece L867 can to be installed - Min 500mm cover from finished surface to top of conduit - Can to be fitted with frangible coupling and FAA type/secondary socket retaining arrangement plug and socket - Foundation and reinforcement installation to match Deep Can Installation for Rigid Pavement	ZULU-BECA-024-DWG-07507	Visual Inspection	This ITP signed Avionics Base Canister Installation checklist	**IP**	Project Engineer / Site Supervisor				

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Structure / Component: AGL		

Item No.	Task/Activity Description	Inspection/Test					HP/ WP/ AP/ IP/ TP/ SCP	Responsibility Project Engineer Superintendent Surveyor Foreman	Checked by:			
		Frequency	Acceptance Criteria	Reference Documents	Inspection/ Test Method	Record of conformity			Subcontractor	Beca	FH	Date
3.0	**Installation of AGL Luminaires**											
3.1	Setting out for Airfield Luminaires	Each Lot	The Contractor shall survey the proposed light locations in conjunction with the new and existing linemarking to set out the proposed lights. A schedule of the proposed lights shall be produced by the Contractor with the following details: - Surveyed location, with coordinates to the APAM database system. - Orientation including any additional deviation angle from any tangents. - Colour - Circuitry - Labelling	ZULU-BECA-001-SPC-00003 cl 5.4	Verify	Aconex reference	**HP**	Project Engineer / Beca				
3.2	Elevated Light Installation	Each lot	Components of elevated lights shall: - Be less than 360mm above the pavement level including the frangible coupling. - Be suitable for installation on a threaded connection when installed.	ZULU-BECA-001-SPC-00003 cl 4.4.4.1	Verify	This ITP signed	**IP**	Project Engineer				
3.3	Inset Light Installation	Each lot	Components of inset lights shall: - Be less than 13mm height above the surrounding surface.	ZULU-BECA-001-SPC-00003	Verify	This signed ITP	**IP**	Project Engineer				

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		Frequency	Acceptance Criteria	Reference Documents	Inspection/ Test Method	Record of conformity			Subcontractor	Beca	FH	Date
			- Have a slope of surface of the unit to be less than 20° (not including any recesses).	cl 4.4.4.3		ADBSG Installation of Inset Light Fittings checklist						
3.4	Series Isolation transformer	Each lot	SITs shall be installed in specified deep base cans or pits.	ZULU-BECA-001-SPC-00003 cl 4.3	Verify	This ITP signed ADBSG Installation of Series Isolating Transformer (SIT)	**IP**	Project Engineer				
3.5	Luminaire Circuit	Each lot	Each luminaire fitting shall be installed on the appropriate circuit as specified in the AGL schedule.	ZULU-BECA-024-DWG-09001-16	Verify	This ITP signed As-Built Documentation	**IP**	Project Engineer				
3.7	MAG Sign Face	Each lot	The proposed location for MAGS are to be as indicated on the Drawings. All MAGS that are to be mounted on frangible couplings. The provision of internal illumination of the MAGS shall be as detailed on the Drawings. Where multiple panels are required, the inscription shall appear continuous over	ZULU-BECA-001-SPC-00003 cl 4.7.1	Verify	This ITP signed Avionics Installation of New MAG Slab and Sign checklist	**IP**	Project Engineer				

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Structure / Component: AGL		

Item No.	Task/Activity Description	Inspection/Test					HP/ WP/ AP/ IP/ TP/ SCP	Responsibility Project Engineer Superintendent Surveyor Foreman	Checked by:			
		Frequency	Acceptance Criteria	Reference Documents	Inspection/ Test Method	Record of conformity			Subcontractor	Beca	FH	Date
			any joint and shall only include a bar if the bar is part of the inscription.									
4.0	**Post Construction**											
4.1	As-Built	Each lot	Submission of surveyed luminaire position to superintendent prior to practical completion	WP-001-09	Verify	SCP	**IP**	Project Engineer				

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 Superintendent	**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 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			

Notes	

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Structure / Component: AGL		

Installation of new MAG Slab and Sign

AVIONICS LIMITED
LIGHTING THE WAY

Pit ID:	
Pit Type:	
Class:	
Manufacturer:	

Task Details	Signature:	Date:	Name:	Status:
Task number 1: PRE-WORKS - 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 Surveyor mark out correct position, orientation of the mag slab. - Excavate hole for Mag Slab. As per drawings (noting the varying foundation sizes). - Position stabilised sand in excavation and level as per spec. - Installation of Mag Slab aligned with survey marks also to suit conduit and as per the manufacturers recommendations using suitable lifting equipment.				
Task number 3: CIVIL WORKS - Run the secondary and earth conduit into Mag Slab as per spec. - Backfill around Mag Slab and make level with ground. - Install the earth stake as per spec. - Clean area and demobilize.				
Task number 4: ELECTRICAL WORKS - Ensure studs for MAG legs are installed as per spec and manufacturers recommendations. - Mount MAG sign on slab, ensuring positioned correctly.				
Task number 5: ELECTRICAL WORKS - Ensure all secondary and earth cables have been installed correctly (BY ADB SAFEGATE)				
Task number 6: ELECTRICAL WORKS - Connect, Energise Mag Sign and confirm it is working. - Demobilise. - Complete FOD walk.				

Asset:

Shallow Canister Installation

AVIONICS LIMITED
LIGHTING THE WAY

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

Task Details	Signature:	Date:	Name:	Status:
Task number 1: PRE-WORKS - Ensure light position and aiming points are marked out (By Fulton Hogan)				
Task number 2: RE-INSTALLATION WORKS (IF APPLICABLE): - Core 250mm at light position. - Remove core for base positioning				
Task number 3: RE-INSTALLATION WORKS (IF APPLICABLE): - Position new base into alignment jig. - Position base into core hole, level and align to survey marks. - Pour epoxy around canister as per specification				
Task number 4: RE-INSTALLATION WORKS: - Position female secondary connector into light base and earth lead. - Tighten nyloc gland to fit snug with 4mm secondary cable and 6mm earth cable. - Terminate secondary cable and earth cable in light base.				
Task number 5: ONCE EPOXY HAS CURED: - Reposition light fitting into new base. - Install new M10 Nuts. - Torque nuts to 40Nm/Paint				
Task number 6: RE-INSTALLATION WORKS: - Light fitting to be check once circuit is re-energised.				
Task number 7: RE-INSTALLATION: - Clean pavement area. - Pack all equipment away. - Demobilize - FOD Check				

Asset:

Base Canister Installation

AVIONICS LIMITED
LIGHTING THE WAY

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

Task Details	Signature:	Date:	Name:	Status:
Task number 1: PRE-WORKS - Surveyor to mark out base canister position and aim point (by Fulton Hogan). - Excavation/Coring Permit to be completed and approved for works (by Fulton Hogan).				
Task number 2: CIVIL WORKS - Excavate aggregate (FCR or RCC) to a depth of 700mmx700mmx200mm as per IFC drawings. - Ensure subsoil is protected where required.				
Task number 3: CIVIL WORKS - INSTALLATION OF BASE CANISTER SECTION: - Place circular steel reinforcement mesh and reo cage into the formation excavated area on chairs as required to provide 100mm cover below reinforcement. - Install the base can housing and accompanying jig. Ensuring positioned correctly to allow for correct spacing between surfaces and edge of concrete (and surfaces to reo cage) - Ensure the Base can set at correct height and tolerances in accordance with specification				
Task number 4: CIVIL WORKS - Ensure all conduits are positioned into canister and are sealed - Connect the subsoil drain conduit to the base canister (and sealed) as per spec (where required)				
Task number 5: CIVIL WORKS - BEFORE CONCRETING: - Survey check of the level, angle and position of base can and ducting (By Fulton Hogan) - Ensure canister and jig is adequately weighted and positioned to prevent movement during pouring				
Task number 6: CIVIL WORKS - CONCRETE POUR: - Backfill with 5MPa Lean Mix Concrete. As per specification and IFC drawings. - Concrete shall be backfilled until the foundation thickness is min. 400mm and there is 50mm cover over conduits. - Ensuring concrete vibrators are used to remove all air voids throughout pouring. - Ensure particular care is taken while pouring to prevent movement of the base canister, jig,...				
Task number 7: ONCE CONCRETE HAS CURED - Survey to confirm base canister has been installed as per specification (By Fulton Hogan).				
Task number 8: ONCE CONCRETE HAS CURED - Ensure jigs are removed and canister cleaned of any concrete - Ensure surrounding sub-base is clean of any concrete - Ensure mud-plate is installed (and sealed) and bolts torqued/painted to 40NM				
Task number 9: ONCE INSTALLATION OF THE BASE IS COMPLETE: - Clean pavement area. - Pack all equipment away. - Demobilize - FOD Check				

Asset:

Top Canister Installation

AVIONICS LIMITED
LIGHTING THE WAY

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

Task Details	Signature:	Date:	Name:	Status:
Task number 1: PRE-WORKS - Surveyor to mark out top canister position and aiming points (by Fulton Hogan). - Excavation/Coring Permit to be completed and approved for works (by Fulton Hogan).				
Task number 2: LIGHT BASE INSTALL: - Pilot core (150mm diameter) down to locate base canister mud-plate and establish the center of the canister. - Ensure final larger core is centered off the middle of the canister (approx. 356mm core)				
Task number 3: LIGHT BASE INSTALL: - Install the top canister section onto the base canister section, no. of spacer rings as required, and dam ring to match with the pavement finished level. As per the specification and IFC drawings. - Ensuring no more than 3 nos. of spacer rings with a total thickness of 25mm shall be installed between the top and bottom section. - Ensure the no. and size shims used are recorded (In MAPSES)				
Task number 4: LIGHT BASE INSTALL: - Ensure all bolts are tightened to the manufacturer's recommended torque value using calibrated torque wrench. 40Nm/paint.				
Task number 5: LIGHT BASE INSTALL: - Pour epoxy around canister as per manufacter's recommendation and IFC drawings.				
Task number 6: AFTER EPOXY HAS CURED: - Position adaptor plate and blanking plate into new base - Install new M10 Nut and washers. - Torque nuts to 40Nm and paint				
Task number 7: ONCE INSTALLATION OF THE BASE IS COMPLETE: - Clean pavement area. - Pack all equipment away. - Demobilize - FOD Check				

Asset:

ADB SAFEGATE	**INSPECTION AND TEST PLAN** Installation of Inset Light Fittings	**Page**	1 of 2
		Issue Date	30/03/2024
		Revision	1

REPORT DETAILS	**Date Completed**		**Drawing References**	ZULU-BECA-024-DWG
	Project	Taxiway Zulu 2.0	**Sheet Completed by**	
	Location on Site			

WORK DETAILS	**Legend**	✓ yes ✗ no **NA** not applicable

LIGHT FITTING INSTALLATION								**Notes**
Light no	**Light Labelled**	**Correct Orientation**	**Light Fitting Torqued to manufacturer's specfication**	**Light Fitting Details (Eg. Type GG W Bi-Direct etc.)**	**Sec Cable Plugged into Light Fitting**	**Can Cleaned out**	**Light Programmed / Verified on Circuit Monitor**	

ADB SAFEGATE	INSPECTION AND TEST PLAN Installation of Inset Light Fittings	Page	2 of 2
		Issue Date	30/03/2024
		Revision	1

WORK DETAILS CONTINUED	Legend	✓ yes ✗ no NA not applicable

LIGHT FITTING INSTALLATION								Notes
Light no	Light Labelled	Correct Orientation	Light Fitting Torqued to manufacturer's specfication	Light Fitting Details (Eg. Type GG W Bi-Direct etc.)	Sec Cable Plugged into Light Fitting	Can Cleaned out	Light Programmed / Verified on Circuit Monitor	

ADB SAFEGATE	**INSPECTION AND TEST PLAN** Installation of Series Isolating Transformer (SIT) and Cable Jointing	**Page**	1 of 2
		Issue Date	30/03/2024
		Revision	1

REPORT DETAILS	**Date Completed**		**Drawing References**	ZULU-BECA-024-DWG
	Project	Taxiway Zulu 2.0	**Sheet Completed by**	
	Location on Site			

WORK DETAILS	**Legend**	✓ yes ✗ no **NA** not applicable

TERMINATION OF ELECTRICAL CABLES							**INSTALLATION OF SERIES ISOLATING TRANSFORMER AND ACCESSORIES**		**PRIMARY / SECONDARY LABELLING**			**NOTES**
Pit / Deep Base Can No.	Light No	Circuit No.	Plugs terminated to Primary Cable for SIT (2x)	Record Installed SIT Type (Watts)	SIT Plugged in and Heatshrink	6mm Earth Cable installed to SIT	Secondary Cable for SIT Terminated (If applicable)	Primary Cables Labelled with Circuit Number	Secondary Cable Labelled with Light Number	Tidy Cables (Cable-tie Slack Cables)	New Pit Cleaned (If applicable)	

ADB SAFEGATE	**INSPECTION AND TEST PLAN** Installation of Series Isolating Transformer (SIT) and Cable Jointing	Page	2 of 2
		Issue Date	30/03/2024
		Revision	1

WORK DETAILS	Legend	✓ yes ✗ no NA not applicable

TERMINATION OF PRIMARY AND SECONDARY CABLES							INSTALLATION OF SERIES ISOLATING TRANSFORMER AND ACCESSORIES		PRIMARY / SECONDARY LABELLING			NOTES
Pit / Deep Base Can No.	Light No	Circuit No.	Plugs terminated to Primary Cable for SIT (2x)	Record Installed SIT Type (Watts)	SIT Plugged in and Heatshrink	6mm Earth Cable installed to SIT	Secondary Cable for SIT Terminated (If applicable)	Primary Cables Labelled with Circuit Number	Secondary Cable Labelled with Light Number	Tidy Cables (Cable-tie Slack Cables)	New Pit Cleaned (If applicable)	