

		<b>Inspection and Test Plan – Control and Supervision of the Works</b>		<b>Doc ID:</b> FH-ZU2-QU-ITP018 <b>Rev:</b> 1	
<b>Principal's:</b> Melbourne Airport (APAM)			<b>Contract No:</b> CP14038		<b>Prepared By:</b> Abdul Saad
<b>Project:</b> Taxiway Zulu 2.0			<b>Reviewed By:</b> Mukaram Mohammad		<b>Date:</b> 02/07/2024
<b>Construction Process:</b> Asphalt Placement			<b>Approved By:</b> Angela Julianto		<b>Date:</b> 09/07/2024
<b>Specifications:</b> ZULU-BECA-001-SPC-00002 – Revision C04 (07 June 2024)					
<b>Structure / Component:</b> Asphalt Pavement					

Lot No:	Lot Details:	Lot size/Quantity:	Date:
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		Frequency	Acceptance Criteria	Reference Documents	Inspection/ Test Method	Record of conformity			Principal's Representative	Fulton Hogan	Date
1.0	Preliminary Activities										
1.1	Check for correct documentation	Prior to commencing works	Current revision of drawings, technical specifications and any other construction documentation is being utilised by Fulton Hogan and subcontractors. Current revisions of these documents to be obtained via Aconex or ACC.	Current Revisions in Aconex or ACC	Verify	This ITP signed	HP*	Project / Site Engineer			
1.2	Implementation of all measures and controls	Prior to commencing works	All necessary measures and controls are being implemented, that is: PSP, EMP, TMP, SWMS & WMS	PSP, EMP, TMP, SWMS, WMS	Visual Inspection	This ITP signed	HP*	Project / Site Engineer Site Supervisor			
1.3	Plant & Equipment Check	Prior to commencing works	Asphalt plant & equipment meeting the requirements of Project Specification. Pre-Start checks completed by operators of plant and equipment. All plant and equipment are acceptable for use. Any faults are reported. Standby equipment in place where required.	AfPA Sec 7.1 CI 91-100	Verify	This ITP signed	HP*	Project / Site Engineer Site Supervisor			
1.4	Tack Coat Material Submission	Prior to commencing works	Details of the proposed tack coat and test certificates shall be submitted to the Contract administrator for review.	Beca Spec 002 9.4.1 9.9.1	Verify	Aconex Correspondence	HP	Project / Site Engineer Principal's Representative	BecaCPL-GCOR-000967		

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2.0	Tack Coat										
2.1	Surface Preparation	Prior to applying tack coat	Immediately before applying the tack coat and following all cold planning activities, all loose and foreign materials shall be removed from the surfaces to approximately 150mm beyond the edge of the area to be coated.  Tack coat must not be applied on a wet surface, or when the surface temperature is below 5 degrees Celsius.	Beca Spec 002 8.5 & 9.5	Visual Inspection	This ITP signed	HP	Project / Site Engineer Principal's Representative			
2.2	Weather Limitations	Prior to works	Tack coat shall not be applied on a wet surface, or when the surface temperature is below 5°C, or when the weather conditions would prevent the proper application or adhesion of the tack coat.	Beca Spec 002 9.7	Verify	This ITP signed	HP*	Project / Site Engineer Site Supervisor			
2.3	Application of Tack Coat	During Works	Tack coat must be applied to the prepared surface at a rate of 0.2-0.3 L/m² of residual bituminous material, calculated at 25°C.  Vertical faces of milled and excavated existing pavement must be thoroughly tack coated by hand lance or other method.  Tack coated surfaces must be protected from construction equipment trafficking to the extent reasonably achievable.  Asphalt paving must not commence until emulsified tack coat is substantially broken over more than 80% of the surface of the paving run.	Beca Spec 002 9.9.3, 9.6 AfPA Sec 10.3 CI153-156	Verify	Spray Rate Record Sheet  This ITP signed	WP	Project / Site Engineer Principal's Representative			

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2.4	Test Certificates	During works	If during the progress of the work the Contractor desires to use other materials or materials from other sources or materials produced from the same source using method of production different from those originally agreed, new samples shall be taken and tested and the results shall be submitted to the Contract Administrator.	Beca Spec 002 9.9.1	Verify	This ITP signed Test Reports	HP	Project / Site Engineer Principal's Representative			
<b>3.0 Hot Mix Asphalt Placement</b>											
3.1	Construction Trial	Prior to commencing works	A construction trial must be completed as per the requirements in the specification.	AfPA Sec 8.3 & 8.4	Verify	Aconex Reference	HP	Project / Site Engineer Principal's Representative	14H Construction Trial: DCWC Mgt-GCOR-010226 A10E Construction Trial: BecaCPL-RTRFI-000265		
3.2	Ambient Conditions for Placing	Prior to placement	Asphalt must not be produced and constructed during weather, or expected weather, that may be detrimental to the quality of the finished asphalt surface layer(s). If required, where the existing surface temperature is below 15°C, the Contractor must develop and submit cold weather construction procedures for the Contract Administrator approval.	AfPA Sec 10.1 Cl 145-146	Infrared Thermometer	This ITP signed	HP	Project / Site Engineer Principal's Representative			
3.3	Surface Preparation	Prior to placement	The surface on which the asphalt is to be placed has been jointly inspected by the Contract Administrator and the Contractor, and it is agreed to be suitable.	AfPA Sec 10.2 Cl 147	Visual Inspection	This ITP signed	HP	Project / Site Engineer Principal's Representative			

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3.4	Asphalt Placement	During Paving	The following processes to be monitored with the Contract Administrator to confirm consistency with Construction Trial: <ul style="list-style-type: none"> <li>- Roller patterns</li> <li>- Surface texture within paving lanes</li> <li>- Surface texture at the joints</li> </ul>	AfPA Sec 11.4.1	Verify	This ITP signed	WP	Project / Site Engineer Principal's Representative			
3.5	Longitudinal Joints	During Paving	All longitudinal joints shall be constructed as hot joints (exceeding 125°C upon placement of the adjacent paving run) unless restricted by staging constraints or in constrained working areas.  Gas fuelled infrared joint heaters may be used to reheat the joint and create a hot joint where the measured temperature has not fallen below 90°C.	Beca Spec 002 10.5 AfPA Sec 10.4.4	Verify Infrared Thermometer	This ITP signed	HP*	Project / Site Engineer Site Supervisor			
3.6	Surface Finish of Wearing Course	During paving and after final roll	The finished surface of the asphalt must be a tightly bonded, closed textured, surface of uniform appearance, free of dragged areas, cracks, segregation and open textured patches. Joints must be tightly closed. Surface finish must be consistent with the asphalt construction trial.	AfPA Sec 12.4.1 CI 288-291	Visual Inspection	This ITP signed	HP*	Project / Site Engineer			

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4.0	Compaction Testing										
4.1	Compaction Testing (AfPA Mix)	See Note 1.	The in-situ air voids content to be determined using calibration between the nuclear density gauge (NDG) and the asphalt cores developed during the Construction Trial.  <b>For test locations away from joints:</b> <b>Individual Air Voids:</b> Minimum 2% and Maximum 8% <b>Average Air Voids:</b> Minimum 3% and Maximum 6.5%  <b>For test locations on longitudinal joints:</b> <b>Individual Air Voids:</b> Minimum 2% and Maximum 9% <b>Average Air Voids:</b> Minimum 3% and Maximum 7.5%	AfPA Sec 12.4.2 Table 22	Verify	NATA accredited test certificate	TP	Project / Site Engineer Laboratory Technician			

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4.2	Compaction Testing (Type H Shoulder Mix)	See Note 2.	The in-situ air voids content to be determined using calibration between the nuclear density gauge (NDG) and the asphalt cores developed during the Construction Trial.  <b>For test locations away from joints:</b> <b>Individual Air Voids:</b> Minimum 2% and Maximum 8% <b>Average Air Voids:</b> Minimum 3% and Maximum 8%  <b>For test locations on longitudinal joints:</b> <b>Individual Air Voids:</b> Minimum 2% and Maximum 9% <b>Average Air Voids:</b> Minimum 3% and Maximum 9%	AfPA Sec 12.4.2 Table 22	Verify	NATA accredited test certificate	TP	Project / Site Engineer Laboratory Technician			
5.0	Completion										
5.1	Surface Smoothness Testing	After completion of pneumatic tyred rolling	The finished surface of the surface layer must not deviate from a 3.5 m straight edge by:  <b>- Full Strength Pavement (AfPa Mix)</b> <ul style="list-style-type: none"> <li>Longitudinally: Max 4mm</li> <li>Transversely: Max 6mm</li> </ul> <b>- Shoulder Pavement (14H Mix)</b> <ul style="list-style-type: none"> <li>Longitudinally: Max 6mm</li> <li>Transversely: Max 7mm</li> </ul>	AfPA Sec 12.4.3 CI 293.	Visual Inspection	This ITP signed	HP*	Project / Site Engineer			

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5.2	Finished Surface Levels	Per Lot & Per Asphalt Layer	Surface level must be as per following: - <b>Full Strength Pavement (AfPa Mix)</b> <ul style="list-style-type: none"> <li>≥95% of the deviations between design surface level and finished surface level must be maximum 7mm.</li> <li>≥95% of the finished surface deviations between design surface cross fall and finished surface cross fall must be maximum 0.3%.</li> </ul> - <b>Shoulder Pavement (14H Mix)</b> <ul style="list-style-type: none"> <li>≥90% of the deviations between design surface level and finished surface level must be maximum 7mm.</li> <li>≥95% of the finished surface deviations between design surface cross fall and finished surface cross fall must be maximum 0.3%.</li> </ul>	AfPA Sec 11.5.1 Sec 12.4.5 CI 298-299	Verify	This ITP signed Survey Reports	SCP	Project / Site Engineer Principal's Representative			
5.3	Surveyed Average Layer Thicknesses	Per Lot & Per Asphalt Layer	Average layer thickness must not vary by <b>+7 / -4mm</b> from nominal thickness. <b>Refer Aconex: BecaCPL-GCOR-001149</b>	AfPA Sec 11.4.5 CI 247-248 Sec 12.4.4 CI 294-295	Verify	This ITP signed Survey Reports	SCP	Project / Site Engineer Principal's Representative			

#### 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.

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<b>Print Name:</b>	<b>Position:</b>	<b>Signature:</b>	<b>Date:</b> /     /
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**Legend:**

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

**Notes**

**Note 1** Compaction Test Frequency (AfPA mix) is as per AfPA Specifications Section 11.4.2 Clause 234

- a. Away from joints. Ten locations per Lot.
- b. On longitudinal joints. Four locations per Lot.

**Note 2** Compaction Test Frequency (Type H Shoulder Mix)

Location	Minimum Sampling Frequency for Single Lot
Away from joints	1 core per 250m <sup>2</sup> (minimum 2 cores per asphalt lot)
Joints	1 core per 500m <sup>2</sup> (minimum 1 cores per asphalt lot)