Fulton Hogan	Inspection and Test Plan – Heavily Bound Base	Doc ID: R73-HBB-ITP
Client: Iluka Resources Limited	**Prepared By: Simon Welsh**	**Date: 15/10/2024**
Project: Public Roads Upgrade	**Reviewed By: Joshua Kliemnt**	**Date: 11/11//2024**
Construction Process: Heavily bound pavement course	**Approved By: Simon Jaworksi**	**Date: 11/11//2024**
Specifications: ETS100, 101, 102		
Structure / Component:		

Item No.	Task/Activity Description	Inspection/Test					Type	Responsibility	Checked/Verified by (initial/Date):			
		Frequency	Acceptance Criteria	Reference Documents	Inspection/ Test Method	Record of conformity			TfNSW	Fulton Hogan	PV	Date
1	Preliminary											
2	Set out the works	Per Lot	Establish survey marks to identify the extend of pavement	G71		Verification Checklist	IP	Surveyor				
3	Check underlying lots are conforming	Per Lot	Check underlying drainage and earthwork lots are conforming, and Hold Points released Initial CCTV of drainage pipes completed without defects	D&C R44.6.1.2 R11.4		Verification Checklist	IP	Site Engineer				
4	Obtain approval for nominated mix design	Per mix	At least 10 working days prior to commencement of the trial section of pavement construction, or commencement of the pavement works, submit to the Nominated Authority details of your nominated mix design(s) and test results verifying conformity of the nominated mix design(s).	D&C R73 4.2		Hold Point	HP	Site Engineer			PV	
5	Certified stockpile for MTBB (Where not Blended)	Per stockpile	Prior to the release of MTBB from a Certified Stockpile, submit to the PV Details of the stockpile, statement of conformity and documentation specified in TfNSW D&C 3051 regarding conformity. .	D&C R73 2.2 3051		Hold Point	HP	Site Engineer			PV	
6	Approval to supply where MTBB is blended from individual constituents	Per Supplier	Provide details of: - Mixing Plant - Plant Operation and - Procedures to ensure mix is conforming to TfNSW D&C 3051	D&C R73.5.2		Hold Point	HP	Site Engineer			PV	
7	Obtain approval for placement of bound pavement course in two layers. (when layer >250mm)	As Required	Submit to the Project Verifier at least 10 days prior to commencement: - Verification and test results demonstrating the MTBB is self-cementing, - Details of work method and details of previous successful applications of the work methods.	D&C R73.6.3.3		Hold Point	HP	Site Engineer			PV	

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8	Obtain approval for placement of bound pavement course in a single layer >250mm	As Required	Submit to the TfNSW Representative at least 15 days prior to commencement: Details of work method and associated controls to achieve required compaction. Details of previous successful application of work method.	D&C R73.6.3.5		Hold Point	HP	Site Engineer	TfNSW			
9	Obtain approval for placement of bound pavement course	Per Lot	Submit to the Project Verifier that locations and types of proposed construction joints, locations of unsupported edges and details of rolling pattern	D&C R73.6.6.1		Hold Point	HP	Site Engineer			PV	
10	Obtain approval to the schedule of levels of the underlying surface	Per Lot	When finished surface levels are specified, submit to the Quality Manager that the Schedule of levels of the underlying surface at least 7 days before place HBB. The schedule need to highlight locations where the actual levels at the underlying surface are higher than the design levels	D&C R73.7.2.1		Hold Point	HP *	Site Engineer			PV	
11	Construction Trial											
12	Construction of trial section of bound pavement.	Per trial	Notification of the construction of the trial section of pavement at least 3 working days prior to commencement. ▪ Construct a trial section of pavement at an agreed location, using the same materials, equipment and methods described in the PROJECT QUALITY PLAN. ▪ The trial section of pavement must be between 100 m and 200 m long for the proposed Lot width.	D&C R73 6.9.1		Witness Point	W P	Site Engineer			PV	
13	Submission of trial result	Per trial	Submit Documentation, including test results, verifying that the trial section of pavement conforms to the specified requirements.	D&C R73 6.9.1		Hold Point	HP	Site Engineer			PV	
14	Construction											
15	Check the weather condition	Per Lot	**Do not** carry out bound pavement construction when any of the following apply:	D&C R73.6.2		Verification Checklist	IP	Site Engineer				

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			▪ when the temperature measured at a depth of 50 mm below the surface of the underlying course is below 10ºC or the air temperature measured in the shade is above 40ºC; ▪ in wet weather or in strong wind conditions									
16	Check material upon delivery	Per Lot	▪ The material must be suitably damp and at the time of delivery ▪ Check delivery docket to ensure correct materials supplied and docket number provided	D&C R73.2.4		Verification Checklist	IP	Site Engineer				
17	Placing, spreading, compaction and trimming the material	Per Lot	Maintain field moisture content within target moisture content envelope during placement to ensure hydration and compaction Materials to be spread into 1 single layer up to 250mm thick unless otherwise approved. No slurry and delamination No roller marks left after final trimming Trimming of the pavement course to design level and compaction completed within the allowable working time.	D&C R73.6 R73.8.4.3		Verification Checklist	IP	Site Engineer				
18	Construction joints	Per Lot	- Types and locations are as per design or approved in the Hold Point - Joints prepared as specified method - Cut back previously placed pavement at least: - 75 mm along longitudinal joints; and - 0.5 metres at transverse joints. - For fresh longitudinal joint do not compact the 300mm of material of the first run adjacent to the second run until the it is ready to do so, keep moist to the joints - Transverse joints formed at right angle s to the road centreline - Longitudinal joints not at wheel paths, within 100mm from separation lines, and >300mm	D&C R73.6		Verification Checklist	IP	Site Engineer				

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			away from edge lines but within the shoulder area - Induced longitudinal joints to be saw cut within 3 days of placement, 1/3 of the depth, 3mm wide									
19	Curing and protection of the pavement course	Per Lot	- Commenced immediately after compaction and until seal - Keep surface continuously damp without excessive water - No non-essential traffics	D&C R73.6.8		Verification Checklist	IP	Site Engineer				
20	Joint Survey	Per Lot	- At least 3-Days prior to conformance survey provide PV with date, location, surveyor's name, description of methods and equipment to be used.	G71.2.10.1	Survey	Survey Request & include PV	SU	Site Engineer				
21	Certificate of Conformity	Per Lot	Submit Weekly to the Project Verifier a signed certificate verifying conformity with the requirements of Clause 8. Where appropriate, submit with the certificate a summary of test results from a laboratory accredited by NATA. Additionally, submit daily to the Project Verifier the moisture content and relative density test results. Highlight any nonconforming Lots.	R73 8.10		Test results & Non Conformance lots	IP	Site Engineer				
22	Verify finished pavement properties	Per Lot	- UCS (7 day acc./28 days normal curing): - Bound DGB = 3-8MPa - Grave Laitier = 2MPa - Compaction to 102% std as per Q6 L3.1 - Moisture content within target MC prior to compaction - Level within -0/+10mm - Layer thickness within -0/+20mm when use automated level control, +10/30mm when use without automated level control - 3m straight edge test must be no more than 5mm at any direction - Pavement width ≥ design width	D&C R73 4.1 R73.6.11 R73.8 Q6 L3.1 R73.8.4.4	T120 T116 T166	Test Report Survey Report	TP	Surveyor Site Engineer				

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			- Compact the sample within 3 hours of sampling and within the mix's allowable working time.									
23	Obtain approval for sealing of the pavement	Per Lot	Submit to the Project Verifier with test results of above pavement properties prior to seal Pavement shall be primed or sealed within 6 days of placement unless otherwise required and/or agreed under this HP.	D&C R73.6.11		Hold Point & Survey Report	HP	Site Engineer			PV	

Legend:

HP	Hold Point	Work shall not proceed past the HP until released by the Project Verifier	**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 Project Verifier	**SCP**	Survey conformance point	A qualified surveyor to check product/section/structure and report
AP	Approval Point	Written or verbal approval given by the Project Verifier	**HBB**	Heavily Bound Base	Pavement course modified with binder to develop an unconfined compressive strength
AP*	Fulton Hogan Approval Point	Written or verbal approval given by Fulton Hogan's nominated personnel	**MTBB**	Material to be bound the material prior to stabilisation with binder	

Notes