**Inspection and Test Plan – Lower Subbase Layers**

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| **Project no.** | | **CC0374** | **Project name** | Pakenham Roads Upgrade | | **Date** |  | | **Approved by** | Damian Hagebols |
| **ITP no.** | 1630-P200-SYM-QAC-ITP-0019 | | **Revision date** | 27/06/2023 | **Plant and equipment used** | | |  | | |
| **Lot no.** |  | | **Location (chainages, detailed description or marked up plan)** | | | | |  | | |  | South TMD - |

Attach Dockets, Certificates and QA Documents to ITP

|  |  |  |  |  | **Verification of acceptance by** | | | | | **Remarks/record (eg. Test frequency reports, certificates, checklist etc)** |
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|  |  |  |  |  | **Symal** | | | **Superintendent** | |
| **Item no.** | **Activity** | **Ref docs** | **Acceptance criteria** | **Freq** | **Key** | **Resp** | **Initial/ date** | **Key** | **Sign/ date** |
| **1.0 Pre-start activities** | | | | | | | | | | |
| **1.1** | Check Survey Set-out and TCM’s |  | Record existing TCM’s on TCM offset sheet.  Survey set out including frame, benchmark, and recovery points in place. | Prior to start of Works | H | SE |  |  |  |  |
| **1.2** | Subgrade preparation | DoT Clause 304.04 | The subgrade should conform to the requirements (compaction and levels) of Section 204 before the lower subbase can be placed. | Prior to start of works | H | SE |  | **R** |  | Survey Conformance Certificate  **Yes □ No □**  Test Reports  **Yes □ No □** |
| **1.3** | Material procurement for construction | DoT Clause 304.03  812  204.04 | HP: **All crushed rock proposed for use on VicRoads funded works shall be current registered mixes in accordance with VicRoads Code of Practice RC500.02 and conform to specified requirements applicable to that class of product.**  The Contractor shall be responsible for the procurement of sufficient specified material to complete the work. The Contractor shall supply details demonstrating compliance of the materials with Section 801.  Water added to the pavement will be clean and suitable for construction and substantially free from detrimental impurities such as oils, salts, acids, alkalis, and vegetable substances, and have no more 1000 mg/L of suspended solids. | Prior to start of works | H  W  I | SE |  | **H** |  | Crushed Rock Mix Registration  **Yes □ No □**  Delivery docket and material compliance checklist  **Yes □ No □**  VicRoads Materials conformance  **Yes □ No □** |
| **2.0 Installation of Lower Subbase Layer** | | | | | | | | | | |
| **2.1** | Construction - Jointing | DoT Clause 304.07 | Transverse - Offset by not less than 2 m to any underlying pavement layers.  Longitudinal - Offset by not less than 150 mm to any underlying pavement layers. Located within 300 mm of the traffic lane lines or within 300 mm of the centre of a traffic lane.  The exposed end of each lot and the exposed edges of any part width construction shall be kept moist until spreading and compaction has been completed over the entire layer. | Each Lot | S  I | SE |  |  |  |  |
| **2.2** | Placement of Material & Testing Compaction | DoT Clause 304.06  304.06 (b)  304.06 (c)(i)  304.06 (d)  304.08(a)  IFC Drawings  Construction Work Pack | Place and compact layers so that the surface finish is smooth and uniform.  **HP: Any material that has been compacted and then trimmed from the compacted surface to conform to the correct level or thickness as shown on the drawings shall not be re-used in the pavement construction without the approval of the Superintendent.**  The width of each side of the pavement shall not be less than the specified offset width or more than 50 mm outside the specified offset width when measured at right angles from the centre line or design line.  The subbase course shall be not less than the specified thickness by more than 15 mm.  No point > 8 mm below a 3 m straight edge in any direction  No point >10 mm below a 6 m straight edge in any direction  No Ponding of Water.  For material of nominal size > 40mm:  **The first lot shall be placed as a trial section. Following acceptance of the trial section, the Contractor shall then confirm the moisture control and compaction procedure and submit the procedure to the Superintendent for review and record.**  For material of nominal size < 40mm:  No trial sections needed. | Each Lot | H  I  W | SE |  | **H**  **R** |  | NATA Test for Compaction  **Yes □ No □**  NATA Test Report for Material  **Yes □ No □** |
| **2.3** | Testing – Stability (Proof Roll) | DoT Clause 304.08(b) | Test rolling of the subbase layer, irrespective of material size, shall be in accordance with the test rolling procedure that was submitted to, and approved by, the Superintendent.  Area shall withstand test rolling without visible deformation or springing. | Each Lot | H  W | SE |  | **H** |  |  |
| **2.4** | Protection of compacted layer | DoT Clause 304.09  Construction Work Pack | Surface of each compacted layer in good order/condition & free from contamination until the subsequent pavement work is to commence. | Each Lot | I | SE |  |  |  |  |
| **3.0 Testing** | | | | | | | | | | |
| **3.1** | Testing – Compaction | DoT Clause 304.08(b)  304.10  304.11  Table 304.111 | Characteristic Density Ratio % (six tests):  **Not less than 98.0% Modified** | As required by section 3.2 | R | SE |  | R |  | NATA Test Report  **Yes □ No □** |
| **3.2** | Scale A Requirements for Post Compaction Grading and PI Testing | DoT Clause 304.11 (c) (i) | Where testing is specified in Clause 304.10(c) or (d) and Clause 304.12 requires it to be Scale A, all pavement layers shall be tested for post-compaction grading and PI at the frequency specified in Table 304.111.  The first lot of each pavement layer shall be tested for post-compaction grading and PI.  **The Contractor shall immediately notify the Superintendent of any lot that does not meet the specified requirements and any subsequent lot shall be tested as if it were the initial lot.**  If any lot meets the specified requirements but is reworked to comply with the specified compaction requirements, it shall be retested for compliance with specified requirements. | Each Lot | H | SE |  | **H** |  | NATA Test Report  **Yes □ No □** |
| **3.3** | Post Compaction Grading (Nominal Size = 20mm) | VR Clause 304.10 (a) | Sieve 26.5 mm – **100% passing by mass,**  Sieve 19.0 mm – **95 - 100% passing by mass,**  Sieve 13.2 mm – **75 – 95% passing by mass,**  Sieve 9.5 mm – **60 - 90% passing by mass,**  Sieve 4.75 mm – **42 - 76% passing by mass,**  Sieve 2.36 mm – **28 - 61% passing by mass,**  Sieve 0.425 mm – **14 - 29% passing by mass,**  Sieve 0.075 mm – **6 - 14% passing by mass.**  **Initial testing frequency:** 1 test for each lot tested for compaction until 3 consecutive lots achieve specified requirements. | Each Lot | R | SE |  |  |  | NATA Test Report: Grading  **Yes □ No □**  Visual Inspections for Maximum Particle Dimension  **Yes □ No □** |
| **3.4** | Plasticity Index | VR Clause 304.10 (b) | PI: **0 – 10%**,  **Initial testing frequency:** 1 test per 2 lots until 3 consecutive lots achieve specified requirements. | Each Lot | R | SE |  |  |  | NATA Test Report: Atterberg Limits  **Yes □ No □** |
| **3.5** | Testing – Reduced Frequency | DoT Clause 304.11  Table 304.111  Table PS3040.061 | Test every lot for acceptance until three consecutive lot of like material and/or work have passed the requirements.  Testing may then be completed at the minimum frequency outlined in Table 304.111 and Table PS3040.061.  For Subbase, one Characteristic Density Ratio % (six tests) will be completed for every second lot.  Testing will be completed at the minimum frequency until such time as a lot fails to achieve the specified requirements. After a failed result, all subsequent lots will be tested until three consecutive lots of like material and work have achieved the specified standard, at which time the frequency of testing may revert to the minimum frequency. | Each lot | R | SE |  | R |  | If using reduced frequency, provide lot number of previous lot tested:  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **4.0 Completion** | | | | | | | | | | |
| **4.1** | Survey as built | DoT Clause 304.06  Table 304.061  Table 304.062 | Surface after completion shall be smooth and uniform, free of segmented areas and conforming to grade, thickness and cross-section shown on the drawings.  Surface level checked for compliance with 304.06:   * Mean +6 mm to -10 mm with a max std deviation of 10 mm (Scale A) * Min 80 measurements per lot (Scale A)   Number of survey points to be at random locations in accordance with VicRoads test method with minimum number in accordance with Table 304.061. | Each Lot | R  I | SE |  |  |  | Survey Conformance Certificate  **Yes □ No □** |
| **4.2** | Thickness of Pavement Layers | VR Clause 304.06 (c) | The following tolerances shall apply to the thickness of any pavement layer:   * The subbase course shall be not less than the specified thickness by more than 15 mm; * The base course shall be not less than the specified thickness by more than 10 mm and the average thickness of base over every 100 m section, over the full carriageway width, shall be not less than the specified thickness; * The combined thickness of subbase and base courses shall be not less than the specified thickness by more than 15 mm. | Each Lot | R  I | SE |  |  |  | Survey Conformance Certificate  **Yes □ No □** |
| **5.0 Work Lot Close Out** | | | | | | | | | | |
| **5.1** | Test Reports | VIC Roads Specifications | All Test reports received and Reviewed. | Each Lot | R | SE |  |  |  | NATA Endorsed Test Reports  **Yes □ No □** |
| **5.2** | Product Non-Conformance | CQMP | All Product Non-Conformance(s) recorded and closed (if applicable) | Each Lot | R | SE |  |  |  | NCR reports  **Yes □ No □** |
| **5.3** | Quality Representative to check the above criteria and records to confirm | CQMP  Lot Records | All above criteria met, and records identified attached. | Each Lot | R | SE |  |  |  | Completed Checklist (if applicable) and reports and other compliance records attached.  **Yes □ No □** |

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| **Works complete (signer SE)** | |  | | | **Date works complete** | |  | | | |
| **Lot conforms (signer PE)** |  | | **Date lot closed** |  | | **NCR/s no. raised** | |  | **Date NCR closed for this lot** |  |

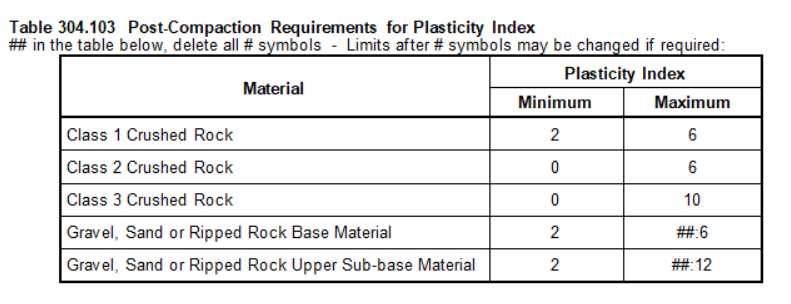
**Responsibility (Resp.) Key**: **PM**-Project Manager, **PE**-Project Engineer, **SE**- Site Engineer, **CS**-Civil Superintendent, **SS**-Site Supervisor, S**V**-Surveyor, **CR**-Client Representative

**SI –** Superintendent

**Inspection Key: W –** Witness, **H –** Hold Point, **S –** Surveillance, **R –** Review Point, **I –** Inspection Point

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| **Fig 1.** | **Fig 2.** |
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**Fig 3.**

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| **Fig 4.** |
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| **Fig 5.** |
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