**Inspection and Test Plan – Rock Beaching Type 1, 2, 5.**

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| **Project no.** | CC-0374 | **Project name** | Pakenham Roads Upgrade | **Date** |  | **Approved by** | Edward Ginger |
| **ITP no.** | 1630-P200-SYM-QAC-ITP-0037 | **Revision date** | 04.07.2023 | **Plant and equipment used** | | |  |
| **Lot no.** |  | **Location (chainages, detailed description or marked up plan)** | | | | |  |

Attach Dockets, Certificates and QA Documents to ITP

|  |  |  |  |  | **Verification of acceptance by** | | | | | **Remarks/record (eg. Test frequency reports, certificates, checklist etc)** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | **Symal** | | | **Superintendent** | |
| **Item no.** | **Activity** | **Ref docs** | **Acceptance criteria** | **Freq** | **Key** | **Resp** | **Initial/ date** | **Key** | **Sign/ date** |
| **1.0 Pre-start activities** | | | | | | | | | | |
| **1.1** | Conformity and Lot Maps | VR713.02  IFC Design | Beaching finished surface shall conform to the levels, lines, and grades shown on the drawings or specified. | Prior to start of works | I | SE |  |  |  |  |
| **1.2** | Material Approval | VR713.03 | **The contractor shall nominate material source, supply specified test results, and provide a representative sample for approval by the superintendent.** | Prior to start of works | H | SE |  | **H** |  |  |
| **1.3** | Beaching Material - Type 1 Ungrouted  **Type 1 N/A □** | VR713.03 | **Type 1 Beaching material shall be:**   * Field or quarry rock >50mm diameter and of mass  **20-70kg** with at least 60% of Qty greater than 40kg. * Placed that the length of rock protection >100mm and the total layer thickness is **>225mm.** | Prior to start of works | R | SE |  |  |  | Import Docket |
| **1.4** | Beaching Material - Type 2 Grouted  **Type 2 N/A □** | VR713.03 | **Type 2 Beaching material shall be:**   * Field or quarry rock >50mm diameter and of mass  **10-40kg** with at least 60% of Qty greater than 25kg. * Placed that the length of rock protection >100mm and the total layer thickness is **>150mm.** | Prior to start of works | R | SE |  |  |  | Import Docket |
| **1.5** | Beaching Material - Type 5  **Type 5 N/A □** | VR713.03 | **Type 5 Beaching material shall be:**   * **Design accepted by Melbourne Water and record of acceptance provided for superintendent approval.** * Field or quarry rock >50mm diameter, angular in shape, and 5% mass of rock fines for interlocking. * Unless specified, the minimum d50 shall be 300mm rock sizing of depth 2 x d50 (600mm). the minimum d50 shall be 300mm rock sizing of depth 2 x d50 (600mm). | Prior to start of works | H | SE |  | **H** |  | Import Docket |
| **1.6** | Beaching Placement OHS | VR713.05 | **A completed job safety assessment and SWMS shall be submitted to Superintendent for review.** | Prior to start of works | **H** | SE |  | **H** |  | SWMS |
| **2.0 Construction** | | | | | | | | | | |
| **2.1** | Geotextile Placement | VR210.05(a) | **Geotextile is not to be placed without written superintendent approval.**   * Geotextile placed shall be without punctures or tears and rolls with imperfections shall not be used. * Covered with fill material within 48Hr of placement. | Each lot | H | SE |  | **H** |  |  |
| **2.2** | Bedding and Geotextiles - Type 1  **Type 1 N/A □** | VR713.03(b)  VR210 | **Type 1 Beaching Material shall be** placed on non-woven geotextile >250g/m2, laid with no kinks or folds.   * Geotextile shall be buried 300mm below beaching edges and placed under and around excavation for toe wall and other perimeter walls. * Geotextiles are joined with 300-500mm overlap. | Each lot | I | SE |  |  |  |  |
| **2.3** | Bedding and Geotextiles - Type 2  **Type 2 N/A □** | VR713.03(b) | **Type 2 Beaching material shall not** require bedding unless specified or in design. | Each Lot | I | SE |  |  |  |  |
| **2.4** | Bedding and Geotextiles - Type 5  **Type 5 N/A □** | VR713.03(b)  MWC  7251/08/103 | **Type 5 Beaching Bedding shall be:**   * Developed in conjunction with Melbourne Water. * Well graded, and 0-100mm size for granular bedding. * Granular filter thickness >100mm. | Each lot | I | SE |  |  |  |  |
| **2.5** | Preparation of underlying surface | VR713.04  VR210 | **Beaching placement surface shall be:**   * Excavated, compacted, and trimmed to provide a FSL of beaching in accordance with IFC design. * Any scours or hollows backfilled with class 4. | Each lot | I | SE |  |  |  |  |
| **2.6** | Placing Rock Beaching – All Types | VR713.05 | **All Beaching shall be placed such that:**   * There is no beaching protrusion >50mm above surrounding ground levels. | Each lot | I | SE |  |  |  |  |
| **2.7** | Placing Rock Beaching – Type 1  **Type 1 N/A □** | VR713.05 | **Type 1 Beaching shall be placed such that:**   * A tight ‘interlocking grid’ is formed to retain each rock with gaps <60mm on average. * There is not **>100mm** height variation along a 3m straight line along the finish surface. * Voids filled mid-height of rock with topsoil. | Each lot | I | SE |  |  |  |  |
| **2.8** | Placing Rock Beaching – Type 2  **Type 2 N/A □** | VR713.05  VR13.06 | **Type 2 Beaching shall be placed such that:**   * An initial bed of mortar infiltrates the joints VR13.06. * Width of joints vary are between 10-60mm, and not exceeding 40mm on average. * There is not **>75mm** height variation along a 3m straight line along the finish surface. * Joints are free from debris before grouting. | Each lot | I | SE |  |  |  |  |
| **2.9** | Placing Rock Beaching – Type 5  **Type 5 N/A □** | VR713.05 | **Type 5 Beaching shall be placed such that:**   * There is not **>75mm** height variation along a 3m straight line along the finish surface. * Rocks are tightly interlocked, and voids are sealed with smaller rock for stability and sufficient water flow. | Each lot | I | SE |  |  |  |  |
| **2.10** | Grouting – Type 2  **Type 2 N/A □** | VR713.06 | **Type 2 Beaching grouting shall be:**   * With mortar one part Portland and 3 parts Sand by volume and thoroughly mixed with water. * When air temperature >5°C and kept moist for 3 days. * Such that joints are neatly finished and final mortar shall not be within 10mm of finished rock surface. * final grouting ensures mortar is firmly tamped into joints to fill the joints 20mm below general top of beaching. | Each lot | I | SE |  |  |  | Mortar Mix Product Detail  Grout Product Detail |
| **2.11** | Toe Walls – Type 1  **Type 1 N/A □** | VR713.07  IFC design | **Type 1 Beaching Toe Walls shall be:**   * Constructed where rock beaching slope >1:5 and be 600mm wide x 600mm deep. * Constructed 300mm wide x 400mm deep at front face and reinforced with L8TM trench mesh top and bottom. * Lined with geotextiles and filled with hand packed rock with larger voids filled with smaller stones. | Each lot | I | SE |  |  |  | Dockets |
| **2.12** | Perimeter Walls – Type 2  **Type 2 N/A □** | VR713.07  VR703.11 | **Type 2 Beaching Concrete Perimeter Walls shall be:**   * Constructed around exposed edges of beaching. * N20 strength grade. | Each lot | I | SE |  |  |  | Dockets |
| **2.13** | Drainage | VR713.08  IFC design | **Where specified or shown on the design shall be:**   * 100mm diameter PVC pipe laid down the batter in a trench beneath the bedding to discharge immediately above the top of the toe wall. * The pipe securely bedded within the backfilled compacted crushed rock or natural gravel trench. * Weepholes consisting of 75 mm diameter PVC pipes placed through the beaching at 2 m centres immediately above the top of the concrete toe wall and cut off flush with the face of beaching. | Each lot | I | SE |  |  |  |  |
| **3.0 Completion** | | | | | | | | | | |
| **3.1** | Cleaning | VR713.09 | Post-completion, beaching shall be cleaned, and foreign material and discolouration removed from surface. | Each lot | I | SE |  |  |  |  |
| **3.2** | Conformity with drawings | VR713.02 | Beaching finished surface conforms to the levels, lines, and grades as shown in IFC design or specified.   * As-built survey completed. | Each lot | R | SE |  |  |  | As-built Survey |
| **4.0 Work Lot Close out** | | | | | | | | | | |
| **4.1** | Product Non-Conformance | CQMP | All Product Non-Conformance(s) recorded and closed (if applicable) | Each lot | R | SE |  |  |  | NCR No\_\_\_\_\_\_\_\_\_\_\_ |
| **4.2** | 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. |

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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, **SV**-Surveyor, **CR**-Client Representative

**SI –** Superintendent

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