| **INSPECTION AND TEST CHECKLIST FOR:**  **Concrete for Roadworks (R53)** |
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| Activity No.# | Description | Requirements / Reference | | Acceptance Criteria | | | | | | | Comments / Attachments / Records | | | | Engineer Signoff | |
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| 1 | **Safety Review** | Project Safety Plan | | * All site personnel inducted (includes environment and cultural) * Required Safe Work Method Statements completed and signed * Subcontractor’s safety plan/procedure approved | | | | | | |  | | | |  | |
| 2 | **Environment** | Project Environment Plan  G36 CL 3.1  G38, G40 | | * Installation of soil erosion and sedimentation controls completed in accordance with ESC Plan and EMP, as well as Specification TfNSW G38 * All work undertaken under this Specification must be approved by the Environmental Site Representative (refer TfNSW G36) and comply with Abergeldie’s CEMS and CEMP | | | | | | |  | | | |  | |
| 3 | **Aggregates** | R53 Cl 2.2 | | General  Aggregates used in the manufacture of concrete and mortar must comply with AS 2758.1 and must:  have a maximum water absorption of 2.5% for aggregate as defined in AS 2758.1 Clause 8 7.3 except for slag aggregate which is to have a maximum limit of 6%;  satisfy the fine aggregate durability requirements  specified in AS 2758.1 Clause 9.2 for exposure classifications A1, A2 or and B1 as appropriate for the concrete application as defined in Appendix A of the Standard; and  satisfy the Wet Strength and Wet/Dry Strength Variation requirements specified in AS 2758.1 Clause 9.3.2 for exposure classifications A1, A2 or and B1, B2 as appropriate for the concrete use as defined in Appendix A of the standard.  Alkali – Reactive Materials  All aggregate intended for use in concrete to be incorporated into the Works must be assessed and classified for alkali -aggregate reaction and the effects controlled in accordance with TfNSW T363.   * Submit documentation verifying that the aggregate complies with this requirement, including the results of petrographic examinations undertaken in accordance with ASTM C295 | | | | | | | * Report showing compliance of material | | | |  | |
| 4 | **Concrete** | Cl 2.4.3 | | Concrete manufactured and supplied in accordance to AS 1379  **HOLD POINT**  Provide either:  The documents specified in Clause 2.4.3 items (a) and (b) OR   * Details of mix(es) selected from the TfNSW Register of Concrete Mixes, together with a statement certifying that the mix conforms to this Specification and is suitable for its intended use. | | | | | | |  | | | |  | |
| 5 | **Preparation and Inspection** | R53 Cl 3.3.1 | | Remove all dirt and other foreign matter from inside the forms prior to placing concrete within the forms.  Do not place concrete directly against the floor of the excavation, but against a 50 mm thick blinding layer of unreinforced concrete  **HOLD POINT**  Notify the Principal of:   1. expected completion time of fixing of the formwork and reinforcement (if applicable) AND 2. expected commencement date and time of placement of concrete | | | | | | |  | | | |  | |
| 6 | **Concrete temperature** | R53 Cl 3.3.2  R53 Cl 3.3.3 | | Do not place concrete in the Works if the **concrete temperature** at the point of discharge from transport vehicles is less than 10ºC or more than 32ºC  Do not place concrete if the measured **air temperature** is:   1. below 5°C; or 2. predicted to the below 5°C in the 24 hours after placement; or 3. above 35°C   Where air temperature is likely to exceed 30°C, take appropriate measures to reduce the concrete temperature as noted in AS 1379 Clause 4.4.2   * Do not place concrete in the Works during rain or when rain appears imminent | | | | | | | * Refer to concrete pour sheet | | | |  | |
| 7 | **Placing and compaction** | R53 Cl 3.3.4, 3.3.5, 3.6 | | Place concrete in such manner that:   1. limit segregation or loss of materials; 2. limit premature stiffening; 3. produce a dense homogeneous product which is monolithic between joints and edges; 4. provide the specified thickness and surface finish 5. concrete not to drop freely down the inside of formwork more than 1.2 metres and ensure that the concrete does not segregate due to aggregate hitting reinforcement 6. compact concrete immediately after placing using internal and/or external vibration to expel all entrapped air 7. Ensure joints and all adjacent surfaces are damp prior to placing adjacent concrete   Sprayed Concrete - The relative compaction of sprayed concrete must not be less than 95 %.  **WITNESS POINT**  At least 2 working days prior, provide notice to the Principal of the expected time of commencement of placing of mortar, grout and sprayed concrete | | | | | | |  | | | |  | |
| 8 | **Sampling and testing of concrete** | R53 Cl 4.1.1 | | * Sampling and testing of concrete for slump must be in accordance with AS 1379 Section 5. In the event of nonconforming slump, either reject the load, add water within mix design limits (if slump is too low), or consult with Client for nonconformance dispensation * Sampling, testing and assessment for compliance of concrete for strength must be in accordance with AS 1379 Section 6. In the event of nonconforming concrete strength, either remove and recomplete the works, or consult with Client for nonconformance dispensation | | | | | | | * Concrete delivery dockets * Concrete test results | | | |  | |
| 9 | **Concrete Cracking** | R53 Cl 4.2 | | * At the completion of the curing period, the concrete must have no cracks of width greater than 0.2 mm, measured at the concrete surface after completion of 21 days drying.  Where such cracks exist, identify them as nonconformities. | | | | | | |  | | | |  | |
| 10 | **Dimensions and levels** | R53 Cl 4.3 | | * Dimensions and levels of surfaces constructed using fixed forms must be as shown on the Drawings or in the relevant Specification, and within the tolerances stated in AS 3610.1 | | | | | | | * Survey report | | | |  | |
| **REVIEW BY PROJECT ENGINEER** | | | | | | | | | | | | | | | | |
| Any non-conformances? | | | YES | | NO | | Nos: | | | Closed Out | | | YES | | | NO |
| Other QA details – NCRs, CARs, Identified Records etc | | |  | | | | | | | | | | | | | |
| All work has been satisfactorily completed | | | | | | YES | | | NO | | | | | | | |
| Name | | | | | | | | Signature | | | | Date | |  | | |