| **Client** | TfNSW | **INSPECTION AND TEST PLAN FOR:**  **Cold Milling of Road Pavement Materials**  **(R101)** | **Work Area:** | |
| --- | --- | --- | --- | --- |
| **Contract No.#** | 21.0000139295.2145 |  | |
| **Contract** | New Dubbo Bridge | **Inspection and Test Plan** | |
| **ITP prepared by** |  | ITP 19 | (ITC 19) |
| **ITP approved by** |  | **Lot No:** | |

| **Legend:** | | | W = Witness | | | | H = Hold | | S = Surveillance | | | ACPL = Abergeldie | | | | | | | | | | S/C = Subcontractor |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Activity No.# | Description | Requirements / Reference | | | Acceptance Criteria | | | | | | Frequency | | | Inspection – Engineer Sign & Date | | | | | | | | Comments / Attachments / Records |
| S/C | | ACPL | | | Client |  | |
| 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 | | | | | | Prior to commencing works | | |  | | W | | | S |  | |  |
| 2 | **Environment** | Project Environment Plan | | | * Installation of soil erosion and sedimentation controls completed in accordance with Soil and Water Specs. * Air quality to be visually monitored for dust etc. as a direct result of construction activities. | | | | | | Prior to commencing works | | |  | | W | | | S |  | |  |
| 3 | **Scope** | R101 Cl1.1 | | | * This Specification sets out the requirements for the removal of pavement materials from road pavements and Concrete Structures by cold milling, including the treatment of the milled vertical faces and the cleaning up and removal and disposal of the milled materials. | | | | | | Prior to commencing works | | |  | | S | | | S |  | |  |
| 4 | **Survey of Hidden Objects** | R101 Cl3 | | | * **HOLD POINT:** Submission of verification documentation, the marking of milling depths and locations of all Hidden Objects on site, records | | | | | | During works | | |  | | H | | | H |  | | **Hold Point** |
| 5 | **Working Tolerances** | R101 Cl4.1 | | | * Depth of cut and other dimensions must comply with the tolerances specified in Table R101.1. | | | | | |  | | |  | | S | | | S |  | |  |
| 6 | **Milling to Achieve Specified Depth of Cut** | R101 Cl4.2 | | | * **HOLD POINT:** Written notice to the Principal at least 24 hours in advance of the time when the floor of the milled area will be available for inspection. | | | | | | At least 24 hours prior to | | |  | | H | | | H |  | | **Hold Point** |
| 7 | **Milling to Achieve Specified Level** | R101 Cl4.3 | | | * **HOLD POINT:** Survey Report of the milled floor (if specified in Annexure R101/A) and written notice to the Principal of the time that the floor of the milled surface will be available for inspection. | | | | | | As required | | |  | | H | | | H |  | | **Hold Point** |
| 8 | **Milling to Optimise Final Ride Quality** | R101 Cl4.5 | | | * When milling is required to optimise final ride quality, the outcome must be achieved by cutting to an average depth predetermined by survey. The nominal cutting width must be 2 m. * The milling machine must be equipped and operated using a minimum 6 m averaging beam or an equivalent non-contact system. Set milling operations to a constant speed and the cutting sequence must start from the crown towards the kerb. * You may propose, and implement subject to the Principal’s prior approval, an alternative method for achieving effective averaging control on the profiler * Verify the shape and profile of the milled surface by the use of a 3 m straightedge after each cut. Carry out testing transversely and longitudinally at intervals not exceeding 10 m using Test Method TfNSW T183. The milled surface must not deviate from any point on the bottom of the straightedge by more than 5 mm. | | | | | | As required | | |  | | S | | | S |  | |  |
| 9 | **Investigation of Thickness of Existing Asphalt over Concrete Structures** | R101 Cl4.6.1 | | | * Where the Principal is responsible for the investigation of thickness of existing asphalt over Concrete Structures, the information on thickness of existing asphalt will be clearly marked on existing pavement prior to the commencement of the Contract * Where specified in Annexure R101/A, carry out a comprehensive investigation to determine the thickness of the existing asphalt over each Concrete Structure. The Principal will provide you with any available preliminary information, including relevant work-as-executed drawings. * Carry out the investigation as follows:  1. Determine the proposed pattern of milling works and mark on the pavement the lines of movement of the depth sensing foot on each side of the milling machine 2. Investigate the thickness of asphalt by taking small diameter cores (e.g. 25 mm), at 3 m intervals (over concrete bridge elements) or 20 m intervals (over other concrete structures) along each line of movement of a depth sensing foot, at least 24 hours prior to the commencement of milling.   Submit the findings of the investigation to the Principal at least 24 hours before commencement of milling. | | | | | | 24 hours before commencement of milling | | |  | | S | | | S |  | |  |
| 10 | **Revised Scope of Works Based on Investigation** | R101 Cl4.6.2 | | | * **WITNESS POINT**: Notify the Principal not less than 24 hours prior to milling of the time and date of commencement of milling and the time and date the proposed depths of cut will be marked on the surface the surface | | | | | | 24 hours prior to milling | | |  | | W | | | S |  | | **Witness Point** |
| 11 | **Milling Operations** | R101 Cl4.6.2 | | | * Milling operators must have adequate training and experience in the operation of the cold milling machine (including automatic sensing equipment). * Submit to the Principal the experience and training records of each operator prior to the commencement of work on site. * During milling operations over Concrete Structures, provide three suitably trained and skilled milling machine operators at the cold milling machine at all times as follows:  1. One on the driving platform 2. One on each side of the machine generally in the vicinity of the sensor/cutting mandrel | | | | | | Prior to the commencement of works | | |  | | S | | | S |  | |  |
| 12 | **Milling Procedures** | R101 Cl4.6.5 | | | * **HOLD POINT:** Written notice to the Principal together with proposed procedures for the work at least 7 days (except for Clause 4.6.2 where it is 24 hours) prior to the commencement of milling work | | | | | | 7 days prior | | |  | | H | | | H |  | | **Hold Point** |
| 13 | **Operation of Cold Milling Machine** | R101 Cl4.6.6 | | | * Do not use cold milling machines to correct the shape, level or ride quality of the surface of Concrete Structures unless specified or specifically directed by the Principal. * During the operation of cold milling over Concrete Structures, take all necessary precautions to prevent the cutting teeth from contacting the concrete. Measure the actual depth of cut on both sides of the cold milling machine at intervals not exceeding 3 m (over concrete bridge elements) or 10 m (over other Concrete Structures). * **HOLD POINT:** After the cutting teeth have contacted the concrete, notify the Principal immediately of the incident and submit details of the cause and the proposed course of action | | | | | | As required | | |  | | H | | | H |  | | **Hold Point** |
| 14 | **Operation of Cold Milling Machine** | R101 Cl4.6.6 | | | * **Hold Point:** After any change to the pattern of the cut surface due to broken or worn cutting teeth, notify the Principal immediately of the incident and submit details of the cause and the proposed course of action | | | | | | As required | | |  | | H | | | H |  | | **Hold Point** |
| 15 | **Work in Vicinity of Object within Milling Area** | R101 Cl4.7 | | | * Where objects are located within the proposed milled area, remove the surrounding material for at least 0.5 m from the extremities of the object by means other than cold milling. | | | | | | Prior/During Works | | |  | | S | | | S |  | |  |
| 16 | **Unsuitable Material** | R101 Cl4.8 | | | * Remove any planes of weakness within the asphalt, cement concrete and/or pavement materials, or any unsuitable material existing at the base of the cut, which is not removed by the milling operation to the extent directed by the Principal. * **HOLD POINT:** Written notice to the Principal of the time that the removal of the unsuitable material will be completed and be available for inspection. | | | | | | If applicable | | |  | | H | | | H |  | | **Hold Point** |
| 17 | **Temporary Treatment at Edges of Milling** | R101 Cl4.9 | | | * Prior to opening of the work to traffic, ramp the edges of the milled surface to tie into the existing road levels. The dimensions of ramps must be as follows:  1. Transverse joints 2. Longitudinal joints 3. Interface with structures   Form the ramp by either bevelling with the cold milling machine or by placing asphalt. | | | | | |  | | |  | | S | | | S |  | |  |
| 18 | **Clean up & Disposal of Milled Materials & Temporary Ramp Materials** | R101 Cl4.10 | | | * *After final sweeping and prior to the work being opened to the traffic at the signposted speed, the number of loose aggregate particles determined in accordance with TfNSW T277 must not exceed 20 particles per square metre. The test location must be representative of the section and as agreed by you and the Principal.* * **HOLD POINT:** Notification of the time and location prior to commencement at least 24 hours prior. | | | | | | At least 24 hours prior | | |  | | H | | | H |  | | **Hold Point** |
| **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 | | |  | | | | |