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| Logo Fulton Hogan AUS_CMYK_150dpi | | **Inspection and Test Plan - Control and Supervision of the Works** | | | | | | | | **Document #**  **FHC-ITP-027** | | |
| Revision : 01 | Date : 23/01/2024 | |
|  | | | | | | | | | | | | |
| **Client:** | **MRPA** |  | **Construction Process:** |  | Prepared by: |  | Reviewed by : | |  | Approved by : |  |  |
| **Project:** | **Fitzgerald Road Carpark** | | ***Pile Footing Construction*** |  | Name: **Fynn Riddick** | | Name: Justin Sciacca | |  | Name: |  |  |
| **Contract No:** | |  | **Specifications:** AS 3600-2018, VicRoads Standard Specification Section 606, 610, 611, 614 | |  |  |  | |  |  |  |  |
|  | |  | **Structure / Component: Pole Footings per days production** | | Signed : |  | Signed : | |  | Signed : |  |  |
|  | |  | **Location: Fitzgerald Road Level Crossing Removal Project** | | Date : 23/01/2024 | | Date : 25/01/24 | |  | Date : |  |  |
|  | | | | | | | | | | | | |
| **Lot No:** |  | **Lot Details:** |  |  |  |  | **Lot Size/ Quantity:** | | |  |  |  |
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| **Item** | **Task/Activity Description** | **Inspection / Controls and Verification Detail** | | | | | **HP/ WP/ AP/ IP/ TP/ SCP** | **Responsibility** | **Checked by:** | | | |
| **No.** | **Frequency** | **Acceptance Criteria** | **Reference Documents** | **Inspection / Test Method** | **Record of conformity** | Project Engineer  Site Engineer Superintendent Surveyor Foreman | **Client** | **Fulton Hogan** | **FH's Sub- contractor** | **Date** |
| **1** | **Design and Submissions** | | | | | | | | | | | |
| 1.1 | Check for correct documentation | Prior to commencing any activity | Ensure that all employees and subcontractors are:  - using the correct and complete set of drawings  -all drawings are the latest revision | Drawings and drawing registers | Visual inspection | This ITP signed | **HP\*** | Fulton Hogan Engineer | N/A |  | N/A |  |
| 1.2 | Implementation of all measures and controls | Prior to commencing any activity | All necessary measures and controls are being implemented, that is: PSP, EMP, TMP, SWMS & WP | PSP, EMP, TMP, JSEA, SWMS, WP | Visual Inspection | This ITP signed | **HP\*** | Fulton Hogan Engineer | N/A |  | N/A |  |
| 1.3 | Approval of mix design | Prior to the first concrete pour | Structural Concrete Design & Submission ITP completed and signed. | 610.07 | Verify | This ITP signed | **IP** | Fulton Hogan Engineer | N/A |  | N/A |  |
| 1.4 | Reinforcement schedule | Prior to concrete pour | Reinforcement schedule has been prepared for the reinforcement supply, to ensure that it achieves the specified tolerances on member dimensions, concrete cover and specified  locations | 611.04 | Verify | This ITP signed | **IP** | Fulton Hogan Engineer | N/A |  | N/A |  |
| **2** | **Construction/Erection of Formwork** | | | | | | | | | | | |
| 2.1 | Excavation (Pile) | Prior to concrete pour | The Contractor shall notify the Superintendent for inspection of the pile excavation by the Superintendent. Prior to inspection, the pile excavation shall be de‑watered and the walls and base of the pile cleaned out, including the internal surface of the casing, to remove all mud, loose or  foreign material. | 606.05 | Inspect | This ITP signed | **HP** | Fulton Hogan Engineer / Suprintendant |  |  | N/A |  |
| 2.2 | Construction Methodology | Prior to erection | Designed and constructed in such a manner so it can be removed without damage to the concrete. Formwork/shoring shall be placed in locations where steel reinforcement and other fixtures can be inspected, and sufficiently tight at joints to  prevent loss of slurry | 614.04  614.06 | Verify | This ITP signed | **IP** | Fulton Hogan Engineer | N/A |  | N/A |  |

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| 2.3 | Construction Methodology (Pile) | Prior to construction | Further to the requirements of clause 611.10 spacers and supports for bored pile steel reinforcement shall be placed at intervals of no more than 2 m along the full length of the steel reinforcement cage to ensure that the specified concrete cover to the steel reinforcement is maintained.  Concrete shall be placed through a tremie tube and shall not be dropped from a height greater  than 2 m through air. | 611.10  606.06 | Verify | This ITP signed | **IP** | Fulton Hogan Engineer | N/A |  | N/A |  |
| **3** | **Pre-Pour Planning and Inspection** | | | | | | | | | | | |
| 3.1 | Cleaning formwork | Each concrete pour | Concrete shall not be placed until all foreign material has been completely removed from the forms | 610.18 (a) (iii) | Verify | This ITP signed | **IP** | Fulton Hogan | N/A |  | N/A |  |
| 3.2 | Correct forms, reinforcements, rag bolt assembly and embedments | Prior to concrete pour | Superintendent confirms that the inspected formwork, reinforcement, rag bolt assembly and embedments comply with the project drawings and specifications.  **Pre-pour checklist completed and signed.** | 610.18 (a) | Verify | This ITP signed & Pre- Pour checklist completed | **HP** | Fulton Hogan / Superintendent |  |  | N/A |  |
| 3.3 | Reinforcement assembly of piles | Prior to concrete pour | Reinforcement and/or concrete shall not be placed until the proposed method of removing mud, loose rock or similar materials has been reviewed by the Superintendent. | 610.17 (b),( c), (d) | Verify | This ITP signed | **HP** | Fulton Hogan | N/A |  | N/A |  |
| 3.4 | Monitoring weather | Prior to concrete pour | Concrete shall not be place when temperature is  <5°C or > 35°C  All steel components that are in contact with the concrete shall be cooled to below 32°C before concrete is placed | 610.17 (b),( c), (d) | Verify | This ITP signed | **IP** | Fulton Hogan | N/A |  | N/A |  |
| **4** | **Placing and Finishing Concrete** | | | | | | | | | | | |
| 4.1 | Carry out sampling of concrete | Each concrete pour | Sampling in accordance with 610.16 | 610.16 | Checklist | This ITP signed | **IP** | Fulton Hogan | N/A |  | N/A |  |
| 4.2 | Discharge time | Each concrete pour | Discharge time (concrete placed and compacted)  < 90 minutes from batch time unless approved otherwise. **Batch to be used has a discharge time of 180 minutes.** | 610.13 | Verify | This ITP signed. Accurate Site Notes & Load Mapping | **IP** | Fulton Hogan | N/A |  | N/A |  |
| 4.3 | Methodology of placement (structural) | Each concrete pour | Concrete shall be tansported, handled and placed in a manner that will prevent segregation or loss of materials  In continuous pours the max. time lag between  truckloads on site is 25 minutes | 610.18 | Verify | This ITP signed | **IP** | Fulton Hogan | N/A |  | N/A |  |
| 4.4 | Methodology of placement (piles) | Each concrete pour | Unless otherwise approved by the Superintendent, temporary casing shall be used to prevent collapse of holes during the excavation operation.  Care shall be taken to prevent soil and rock dislodging from the side of the hole and contaminating the concrete forming the minimum  cover to the reinforcement. | 606.03(b)  606.05 | Verify | This ITP signed | **IP** | Fulton Hogan | N/A |  | N/A |  |
| **5** | **Post-Pour Details and Inspection** | | | | | | | | | | | |

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| **No.** | **Frequency** | **Acceptance Criteria** | **Reference Documents** | **Inspection / Test Method** | **Record of conformity** | Project Engineer  Site Engineer Superintendent Surveyor Foreman | **Client** | **Fulton Hogan** | **FH's Sub- contractor** | **Date** |
| 5.1 | Curing | | Each concrete pour | Sufficient time shall be given for the concrete to  cure prior to loading. | 610.23 | Verify | This ITP signed | **IP** | Fulton Hogan | N/A |  | N/A |  |
| 5.2 | Formwork removal | | Each concrete pour | Formwork shall be removed carefully and in such a manner as to avoid damage to the member or the concrete surfaces and maintain safety at all stages of removal. Formwork and formwork supports shall not be disturbed or adjusted during the concreting operation | 610.25 | Verify | This ITP signed | **IP** | Fulton Hogan | N/A |  | N/A |  |
| 5.3 | Positional tolerance and dimensions of concrete members and piles | | Each concrete pour | The centre of the pile head shall be in the specified plan position ±75 mm; | 607.06 | Verify | This ITP signed Post Pour Checklist  completed | **IP** | Fulton Hogan | N/A |  | N/A |  |
| 5.4 | Concrete Sampling and Testing | | Prior to lot closure | Concrete sampled and tested for Compressive Strength:   * 2 cylinders @ 28 days Compressive Strength=32MPa * 1 cylinders @ 7 days for Compressive Strength=20MPa | 610.05  610.06  610.13  610.16 | Verify | This ITP signed | **TP** | Fulton Hogan | N/A |  | N/A |  |
| 5.5 | Protection of Adjacent Piles | | Prior to commencing any piling | No pile construction shall be commenced within  2.5m clear distance of a newly cast pile until the concrete in the pile has attained a strength of 15 MPa.  Installation of piles by methods which involve driven temporary casing or result in significant vibration shall not be carried out within the distance 2.5 m to 9.0 m until the concrete in the pile has attained a strength of 15 MPa and set for  a minimum of 24 hours. | 606.04(a)  606.04(c) | Verify | This ITP signed | **HP\*** | Fulton Hogan | N/A |  | N/A |  |
| 5.6 | Testing Post-Pour | | Prior to lot closure | Where necessary, piles shall be tested in accordance with 606.07; integrity testing, static load testing & dynamic testing | 606.07 | Verify | This ITP signed | **TP** | Fulton Hogan | N/A |  | N/A |  |
| 5.7 | As Built Drawings | | Prior to lot closure | Recorded of as-built drawings | Fulton Hogan  Procedure | Verify | This ITP signed | **IP** | Fulton Hogan | N/A |  | N/A |  |
|  | **Final Inspection** |  |  |  |  |  |  |  |  |  |  |  |  |
| The signature below verifies that this ITP has been completed in accordance with the FH’s Quality system Procedures and verifies lot compliance with specifications. | | | | | | | | | | | | | |
|  | Print Name: |  | Position: |  | Signature: |  |  |  |  | Date: / / | |  |  |
|  | | | | | | | | | | | | | |
| ***Legend*** | | | | | | | | | | | | | |
| **HP** | Hold Point | Work shall not proceed past the HP until released by the Superintendent | | | **IP** | Inspection point | | Formal Inspection to be done and recorded | | | |  |  |
| **HP\*** | FH Hold Point | Work shall not proceed past the HP\* until released by FH | | | **TP** | Test Point |  | Product compliance test to be undertaken and recorded/reported | | | | |  |
| **WP** | Witness Point | An inspection which must be witnessed by the Superintendent | | | **SCP** | Survey conformance point | | A qualified surveyor to check product/section/structure and report | | | | |  |
| **AP** | Approval Point | Written or verbal approval given by the Superintendent | | |  | | | | | | | | |