|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Inspection and Test Plan - Control and Supervision of the Works** | | | | **Doc ID:** FH-ZU2-QU-ITP008  **Rev: 0** | |
| **Client:** Melbourne Airport (APAM) | | **Contract No:** CP14038 | | **Prepared By: Marianne Sales** | | |
| **Project:** Taxiway Zulu 2.0 Project | | | **Reviewed By:** Jonathon Rock | | | **Date:** 03/05/2024 |
| **Construction Process:** Lime Stabilisation Subgrade | | | **Approved By:** Jonathon Rock | | | **Date:** 03/05/2024 |
| **Specifications:** Taxiway Zulu 2.0 Program Works Specification ZULU-BECA-002-SPC-00002[C01] | | | | | | |
| **Structure / Component:** Subgrade | | | | | | |

\

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Lot No**: | | **Lot Details**: | |  | **Lot size/Quantity**: | |  |  | **Date**: |  |  |  |
| **Item No.** | **Task/Activity Description** | **Inspection/Test** | | | | | **HP/ WP/ AP/ IP/ TP/ SCP** | **Responsibility** | **Checked by:** | | | |
| **Frequency** | **Acceptance Criteria** | **Reference Documents** | **Inspection/ Test Method** | **Record of conformit y** | **Principles Rep** | **Fulton Hogan** | **Other** | **Date** |
| **1.0** | **Preliminary Activities – Permits, Documentation, Approvals, Materials and Trials** | | | | | | | | | | | |
| 1.1 | Check for correct documentation | Prior to commencing works | Current revision drawing is being used including the subcontractors copy.  Current Revision to be obtained via Aconex | Aconex | Visual Inspection | This signed ITP | HP\* | Project/Site Engineer |  |  |  |  |
| 1.2 | Implementation of all measures and  controls | Prior to commencing  works | All necessary measures and controls are being implemented, that is: PSP, EMP, TMP, SWMS & WP | PSP, EMP, TMP, WP  SWMS, | Visual Inspection | This signed ITP | HP\* | Project/Site Site Supervisor |  |  |  |  |
| 1.3 | Current excavation permit | Prior to commencing works | An Excavation Permit and an Isolation permit issued by Melbourne Airport.  Fulton Hogan Excavation permit issued to plant  operators. | Excavatio n Permit | Visual Inspection | Permits | HP\* | Project/Site Foreman |  |  |  |  |
| 1.4 | Preceding Lots Satisfactory | Prior to commencing  works | Review ITP004 (Select Fill placement) and ITP003 (Stripping and bulk out) has been completed to a  satisfactory level | ITP004, ITP003 | Visual Inspection | This signed ITP | HP\* | Project/Site Engineer |  |  |  |  |
| 1.5 | Test Pits | Prior to commencing works | Test Pits have taken for the works area and suitable lime content parameters have been established. Test Pits should be taken at least one month prior to works  beginning | WMS003  – cl3.1.9 | Visual Inspection | This signed ITP | HP\* | Project/Site Engineer |  |  |  |  |
| 1.6 | Stabilised Lime Content | Prior to commencing | Stabilised Lime subgrade material shall have a minimum of lime content of 4% and a specified minimum strength of 20% CBR after 7 days of curing. | Spec cl. 3.3 | Testing | Test results & This ITP signed | **HP** | Project/Site Engineer Principal’s  Representative | Aconex Ref: |  |  |  |
| 1.7 | Stabilised Soil Trial | Prior to commencing | Trial of the Lime Stabilised Subgrade is greater than 500m2 to demonstrate that the Subgrade is able to meet the required specification.  If trial is approved and accepted by Principal’s Representative. Trial of Lime Stabilised Subgrade will form the completed Works. | Spec cl. 3.6 | Verify | This ITP signed | **HP** | Project/Site Engineer Principal’s  Representative |  |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Inspection and Test Plan - Control and Supervision of the Works** | | | | **Doc ID:** FH-ZU2-QU-ITP008  **Rev: 0** | |
| **Client:** Melbourne Airport (APAM) | | **Contract No:** CP14038 | | **Prepared By: Marianne Sales** | | |
| **Project:** Taxiway Zulu 2.0 Project | | | **Reviewed By:** Jonathon Rock | | | **Date:** 03/05/2024 |
| **Construction Process:** Lime Stabilisation Subgrade | | | **Approved By:** Jonathon Rock | | | **Date:** 03/05/2024 |
| **Specifications:** Taxiway Zulu 2.0 Program Works Specification ZULU-BECA-002-SPC-00002[C01] | | | | | | |
| **Structure / Component:** Subgrade | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Item No.** | **Task/Activity Description** | **Inspection/Test** | | | | | **HP/ WP/ AP/ IP/ TP/ SCP** | **Responsibility** | **Checked by:** | | | |
| **Frequency** | **Acceptance Criteria** | **Reference Documents** | **Inspection/ Test Method** | **Record of conformit y** | **Principles Rep** | **Fulton Hogan** | **Other** | **Date** |
|  |  |  | Principal’s Representative to approve trial before commencing Lime Stabilised Subgrade placing. |  |  |  |  |  |  |  |  |  |
| **2.0** | **Subgrade Preparation & Replacement** | | | | | | | | | | | |
| 2.0 | Pre-treatment of earthworks | Each Lot | * Inspect subgrade that will require lime stabilisation. * Subgrade that is excessively wet and/or contains rocks greater than 60mm to 100mm, subgrade will need to be removed and replaced with site won material. * No testing or proof rolls required on replaced subgrade * Survey to for any excessive high and/or low   spots. Fill / excavate spots as required. | WMS008  – cl 3.2.1 | Verify | This signed ITP | IP | Project/Site Engineer |  |  |  |  |
| 2.1 | Rip Subgrade | Each Lot | Prior to spreading lime, the subgrade is to be ripped and pulverised to at least 400mm | Cl3.7 | Verify | This signed ITP | IP | Project/Site Engineer |  |  |  |  |
| **3.0** | **Layer Placement** | | | | | | | | | | | |
| 3.1 | Layer Parameters | Each Lot | Summary of Layer Parameters:   * A Lot is defined as one days production * Min depth of 300mm for PT01, PT03, PT08 * Min Depth of 400mm PT02 * Shape: <12mm over a 3.5m straight edge * Surface Level: -25mm to +0mm | Cl 3.16  Cl. 3.14.3 | Verify | This signed ITP | IP | Project/Site Engineer |  |  |  |  |
| 3.2 | Prior to Works Starting | Each Lot | Check weather forecast for rain and wind. Works to not beginning if rain is imminent. Works must not start  or cease if wind increase over 15 knots | Cl3.7 | Verify | This signed ITP | IP | Project/Site Engineer |  |  |  |  |
| 3.3 | Spreading of Lime | Each Lot | Lime to be spread uniformly over the prepared surface at the Lime spreading rate calculated. | Cl3.7 | Verify | This signed  ITP | IP | Project/Site  Engineer |  |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Inspection and Test Plan - Control and Supervision of the Works** | | | | **Doc ID:** FH-ZU2-QU-ITP008  **Rev: 0** | |
| **Client:** Melbourne Airport (APAM) | | **Contract No:** CP14038 | | **Prepared By: Marianne Sales** | | |
| **Project:** Taxiway Zulu 2.0 Project | | | **Reviewed By:** Jonathon Rock | | | **Date:** 03/05/2024 |
| **Construction Process:** Lime Stabilisation Subgrade | | | **Approved By:** Jonathon Rock | | | **Date:** 03/05/2024 |
| **Specifications:** Taxiway Zulu 2.0 Program Works Specification ZULU-BECA-002-SPC-00002[C01] | | | | | | |
| **Structure / Component:** Subgrade | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Item No.** | **Task/Activity Description** | **Inspection/Test** | | | | | **HP/ WP/ AP/ IP/ TP/ SCP** | **Responsibility** | **Checked by:** | | | |
| **Frequency** | **Acceptance Criteria** | **Reference Documents** | **Inspection/ Test Method** | **Record of conformit y** | **Principles Rep** | **Fulton Hogan** | **Other** | **Date** |
| 3.4 | Spreading of Lime | Once Per Hour | Lime spread to be checked every hour and shall be with +/- 5% of the specified amount. An area to be  checked is required to be not less than 1x1m2. | Cl3.7 | Verify | TP | IP | Project/Site Engineer |  |  |  |  |
| 3.5 | Mixing | Each Lot | All lime to be mixed to the specified depth within 8 hours of spreading. Mixing passes to overlap to ensure subgrade is mixed twice as a minimum.  Where possible, adjacent material will be placed within  1.5 hours of initial placement to avoid joints from  forming. | Cl3.8 | Verify | This signed ITP | IP | Project/Site Engineer |  |  |  |  |
| 3.6 | Mixing | Once Per Hour | Approximately every hour, mixing plant will record the depth of application to check compliance with the specification (300mm or 400mm). | Cl3.8 | Verify | TP | IP | Project/Site Engineer |  |  |  |  |
| 3.7 | Joints | Each Lot | Construction Joints when required, will be placed to ensure no single plane of weakness. Construction joints of adjacent lots will:   * Longitudinal Joints – Will be avoided by overlapping adjacent lime stabilisation mixing runs. * Traverse Joints – Will be staggered to avoid   forming a single joint. | Cl3.13 | Verify | This signed ITP | IP | Project/Site Engineer Foreman |  |  |  |  |
| 3.8 | Compaction | Each Lot | After satisfactory mixing, compaction shall commence within two hours and be finished within eight hours of mixing completion. Additional moisture may be added  if required. | Cl3.11 | Verify | This signed ITP | IP | Project/Site Engineer |  |  |  |  |
| 3.9 | Trimming | Each Lot | Surface to be trimmed to +0mm, -25mm | Cl3.11 | Verify | This signed  ITP | IP | Project/Site  Engineer |  |  |  |  |
| 3.10 | Protection | Each Lot | As soon as lime stabilisation activities start, no construction plant to travel across works zone (other than those involved in the operation for 48 hours  minimum. | Cl3.15 | Verify | This signed ITP | IP | Project/Site Engineer |  |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Inspection and Test Plan - Control and Supervision of the Works** | | | | **Doc ID:** FH-ZU2-QU-ITP008  **Rev: 0** | |
| **Client:** Melbourne Airport (APAM) | | **Contract No:** CP14038 | | **Prepared By: Marianne Sales** | | |
| **Project:** Taxiway Zulu 2.0 Project | | | **Reviewed By:** Jonathon Rock | | | **Date:** 03/05/2024 |
| **Construction Process:** Lime Stabilisation Subgrade | | | **Approved By:** Jonathon Rock | | | **Date:** 03/05/2024 |
| **Specifications:** Taxiway Zulu 2.0 Program Works Specification ZULU-BECA-002-SPC-00002[C01] | | | | | | |
| **Structure / Component:** Subgrade | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Item No.** | **Task/Activity Description** | **Inspection/Test** | | | | | **HP/ WP/ AP/ IP/ TP/ SCP** | **Responsibility** | **Checked by:** | | | |
| **Frequency** | **Acceptance Criteria** | **Reference Documents** | **Inspection/ Test Method** | **Record of conformit y** | **Principles Rep** | **Fulton Hogan** | **Other** | **Date** |
| 3.11 | Curing | Each Lot | Curing shall commence as soon as practical. The curing  period is 48 hours or until the succeeding layer is placed. | Cl3.15 | Verify | This signed ITP | IP | Project/Site Engineer |  |  |  |  |
| **4.0** | **Acceptance – Lime Stabilisation** | | | | | | | | | | | |
| 4.1 | Proof Roll | Each Lot | Following completion of the curing period, detailed trim and survey conformance, the Principle’s Representative will be invited to a proof roll (24 hours notice). Proof roll will be accepted if no rutting greater than 25mm is observed. Proof roll will involve using a heavy vibrating roller (in static mode)  Proof rolling of the subgrade will be approval to place Sub-basecourse or Basecourse. If rain falls on subgrade prior to placing next layer, a further inspection will be  required. | Cl3.12 Cl4.6 | Verify | This signed ITP | **HP WP HP HP** | Project/Site Engineer Principle’s Representative |  |  |  |  |
| 4.2 | Surface Smoothness | Each Lot every 10m | Long straight edge surface not to deviate by more than 12mm over a 3.5m long straight edge, following subgrade treatment | Cl3.16 | Verify | This signed ITP  Results  Attached | TP | Project/Site Engineer |  |  |  |  |
| 4.3 | Strength Testing (CBR) | Each Lot – Once per 1500m2 | To exceed 20% CBR after 7 days. | Cl3.16 | Verify | This signed ITP  Results  Attached | TP | Project/Site Engineer |  |  |  |  |
| 4.4 | Field Dry Density | Each Lot – Once per 500m2 | Maximum Dry Density used is lime stabilised subgrade 100% using standard compaction. | Cl3.11 Cl3.16 | Verify | This signed ITP  Results  Attached | TP | Project/Site Engineer |  |  |  |  |
| 4.5 | Surface Level | Each Lot | Stabilised and compacted subgrade surface layer to  comply within -25mm to +0mm from specified levels. | Cl3.16 | Verify  Report | This signed  ITP | SCP | Project/Site  Engineer |  |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Inspection and Test Plan - Control and Supervision of the Works** | | | | **Doc ID:** FH-ZU2-QU-ITP008  **Rev: 0** | |
| **Client:** Melbourne Airport (APAM) | | **Contract No:** CP14038 | | **Prepared By: Marianne Sales** | | |
| **Project:** Taxiway Zulu 2.0 Project | | | **Reviewed By:** Jonathon Rock | | | **Date:** 03/05/2024 |
| **Construction Process:** Lime Stabilisation Subgrade | | | **Approved By:** Jonathon Rock | | | **Date:** 03/05/2024 |
| **Specifications:** Taxiway Zulu 2.0 Program Works Specification ZULU-BECA-002-SPC-00002[C01] | | | | | | |
| **Structure / Component:** Subgrade | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Item No.** | **Task/Activity Description** | **Inspection/Test** | | | | | **HP/ WP/ AP/ IP/ TP/ SCP** | **Responsibility** | **Checked by:** | | | |
| **Frequency** | **Acceptance Criteria** | **Reference Documents** | **Inspection/ Test Method** | **Record of conformit y** | **Principles Rep** | **Fulton Hogan** | **Other** | **Date** |
|  |  |  |  |  |  | Results  Attached |  |  |  |  |  |  |

**Final Inspection:**

On behalf of Fulton Hogan, it is hereby certified that the Works represented by the items of work listed have been tested in accordance with the Project Quality Plan and conform in all respects with the requirements of the Contract.

**Print Name:**

**Position:**

**Signature:**

**Date:**

**/**

**/**

**Legend:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **HP** | Hold Point | Work shall not proceed past the HP until released by the Principal’s Representative | **IP** | Inspection point | Formal Inspection to be done and recorded |
| **HP\*** | Fulton Hogan Hold Point | Work shall not proceed past the HP\* until released by Fulton Hogan | **TP** | Test Point | Product compliance test to be undertaken and recorded/reported |
| **WP** | Witness Point | An inspection which must be witnessed by the Principal’s Representative | **SCP** | Survey conformance point | A qualified surveyor to check product/section/structure and report |
| **AP** | Approval Point | Written or verbal approval given by the Principal’s Representative |  | | |
| **Notes** | | | | | |