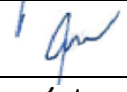
# Inspection and Test Plan

| | |
|---|---|
| **Contract:** | |
| **Customer:** | Neoen / Tesla |
| **ITP Title:** | Pavement Base Layer |
| **ITP Number:** | 3200-0706-ITP-CE-003 |
| **Current Revision:** | A |
| **Current Revision Date:** | 12/11/2024 |
| **Status:** | Draft |
| **Lot Number / Area** | |
| **Lot Description** | |

| | ITP Approval | | | |
|---|---|---|---|---|
| **Workflow** | **Name** | **Title / Position** | **Signature** | **Date** |
| **Prepared by:** | Edwin Mendoza | Senior Civil Project Engineer |  | 01/10/2024 |
| **Reviewed by:** | Edwin Mendoza | Senior Civil Project Engineer |  | 01/10/2024 |
| **Reviewed by:** | Mehdi Farahmand | QA/QS Lead |  | 01/10/2024 |
| **Approved by:** | Matthew Sultana | Site / Construction / Project Manager |  | 07/11/2024 |

| Revision History | | |
|---|---|---|
| **Date** | **Revision Number** | **Revision Details** |
| 12/11/2024 | A | First draft issued for review / comment |
| | | |
| | | |

**ITP Number:** 3200-0706-ITP-CE-003 **ITP Title:** Pavement Base Layer

| Contact Details | |
|---|---|
| Customer: | Neoen/ Tesla |
| Operations Mgr: | Mark Groth |
| Project Engineer: | Edwin Mendoza |
| Quality Rep: | Mehdi Farahmand |
| **Subcontractors** | |
| Design: | UGL Engineering |
| Drafting: | UGL Engineering |
| Subcontractor: | Western Down Civil |

**Summary of Requirements**

Process Qualifications:
Installation of pavement base layer i.e., spreading, compaction and testing.

Traceability:

| | | | |
|---|---|---|---|
| Material | ☒ | Alloy Verification: | ☐ |
| Heat Treatment | ☐ | Pressure Testing: | ☐ |
| Consumable: | ☐ | NDT | ☐ |
| Welder ID: | ☐ | WPS | ☐ |
| Electrical: | ☐ | Instrumentation | ☐ |

**Principal Codes / Standards**

- AS1289 - Methods of testing soils for engineering purposes
- AS3798 - Guidelines on earthworks for commercial and residential developments
- MRTS04 General Earthworks
- MRTS05 Unbound Pavements

**Client Specifications**

N/A

**Records**

**(MDR Insert as marked ☐)**

| | |
|---|---|
| Inspect Release Cert | ☐ |
| Deviations/Concessions | ☐ |
| Material Certificates | ☒ |
| Conformance Certificate | ☐ |
| Welding Records | ☐ |
| Welder Qual. Register | ☐ |
| NDT Reports | ☐ |
| Report on Repairs | ☐ |
| Heat Treatment Records | ☐ |
| Dimensional Records | ☐ |
| Non-Conformance Rpts | ☒ |
| Pressure Test Records | ☐ |
| Drawing & Data Sheets | ☒ |
| Misc Verification Records | ☒ |
| Electrical Test Sheets | ☐ |

**Surveillance / Inspection Key**

**HOLD POINT (H):** Nominated point beyond which work shall not proceed without verified acceptance by nominee

**WITNESS POINT (W):** Points at which the nominee shall be notified and invited to witness an activity but further work may proceed without the presence of the nominee.

**REVIEW (R):** Verify by examination of documentary evidence that inspection / tests have been satisfactorily conducted.

**SURVEILLANCE (S):** Continuing evaluation of the status of methods, analysis of records and monitoring of activities on a random basis to ensure quality of requirements will be met.

**VISUAL (V):** 100% Visual inspection of work / item to ensure compliance with code / spec

**DIMENSIONAL (D):** Measurement of critical dimensions to ensure work/item is within tolerance

Heat Treatment:

Dimensional Control:

Testing (NDT):

Acceptance Specification:

Pressure Testing:

Elect. / Instrumentation:

Notes:
All sampling and testing for earthworks, pavement and concrete shall be taken by a NATA accredited laboratory.

**UGL Procedures/ WI's**

- 3200-0706-PLN-001- QMP
- 3200-0706-PLN-004 -ERP
- 3200-0706-PLN-005- CEMP
- 0706-C-DRG-0001 Cover Sheet and Drawing List
- 0706-C-DRG-0002 General Notes
- 0706-C-DRG-0003 General Arrangement and Set Out Plan
- 0706-C-DRG-0004 Bulk Earthworks Plan
- 0706-C-DRG-0006 Earthworks Sections Sheet 1 of 2
- 0706-C-DRG-0007 Earthworks Sections Sheet 2 of 2
- 0706-C-DRG-0008 Finished Grading Sheet 1 and 2
- 0706-C-DRG-0009 Pavement Plan
- 0706-C-DRG-0011 Earthworks Sections and Details
- 0706-C-DRG-0012 Erosion and Sedimentation Control Plan Construction Stage
- 0706-C-DRG-0013 Erosion and Sedimentation Control Plan Completion
- 0706-C-DRG-0014 Erosion and Sediment Control Details
- 0706-C-DRG-0015 Drainage Details Sheet 1 and Sheet
- 3200-0706-ITC-CE-002 Pavement Subbase Layer

**Position**

| | |
|---|---|
| Operations Manager | OM |
| Project Engineer | PE |
| Quality Representative | QR |
| Pre-Processing | PP |
| Technician | T |
| Welding Supervisor | WS |
| Workshop Foreman | WF |
| Document Controller | DC |
| Store Person | SP |
| Subcontractor | SC |
| Elect. / Instrumentation | E/I |

**ITP Number:** 3200-0706-ITP-CE-003 **ITP Title:** Pavement Base Layer

| ITEM NO.: | PROCESS ACTIVITY | PROCEDURE / INSTRUCTION | ACCEPTANCE CRITERIA | RELEVANT SECTION | VERIFYING DOCUMENT | VERIFICATION (SIGN & DATE) | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | S/C | UGL | Client | |
| **STAGE 1: PREPARATION WORKS** | | | | | | | | | |
| 1.1 | Permits and Approvals | Ensure Permits are in place including, but not limited to:<br>• Excavation Permits | NA | NA | NA | | | | |
| 1.2 | CEMP and Emergency Response Plans | Controls established within CEMP and ERP shall be adhered to throughout works. | 3200-0706-PLN-005 – CEMP<br>3200-0706-PLN-010 - ERP | 0706-C-DRG-0012<br>0706-C-DRG-0013 Erosion and Sedimentation Control Plan | Site Audits as works progress. | R | R | S | |
| 1.3 | Identification of underground services | Use of DBYD and pothole to positively identify underground services.<br><br>Use progress As-Constructed drawings for installed buried cables | NA | UGL Safety Critical Risk Control – Excavation and Trenching | DBYD / Excavation Permit Survey (if required). | H | H | S | |
| 1.4 | Approval of Subcontractor SWMS | Submission, review, and approval of all subcontractor SWMS for the works | SWMS Approved | UGL-Contractor HSEQ Requirements | UGL SWMS Review Forms and approved SWMS. | H | H | S | |
| 1.5 | Conformance of Materials | All delivered materials and procured items conform to project specification and AFC drawings. | As per Drawings and Specifications | • MRTS05 Type 2.1 | • Material Certificate<br>• Test Reports complying to Type 2.1 material by NATA accredited laboratory. | R | R | S | |
| 1.6 | Inspection Measuring and Test Equipment (IMTE) Registers | Supply of all calibration certificates to the Engineer including but not limited to: Survey equipment | Visual | UGL 3200-0706-PLN-001 QMP Section 9.8 | Calibration Certificates. | R | R | S | |
| **STAGE 2: CONSTRUCTION WORKS** | | | | | | | | | |
| 2.1 | Setout of pad | • Registered Surveyor to set out pad with pegs and markers.<br>• Check surveyor marks against known structures, such as boundaries, fences | Drawing provided showing marked out areas and exclusion zones. | • Drawing Number: 0706-C-DRG-0003<br>• Drawing Number: 0706-C-DRG-0002 General Notes G8. | Survey complies with checks and contract drawings. | H | H | S | |

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| ITEM NO.: | PROCESS ACTIVITY | PROCEDURE / INSTRUCTION | ACCEPTANCE CRITERIA | RELEVANT SECTION | VERIFYING DOCUMENT | VERIFICATION (SIGN & DATE) | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | S/C | UGL | Client | |
| 2.2 | Underlying ITP/ITC closed and signed off. | • Verify ITC if closed and signed off. | • Signed off ITC document 3200-0706-ITC-CE-002 Pavement Subbase Layer | NA | • Survey Conformance Report for finish surface uniformity<br>• 3200-0706-ITC-CE-002 Pavement Subbase Layer | H | H | S | |
| 2.3 | Base Layer (Class 2.1) | • Spread material and compact to maximum:<br>- 150mm Typical Battery Storage Platform<br>- 150mm Typical Sealed Road Pavement<br>- 150mm Typical Substation Platform<br>• Compact material to 100% SMDD.<br>• Minimum CBR 80%.<br>• Trim final surface level for uniformity within tolerance. | • Material compacted to 100% at specified maximum thickness layer.<br>• CBR 80%<br>• Tolerances ±5mm<br>• Maximum ±5mm in 3m straight edge at any direction.<br>• Minimum 4 test per lot | • Drawing Number: 0706-C-DRG-0011<br>• MRTS05 Type 2.1 (Class 2.1) | • Survey Conformance Report for finish surface uniformity<br>• SMDD material test report<br>• 3200-0706-ITC-CE-003 Pavement Base Layer | H | H | S | |
| 2.4 | Proof Rolling | • Proof roll using either 7,000 litre single rear axle or 10,000 litre tandem near axle water tanker | • No perceptible surface deformation | • MRTS05 Cl 9.4.7<br>• Testing Method Q723 | • Visual | H | H | S | |
| 2.5 | Finish Platform -Single size dressing layer | • Spread single gravel dressing layer minimum 100mm thick.<br>• Single size clean gravel and free of unwanted materials | • Final surface free of loose material and properly clean.<br>• Visual and spread evenly. | • Drawing Number: 0706-C-DRG-0011 under Typical substation platform detail with gravel layer. | • Visual and at random checking. | R | R | S | |
| **STAGE 3: ITP CLOSE-OUT** | | | | | | | | | |
| 3.1 | Compilation of survey records | Sub-contractor to provide survey records to Engineer for review and acceptance. Deviations or changes to AFC Design shall be highlighted to Engineer. | Provision of CAD file of Works. | UGL 3200-0706-PLN-001 QMP Section 11.1.1 | As-Constructed drawing | R | R | S | |

**ITP Number:** 3200-0706-ITP-CE-003 **ITP Title:** Pavement Base Layer

| ITEM NO.: | PROCESS ACTIVITY | PROCEDURE / INSTRUCTION | ACCEPTANCE CRITERIA | RELEVANT SECTION | VERIFYING DOCUMENT | VERIFICATION (SIGN & DATE) | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | S/C | UGL | Client | |
| 3.2 | Develop Punchlist | Walkdown and inspection of works and development of punch list with Engineer and or Supervisor. | Punchlist closed in a timely manner. | UGL 3200-0706-PLN-001 QMP Section 9.7 | Master Punchlist Register | R | R | S | |
| 3.3 | Closeout of NCRs | Any NCRs that have been raised during the progress of the works have been formally closed out and lessons have been captured. Refer to UGL Quality Management Plan. | NCRs close out in a timely manner. | UGL 3200-0706-PLN-001 QMP Section 9.5 | NCR Closed, signed off. | R | R | S | |
| 3.4 | Changes captured and agreed within RFIs | Any deviations to AFC Design or Contract Specifications are to be captured, recorded, and agreed via the Formal RFI process. | All RFI's to be agreed or accepted in a timely manner. | UGL 3200-0706-PLN-001 QMP Section 11.1.1 | RFI Register | R | R | S | |
| 3.5 | As Constructed records – Red Line Mark-Up (RLMU) Drawings. | Sub-contractor to compile and record changes on AFC Drawings, to be issued to UGL Engineering via Teambinder. | NA | UGL 3200-0706-PLN-001 QMP Section 11.1.1 | As-Constructed Drawing / RLMU drawing | R | R | S | |

| COMMENTS AND NOTES | | |
|---|---|---|
| | | |
| **ITP COMPLETION AND SIGN-OFF** | | |
| **S/C Representative** | **UGL Representative** | **Client Representative** |
| **Name:** | **Name:** | **Name:** |
| **Signature:** | **Signature:** | **Signature:** |
| **Date:** | **Date:** | **Date:** |

# Attachment A - Inspection and Test Plan Notes

| Document Rev | Activity Ref | Change | Reason for Change |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

# Pavement – Base Layer

## INSPECTION & TEST CHECKLIST (ITC)

Checklist No: 3200-0706-ITC-CE-003

| | | | | | |
|---|---|---|---|---|---|
| Project No: | 3200-0706 | Title: | Pavement Base Layer | Client: | NEOEN TESLA |
| Description: | CE – Pavement – Base Layer | | | | |
| Lot No: | | Drawing / Area Ref: | | | |
| Work Pack No: | 3200-0706-WP-002: General Civil Works | ITP Ref: | | 3200-0706 -ITP-CE-003 | |

**NOTE: Strike through sections that are not applicable.**

| Item | Description | Yes | No | N/A |
|---|---|---|---|---|
| 1 | Prior Works | | | |
| 1.1 | Materials are compliant to design | ☐ | ☐ | ☐ |
| 1.2 | Surveyor pad layout/ pavement layout | ☐ | ☐ | ☐ |
| 1.3 | Installation of Erosion and Sediment Controls installed | ☐ | ☐ | ☐ |
| 2 | Pavement – Base Layer | | | |
| 2.1 | Typical Battery Storage Platform | | | |
| 2.1.1 | Tie-in new material on existing by cutting the seal with road saw straight and a vertical face. | ☐ | ☐ | ☐ |
| 2.1.2 | Base Layer: Crushed Rock (Class 2.1) with minimum CBR 80% | ☐ | ☐ | ☐ |
| 2.1.3 | 150mm thick per layer compacted to 100% SMDD<br><br>Actual SMDD value: _____<br><br>Test Report number: | ☐ | ☐ | ☐ |
| 2.1.4 | Finish base surface level Survey pick-up (As-Constructed)<br>Tolerances: ± 5mm V/H | ☐ | ☐ | ☐ |
| 2.2 | Substation Platform | | | |
| 2.2.1 | Tie-in new material on existing by cutting the seal with road saw straight and a vertical face. | ☐ | ☐ | ☐ |
| 2.2.2 | Base Layer: Crushed Rock (Class 2.1) with minimum CBR 80% | ☐ | ☐ | ☐ |
| 2.2.3 | 150mm thick per layer compacted to 100% SMDD<br><br>Actual SMDD value: _____<br><br>Test Report number: | ☐ | ☐ | ☐ |
| 2.2.4 | Finish base surface level Survey pick-up (As-Constructed)<br>Tolerances: ± 5mm V/ H | ☐ | ☐ | ☐ |

| | | | | |
|---|---|---|---|---|
| 2.2.5 | 100mm single size gravel dressing layer | ☐ | ☐ | ☐ |
| 2.3 | Typical Sealed Road | | | |
| 2.3.1 | Tie-in new material on existing by cutting the seal with road saw straight and a vertical face. | ☐ | ☐ | ☐ |
| 2.3.2 | Subbase Layer: Crushed Rock (Class 2.1) with minimum CBR 80% | ☐ | ☐ | ☐ |
| 2.3.3 | 150mm thick per layer compacted to 100% SMDD<br><br>Actual SMDD value: _____<br><br>Test Report number: | ☐ | ☐ | ☐ |
| 2.3.4 | Finish base surface level Survey pick-up (As-Constructed)<br>Tolerances: ± 5mm V/ H | ☐ | ☐ | ☐ |
| 2.4 | O&M Platform | | | |
| 2.4.1 | Tie-in new material on existing by cutting the seal with road saw straight and a vertical face. | ☐ | ☐ | ☐ |
| 2.4.2 | Base Layer: Crushed Rock (Class 2.1) with minimum CBR 80% | ☐ | ☐ | ☐ |
| 2.4.3 | 150mm thick compacted to 100% SMDD<br><br>Actual SMDD value: _____<br><br>Test Report number: | ☐ | ☐ | ☐ |
| 2.4.4 | Finish base surface level Survey pick-up (As-Constructed)<br>Tolerances: ± 5mm V/H | ☐ | ☐ | ☐ |
| 3 | Proof Roll | | | |
| 3.1 | Conduct proof roll using either 7,000 litres with rear single axle or 10,000 litres double rear axle water truck. No perceptible movement on the finish surface. | ☐ | ☐ | ☐ |
| 4 | Post Works | | | |
| 4.1 | Final sweep to remove loose and unwanted materials prior to bitumen | ☐ | ☐ | ☐ |
| 4.2 | Clean-up of Site | ☐ | ☐ | ☐ |

| Comments | | | | | |
|---|---|---|---|---|---|
| | | | | | |
| Checked – Subcontractor | | | | | |
| Name: | | Signed: | | Date: | |
| Verified – UGL Project Engineer | | | | | |
| Name: | | Signed: | | Date: | |