





## Inspection and Test Plan

<b>Contract:</b>	3200-0706
<b>Customer:</b>	Neoen / Tesla
<b>ITP Title:</b>	Earthworks Select Fill
<b>ITP Number:</b>	3200-0706-ITP-CE-001
<b>Current Revision:</b>	A
<b>Current Revision Date:</b>	11/11/2024
<b>Status:</b>	Draft
<b>Lot Number / Area</b>	
<b>Lot Description</b>	

	ITP Approval			
Workflow	Name	Title / Position	Signature	Date
<b>Prepared by:</b>	Edwin Mendoza	Senior Civil Project Engineer		11/11/2024
<b>Reviewed by:</b>	Edwin Mendoza	Senior Civil Project Engineer		11/11/2024
<b>Reviewed by:</b>	Mehdi Farahmand	QA/QS Lead		11/11/2024
<b>Approved by:</b>	Matthew Sultana	Construction Manager		11/11/2024

Revision History		
Date	Revision Number	Revision Details
11/11/2024	A	First draft issued for review / comment

**ITP Number: 3200-0706-ITP-CE-001**
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Contact Details		Summary of Requirements		Principal Codes / Standards		Records				
Customer:	Neoen/ Tesla	<b>Process Qualifications:</b> Level 1 Supervision at all times for bulk earthworks; from subgrade to pavement.		<ul style="list-style-type: none"> <li>AS1289 - Methods of testing soils for engineering purposes</li> <li>AS3798 - Guidelines on earthworks for commercial and residential developments</li> <li>MRTS04 General Earthworks</li> <li>MRTS05 Unbound Pavements</li> </ul>		<b>(MDR Insert as marked <input type="checkbox"/>)</b>				
Operations Mgr:	Mark Groth					Inspect Release Cert	<input type="checkbox"/>			
Project Engineer:	Edwin Mendoza					Deviations/Concessions	<input type="checkbox"/>			
Quality Rep:	Mehdi Farahmand					Material Certificates	<input checked="" type="checkbox"/>			
<b>Subcontractors</b>		<b>Traceability:</b>		<b>Client Specifications</b> N/A		Conformance Certificate		<input type="checkbox"/>		
Design:	UGL Engineering	Material	<input checked="" type="checkbox"/>			Alloy Verification:	<input type="checkbox"/>	Welding Records	<input type="checkbox"/>	
Drafting:	UGL Engineering	Heat Treatment	<input type="checkbox"/>			Pressure Testing:	<input type="checkbox"/>	Welder Qual. Register	<input type="checkbox"/>	
Subcontractor:	Western Down Civil (WDC)	Consumable:	<input type="checkbox"/>			NDT	<input type="checkbox"/>	NDT Reports	<input type="checkbox"/>	
		Welder ID:	<input type="checkbox"/>	WPS	<input type="checkbox"/>	Report on Repairs		<input type="checkbox"/>		
		Electrical:	<input type="checkbox"/>	Instrumentation	<input type="checkbox"/>	Heat Treatment Records		<input type="checkbox"/>		
						Dimensional Records		<input type="checkbox"/>		
<b>Surveillance / Inspection Key</b>		<b>Heat Treatment:</b>		<b>UGL Procedures/ WI's</b>		Non-Conformance Rpts		<input checked="" type="checkbox"/>		
<b>HOLD POINT (H):</b> Nominated point beyond which work shall not proceed without verified acceptance by nominee		<b>Dimensional Control:</b>		<ul style="list-style-type: none"> <li>3200-0706-PLN-001- QMP</li> <li>3200-0706-PLN-004 -ERP</li> <li>3200-0706-PLN-005- CEMP</li> <li>0706-C-DRG-0001 Cover Sheet and Drawing List</li> <li>0706-C-DRG-0002 General Notes</li> <li>0706-C-DRG-0003 General Arrangement and Set Out Plan</li> <li>0706-C-DRG-0004 Bulk Earthworks Plan</li> <li>0706-C-DRG-0006 Earthworks Sections Sheet 1 of 2</li> <li>0706-C-DRG-0007 Earthworks Sections Sheet 2 of 2</li> <li>0706-C-DRG-0008 Finished Grading Sheet 1 and 2</li> <li>0706-C-DRG-0009 Pavement Plan</li> <li>0706-C-DRG-0010 Drainage Civil</li> <li>0706-C-DRG-0011 Earthworks Sections and Details</li> <li>0706-C-DRG-0012 Erosion and Sedimentation Control Plan Construction Stage</li> <li>0706-C-DRG-0013 Erosion and Sedimentation Control Plan Completion Stage</li> <li>0706-C-DRG-0014 Erosion and Sediment Control Details</li> <li>0706-C-DRG-0015 Drainage Details Sheet 1 and Sheet</li> </ul>		Pressure Test Records		<input type="checkbox"/>		
						Drawing & Data Sheets		<input checked="" type="checkbox"/>		
<b>WITNESS POINT (W):</b> 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.		<b>Testing (NDT):</b>				<b>Acceptance Specification:</b>		Misc Verification Records		<input checked="" type="checkbox"/>
								Electrical Test Sheets		<input type="checkbox"/>
<b>REVIEW (R):</b> Verify by examination of documentary evidence that inspection / tests have been satisfactorily conducted.		<b>Pressure Testing:</b>		<b>Elect. / Instrumentation:</b>		<b>Position</b>				
						Operations Manager		OM		
<b>SURVEILLANCE (S):</b> 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.		<b>Notes:</b> All sampling and testing for earthworks and concrete shall be taken by a NATA accredited laboratory.		<b>Pressure Testing:</b>		Project Engineer		PE		
						Quality Representative		QR		
<b>VISUAL (V):</b> 100% Visual inspection of work / item to ensure compliance with code / spec		<b>Elect. / Instrumentation:</b>		<b>Pressure Testing:</b>		Pre-Processing		PP		
						Technician		T		
<b>DIMENSIONAL (D):</b> Measurement of critical dimensions to ensure work/item is within tolerance		<b>Elect. / Instrumentation:</b>		<b>Pressure Testing:</b>		Welding Supervisor		WS		
						Workshop Foreman		WF		
						Document Controller		DC		
						Store Person		SP		
						Subcontractor		SC		
						Elect. / Instrumentation		E/I		

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ITP Title: Earthworks Select Fill

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: <ul style="list-style-type: none"><li>Excavation Permits</li></ul>	Excavation Permit	UGL Safety Critical Risk Control – Excavation and Trenching	<ul style="list-style-type: none"><li>Approved Permits in place and stored on project drive.</li><li>Working Party to have access and sign onto permits where required.</li></ul>	H	H	S	
1.2	CEMP and Emergency Response Plans	Controls established within CEMP and ERP shall be adhered to throughout works.	3200-0706-PLN-005 – CEMP 3200-0706-PLN-004 - ERP	0706-C-DRG-0012 0706-C-DRG-0014 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.	N/A	UGL Safety Critical Risk Control – Excavation and Trenching	DBYD / Excavation Permit Survey (if required)	H	H	S	
1.4	Approval of Subcontractor SWMS and Construction Methodologies	Submission, review, and approval of all subcontractor SWMS and construction methodologies for the works.	<ul style="list-style-type: none"><li>SWMS Approved</li><li>Construction Methodologies Approved</li></ul>	<ul style="list-style-type: none"><li>UGL-Contractor HSEQ Requirements</li><li>Scope Of Work CI2.1 item m.</li></ul>	<ul style="list-style-type: none"><li>UGL SWMS Review Forms and approved SWMS</li><li>UGL SWMS Register</li></ul>	H	H	S	
1.5	Conformance of Materials	All delivered materials and procured items conforms to project specification and AFC drawings.	As per Drawings and Specifications	MRTS04 Table A.1 No. 1.1 Earth Fill Material and Table 14.2.2.	<ul style="list-style-type: none"><li>Material Certificates</li><li>Test Reports</li></ul>	H	H	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	<ul style="list-style-type: none"><li>Calibration Certificates</li><li>UGL IMTE Register</li></ul>	R	R	S	
STAGE 2: CONSTRUCTION WORKS									
2.1	Setout of pad	<ul style="list-style-type: none"><li>Registered Surveyor to set out pad with pegs and markers.</li><li>Check surveyor marks against known structures, such as</li></ul>	<ul style="list-style-type: none"><li>Drawing provided showing marked out areas and exclusion zones.</li></ul>	<ul style="list-style-type: none"><li>Drawing Number: 0706-C-DRG-0002 General Notes G8.</li></ul>	<ul style="list-style-type: none"><li>Survey complies with checks and AFC drawings.</li><li>AFC Drawings</li></ul>	H	H	S	

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						S/C	UGL	Client	
		boundaries, fences , and more or control points.	<ul style="list-style-type: none"> <li>Drawing Number: 0706-C-DRG-0003</li> </ul>	<ul style="list-style-type: none"> <li>Drawing Number: 0706-C-DRG-0003</li> </ul>					
2.2	Subgrade: In location of existing surface-hardstand material: Tyne existing surface	<ul style="list-style-type: none"> <li>Tyne surface and remove any unsuitable material i.e., construction debris, vegetation etc.</li> <li>Moisture conditioned as required and compact to 98% SMDD.</li> <li>Proof Roll using either 7,000 litre single rear axle or 10,000 litre double rear axle water tanker.</li> </ul>	<ul style="list-style-type: none"> <li>Pad free of all unwanted materials</li> <li>Soil compacted 98% SMDD.</li> <li>Stockpile is not to exceed 2m and a slope of 1V:3H.</li> </ul>	Drawing Number: 0706-C-DRG-0011 Notes Item 2, 3 & 5.	<ul style="list-style-type: none"> <li>3200-0706-ITC-CE-001 Earthworks Select Fill</li> <li>SMDD Test Report (NATA Accredited Laboratory)</li> </ul>	H	H	S	
2.3	Subgrade: In location where NO existing hardstand material – strip surface	<ul style="list-style-type: none"> <li>Strip surface to 150mm depth and remove any unsuitable material i.e., construction debris, vegetation etc.</li> <li>Moisture conditioned as required and compact 200mm minimum depth to 98% SMDD to achieve minimum CBR 5%.</li> <li>Proof Roll using either 7,000 litre single rear axle or 10,000 litre double rear axle water tanker.</li> </ul>	<ul style="list-style-type: none"> <li>Pad free of all unwanted materials.</li> <li>Soil compacted to 98% SMDD, No perceptible deformation.</li> </ul>	Drawing Number: 0706-C-DRG-0011 Notes Item 2, 3 & 5.	<ul style="list-style-type: none"> <li>3200-0706-ITC-CE-001 Earthworks Select Fill</li> <li>SMDD Test Report (NATA Accredited Laboratory)</li> </ul>	H	H	S	
2.4	Presence of contaminated soil or heritage items	If contaminated soil or heritage items are found during excavation, works are to stop immediately.	Visual inspection	3200-0706-PLN-005 – CEMP	UGL team to document as per 3200-0706-PLN-005 CEMP	H	H	S	
2.5	Finish Subgrade	Survey finish surface of subgrade.	<ul style="list-style-type: none"> <li>Survey Conformance Report for finish surface uniformity.</li> <li>Tolerances average <math>\pm 10</math>mm Vertical</li> </ul>	Drawing Number: 0706-C-DRG-0011 Notes Item 2, 3 & 5.  Drawing 0706-C-DRG-0002 Gen. Notes E5 & P1.	<ul style="list-style-type: none"> <li>3200-0706-ITC-CE-001 Earthworks Select Fill</li> <li>Survey Conformance Report for finish surface uniformity</li> </ul>	H	H	S	

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						S/C	UGL	Client	
			<ul style="list-style-type: none"> <li>Maximum <math>\pm 20\text{mm}</math> in 3m straight edge at any direction.</li> <li>Minimum CBR 5%.</li> </ul>	MRTS04 CI 6.3.1 Table 6.3.1					
2.6	Select Fill tie-in	Tie-in new select fill material to existing pad through series of benching.	<ul style="list-style-type: none"> <li>Platform bench dimension 200mm vertical steps and 600mm wide.</li> </ul>	Drawing number 0706-C-DRG-0011 Typical Platform Tie-In detail	<ul style="list-style-type: none"> <li>Visual</li> <li>Dimensional check</li> </ul>	H	H	S	
2.7	Select Fill Class A1 Select Fill Material CBR 15%	<ul style="list-style-type: none"> <li>Place maximum 200mm thick loose material and compact in layers.</li> <li>Compact to 98% SMDD.</li> <li>Trim final surface level for uniformity.</li> </ul>	<ul style="list-style-type: none"> <li>Fill compacted to 98% SMDD.</li> <li>Surface Tolerance <math>\pm 5\text{mm}</math> V/H</li> <li>Maximum <math>\pm 10\text{mm}</math> in 3m straight edge at any direction.</li> <li>OMC <math>\pm 4</math>.</li> <li>Minimum 4 test per lot.</li> </ul>	Drawing TC18368-C-DRG-0001 Earthworks Notes E9.	<ul style="list-style-type: none"> <li>Survey Conformance Report for finish surface uniformity.</li> <li>NATA test report for Density and OMC</li> <li>3200-0706-ITC-CE-001 Earthworks Select Fill</li> </ul>	H	H	S	
2.8	Proof Roll	<ul style="list-style-type: none"> <li>Proof roll using either 7,000 litre single rear axle or 10,000 litre tandem rear axle water tanker</li> </ul>	<ul style="list-style-type: none"> <li>No perceptible surface deformation</li> </ul>	<ul style="list-style-type: none"> <li>MRTS05 CI 9.4.7</li> <li>Testing Method Q723</li> </ul>	<ul style="list-style-type: none"> <li>Visual</li> </ul>	H	H	S	
<b>STAGE 3: ITP CLOSE-OUT</b>									
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	<ul style="list-style-type: none"> <li>As-Constructed drawing</li> </ul>	R	R	S	
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	<ul style="list-style-type: none"> <li>Master Punchlist Register</li> </ul>	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.	NCRs close out in a timely manner.	UGL 3200-0706-PLN-001 QMP Section 9.5	<ul style="list-style-type: none"> <li>NCR Closed, signed off.</li> </ul>	R	R	S	

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						S/C	UGL	Client	
		Refer to UGL Quality Management Plan.							
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	<ul style="list-style-type: none"> <li>Site RFI Register</li> </ul>	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.	AFC drawing stamped with As-Constructed Drawing, date and signed by Subcontractor/ Surveyor.	UGL 3200-0706-PLN-001 QMP Section 11.1.1	<ul style="list-style-type: none"> <li>As-Constructed Drawing / RLMU drawing</li> </ul>	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

# Earthworks Select Fill

## INSPECTION & TEST CHECKLIST (ITC)

Checklist No: 3200-0706-ITC-CE-001

Project No:	3200-0706	Title:	WD BESS	Client:	NEOEN TESLA
Description:	CE – Earthworks Select Fill				
Lot No:		Drawing / Area Ref:			
Work Pack No:	3200-0706-WP-002: General Civil Works	ITP Ref:	3200-0706-ITP-CE-001		

### NOTE:

Strike through sections that are not applicable.

Item	Description	Yes	No	N/A
1	Prior Works			
1.1	Materials are compliant to design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Surveyor pad layout	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Installation of Erosion and Sediment Controls installed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Earthworks – Subgrade			
2.1	Existing surface – with existing hardstand material			
2.1.1	Surface tyned and free of unsuitable material i.e., construction debris, vegetation, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.2	Compacted to 98% prior to fill Actual SMDD value: _____ Test Report number:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.3	Surface has been proof rolled. No perceptible movement observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Existing surface – without existing hardstand material			
2.2.1	Surface stripped to 150mm depth and free of unsuitable material i.e., construction debris, vegetation etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2.2	Compact subgrade to a minimum depth of 200mm to 98% SMDD to achieve CBR 5% Actual SMDD value: _____ Test Report number:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Finish subgrade surface level Survey pick-up (As-Constructed) prior to select fill Tolerances: $\pm 10$ V/H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4	Cultural heritage artefacts – Visual only	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.5	Contaminated soil – Visual only	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.6	Earthworks : Select Fill Type A1 with CBR 15%			
2.6.1	Platform Tie In 200mm vertical steps and 600mm wide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



2.6.2	Spread fill and compact maximum layer of 150mm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.6.3	Compacted to 98% SMDD Actual SMDD value: _____ Test Report number:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.6.4	Finish fills surface level Survey pick-up (As-Constructed) Tolerances: $\pm 10$ V/H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Post Works			
3.1	Final sweep to remove loose and unwanted materials prior to next layer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Clean-up of Site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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