**Inspection and test plan – bulk earthworks**

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| **Project no.** | CC0394 | **Project name** | Rangebank 200MW BESS | | | | **Date** | | 28/06/2023 | **RJE Approval** |  |
| **ITP no.** | CC0394-ITP-003 | **Revision no.** | 0 | **Revision date** | 28/06/2023 | **Layer thickness** | | |  | | |
| **Plant and equipment used** | | Excavator, Dozer, Moxy, Stabiliser, Grader, Roller, Tandems, Trucks & Trailers, Dozer | | | | | | | | | |
| **Lot no.** |  | **Location (chainages, detailed description or marked up plan)** | | | | | |  | | | |

Attach Dockets, Certificates and QA Documents to ITP

|  | |  |  |  |  | | | | | | | | **Verify of acceptance by** | | | | **Remarks / record (eg. test frequency, reports, certificates, checklist etc)** | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  |  |  |  | | | | | | | | **Symal Infrastructure** | | **RJE Ltd.** | |
| **Item no.** | | **Activity** | **Ref docs** | **Acceptance criteria** | **Acceptance** | | | | | | | | **Key** | **Sign date** | **Key** | **Sign date** |
| **1.0 Preliminaries** | | | | | | | | | | | | | | | | | | |
| **1.1** | | Determine lot size |  | What is the lot size? |  | |  | m2 | | | | |  |  |  |  |  | |
|  | | | | | | | |
| **1.2** | | Survey set-out | Construction drawings | Has the work area been set out for line and level? | Yes  No  N/A | | | | | | | | W |  | **s** |  |  | |
| **1.3** | | Excavation material classification |  | Has the material being excavated been inspected with category agreed upon by Superintendent?  Tick category below:  Topsoil  Unsuitable material  Fill material | Yes  No  N/A | | | | | | | | H |  | W |  |  | |
| **1.4** | | Fill material classification |  | Has the material to be used been approved for use? | Yes  No  N/A | | | | | | | | H |  | H |  |  | |
| Material Type | | | | |  | | |
|  | | | | | | | |
| **1.5** | | Water management |  | Where necessary, have batters been rounded and catch drains constructed to allow for potential surface runoff during the course of excavation? | Yes  No  N/A | | | | | | | | S |  | S |  |  | |
| **1.6** | | Clearing | CC0394 - ITP-002 | Has the area been cleared and grubbed in accordance with ITP-002? | Yes  No  N/A | | | | | | | | H |  | H |  |  | |
| Is the area in **cut / fill / both?**  If in **cut** proceed to step 2.0 and strike out section 3.0.  If in **fill** please strike out section 2.0 and proceed to section 3.0  If in **both** proceed to step 2.0 as well as section 3.0 | | | | | | | | | | | | | | | | | | |
| **2.0 Bulk earthworks – cut** | | | | | | | | | | | | | | | | | | |
| **2.1** | | Subgrade protection |  | Have external factors such as weather and construction activities been considered to ensure excavations will be protected from water, erosion, deterioration and excessive drying or wetting? | Yes  No  N/A | | | | | | | | S |  | S |  |  | |
| **2.2** | | Subgrade preparation | Construction Drawings | Has the cut surface been trimmed to an even surface free from lose material?  Have surface levels been checked to avoid over excavation? | Yes  No  N/A | | | | | | | | S |  | S |  |  | |
| **2.3** | | Lime mix | Construction Drawings | Has mix design been completed and submitted?  Have Lime spreading rates been submitted to RJE? | Yes  No  N/A | | | | | | | | H |  | H |  | Test reports | |
| **2.4** | | Trial site |  | Has trial site been established and confirmed? | Yes  No  N/A | | | | | | | | H |  | W |  |  | |
| **2.5** | | Lime stabilisation | Construction Drawings | Has the prepared subgrade been lime stabilised as per the IFC design? | Yes  No  N/A | | | | | | | | S |  | W |  |  | |
| **2.6** | | Compaction |  | Compaction Scale: 3 tests per lot. See RJE approved lots:  Combi Slab: 1, 2, 3, 4, 5  Temporary compound: Lot 1 & 2  Has the stabilised subgrade been adequately compacted achieving 98% SMDD / 95% MMDD (in-situ materials or subgrade preparation), or 75% density index for the in-situ and fill materials. Using a nuclear density gauge.  Is the subgrade material with 2% of the optimum moisture content.  Is the subgrade within +/- 20mm of design surface? | Yes  No  N/A | | | | | | | | W |  | S |  | Test reports | |
| **2.7** | | Test Rolling |  | Does the layer withstand test rolling without visible deformation or springing?  List Attendees: | Yes  No  N/A  If ‘no’ please see below.  If ‘yes’ please proceed | | | | | | | | H |  | H |  |  | |
| Identification of soft wet or unstable material | | |  | What quantity of soft, wet or unstable material is present? |  | |  | | | | m2 | |  |  |  |  |  | |
|  | |  | | | | m3 | |
|  | | | | | | | |
| Treatment of unsuitable material | | |  | Has rectification process been submitted to RJE for review?  What was the rectification process used? | Yes  No  N/A | | | | | | | |  |  |  |  |  | |
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| **3.0 Bulk earthworks - fill** | | | | | | | | | | | | | | | | | | |
| **3.1** | | Stripped surface - test rolling  (If applicable) |  | Does the stripped surface to be filled withstand test rolling without visible deformation or springing?  List Attendees: | Yes  No  N/A  If ‘no’ please see below.  If ‘yes’ please proceed to item 3.2 | | | | | | | | H |  | H |  |  | |
| Identification of soft wet or unstable material | | |  | What quantity of soft, wet or unstable material is present? |  |  | | | m2 | | | |  |  |  |  |  | |
|  |  | | | m3 | | | |
|  | | | | | | | |
| Treatment of unsuitable material | | |  | What rectification process is to be undertaken? |  | | | | | | | |  |  |  |  |  | |
| **3.2** | | Preparation of surface |  | Has adequate water been added to the stripped surface to ensure adhesion to the next layer? | Yes  No  N/A | | | | | | | | S |  | S |  |  | |
| **3.4** | | Fill Placement |  | Has fill been placed in maximum 300mm and minimum 100mm compacted layer thickness? | Yes  No  N/A | | | | | | | | S |  | S |  |  | |
| **3.5** | | Moisture |  | Has the material maintained at optimum moisture content (within 2% of optimum moisture), with additional water being added if required during compaction? | Yes  No  N/A | | | | | | | | S |  | S |  |  | |
| **3.6** | | Compaction |  | Compaction Scale: 3 tests per lot. See RJE approved lots:  Combi Slab: 1, 2, 3, 4, 5  Tempoary compound: Lot 1 & 2  Has the subgrade been adequately compacted achieving 98% SMDD / 95% MMDD (in-situ materials or subgrade preparation), or 75% density index for the in-situ and fill materials. Using a nuclear density gauge.  Is the subgrade within +/- 20mm of design surface. | Yes  No  N/A | | | | | | | | W |  | S |  | Test reports | |
| **3.7** | | Fill layer – test rolling |  | Does the layer withstand test rolling without visible deformation or springing?  List Attendees: | Yes  No  N/A  If ‘no’ please see below  If ‘yes’ please proceed to fill construction | | | | | | | | H |  | W |  |  | |
| Identification of soft wet or unstable material | | |  | What quantity of soft, wet or unstable material is present? |  |  | | | | | m2 | |  |  |  |  |  | |
|  |  | | | | | m3 | |
|  | | | | | | | |
| Treatment of unsuitable material | | |  | Has rectification process been submitted to RJE for Review?  What was the rectification process used? | Yes  No  N/A | | | | | | | |  |  |  |  |  | |
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| **4.0 Conformance check** | | | | | | | | | | | | | | | | | | |
| **4.1** | | Width and alignment |  | Has the pavement been constructed at the correct width and alignment as detailed in the construction drawings? | Yes  No  N/A | | | | | | | | H |  | S |  |  | |
| **4.2** | | Subgrade level and shape |  | Has the prepared subgrade been surveyed in accordance with and verifying specified requirements?  Is the subgrade within +/- 20mm of design surface. | Yes  No  N/A | | | | | | | | H |  | S |  | As built report | |
|  | **Comments**: | | | | | | | | | | | | | | | | |  |
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| **Lot acceptance:** | | | | |
| Symal Infrastructure representative name |  |  | RJE representative name |  |
| Symal Infrastructure representative signature |  |  | RJE representative signature |  |

Responsibility (Resp.) Key: **PM** -Project Manager, **PE**-Project Engineer, **SE**- Site Engineer, **CS**-Civil Superintendent, **SS**-Site Supervisor, **SV**-Surveyor, **CR**-Client Representative

**Inspection key: W –** Witness, **H –** Hold Point, **S -** Surveillance