ISOMETRIC VIEW

PLAN VIEW

SECTION A-A

TYPICAL CROSS SECTION
AT ENTRANCE APRON

TABLE OF QUANTITIES

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earthfill</td>
<td>Cu Yd</td>
<td></td>
</tr>
<tr>
<td>Excavation</td>
<td>Cu Yd</td>
<td></td>
</tr>
<tr>
<td>Synthetic Turf</td>
<td>Sq Yd</td>
<td></td>
</tr>
<tr>
<td>Reinforcing Mat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geotextile</td>
<td>Sq Yd</td>
<td></td>
</tr>
<tr>
<td>Riprap</td>
<td>Tons</td>
<td></td>
</tr>
<tr>
<td>Seeding &amp; Fertilizer</td>
<td>Acres</td>
<td></td>
</tr>
</tbody>
</table>
1. The Turf Reinforcement Mat (TRM) shall consist of a machine produced, permanent, matlike structure, shall be new and unused, shall be furnished in rolls, and shall be able to withstand velocity of 100 mph.
2. Prepare soil and seed TRM area according to manufacturer’s instructions.
3. The TRM shall be placed in firm contact with the soil and not be allowed to bridge over surface irregularities. The TRM shall not be stretched.
4. Start laying the TRMs by rolling center TRM in the direction of flow, centered on the centroid of chute. Do not place overlap at the center of the chute.
5. The TRM shall be anchored, overlapped, and stapled according to manufacturer’s instructions. If no manufacturer’s instructions are available, install the blanket as follows:
   a. Staples shall be “U” shaped, 0.12 in diameter wire or greater (#11 gauge).
   b. Bury upstream end of TRM in a trench minimum 6 inch wide by 12 inch deep and stapled in staggered rows across the width as shown in Detail 1.
   c. For joining ends of rolls, overlap end of upstream TRM a minimum of 4 inches over downstream TRM (shingle style). Use a double row of staggered staples 4 inches apart, 12 inch C.C. as shown in Detail 2.
   d. TRMs on side slopes shall overlap a minimum 6 inches over the TRM below (shingle style). Staple overlap at 12 inch intervals. See Detail 4.
   e. The outer edge along sides of the TRM shall be buried in a perpendicular edge termination trench as shown in Detail 5. Bottom of trench shall be stapled 12 inch C.C.
   f. Staples are to be placed alternately in columns (in the direction of the chute) 2 feet apart and in rows (across the chute) 3 feet apart, throughout the area covered by the TRM.
   g. Downstream (terminal) end of the TRM shall be stapled with a double row of staggered staples 12 inches apart and have a toe trench as shown in Detail 3. Stable Trench as shown in Detail 3.
6. Rock size shall be IDOT quality designation A Gradation No. 4.
7. Geotextile (non-woven, needle punched) minimum criteria:
   a. Tensile strength (lb) ASTM D 4632
   b. Elongation at failure (%) ASTM D 4632
   c. Tensile tear strength (lb) ASTM D 4533
   d. Puncture strength (lb) ASTM D 6241
   e. Ultraviolet light (% retained strength) ASTM D 4355
   f. Permeability sec^-1 ASTM D 4491
   g. Apparent opening size (AOS) ASTM D 4751
   h. Max 0.22 mm (US sieve size 70) min 0.70