**STRAW WATTLE DETAIL**

**CONSTRUCTION SPECIFICATIONS:**

1. **PREPARE THE SLOPE BEFORE THE WATTLING PROCEDURE IS STARTED.**
2. **SMOOTH SHALLOW GULLIES AS WORK PROGRESSES.**
3. **DIG SMALL TRENCHES ACROSS THE SLOPE ON CONTOUR, TO PLACE ROLLS IN. THE TRENCH SHOULD BE DEEP ENOUGH TO ACCOMMODATE HALF THE THICKNESS OF THE ROLL. WHEN THE SOIL IS LOOSE AND UNCOMPACTED, THE TRENCH SHOULD BE DEEP ENOUGH TO BURY THE ROLL 2/3 OF ITS THICKNESS BECAUSE THE GROUND WILL SINK.**
4. **ROLLS SHALL BE INSTALLED PERPENDICULAR TO WATER MOVEMENT, PARALLEL TO THE SLOPE CONTOUR.**
5. **BUILD TRENCHES AND INSTALL ROLLS FROM THE BOTTOM OF THE SLOPE AND WORK UP.**
6. **CONSTRUCT TRENCHES AT CONTOUR INTERVALS 3-12 FEET APART DEPENDING ON STEEPNESS OF SLOPE. THE STEEPER THE SLOPE, THE CLOSER TOGETHER THE TRENCHES.**
   - **1:1=10'**
   - **2:1=20'**
   - **3:1=30'**
   - **4:1=40'**
7. **LAY THE ROLL ALONG THE TRENCHES FITTING IT SNUGLY AGAINST THE SOIL. MAKE SURE NO GAPS EXIST BETWEEN THE SOIL AND THE STRAW WATTLE.**
8. **USE A STRAIGHT BAR TO DRIVE HOLES THROUGH THE WATTLE AND INTO THE SOIL FOR THE WILLOW OR WOODEN STAKES.**
9. **DRIVE THE STAKE THROUGH PREPARED HOLE INTO SOIL. LEAVE ONLY 1 OR 2 INCHES OF STAKE EXPOSED ABOVE ROLL.**
10. **IF USING WILLOW STAKES REFER TO LIVE STAKING BEST MANAGEMENT PRACTICES.**
11. **INSTALL STAKES AT LEAST EVERY 4 FEET APART THROUGH THE WATTLE. ADDITIONAL STAKES MAY BE DRIVEN ON THE DOWNSLOPE SIDE OF THE TRENCHES ON HIGHLY ERODABLE OR VERY STEEP SLOPES.**
12. **INSPECT THE STRAW ROLLS AND THE SLOPES AFTER SIGNIFICANT STORMS. MAKE SURE THE ROLLS ARE IN CONTACT WITH THE SOIL.**
13. **REPAIR ANY ROLLS OR GULLIES PROMPTLY.**
14. **RESEED OR REPLANT VEGETATION IF NECESSARY UNTIL SLOPES ARE STABILIZED.**

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**TURBIDITY CURTAIN DETAIL**

**NOTES:**

1. **FABRIC IS 22 OUNCES PER SQUARE YARD.**

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**REFERENCE NUMBER:**
**APPLICANT NAME:**
**PROJECT:**
**PROPOSED PROJECT:**
**LOCATION:**
**DATE:**

---

**ENG. PROJECT NO.**
**DRAWN BY:**
**SHEET 4 OF 8**
**DATE:**
### MATERIAL QUANTITIES (IN CUBIC YARDS)

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<tr>
<th>MATERIALS</th>
<th>CUT BELOW OHW</th>
<th>FILL BELOW OHW</th>
<th>CUT ABOVE OHW</th>
<th>FILL ABOVE OHW</th>
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<tbody>
<tr>
<td>RAMP PLANKS &amp; ARTICULATED MAT</td>
<td>14</td>
<td>32</td>
<td>3</td>
<td>6</td>
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<tr>
<td>RAMP CSTD (5/8&quot; MINUS)</td>
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<tr>
<td>PARKING LOT CSTD (5/8&quot; MINUS)</td>
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<td>QUARRY SPALLS</td>
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<td>0</td>
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<td>NET TOTAL</td>
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### SURFACE AREAS (IN SQ FT)

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<tr>
<th>SITE</th>
<th>AREA ABOVE HTL</th>
<th>AREA BELOW HTL</th>
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</thead>
<tbody>
<tr>
<td>EXISTING RAMP</td>
<td>130</td>
<td>1.215</td>
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<tr>
<td>EXISTING QUARRY SPALLS</td>
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<tr>
<td>PROPOSED RAMP</td>
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<tr>
<td>PROPOSED ARTICULATED MAT</td>
<td>109</td>
<td>881</td>
</tr>
</tbody>
</table>

### WATER ELEVATIONS

- **HIGH TIDE LINE (HUL)**: +10.22
- **ORDINARY HIGH WATER (OHW)**: +9.00
- **MEAN HIGHER HIGH WATER (MHHW)**: +8.02
- **MEAN SEA LEVEL (MSL)**: +4.76
- **MEAN LOWER LOW WATER (MLLW)**: -1.12

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**LEGEND**

- Asphalt
- High Tide Line (HUL)
- Ordinary High Water (OHW)
- Retention
- 100 Year Flood Line

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**PROPOSED SITE PLAN**

**REFERENCE NUMBER**

**APPLICANT NAME**

**WASHINGTON DEPT. OF FISH & WILDLIFE**

**PROPOSED PROJECT**

**BOAT RAMP REPAIRS**

**LOCATION**: JOHN’S RIVER ACCESS

**ENG. PROJECT NO**: CH:A102:2021-1

**DATE**: 12/03/2021

**DRAWN BY**: C. TORSTVET

**SHEET 5 OF 8**
TYPICAL RAMP PLANK PLAN

NOT TO SCALE

EXCAVATED BED FOR ARTICULATED CONCRETE MAT AND RAMP PLANKS

ADJ. 1"x2" x 6' CLEAN GRAVEL SHOULDER

FILL ALL Voids WITH 5/8" CLEAN GRAVEL ~ TYP

15'-0" WIDE NON-WOVEN GEOTEXTILE ~ TYP

MR4 MANTARAY ANCHOR WITHOUT THREADED CONNECTOR

- 4" OF 5/8" MINUS CLEAN COMPACTED CRUSHED ROCK

- UNDISTURBED GROUND ON 6" (SCE WSDOT 9-03.93) COMPACTED TO SCS

RAMP PLANK

NOT TO SCALE

NOTE:
SEE SITE PLAN FOR SIZE AND LAYOUT OF ARTICULATED CONCRETE MATS

REFERENCE NUMBER
APPLICANT NAME
WASHINGTON DEPT. OF FISH & WILDLIFE
PROPOSED PROJECT
BOAT RAMP REPAIRS
LOCATION: JOHN'S RIVER ACCESS
ENG. PROJECT NO. CH:A102:2021-1 DRAWN BY: C. TORSTVET SHEET 7 OF 8 DATE: 12/03/2021