King County Department of Natural Resources and Parks
Water and Land Resources Division
Rural and Regional Services Section
Ecological Restoration and Engineering Services Unit
Christie True, Director

Scott Property, Judd Creek Habitat Enhancement SHRP
Parcels: 1822039129
10375 SW 225TH ST, Vashon, WA 98070

Vicinity Map
1 in = 1 mile

Project Location
10375 SW 225TH ST, Vashon, WA 98070
Parcel #: 1822039129

Index

<table>
<thead>
<tr>
<th>Sheet</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vicinity Map and Sheet Index</td>
</tr>
<tr>
<td>2</td>
<td>Existing Conditions</td>
</tr>
<tr>
<td>3</td>
<td>Site Plan</td>
</tr>
<tr>
<td>4</td>
<td>Stream LWD Plan</td>
</tr>
<tr>
<td>5</td>
<td>Estuary LWD Plan</td>
</tr>
<tr>
<td>6</td>
<td>Estuary LWD Details</td>
</tr>
<tr>
<td>7</td>
<td>Stream LWD Details</td>
</tr>
</tbody>
</table>

Construction Plans
3/31/2015

Sup. Engineer: Will Mansfield, P.E.
Project Manager: Paul Adler
Design: Paul Adler
Engineering: Alex Hallenius, P.E.
Sr. Ecologist: Jon Hansen
LWD to be placed into two reaches.

In the stream reach, LWD will be placed with a conventional excavator or spider hoe.

In the Estuary Reach LWD will be floated into place during high tide, and winched into position with a hand carried portable winch.
Logs placed in estuary and keyed into existing trees on bank
Estuary Detail A

Log Complex secured around existing trees on bank
Estuary Detail B

Log complex consisting of logs secured around existing trees on bank and another chained to the secured log
Estuary Detail C

Log Raft with earth anchors
Estuary Detail D

Log complex with bank log anchored around existing tree
Estuary Detail E

Legend
- LANDTRUST PARCELS
- Log Complex
  - A
  - B
  - C
  - D
  - E
- Judd Creek
- PARCELS

Scott Property, Judd Creek
Habitat Enhancement SHRP

King County Department of Natural Resources and Parks
Water and Land Resources Division
Rural and Regional Services Section
Ecological Restoration and Engineering Services Unit
Christie True, Director

CONSTRUCTION PLANS 3/31/2015

Sup. Engineer  Will Mansfield, P.E.
Project Manager  Paul Adler
Design  Paul Adler
Engineering  Alex Hallenius, P.E.
Sr. Ecologist  Jon Hansen

Project # 1123558

King County

Scott Property, Judd Creek
Habitat Enhancement SHRP

ESTUARY LWD PLAN

SHEET 5 of 7 SHEETS
GENERAL NOTES:
1. All placements to be determined by engineer or ecologist.
2. All in-water work will be done using BMPs to minimize turbidity and impacts to aquatic organisms.
3. All in-water work to be done under the direction of an experienced engineer or ecologist, who is a certified erosion and sediment control load (CESCL).
4. Areas of ground disturbance will be limited to area shown and areas surveyed for cultural resources.

LWD NOTES:
1. ADDITIONAL SMALL WOOD CONSISTING OF < 12" DIAMETER BRUSH TO BE ADDED TO LWD COMPLEXES TO ADD COVER AND COMPLEXITY (NOT SHOWN).
2. ALL LWD TO BE NATIVE CONIFER SPECIES, 10" TO 24" DBH.
3. LWD TO BE PLACED IN COMPLEXES. LWD MAY BE TIED TOGETHER WITH NATURAL FIBER ROPE OR MARINE GRADE CHAIN AS SHOWN.

TIDAL DATUM NOTES:
1. MEAN HIGHER HIGH WATER (MHHW) BASED ON NOAA STATION ID 9446254 BURTON INSIDE, WAHSHON ISLAND, QUARTERMASTER HARBOR + 12.5 FT (NAVD88)
2. MHHW MARKED IN FIELD BASED ON HIGH TIDE OF 12.14 ON 7/11/2014

EARTH ANCHOR NOTES:
1. EARTH ANCHORS WILL CONSIST OF MANTA RAY EARTH ANCHORS OR EQUIVALENT.
2. INSTALL ANCHORS ACCORDING TO THE MANUFACTURER’S SPECIFICATIONS.
3. PROOF TEST ANCHORS TO 1,000 LBS. LOAD, IF ARCOVER ACHIEVES THIS LOAD, TEST TO 2,000 LBS.
4. THE NUMBER OF ANCHORS REQUIRED PER LOG IS DEFINED BY THE LOG SIZE AND THE PROOF TEST LOAD.
5. REFER TO TABLE 1, FOR ANCHORS THAT ACHIEVE 2,000 LBS PROOF LOAD
6. REFER TO TABLE 2 FOR ANCHORS THAT ACHIEVE 1,000 LBS. PROOF LOAD.

King County Department of Natural Resources and Parks Water and Land Resources Division
Rural and Regional Services Section
Ecological Restoration and Engineering Services Unit

Christie True, Director

Table 1: For anchors which achieve 2,000 lbs. proof load

<table>
<thead>
<tr>
<th>Mean Dia. Of Log (in)</th>
<th>DL (ft.)</th>
<th>D L (ft.)</th>
<th>D RW (ft.)</th>
<th>L RW (ft.)</th>
<th>No. of Anchors</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>0.50</td>
<td>1.5</td>
<td>0.8</td>
<td>2.0</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>0.67</td>
<td>2.0</td>
<td>1.0</td>
<td>3.0</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>0.83</td>
<td>2.5</td>
<td>1.5</td>
<td>3.5</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>1.00</td>
<td>3.0</td>
<td>2.0</td>
<td>4.0</td>
<td>1</td>
</tr>
<tr>
<td>14</td>
<td>1.17</td>
<td>3.5</td>
<td>2.5</td>
<td>4.5</td>
<td>2</td>
</tr>
<tr>
<td>16</td>
<td>1.33</td>
<td>4.0</td>
<td>3.0</td>
<td>5.0</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 2: For anchors which achieve 1,000 lbs. proof load

<table>
<thead>
<tr>
<th>Mean Dia. Of Log (in)</th>
<th>DL (ft.)</th>
<th>D L (ft.)</th>
<th>D RW (ft.)</th>
<th>L RW (ft.)</th>
<th>No. of Anchors</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>0.50</td>
<td>1.5</td>
<td>0.8</td>
<td>2.0</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>0.67</td>
<td>2.0</td>
<td>1.0</td>
<td>3.0</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>0.83</td>
<td>2.5</td>
<td>1.5</td>
<td>3.5</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>1.00</td>
<td>3.0</td>
<td>2.0</td>
<td>4.0</td>
<td>1</td>
</tr>
<tr>
<td>14</td>
<td>1.17</td>
<td>3.5</td>
<td>2.5</td>
<td>4.5</td>
<td>2</td>
</tr>
<tr>
<td>16</td>
<td>1.33</td>
<td>4.0</td>
<td>3.0</td>
<td>5.0</td>
<td>2</td>
</tr>
</tbody>
</table>

Download PDF version for better visualization.
**GENERAL NOTES:**

1. All placements to be determined by Engineer or Ecologist.
2. All in-water work will be done using BMPs to minimize turbidity and impacts to aquatic organisms.
3. All in-water work to be done under the direction of an experienced Engineer or Ecologist, who is a certified erosion and sediment control lead (CESCL).
4. Areas of ground disturbance will be limited to area shown.
5. Areas of ground disturbance have been surveyed for cultural resources by a professional archaeologist.

**LWD NOTES:**

1. Additional small wood consisting of branches and tree tops < 10" diameter to be added to LWD complexes to add cover and complexity (not shown).
2. All LWD to be native species 10" to 24" DBH.
3. LWD to be placed in complexes. LWD may be tied together with natural fiber rope or marine grade chain as shown.
4. Where LWD is embedded into the banks, backfill trenches only landward of OHWM as shown in Detail G.

**Project # 1123558**

**CONSTRUCTION PLANS**

3/31/2015

<table>
<thead>
<tr>
<th>Sup. Engineer</th>
<th>Will Mansfield, P.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Manager</td>
<td>Paul Adler</td>
</tr>
<tr>
<td>Design</td>
<td>Paul Adler</td>
</tr>
<tr>
<td>Engineering</td>
<td>Alex Hallenius, P.E.</td>
</tr>
<tr>
<td>Sr. Ecologist</td>
<td>Jon Hansen</td>
</tr>
</tbody>
</table>

King County Department of Natural Resources and Parks
Water and Land Resources Division
Rural and Regional Services Section
Ecological Restoration and Engineering Services Unit

Christie True, Director

Scott Property, Judd Creek
Habitat Enhancement SHRP

STREAM LWD DETAILS

<table>
<thead>
<tr>
<th>SHEET</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>of</td>
<td>7</td>
</tr>
<tr>
<td>SHEETS</td>
<td></td>
</tr>
</tbody>
</table>