## GENERAL CONSTRUCTION NOTES

1. The work includes clearing work areas of vegetation, stockpiling cleared vegetation, and disposal of invasive vegetation that is cleared, removing an existing levee and rock armor, constructing a new setback rock revetment, constructing project engineered log structures, installing trees and shrubs, and installing and maintaining permanent erosion control structures around existing and new structures and the existing soils. The contractor will be responsible for maintaining and operating the project on a permanent basis.

2. The work will be performed in a manner that minimizes impacts to the river, wetlands, existing vegetation, and the immediate environment.

3. The contractor must ensure that all work is completed in accordance with the approved plans and specifications. Any deviations from the plans or specifications must be approved in writing by the owner or owner's agent.

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The horizontal datum for this survey is NAD 83-91, Washington North Zone, State Plane Coordinate System. The vertical datum is NAVD 88, based on published coordinates for Washington State Department of Transportation (WSDOT) monument with designation "KC NEAL" and monument ID 5215.

Surveyor's Notes:
1. All documents are records of WSDOT and King County, Washington. Lines of occupation were not surveyed and no corners were set in the course of this survey. GIS data for Snoqualmie River was used to depict the northerly and easterly boundaries of parcels 1254079002 and 1524079145, a portion of the surveyed location of Neal Road is in conflict with the County Engineer's survey of the right of way. It was not within the scope of this project to address or resolve this situation.
2. PGS, Inc. collected topographic data within the outlined areas marked herein. This data was merged with an existing LiDAR dataset provided to PGS, Inc. by Herrera Environmental Consultants on July 29, 2020.
3. All underground utility locations are based on observed evidence of structures. The surveyor makes no guarantee that the underground utilities shown comprise all such utilities in the area. Either in-service or abandoned, the surveyor is not aware of all underground utilities shown, and he does not certify that they are located as accurately as possible from the information provided.
4. Existing trees only shown within project survey limits.

Call before you dig.
Know what's below.
NOTES:
EXISTS OF SURFACE AND SUBSURFACE INFRA FOR HAFFNER REVETMENT AND BARFUSE LEVEE NOT SHOWN FOR CLARITY AND ARE SHOWN ON SHEETS 33 AND 35.

SURVEY EXTENTS, TYP
APPROX STRUCTURE TIP
APPROX CURVET LOCATION
MATCH LINE SEE SHEET #

ERIKA M. HAFFNER
SUPERVISOR
11/2020

1. EXTENTS OF SURFACE AND SUBSURFACE RIPRAP FOR HAFFNER REVETMENT AND BARFUSE LEVEE NOT SHOWN FOR CLARITY AND ARE SHOWN ON SHEETS 33 AND 35.
1. **Operations Notes:**
   - **During Hours of Construction:** Flaggers will control vehicular traffic through work zone when warranted.
   - **At the End of Each Work Day:** The contractor shall provide public use of both existing travel lanes of the road.
   - **Full Road Closure:** Shall be coordinated with the agency and emergency service providers in advance. Road closures shall be limited to 4 hours during day work and 8 hours during night work.

2. **General Notes:**
   - **Temporary Traffic Control:** Shall be in accordance with the manual on uniform traffic control devices (MUTCD) section 6 and the WSDOT standard specifications.
   - **All Signs:** Shall be per WSDOT sign fabrication manual, unless otherwise specified. Diamond shaped signs shall be 36 in. x 36 in.
   - **Remove Conflicting Existing Pavement Markings:** and securely cover conflicting existing signs.
   - **A Minimum of 5 Channelization Devices:** Shall be used during hours of darkness.
   - **Type C Steady Burning Lights:** Required on all channelizing devices used during hours of darkness.
   - **Contractor shall install and/or remove all necessary temporary traffic control signs, as noted on these plans. All signs removed shall be delivered to the King County Public Works yard unless otherwise noted.
   - **Notify the Following Entities 14 Days Prior to Any Temporary Closure, Detour, or Traffic Control Changes:**
     - King County Roads Services Division
     - King County Flood Control District
     - Snoqualmie Valley School District

3. **Portable Changeable Message Sign Detail:**
   - **Panel 1:**
     - | Begins | Expires |
     - | 2.0 sec | 2.0 sec |
   - **Panel 2:**
     - | Begins | Expires |
     - | 2.0 sec | 2.0 sec |

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**Portable Changeable Message Sign Detail:**
- **Panel 1:**
  - Begins: 2.0 sec
  - Expires: 2.0 sec
- **Panel 2:**
  - Begins: 2.0 sec
  - Expires: 2.0 sec
FALL CITY FLOODPLAIN RESTORATION PROJECT

SURVEY JOB NO:______
CHECKED:________
SUPERVISOR:________

TRANTECH Engineering LLC
1221 Fraser Street
Suite E-3
Bellingham, WA 98229
P: 360.255.2563

FED. AID No. _______
PROJECT No. _______

CONSTRUCTION NOTES:
1. DRIVEWAY LIMITS. MATCH EXIST GRADE.
2. INSTALL FILTER STRIP PER DETAIL "E" SHOWN ON SHEET 12.
3. INSTALL WIRE FENCE (TYPE 2) PER WSDOT STD. PLAN L-10.10.
4. INSTALL DOUBLE GATE PER WSDOT STD. PLAN L-10.10.

PLAN & PROFILE

PROFILE DESIGN CENTERLINE

PROFILE EXISTING CENTERLINE

PROPOSED ELEVATION

EXISTING ELEVATION

STATIONS STA. 22+00 STA. 26+50

NEAL ROAD

END PROJECT STA. 26+50 EL. 86.82

VPI STA. 22+00 VPI EL. 86.27
VPL EL. 86.27
VPL EL. 108.09
K 153.85

END PROJECT STA. 26+50 EL. 85.92

VPI STA. 25+00 VPI EL. 86.27
VPL EL. 86.27
VPL EL. 108.09
K 153.85

CHECKED:________
SUPERVISOR:________

H: 20 10 0
V: 2 1 0
SCALE IN FEET

STA. 22+05.00 NEAL RD = STA. 00+00 DWY-2
N. 21°24'18.854
E. 177°77'777
22

P.I. = 23+64.14
= 1°34'20"
R = 549.99'
L = 168.68'
T = 010.43°

STA. 25+75.96
P.I. = 25+75.96
N. 1°42'21"
E. 001.15°

FALL CITY FARMS, LLC

-0.95%
-0.30%

1221 Fraser Street
Suite E-3
Bellingham, WA 98229
P: 360.255.2563

To know what’s below.
Call before you dig.
DRIVEWAY - 1 PROFILE

84 86 88 90 92 94 96

PROP EL EXST EL
89.2 89.30 +100
88.9 88.76 88.8 88.69 88.6 +200

-3.00% -0.33%

VPI STA. 1+18 VPI EL. 88.76'
VCL 10.00' K 3.75
BVC STA. 1+13 BVC EL. 88.91'
EVC STA. 1+23 EVC EL. 88.74'

DRIVEWAY - 2 PROFILE

84 86 88 90 92 94 96

PROP EL EXST EL
87.6 88.31 +300
87.5 87.75 87.5 87.53 87.1 +380

-3.00% -0.75% -1.90%

VPI STA. 3+42 VPI EL. 87.53'
VCL 15.00' K 13.04
BVC STA. 3+34.50 BVC EL. 87.58'
EVC STA. 3+49.50 EVC EL. 87.38'

FALL CITY
FLOODPLAIN RESTORATION PROJECT

Know what's below. Call before you dig.
FALL CITY FLOODPLAIN RESTORATION PROJECT

PROFILE - HAFFNER SETBACK ROCK REVETMENT (SRR ALIGNMENT)

SECTION - BURIED FLANK ROCK STRUCTURE

SECTION - TYPICAL SETBACK ROCK REVETMENT (SRR ALIGNMENT)

SECTION - TYPICAL SETBACK ROCK REVETMENT AT ELS (SRR ALIGNMENT)

FLOODPLAIN RESTORATION PROJECT

PROFILE AND CROSS SECTIONS - HAFFNER SETBACK REVETMENT AND BURIED ROCK FLANK STRUCTURE
FALL CITY FLOODPLAIN RESTORATION PROJECT

**Profile - Floodplain Swale 1**

- Grade Break STA = 0+26.83
- ELEV = 84.0
- Proposed Ground Top
- Existing Vegetated Floodplain

**Profile - Floodplain Swale 2**

- Grade Break STA = 0+24.12
- ELEV = 85.0
- Existing Open Field
- Existing Vegetated Floodplain

**Profile - Floodplain Swale 3**

- Grade Break STA = 0+95.93
- ELEV = 84.0
- Existing Open Field
- Existing Vegetated Floodplain

---

**Detail - Typical Floodplain Swale**

- Existing Ground
- Proposed Ground

---

Know what's below. Call before you dig.
FALL CITY FLOODPLAIN RESTORATION PROJECT

Call before you dig.

Know what's below.

HORIZONTAL SCALE IN FEET
VERTICAL SCALE IN FEET
VERTICAL EXAGGERATION X

EXISTING GROUND, TYP
PROPOSED GROUND, TYP
ESTIMATED WATER LEVEL AT OHW FLOWS, TYP FOR ALL SECTIONS

FOR WOOD PLACEMENT, SEE SHEET 31

NOTES:
1. ALL CROSS SECTIONS ORIENTED LOOKING DOWNSTREAM

FED. AID No. _______ 
PROJECT No. _______ 
MAINTENANCE DIVISION No. _______

REMIT PLANS
NOV 2020

CROSS SECTIONS - RIGHT BANK SIDE CHANNEL

HORIZONTAL SCALE IN FEET
VERTICAL SCALE IN FEET
VERTICAL EXAGGERATION X 1
1. See channel section with width varies from 12' between station 2+60 to 17+40, to 15' with a 10' floodplain bench between station 4+65 to 17+40, bench then narrows to 5' with a 5' bench to transition into downstream 2-stage channel at station 18+45.

2. Channel cross section will transition from detail 1 geometry to detail 2 geometry between station 18+50 to 21+00.

3. All cross sections oriented looking downstream.

NOTES:
FLOODPLAIN ROUGHENING ELS LAYING PLAN

NOTES:
1. LOCATIONS FOR ALL PILES SHALL BE STaked BY PROJECT REPRESENTATIVE FOR LAYOUT.
2. LOG MATERIALS SHALL BE PLACED AT THE LOCATIONS AND ELEVATIONS SPECIFIED ON THE DRAWINGS OR AS DIRECTED BY THE PROJECT REPRESENTATIVE.
3. RACKING AND SLASH NOT SHOWN IN LAYING PLAN FOR CLARITY.

FLOODPLAIN ROUGHENING ELS RACKING & SLASH SCHEDULE:

<table>
<thead>
<tr>
<th>QUANTITY/ STRUCTURE</th>
<th>RACKING LOG</th>
<th>SLASH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Page #</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

TABLE - FLOODPLAIN ROUGHENING ELS LOG SCHEDULE:

<table>
<thead>
<tr>
<th>LOG ID</th>
<th>DIAMETER (IN)</th>
<th>LENGTH (FT)</th>
<th>ROOTWAD</th>
<th>QUANTITY/ STRUCTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>18-24</td>
<td>25</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>18-24</td>
<td>20</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>25</td>
<td>10</td>
<td>10</td>
<td>3</td>
</tr>
</tbody>
</table>

FLOODPLAIN ROUGHENING ELS DETAILS
1. BACKFILL EXTENTS, TOP AND TOE OF BANK, AND ELEVATIONS REPRESENT ALDAIR BANK DEFLECTOR (BD4). SEE SHEET 15 FOR HAFFNER BANK DEFLECTOR EXTENTS.

2. ONLY THE TOP LAYER OF LOGS FOR EACH STRUCTURE SHALL BE CHAINED TO DRIVEN PILES. DO NOT SECURE LOWER LAYER KEY LOGS TO PILE OR TO ANOTHER KEY LOG.

3. EXTENTS OF BACKFILL SHOWN ARE APPROXIMATE AND WILL VARY FOR EACH STRUCTURE. PLACE ALL EXCESS SPOILS OVER KEY LOGS AS SHOWN AND AS DIRECTED BY THE PROJECT REPRESENTATIVE.

4. EXCAVATION LIMITS SHOWN ARE APPROXIMATE AND WILL VARY BASED ON CONSTRUCTION MEANS AND METHODS, SUBSURFACE CONDITIONS AND LOCATION OF STRUCTURE. CONTRACTOR SHALL ADJUST AND MINIMIZE EXCAVATION LIMITS AS NECESSARY TO COMPLETE CONSTRUCTION.

5. BACKFILL MATERIAL FOR ELS WILL CONSIST OF LOCALLY EXCAVATED SOILS, GRAVELLY SALVAGED LEVEE REMOVAL SPOILS, AND RIPRAP. TOP ELEVATION OF BACKFILL SHALL NOT EXCEED ELEVATION OF NEAL ROAD.

6. RIPRAP FOR ELS BACKFILLING WILL CONSIST OF SALVAGED REVETMENT ROCK ("ELS ROCK") AND/or IMPORTED HEAVY LOOSE RIPRAP. VOLUME OF SALVAGED REVETMENT ROCK PLACED IN ELS WILL DEPEND ON REMAINING VOLUME OF SALVAGED REVETMENT ROCK THAT IS NOT NEEDED IN THE SRR LINE EMBANKMENT. PLACE MINIMUM VOLUME OF RIPRAP AS SHOWN IN SECTION A.
1. General structure location and orientation shall be staked by the contractor. Final structure location and orientation shall be field verified by the project representative following contractor staking.

2. All pile locations shall be staked by the contractor and approved by the project representative prior to pile installation.

3. Log materials shall be placed at the locations and orientations specified on the drawings or as directed by the project representative. Trim cut ends of horizontal key logs to fit as required.

4. Place slash over and between key log and pile files as shown for each layer specified following placement of key logs and racking log. Place approximately 2'-3' of excavation spoils or salvaged levee removal spoils over 1/2 the width of slash to secure in place such that slash is visible following construction. Coordinate with the project representative prior to placing racking and slash.

5. Individual racking logs not shown for clarity. Racking logs shall be placed in zones shown in slash placement zones. Place racking logs along upstream faces of structure approximately 1/2 of racking log shall be placed across pile rows and 1/2 of the log extending into the core of the structure. Horizontal log shall be placed to create an interlocking matrix of logs secured between vertical key logs and horizontal logs. Coordinate with project representative prior to placing racking logs.

6. Backfill each layer with dry excavation spoils or dry salvaged levee removal spoils and salvaged or imported riprap flush to top of current layer prior to constructing subsequent layer. Compact backfill with excavator bucket. Fill all voids between rocks greater than 12" diameter with finer backfill material to achieve a well graded and compacted mass.

---

**Table - ELS log schedule:**

<table>
<thead>
<tr>
<th>Log Type</th>
<th>Diameter (in)</th>
<th>Length (ft)</th>
<th>Rootwad</th>
<th>Total/ELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>18 (butt), 14 (tip)</td>
<td>50</td>
<td>NO</td>
<td>10</td>
</tr>
<tr>
<td>R1</td>
<td>24</td>
<td>45</td>
<td>YES</td>
<td>5</td>
</tr>
<tr>
<td>R2</td>
<td>24</td>
<td>40</td>
<td>YES</td>
<td>11</td>
</tr>
<tr>
<td>R3</td>
<td>24</td>
<td>35</td>
<td>YES</td>
<td>6</td>
</tr>
<tr>
<td>R4</td>
<td>24</td>
<td>30</td>
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<td>1</td>
</tr>
<tr>
<td>R5</td>
<td>18</td>
<td>45</td>
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<td>1</td>
</tr>
<tr>
<td>L1</td>
<td>24</td>
<td>45</td>
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<td>5</td>
</tr>
<tr>
<td>L2</td>
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<td>40</td>
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<td>5</td>
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<td>L3</td>
<td>24</td>
<td>35</td>
<td>NO</td>
<td>4</td>
</tr>
<tr>
<td>L4</td>
<td>24</td>
<td>30</td>
<td>NO</td>
<td>6</td>
</tr>
<tr>
<td>Racking</td>
<td>4&quot;-16&quot;</td>
<td>15-30</td>
<td>OPTIONAL</td>
<td>100</td>
</tr>
<tr>
<td>Slash</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Excavate around rootwads to allow root of log to be flush with channel bottom.

Trench excavate to place logs. Slope logs with rootwad at 2H:1V.

Trench end into bank.

Examine log with rootwad, size varies.

Salvaged log with rootwad, size varies.

Salvaged log with rootwad.

Cross log must contact log with rootwad. Angle cross log as needed.

Salvaged log with rootwad.

Salvaged log with rootwad.

Pin log.

Pin log.

Channel bench.

Channel bench.

Salvaged log with rootwad.

Salvaged log with rootwad.

Salvaged log with rootwad.

Salvaged log with rootwad.

12" dia. win, 25' long pin log.

TRENCH EXCAVATE TO PLACE LOGS SLOPE LOG WITH ROOTWAD AT 2H:1V.

TRENCH END INTO BANK.

SALVAGED LOG WITH ROOTWAD, SIZE VARIES.

SALVAGED LOG WITH ROOTWAD, SIZE VARIES.
LASHING NOTES:
1. LASHING SHALL USE 3/8" GRADE 43 NATURAL FINISH CHAIN AS SPECIFIED IN LAYER PLANS.
2. ALL LASHING CONNECTION HARDWARE SHALL BE STAINLESS STEEL OR NATURAL UNTREATED STEEL AND HAVE A RATED WORKING LOAD LIMIT OF EQUAL OR GREATER STRENGTH THAN THE CHAIN WORKING LOAD LIMIT.
3. SHACKLES SHALL BE SAFETY SHACKLES AND THREADS SHALL BE MARRED TO PREVENT REMOVAL OF SHACKLES.
4. CHAIN LASHING SYSTEM SHALL BE PUT IN TENSION TO 1/4 OF THE CHAIN WORKING LOAD LIMIT AND BE MAINTAINED DURING CHAIN SHACKLING.
5. CHAIN LENGTHS NEEDED PER LASHING WILL VARY BASED ON DIAMETER OF LOGS AT THE ACTUAL LOCATIONS THEY ARE LASHED TOGETHER.
6. ALL EXPOSED CONNECTION HARDWARE THREADS AFTER INSTALLATION TO PREVENT REMOVAL OF NUTS AND BOLTS.
7. CONTRACTOR MAY SUBMIT ALTERNATIVE CHAIN CONNECTION SYSTEM FOR APPROVAL.
8. CUT OFF ENDS OF CHAIN CLOSE TO FINAL CONNECTION AFTER LASHING IS IN PLACE SO THAT NO LOOSE ENDS EXIST AND DISPOSE OF CHAIN CUTTING OFF SITE.
FALL CITY FLOODPLAIN RESTORATION PROJECT

Know what's below. Call before you dig.

PARCEL NO. 1024078028

HAFFNER SETBACK REVETMENT, SEE SHEETS 14-15

EXISTING NEAL ROAD

RIPRAP TO BE REMOVED

HAFFNER REVETMENT (HP) ALIGNMENT ALONG TOP OF BANK

PROJECT LIMITS, TOP

25' WIDE ACCESS ROAD

START OF RIPRAP REMOVAL, HP ALIGNMENT STA 0400.0

RIPRAP TO REMAIN

HAFFNER SETBACK REVETMENT, SEE SHEETS 14-15

EXISTING NEAL ROAD

RIPRAP TO BE REMOVED

END OF RIPRAP REMOVAL, HP ALIGNMENT STA 0100

WASHINGTON RIVER

HAFFNER REVETMENT (HP) ALIGNMENT ALONG TOP OF BANK

PARCEL NO. 1024078028

RIGHT BANK SIDE CHANNEL, SEE SHEETS 16-22

25' WIDE ACCESS ROAD TO TOP OF BANK

RIPRAP TO BE REMOVED

WASHINGTON RIVER

FED. AID No. ______ 
PROJECT No. ______ 
MAINTENANCE DIVISION No._-_

SCALE IN FEET

SHEET 33 OF King County SHEETS

FALL CITY FLOODPLAIN RESTORATION PROJECT

PLAN - HAFFNER RIPRAP REMOVAL

REMIT PLANS NOV 2020

HERRERA

M 2020

MAINTENANCE DIVISION NO. 2020

811

Know what's below.
Call before you dig.
2. Estimated quantities of riprap to be removed include additional riprap likely buried and below average summer low flow water conditions (approx 600 CFS) that was not accessible for survey.
3. Riprap is buried under a thin layer of soil.
4. Surveyed riprap quantity = 1,700 cubic yards.
5. Estimated buried and submerged riprap = 3,000 cubic yards.

SURVEYED RIPRAP EXTENTS PER SHANNON AND WILSON JANUARY 2020 GEOTECHNICAL DESIGN REPORT.

ESTIMATED QUANTITIES OF RIPRAP TO BE REMOVED INCLUDE ADDITIONAL RIPRAP LIKELY BURIED AND BELOW AVERAGE SUMMER LOW FLOW WATER CONDITIONS (APPROX 600 CFS) THAT WAS NOT ACCESSIBLE FOR SURVEY.

RIPRAP IS BURIED UNDER A THIN LAYER OF SOIL.

SURVEYED RIPRAP QUANTITY = 1,700 CUBIC YARDS.

ESTIMATED BURIED AND SUBMERGED RIPRAP = 3,000 CUBIC YARDS.
Know what's below.
Call before you dig.

FALL CITY FLOODPLAIN RESTORATION PROJECT

LEFT BANK SIDE CHANNEL 1 INLET

BARFUSE SIDE CHANNEL 2 INLET

BARFUSE LEVEE REMOVAL

PROJECT LIMITS, TYP

ESTIMATED EXISTING RIPRAP TO BE REMOVED, TYP

EXISTING RIPRAP TO BE REMOVED, TYP

LEFT BANK SIDE CHANNEL 3 INLET

PROPOSED RIPRAP

RIPRAP EXPLORATION TRENCH, TYP

POSSIBLE EXISTING BURIED RIPRAP TO BE REMOVED IF ENCOUNTERED, TYP

SCALE IN FEET

FED. AID No. _______ PROJECT No. _______

MAINTENANCE DIVISION No. __ - PLAN - BARFUSE RIPRAP REMOVAL

FALL CITY FLOODPLAIN RESTORATION PROJECT

PLAN - BARFUSE RIPRAP REMOVAL

King County SHEETS

SHEET 35 OF 50
FALL CITY FLOODPLAIN RESTORATION PROJECT

Call before you dig.
TREE SALVAGE INVENTORY

<table>
<thead>
<tr>
<th>Type</th>
<th>Left Bank</th>
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<th>Right Bank</th>
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<tbody>
<tr>
<td>Wracking</td>
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<tr>
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<tr>
<td>(24-36&quot;)</td>
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</tbody>
</table>

NOTES:
1. PROTECT ALL TREES NOT SHOWN FOR REMOVAL.
2. HIMALAYAN BLACKBERRY REMOVAL AREAS SHOWN MAY EXTEND PAST CLEARING AND GRUBBING LIMITS. FOR THESE AREAS, CONTRACTOR SHALL USE SELECTIVE CLEARING AND GRUBBING METHODS MINIMIZING REMOVAL OF NATIVE VEGETATION TO THE EXTENT POSSIBLE.
**Single Span Bridge Notes:**

1. Single span bridges shall be located such that they require only one span to eliminate impacts to substrate.
2. End of bridge shall bear on high ground with sufficient bearing capacity to prevent erosion or collapse of channel bank.
3. Concrete ecology blocks or wood abutments may be used to support end of temporary bridge as needed.
4. Bridges may be constructed from logs, rail car beds or approved equal and sized with steel sheet, wood lagging or approved equal.
5. Additional measures may be required to reduce risk from scour.
6. Provide adequate permeability to allow passage of water for varying water surface.

**Multi-Span Bridge Notes:**

1. Multi-span temporary bridges used to cross wide channels or wetlands.
2. Multi-span bridges may often be constructed by placing temporary supports into the channel or wetland as shown. These supports may consist of large diameter logs, ecology blocks, steel piers, or similar material.
3. Ends of bridge shall bear directly onto cutting hillsides.
4. Spans may be linked in series to cross broad waterways or wetlands.
5. The 40-foot span shown, larger spans or more than two spans may be used to bridge longer distances.
6. Bridges may be constructed from logs, rail car beds or approved equal and sized with steel sheet, wood lagging or approved equal.
7. Provide adequate permeability to allow passage of water for varying water surface.

**Channel Log Crossing Notes:**

1. Ensure logs used in crossings are not damaged or broken in the course of placing, removing, or using crossings so they can be used as shown on plans.
2. Place logs used in log crossings oriented parallel to flow. If logs intended for crossing are damaged then place logs oriented with the rootwads upstream.
3. Remove log crossings at the end of the day, remove log crossings during high flow as directed by engineer or if flow conditions cause logs to become unstable.
4. If flow depth exceeds 3/4 of the diameter of logs, or if logs appear to be unstable then place logs with rootwads in log crossing. If logs with rootwads continue to be unstable then remove logs from crossing.
5. Ensure all trees that equipment tires or tracks do not disturb gravel or sediment within the water channel.
1. **APPROVAL OF THIS EROSION AND SEDIMENTATION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPE, RESTRICTORS, CHANNEL, RETENTION FACILITIES, ETC.).**

2. THE IMPLEMENTATION OF THESE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/ESC SUPERVISOR UNTIL ALL CONSTRUCTION IS APPROVED.

3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED BY SURVEY TAPE OR FENCING, IF REQUIRED, PRIOR TO CONSTRUCTION. TRUCK OUT TO ROAD RIGHT OF WAY DOES NOT OCCUR DURING THE CONSTRUCTION PERIOD.

4. **THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH CLEARING AND GRAZING SO AS TO ENSURE THAT THE TRANSPORT OF SEDIMENT TO SURFACE WATER, DRAINAGE SYSTEMS, AND ADJACENT PROPERTIES IS MINIMIZED.**

5. **THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND MODIFIED TO ACCOUNT FOR CHANGING SITE CONDITIONS (E.G., ADDITIONAL SUMP PUMPS, ADJUSTMENT OF DRains AND Silt Fences, PERMANENT DITCHES, ETC.).**

6. **THE ESC SUPERVISOR SHALL BE INSPECTED DAILY BY THE APPLICANT/ESC SUPERVISOR AND MAINTAINED TO ENSURE CONTINUED PROPER FUNCTIONING. WRITTEN RECORDS SHALL BE KEPT OF MAINTENANCE AND INSPECTION (SWDM APPENDIX D).**

7. **ANY AREAS OF EXPOSED SOILS, INCLUDING ROADWAY EMBANKMENTS, THAT WILL NOT BE DISTURBED FOR TWO DAYS DURING THE WET SEASON OR SEVEN DAYS DURING THE DRY SEASON SHALL BE STABILIZED WITH THE APPROVED ESC COVER METHODS (E.G., SEEDING, MULCHING, PLASTIC COVERING, ETC.).**

8. **ANY AREA NEEDING ESC MEASURES, NOT REQUIRING IMMEDIATE ATTENTION, SHALL BE ADDRESSSED WITHIN SEVEN (7) DAYS.**

9. **THE ESC FACILITIES ON EXISTING SITES SHALL BE INSPECTED AND MAINTAINED A WORKING OF ONLY ONCE EVERY 24 HOURS FOLLOWING A STORM EVENT.**

10. **AT NO TIME SHALL MORE THAN ONE (1) FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE IN ANY DRAINAGE/CONVEYANCE. EXCESS SEDIMENT THAT IS COLLECTED ON A DAILY BASIS AND CONVEYANCE SHALL BE CLEANED PRIOR TO POURING. THE CLEARING OPERATION SHALL NOT Allow SEDIMENT-CONTAINING WATER INTO THE DRAINAGE SYSTEM.**


12. **COVER MEASURES WILL BE APPLIED IN CONFORMANCE WITH APPENDIX 3 OF THE SURFACE WATER DESIGN MANUAL.**

13. **PRIOR TO THE BEGINNING OF THE WET SEASON (OCT 1), ALLO SFACEAC HAD BEEN EROSION-CONTROL MEASURES IN PLACE WHICH ONES CAN BE DESIGNED FOR THE WATER MAINS CONSTRUCTED. HAD SEASONAL OXYGENS BE SUBJECT TO DAMAGE DURING THE WET SEASON A STAY-THE MAP OF THESE AREAS TO BE CLEANED AND THOSE AREAS TO BE MAINTAINED.**

14. **NOTES:**

   a. Location of Silt Curtain will depend on Contractor construction sequencing and Right-of-Way requirements.
   b. Use of Silt Curtain, Silt Fence, triangular silt fences, or Rock Check Dams may be required depending on access and construction sequencing of another site/channel excavation.
SWPPS NOTES

1. ALL POLLUTANTS, INCLUDING WASTE MATERIALS, THAT OCCUR ON SITE SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORMWATER.

2. OTHER CONTAMINANTS AND DEPOSITION FROM MANUFACTURED OR STORED MATERIALS MAY BE PRESENT IN STORMWATER RUNOFF. THESE MATERIALS MAY CAUSE CONTAMINATION OF STORMWATER.

3. APPLICATION OF AGRICULTURAL CHEMICALS, INCLUDING FERTILIZERS AND PESTICIDES, SHALL BE CONDUCTED IN A MANNER AND AT APPLICATION RATES THAT WILL NOT RESULT IN LOSS OF CHEMICAL TO STORMWATER RUNOFF. MANUFACTURERS' RECOMMENDATIONS FOR APPLICATION RATES AND PROCEDURES SHALL BE FOLLOWED.

4. MEASURES SHALL BE USED TO PREVENT OR TREAT CONTAMINATION OF STORMWATER RUNOFF BY NON-MATERIAL SOURCES. THOSE SOURCES INCLUDE, BUT ARE NOT LIMITED TO, CEMENT, CONCRETE, CONCRETE MIXTURES, PLY ASH, AND CONCRETE WASHING AND CURING WATERS. WASTE STREAMS GENERATED FROM CONCRETE MIXING AND SAVING, EXPOSED AGGREGATE PROCESSES, AND CONCRETE PLACING AND MIXING WASHOUT WATERS. STORMWATER DISCHARGES SHALL NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE WATER QUALITY STANDARD FOR PB IN THE RECEIVING WATERS.

Know what's below.
Call before you dig.
EXISTING FLOODPLAIN FOREST PLANTING AREA ASSUMES REMOVAL OF EXISTING INVASIVE VEGETATION AND REVEGETATING BARE AREAS. ASSUMES 20% OF EXISTING FLOODPLAIN FOREST IS WEEDY OR INVASIVE SPECIES.

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SELECTIVE CLEARING AND GRAZING AND MEET FOREST PLANTING PLANTING AREA ASSUMES PROTECTION OF NATIVE TREES, SHRUBS, AND GROUND COVER AND 50 PERCENT INVASIVE VEGETATION REMOVAL AND NATIVE REVEGETATION

LIVE STAKE PLANTING

POST-CONSTRUCTION COTTONWOOD BOLE PLANTING

WINTER 2021 COTTONWOOD BOLE PLANTING

NATIVE GRASS CLEAR ZONE

6' NATIVE EROSION CONTROL SEEDING AT TOP OF NEW CHANNEL, CAN BE APPLIED EACH SPRING AFTER SEASONAL HIGH WATER EVENTS FOR FIRST THREE YEARS OF CHANNEL MIGRATION

NOTES:

1. SEE SHEET 46 FOR PLANTING NOTES AND SCHEDULE

2. SEE SHEET 48 FOR PLANTING NOTES AND SCHEDULE

FALL CITY
FLOODPLAIN RESTORATION PROJECT

Know what's below.
Call before you dig.

King County SHEETS

HERRERA
### 6' Native Erosion Control Seed Mix

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common Name</th>
<th>% Species Mix</th>
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</thead>
<tbody>
<tr>
<td>Brachyelytrum</td>
<td>Californian gold</td>
<td>0.42</td>
</tr>
<tr>
<td>Deschampsia</td>
<td>Tufted hairgrass</td>
<td>0.18</td>
</tr>
<tr>
<td>Elymus glaucus</td>
<td>Red fescue</td>
<td>0.20</td>
</tr>
<tr>
<td>Elymus glaucus</td>
<td>Red fescue</td>
<td>0.20</td>
</tr>
<tr>
<td>Koeleria macrantha</td>
<td>Prairie junegrass</td>
<td>0.02</td>
</tr>
<tr>
<td>Geum macrophyllum</td>
<td>Pearly everlasting</td>
<td>0.02</td>
</tr>
<tr>
<td>Paeon palustris</td>
<td>Red poppy</td>
<td>0.20</td>
</tr>
<tr>
<td>Deschampsia cespitosa</td>
<td>Tufted hairgrass</td>
<td>0.30</td>
</tr>
<tr>
<td>Elymus glaucus</td>
<td>Red fescue</td>
<td>0.35</td>
</tr>
<tr>
<td>Geum macrophyllum</td>
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### Barren Berm Seed Mix

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common Name</th>
<th>% Species Mix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achillea millefolium</td>
<td>Common yarrow</td>
<td>0.03</td>
</tr>
<tr>
<td>Anaphalis margaritacea</td>
<td>Pearly everlasting</td>
<td>0.02</td>
</tr>
<tr>
<td>Elymus glaucus</td>
<td>Red fescue</td>
<td>0.35</td>
</tr>
<tr>
<td>Fragaria virginiana</td>
<td>Strawberry</td>
<td>0.18</td>
</tr>
<tr>
<td>Geum macrosiphon</td>
<td>Large-leaved avens</td>
<td>0.02</td>
</tr>
<tr>
<td>Hypericum perforatum</td>
<td>St. John’s wort</td>
<td>0.07</td>
</tr>
<tr>
<td>Elymus glaucus</td>
<td>Red fescue</td>
<td>0.35</td>
</tr>
<tr>
<td>Fragaria virginiana</td>
<td>Strawberry</td>
<td>0.18</td>
</tr>
<tr>
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<td>Large-leaved avens</td>
<td>0.02</td>
</tr>
<tr>
<td>Hypericum perforatum</td>
<td>St. John’s wort</td>
<td>0.07</td>
</tr>
</tbody>
</table>

### Meadow Seed Mix

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common Name</th>
<th>% Species Mix</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Common yarrow</td>
<td>0.03</td>
</tr>
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<td>Pearly everlasting</td>
<td>0.02</td>
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<tr>
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<tr>
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<td>St. John’s wort</td>
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### Native Grass Filter Strip Seed Mix

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<th>Common Name</th>
<th>% Species Mix</th>
</tr>
</thead>
<tbody>
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<td>0.07</td>
</tr>
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*Note: Barren Berm Seed Mix is used in Barren Berrn and Native Grass Filter Strip areas.
DETAIL - BARE ROOT TREE OR SHRUB PLANTING

1. EXCAVATE PLANTING HOLE 2X THE ROOT WIDTH AND 1.5X ROOT DEPTH WITH ENOUGH ROOM TO ALLOW ROOTS TO SPREAD DOWNWARDS AND LATERALLY THROUGHOUT THE SOIL PROFILE.

2. PLANTING HOLE SHALL BE CUT PERPENDICULARLY TO THE SOIL SURFACE.

3. REMOVE ROOTS, ROOKIES, AND MOSSY BOARDS, LARGER THAN A LEAF TRASH, FROM PLANTING HOLE. REMOVAL OF VEGETATION FROM PLANTING AREA SHOULD BE COMPLETE.

4. BUILD A SMALL SOIL MOUND IN CENTER OF PLANTING HOLE TO PROVIDE A STABLE BASE FOR PLANTING THE TREE OR SHRUB. COMPACT SOIL MOUND TO REDUCE SETTLING EFFECTS.

5. PLACE PLANT ROOTS INTO PLANTING HOLE ON TOP OF SOIL MOUND AND GENTLY SPREAD ROOTS OUT EVENLY WITH FINGERS, CAREFUL NOT TO CAUSE HARM OR DAMAGE TO ROOTS. NO BUNCHING, J-ROOTING, OR TANGLING OF ROOTS SHALL OCCUR.

6. BACKFILLED SOIL WHILE BACKFILLING, FIRM SOIL AROUND PLANT GENTLY WITH HANDS TO ELIMINATE AIR POCKETS. DO NOT INJURE ROOT SYSTEM. SOIL MUST BE COMPACTED TO REDUCE SETTLING EFFECTS.

7. HOUSING SIDES OF PLANTING HOLE WITH BRACKETS OR SPACES.

DETAIL - LIVE STAKE PLANTING

1. PLANT LIVE STAKE WITH MIN 2 LATERAL BUDS ABOVE GRADE.

2. PRE-DIG HOLE BEFORE INSERTING LIVE STAKE, TAMPER SOIL TO REMOVE AIR POCKETS.

3. MINIMUM 2/3 OF LENGTH BELOW GROUND.

4. LIVE STAKE PLANTING NOTES:
   1. STAKES MUST BE 1/2" TO 1" DIAMETER AT BASE OF STAKE.
   2. STAKES WILL HAVE MINIMAL WARPING OR BENDS, BEING MOSTLY STRAIGHT IN FORM, FOR EASE OF PLANTING.

5. PLANT LIVE STAKE WITH MIN 2 LATERAL BUDS ABOVE GRADE.

6. PLANTING HOLE SHALL BE 2X THE ROOT WIDTH AND 1.5X ROOT DEPTH WITH ENOUGH ROOM TO ALLOW ROOTS TO SPREAD DOWNWARDS AND LATERALLY THROUGHOUT THE SOIL PROFILE.

7. PLANTING HOLE SHALL BE CUT PERPENDICULARLY TO THE SOIL SURFACE.

8. PLANTING HOLE SHALL BE 2X THE ROOT WIDTH AND 1.5X ROOT DEPTH WITH ENOUGH ROOM TO ALLOW ROOTS TO SPREAD DOWNWARDS AND LATERALLY THROUGHOUT THE SOIL PROFILE.

9. BUILD A SMALL SOIL MOUND IN CENTER OF PLANTING HOLE TO PROVIDE A STABLE BASE FOR PLANTING THE TREE OR SHRUB. COMPACT SOIL MOUND TO REDUCE SETTLING EFFECTS.

10. PLACE PLANT ROOTS INTO PLANTING HOLE ON TOP OF SOIL MOUND AND GENTLY SPREAD ROOTS OUT EVENLY WITH FINGERS, CAREFUL NOT TO CAUSE HARM OR DAMAGE TO ROOTS. NO BUNCHING, J-ROOTING, OR TANGLING OF ROOTS SHALL OCCUR.

11. BACKFILLED SOIL WHILE BACKFILLING, FIRM SOIL AROUND PLANT GENTLY WITH HANDS TO ELIMINATE AIR POCKETS. DO NOT INJURE ROOT SYSTEM. SOIL MUST BE COMPACTED TO REDUCE SETTLING EFFECTS.

12. HOUSING SIDES OF PLANTING HOLE WITH BRACKETS OR SPACES.

DETAIL - COTTONWOOD BOLE PLANTING

1. COTTONWOOD BOLE PLANTING AREA BOUNDARIES SHALL BE STAKED OR CLEARLY MARKED PRIOR TO PLANTING.

2. PLANTING SHALL OCCUR WITHIN 15 FEET OF EXISTING TREE AND SHRUB VEGETATION, AS SHOWN ON PLANS.

3. BOLES SHALL BE PLANTED 3 FEET APART ON CENTER AND UTILIZE TRIANGLE SPACING.

4. LARGER DIAMETER BOLES SHALL BE EVENLY DISTRIBUTED THROUGHOUT PLANTING AREA.

DETAIL - YEAR 2021 COTTONWOOD BOLE PLANTING PLANVIEW

1. COTTONWOOD BOLE PLANTING AND BOUNDARIES SHALL BE STAKED OR CLEARLY MARKED PRIOR TO PLANTING.

2. PLANTING SHALL OCCUR WITHIN 15 FEET OF EXISTING TREE AND SHRUB VEGETATION, AS SHOWN ON PLANS.

3. BOLES SHALL BE PLANTED 3 FEET APART ON CENTER AND TRUNK SPACING.

4. LARGER DIAMETER BOLES SHALL BE EVENLY DISTRIBUTED THROUGHOUT PLANTING AREA.
FALL CITY FLOODPLAIN RESTORATION PROJECT

Know what's below. Call before you dig.

TREE ROOT PROTECTION ZONE

N O. 1 4 4 8  E X P. 12/12/19

KATHRYN SUZANNE FORESTER
STATE OF WASHINGTON
LICENSED LANDSCAPE ARCHITECT

PROMINENTLY POST YELLOW "TREE ROOT PROTECTION ZONE" SIGN TOP BAR OR WIRE SURVEY JOB NO:
CHECKED:
CAD ENTERED:
DESIGNED:
CHECKED:
SUPERVISOR:

HIGH VISIBILITY FENCING 8' MIN STEEL T-BAR POSTS 6' EMBEDMENT OR USE TEMPORARY POST SUPPORTS

CONSTRUCTION NOTES:

DE-ARTIVISIV EC CONTROL SEEDING

YEAR ONE NOTES:
1. TOP 6' OF SIDE CHANNEL BANK SHALL BE SEED WITH A NATIVE EROSION CONTROL MIX IN LATE SPRING AFTER RISK OF SEASONAL HIGH FLOWS HAS DECREASED. SEEDING IS INTENDED TO ESTABLISH A NATIVE PLANT COMMUNITY AND REDUCE THE ESTABLISHMENT OF INVASIVE VEGETATION. SEEDING SHALL OCCUR ACCORDING TO SECTION 8-02.3(9) OF SPECIAL PROVISIONS.

PLANTING LAYOUT NOTES:
1. PLANTING LAYOUT SHALL USE TRIANGULAR SPACING FOR TREES, SHRUBS, AND GROUNDCOVERS.

DE-ARTIVISIV EC CONTROL SEEDING

YEAR ONE NOTES:
1. TOP 6' OF SIDE CHANNEL BANK SHALL BE SEED WITH A NATIVE EROSION CONTROL MIX IN LATE SPRING AFTER RISK OF SEASONAL HIGH FLOWS HAS DECREASED. SEEDING IS INTENDED TO ESTABLISH A NATIVE PLANT COMMUNITY AND REDUCE THE ESTABLISHMENT OF INVASIVE VEGETATION. SEEDING SHALL OCCUR ACCORDING TO SECTION 8-02.3(9) OF SPECIAL PROVISIONS.

PLANTING LAYOUT NOTES:
1. PLANT GROUNDCOVERS, SHRUBS, AND TREES AS SHOWN ON PLAN. GROUNDCOVERS AND SHRUBS SHALL BE IN CLUSTERS OF UNEVEN NUMBERS (E.G. THREE, FIVE, SEVEN, ETC.). PLANTS SHALL BE ARRANGED SO THAT AS THEY MATURE, THEY GROW IN TO MASSINGS AND FULLY COVER THE SOIL SURFACE.

DE-ARTIVISIV EC CONTROL SEEDING

YEAR ONE NOTES:
1. TOP 6' OF SIDE CHANNEL BANK SHALL BE SEED WITH A NATIVE EROSION CONTROL MIX IN LATE SPRING AFTER RISK OF SEASONAL HIGH FLOWS HAS DECREASED. SEEDING IS INTENDED TO ESTABLISH A NATIVE PLANT COMMUNITY AND REDUCE THE ESTABLISHMENT OF INVASIVE VEGETATION. SEEDING SHALL OCCUR ACCORDING TO SECTION 8-02.3(9) OF SPECIAL PROVISIONS.