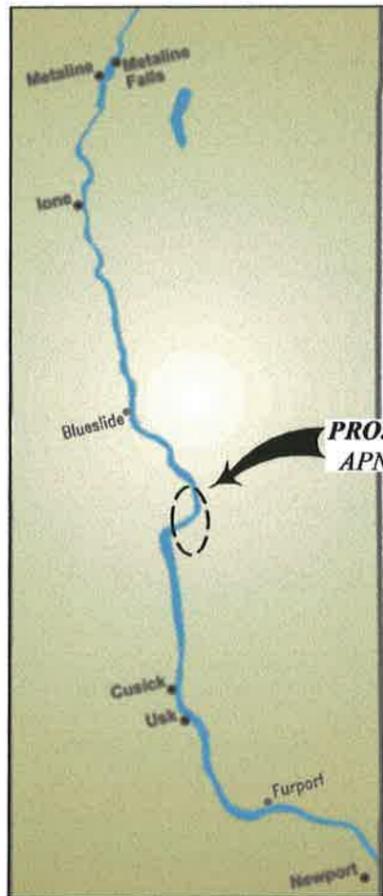


# "DILLING'S BANK STABILIZATION & DOCK REPLACEMENT" PLAN SET

## 1901 RIVERBEND LOOP RD. CUSICK, WASHINGTON 99119



**LOCATION MAP**  
SCALE: NTS

**PROJECT LOCATION**  
APN: 443406 50 0005

### PROPERTY OWNER INFORMATION

PROPERTY OWNER: (MAILING)  
MARSHA DILLING  
1901 RIVERBEND LOOP RD.  
CUSICK, WASHINGTON 99119  
PHONE: (509)710-4018

PROPERTY ADDRESS:  
SAME

### DATUM NOTE

THE CONTOUR ELEVATION DATUM AS SHOWN IS DERIVED AND BASED ON THE EXISTING PEND OREILLE RIVER ELEVATIONS AT CUSICK GAUGING STATION. ELEVATION WAS LISTED AS 2032.73 THE DAY OF THE COMPLETED FIELD WORK 11/2015.

NOTE: This site plan is based on actual field topo survey and also information from the Plat of "Riverbend Estates" and a Raster Image from Pend Oreille County Parcel/GIS system. A full boundary survey is not a part of this exhibit. Measurements and elevations, as shown, are from the site field work information.

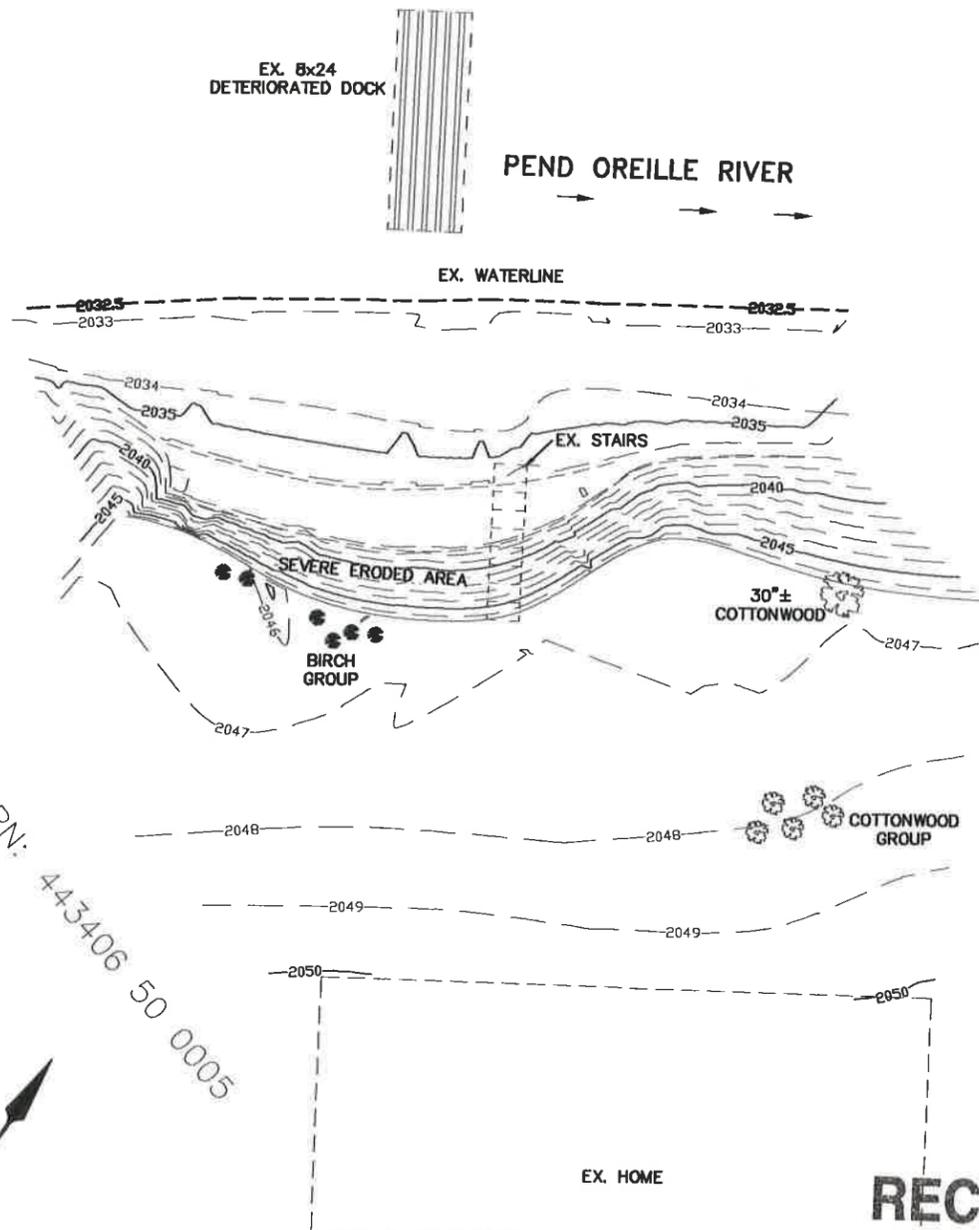
### SURVEYOR'S CERTIFICATE

THIS MAP CORRECTLY REPRESENTS A SURVEY CONDUCTED BY ME IN CONFORMANCE WITH ACCEPTED FIELD METHODS, AT THE REQUEST OF HOOD DESIGN SOLUTIONS LLC DURING THE MONTH OF NOVEMBER, 2015. THIS SURVEY WAS PERFORMED USING A NIKON DTM-A20LG TOTAL STATION AND A LEITZ LEVEL.



DEAN E. YONGUE, PLS 13301

DATE



**EXISTING SITE-PLAN VIEW**  
SCALE: 1"=20'

APN: 443406 50 0005

**RECEIVED**

JUN - 2 2016

PEND OREILLE CO.  
COMMUNITY DEVELOPMENT

### NOTES

1. THE CONTRACTOR IS TO HAVE SECURED PERMITS IN PLACE PRIOR TO ANY WORK BEING PERFORMED.
2. IT IS THE CONTRACTORS RESPONSIBILITY TO COORDINATE WITH PEND OREILLE PUBLIC UTILITY DISTRICT OFFICIALS FOR RIVER ELEVATIONS EXPECTED DURING CONSTRUCTION. ALL WORK TO BE COMPLETED IN LOW WATER POOL ELEVATIONS AND APPROXIMATELY FROM AUGUST THROUGH SEPTEMBER MONTHS.
3. HOOD DESIGN SOLUTIONS LLC SHALL NOT BE RESPONSIBLE FOR ANY LOSS OF PROPERTY OR ANY PERSONAL INJURY AS A RESULT OF THE USE OF THESE PLANS DURING CONSTRUCTION OR AFTER COMPLETION. IT SHALL BE THE RESPONSIBILITY OF THE OWNER AND THE CONTRACTOR OF THE PROPERTY TO EXERCISE CAUTION DURING CONSTRUCTION AND AFTER COMPLETION.

### SHEET INDEX

#### PLAN SET

- |        |  |
|--------|--|
| SHT. 1 | SHEET INDEX, NOTES, LOCATION & VICINITY MAPS AND EXISTING SITE PLAN VIEW |
| SHT. 2 | BANK ARMORING DESIGN SITE PLAN & CROSS SECTIONS                          |
| SHT. 3 | CROSS SECTIONS & CONSTRUCTION DETAILS                                    |
| SHT. 4 | PICTURES OF BANK FAILURE & PLANTING NOTES                                |



**VICINITY MAP**  
SCALE: NTS

David P. Hood  
3000 Oak Hill Rd.  
Newport, WA 98566  
509-447-2409  
509-951-3391



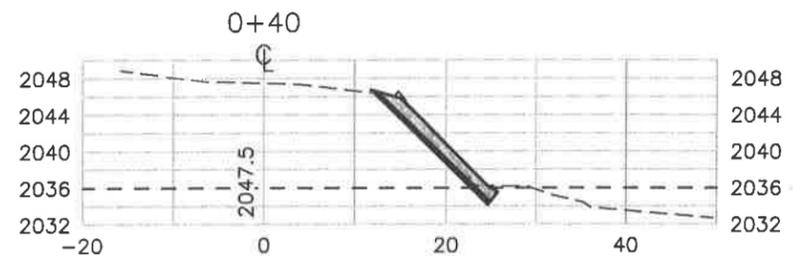
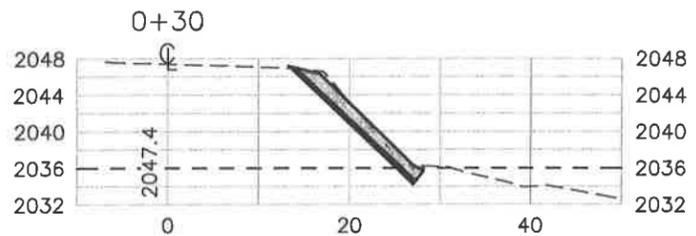
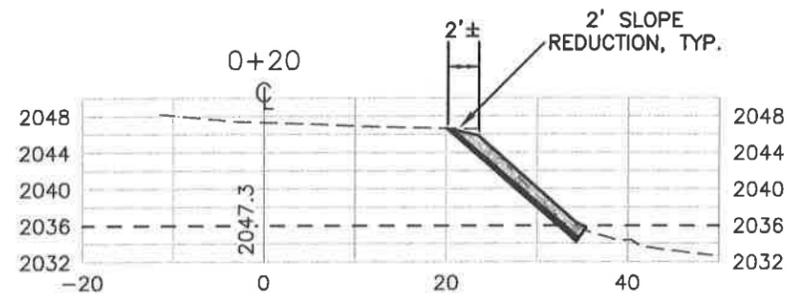
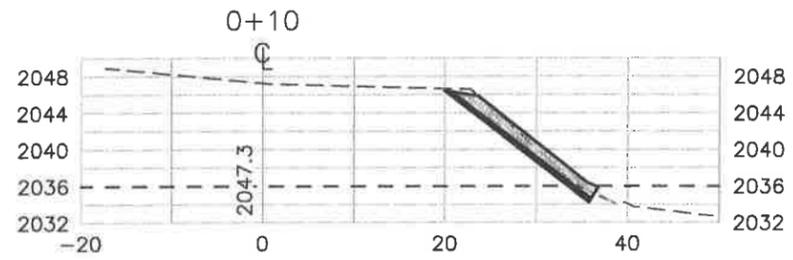
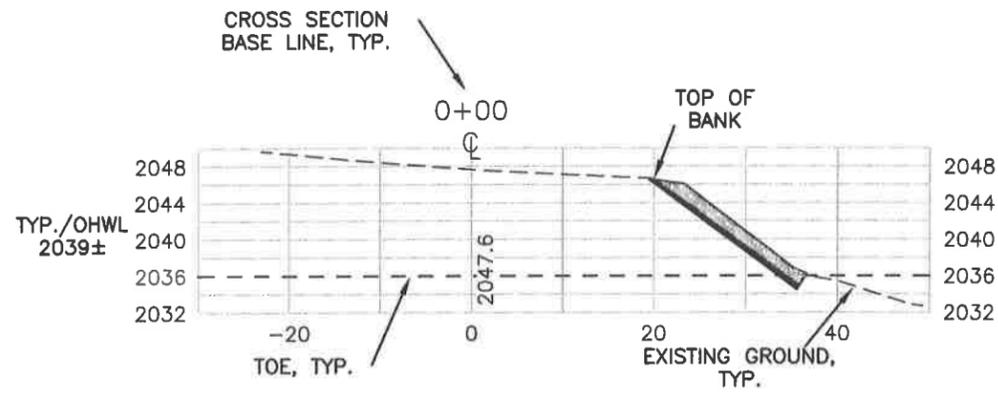
Hood Design Solutions Llc

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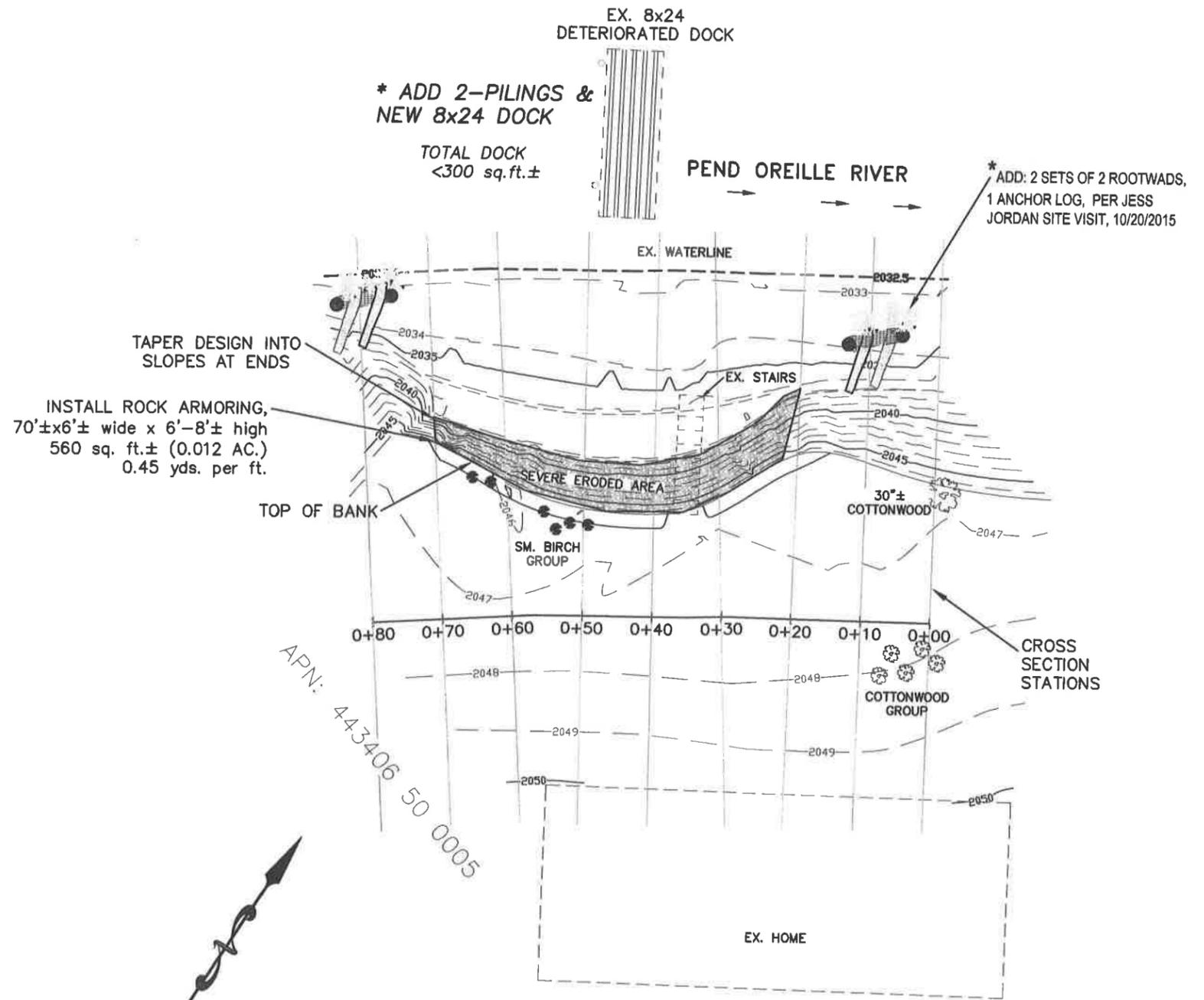
"DILLING'S BANK STABILIZATION & DOCK REPLACEMENT" PLAN SET  
SECTION 6 TWP. 34N., RING. 44E., W.M.  
PEND OREILLE COUNTY, WASHINGTON  
for MARSHA DILLING  
1901 RIVERBEND LOOP RD.  
CUSICK, WASHINGTON 99119

ISSUE DATE: 1/10/2016  
DESIGN BY: DPH  
DRAWN BY: DPH  
CHECKED BY: DEY  
SCALE: AS SHOWN

SHEET No.:  
**SHEET 1 of 4**



**DESIGN CROSS SECTIONS**  
SCALE: 1"=20'



**PROPOSED BANK ARMORING**  
**SITE-PLAN VIEW**  
SCALE: 1"=20'

David P. Hood  
Professional Engineer  
No. 10000  
Washington, WA  
509-447-2409  
509-891-3391



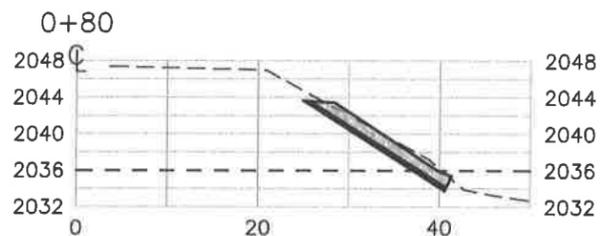
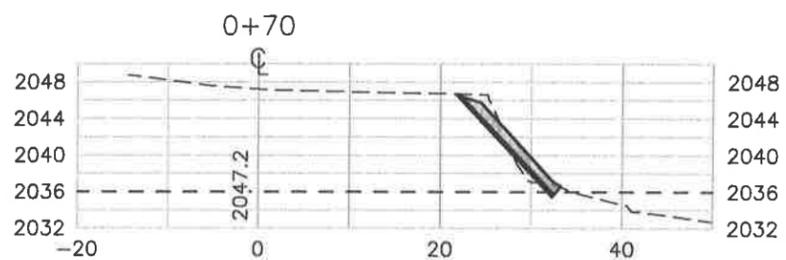
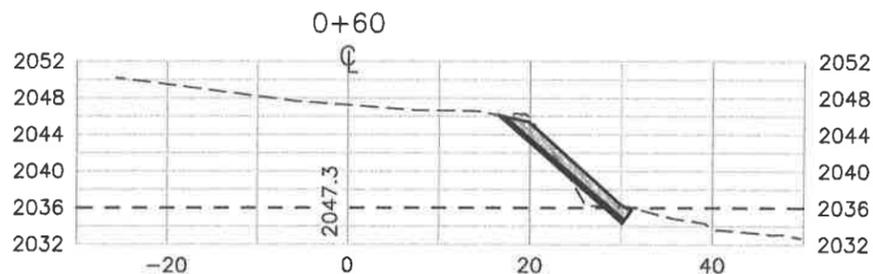
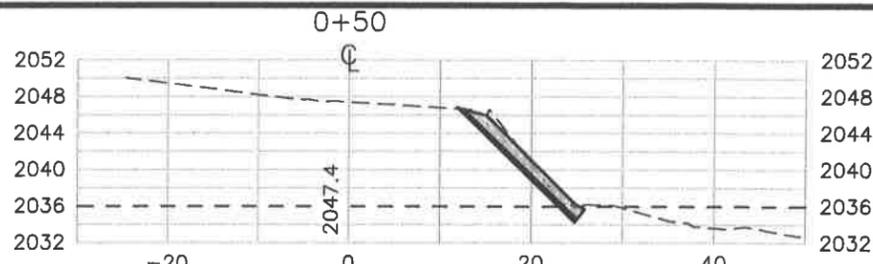
Hood Design Solutions LLC

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DRAWN BY:	DPH
CHECKED BY:	DEY
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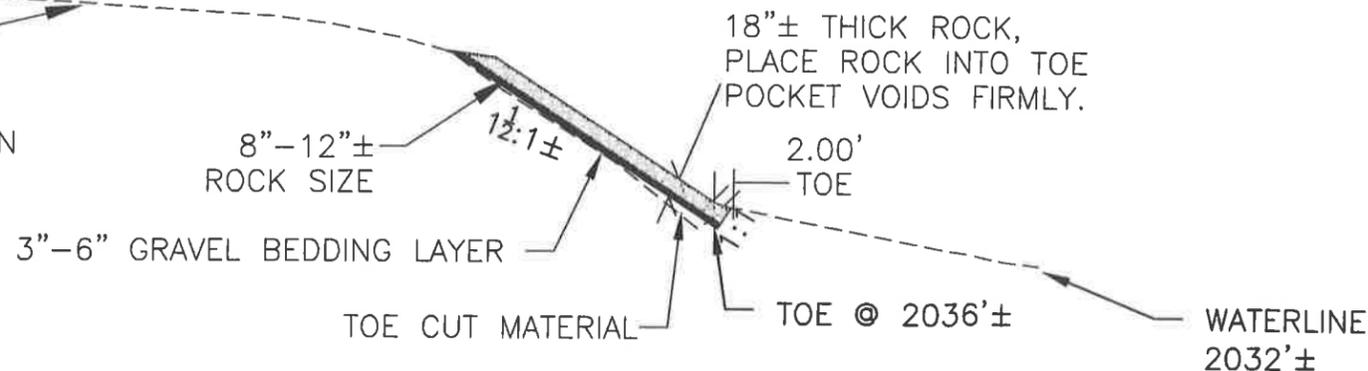
SHEET No.:  
**SHEET 2 of 4**



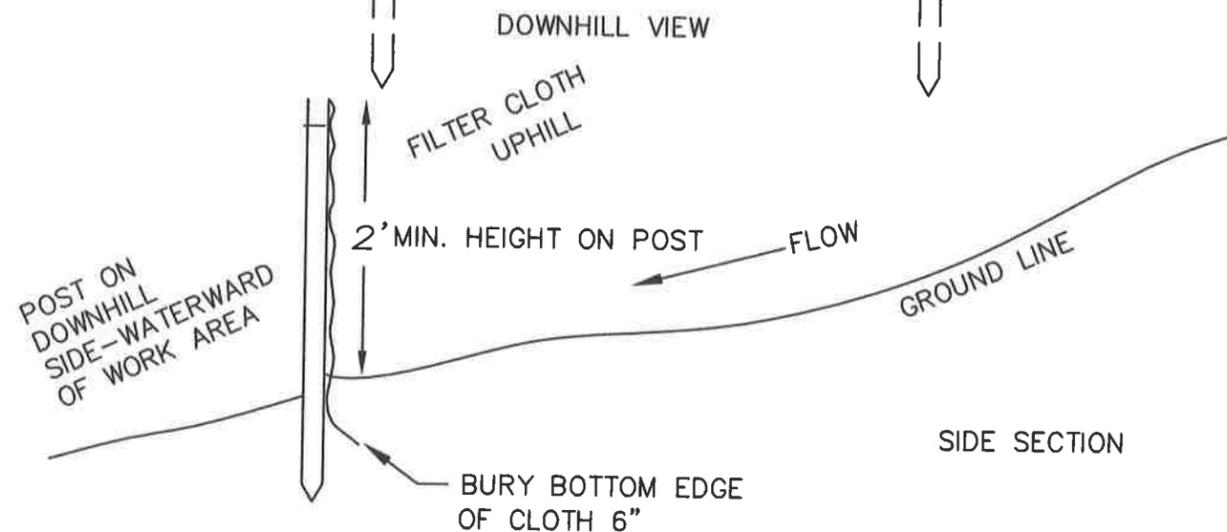
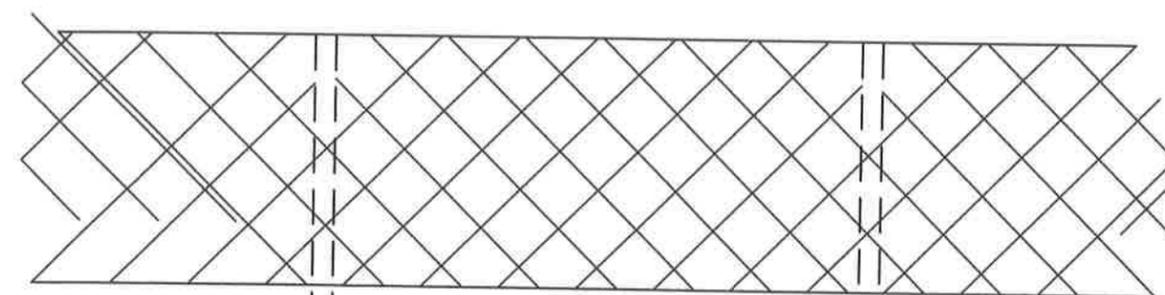
**DESIGN CROSS SECTIONS**  
SCALE: 1"=20'

This design implements toe armoring with bank slope reduction to a 1.5:1 ± ratio. Rock toe, and bank will be planted with native riparian vegetation, erosion control grasses and coyote willow, etc.... The grass seed will be broadcast over the entire surface of the project area.

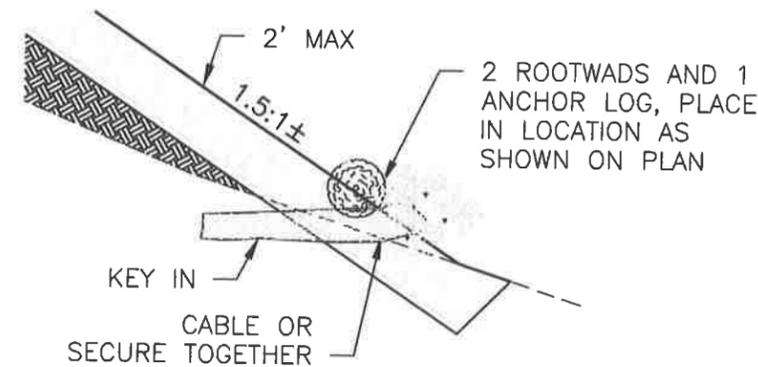
TOP SOIL AND RESEED AS NEEDED ALONG TOP OF BANK, FILL IN BARE SPOTS AFTER CONSTRUCTION ACTIVITIES HAVE ENDED.



**BANK ARMORING TYPICAL SECTION**  
SCALE: NTS



**TYPICAL SILT FENCE**  
SCALE: NTS



**TYPICAL ROOTWAD DETAIL**  
SCALE: NTS

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3511 D'Arnell Rd  
Nappert, WA 99156  
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509-991-3301



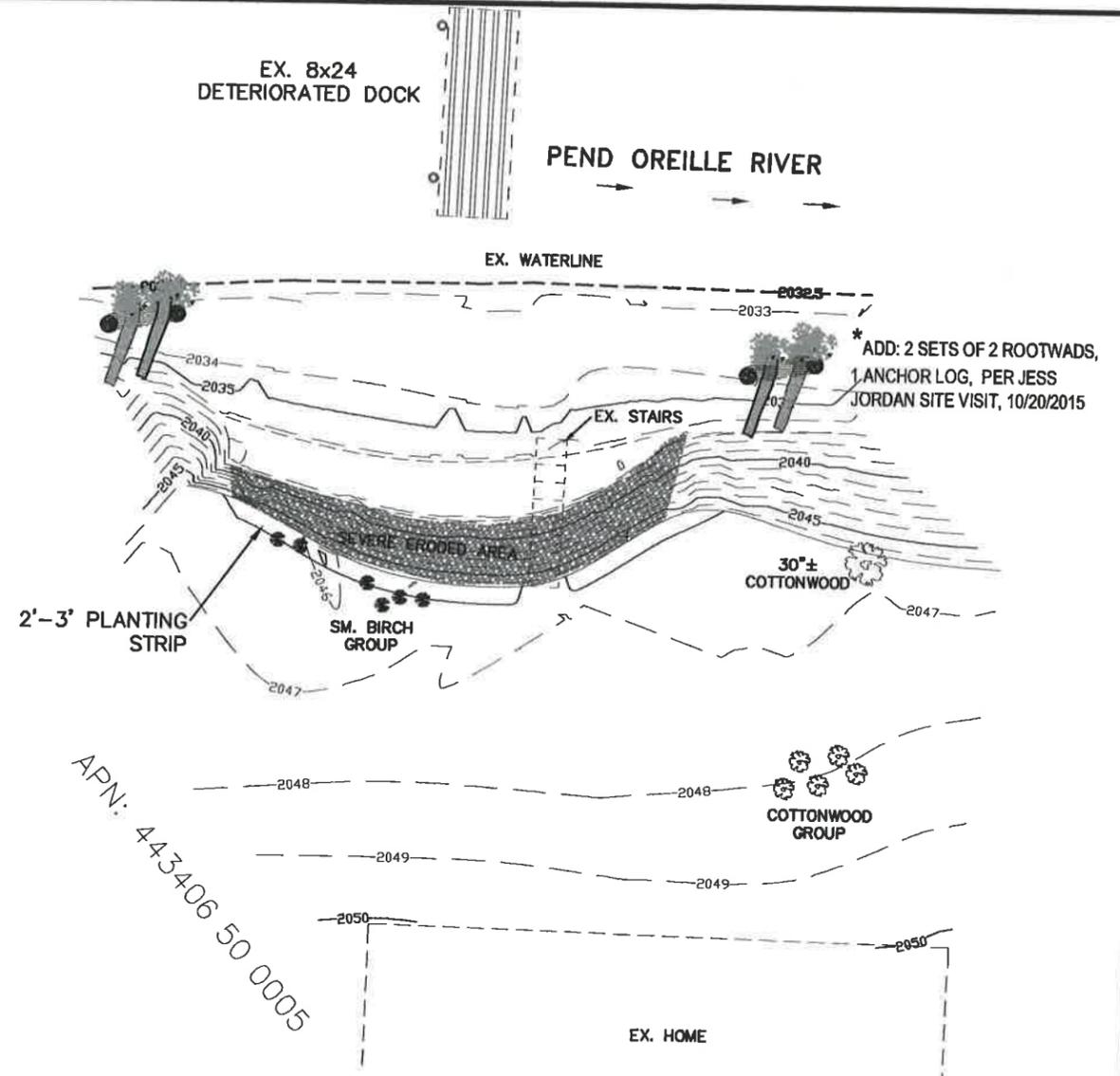
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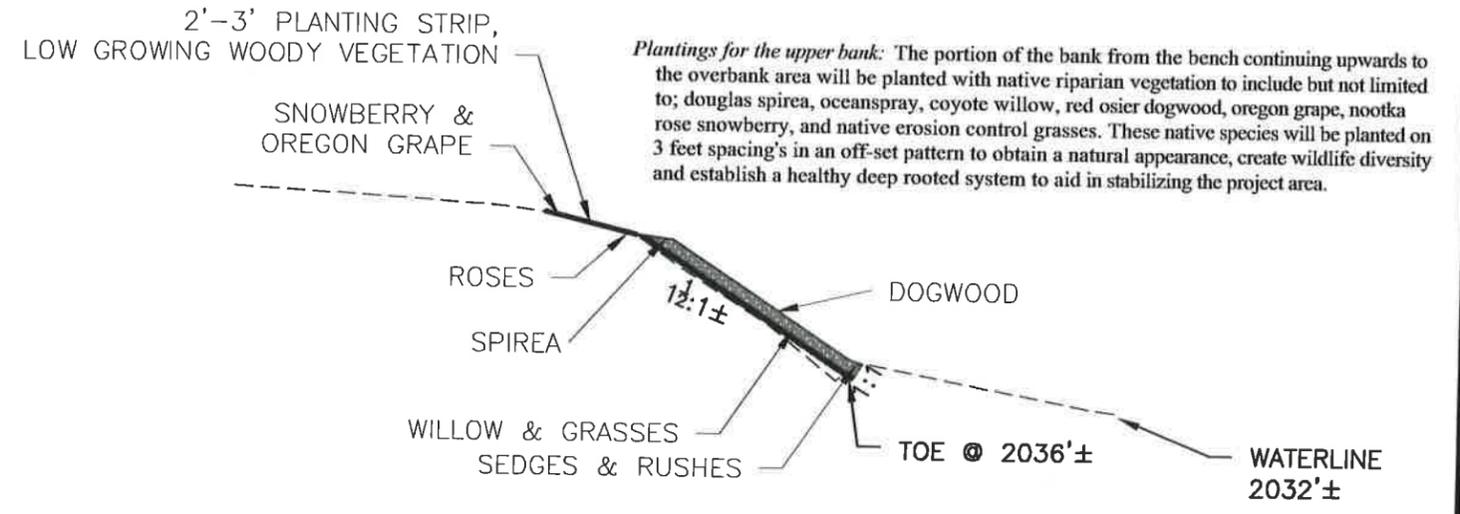
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SHEET No.:  
**SHEET 3 of 4**



**PLANT NOTE:** AMOUNT OF PLANTINGS ARE FIGURED FROM SQUARE FOOTAGE OF BANK AREAS. THEY SHALL BE PLANTED AT A 3'± SPACING USING A STAGGER PATTERN OR OFFSET PATTERN. THE LARGE BANK EROSION AREA SHOWN, NEEDS 60± TOTAL. THE PLANTING STRIP, NEEDS 30± TOTAL, AND SHALL BE LOW GROWING WOODY VEGETATION, WITH NATIVE RIPARIAN VEGETATION TO ESTABLISH DEEP ROOT SYSTEMS FOR SPARSE AREAS. ALSO ON-SITE NATIVE PLANT CUTTINGS MAY BE USED IN SAME LIKE PLANTING AREAS, AND ALSO NATIVE GRASS SEED MIXTURES. DENSE PLANTINGS IN THE 2'-3' TOP OF BANK PLANTING STRIP TO ACCOMPLISH THE ROBUST PLANTING PLAN. AS PER SITE VISIT WITH PEND OREILLE COUNTY, AND AGENCIES ON 10/20/2015.



*Plantings for the upper bank:* The portion of the bank from the bench continuing upwards to the overbank area will be planted with native riparian vegetation to include but not limited to; douglas spirea, oceanspray, coyote willow, red osier dogwood, oregon grape, nootka rose snowberry, and native erosion control grasses. These native species will be planted on 3 feet spacing's in an off-set pattern to obtain a natural appearance, create wildlife diversity and establish a healthy deep rooted system to aid in stabilizing the project area.

**GENERAL PLANTING LOCATIONS**

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Newport, WA  
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509-991-3391



Hood  
Design  
Solutions  
Llc

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**SHEET  
4 of 4**