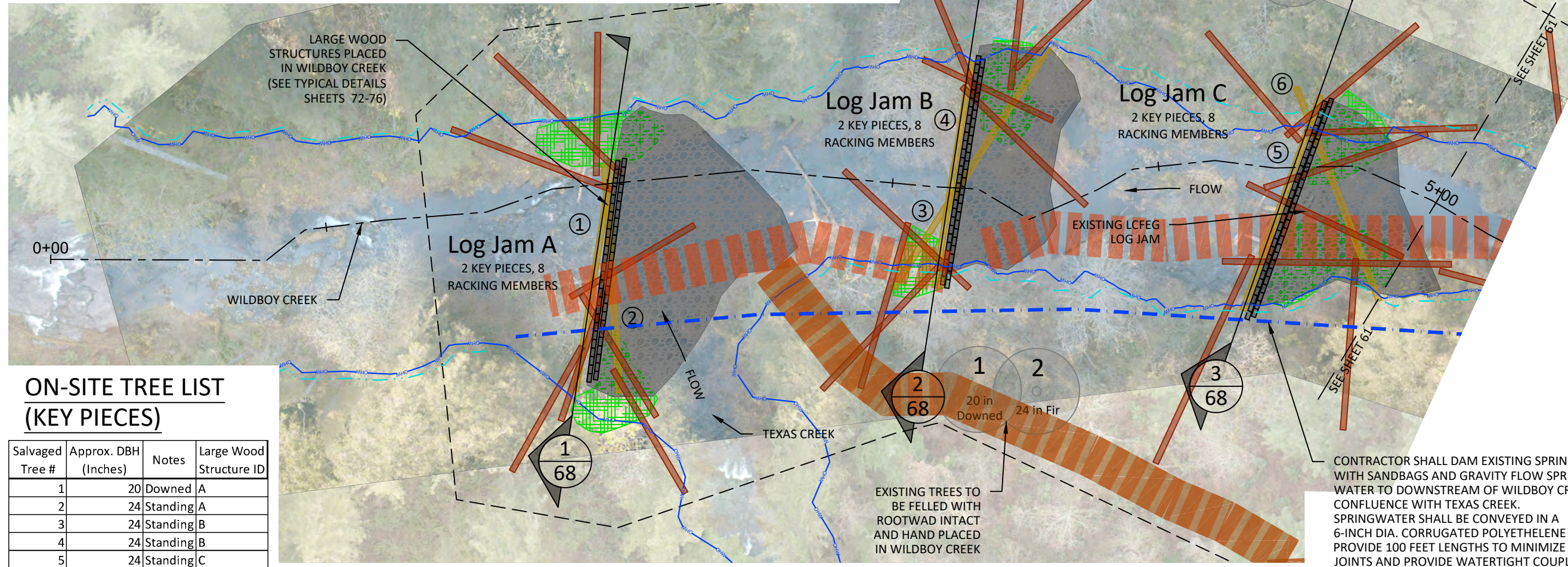


NOTE:
SPECIFIC LOCATION, ALIGNMENT, AND ELEVATIONS OF LARGE WOOD PIECES, BOULDERS ARE SUBJECT TO CHANGE BASED ON FIELD CONDITIONS, MATERIAL SIZE AND STABILITY REQUIREMENTS.

LEGEND

- TEMPORARY ACCESS ROADS (OFF ROAD)
- EXISTING GRADING
- CHANNEL CENTERLINE
- STRAWBALES
- SLASH
- FELLED LARGE TREES FOR WILDBOY CREEK LARGE WOOD STRUCTURES
- PLACED FELLED TREES INTO LARGE WOOD STRUCTURES (KEY PIECE LWM)
- PLACED TREES INTO LARGE WOOD STRUCTURES (RACKING LWM)
- SALVAGED DAM ROCK
- DELTAIC GRAVELS
- ORDINARY HIGH WATER (OHW)
- 100 YR WATER SURFACE



ON-SITE TREE LIST (KEY PIECES)

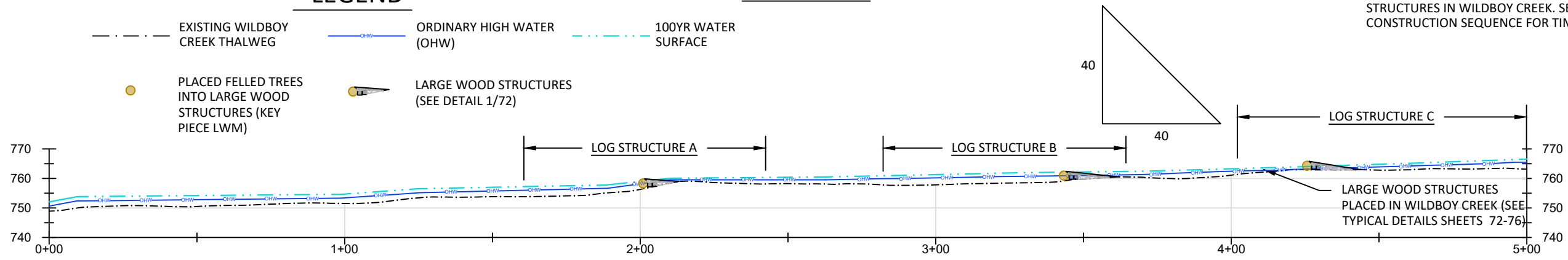
Salvaged Tree #	Approx. DBH (Inches)	Notes	Large Wood Structure ID
1	20	Downed	A
2	24	Standing	A
3	24	Standing	B
4	24	Standing	B
5	24	Standing	C
6	24	Standing	C

LEGEND

- EXISTING WILDBOY CREEK THALWEG
- ORDINARY HIGH WATER (OHW)
- 100YR WATER SURFACE
- PLACED FELLED TREES INTO LARGE WOOD STRUCTURES (KEY PIECE LWM)
- LARGE WOOD STRUCTURES (SEE DETAIL 1/72)

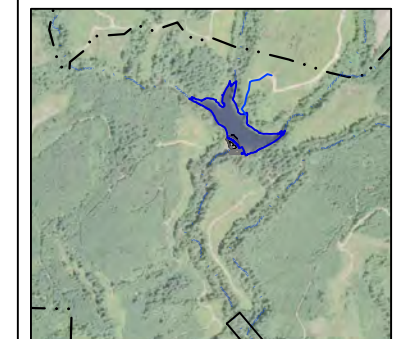
PLAN VIEW

PROFILE VIEW - WILDBOY CREEK STA. 0+00 TO 5+00

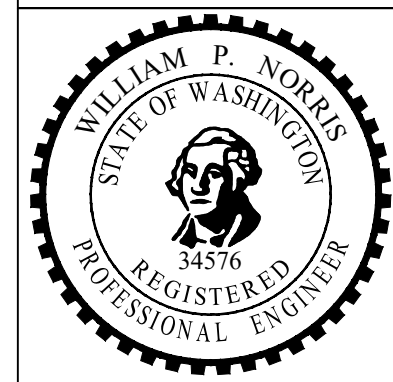


CONTRACTOR SHALL DAM EXISTING SPRING WITH SANDBAGS AND GRAVITY FLOW SPRING WATER TO DOWNSTREAM OF WILDBOY CREEK CONFLUENCE WITH TEXAS CREEK. SPRINGWATER SHALL BE CONVEYED IN A 6-INCH DIA. CORRUGATED POLYETHELENE PIPE. PROVIDE 100 FEET LENGTHS TO MINIMIZE JOINTS AND PROVIDE WATERTIGHT COUPLERS. REMOVE PIPING AND SANDBAG DAM FOLLOWING CONSTRUCTION OF LARGE WOOD STRUCTURES IN WILDBOY CREEK. SEE CONSTRUCTION SEQUENCE FOR TIMING.

Notes:



SHEET LOCATION



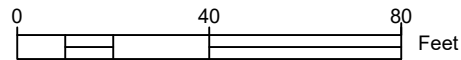
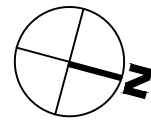
3			
2			
1			
REV:	DESCRIPTION:	BY:	DATE:
STATUS: PRELIMINARY DESIGN			

PARR
excellence
302 W. Steuben St. #6
Bingen, WA 98605
www.ers4life.com

CLIENT: COWLITZ INDIAN TRIBE
7700 26TH AVE
VANCOUVER, WA, 98665

SITE: KWONEESUM DAM REMOVAL DESIGN
TITLE: WILDBOY CREEK - PLAN AND PROFILE STA. 0+00 TO 5+00

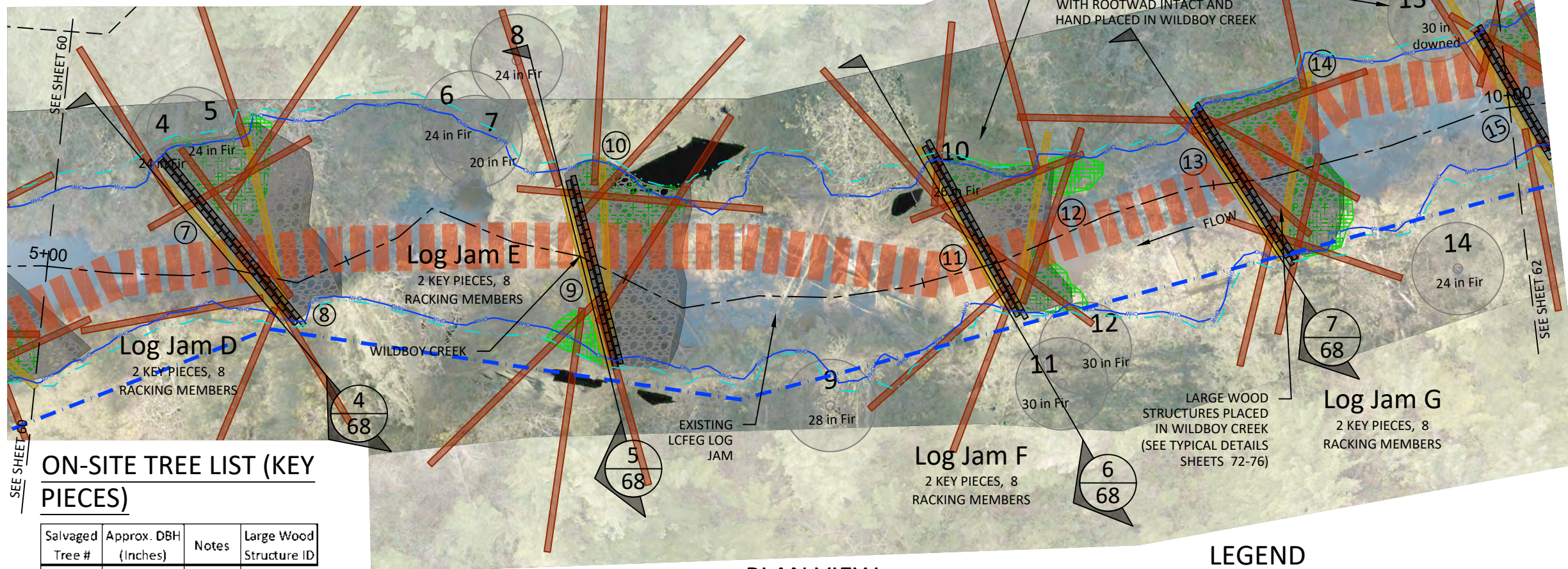
SCALE:	DATE: 6/4/21	DRAWN: RP	CHECKED: BN
PROJ. NO: -	DRAWING NO: 60	Total Sheets: 80	



NOTE:
SPECIFIC LOCATION, ALIGNMENT, AND ELEVATIONS OF LARGE WOOD PIECES, BOULDERS ARE SUBJECT TO CHANGE BASED ON FIELD CONDITIONS, MATERIAL SIZE AND STABILITY REQUIREMENTS.

LEGEND

- TEMPORARY ACCESS ROADS (OFF ROAD)
- EXISTING GRADING
- CHANNEL CENTERLINE
- STRAWBALES
- SLASH
- FELLED LARGE TREES FOR WILDBOY CREEK LARGE WOOD STRUCTURES
- PLACED FELLED TREES INTO LARGE WOOD STRUCTURES (KEY PIECE LWM)
- PLACED TREES INTO LARGE WOOD STRUCTURES (RACKING LWM)
- SALVAGED DAM ROCK
- DELTAIC GRAVELS
- ORDINARY HIGH WATER (OHW)
- 100 YR WATER SURFACE

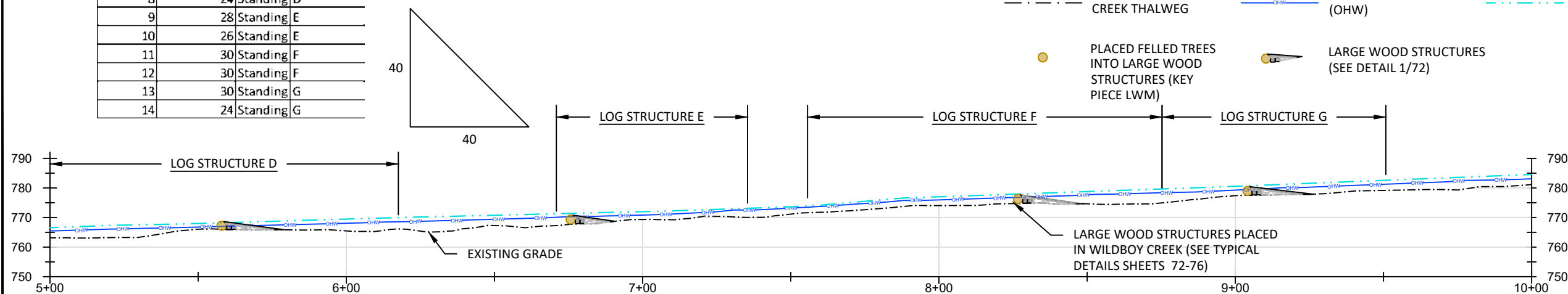


ON-SITE TREE LIST (KEY PIECES)

Salvaged Tree #	Approx. DBH (Inches)	Notes	Large Wood Structure ID
7	20	Standing D	
8	24	Standing D	
9	28	Standing E	
10	26	Standing E	
11	30	Standing F	
12	30	Standing F	
13	30	Standing G	
14	24	Standing G	

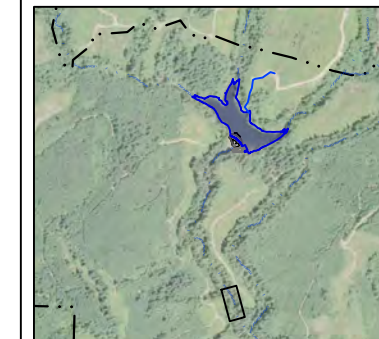
PLAN VIEW

- ### LEGEND
- EXISTING WILDBOY CREEK THALWEG
 - ORDINARY HIGH WATER (OHW)
 - 100YR WATER SURFACE
 - PLACED FELLED TREES INTO LARGE WOOD STRUCTURES (KEY PIECE LWM)
 - LARGE WOOD STRUCTURES (SEE DETAIL 1/72)

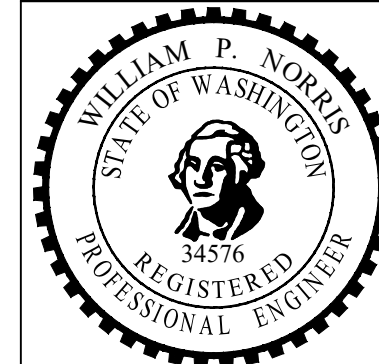


PROFILE VIEW - WILDBOY CREEK STA. 5+00 TO 10+00

Notes:



SHEET LOCATION



3			
2			
1			
REV:	DESCRIPTION:	BY:	DATE:
STATUS: PRELIMINARY DESIGN			

PARR
excellence

302 W. Steuben St. #6
Bingen, WA 98605
www.ers4life.com

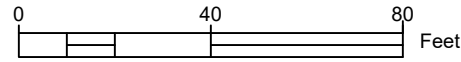
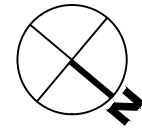
CLIENT: COWLITZ INDIAN TRIBE
7700 26TH AVE
VANCOUVER, WA. 98665

SITE: KWONEESUM DAM REMOVAL DESIGN

TITLE: WILDBOY CREEK - PLAN AND PROFILE STA. 5+00 TO 10+00

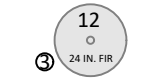
SCALE:	DATE: 6/4/21	DRAWN: RP	CHECKED: BN
PROJ. NO: -	DRAWING NO: 61	Total Sheets: 80	

NOTE:
SPECIFIC LOCATION, ALIGNMENT, AND ELEVATIONS OF LARGE WOOD PIECES, BOULDERS ARE SUBJECT TO CHANGE BASED ON FIELD CONDITIONS, MATERIAL SIZE AND STABILITY REQUIREMENTS.



LEGEND

- TEMPORARY ACCESS ROADS (OFF ROAD)
- EXISTING GRADING
- CHANNEL CENTERLINE
- STRAWBALES
- SLASH

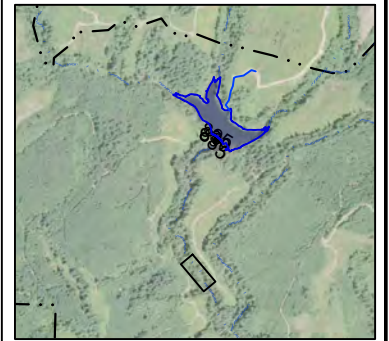


- FELLED LARGE TREES FOR WILDBOY CREEK LARGE WOOD STRUCTURES
- PLACED FELLED TREES INTO LARGE WOOD STRUCTURES (KEY PIECE LWM)
- PLACED TREES INTO LARGE WOOD STRUCTURES (RACKING LWM)
- SALVAGED DAM ROCK
- DELTAIC GRAVELS
- ORDINARY HIGH WATER (OHW)
- 100 YR WATER SURFACE

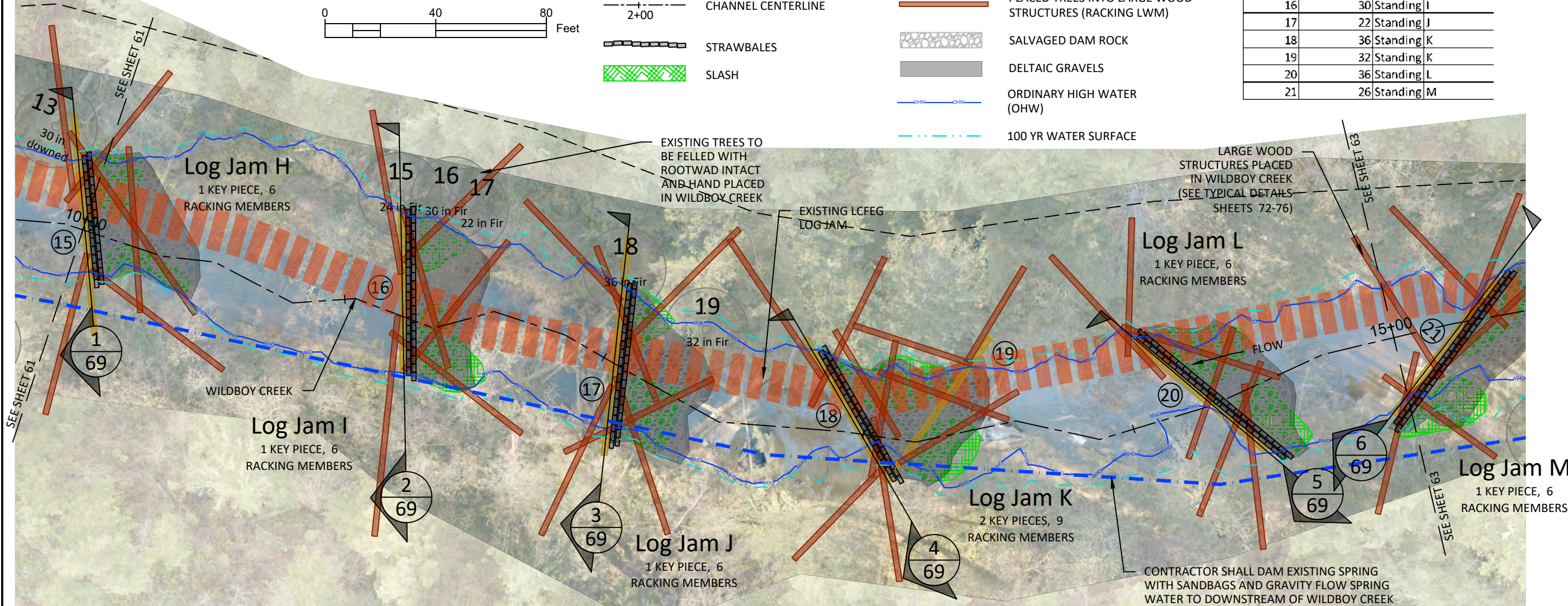
ON-SITE TREE LIST (KEY PIECES)

Salvaged Tree #	Approx. DBH (Inches)	Notes	Large Wood Structure ID
15	24	Standing	H
16	30	Standing	I
17	22	Standing	J
18	36	Standing	K
19	32	Standing	K
20	36	Standing	L
21	26	Standing	M

Notes:



SHEET LOCATION

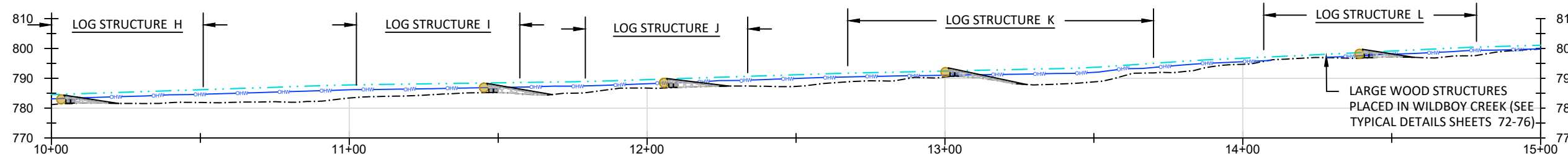


PLAN VIEW

CONTRACTOR SHALL DAM EXISTING SPRING WITH SANDBAGS AND GRAVITY FLOW SPRING WATER TO DOWNSTREAM OF WILDBOY CREEK CONFLUENCE WITH TEXAS CREEK. SPRINGWATER SHALL BE CONVEYED IN A 6-INCH DIA. CORRUGATED POLYETHYLENE PIPE. PROVIDE 100 FEET LENGTHS TO MINIMIZE JOINTS AND PROVIDE WATERTIGHT COUPLERS. REMOVE PIPING AND SANDBAG DAM FOLLOWING CONSTRUCTION OF LARGE WOOD STRUCTURES IN WILDBOY CREEK. SEE CONSTRUCTION SEQUENCE FOR TIMING.

LEGEND

- EXISTING WILDBOY CREEK THALWEG
- ORDINARY HIGH WATER (OHW)
- 100YR WATER SURFACE
- PLACED FELLED TREES INTO LARGE WOOD STRUCTURES (KEY PIECE LWM)
- LARGE WOOD STRUCTURES (SEE DETAIL 1/72)



PROFILE VIEW - WILDBOY CREEK STA. 10+00 TO 15+00



3			
2			
1			
REV:	DESCRIPTION:	BY:	DATE:
STATUS: PRELIMINARY DESIGN			

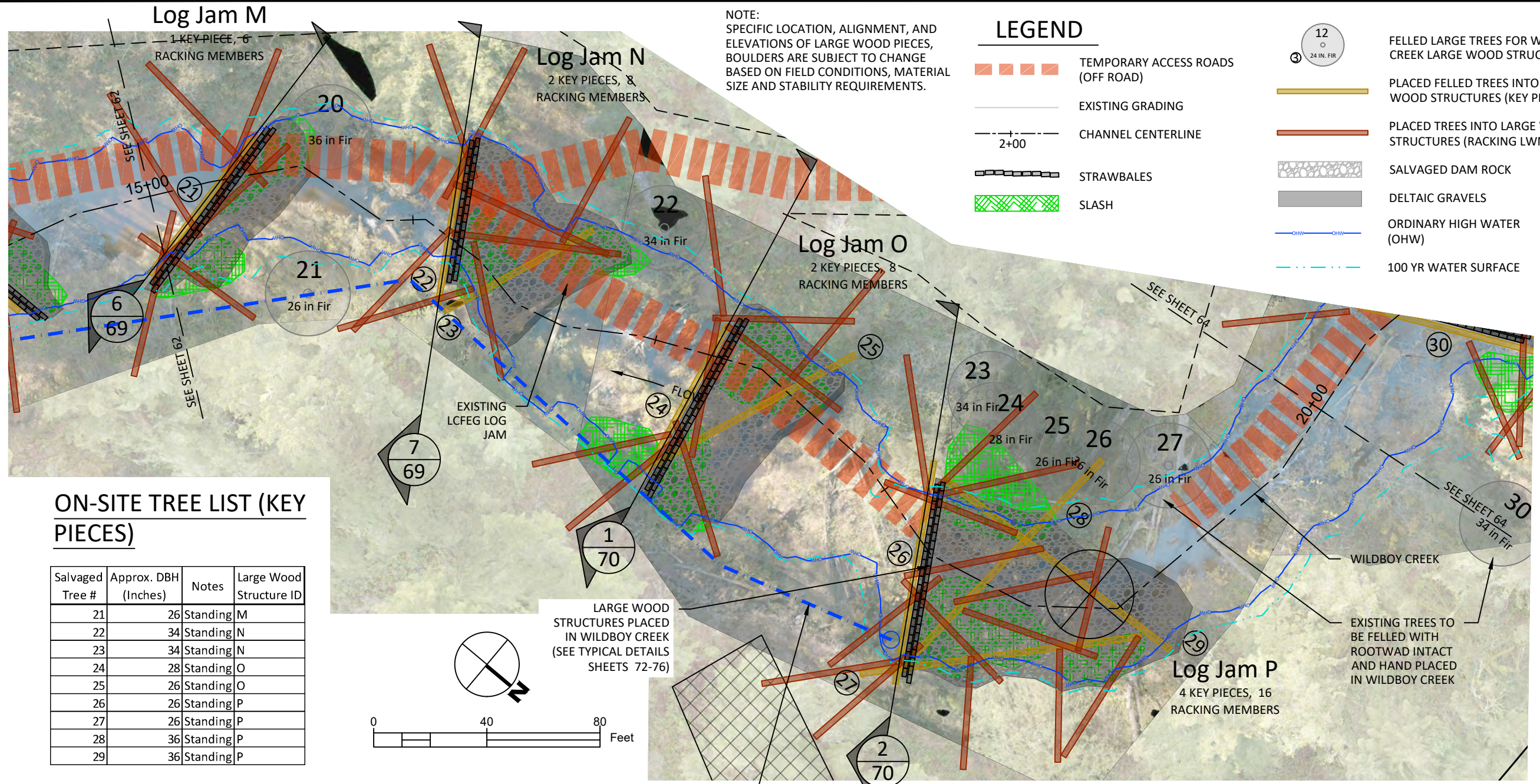
PARR
excellence
302 W. Steuben St. #6
Bingen, WA 98605
www.ers4life.com

CLIENT: COWLITZ INDIAN TRIBE
7700 26TH AVE
VANCOUVER, WA. 98665

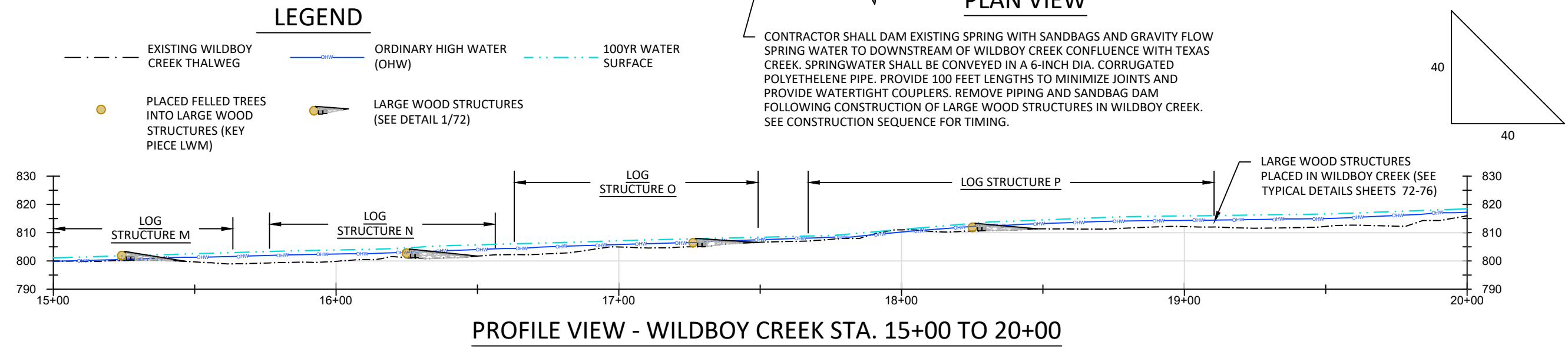
SITE: KWONEESUM DAM REMOVAL DESIGN

TITLE: WILDBOY CREEK - PLAN AND PROFILE STA. 10+00 TO 15+00

SCALE:	DATE: 6/4/21	DRAWN: RP	CHECKED: BN
PROJ. NO: -	DRAWING NO: 62	Total Sheets: 80	

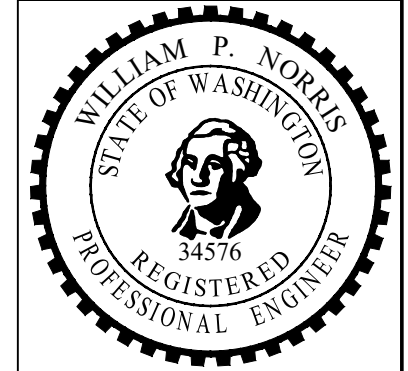


PLAN VIEW



Notes:

SHEET LOCATION



3	-	-	-
2	-	-	-
1	-	-	-
REV:	DESCRIPTION:	BY:	DATE:
STATUS: PRELIMINARY DESIGN			

PARR excellence

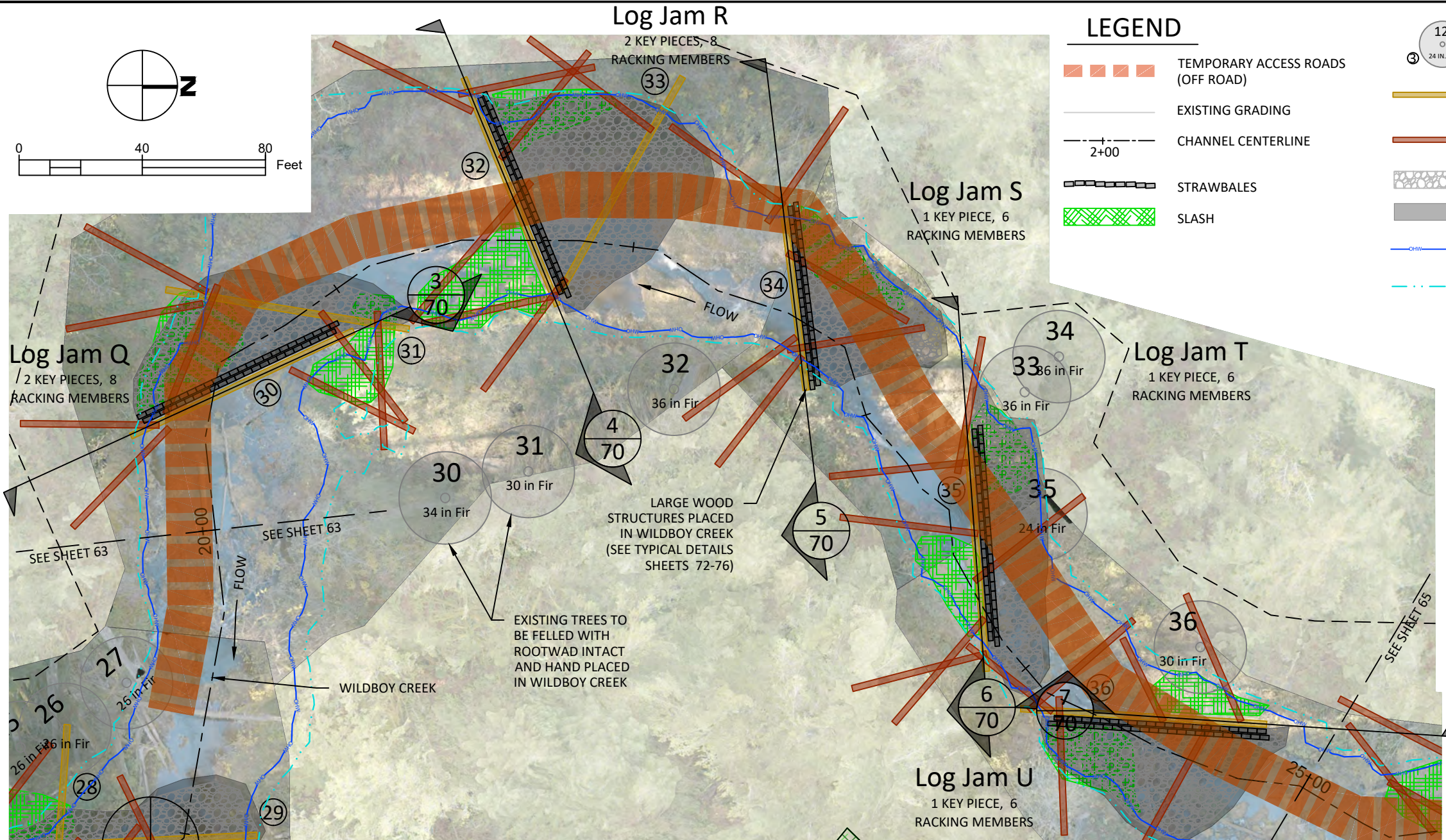
302 W. Steuben St. #6
Bingen, WA 98605
www.ers4life.com

CLIENT: COWLITZ INDIAN TRIBE
7700 26TH AVE
VANCOUVER, WA, 98665

SITE: KWONEESUM DAM REMOVAL DESIGN

TITLE: WILDBOY CREEK - PLAN AND PROFILE STA. 15+00 TO 20+00

SCALE:	DATE: 6/4/21	DRAWN: RP	CHECKED: BN
PROJ. NO: -	DRAWING NO: 63	Total Sheets: 80	



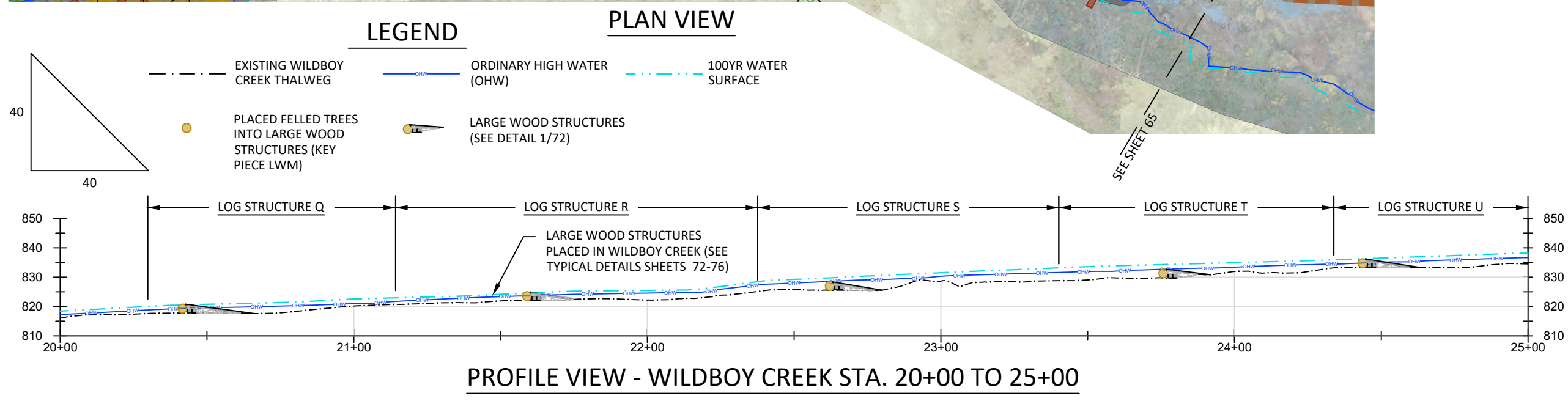
LEGEND

- TEMPORARY ACCESS ROADS (OFF ROAD)
- EXISTING GRADING
- CHANNEL CENTERLINE
- STRAWBALES
- SLASH
- FELLED LARGE TREES FOR WILDBOY CREEK LARGE WOOD STRUCTURES
- PLACED FELLED TREES INTO LARGE WOOD STRUCTURES (KEY PIECE LWM)
- PLACED TREES INTO LARGE WOOD STRUCTURES (RACKING LWM)
- SALVAGED DAM ROCK
- DELTAIC GRAVELS
- ORDINARY HIGH WATER (OHW)
- 100 YR WATER SURFACE

ON-SITE TREE LIST (KEY PIECES)

Salvaged Tree #	Approx. DBH (Inches)	Notes	Large Wood Structure ID
30	34	Standing	Q
31	30	Standing	Q
32	36	Standing	R
33	36	Standing	R
34	36	Standing	S
35	24	Standing	T
36	30	Standing	U

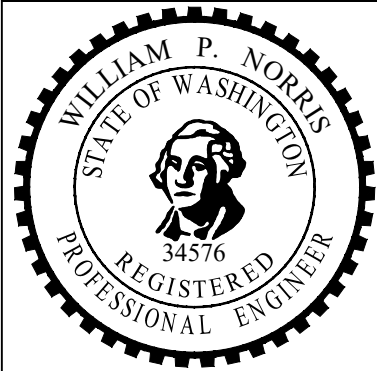
NOTE: SPECIFIC LOCATION, ALIGNMENT, AND ELEVATIONS OF LARGE WOOD PIECES, BOULDERS ARE SUBJECT TO CHANGE BASED ON FIELD CONDITIONS, MATERIAL SIZE AND STABILITY REQUIREMENTS.



PROFILE VIEW - WILDBOY CREEK STA. 20+00 TO 25+00

Notes:

SHEET LOCATION



3	-	-	-
2	-	-	-
1	-	-	-
REV:	DESCRIPTION:	BY:	DATE:
STATUS: PRELIMINARY DESIGN			

PARR
excellence

302 W. Steuben St. #6
Bingen, WA 98605
www.ers4life.com

CLIENT: COWLITZ INDIAN TRIBE
7700 26TH AVE
VANCOUVER, WA, 98665

SITE: KWONEESUM DAM REMOVAL DESIGN

TITLE: WILDBOY CREEK - PLAN AND PROFILE STA. 20+00 TO 25+00

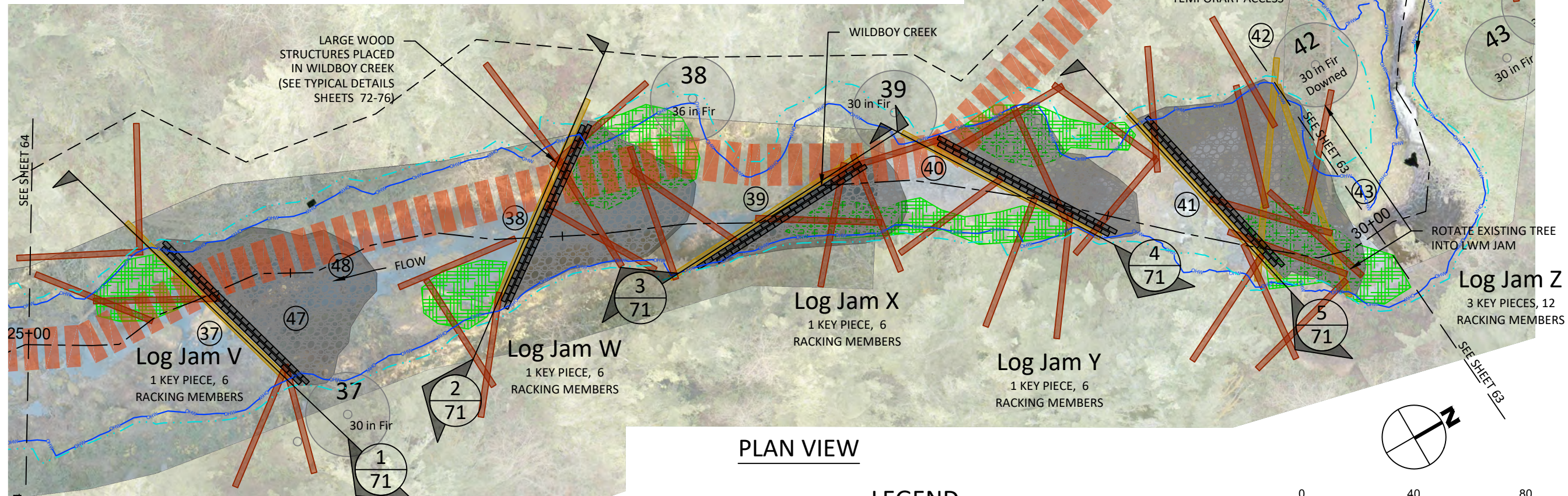
SCALE:	DATE: 6/4/21	DRAWN: RP	CHECKED: BN
PROJ. NO:	DRAWING NO: 64	Total Sheets: 80	

ON-SITE TREE LIST (KEY PIECES)

Salvaged Tree #	Approx. DBH (Inches)	Notes	Large Wood Structure ID
37	30	Standing V	
38	36	Standing W	
39	30	Standing X	
40	30	Standing Y	
41	30	Standing Z	
42	30	Downed Z	
43	30	Standing Z	

LEGEND

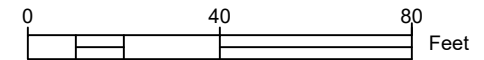
- TEMPORARY ACCESS ROADS (OFF ROAD)
- EXISTING GRADING
- CHANNEL CENTERLINE
- STRAWBALES
- SLASH
- FELLED LARGE TREES FOR WILDBOY CREEK LARGE WOOD STRUCTURES
- PLACED FELLED TREES INTO LARGE WOOD STRUCTURES (KEY PIECE LWM)
- PLACED TREES INTO LARGE WOOD STRUCTURES (RACKING LWM)
- SALVAGED DAM ROCK
- DELTAIC GRAVELS
- ORDINARY HIGH WATER (OHW)
- 100 YR WATER SURFACE



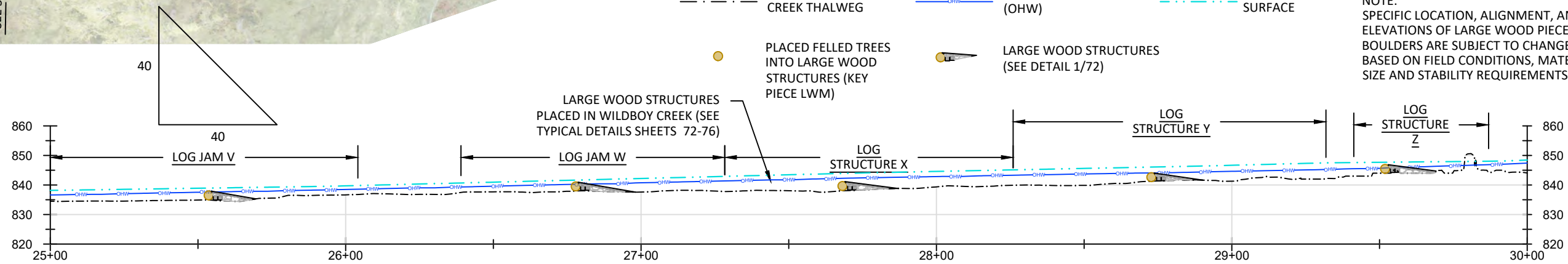
PLAN VIEW

LEGEND

- EXISTING WILDBOY CREEK THALWEG
- PLACED FELLED TREES INTO LARGE WOOD STRUCTURES (KEY PIECE LWM)
- ORDINARY HIGH WATER (OHW)
- 100YR WATER SURFACE
- LARGE WOOD STRUCTURES (SEE DETAIL 1/72)



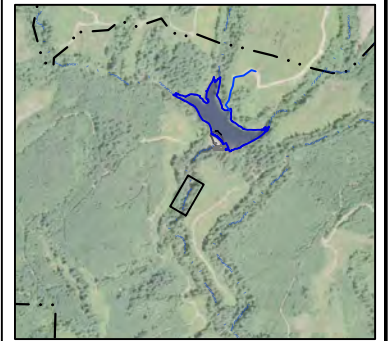
NOTE: SPECIFIC LOCATION, ALIGNMENT, AND ELEVATIONS OF LARGE WOOD PIECES, BOULDERS ARE SUBJECT TO CHANGE BASED ON FIELD CONDITIONS, MATERIAL SIZE AND STABILITY REQUIREMENTS.



PROFILE VIEW - WILDBOY CREEK STA. 25+00 TO 30+00

NOTE: SPECIFIC LOCATION, ALIGNMENT, AND ELEVATIONS OF LARGE WOOD PIECES ARE SUBJECT TO CHANGE BASED ON FIELD CONDITIONS MATERIAL SIZE AND STABILITY REQUIREMENTS.

Notes:



SHEET LOCATION



3			
2			
1			
REV:	DESCRIPTION:	BY:	DATE:
STATUS: PRELIMINARY DESIGN			

PARR
excellence

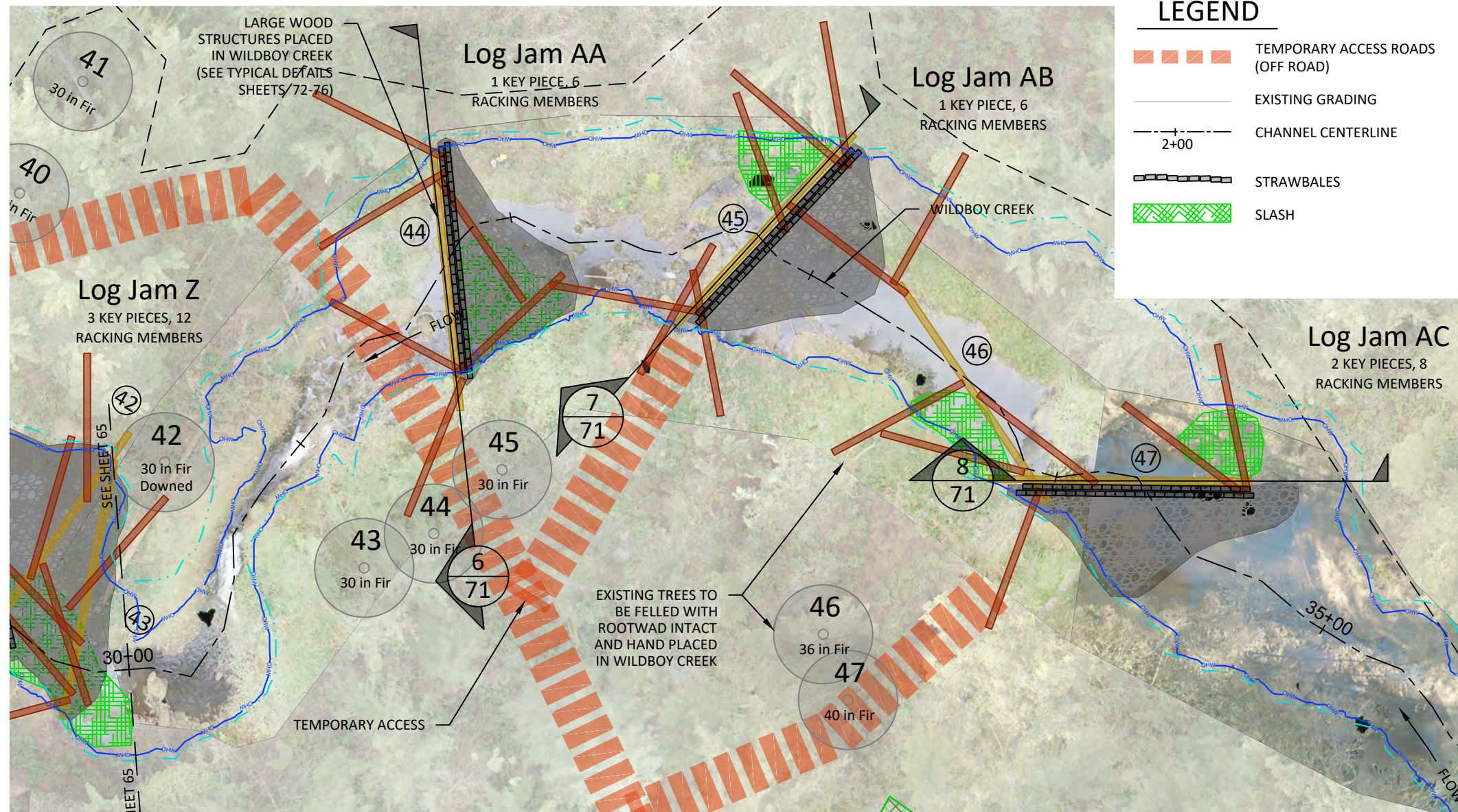
302 W. Steuben St. #6
Bingen, WA 98605
www.ers4life.com

CLIENT: COWLITZ INDIAN TRIBE
7700 26TH AVE
VANCOUVER, WA. 98665

SITE: KWONEESUM DAM REMOVAL DESIGN

TITLE: WILDBOY CREEK - PLAN AND PROFILE STA. 25+00 TO 30+00

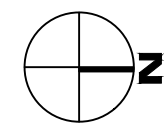
SCALE:	DATE: 6/4/21	DRAWN: RP	CHECKED: BN
PROJ. NO: -	DRAWING NO: 65	Total Sheets: 80	



PLAN VIEW

LEGEND

- TEMPORARY ACCESS ROADS (OFF ROAD)
- EXISTING GRADING
- CHANNEL CENTERLINE
- 2+00
- STRAWBALES
- SLASH
- FELLED LARGE TREES FOR WILDBOY CREEK LARGE WOOD STRUCTURES
- PLACED FELLED TREES INTO LARGE WOOD STRUCTURES (KEY PIECE LWM)
- PLACED TREES INTO LARGE WOOD STRUCTURES (RACKING LWM)
- SALVAGED DAM ROCK
- DELTAIC GRAVELS
- ORDINARY HIGH WATER (OHW)
- 100 YR WATER SURFACE



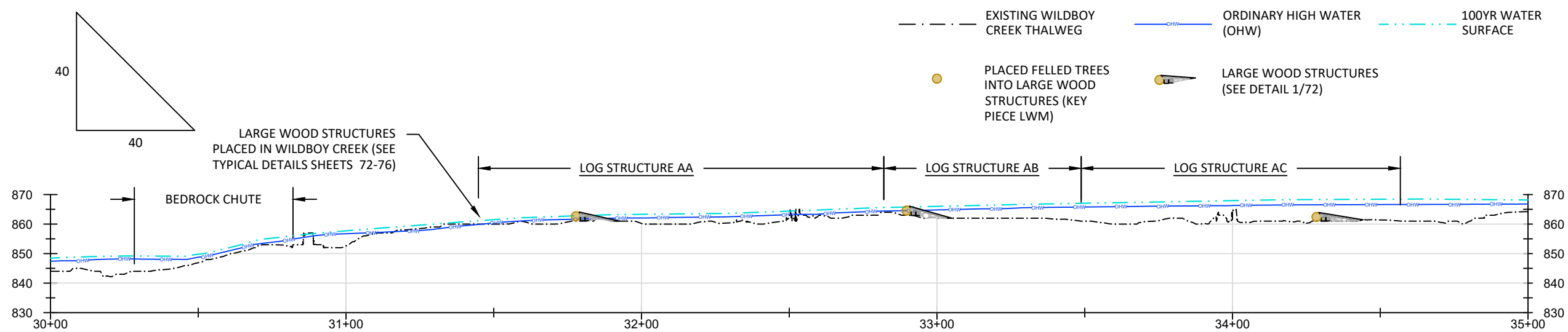
NOTE:
SPECIFIC LOCATION, ALIGNMENT, AND ELEVATIONS OF LARGE WOOD PIECES, BOULDERS ARE SUBJECT TO CHANGE BASED ON FIELD CONDITIONS, MATERIAL SIZE AND STABILITY REQUIREMENTS.

ON-SITE TREE LIST (KEY PIECES)

41	30	Standing	Z
42	30	Downed	Z
43	30	Standing	Z
44	30	Standing	AA
45	30	Standing	AB
46	36	Standing	AC
47	40	Standing	AC

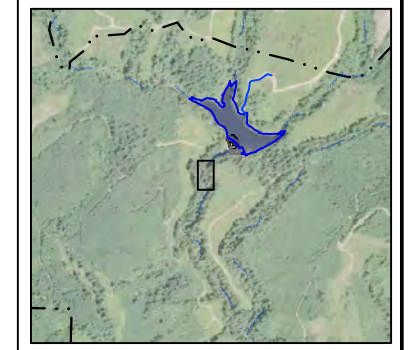
LEGEND

- EXISTING WILDBOY CREEK THALWEG
- ORDINARY HIGH WATER (OHW)
- 100YR WATER SURFACE
- PLACED FELLED TREES INTO LARGE WOOD STRUCTURES (KEY PIECE LWM)
- LARGE WOOD STRUCTURES (SEE DETAIL 1/72)

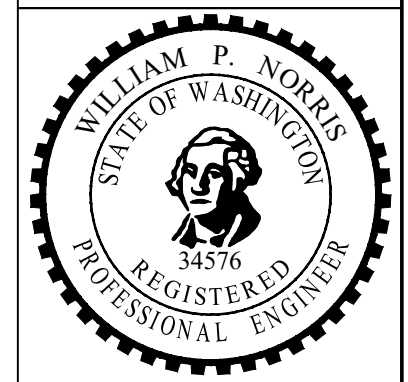


PROFILE VIEW - WILDBOY CREEK STA. 30+00 TO 35+00

Notes:



SHEET LOCATION



3			
2			
1			
REV:	DESCRIPTION:	BY:	DATE:
STATUS: PRELIMINARY DESIGN			

PARR excellence
302 W. Steuben St. #6
Bingen, WA 98605
www.ers4life.com

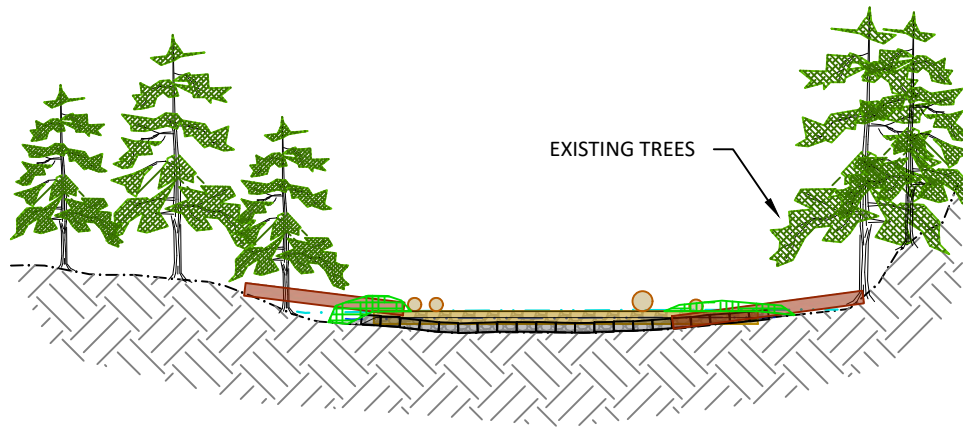
CLIENT: COWLITZ INDIAN TRIBE
7700 26TH AVE
VANCOUVER, WA, 98665

SITE: KWONEESUM DAM REMOVAL DESIGN
TITLE: WILDBOY CREEK - PLAN AND PROFILE STA. 30+00 TO 35+00

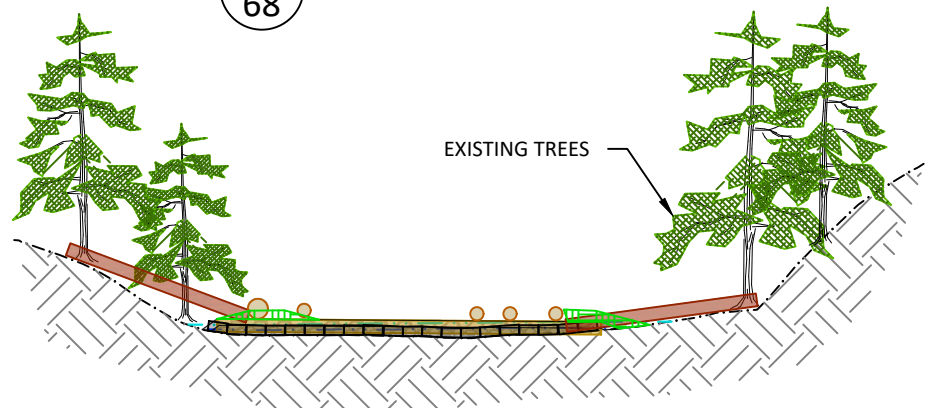
SCALE:	DATE: 6/4/21	DRAWN: RP	CHECKED: BN
PROJ. NO: -	DRAWING NO: 66	Total Sheets: 80	



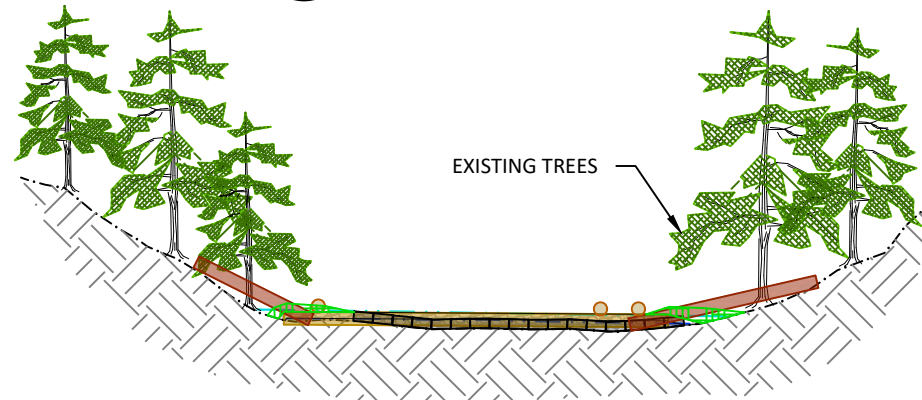
1
68
CROSS-SECTION



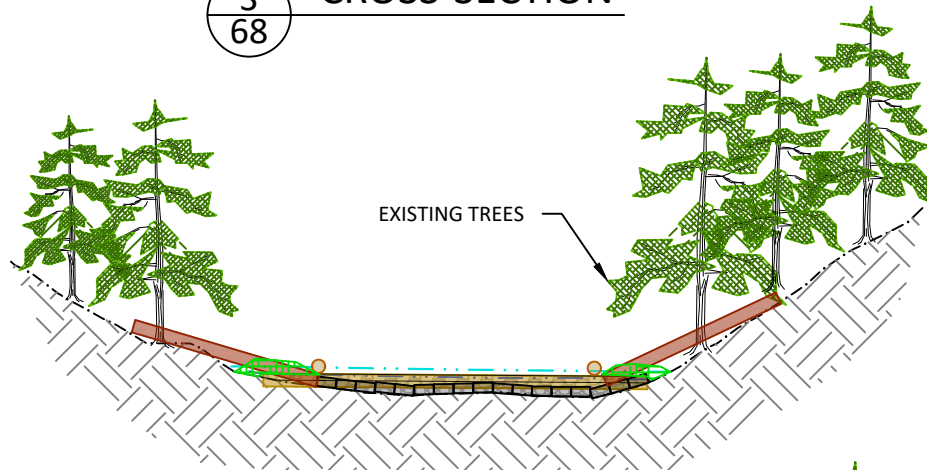
2
68
CROSS-SECTION



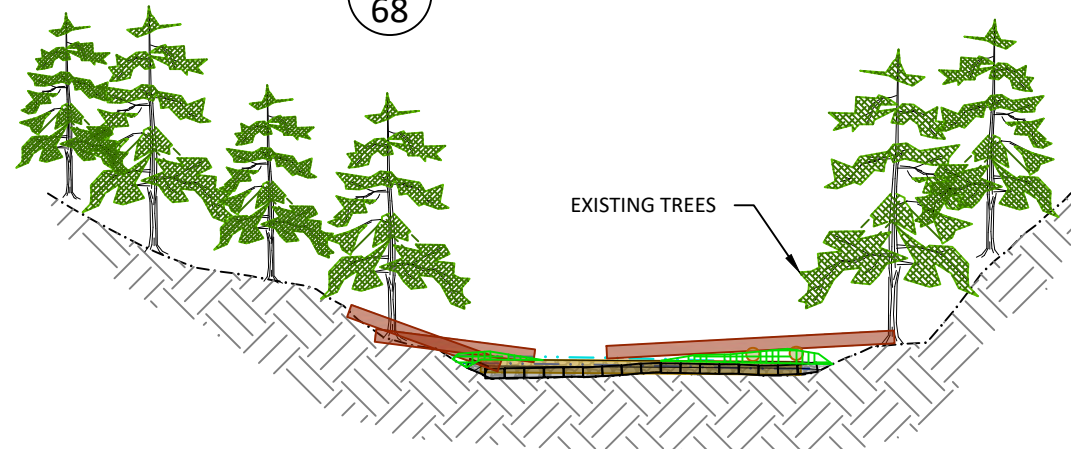
3
68
CROSS-SECTION



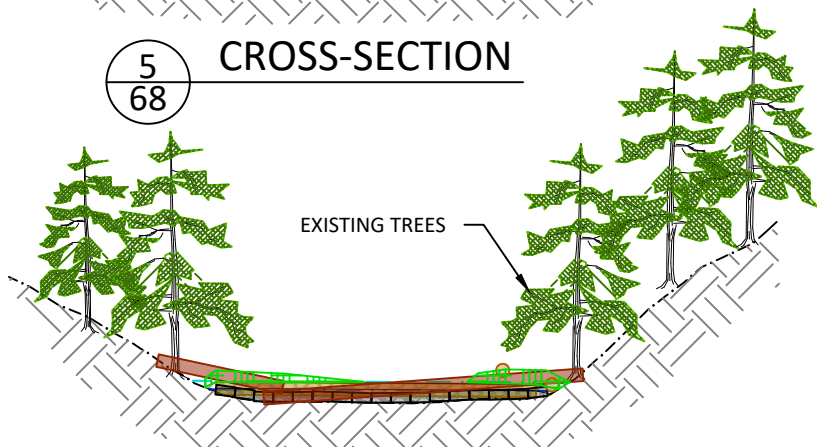
4
68
CROSS-SECTION



5
68
CROSS-SECTION



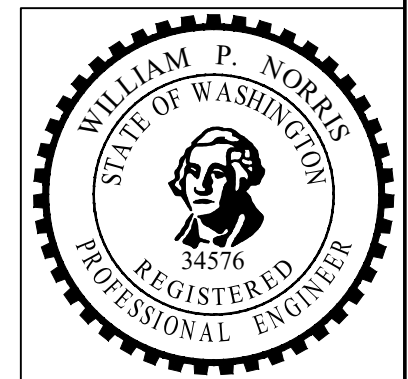
6
68
CROSS-SECTION



7
68
CROSS-SECTION

LEGEND

EXISTING GROUND	SALVAGED DELTAIC GRAVELS
EXISTING NATIVE MATERIAL	SALVAGED DAM MATERIAL
HAND FELLED SILL LOG	PACKED SLASH
KEY LOG PIECES	STRAWBALES



3			
2			
1			
REV:	DESCRIPTION:	BY:	DATE:
STATUS: PRELIMINARY DESIGN			

PARR
excellence

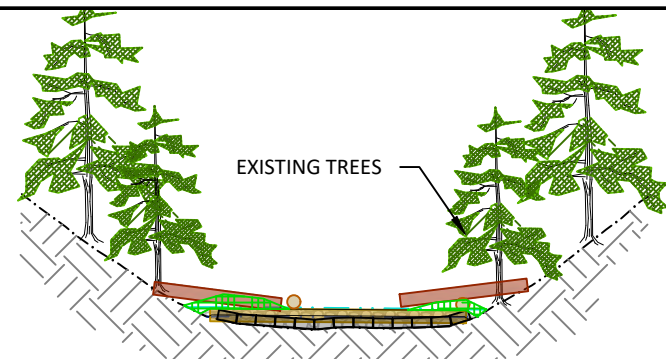
302 W. Steuben St. #6
Bingen, WA 98605
www.ers4life.com

CLIENT: COWLITZ INDIAN TRIBE
7700 26TH AVE
VANCOUVER, WA, 98665

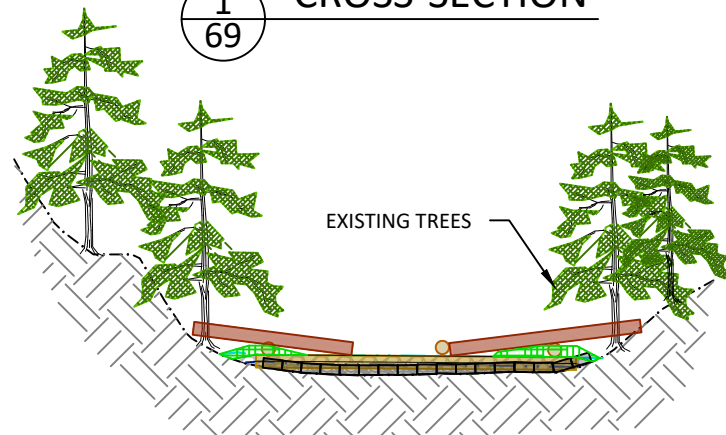
SITE: KWONEESUM DAM
REMOVAL DESIGN

TITLE: WILDBOY CREEK - TYPICAL
LARGE WOOD
CROSS-SECTIONS

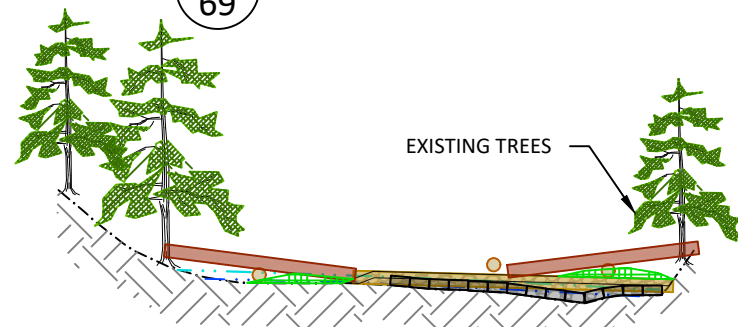
SCALE:	DATE: 6/4/21	DRAWN: RP	CHECKED: BN
PROJ. NO: -	DRAWING NO: 68	Total Sheets: 80	



1
69
CROSS-SECTION



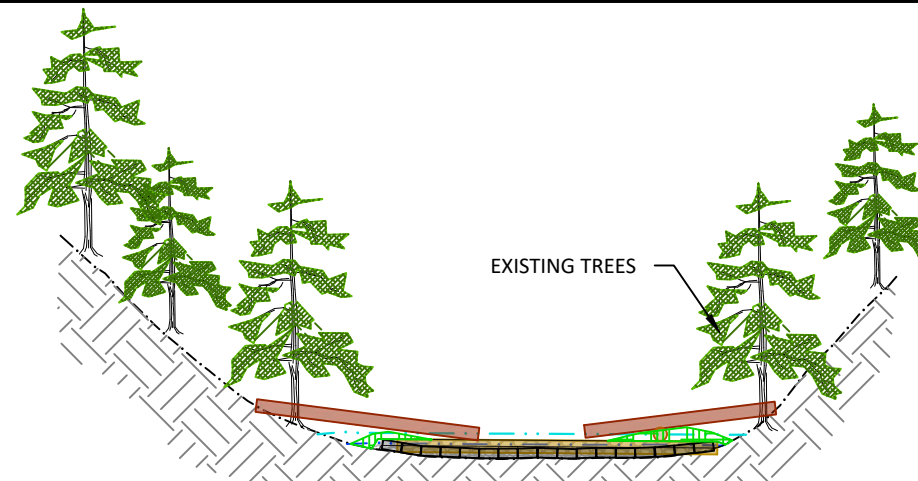
3
69
CROSS-SECTION



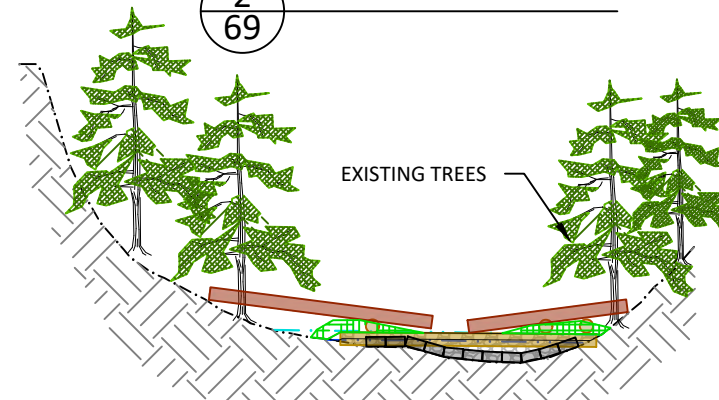
5
69
CROSS-SECTION



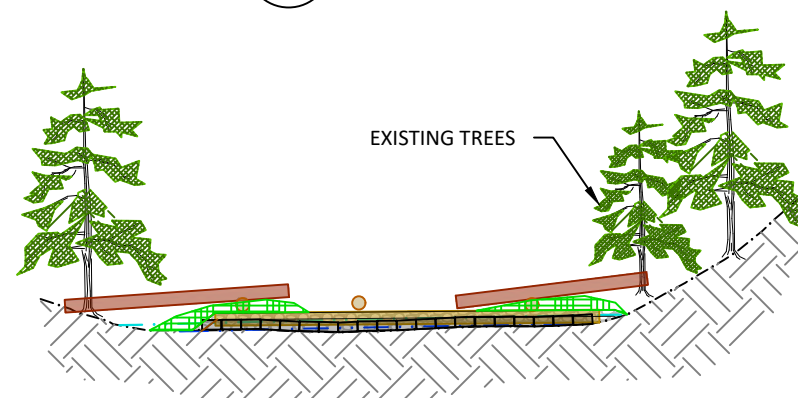
7
69
CROSS-SECTION



2
69
CROSS-SECTION



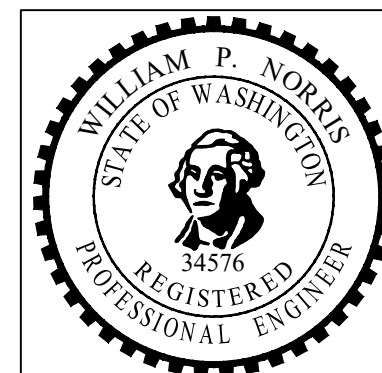
4
69
CROSS-SECTION



6
69
CROSS-SECTION

LEGEND

- EXISTING GROUND
- ▨ EXISTING NATIVE MATERIAL
- HAND FELLED SILL LOG
- KEY LOG PIECES
- SALVAGED DELTAIC GRAVELS
- ▨ SALVAGED DAM MATERIAL
- PACKED SLASH
- STRAWBALES



3			
2			
1			
REV:	DESCRIPTION:	BY:	DATE:
STATUS: PRELIMINARY DESIGN			

PARR
excellence

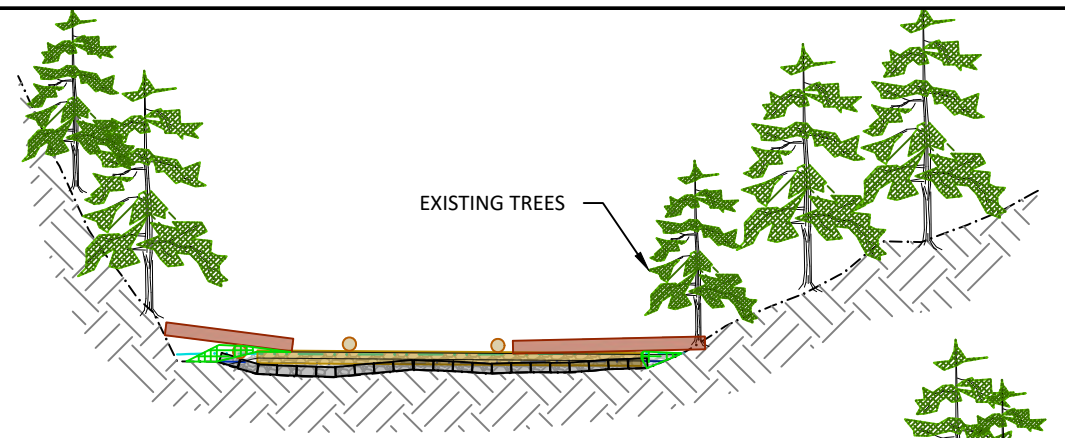
302 W. Steuben St. #6
Bingen, WA 98605
www.ers4life.com

CLIENT: COWLITZ INDIAN TRIBE
7700 26TH AVE
VANCOUVER, WA, 98665

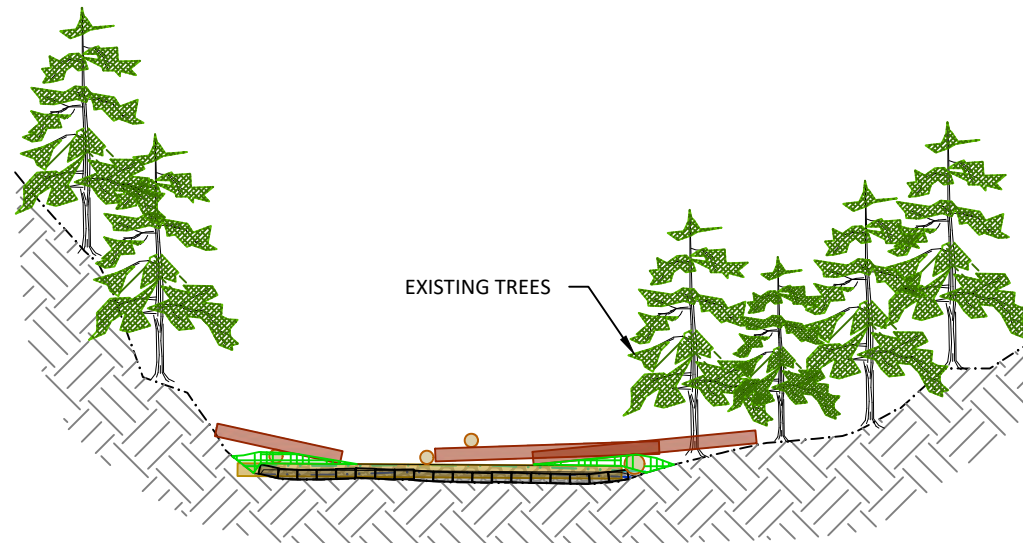
SITE: KWONEESUM DAM
REMOVAL DESIGN

TITLE: WILDBOY CREEK - TYPICAL
LARGE WOOD
CROSS-SECTIONS

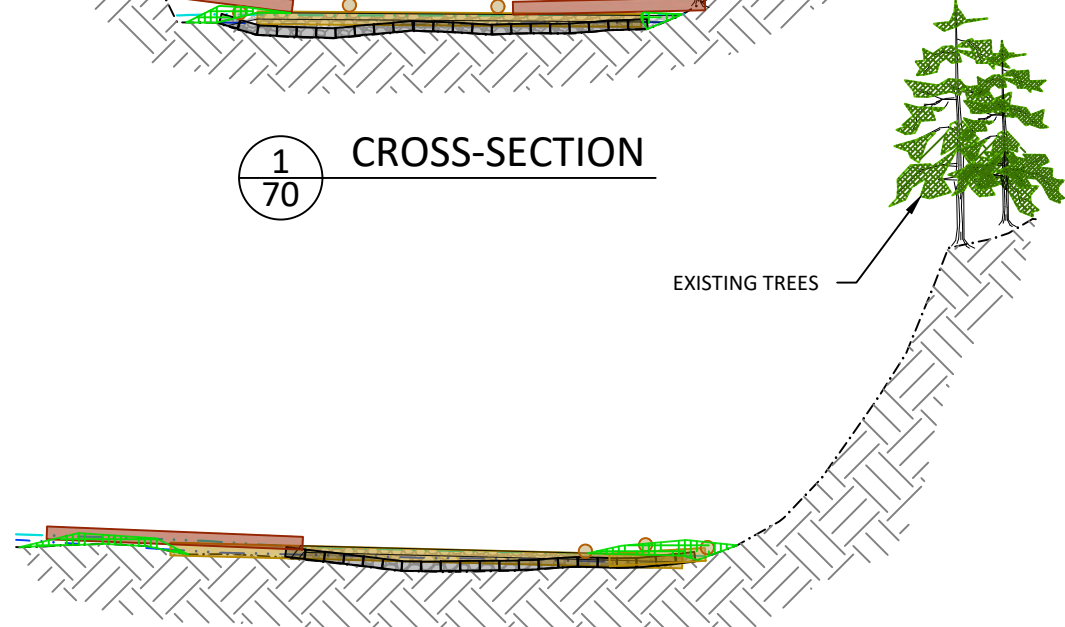
SCALE:	DATE: 6/4/21	DRAWN: RP	CHECKED: BN
PROJ. NO: -	DRAWING NO: 69	Total Sheets: 80	



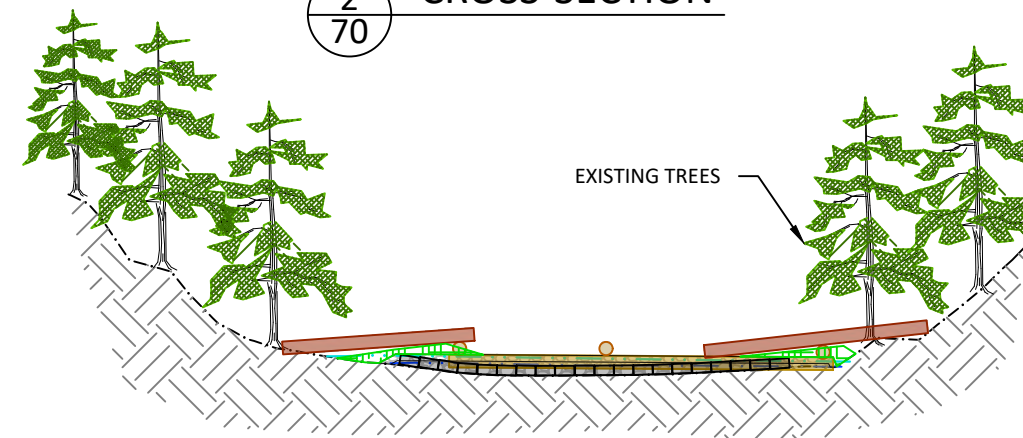
1
70
CROSS-SECTION



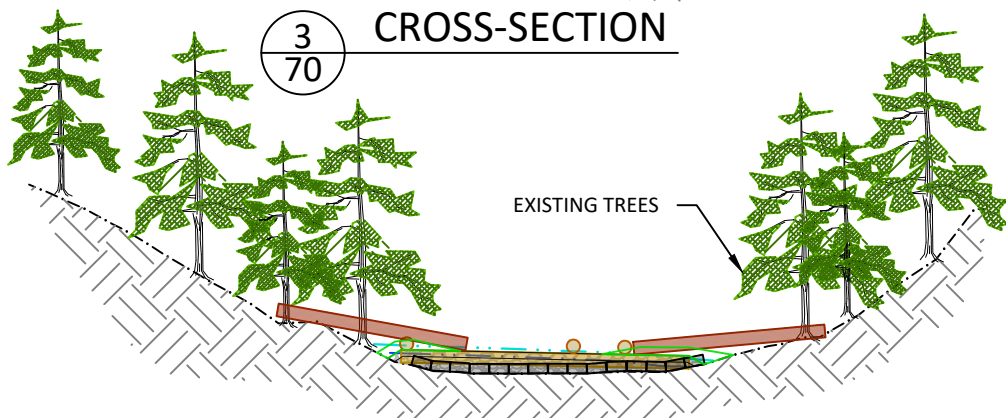
2
70
CROSS-SECTION



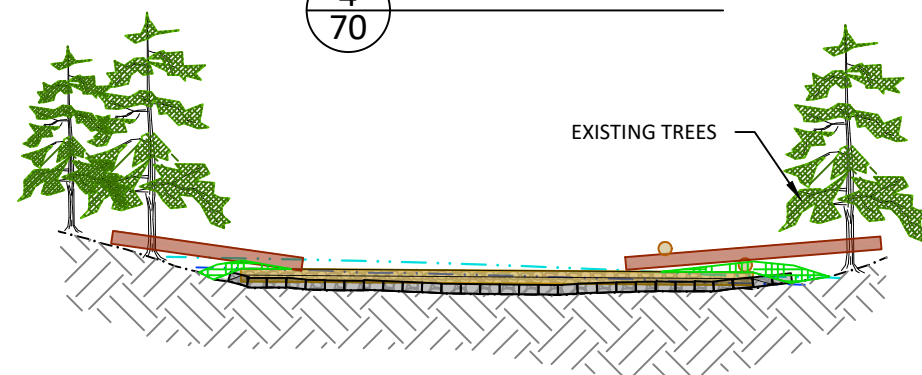
3
70
CROSS-SECTION



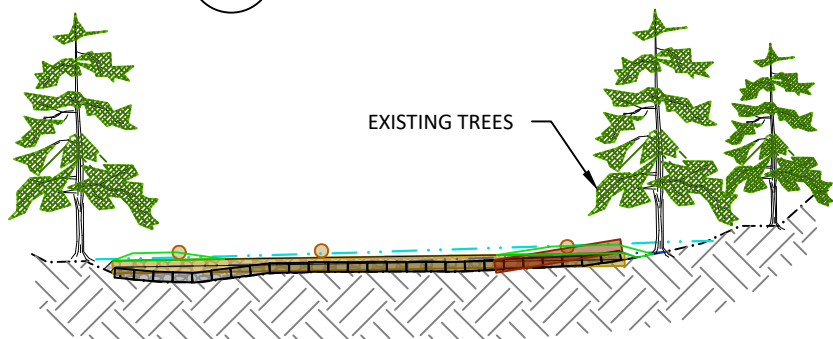
4
70
CROSS-SECTION



5
70
CROSS-SECTION



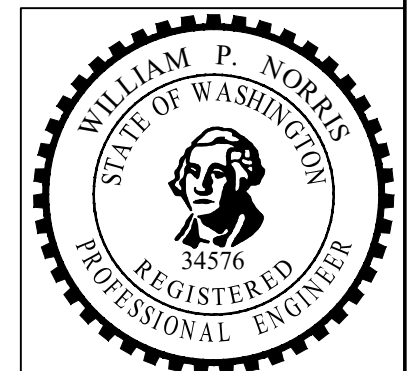
6
70
CROSS-SECTION



7
70
CROSS-SECTION

LEGEND

- EXISTING GROUND
- EXISTING NATIVE MATERIAL
- HAND FELLED SILL LOG
- KEY LOG PIECES
- SALVAGED DELTAIC GRAVELS
- SALVAGED DAM MATERIAL
- PACKED SLASH
- STRAWBALES



3			
2			
1			
REV:	DESCRIPTION:	BY:	DATE:
STATUS: PRELIMINARY DESIGN			

PARR
excellence

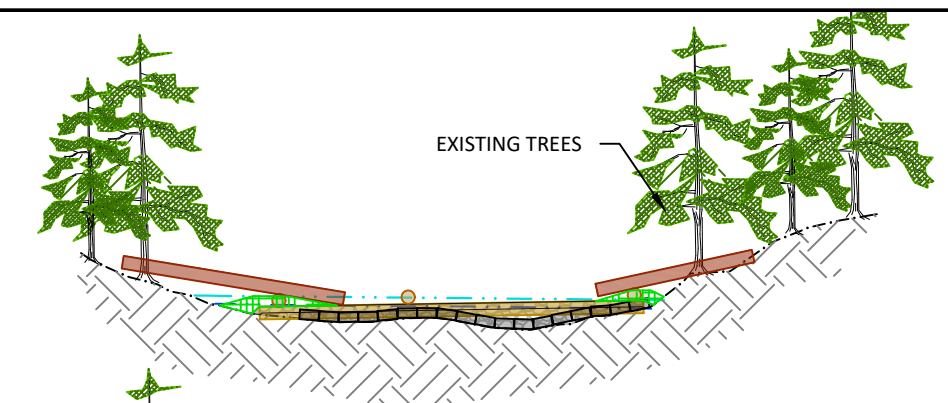
302 W. Steuben St. #6
Bingen, WA 98605
www.ers4life.com

CLIENT: COWLITZ INDIAN TRIBE
7700 26TH AVE
VANCOUVER, WA, 98665

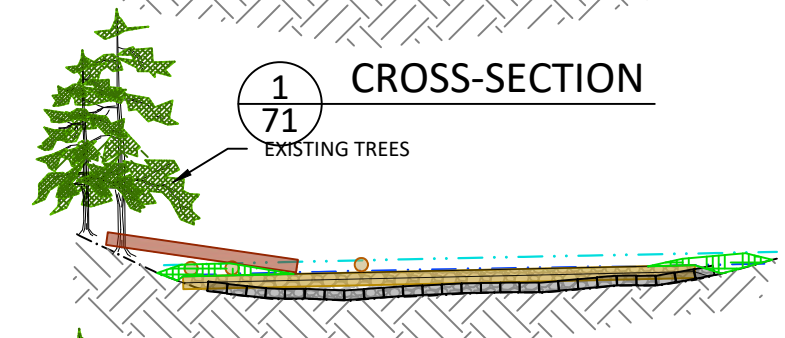
SITE: KWONEESUM DAM
REMOVAL DESIGN

TITLE: WILDBOY CREEK - TYPICAL
LARGE WOOD
CROSS-SECTIONS

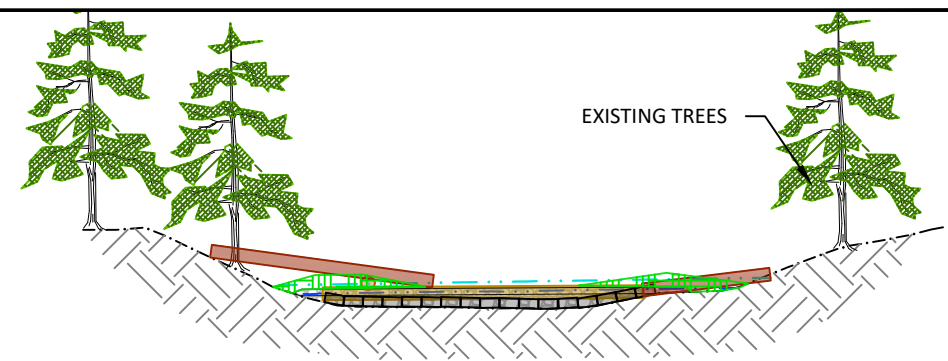
SCALE:	DATE: 6/4/21	DRAWN: RP	CHECKED: BN
PROJ. NO: -	DRAWING NO: 70	Total Sheets: 80	



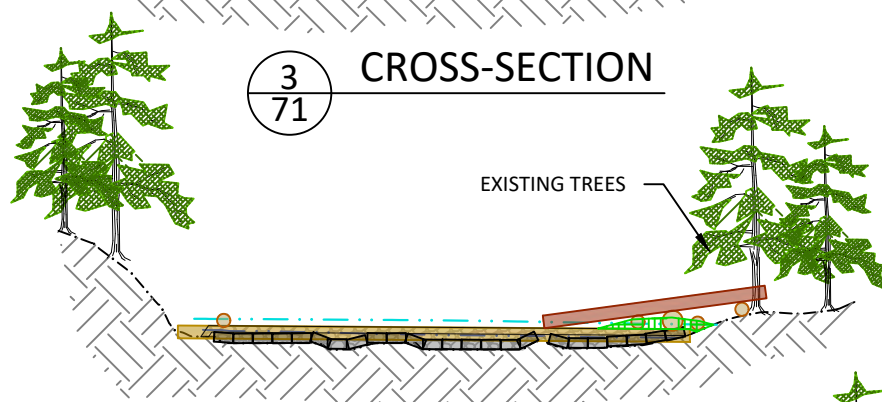
1
71
CROSS-SECTION



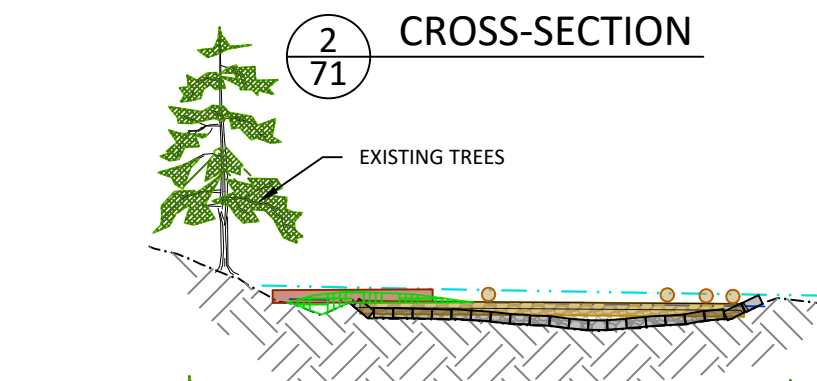
2
71
CROSS-SECTION



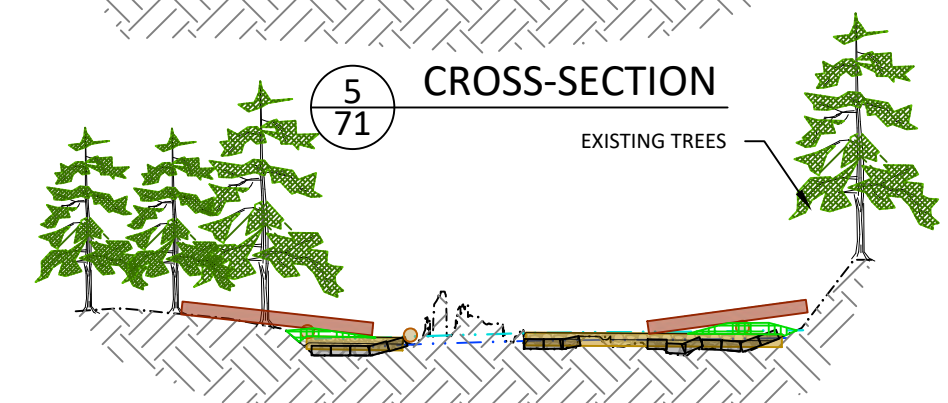
3
71
CROSS-SECTION



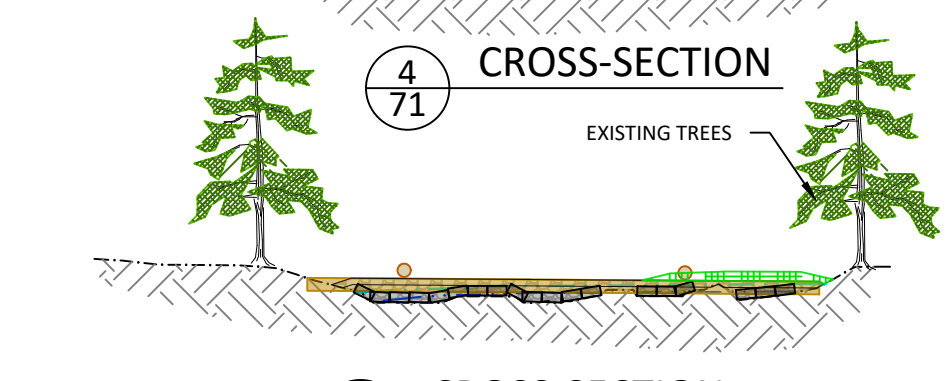
4
71
CROSS-SECTION



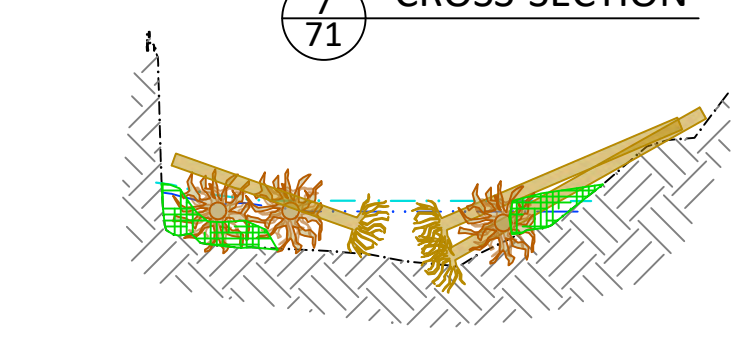
5
71
CROSS-SECTION



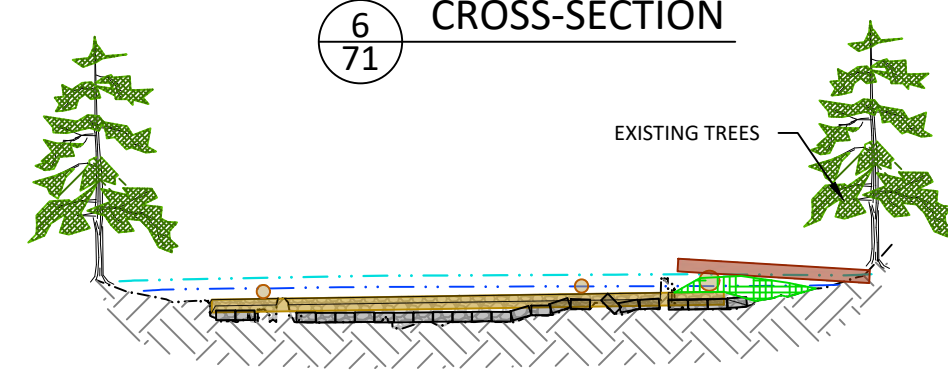
6
71
CROSS-SECTION



7
71
CROSS-SECTION



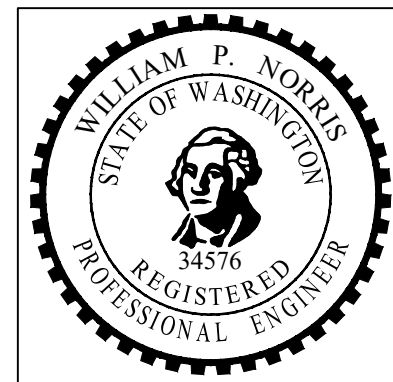
8
71
CROSS-SECTION



9
71
CROSS-SECTION

LEGEND

- EXISTING GROUND
- EXISTING NATIVE MATERIAL
- HAND FELLED SILL LOG
- KEY LOG PIECES
- SALVAGED DELTAIC GRAVELS
- SALVAGED DAM MATERIAL
- PACKED SLASH
- STRAWBALES



3			
2			
1			
REV:	DESCRIPTION:	BY:	DATE:
STATUS: PRELIMINARY DESIGN			

PARR
excellence

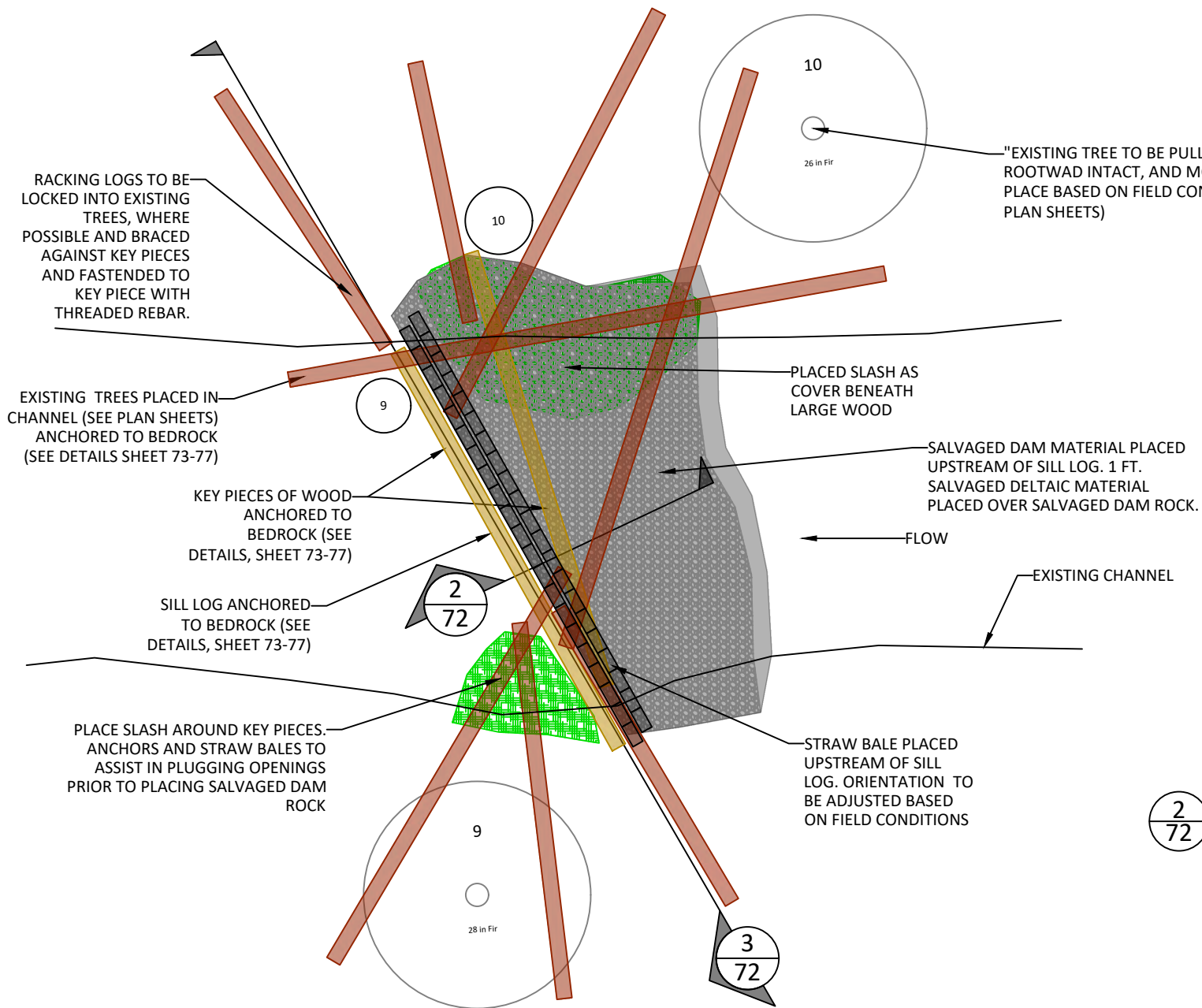
302 W. Steuben St. #6
Bingen, WA 98605 www.ers4life.com

CLIENT: COWLITZ INDIAN TRIBE
7700 26TH AVE
VANCOUVER, WA, 98665

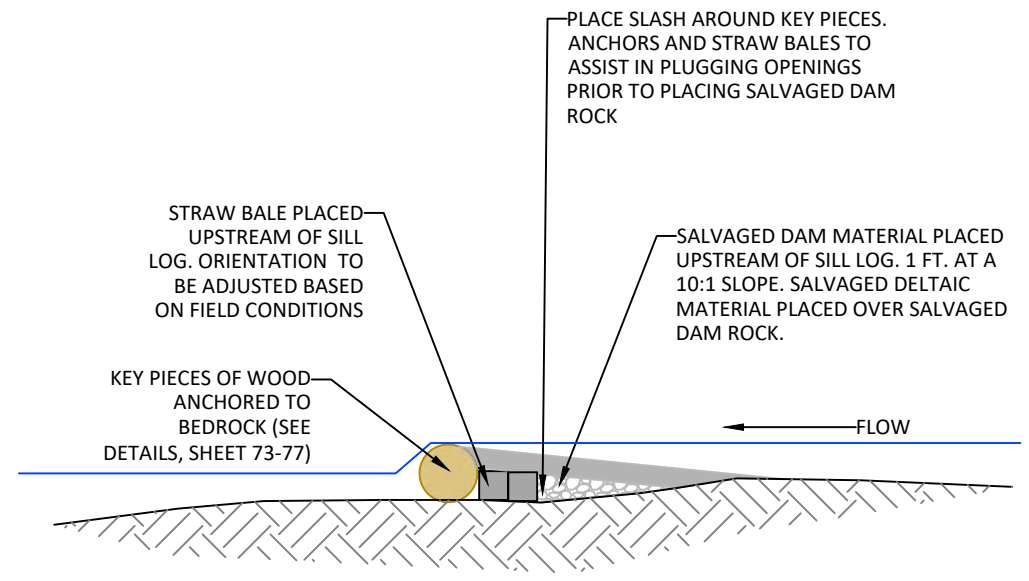
SITE: KWONEESUM DAM
REMOVAL DESIGN

TITLE: WILDBOY CREEK - TYPICAL
LARGE WOOD
CROSS-SECTIONS

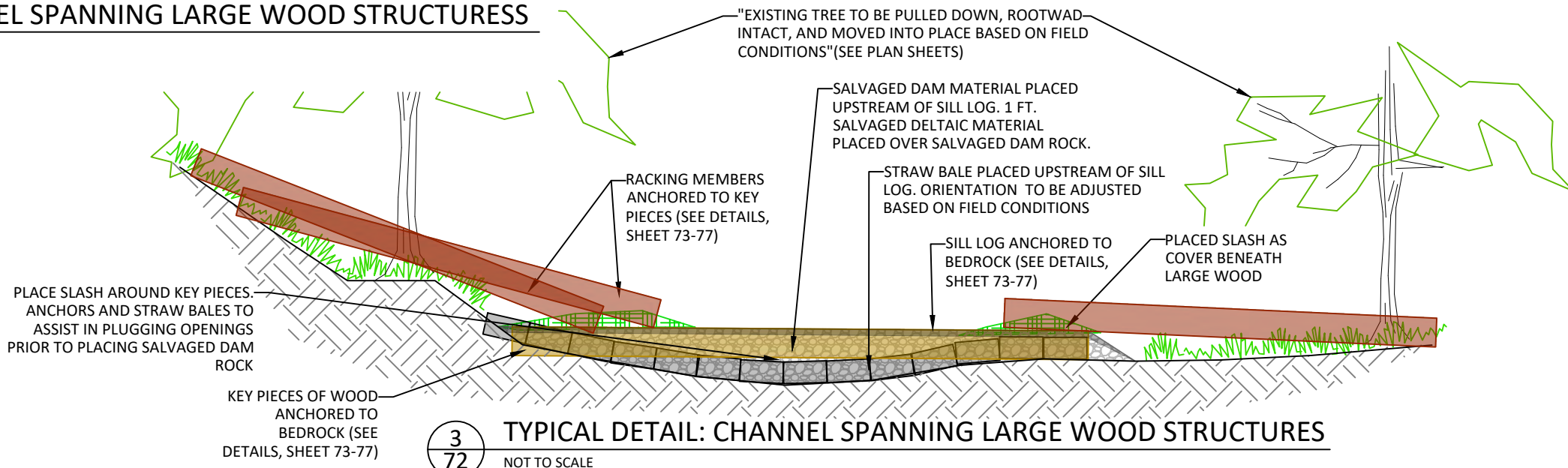
SCALE:	DATE: 6/4/21	DRAWN: RP	CHECKED: BN
PROJ. NO: -	DRAWING NO: 71	Total Sheets: 80	



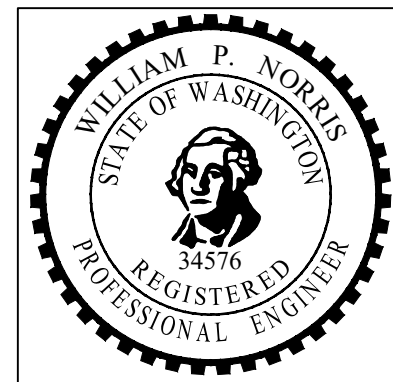
1
72
TYPICAL DETAIL: CHANNEL SPANNING LARGE WOOD STRUCTURES
NOT TO SCALE



2
72
TYPICAL PROFILE: CHANNEL SPANNING LARGE WOOD STRUCTURES
NOT TO SCALE



3
72
TYPICAL DETAIL: CHANNEL SPANNING LARGE WOOD STRUCTURES
NOT TO SCALE



3			
2			
1			
REV:	DESCRIPTION:	BY:	DATE:
STATUS: PRELIMINARY DESIGN			

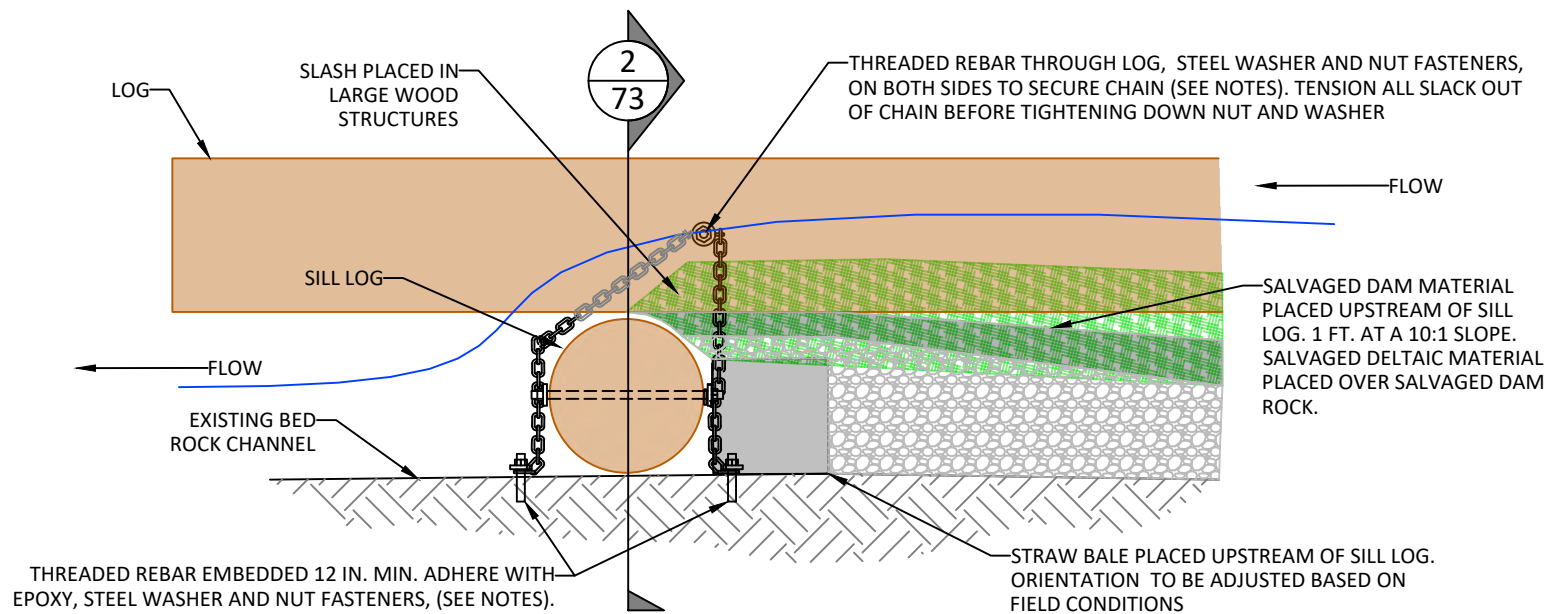
PARR
excellence
302 W. Steuben St. #6
Bingen, WA 98605
www.ers4life.com

CLIENT: COWLITZ INDIAN TRIBE
7700 26TH AVE
VANCOUVER, WA, 98665

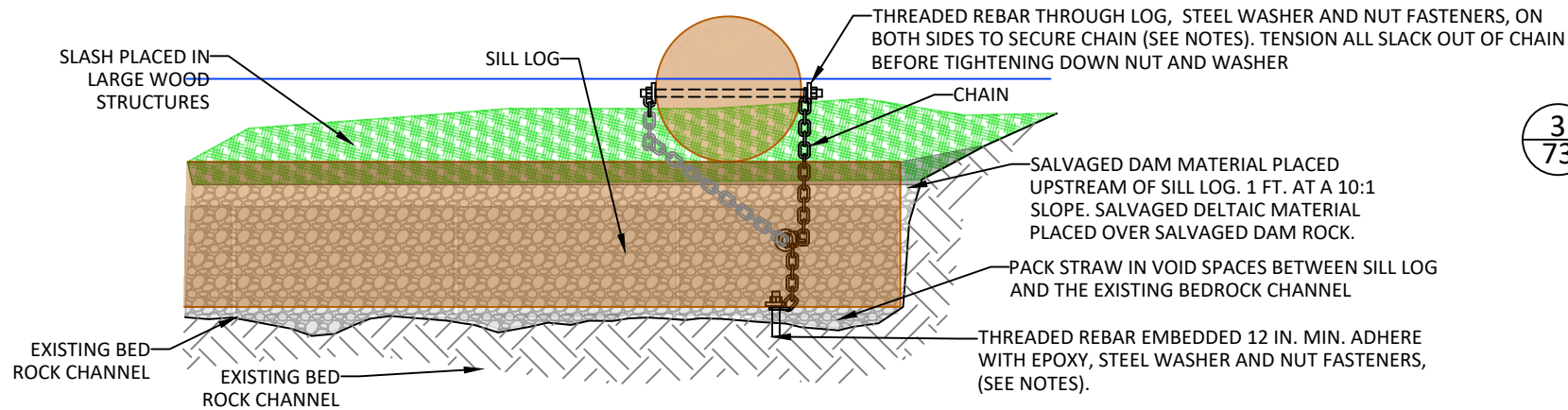
SITE: KWONEESUM DAM
REMOVAL DESIGN

TITLE:
TYPICAL DETAILS

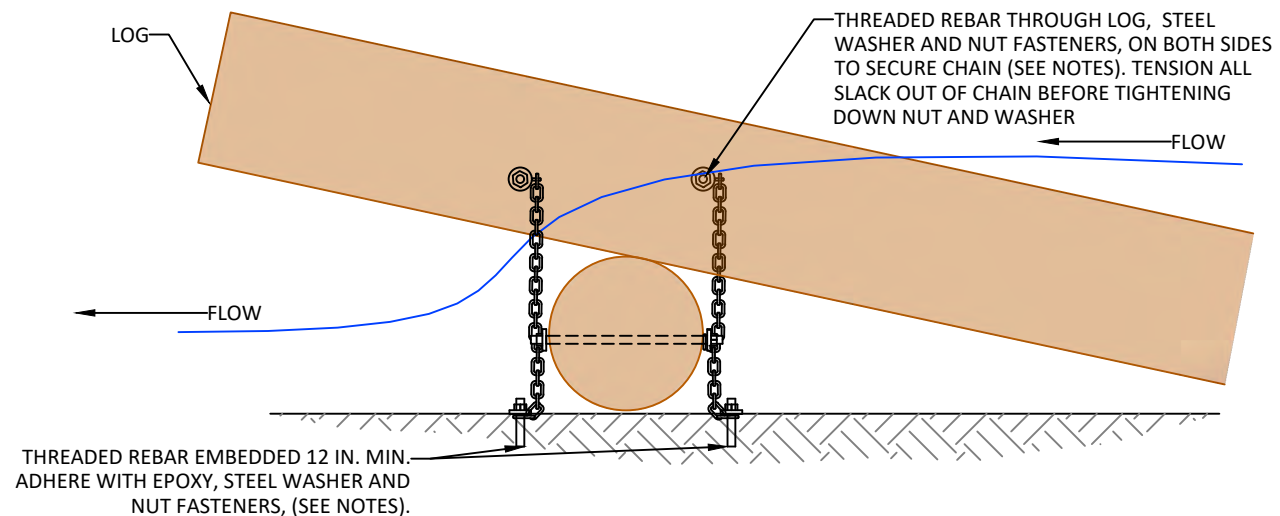
SCALE:	DATE: 6/4/21	DRAWN: RP	CHECKED: BN
PROJ. NO: -	DRAWING NO: 72	Total Sheets: 80	



1
73
TYPICAL DETAIL: CHANNEL SPANNING LARGE WOOD STRUCTURES ANCHORING IN WILDBOY CREEK
NOT TO SCALE



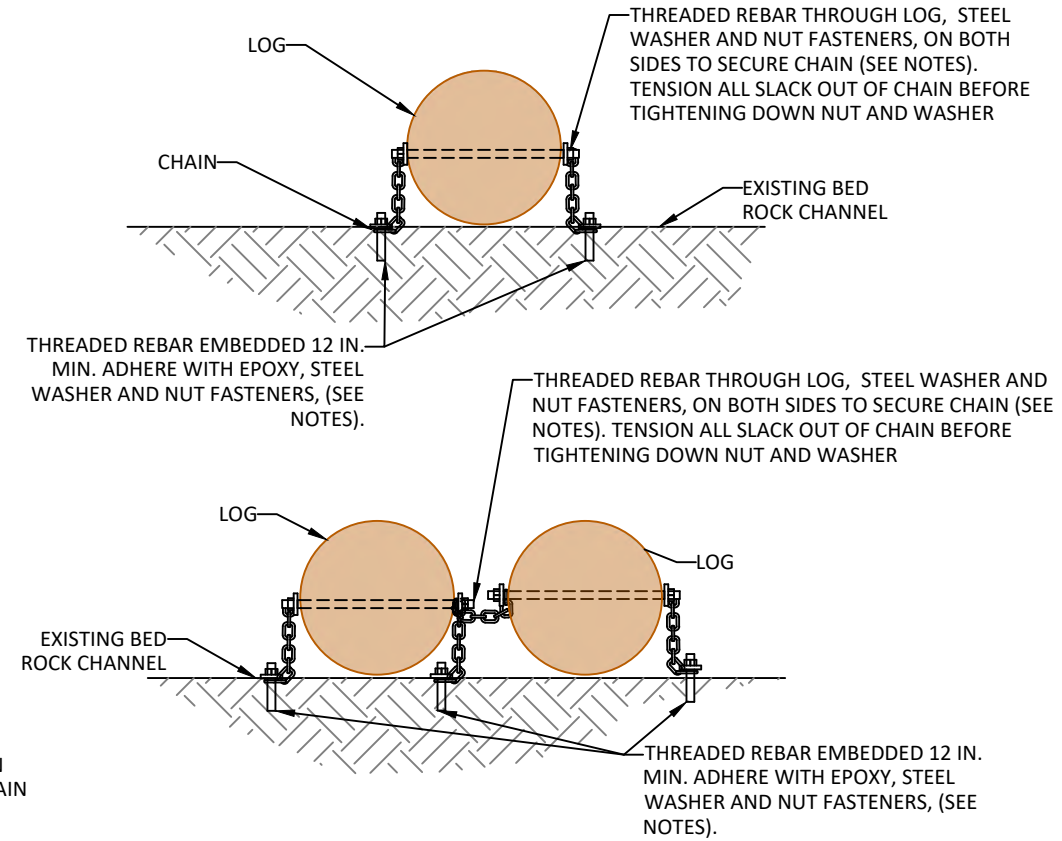
2
73
TYPICAL SECTION: CHANNEL SPANNING LARGE WOOD STRUCTURES ANCHORING IN WILDBOY CREEK
NOT TO SCALE



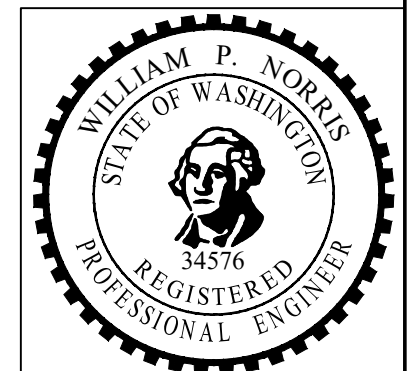
3
73
TYPICAL DETAIL: CHANNEL SPANNING LARGE WOOD STRUCTURES ANCHORING IN WILDBOY CREEK
NOT TO SCALE

NOTES:

1. THREADED REBAR SHALL BE 1-INCH DIAMETER THREADBAR, DYWIDAG (DSI UNDERGROUND) #8 OR APPROVED EQUAL, CONFORMING TO ASTM A615, GRADE 75 STEEL.
2. WASHERS SHALL BE SQUARE PLATE 1/4"X4"X4", MINIMUM. NUTS SHALL BE CAST HEX.
3. CHAIN SHALL BE 3/4-INCH, LONG LINK HIGH TEST GRADE 43.
4. ALL HARDWARE SHALL BE HOT DIPPED GALVANIZED.
5. EPOXY SHALL BE HILTI HIT RE 500 OR APPROVED EQUAL.



3
73
TYPICAL DETAIL: LARGE WOOD ANCHOR CONNECTIONS
NOT TO SCALE



3			
2			
1			
REV:	DESCRIPTION:	BY:	DATE:
STATUS: PRELIMINARY DESIGN			

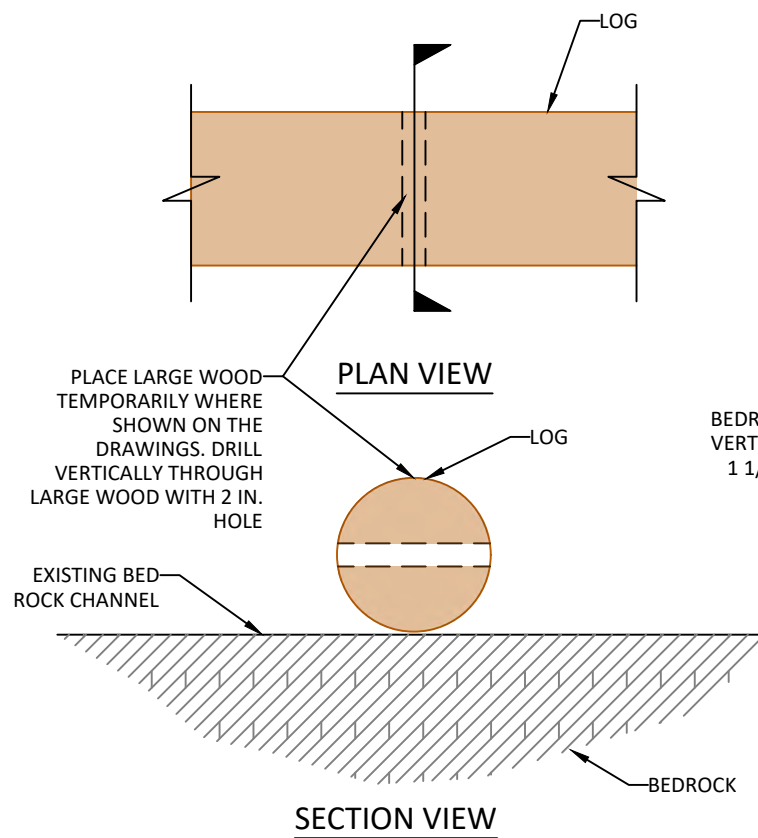
PARR
excellence
302 W. Steuben St. #6
Bingen, WA 98605
www.ers4life.com

CLIENT: COWLITZ INDIAN TRIBE
7700 26TH AVE
VANCOUVER, WA, 98665

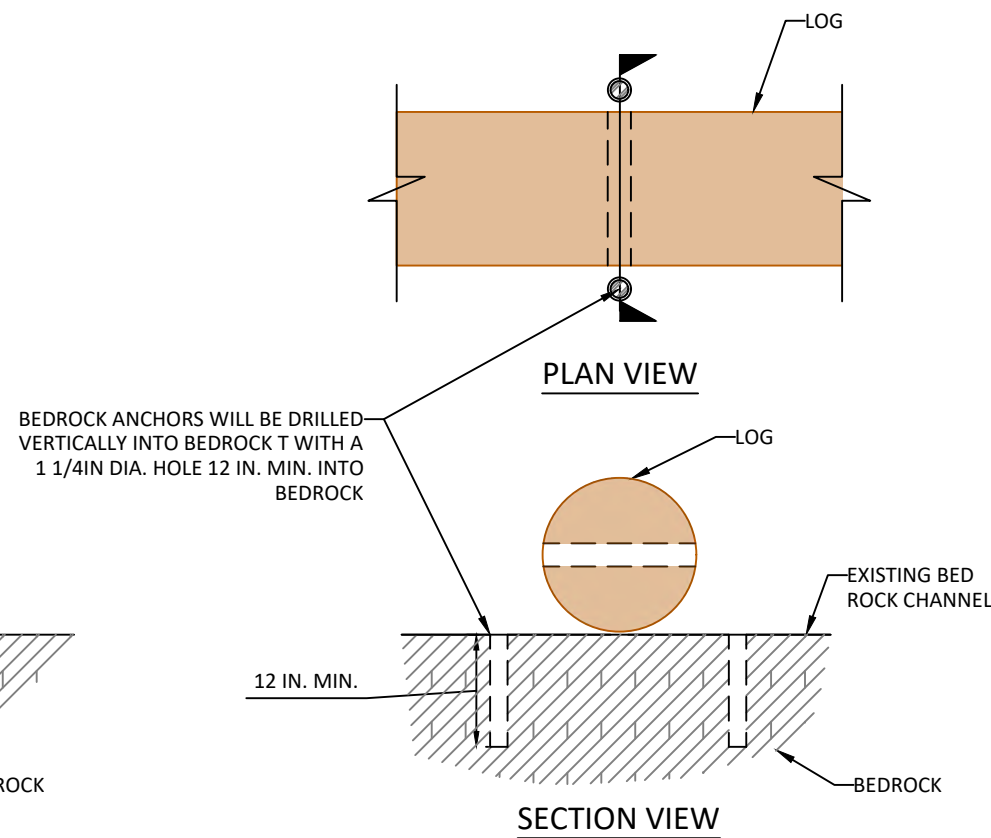
SITE: KWONEESUM DAM
REMOVAL DESIGN

TITLE: TYPICAL DETAILS

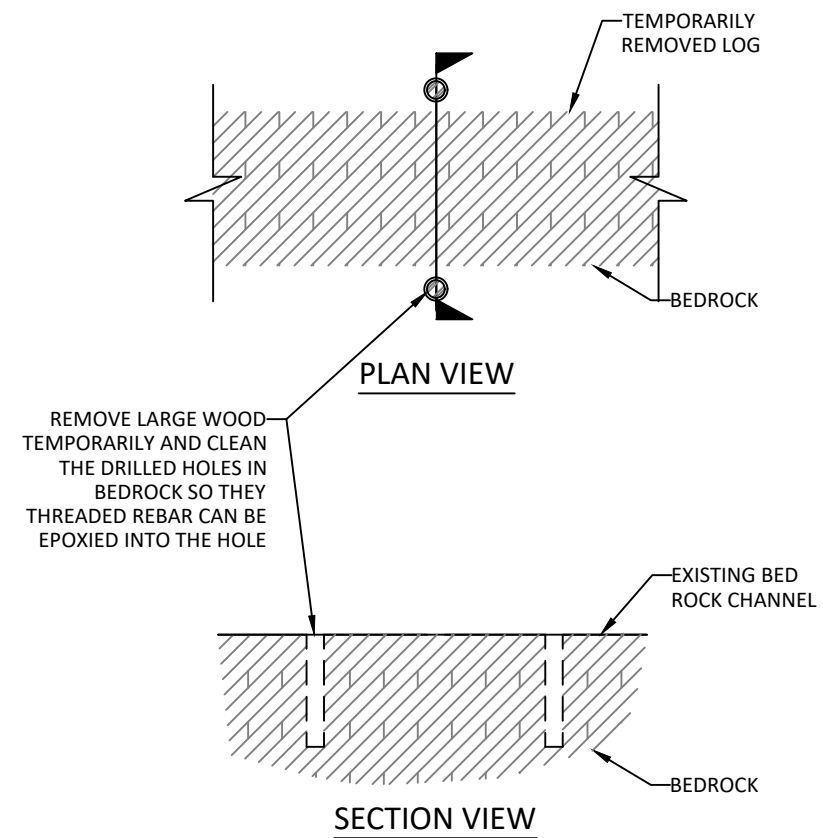
SCALE:	DATE: 6/4/21	DRAWN: RP	CHECKED: BN
PROJ. NO: -	DRAWING NO: 73	Total Sheets: 80	



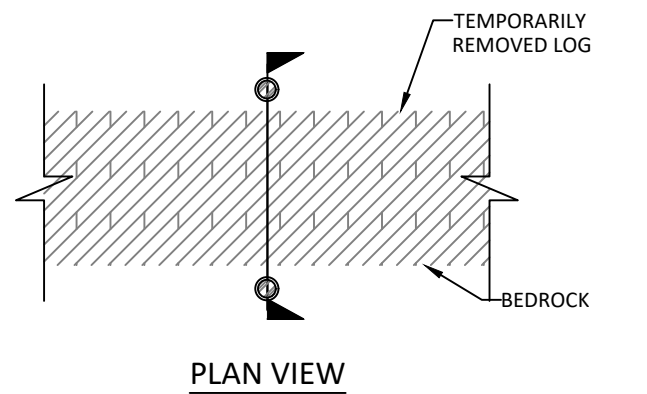
STEP 1. POSITION LOG AND DRILL HOLE



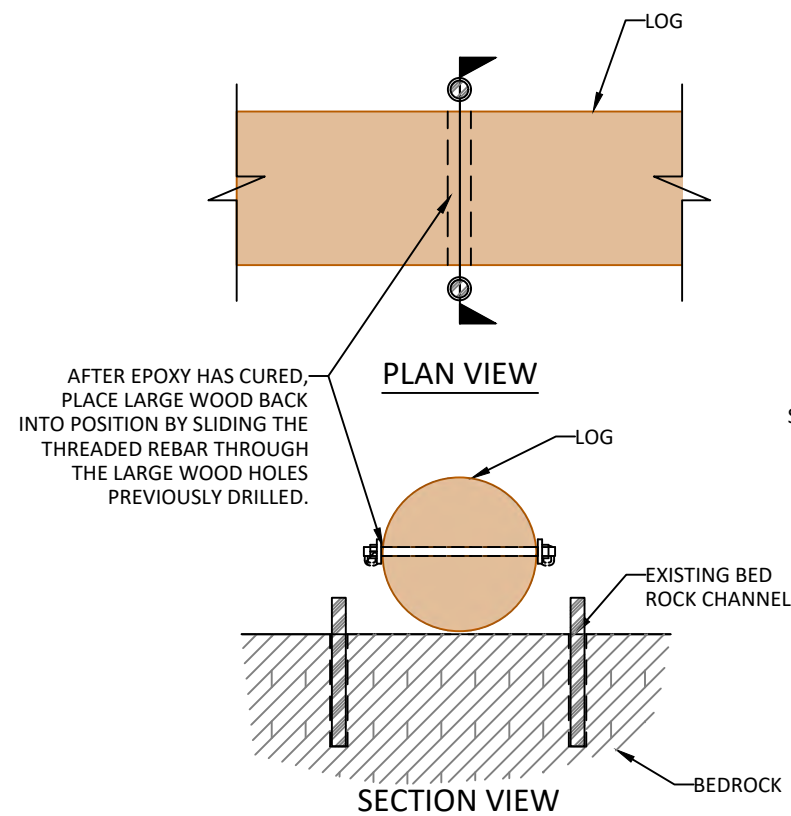
STEP 2. DRILL BEDROCK HOLE



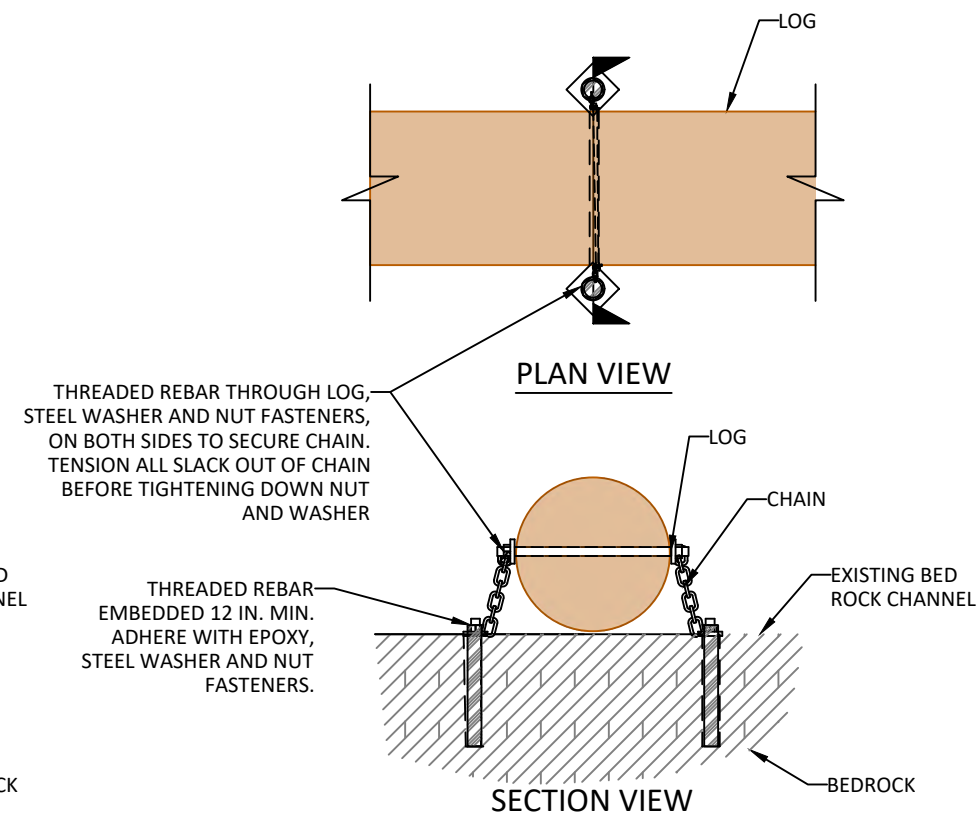
STEP 3. CLEAN BEDROCK HOLE



STEP 4. EPOXY THREADED REBAR



STEP 5. POSITION LOG ONTO THREADED REBAR

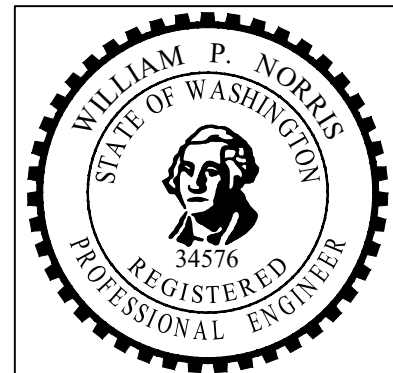


STEP 6. SECURE LOG WITH WASHER AND NUT ON THREADED REBAR

1
74

TYPICAL DETAIL: LARGE WOOD BEDROCK ANCHORING

NOT TO SCALE



3			
2			
1			
REV:	DESCRIPTION:	BY:	DATE:
STATUS: PRELIMINARY DESIGN			

PARR
excellence

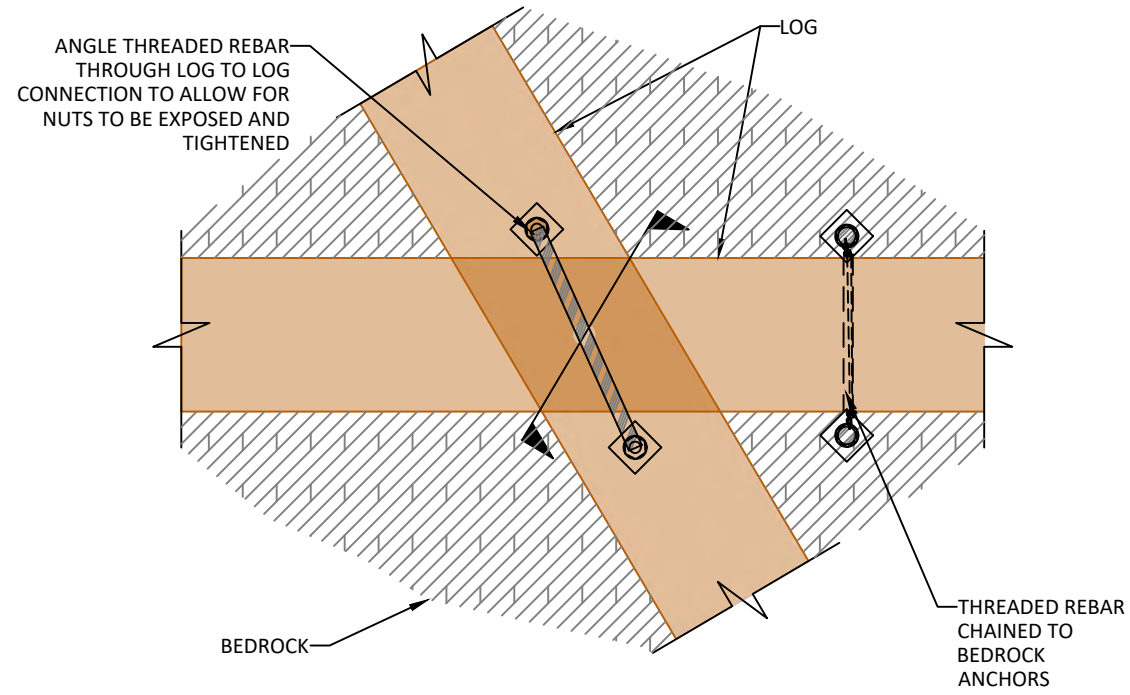
302 W. Steuben St. #6
Bingen, WA 98605
www.ers4life.com

CLIENT: COWLITZ INDIAN TRIBE
7700 26TH AVE
VANCOUVER, WA. 98665

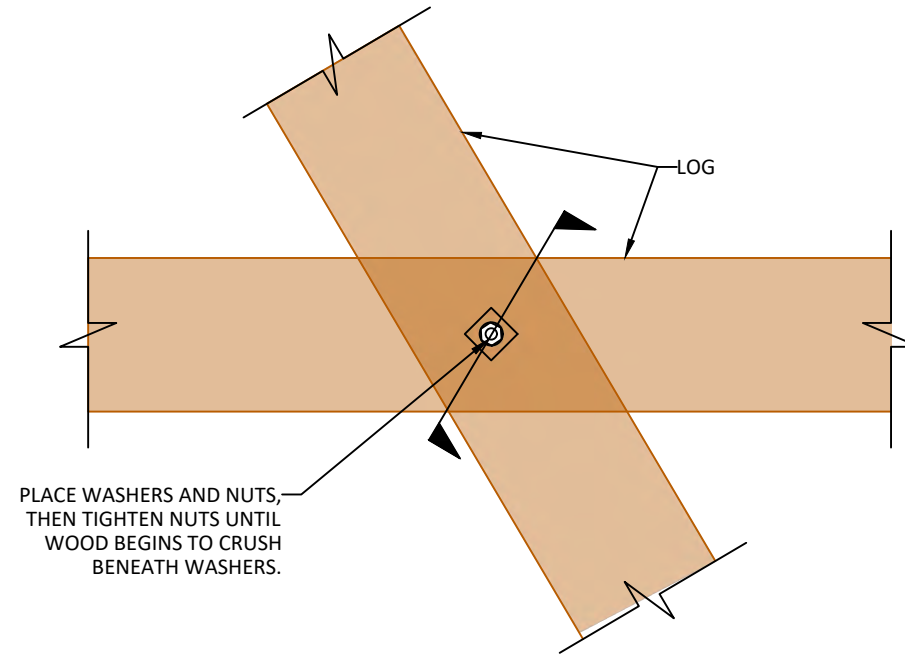
SITE: KWONEESUM DAM
REMOVAL DESIGN

TITLE: TYPICAL DETAILS

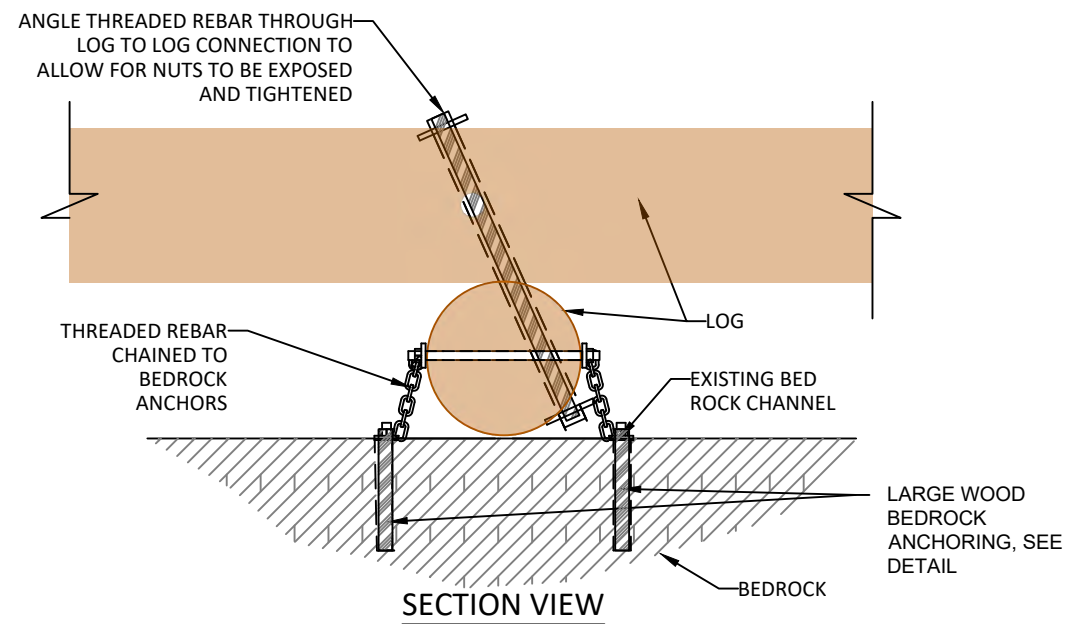
SCALE:	DATE: 6/4/21	DRAWN: RP	CHECKED: BN
PROJ. NO: -	DRAWING NO: 74	Total Sheets: 80	



PLAN VIEW



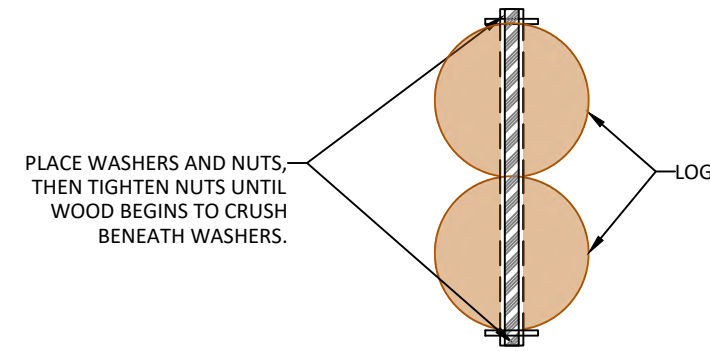
PLAN VIEW



SECTION VIEW

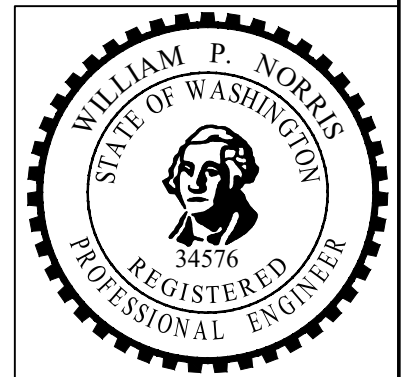
1/74

1/75 TYPICAL DETAIL: LOG TO LOG ANCHORING TO BEDROCK
NOT TO SCALE



SECTION VIEW

1/75 TYPICAL DETAIL: LOG TO LOG ANCHORING
NOT TO SCALE



3			
2			
1			
REV:	DESCRIPTION:	BY:	DATE:
STATUS: PRELIMINARY DESIGN			

PARR
excellence

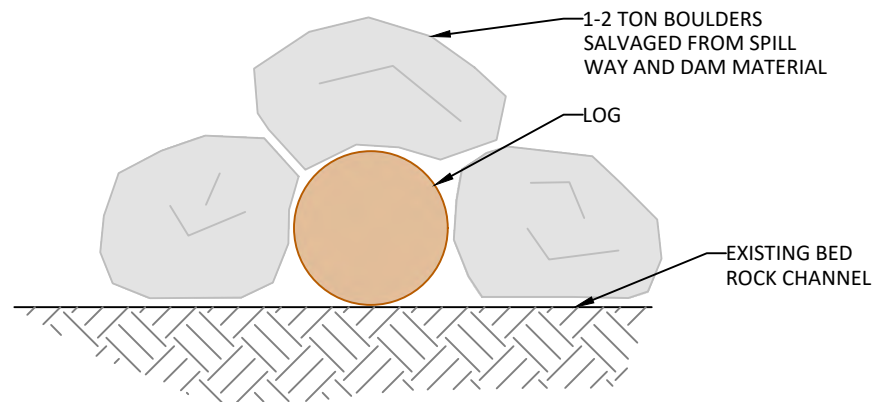
302 W. Steuben St. #6
Bingen, WA 98605
www.ers4life.com

CLIENT: COWLITZ INDIAN TRIBE
7700 26TH AVE
VANCOUVER, WA, 98665

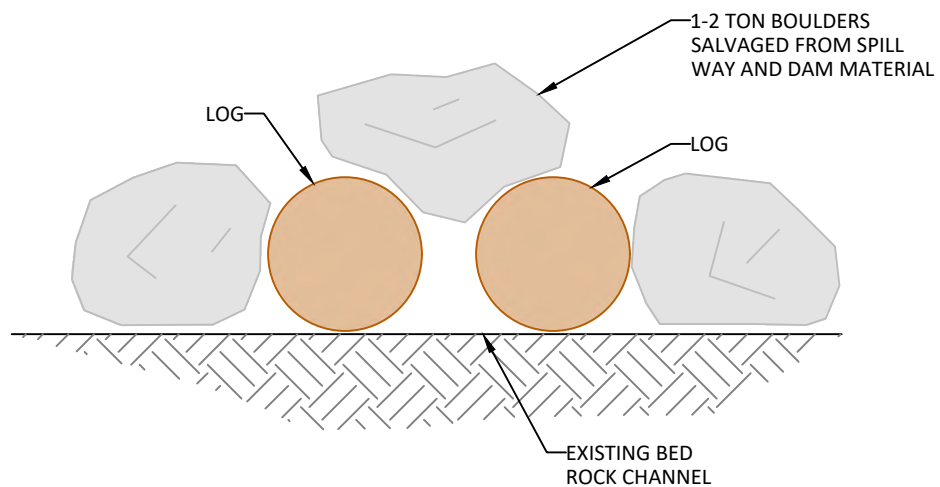
SITE: KWONEESUM DAM
REMOVAL DESIGN

TITLE:
TYPICAL DETAILS

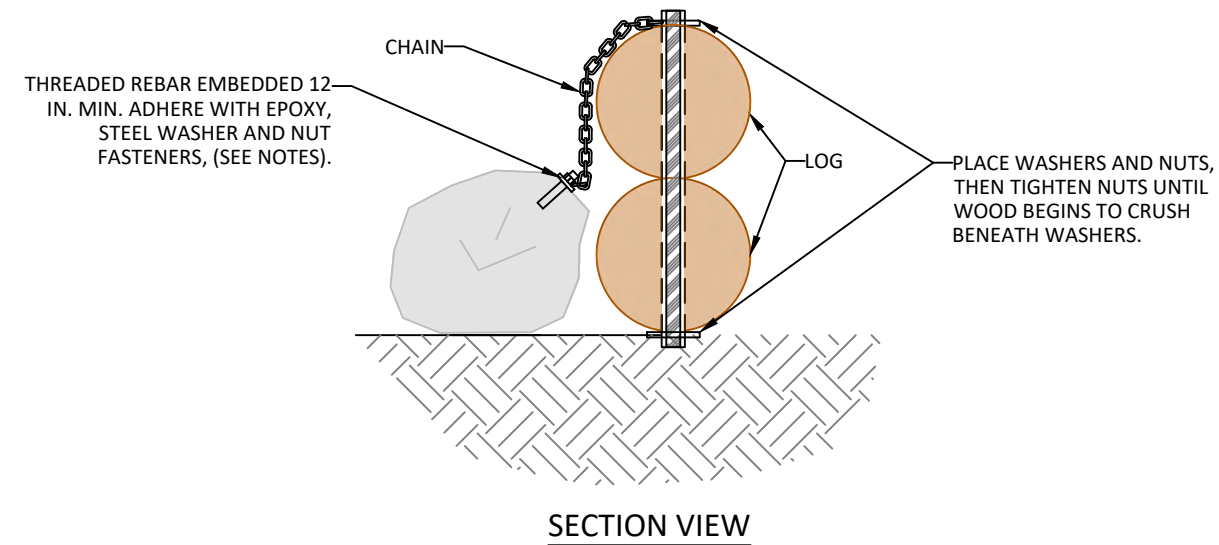
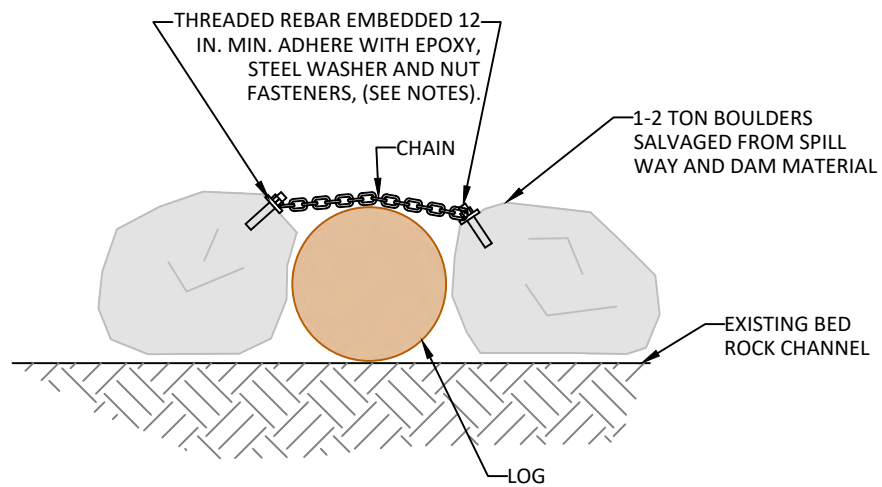
SCALE:	DATE: 6/4/21	DRAWN: RP	CHECKED: BN
PROJ. NO: -	DRAWING NO: 75	Total Sheets: 80	



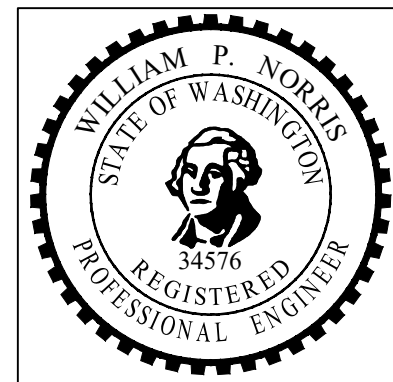
1
76
TYPICAL DETAIL: LARGE WOOD BOULDER BALLAST
NOT TO SCALE



2
76
TYPICAL DETAIL: LARGE WOOD BOULDER BALLAST WITH CHAIN
NOT TO SCALE



2
76
TYPICAL DETAIL: LARGE WOOD SINGLE BOULDER BALLAST WITH CHAIN
NOT TO SCALE



3	-	-	-
2	-	-	-
1	-	-	-
REV:	DESCRIPTION:	BY:	DATE:
STATUS: PRELIMINARY DESIGN			

PARR
excellence

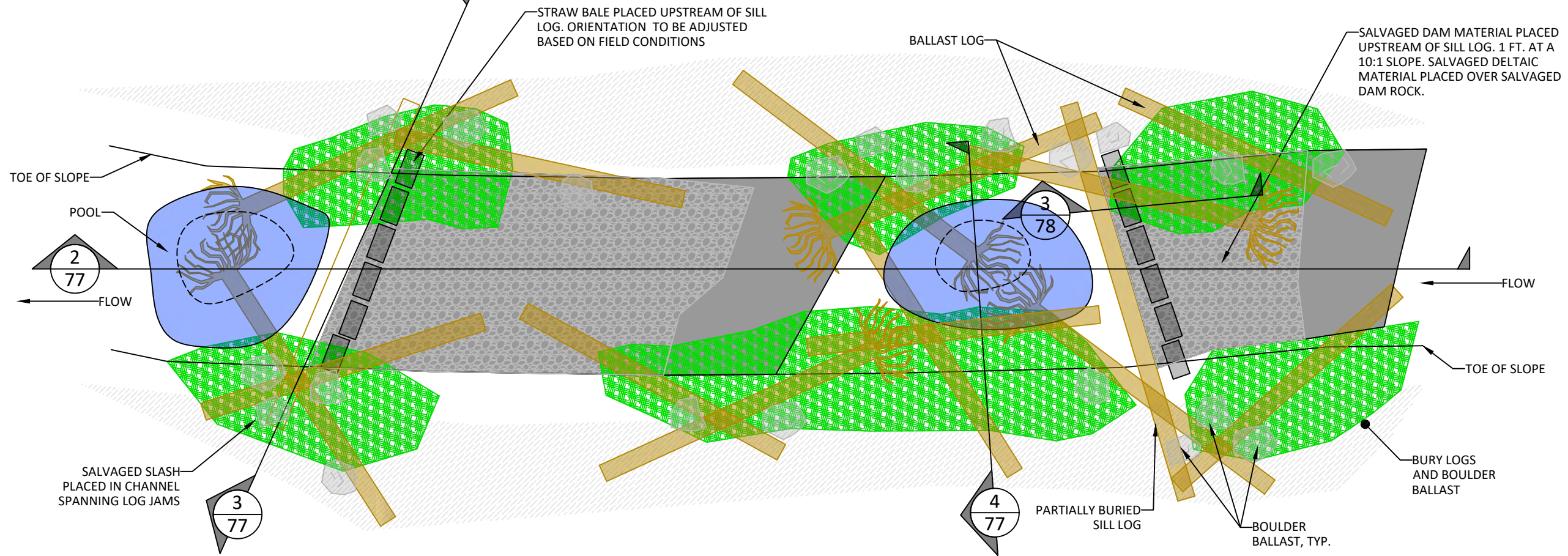
302 W. Steuben St. #6
Bingen, WA 98605
www.ers4life.com

CLIENT: COWLITZ INDIAN TRIBE
7700 26TH AVE
VANCOUVER, WA, 98665

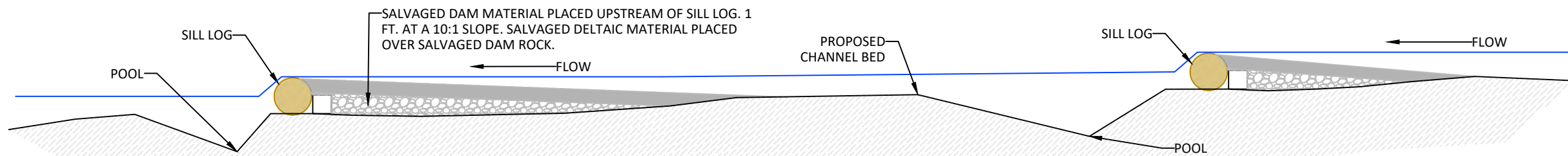
SITE: KWONEESUM DAM
REMOVAL DESIGN

TITLE: TYPICAL DETAILS

SCALE:	DATE: 6/4/21	DRAWN: RP	CHECKED: BN
PROJ. NO: -	DRAWING NO: 76	Total Sheets: 80	

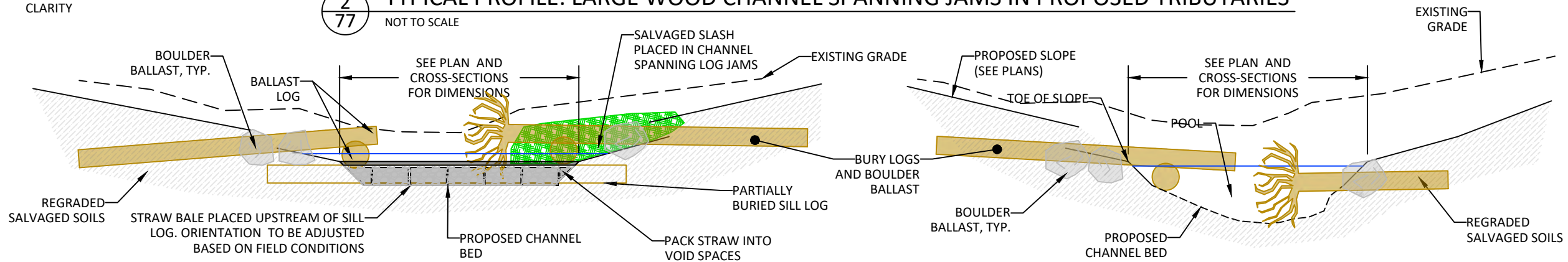


1 TYPICAL PLAN VIEW :LARGE WOOD CHANNEL SPANNING JAMS IN PROPOSED TRIBUTARIES
77 NOT TO SCALE

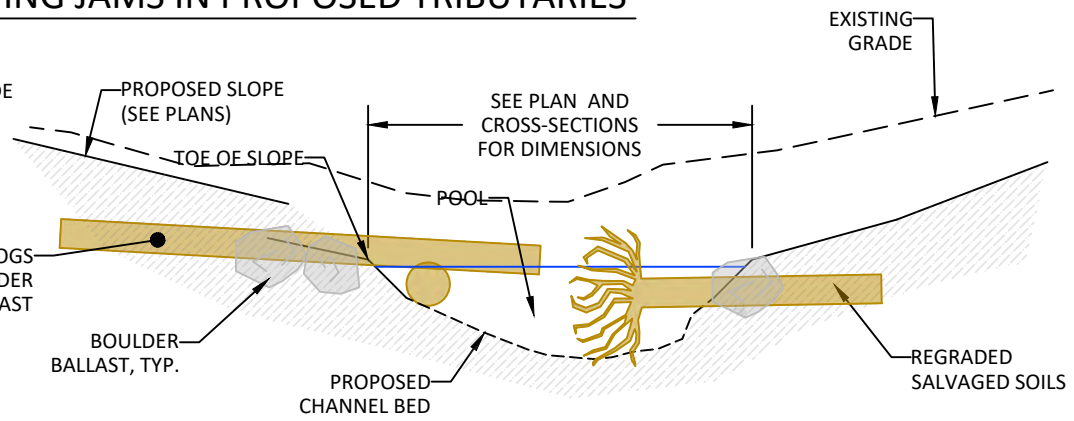


2 TYPICAL PROFILE: LARGE WOOD CHANNEL SPANNING JAMS IN PROPOSED TRIBUTARIES
77 NOT TO SCALE

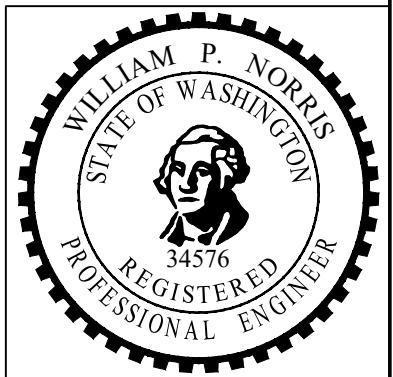
NOTE: WOOD EXTENDING OFF BANKS NOT SHOWN FOR CLARITY



3 TYPICAL CROSS-SECTION: LARGE WOOD IN TRIBUTARY CHANNEL
77 NOT TO SCALE



4 TYPICAL CROSS-SECTION: LARGE WOOD IN TRIBUTARY POOL
77 NOT TO SCALE



3			
2			
1			
REV:	DESCRIPTION:	BY:	DATE:
STATUS: PRELIMINARY DESIGN			

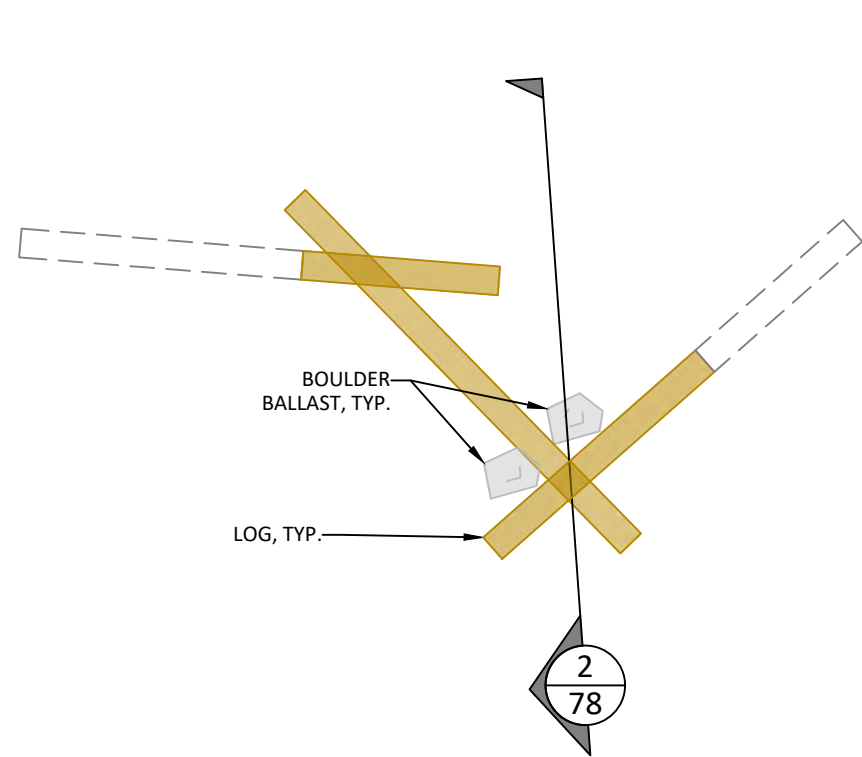
PARR
excellence
302 W. Steuben St. #6
Bingen, WA 98605
www.ers4life.com

CLIENT: COWLITZ INDIAN TRIBE
7700 26TH AVE
VANCOUVER, WA. 98665

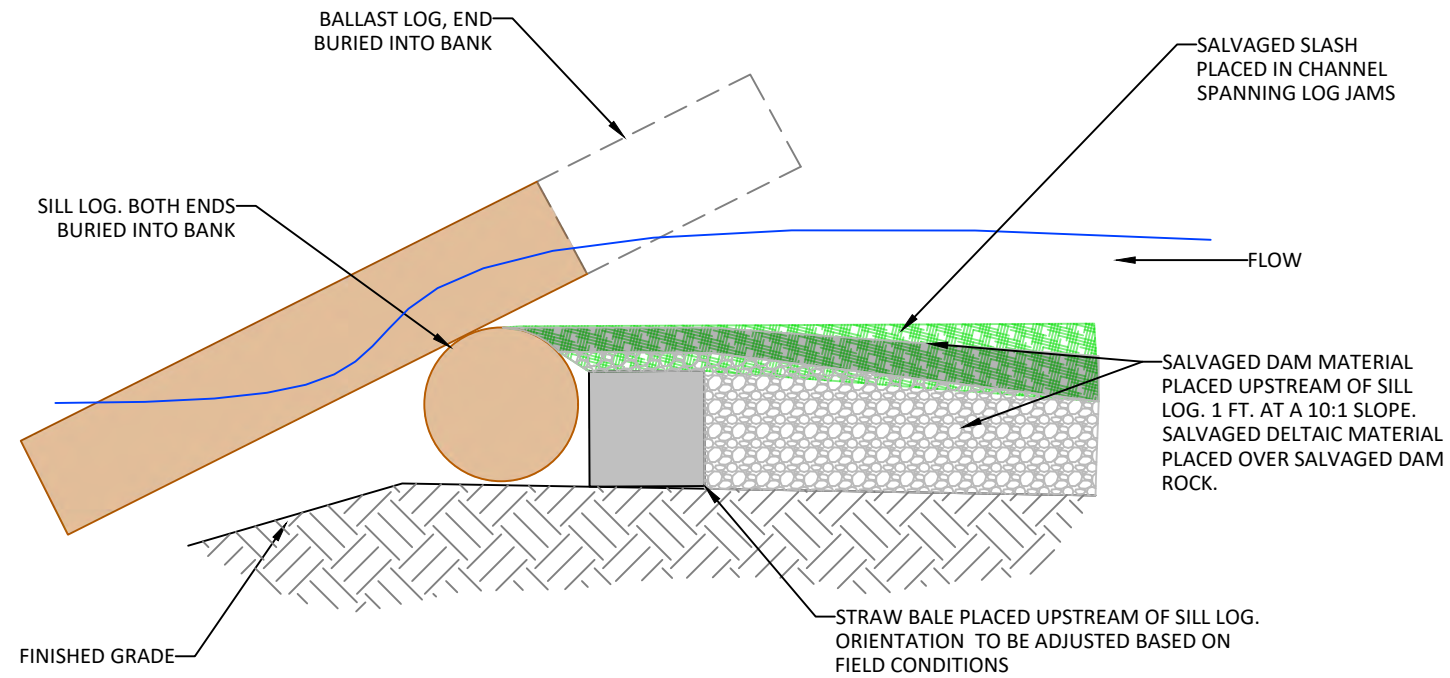
SITE: KWONEESUM DAM
REMOVAL DESIGN

TITLE: TYPICAL DETAILS

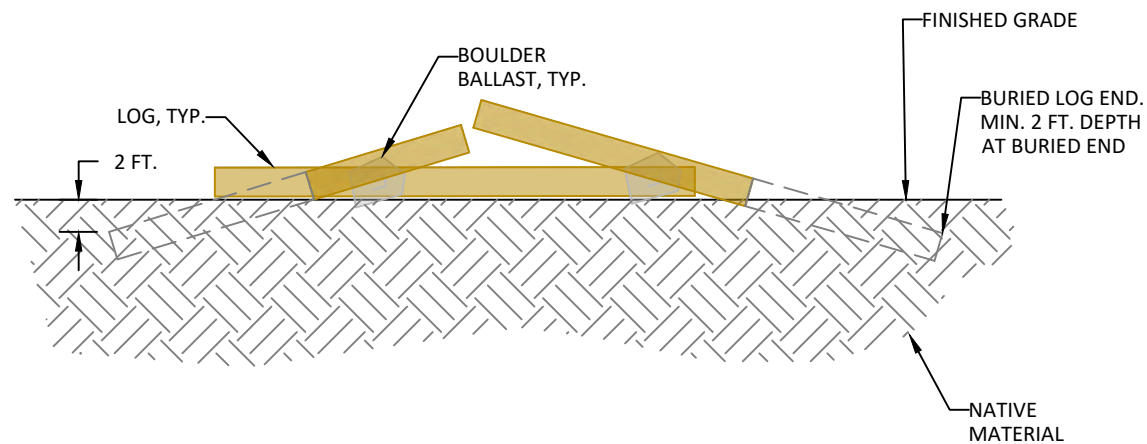
SCALE:	DATE: 6/4/21	DRAWN: RP	CHECKED: BN
PROJ. NO: -	DRAWING NO: 77	Total Sheets: 80	



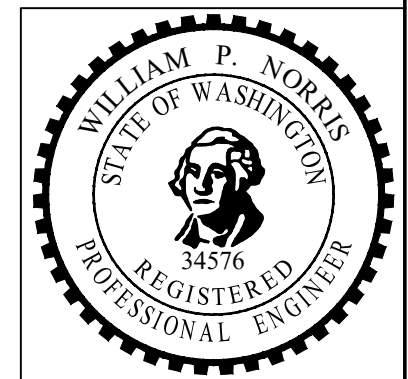
1
78
TYPICAL PLAN: FLOODPLAIN WOOD
NOT TO SCALE



3
78
TYPICAL DETAIL: SILL LOGS IN TRIBUTARIES
NOT TO SCALE



2
78
TYPICAL SECTION FLOODPLAIN WOOD
NOT TO SCALE



3	-	-	-
2	-	-	-
1	-	-	-
REV:	DESCRIPTION:	BY:	DATE:
STATUS: PRELIMINARY DESIGN			

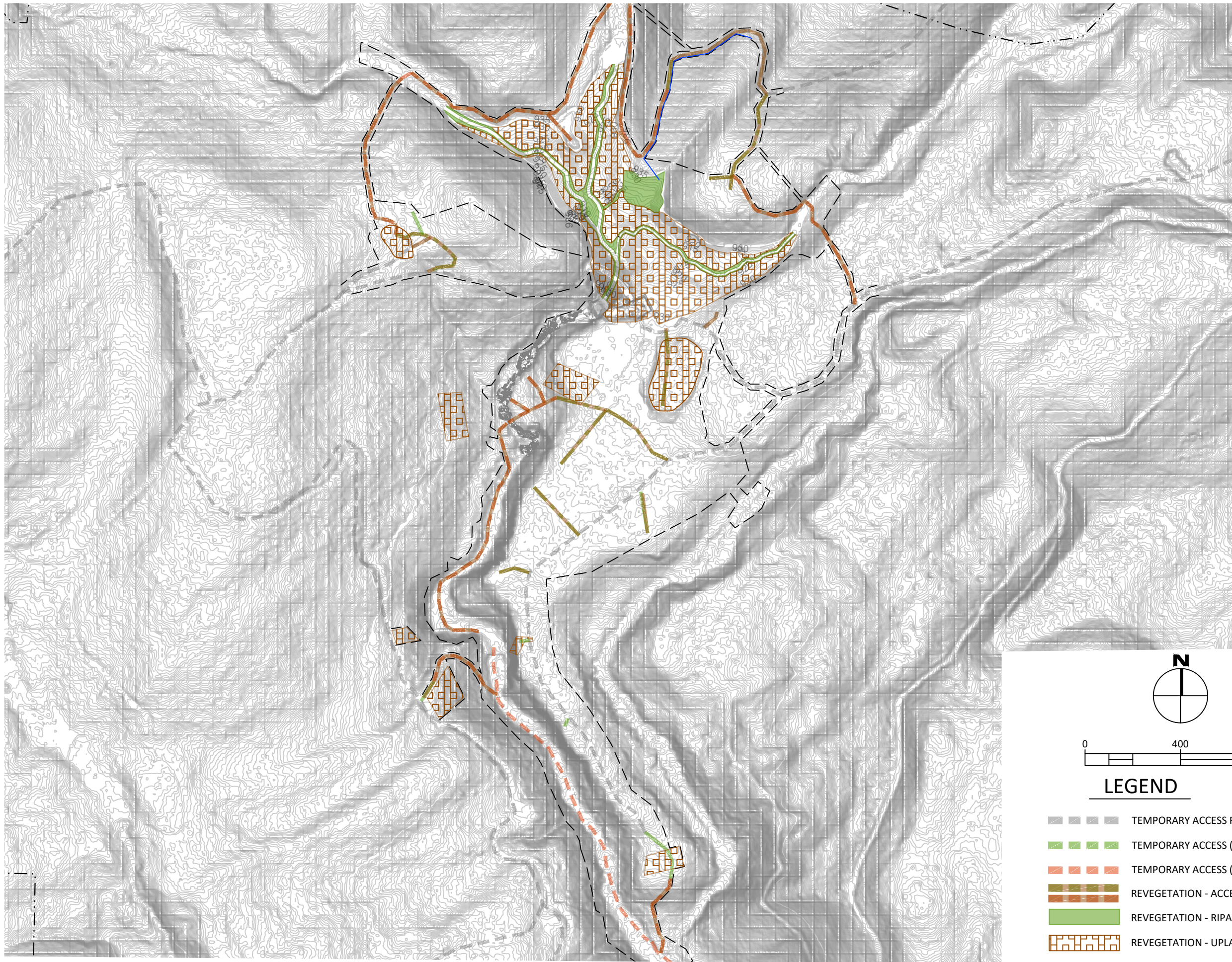
PARR
excellence
302 W. Steuben St. #6
Bingen, WA 98605
www.ers4life.com

CLIENT: COWLITZ INDIAN TRIBE
7700 26TH AVE
VANCOUVER, WA, 98665

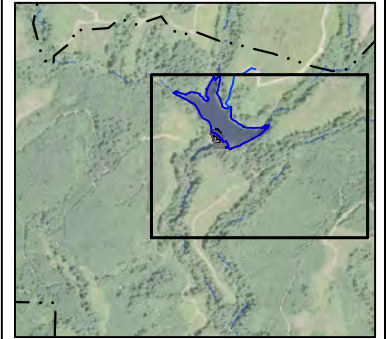
SITE: KWONEESUM DAM
REMOVAL DESIGN

TITLE:
TYPICAL DETAILS

SCALE:	DATE: 6/4/21	DRAWN: RP	CHECKED: BN
PROJ. NO: -	DRAWING NO: 78	Total Sheets: 80	



Notes:



SHEET LOCATION



3			
2			
1			
REV:	DESCRIPTION:	BY:	DATE:
STATUS: PRELIMINARY DESIGN			

PARR
excellence

302 W. Steuben St. #6
Bingen, WA 98605 www.ers4life.com

CLIENT: **COWLITZ INDIAN TRIBE**
7700 26TH AVE
VANCOUVER, WA, 98665

SITE: **KWONEESUM DAM
REMOVAL DESIGN**

TITLE: **KWONEESUM RESERVOIR
AND WILDBOY CREEK -
REVEGETATION PLAN**

SCALE:	DATE: 6/4/21	DRAWN: RP	CHECKED: BN
PROJ. NO: -	DRAWING NO: 79	Total Sheets: 80	

N

0 400 800
Feet

LEGEND

- TEMPORARY ACCESS ROADS
- TEMPORARY ACCESS (VEHICLES)
- TEMPORARY ACCESS (OFF ROAD)
- REVEGETATION - ACCESS ROADS
- REVEGETATION - RIPARIAN ZONE (1.7 ACRES)
- REVEGETATION - UPLAND ZONE (21.0 ACRES)

Riparian Revegetation Table

Common Name	Scientific Name	Size	Spacing
Red osier dogwood	Cornus stoloifera	Cutting	1/LF
Sitka willow	Salix sitchensis	Cutting	1/LF
Scouler's willow	Salix scouleriana	Cutting	1/LF
Salmonberry	Rubus spectabilis	1-Gallon Container	6' O.C.
Red alder	Alnus rubra	1-Gallon Container	6' O.C.
Big leaf maple	Acer macrophyllum	1-Gallon Container	6' O.C.

Upland Revegetation Table

Common Name	Scientific Name	Size	Spacing
Douglas fir	Pseudotsuga menziesii	1-Gallon Container	10' O.C.
Western red cedar	Thuja plicata	1-Gallon Container	10' O.C.
Thimbleberry	Rubus parviflorus	1-Gallon Container	6' O.C.
Salal	Gaultheria shallon	1-Gallon Container	6' O.C.
Western sward fern	Polystichum munitum	1-Gallon Container	6' O.C.
Western bracken fern	Pteridium aquilinum	1-Gallon Container	6' O.C.

Native Seed Mix

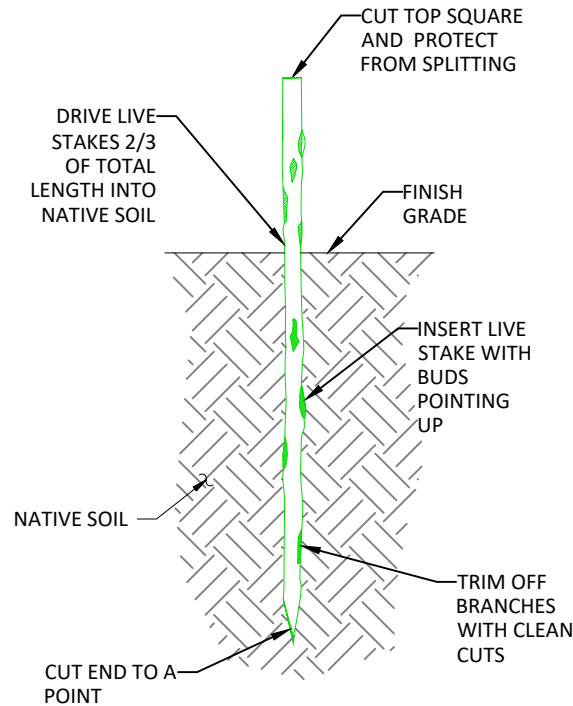
Common Name	Scientific Name	PLS lbs/acre
Blue wildrye	Elymus glaucus	20
California brome	Bromus carinatus	20
Slender hairgrass	Deschampsia elongata	10
		50

Native seed mix to be applied to all disturbed areas.

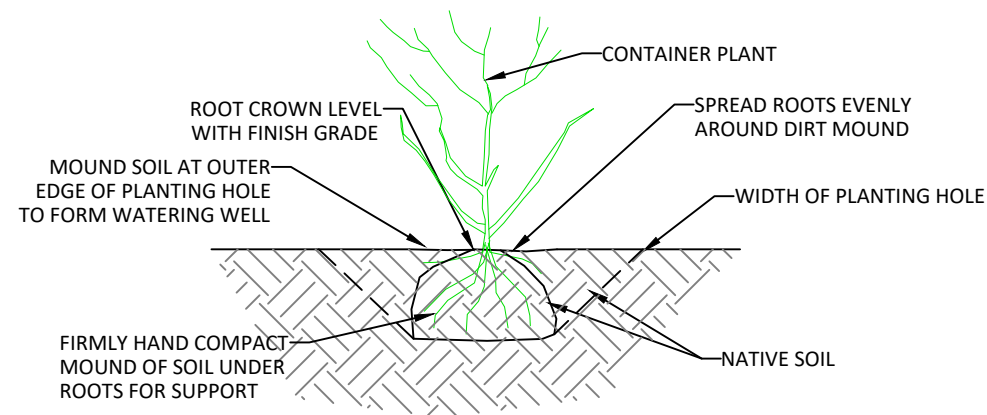
Conservation Plugs and Rhizomes Table

Common Name	Scientific Name	Size	Spacing
Mertens' sedge	Carex mertensii	Plug	2' O.C.
Smallwing sedge	Carex microptera	Plug	2' O.C.
Daggerleaf rush	Juncus ensifolius	Plug	2' O.C.

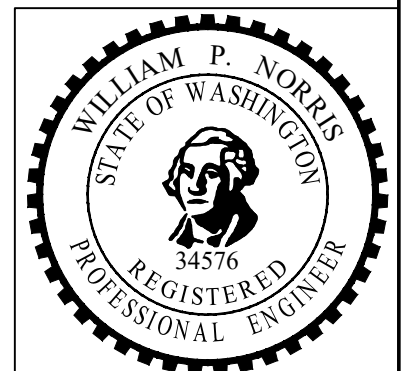
Conservation plugs and rhizomes will be planted on tributary margins in areas backwatered by channel spanning large wood.



1
80 TYPICAL DETAIL: LIVE CUTTING
NOT TO SCALE



2
80 TYPICAL DETAIL: PLANTING PLUGS
NOT TO SCALE



3	-	-	-
2	-	-	-
1	-	-	-
REV:	DESCRIPTION:	BY:	DATE:
STATUS: PRELIMINARY DESIGN			

PARR
excellence

302 W. Steuben St. #6
Bingen, WA 98605
www.ers4life.com

CLIENT: COWLITZ INDIAN TRIBE
7700 26TH AVE
VANCOUVER, WA, 98665

SITE: KWONEESUM DAM
REMOVAL DESIGN

TITLE: TYPICAL DETAILS -
REVEGETATION PLAN

SCALE:	DATE: 6/4/21	DRAWN: RP	CHECKED: BN
PROJ. NO: -	DRAWING NO: 80	Total Sheets: 80	