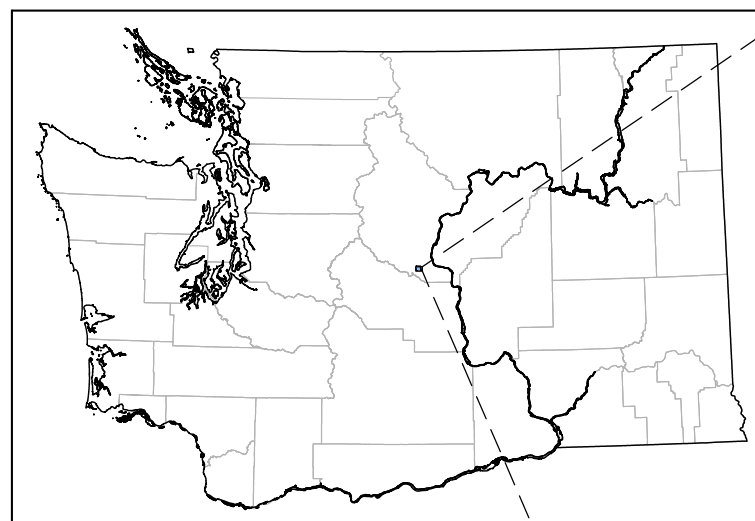
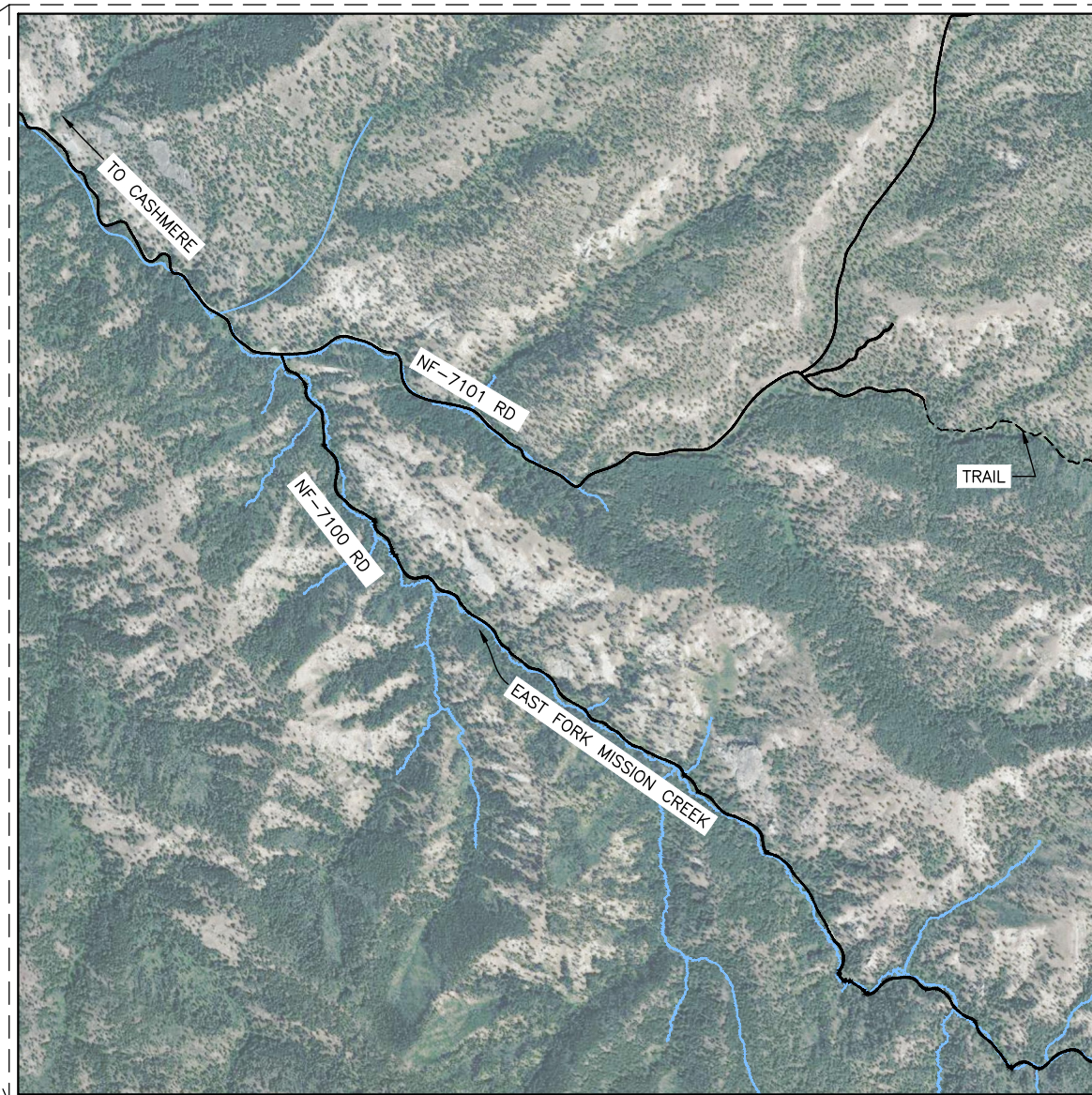


EAST FORK MISSION CREEK

AQUATIC HABITAT RESTORATION CHELAN COUNTY NATURAL RESOURCE DEPARTMENT



VICINITY MAP
SCALE: 1" = 50'



PROJECT LOCATION MAP
SCALE: 1" = 1,000'

DRAWING LIST	
SHEET NUMBER	SHEET TITLE
01	COVER SHEET
02	GENERAL NOTES
03	LEGEND
04	PROJECT OVERVIEW
05	UPPER PROJECT OVERVIEW
06	LOWER PROJECT OVERVIEW
07	REACH 1
08	REACH 2
09	REACH 3
10	REACH 9
11	REACH 10 (1)
12	REACH 10 (2)
13	REACH 11 (1)
14	REACH 11 (2)
15	REACH 11 (3)
16	WATER MANAGEMENT (1)
17	WATER MANAGEMENT (2)
18	WATER MANAGEMENT (3)
19	ROAD DECOMMISSIONING TYPICAL DETAILS
20	TYPE 1 ELJ DETAILS
21	TYPE 1 ELJ SEQUENCING
22	TYPE 2 ELJ & HABITAT TREE DETAILS
23	ELJ & TEMPORARY ACCESS DETAILS
24	ELJ & TEMPORARY ACCESS DETAILS (2)
25	TESC DETAILS

CONTACT INFORMATION

NATURAL SYSTEMS DESIGN, INC

1900 N NORTHLAKE WAY, SUITE 211
SEATTLE, WA 98103
(206) 834-0175

CHELAN COUNTY NATURAL RESOURCE DEPARTMENT

411 WASHINGTON STREET, SUITE 201
WENATCHEE, WA 98801
PHONE (509) 667-6533

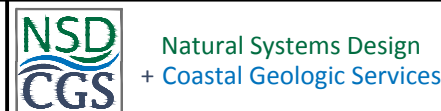
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Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION



1/8/2024

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT PLOTTED TO ORIGINAL SCALE.



NAME OR INITIALS AND DATE	GEOGRAPHIC INFORMATION
DESIGNED NT	LATITUDE 47°21'47"N
CHECKED RLE	LONGITUDE 120°27'47"W
DRAWN LZ, KS	TN/SC/RG T22N/S28.33/R19E
CHECKED JS	DATE

EAST FORK MISSION CREEK RESTORATION PROJECT

COVER SHEET

01

SHEET **01** OF **25**

GENERAL NOTES

1. THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF CHELAN COUNTY NATURAL RESOURCE DEPARTMENT, HEREAFTER REFERRED TO AS "OWNER", AND THEIR AUTHORIZED AGENTS OR "CONTRACTING OFFICER."
2. NATURAL SYSTEMS DESIGN, HEREAFTER REFERRED TO AS "ENGINEER" IS RESPONSIBLE FOR THE PREPARATION OF THESE ORIGINAL PLANS AND ASSOCIATED SPECIFICATIONS; AND WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGE, OR USE, OF THESE PLANS WHICH INCLUDES ALTERATION, DELETION, OR EDITING OF THIS DOCUMENT WITHOUT EXPLICIT WRITTEN PERMISSION FROM THE ENGINEER. ANY OTHER UNAUTHORIZED USE OF THIS DOCUMENT IS PROHIBITED.
3. THE LOCATION OF ALL FEATURES SHOWN IS APPROXIMATE. FINAL LOCATIONS SHALL BE FLAGGED IN THE FIELD BY THE ENGINEER OR CONTRACTOR PRIOR TO CONSTRUCTION, AS INDICATED IN THESE PLANS.

PERMIT NOTES

1. THE CONTRACTOR SHALL CONDUCT THE ACTIVITIES SHOWN IN THESE PLANS IN A MANNER THAT MINIMIZES THE ADVERSE IMPACT ON WATER QUALITY, FISH AND WILDLIFE, AND THE NATURAL ENVIRONMENT.
2. ALL WORK SHALL BE IN COMPLIANCE WITH PERMIT CONDITIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE COPIES OF ALL PERMITS ON THE JOB SITE, UNDERSTAND AND COMPLY WITH ALL PERMIT CONDITIONS.
3. IF AT ANY TIME FISH ARE OBSERVED IN DISTRESS, A FISH KILL OCCURS, OR WATER QUALITY PROBLEMS DEVELOP (INCLUDING EQUIPMENT LEAKS OR SPILLS), OPERATIONS SHALL CEASE AND THE OWNER SHALL BE NOTIFIED IMMEDIATELY.
4. AVOID AND MINIMIZE ADVERSE IMPACTS TO WATERS OF THE UNITED STATES, INCLUDING MINIMIZING THE NUMBER, DURATION, AND EXTENT OF WORK BELOW ORDINARY HIGH WATER AND EQUIPMENT CROSSINGS OF WETTED CHANNELS.
5. IF, DURING CONSTRUCTION, ARCHAEOLOGICAL REMAINS ARE ENCOUNTERED, CONSTRUCTION IN THE VICINITY SHALL BE HALTED, AND THE STATE OFFICE OF HISTORIC PRESERVATION AND THE OWNER SHALL BE NOTIFIED IMMEDIATELY.

SURVEY NOTES

1. LIDAR FOR THIS PROJECT WAS COLLECTED IN 2016, AND SUPPLEMENTED WITH SURVEY COLLECTED IN 2022. ARTIFICIAL SURFACE WAS CREATED IN AREAS WHERE ANOMALIES WERE PRESENT IN LIDAR DATA DUE TO VEGETATION INTERFERENCE. DATA IS REPRESENTATIVE OF 2022 CONDITIONS. THE VERTICAL DATUM IS NAVD88 (FT). THE HORIZONTAL DATUM IS NAD83 WASHINGTON STATE PLANE NORTH AND THE UNIT IS US SURVEY FEET.
2. GATES, FENCELINES, AND UTILITIES WERE NOT SURVEYED. CONTRACTOR TO VERIFY IN FIELD.
3. PARCEL BOUNDARIES ARE FROM CHELAN COUNTY ASSESSOR'S OFFICE AND ARE NOT SURVEYED.
4. AERIAL IMAGERY WAS COLLECTED IN 2019 (BING IMAGERY).

CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY.
2. CONSTRUCTION HOURS SHALL BE WEEKDAYS BETWEEN 7:00 A.M. AND 7:00 P.M. UNLESS PRIOR APPROVAL IS RECEIVED FROM THE OWNER.
3. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE OWNER PRIOR TO PROCEEDING WITH THE WORK.
4. THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, VEGETATION, AND IMPROVEMENTS NOT INDICATED FOR REMOVAL.
5. THE CONTRACTOR SHALL KEEP THE JOB SITE CLEAN AND HAZARD FREE.
6. THE CONTRACTOR SHALL DISPOSE OF ALL DIRT, DEBRIS, AND RUBBISH GENERATED BY THE WORK. UPON COMPLETION OF WORK, CONTRACTOR SHALL REMOVE ALL MATERIAL AND EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY.
7. NO TREES OR VEGETATION SHALL BE REMOVED UNLESS NOTED ON THE PLANS OR SPECIFIED ON-SITE BY THE OWNER OR THE ENGINEER. NO GRADING SHALL TAKE PLACE WITHIN THE DRIP LINE OF TREES NOT TO BE REMOVED UNLESS OTHERWISE APPROVED.

8. THE CONTRACTOR SHALL MAINTAIN A SET OF PLANS ON THE JOB SHOWING "AS-CONSTRUCTED" CHANGES MADE TO DATE. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUPPLY TO OWNER A SET OF PLANS, MARKED UP TO THE SATISFACTION OF THE OWNER, REFLECTING THE AS-CONSTRUCTED MODIFICATIONS.

ELJ NOTES

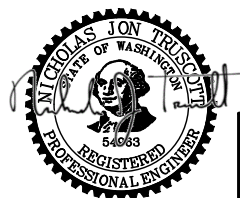
1. ALL LOGS SHALL BE CONIFEROUS SPECIES HARVESTED ON-SITE. IF THE CONTRACTOR ELECTS TO IMPORT LOGS RATHER THAN HARVEST ON-SITE OR IF IMPORT OF ADDITIONAL LOGS IS NECESSARY ALL IMPORTED LOGS SHALL MEET THE REQUIREMENTS IN THE SPECIAL PROVISIONS.
2. ALL PILES SHALL BE ROUND, UNTREATED TIMBER PILES AND SHALL BE DOUGLAS FIR. PILES SHALL BE FREE FROM DEFECTS, CRACKS, AND SPLITTING AT THE TIME OF DRIVING.
3. LOGS SHALL HAVE SPECIFIED DIAMETERS AS MEASURED AT DBH, DEFINED AS 4.5 FEET ABOVE GROUND WHEN TREE WAS STANDING.
4. EXISTING WOODY MATERIAL AT THE STRUCTURE LOCATION SHALL BE MOVED OR PROTECTED FROM CONSTRUCTION ACTIVITIES AND THEN INCORPORATED INTO THE STRUCTURE AS DIRECTED BY THE CONTRACTING OFFICER.
5. PILE EMBEDMENT DEPTH FOR EACH ELJ SHALL BE MEASURED RELATIVE TO THE CHANNEL THALWEG. EXCAVATION DEPTHS AND QUANTITIES IN THE STRUCTURE SCHEDULE ARE BASED ON TOPOGRAPHIC DATA COLLECTED IN 2016 AND 2022, AND EXISTING GRADE ELEVATIONS AND ASSOCIATED EXCAVATION DEPTHS MAY BE OFF BY SEVERAL FEET. ACTUAL EXCAVATION DEPTHS SHALL BE PROVIDED BY THE ENGINEER WHEN THE STRUCTURE LOCATION IS STAKED PRIOR TO CONSTRUCTION.

AQUATIC RESTORATION BIOLOGICAL OPINION II (ARBO II) NOTES

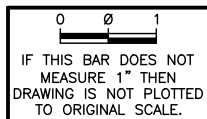
1. THIS PROJECT HAS BEEN DESIGNED IN ACCORDANCE WITH THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)'S 2013 AQUATIC RESTORATION BIOLOGICAL OPINION II (ARBOII)'S GENERAL AQUATIC CONSERVATION MEASURES AND PROJECT DESIGN CRITERIA FOR AQUATIC RESTORATION ACTIVITY CATEGORIES (GUIDELINES AND CONSERVATION MEASURES, GCM) ISSUED FOR NWP-2013-9644.
2. SPECIFIC GCMS ARE INCLUDED THROUGHOUT THESE PLANS. REFERENCES TO THE FOLLOWING GCMS HAVE BEEN MADE:

- SECTION 1.3.2, PARAGRAPH 13. FISH PASSAGE
- SECTION 1.3.2, PARAGRAPH 15. POLLUTION AND EROSION CONTROL MEASURES
- SECTION 1.3.2, PARAGRAPH 16. SITE PREPARATION
- SECTION 1.3.2, PARAGRAPH 17. HEAVY EQUIPMENT USE
- SECTION 1.3.2, PARAGRAPH 19. MONITORING
- SECTION 1.3.3, PARAGRAPH 24. CHANNEL RECONSTRUCTION/RELOCATION
- SECTION 1.3.3, PARAGRAPH 32. ROAD AND TRAIL EROSION CONTROL AND DECOMMISSIONING
- SECTION 1.3.3, PARAGRAPH 22. LARGE WOOD, BOULDER, AND GRAVEL PLACEMENT

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NAME OR INITIALS AND DATE	GEOGRAPHIC INFORMATION
DESIGNED NT	LATITUDE 47°21'47"N
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DRAWN LZ, KS	TN/SC/RG T22N/S28.33/R19E
CHECKED JS	DATE

**EAST FORK MISSION CREEK
RESTORATION PROJECT**

GENERAL NOTES

02

SHEET **02** OF **25**

Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION

GENERAL LEGEND

- PROPERTY LINE
- EXISTING ROAD
- FORMER ROAD SEGMENT
- LOW FLOW CHANNEL
- EXISTING MATURE VEGETATION
- CUT LIMIT
- FILL LIMIT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- CONTROL POINT LOCATION
- AVAILABLE HABITAT TREES

TEMPORARY EROSION CONTROL LEGEND

- SILT BOOM
- BLOCK NETS
- SILT FENCE
- STRAW WATTLE
- DEWATERING LINE DISCHARGE
- PROPOSED STAGING AREA
- BULK BAG COFFERDAM
- TEMPORARY ACCESS ROAD
- TEMPORARY ACCESS BRIDGE
- PUMP DISCHARGE OUTLET
- DEWATERING / STREAM BYPASS PUMP

DETAIL AND SECTION REFERENCING

- NOTE REFERENCING NUMBER
- DETAIL REFERENCE NUMBER SHEET ON WHICH DETAIL APPEARS
- SPECIFIES THAT DETAIL IS UNIFORMLY TYPICAL THROUGHOUT PROJECT EXCEPT WHERE OTHERWISE NOTED
- SECTION 3-2: REACH 3, SECTION 2

LOG NOMENCLATURE (LETTER-NUMBER)

LETTER	DBH (IN)	NUMBER	LENGTH (FT)
A	28	2	20
B	24	3	30
C	22	4	40
D	20	5	50
E	18	6	60
F	16		
G	14		
H	12		
I	10		

PREFIXES:
R=ROOTWAD, P=PILE

RESTORATION LEGEND

- TYPE 1 ENGINEERED LOG JAM (ELJ) (TYPE-NUMBER)
T1-#
- TYPE 2 ELJ (TYPE-NUMBER)
T2-#
- HABITAT TREE (TYPE-NUMBER)
HT-#
- ROAD DECOMMISSIONING

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NAME OR INITIALS AND DATE	GEOGRAPHIC INFORMATION
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CHECKED: RLE	LONGITUDE: 120°27'47"W
DRAWN: LZ, KS	TN/SC/RG: T22N/S28.33/R19E
CHECKED: JS	DATE: _____

EAST FORK MISSION CREEK RESTORATION PROJECT

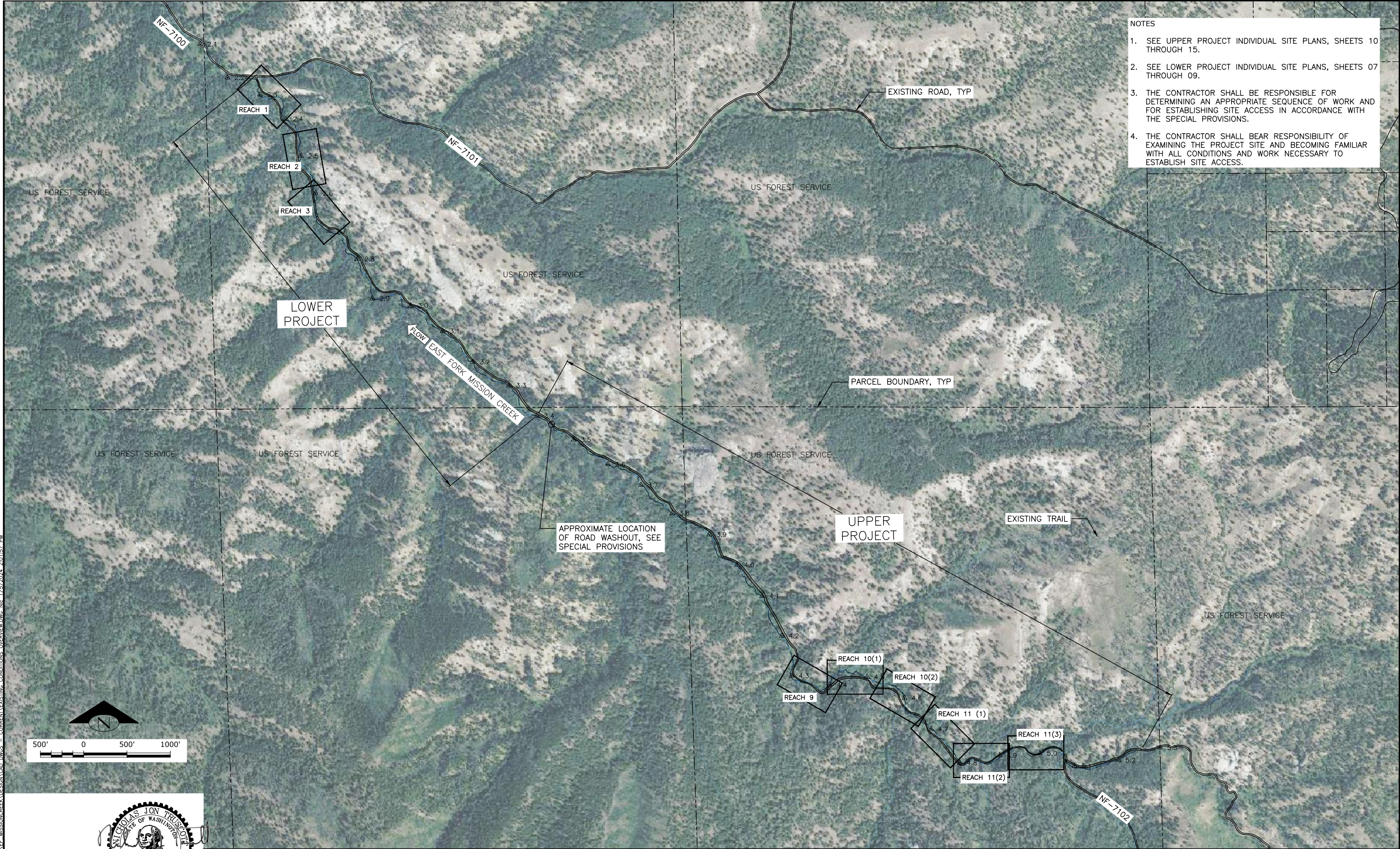
LEGEND

03

SHEET **03** OF **25**

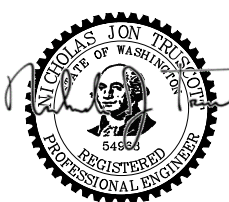
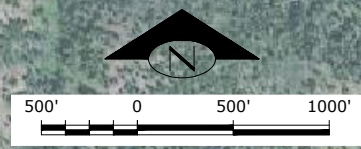
Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION

- NOTES
1. SEE UPPER PROJECT INDIVIDUAL SITE PLANS, SHEETS 10 THROUGH 15.
 2. SEE LOWER PROJECT INDIVIDUAL SITE PLANS, SHEETS 07 THROUGH 09.
 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AN APPROPRIATE SEQUENCE OF WORK AND FOR ESTABLISHING SITE ACCESS IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
 4. THE CONTRACTOR SHALL BEAR RESPONSIBILITY OF EXAMINING THE PROJECT SITE AND BECOMING FAMILIAR WITH ALL CONDITIONS AND WORK NECESSARY TO ESTABLISH SITE ACCESS.



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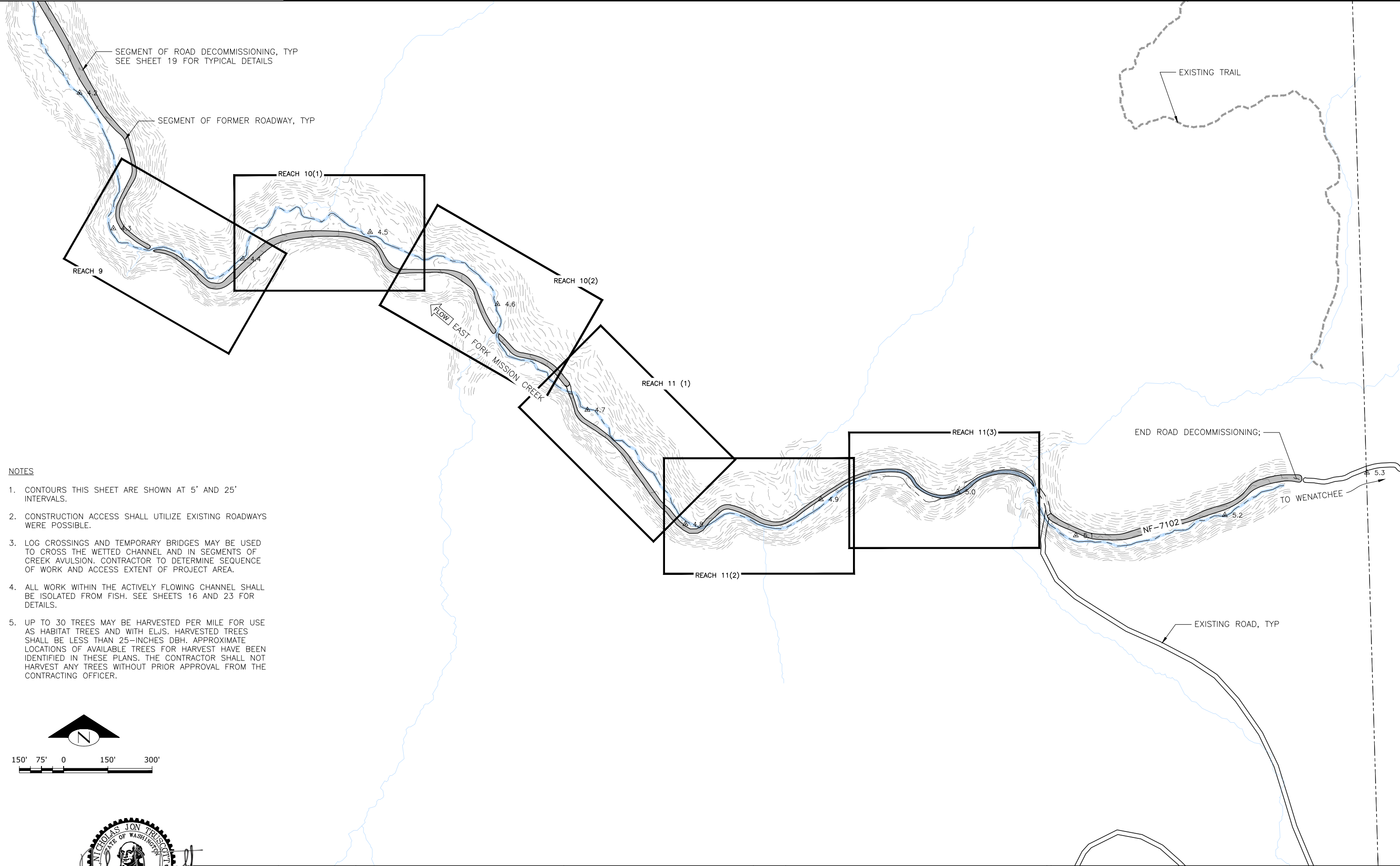
NSD Natural Systems Design
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NAME OR INITIALS AND DATE	GEOGRAPHIC INFORMATION
DESIGNED NT	LATITUDE 47°21'47"N
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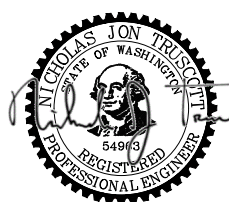
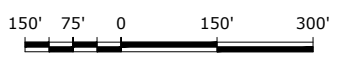
EAST FORK MISSION CREEK RESTORATION PROJECT

PROJECT OVERVIEW

04
SHEET **04** OF **25**



- NOTES**
1. CONTOURS THIS SHEET ARE SHOWN AT 5' AND 25' INTERVALS.
 2. CONSTRUCTION ACCESS SHALL UTILIZE EXISTING ROADWAYS WERE POSSIBLE.
 3. LOG CROSSINGS AND TEMPORARY BRIDGES MAY BE USED TO CROSS THE WETTED CHANNEL AND IN SEGMENTS OF CREEK AVULSION. CONTRACTOR TO DETERMINE SEQUENCE OF WORK AND ACCESS EXTENT OF PROJECT AREA.
 4. ALL WORK WITHIN THE ACTIVELY FLOWING CHANNEL SHALL BE ISOLATED FROM FISH. SEE SHEETS 16 AND 23 FOR DETAILS.
 5. UP TO 30 TREES MAY BE HARVESTED PER MILE FOR USE AS HABITAT TREES AND WITH ELJS. HARVESTED TREES SHALL BE LESS THAN 25-INCHES DBH. APPROXIMATE LOCATIONS OF AVAILABLE TREES FOR HARVEST HAVE BEEN IDENTIFIED IN THESE PLANS. THE CONTRACTOR SHALL NOT HARVEST ANY TREES WITHOUT PRIOR APPROVAL FROM THE CONTRACTING OFFICER.



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EAST FORK MISSION CREEK RESTORATION PROJECT

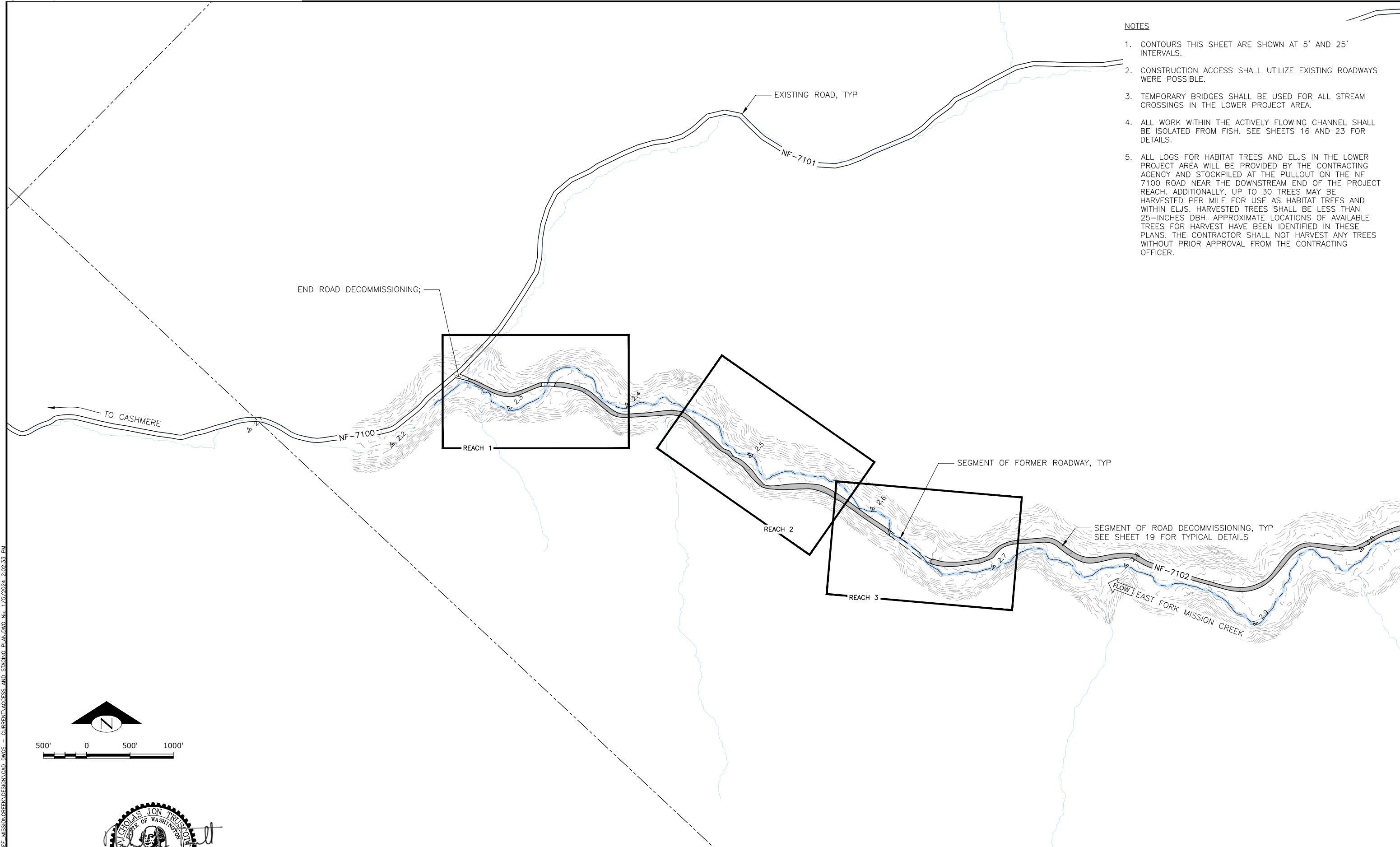
UPPER PROJECT OVERVIEW

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Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION

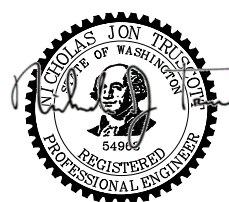
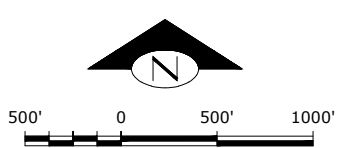
NOTES

1. CONTOURS THIS SHEET ARE SHOWN AT 5' AND 25' INTERVALS.
2. CONSTRUCTION ACCESS SHALL UTILIZE EXISTING ROADWAYS WERE POSSIBLE.
3. TEMPORARY BRIDGES SHALL BE USED FOR ALL STREAM CROSSINGS IN THE LOWER PROJECT AREA.
4. ALL WORK WITHIN THE ACTIVELY FLOWING CHANNEL SHALL BE ISOLATED FROM FISH. SEE SHEETS 16 AND 23 FOR DETAILS.
5. ALL LOGS FOR HABITAT TREES AND ELJS IN THE LOWER PROJECT AREA WILL BE PROVIDED BY THE CONTRACTING AGENCY AND STOCKPILED AT THE PULLOUT ON THE NF 7100 ROAD NEAR THE DOWNSTREAM END OF THE PROJECT REACH. ADDITIONALLY, UP TO 30 TREES MAY BE HARVESTED PER MILE FOR USE AS HABITAT TREES AND WITHIN ELJS. HARVESTED TREES SHALL BE LESS THAN 25-INCHES DBH. APPROXIMATE LOCATIONS OF AVAILABLE TREES FOR HARVEST HAVE BEEN IDENTIFIED IN THESE PLANS. THE CONTRACTOR SHALL NOT HARVEST ANY TREES WITHOUT PRIOR APPROVAL FROM THE CONTRACTING OFFICER.



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NAME OR INITIALS AND DATE
DESIGNED NT
CHECKED RLE
DRAWN LZ, KS
CHECKED JS

GEOGRAPHIC INFORMATION
LATITUDE 47°21'47"N
LONGITUDE 120°27'47"W
TN/SC/RG T22N/S28.33/R19E
DATE

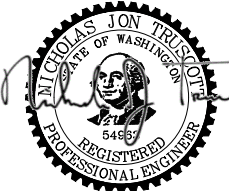
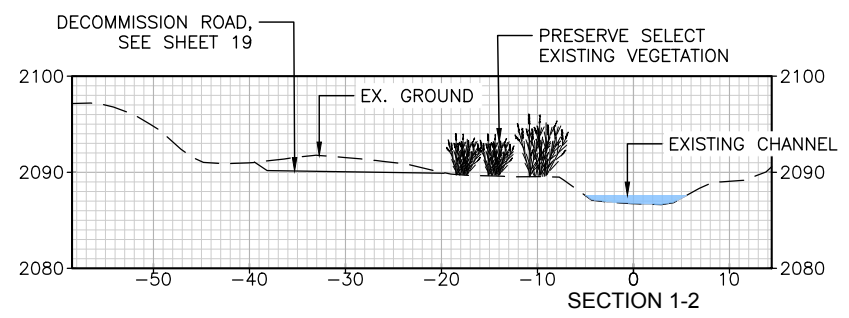
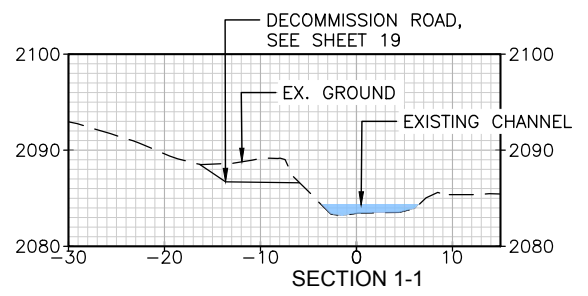
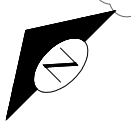
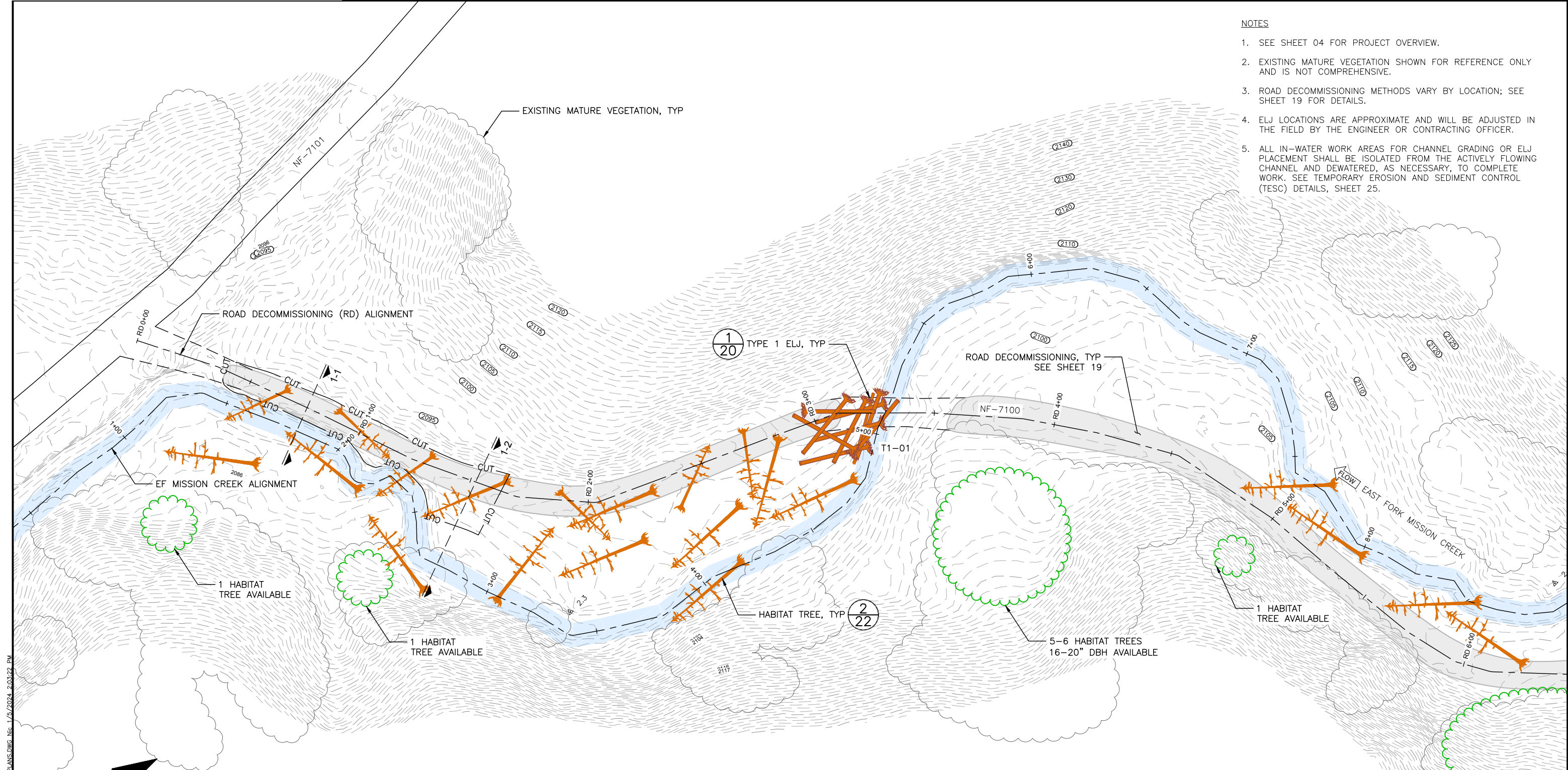
EAST FORK MISSION CREEK RESTORATION PROJECT

LOWER PROJECT OVERVIEW

06
SHEET **06** OF **25**

NOTES

1. SEE SHEET 04 FOR PROJECT OVERVIEW.
2. EXISTING MATURE VEGETATION SHOWN FOR REFERENCE ONLY AND IS NOT COMPREHENSIVE.
3. ROAD DECOMMISSIONING METHODS VARY BY LOCATION; SEE SHEET 19 FOR DETAILS.
4. ELJ LOCATIONS ARE APPROXIMATE AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER OR CONTRACTING OFFICER.
5. ALL IN-WATER WORK AREAS FOR CHANNEL GRADING OR ELJ PLACEMENT SHALL BE ISOLATED FROM THE ACTIVELY FLOWING CHANNEL AND DEWATERED, AS NECESSARY, TO COMPLETE WORK. SEE TEMPORARY EROSION AND SEDIMENT CONTROL (TESC) DETAILS, SHEET 25.



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NAME OR INITIALS AND DATE	
DESIGNED	NT
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DRAWN	LZ, KS
CHECKED	JS

GEOGRAPHIC INFORMATION	
LATITUDE	47°21'47"N
LONGITUDE	120°27'47"W
TN/SC/RG	T22N/S28.33/R19E
DATE	

EAST FORK MISSION CREEK RESTORATION PROJECT

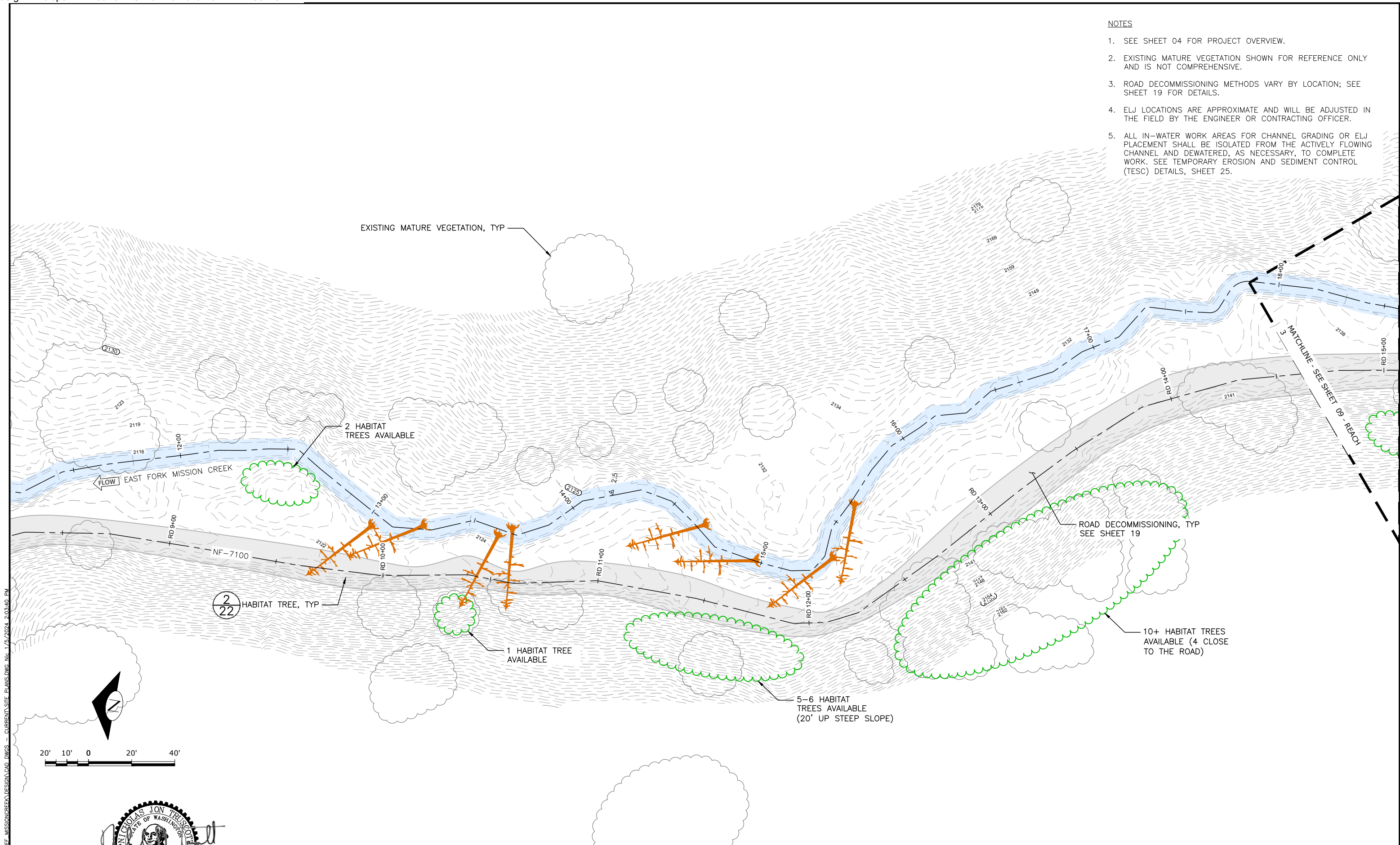
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Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION

NOTES

1. SEE SHEET 04 FOR PROJECT OVERVIEW.
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NAME OR INITIALS AND DATE
DESIGNED NT
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DRAWN LZ, KS
CHECKED JS

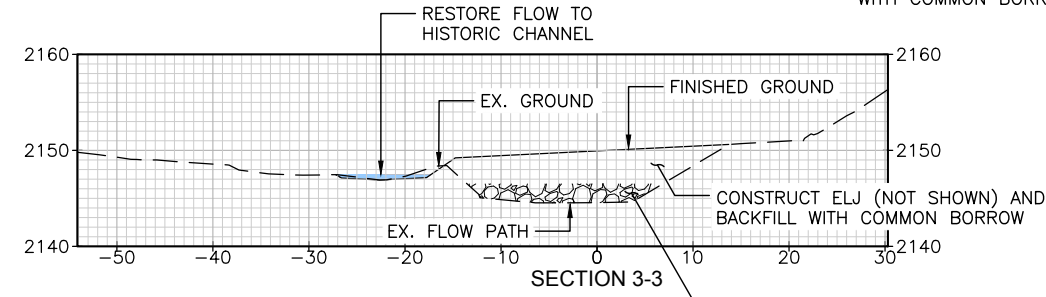
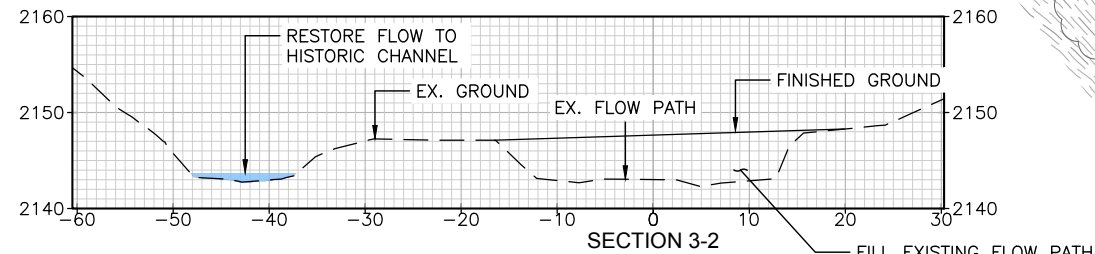
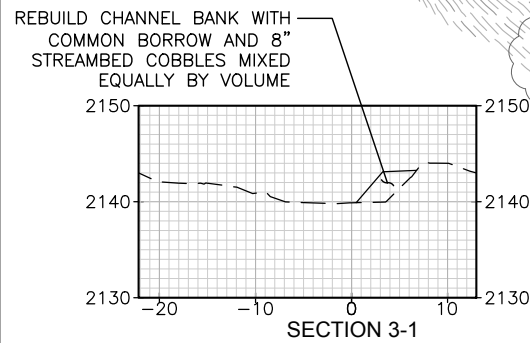
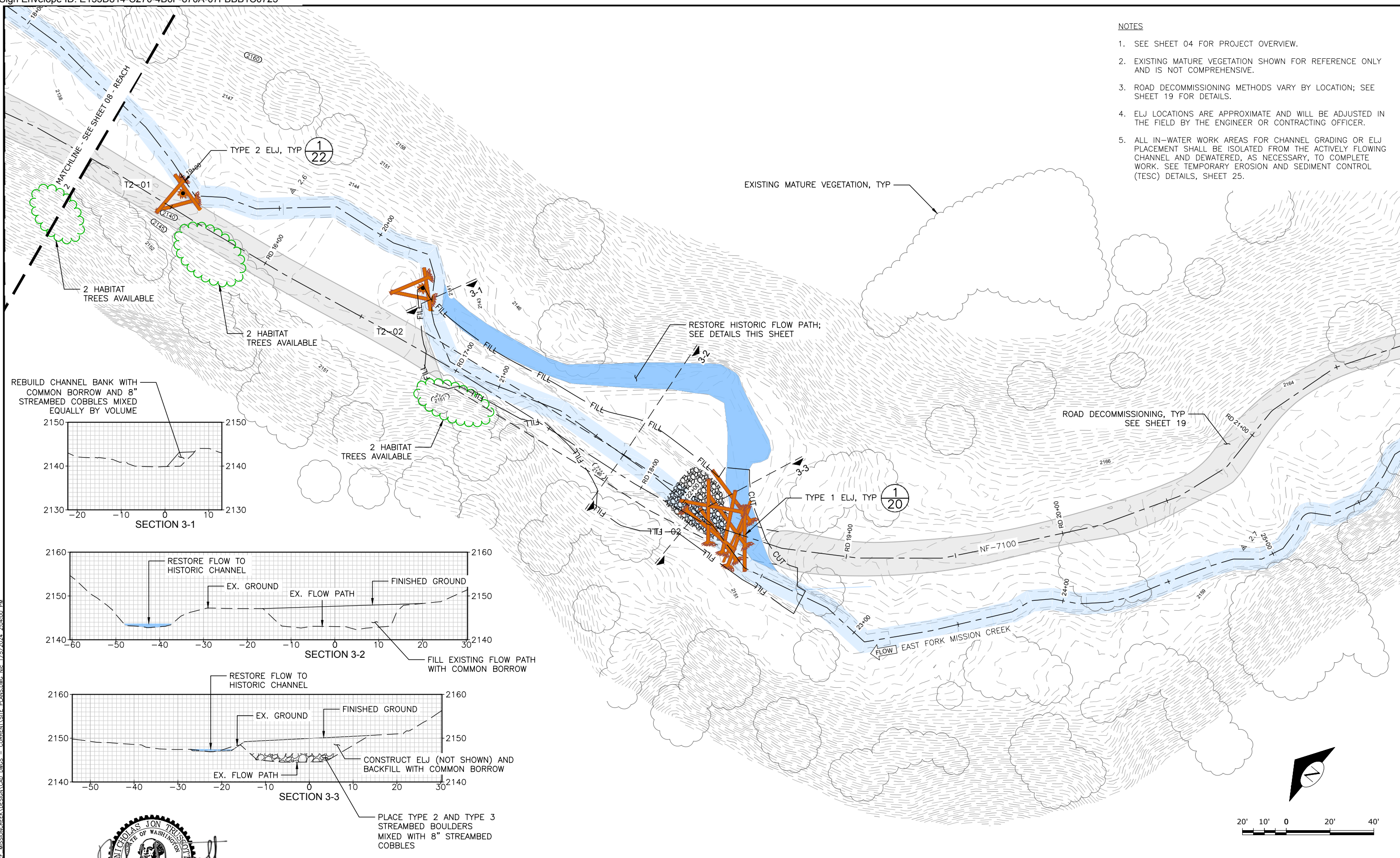
GEOGRAPHIC INFORMATION
LATITUDE 47°21'47"N
LONGITUDE 120°27'47"W
TN/SC/RG T22N/S28.33/R19E
DATE

EAST FORK MISSION CREEK RESTORATION PROJECT

REACH 2

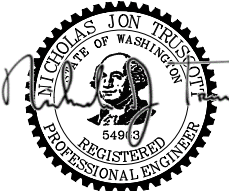
08
SHEET **08** OF **25**

- NOTES**
1. SEE SHEET 04 FOR PROJECT OVERVIEW.
 2. EXISTING MATURE VEGETATION SHOWN FOR REFERENCE ONLY AND IS NOT COMPREHENSIVE.
 3. ROAD DECOMMISSIONING METHODS VARY BY LOCATION; SEE SHEET 19 FOR DETAILS.
 4. ELJ LOCATIONS ARE APPROXIMATE AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER OR CONTRACTING OFFICER.
 5. ALL IN-WATER WORK AREAS FOR CHANNEL GRADING OR ELJ PLACEMENT SHALL BE ISOLATED FROM THE ACTIVELY FLOWING CHANNEL AND DEWATERED, AS NECESSARY, TO COMPLETE WORK. SEE TEMPORARY EROSION AND SEDIMENT CONTROL (TESC) DETAILS, SHEET 25.



PLACE TYPE 2 AND TYPE 3 STREAMBED BOULDERS MIXED WITH 8" STREAMBED COBBLES

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1/8/2024

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT PLOTTED TO ORIGINAL SCALE.



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NAME OR INITIALS AND DATE	
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DRAWN	LZ, KS
CHECKED	JS

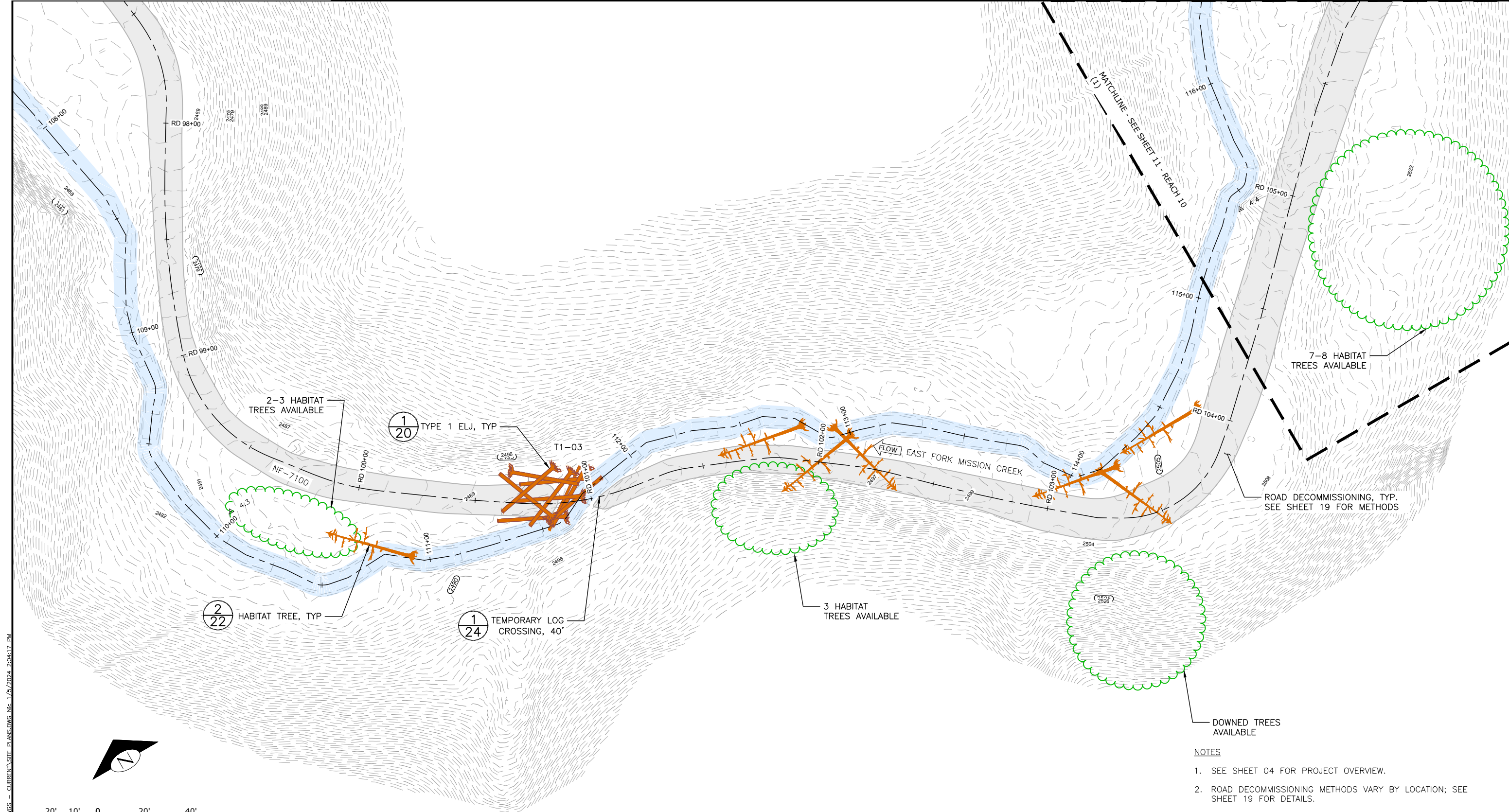
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LONGITUDE	120°27'47"W
TN/SC/RG	T22N/S28.33/R19E
DATE	

EAST FORK MISSION CREEK RESTORATION PROJECT

REACH 3

09
SHEET **09** OF **25**

Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION



2/22 HABITAT TREE, TYP

1/20 TYPE 1 ELJ, TYP

1/24 TEMPORARY LOG CROSSING, 40'

3 HABITAT TREES AVAILABLE

7-8 HABITAT TREES AVAILABLE

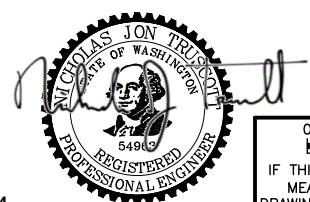
ROAD DECOMMISSIONING, TYP. SEE SHEET 19 FOR METHODS

DOWNED TREES AVAILABLE

NOTES

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NAME OR INITIALS AND DATE	
DESIGNED	NT
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DRAWN	LZ, KS
CHECKED	JS

GEOGRAPHIC INFORMATION	
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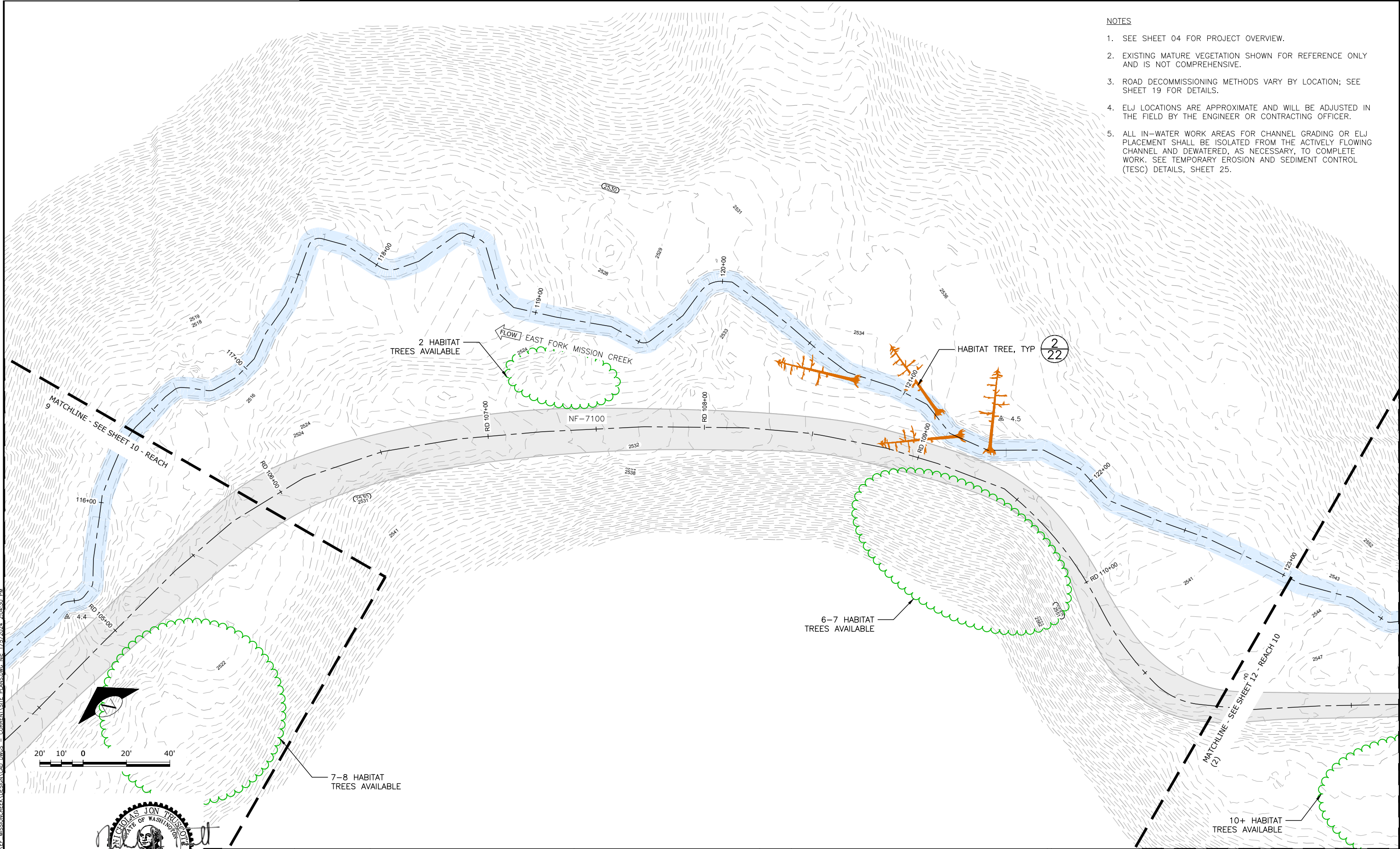
EAST FORK MISSION CREEK RESTORATION PROJECT

REACH 9

10
SHEET 10 OF 25

Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION

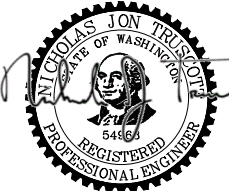
- NOTES**
1. SEE SHEET 04 FOR PROJECT OVERVIEW.
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NAME OR INITIALS AND DATE	
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DRAWN	LZ, KS
CHECKED	JS

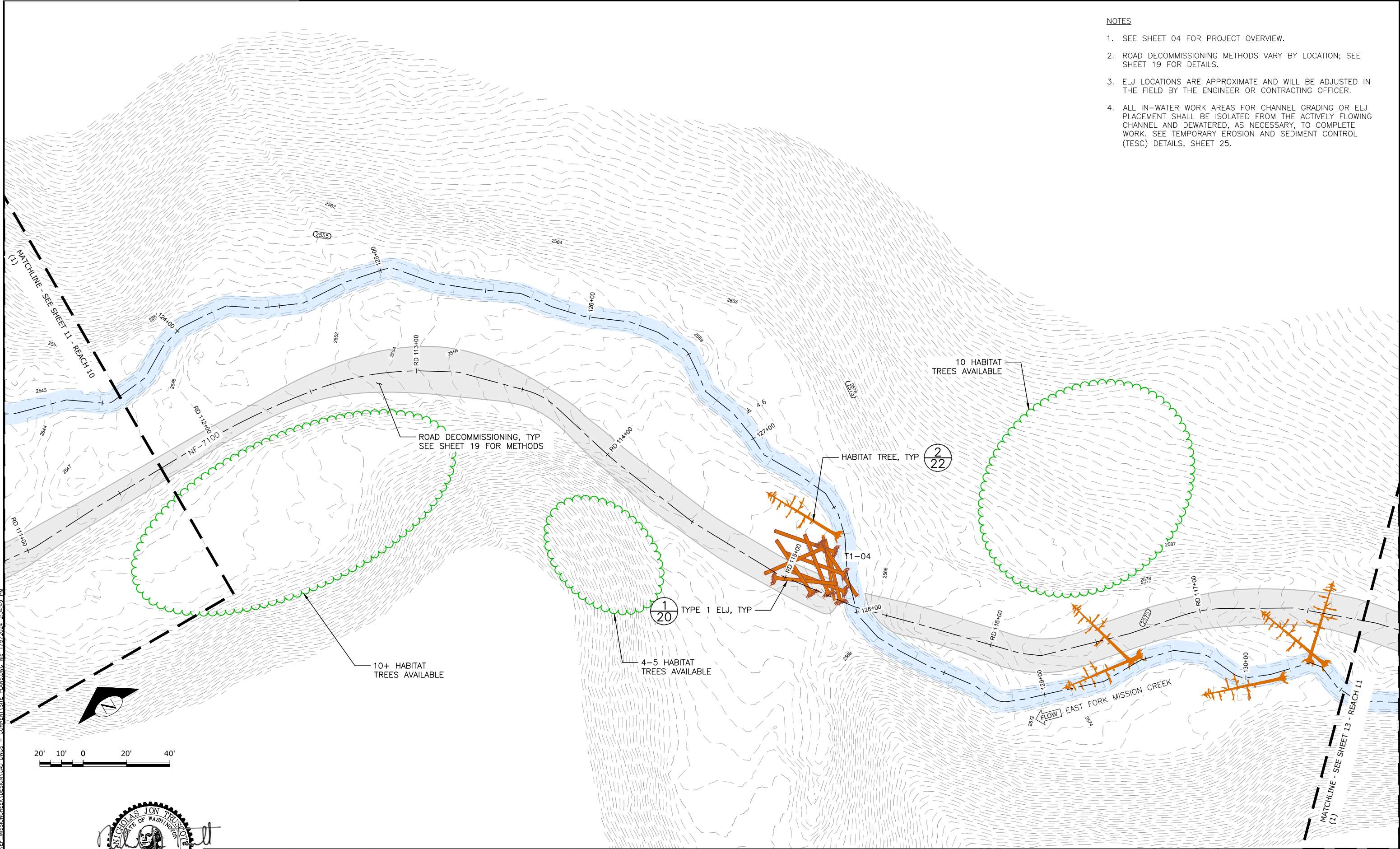
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EAST FORK MISSION CREEK RESTORATION PROJECT

REACH 10 (1)

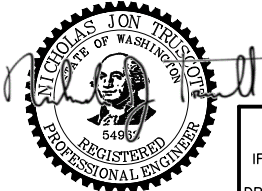
11
SHEET 11 OF 25

- NOTES**
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DRAWN	LZ, KS
CHECKED	JS

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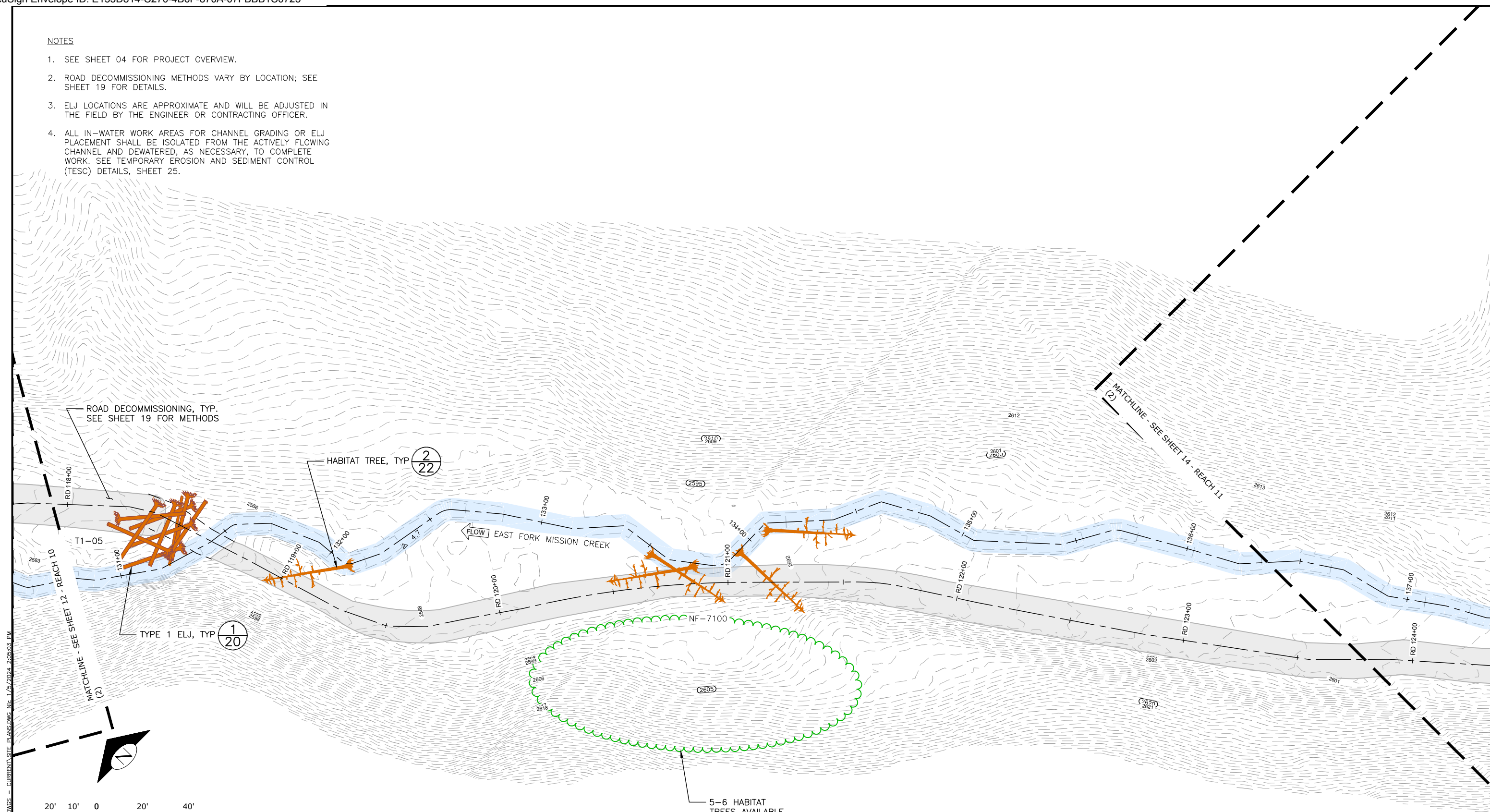
EAST FORK MISSION CREEK RESTORATION PROJECT

REACH 10 (2)

12
SHEET 12 OF 25

NOTES

1. SEE SHEET 04 FOR PROJECT OVERVIEW.
2. ROAD DECOMMISSIONING METHODS VARY BY LOCATION; SEE SHEET 19 FOR DETAILS.
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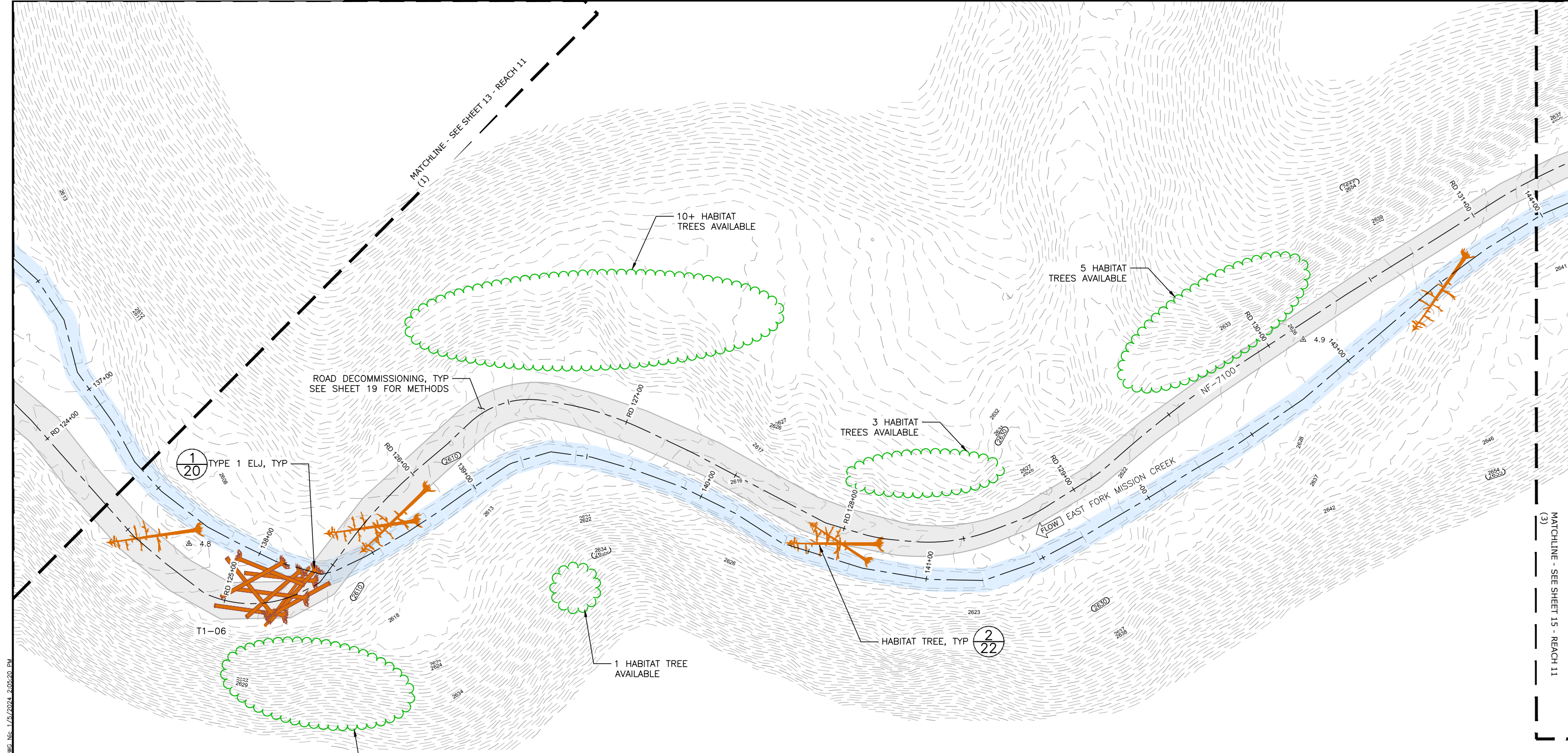
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DRAWN	LZ, KS
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LONGITUDE	120°27'47"W
TN/SC/RG	T22N/S28.33/R19E
DATE	

EAST FORK MISSION CREEK RESTORATION PROJECT

REACH 11 (1)

13
SHEET 13 OF 25



- NOTES**
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Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT PLOTTED TO ORIGINAL SCALE.



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DRAWN	LZ, KS
CHECKED	JS

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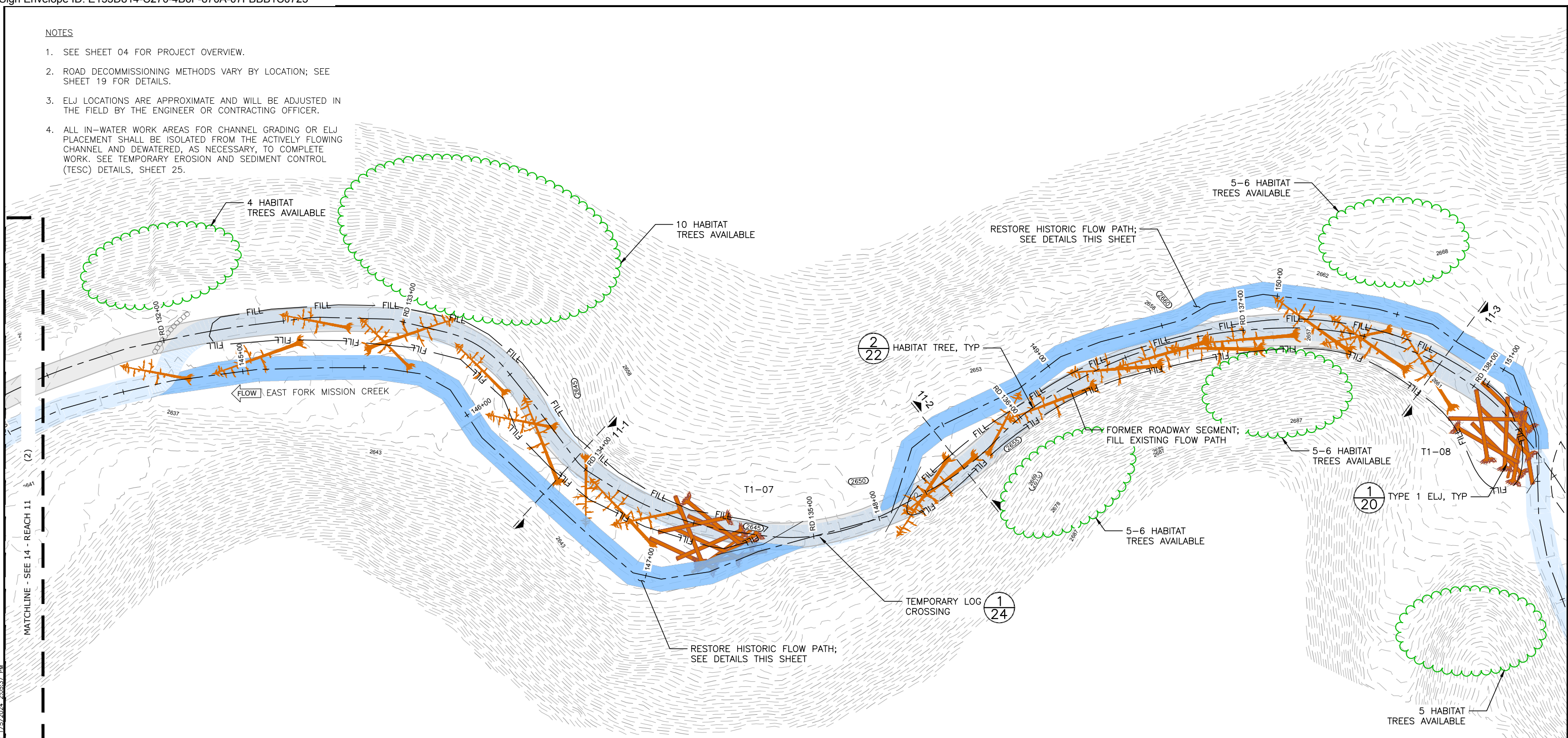
EAST FORK MISSION CREEK RESTORATION PROJECT

REACH 11 (2)

14
SHEET 14 OF 25

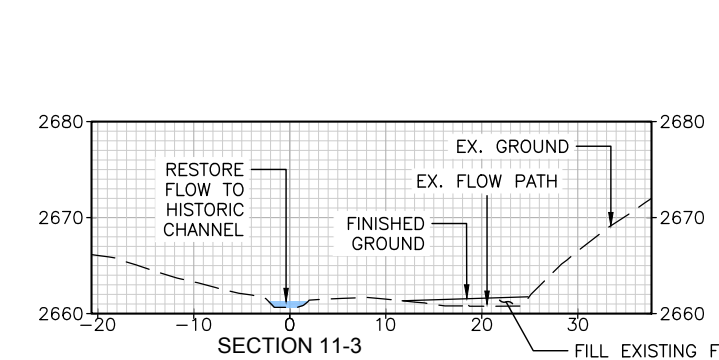
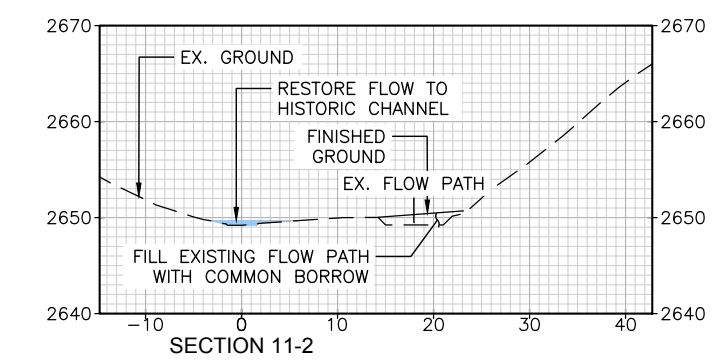
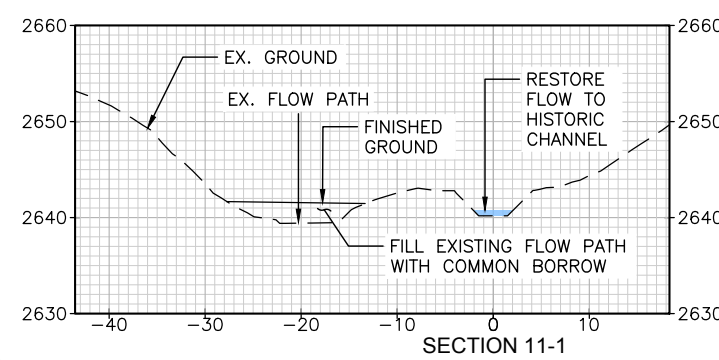
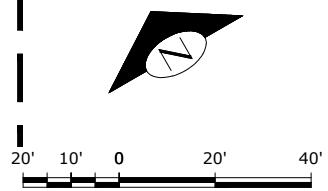
NOTES

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MATCHLINE - SEE 14 - REACH 11

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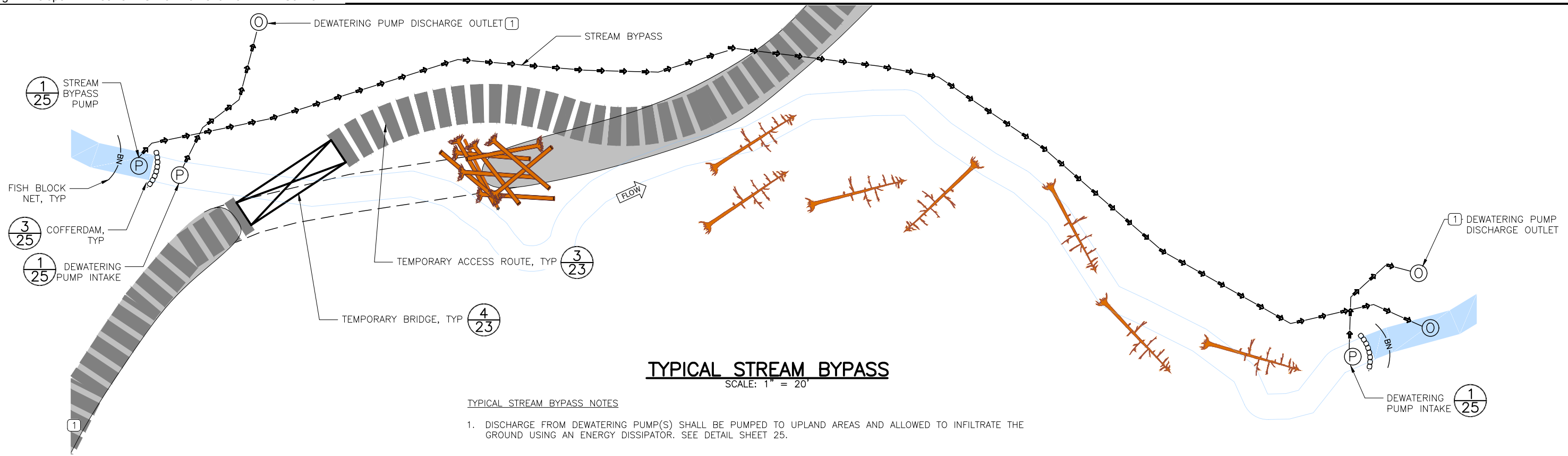
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DRAWN	LZ, KS	TN/SC/RG	T22N/S28.33/R19E
CHECKED	JS	DATE	

EAST FORK MISSION CREEK RESTORATION PROJECT

REACH 11 (3)

15
SHEET 15 OF 25

Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION

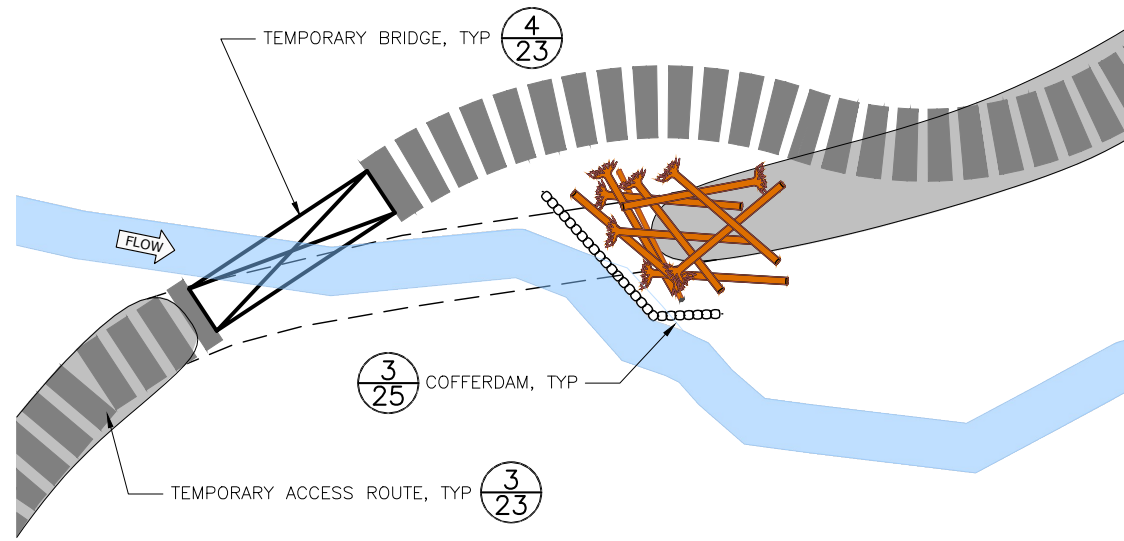


TYPICAL STREAM BYPASS

SCALE: 1" = 20'

TYPICAL STREAM BYPASS NOTES

- DISCHARGE FROM DEWATERING PUMP(S) SHALL BE PUMPED TO UPLAND AREAS AND ALLOWED TO INFILTRATE THE GROUND USING AN ENERGY DISSIPATOR. SEE DETAIL SHEET 25.



TYPICAL ELJ SITE ISOLATION

SCALE: 1" = 20'

TYPICAL TYPE 1 ELJ SITE ISOLATION NOTES

- IF SPACE ALLOWS, THE CONTRACTOR MAY ELECT TO BYPASS FLOW AROUND THE WORK AREA BY ISOLATING THE WORK AREA AND ALLOWING WATER TO FLOW PAST THE WORK AREA.
- FISH AND OTHER AQUATIC LIFE SHALL BE REMOVED FROM THE ISOLATED WORK AREA PRIOR TO ANY WORK.
- THE CONTRACTOR MAY ELECT TO UTILIZE SAND BAGS OR BULK BAGS FOR COFFERDAM CONSTRUCTION.

GENERAL WATER MANAGEMENT NOTES

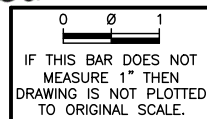
- TYPICALS SHOWN ON THIS SHEET ARE EXAMPLES OF ACCEPTABLE APPROACHES FOR WATER MANAGEMENT. IF ANOTHER APPROACH IS DESIRED, THE CONTRACTOR SHALL DEVELOP A WATER MANAGEMENT PLAN FOR APPROVAL BY THE CONTRACTING OFFICER.
- ALL WORK WITHIN THE ACTIVELY FLOWING CHANNEL SHALL BE PERFORMED WITHIN AN AREA ISOLATED FROM FISH.
- THE CONTRACTING AGENCY WILL PERFORM FISH REMOVAL.

WATER MANAGEMENT (1/16)

SCALE: AS NOTED



1/8/2024



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NAME OR INITIALS AND DATE	GEOGRAPHIC INFORMATION
DESIGNED: NT	LATITUDE: 47°21'47"N
CHECKED: RLE	LONGITUDE: 120°27'47"W
DRAWN: LZ, KS	TN/SC/RG: T22N/S28.33/R19E
CHECKED: JS	DATE: _____

EAST FORK MISSION CREEK RESTORATION PROJECT

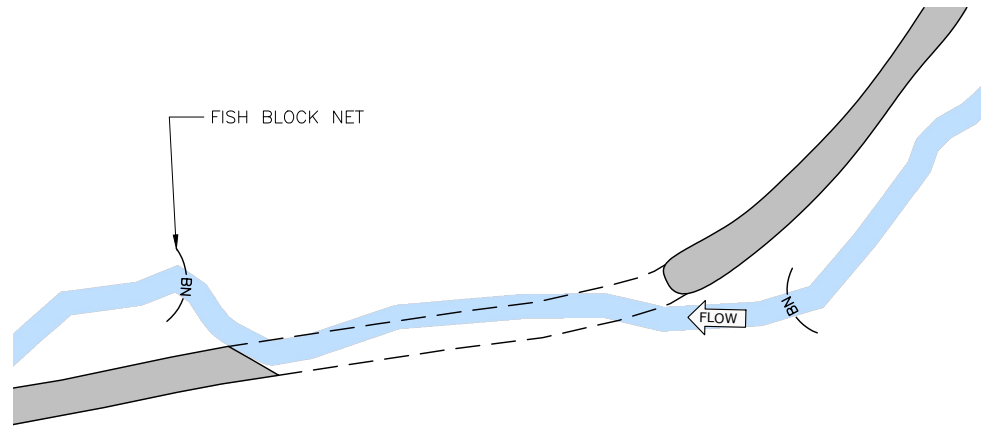
WATER MANAGEMENT (1)

16

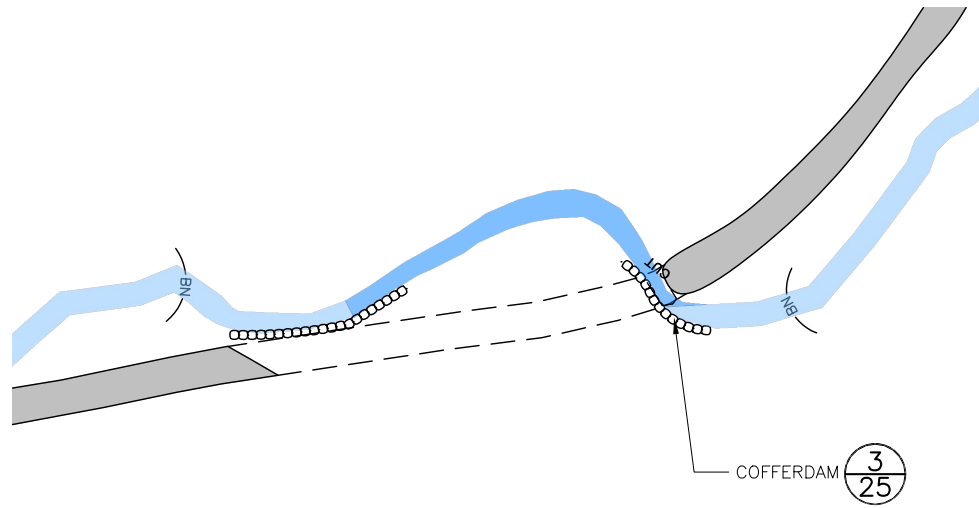
SHEET 16 OF 25

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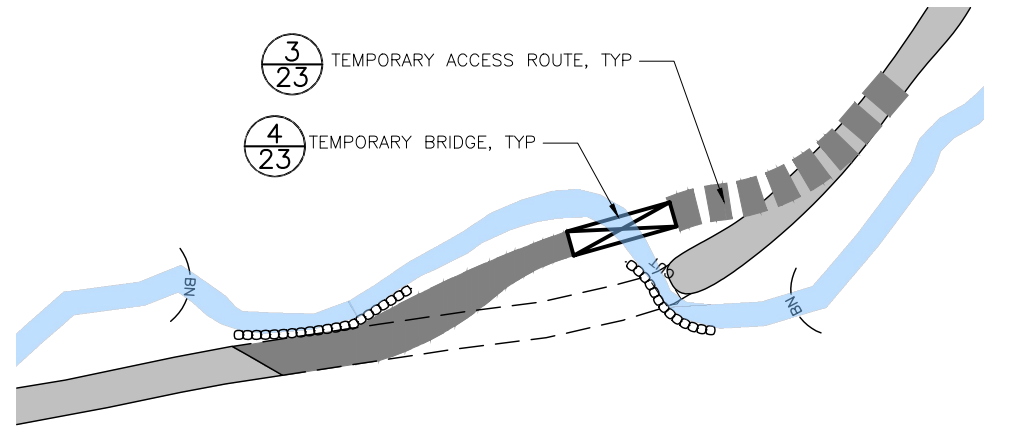
Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION



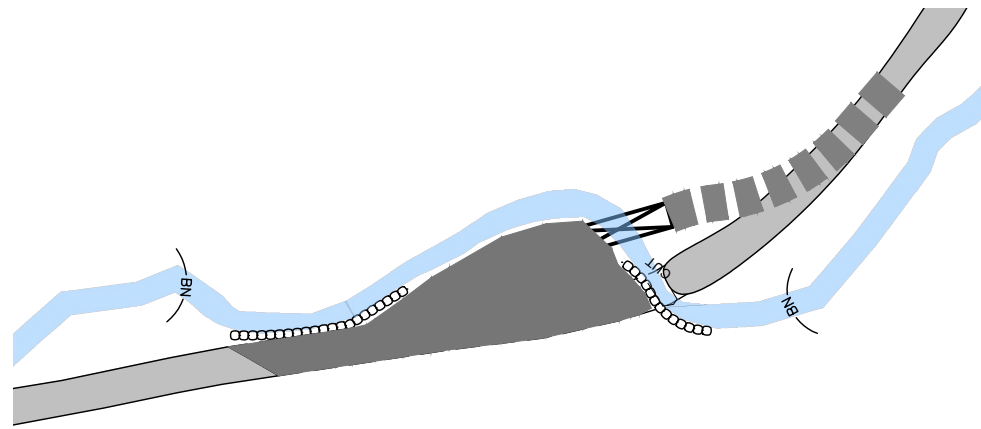
STEP 1: BLOCK NETS SHALL BE INSTALLED BY THE CONTRACTING AGENCY UPSTREAM AND DOWNSTREAM OF THE DESIRED ISOLATION AREA. THE AREA BETWEEN THE BLOCK NETS SHALL BE DEFISHED BY THE CONTRACTING AGENCY AFTER THE INSTALLATION OF BLOCK NETS.



STEP 2: SANDBAG COFFERDAMS SHALL BE PLACED ALONG HISTORIC FLOW PATH. EXCAVATE A PILOT CHANNEL AS NECESSARY TO ENSURE POSITIVE DRAINAGE INTO HISTORIC FLOW PATH.



STEP 3: PLACE FILL ACROSS TO CREATE A TEMPORARY ACCESS ROAD THROUGH THE SITE. INSTALL A TEMPORARY BRIDGE TO PROVIDE ACCESS TO UPSTREAM WORK.



STEP 4: FILL PREVIOUSLY EXISTING CHANNEL AND FLOODPLAIN TO MAINTAIN THE OLD HISTORIC FLOW PATH.



STEP 5: BUILD TYPE 1 ELJ STRUCTURE, REMOVE TEMPORARY ACCESS ROADS, BLOCK NETS AND COFFERDAMS.

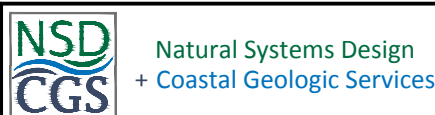
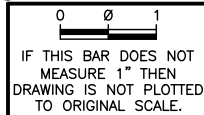
GENERAL WATER MANAGEMENT NOTES

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2. ALL WORK WITHIN THE ACTIVELY FLOWING CHANNEL SHALL BE PERFORMED WITHIN AN AREA ISOLATED FROM FISH.
3. THE CONTRACTING AGENCY WILL PERFORM FISH REMOVAL.

WATER MANAGEMENT REACH 3 1/17
SCALE: 1" = 40'



1/8/2024



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CHECKED	RLE	LONGITUDE	120°27'47"W
DRAWN	LZ, KS	TN/SC/RG	T22N/S28.33/R19E
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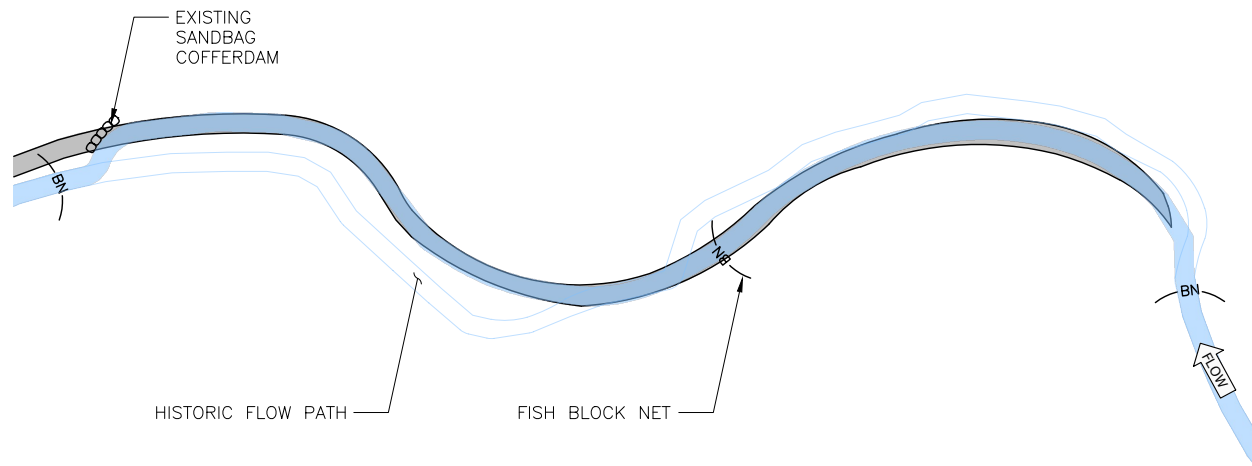
EAST FORK MISSION CREEK RESTORATION PROJECT

WATER MANAGEMENT (2)

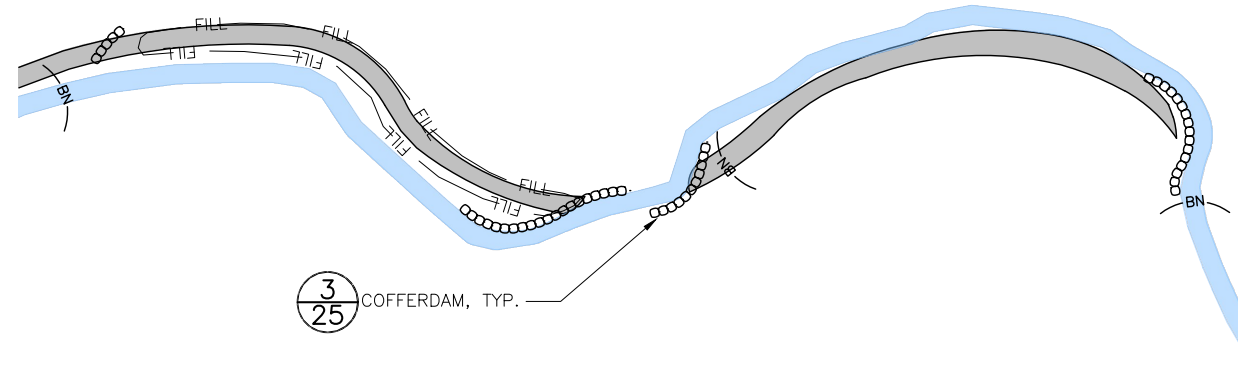
17
SHEET 17 OF 25

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Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION



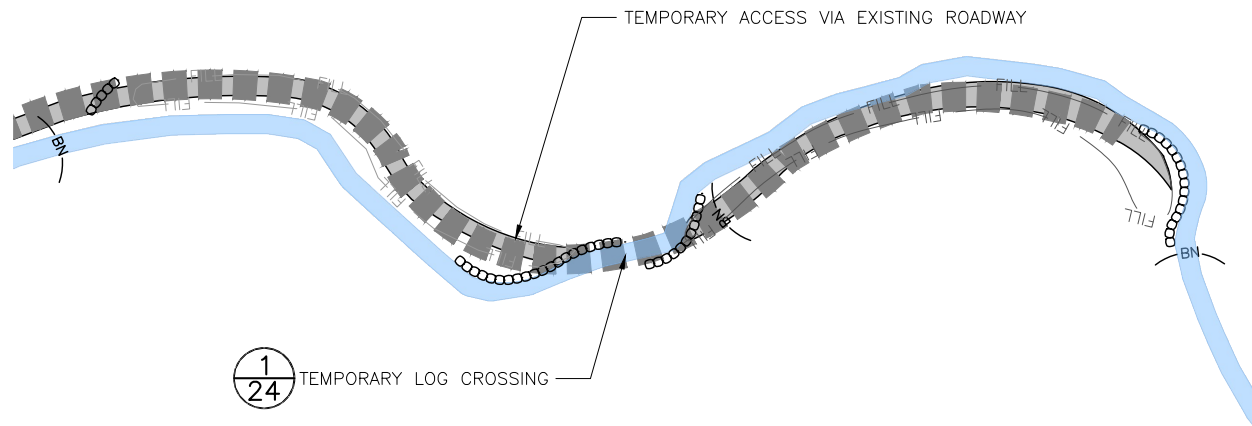
STEP 1: BLOCK NETS SHALL BE INSTALLED BY THE CONTRACTING AGENCY UPSTREAM AND DOWNSTREAM OF THE DESIRED ISOLATION AREA. THE AREA BETWEEN THE BLOCK NETS SHALL BE DEFISHED BY THE CONTRACTING AGENCY AFTER THE INSTALLATION OF BLOCK NETS.



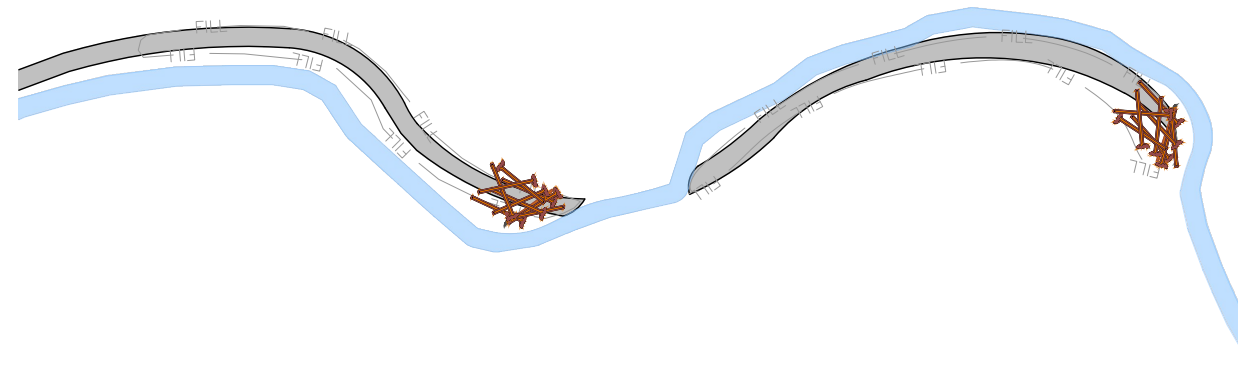
STEP 2: INSTALL COFFERDAMS TO DIVERT FLOW INTO HISTORIC FLOW PATH THEN FILL EXISTING CHANNEL TO FIRST CROSSING AND INSTALL SANDBAG COFFERDAMS ALONG HISTORIC FLOW PATH TO DIRECT FLOW.

GENERAL WATER MANAGEMENT NOTES

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3. THE CONTRACTING AGENCY WILL PERFORM FISH REMOVAL.



STEP 3: USE EXISTING ROAD AS A TEMPORARY ACCESS ROUTE. INSTALL A TEMPORARY LOG CROSSING TO ALLOW ACCESS TO UPSTREAM WORK AREA. FILL EXISTING CHANNEL.

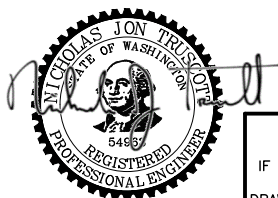


STEP 4: BUILD TYPE 1 ELJ STRUCTURES, REMOVE TEMPORARY ACCESS ROAD, BLOCK NETS, AND COFFERDAMS AND MAINTAIN THE HISTORIC FLOW PATH.

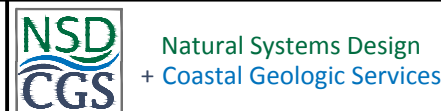
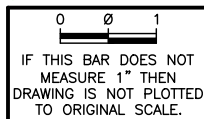
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WATER MANAGEMENT – REACH 11(3) 1/18

SCALE: 1" = 50'



1/8/2024



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CHECKED	RLE	LONGITUDE	120°27'47"W
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CHECKED	JS	DATE	

EAST FORK MISSION CREEK RESTORATION PROJECT

WATER MANAGEMENT (3)

18
SHEET **18** OF **25**

Jan 05, 2024 FINAL DESIGN – FOR CONSTRUCTION

UPPER PROJECT ROAD DECOMMISSIONING

DNSTRM STA	UPSTRM STA	ROAD DECOMMISSIONING TYPE
RD 54+56	RD 67+20	TYPE 1
RD 67+20	RD 71+00	TYPE 2
RD 71+00	RD 72+63	TYPE 1
RD 72+63	RD 94+86	TYPE 2
RD 94+86	RD 98+00	TYPE 1
RD 98+00	RD 114+00	TYPE 2
RD 114+00	RD 115+32	TYPE 1
RD 115+32	RD 119+00	TYPE 2
RD 119+00	RD 124+54	TYPE 1
RD 124+54	RD 124+75	TYPE 2
RD 124+75	RD 126+00	TYPE 1
RD 126+00	RD 126+70	TYPE 2
RD 126+70	RD 127+23	TYPE 1
RD 127+23	RD 128+40	TYPE 2
RD 128+40	RD 133+58	TYPE 1
RD 133+58	RD 138+40	N/A - SEE GRADING DETAILS
RD 138+40	RD 148+25	TYPE 1

LOWER PROJECT ROAD DECOMMISSIONING

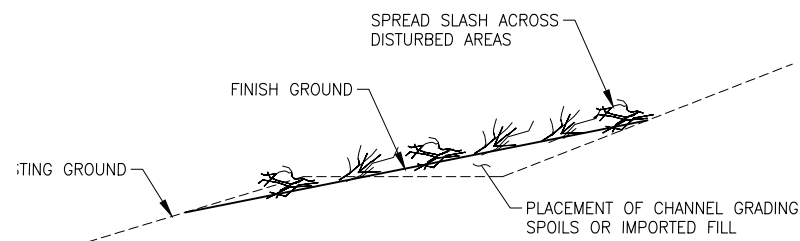
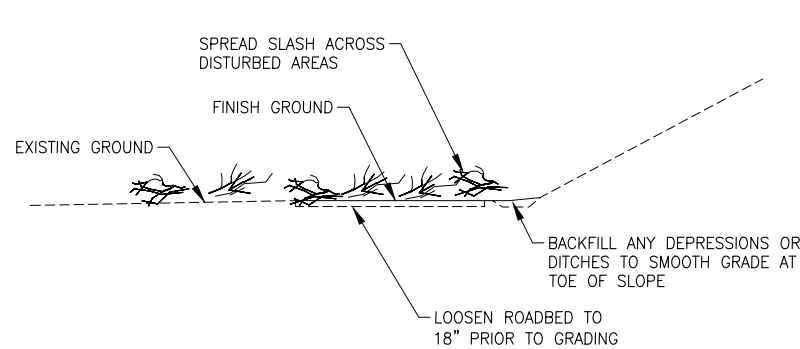
DNSTRM STA	UPSTRM STA	ROAD DECOMMISSIONING TYPE
RD 0+00	RD 3+33	N/A - SEE GRADING DETAILS
RD 3+33	RD 4+25	TYPE 1
RD 4+25	RD 9+76	TYPE 2
RD 9+76	RD 13+78	TYPE 1
RD 13+78	RD 14+48	TYPE 2
RD 14+48	RD 17+00	TYPE 1
RD 17+00	RD 18+65	N/A - SEE GRADING DETAILS
RD 18+65	RD 23+65	TYPE 1
RD 23+65	RD 25+00	TYPE 2
RD 25+00	RD 27+40	TYPE 1
RD 27+40	RD 32+50	TYPE 2
RD 32+50	RD 36+33	TYPE 1
RD 36+33	RD 43+34	TYPE 2
RD 43+34	RD 51+00	TYPE 1
RD 51+00	RD 51+91	TYPE 2
RD 51+91	RD 54+56	TYPE 1

ROAD DECOMMISSIONING NOTES

1. STATIONING CORRESPONDS WITH ROAD DECOMMISSIONING (RD) ALIGNMENT. ALIGNMENT FILE SHALL BE PROVIDED TO THE CONTRACTOR.
2. FOR METHODS, SEE ROAD DECOMMISSIONING TYPE DETAILS 1-3, THIS SHEET.
3. STATIONING AND ROAD DECOMMISSIONING METHOD IS APPROXIMATE; EXISTING CONDITIONS MAY DIFFER FROM THOSE INDICATED IN THESE PLANS.

GENERAL ROAD DECOMMISSIONING DETAIL NOTES

1. INTENT OF ROAD DECOMMISSIONING IS TO ACHIEVE NATURAL APPEARING TOPOGRAPHY AND BLEND CUT AND FILL AREAS INTO EXISTING HILLSLOPES.
2. CROSS SECTIONS SHOWN ARE A REPRESENTATIVE TYPICAL AND WILL VARY BASED ON STATIONING, SUBGRADE CONDITIONS, PROXIMITY TO CREEK AVULSIONS, AND ANY EXISTING VEGETATION THAT IS DIRECTED TO BE PRESERVED OR REMOVED.
3. ALL CULVERTS AND NON-NATURAL DEBRIS SHALL BE REMOVED PRIOR TO ROAD FILL.
4. EXCAVATED MATERIAL SHALL BE PLACED OVER FORMER ROADBED AND AGAINST EXISTING EMBANKMENT. LIMIT FILL PLACEMENT TO AREAS WITHOUT WOODY VEGETATION AS DIRECTED BY THE CONTRACTING OFFICER.
5. CONTRACTOR SHALL PLACE A MAXIMUM OF 12" LIFTS AND COMPACT BY TRACKWALKING THE ENTIRE FINISHED SURFACE OF EACH LIFT A MINIMUM OF TWO PASSES WITH A BULLDOZER OR EXCAVATOR.
6. SLASH SHALL BE SPREAD OVER THE DISTURBED AREA FOLLOWING FILL PLACEMENT.
7. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED WITH CERTIFIED WEED-FREE STRAW AT A RATE OF 2,000 LBS/ACRE FOLLOWING GRADING. WORK SHOWN ON THESE PLANS IS ESTIMATED TO REQUIRE SEEDING AND MULCHING OF 5.7 ACRES.



TYPE 1 ROAD DECOMMISSIONING 1
NOT TO SCALE 19

TYPE 2 ROAD DECOMMISSIONING 2
NOT TO SCALE 19

SEED MIX		
SPECIES	COMMON NAME	LBS PLS/ACRE
<i>Achillea millefolium</i>	Western Yarrow	0.5
<i>Agropyron spicatum</i>	Bluebunch Wheatgrass	10
<i>Bromus carinatus</i>	Mountain Brome	1
<i>Elymus glaucus</i>	Wild Rye	1
<i>Festuca idahoensis</i>	Idaho Fescue	5
<i>Linum lewisii</i>	Prairie Flax	0.25
<i>Lomatium dissectum</i>	Desert Parsley	1
<i>Lomatium nudicaule</i>	Barestem Biscuitroot	1
<i>Lupinus sericeus</i>	Silky Lupine	0.25
<i>Triticum aestivum x secale cereale</i>	Sterile Triticale	5
<i>Poa secunda</i>	Sandberg Bluegrass	10



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NAME OR INITIALS AND DATE	GEOGRAPHIC INFORMATION
DESIGNED NT	LATITUDE 47°21'47"N
CHECKED RLE	LONGITUDE 120°27'47"W
DRAWN LZ, KS	TN/SC/RG T22N/S28.33/R19E
CHECKED JS	DATE

EAST FORK MISSION CREEK RESTORATION PROJECT

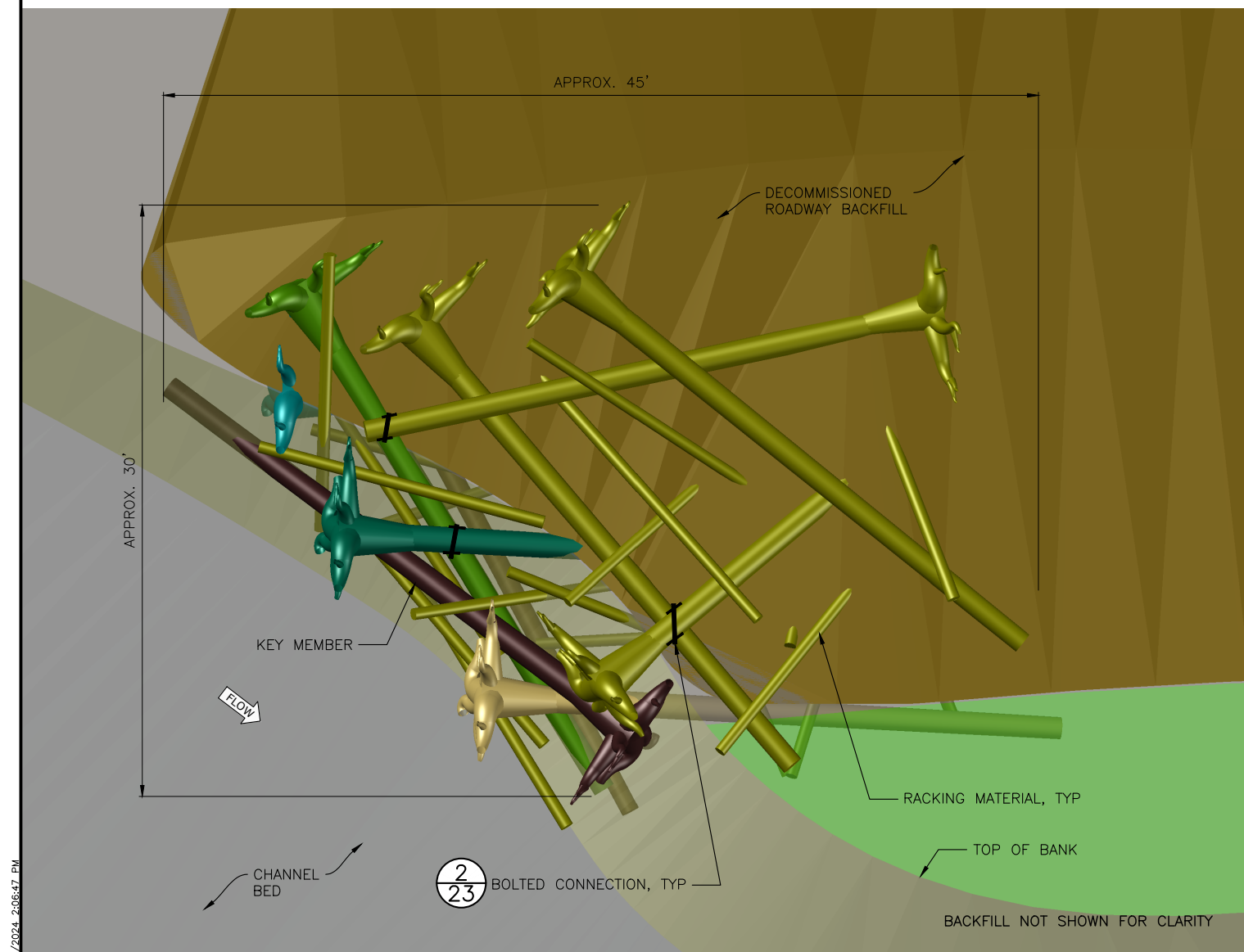
ROAD DECOMMISSIONING TYPICAL DETAILS

19

SHEET 19 OF 25

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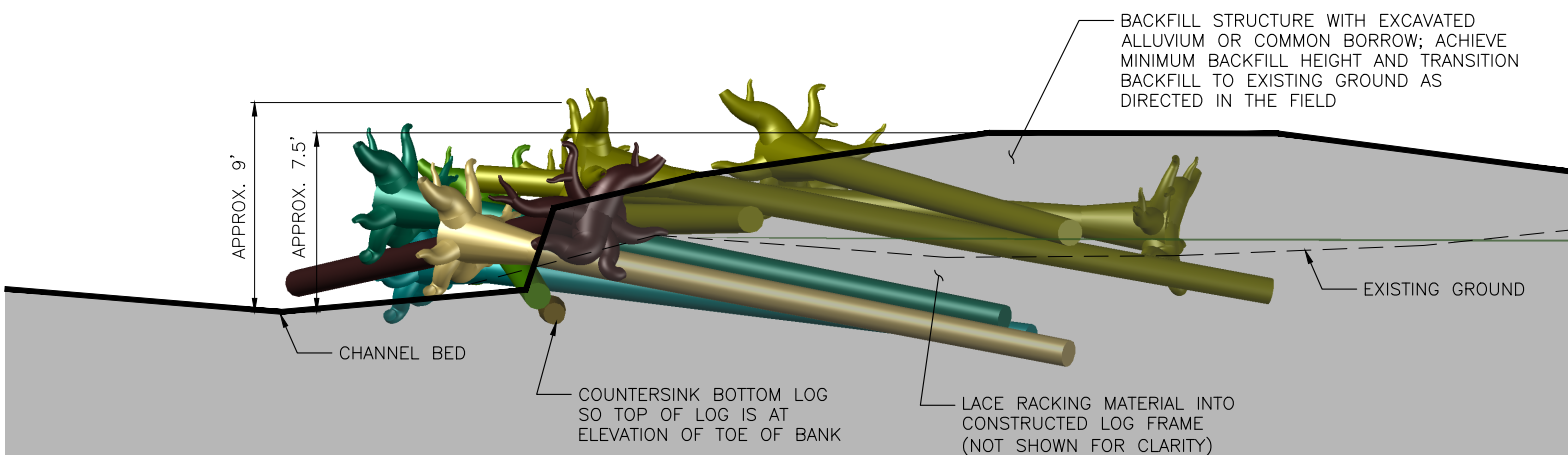
TYPE 1 PLAN VIEW
SCALE: 1" = 4'

NOTES

1. ALL LOGS SHALL BE CONIFEROUS SPECIES. THE CONTRACTOR MAY HARVEST TREES ON-SITE TO GENERATE NECESSARY LOGS, OR MAY CHOOSE TO IMPORT NECESSARY WOODY MATERIALS.
2. THE CONTRACTOR SHALL PLACE LOGS AS ILLUSTRATED ON THIS SHEET UNLESS DIRECTED OTHERWISE BY THE CONTRACTING OFFICER.
3. RACKING LOGS SHALL CONSIST OF TREES WITH BRANCHES HAVING A BASE DIAMETER OF 4-10 INCHES AND A LENGTH OF 10-25 FEET. RACKING MATERIAL SHALL OCCUR WITH EACH LAYER TO ENSURE THAT RACKING MATERIAL EXTENDS THROUGH THE STRUCTURE AND IS PINNED BY SUBSEQUENT LAYERS. SLASH MATERIAL SHALL CONSIST OF LIMBS AND BRANCHES AND A BASE DIAMETER BETWEEN 1 AND 3 INCHES.
4. INCORPORATE SLASH INTO THE ELJ AT THE DIRECTION OF THE CONTRACTING OFFICER.
5. BACKFILL EXTENTS MAY VARY AND ARE TO BE CONSTRUCTED WITH NATIVE ALLUVIUM FROM EXCAVATION FOR STRUCTURE PLACEMENT OR COMMON BORROW GENERATED THROUGH ROAD DECOMMISSIONING ACTIVITIES.
6. FINAL ELJ HEIGHT TO BE ACHIEVED AS SPECIFIED REGARDLESS OF ACTUAL LOG DIAMETERS USED OR STACKING ARRANGEMENT.

TYPE 1 ELJ MATERIALS SCHEDULE				
LOG ID	DIA* (IN)	LENGTH** (FT)	ROOTWAD (Y/N)	QUANTITY PER STRUCTURE
RE-3	16	30	Y	9
F-3	14	30	N	1
RACKING	4-8	10-25	N	25
SLASH	1-3	2-6	N	10 CY

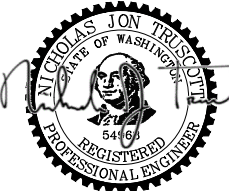
* MINIMUM DIAMETER AT BREAST HEIGHT, NOT INCLUDING BARK THICKNESS
** TOTAL LENGTH INCLUDING ROOTWAD



TYPE 1 PROFILE VIEW
SCALE: 1" = 4'

TYPE 1 DETAILS (1/20)
SCALE: AS NOTED

NA\PROJECTS\CONDO\EE MISSIONCREEK\DESIGN\CAD DWGS - CURRENT\TYPE 1 - ELJ DETAILS.DWG. NIG: 1/5/2024, 2:06:47 PM



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NAME OR INITIALS AND DATE	GEOGRAPHIC INFORMATION
DESIGNED: NT	LATITUDE: 47°21'47"N
CHECKED: RLE	LONGITUDE: 120°27'47"W
DRAWN: LZ, KS	TN/SC/RG: T22N/S28.33/R19E
CHECKED: JS	DATE: _____

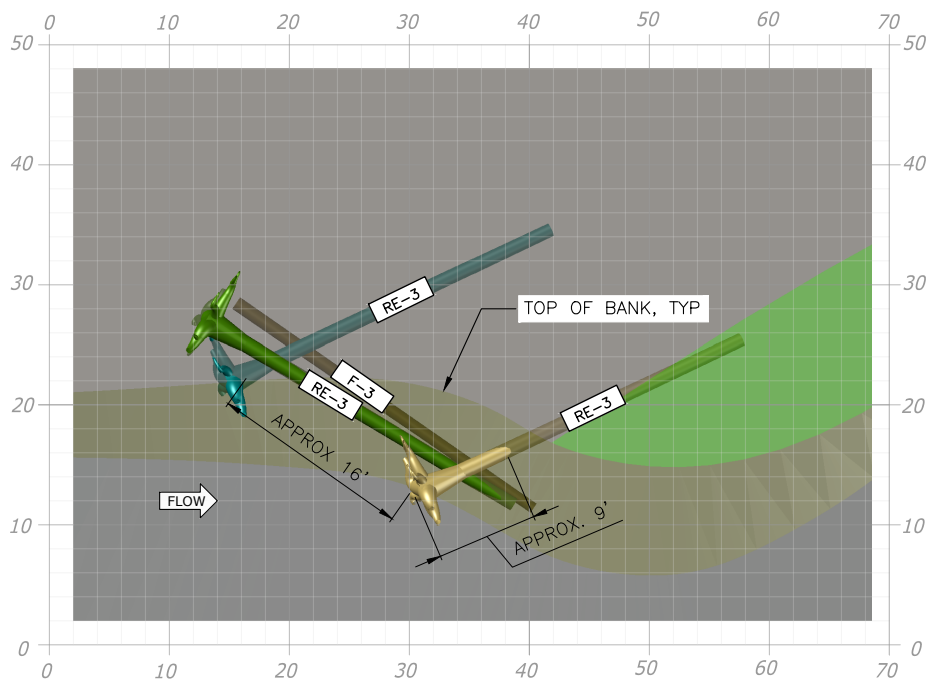
EAST FORK MISSION CREEK RESTORATION PROJECT

TYPE 1 ELJ DETAILS

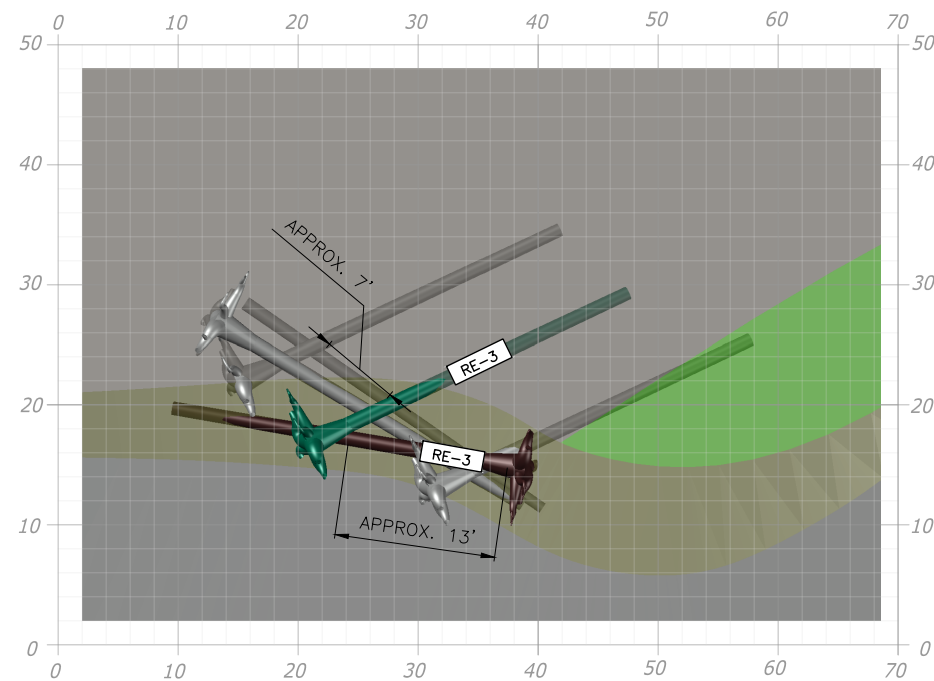
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SHEET 20 OF 25

Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION

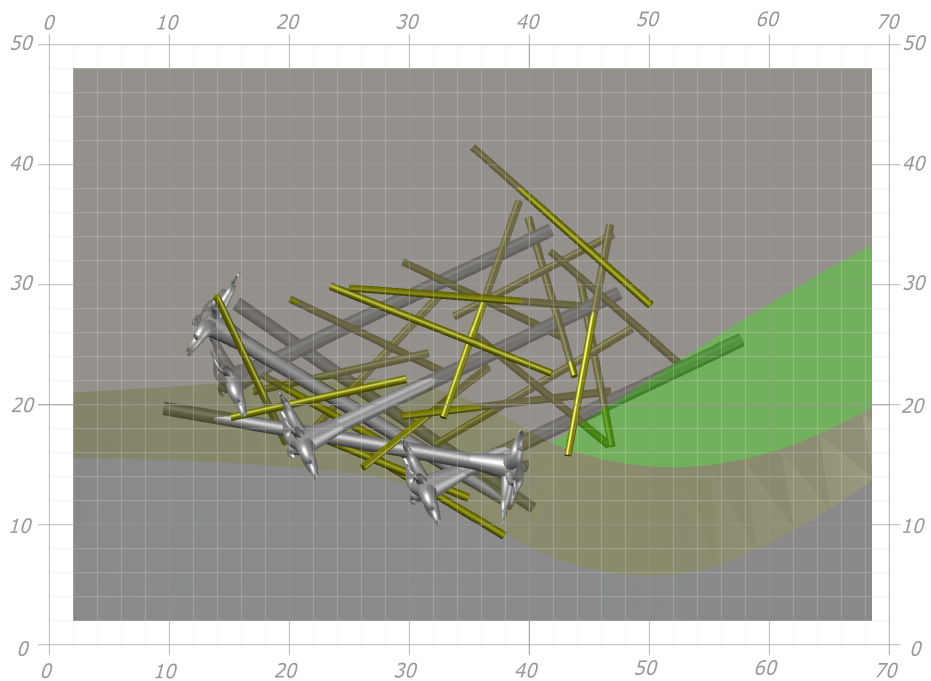
ANTICIPATED CONSTRUCTION SEQUENCE



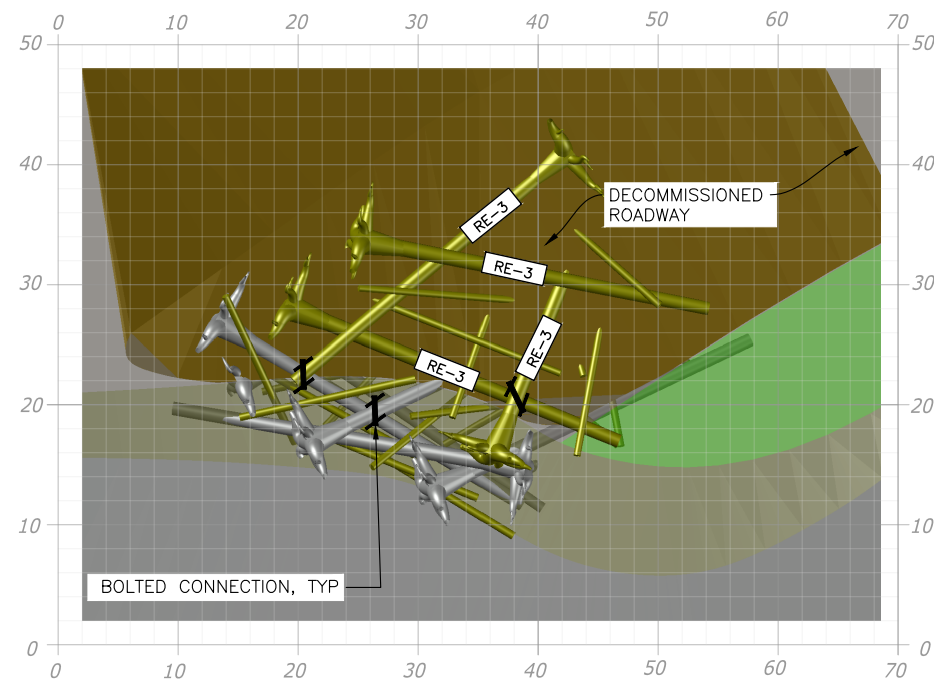
STEP 1: COUNTERSINK TOE LOG (TOP OF LOG EQUAL WITH ELEVATION OF TOE OF BANK) AND PLACE ROOTWAD LOGS AS SHOWN.



STEP 2: PLACE TWO ADDITIONAL ROOTWAD LOGS.



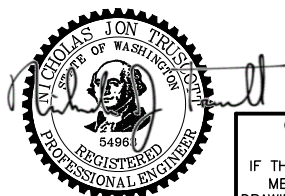
STEP 3: LACE RACKING MATERIAL INTO THE FRAME OF THE ELJ, INTERTWINING RACKING PIECES WITH STRUCTURAL FRAME COMPONENTS OF THE ELJ.



STEP 4: INSTALL BOLTED CONNECTIONS WHERE SHOWN. PLACE THE REMAINING 4 ROOTWAD MEMBERS AND BACKFILL STRUCTURE (NOT SHOWN).

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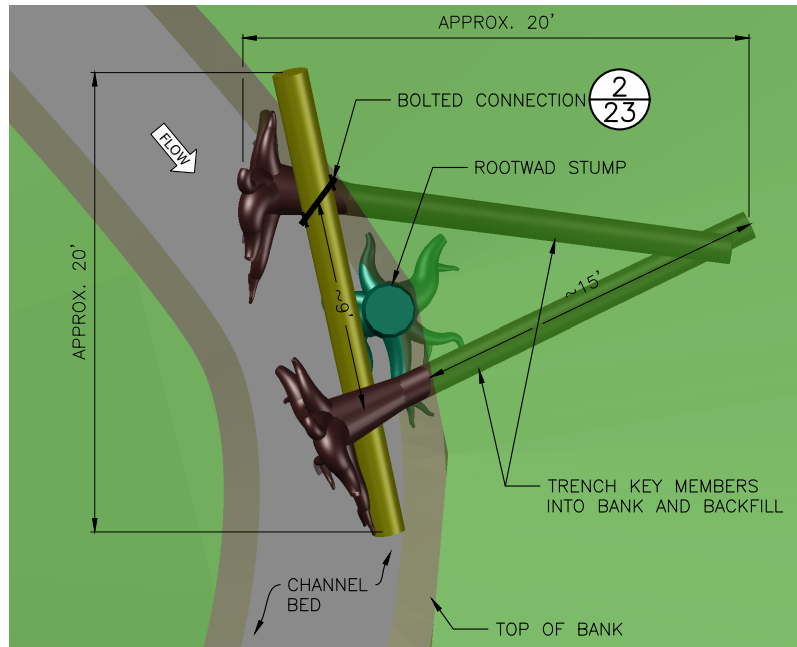
NAME OR INITIALS AND DATE		GEOGRAPHIC INFORMATION	
DESIGNED	NT	LATITUDE	47°21'47"N
CHECKED	RLE	LONGITUDE	120°27'47"W
DRAWN	LZ, KS	TN/SC/RG	T22N/S28.33/R19E
CHECKED	JS	DATE	

EAST FORK MISSION CREEK RESTORATION PROJECT

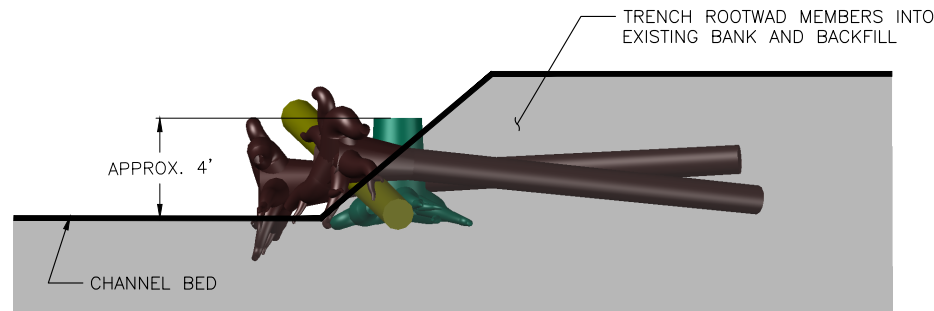
TYPE 1 ELJ SEQUENCING

21
SHEET 21 OF 25

Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION



TYPE 2 PLAN VIEW
SCALE: 1" = 4'



TYPE 2 PROFILE VIEW
SCALE: 1" = 4'

TYPE 2 ELJ NOTES

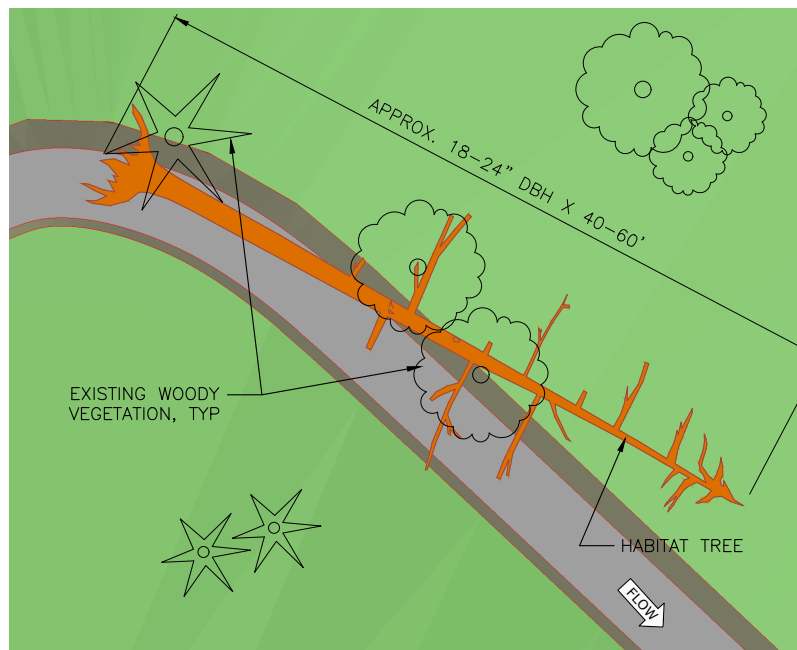
1. ALL LOGS SHALL BE CONIFEROUS SPECIES. THE CONTRACTOR MAY HARVEST TREES ON-SITE TO GENERATE NECESSARY LOGS, OR MAY CHOOSE TO IMPORT NECESSARY WOODY MATERIALS.
2. THE CONTRACTOR SHALL PLACE LOGS AS ILLUSTRATED ON THIS SHEET UNLESS DIRECTED OTHERWISE BY THE CONTRACTING OFFICER.
3. RACKING LOGS SHALL CONSIST OF TREES WITH BRANCHES HAVING A BASE DIAMETER OF 4-10 INCHES AND A LENGTH OF 10-25 FEET. RACKING MATERIAL SHALL OCCUR WITH EACH LAYER TO ENSURE THAT RACKING MATERIAL EXTENDS THROUGH THE STRUCTURE AND IS PINNED BY SUBSEQUENT LAYERS. SLASH MATERIAL SHALL CONSIST OF LIMBS AND BRANCHES AND A BASE DIAMETER BETWEEN 1 AND 3 INCHES.
4. INCORPORATE SLASH INTO THE ELJ AT THE DIRECTION OF THE CONTRACTING OFFICER.
5. FINAL ELJ HEIGHT TO BE ACHIEVED AS SPECIFIED REGARDLESS OF ACTUAL LOG DIAMETERS USED OR STACKING ARRANGEMENT.

TYPE 2 ELJ MATERIALS SCHEDULE

LOG ID	DIA* (IN)	LENGTH** (FT)	ROOTWAD (Y/N)	QUANTITY PER STRUCTURE
RE-2	16	20	Y	2
F-2	14	20	N	1
RB-S1	18	4	Y	1
RACKING	4-8	10-25	N	10
SLASH	1-3	2-6	N	5 CY

* MINIMUM DIAMETER AT BREAST HEIGHT, NOT INCLUDING BARK THICKNESS
** TOTAL LENGTH INCLUDING ROOTWAD

TYPE 2 ELJ DETAILS (1/22)
SCALE: AS NOTED



HABITAT TREE PLAN VIEW
SCALE: 1" = 8'

HABITAT TREE NOTES

1. HABITAT TREES SHALL BE HARVESTED ON-SITE IN ACCORDANCE WITH SPECIAL PROVISIONS, OR IMPORTED.
2. HABITAT TREES SHALL BE FROM CONIFEROUS SPECIES WITH BRANCHES INTACT.
3. HABITAT TREES SHALL BE PLACED OR OPPORTUNISTICALLY TIPPED AS DIRECTED BY THE CONTRACTING OFFICER. EXISTING HABITAT TREES SHALL MEET THE FOLLOWING CRITERIA:
 - 3.1. LESS THAN 25 DBH (DIAMETER AT BREAST HEIGHT)
 - 3.2. TREES SHALL BE TIPPED SINGULARLY OR IN PAIRS. THE CONTRACTOR SHALL PRESERVE SURROUNDING VEGETATION.
 - 3.3. TREES SHALL BE TIPPED OR HARVESTED NEARBY LOCATION OF FINAL PLACEMENT.
 - 3.4. SNAGS SHALL NOT BE USED AS HABITAT TREES.
4. PLACE TREES TO MAXIMIZE ENTANGLEMENT WITH EXISTING STABLE VEGETATION AND TREES. WHERE POSSIBLE, PLACE TREES BETWEEN EXISTING TREES TO RESIST MOBILIZATION IN MULTIPLE DIRECTIONS.
5. TREES SHALL BE PLACED SINGLY OR IN TANDEM DEPENDING ON SITE CONDITIONS. PLACE TREES AS SHOWN ON SITE PLANS OR AS DIRECTED IN THE FIELD.
6. TREES SHALL BE PLACED TO MINIMIZE DISTURBANCE TO EXISTING VEGETATION.

HABITAT TREE DETAILS (2/22)
SCALE: AS NOTED

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NAME OR INITIALS AND DATE	GEOGRAPHIC INFORMATION
DESIGNED NT	LATITUDE 47°21'47"N
CHECKED RLE	LONGITUDE 120°27'47"W
DRAWN LZ, KS	TN/SC/RG T22N/S28.33/R19E
CHECKED JS	DATE

EAST FORK MISSION CREEK RESTORATION PROJECT

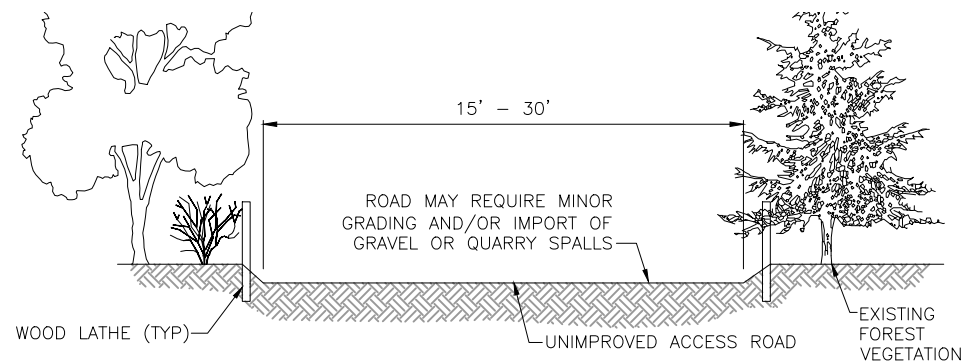
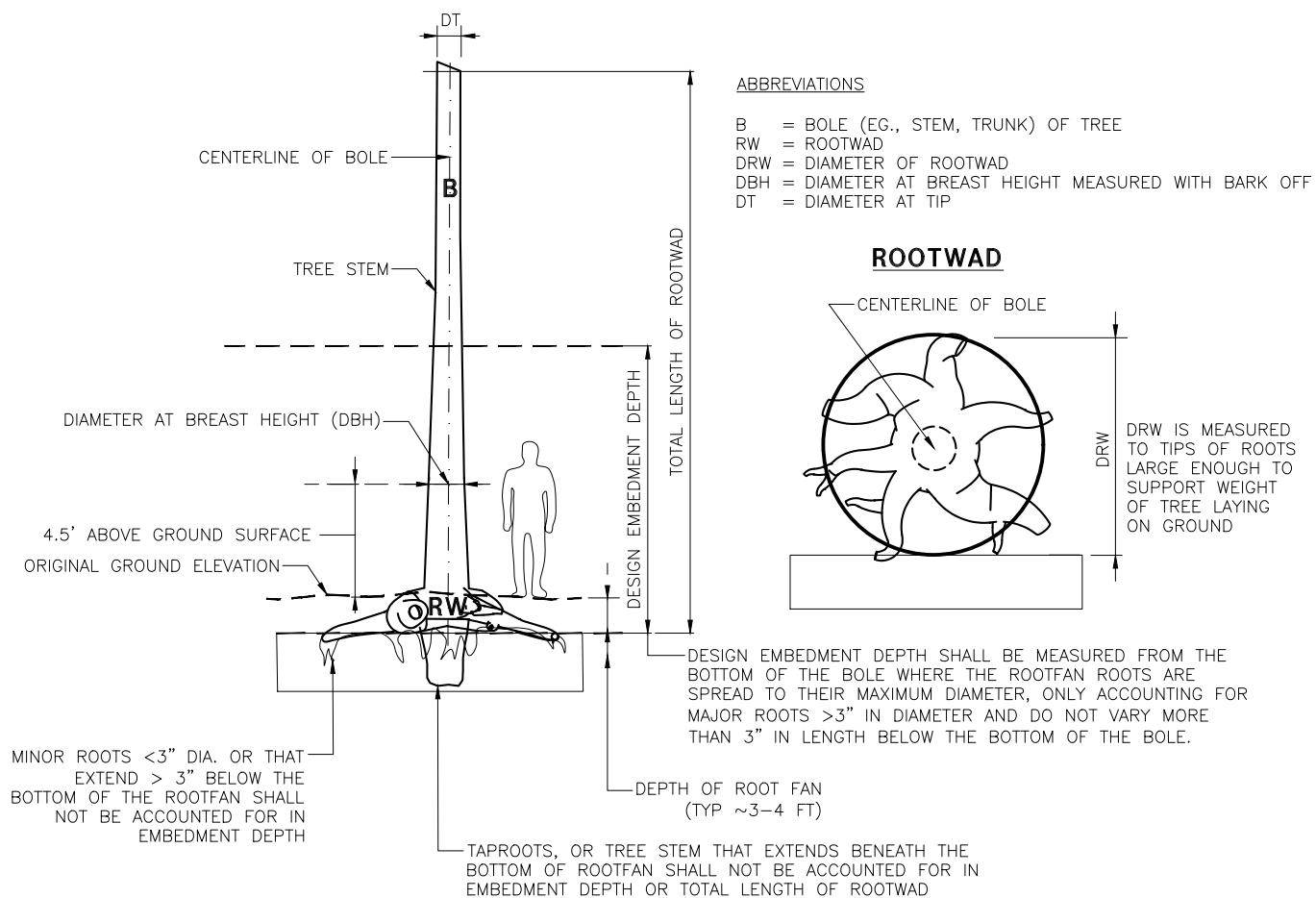
TYPE 2 ELJ & HABITAT TREE DETAILS

22
SHEET 22 OF 25

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ROOTWAD/ROOTWAD POST



TEMPORARY CLEARED ACCESS NOTES

- TEMPORARY ACCESS SHALL BE ACCOMPLISHED USING EXISTING ROADWAYS WHERE POSSIBLE.
- WHEN NECESSARY, TEMPORARY CLEARED ACCESS SHALL BE ROUTED TO MINIMIZE VEGETATION DISTURBANCE AND CLEARING.
- TEMPORARY CLEARED ACCESS SHALL NOT CAUSE EROSION OR TURBIDITY IN NEARBY WATERWAYS. IF NECESSARY, USE OF EROSION CONTROL METHODS CONSISTENT WITH THE 2019 STORMWATER MANAGEMENT MANUAL FOR EASTERN WASHINGTON SHALL BE EMPLOYED AS DIRECTED BY THE CONTRACTING OFFICER.
- CONTRACTOR SHALL MARK CLEARING LIMITS WITH FLAGGING FOR APPROVAL BY THE CONTRACTING OFFICER PRIOR TO ANY CLEARING ACTIVITIES.
- ANY TREES GREATER THAN 18" Ø SHALL BE REMOVED W/ ROOTWADS INTACT AND STOCKPILED FOR USE IN ELJ CONSTRUCTION.
- TREES AND SHRUBS WITH 6"-18" Ø SHALL BE STOCKPILED FOR USE AS RACKING MATERIAL IN ELJ CONSTRUCTION.
- REMAINDER OF VEGETATION AND ORGANIC SOIL SHALL BE STOCKPILED AND BROADCASTED ON ROAD ALIGNMENT FOLLOWING TERMINATION OF WORK PER SHEET 19.
- ACCESS SHALL BE MAINTAINED BY MINOR GRADING AND IMPORTATION OF WOOD CHIPS, GRAVEL AND/OR QUARRY SPALLS AS NECESSARY.
- ALL GRAVEL OR QUARRY SPALLS PLACED SHALL BE UNDERLAIN WITH A GEOTEXTILE AND REMOVED AT TERMINATION OF WORK IF UTILIZED.
- CLEARED ACCESS SHALL BE SCARIFIED AND DECONSTRUCTED TO PREVENT FUTURE ACCESS AT THE TERMINATION OF WORK.
- SALVAGED ORGANIC SOIL SHALL BE REPLACED ON SCARIFIED ROAD BED.
- SEE SHEET 19 FOR SITE RESTORATION FOLLOWING TEMPORARY ACCESS AND ROAD DECOMMISSIONING.

ROOTWAD DIMENSIONING REQUIREMENTS

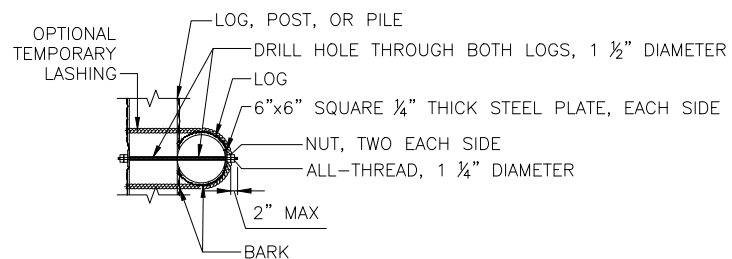
NOT TO SCALE

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23

TEMPORARY CLEARED ACCESS

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23



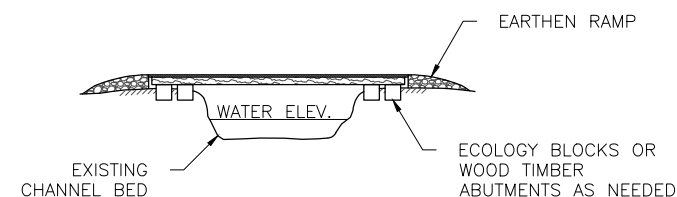
BOLTED CONNECTION

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2
23

BOLTED CONNECTION NOTES

- REMOVE BARK AT CONNECTION POINTS.
- IF NECESSARY, INSTALL TEMPORARY LASHING TO AID INSTALLATION.
- DRILL HOLE THROUGH CENTER OF LOGS.
- TIGHTEN SUFFICIENTLY TO ELIMINATE GAP BETWEEN LOGS BUT NOT CRUSH BOLES. PEEN THREADS OR TACK WELD NUT TO ALL-THREAD FOLLOWING TIGHTENING.
- ALL-THREAD TO BE ASTM TYPE A 307, GRADE A. LENGTH VARIES BY CONNECTION.



TEMPORARY BRIDGE NOTES

- CONTRACTOR TO DESIGN TEMPORARY BRIDGE.
- BRIDGE SHALL BE LOCATED SUCH THAT ONLY ONE SPAN IS USED TO ELIMINATE IMPACTS TO SUBSTRATE OF SIDE CHANNEL.
- END OF BRIDGE SHALL BEAR ON HIGH BANKS WITH SUFFICIENT BEARING CAPACITY TO PREVENT SLOUGHING OR COLLAPSE OF SIDE CHANNEL BANKS.
- CONCRETE ECOLOGY BLOCKS OR WOOD ABUTMENTS MAY BE USED TO SUPPORT ENDS OF TEMPORARY BRIDGE AS NEEDED.
- BRIDGES MAY BE CONSTRUCTED FROM LOGS, RAIL CAR BEDS OR APPROVED EQUAL AND DECKED WITH STEEL SHEET, WOOD LAGGING OR APPROVED EQUAL.

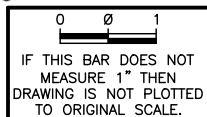
TEMPORARY BRIDGE

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23



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CHECKED: JS	DATE: _____

EAST FORK MISSION CREEK RESTORATION PROJECT

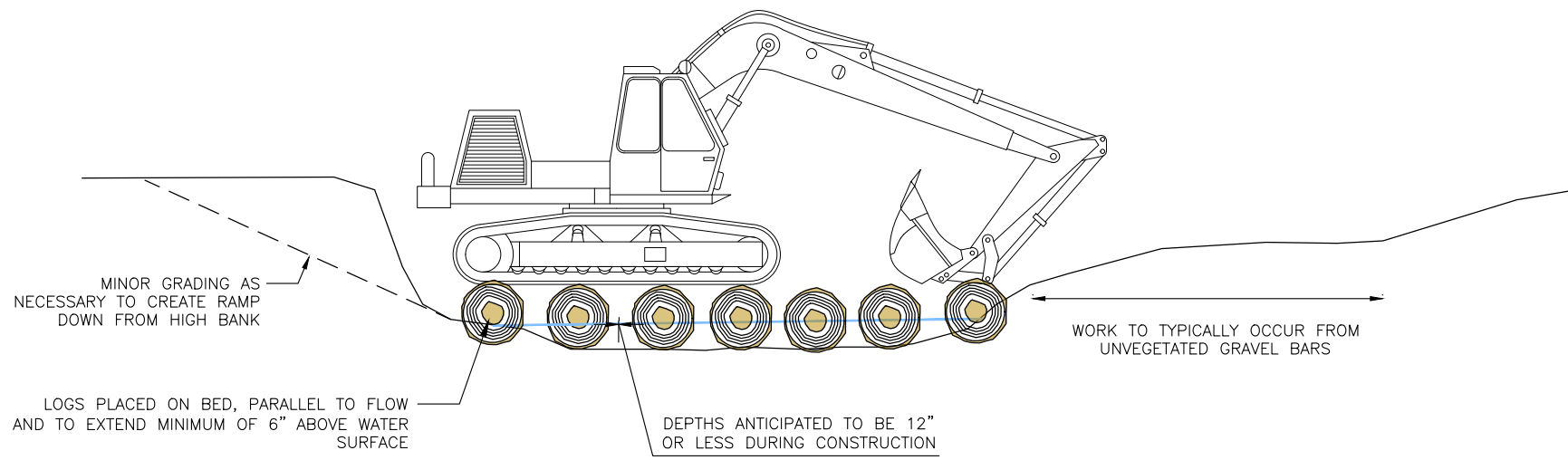
ELJ & TEMPORARY ACCESS DETAILS

23

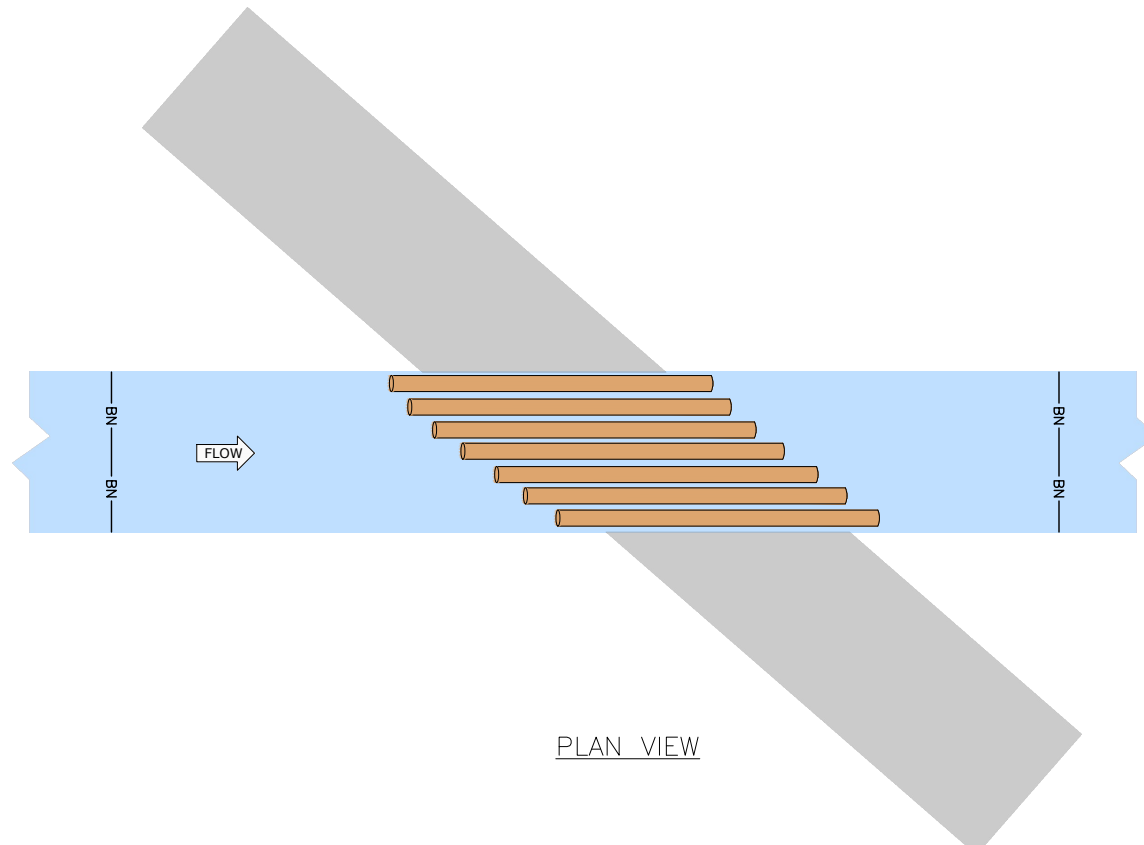
SHEET 23 OF 25

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PROFILE VIEW



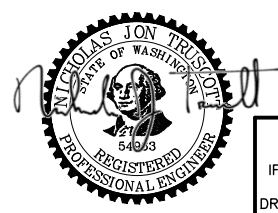
PLAN VIEW

TEMPORARY LOG CROSSING NOTES

1. BLOCK NETS SHALL BE INSTALLED BY THE CONTRACTING AGENCY PRIOR TO THE LOG CROSSINGS BEING INSTALLED AND SHALL NOT BE REMOVED UNTIL AFTER THE LOG CROSSING IS REMOVED.
2. TEMPORARY CROSSING SHALL ONLY BE USED IN THE UPPER PROJECT AREA.
3. CROSSING SHALL ONLY BE LOCATED WHERE THE EXISTING ROAD CROSSES THE CREEK.
4. LOGS SHALL BE PLACE PARALLEL TO FLOW.
5. STEEL PLATES OR SIMILAR MATERIALS MAY BE USED AS DECKING MATERIAL FOR TEMPORARY LOG CROSSINGS.

TEMPORARY LOG CROSSING 1
NOT TO SCALE 24

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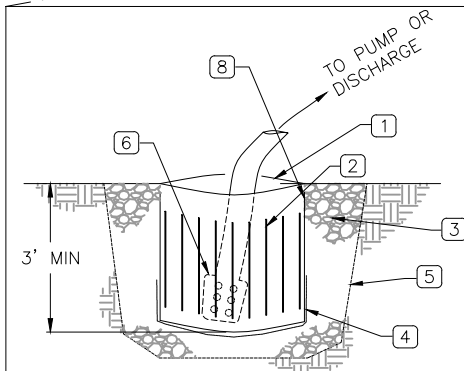
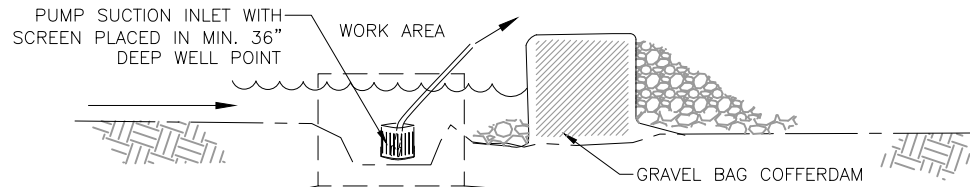
NAME OR INITIALS AND DATE	GEOGRAPHIC INFORMATION
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CHECKED JS	DATE

EAST FORK MISSION CREEK RESTORATION PROJECT

ELJ & TEMPORARY ACCESS DETAILS (2)

24
SHEET **24** OF **25**

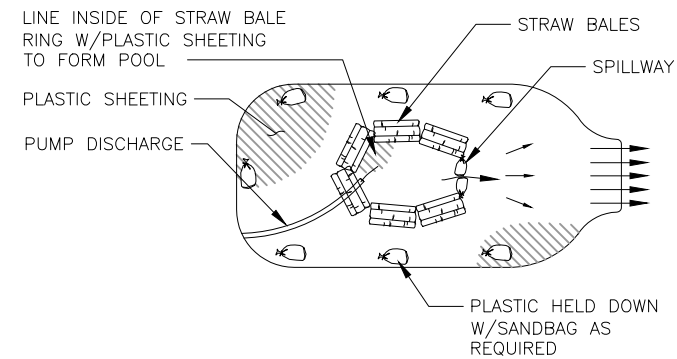
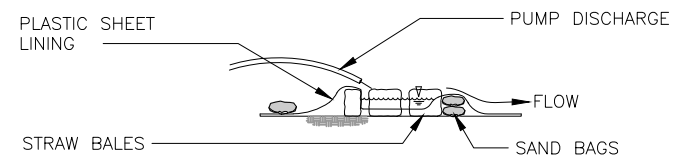
Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION



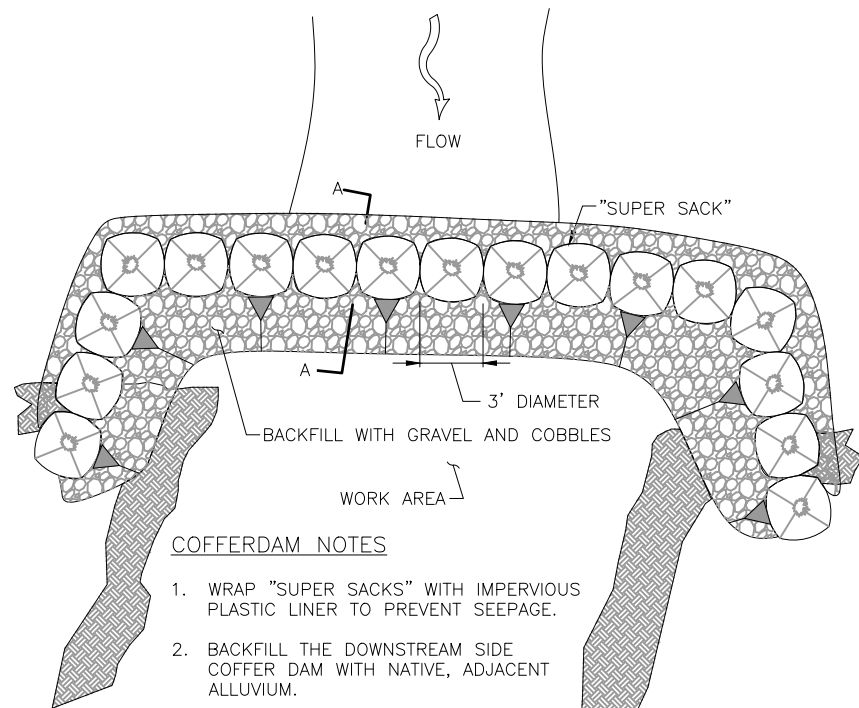
DEWATERING PUMP INTAKE NOTES

- 1 CORRUGATED PLASTIC OR METAL PIPE 36" MIN DIAMETER, ONE PER EACH PUMP.
- 2 ¼" SLOTS 24" LONG AT 4" SPACING ALL THE WAY AROUND PIPE.
- 3 STREAMBED SEDIMENT
- 4 WIRE SCREEN ½" MESH COVERING PIPE BOTTOM, ANCHORED TO PIPE.
- 5 LIMIT OF EXCAVATION. INSTALL PIPE AND BACKFILL WITH STREAMBED SEDIMENT.
- 6 PUMP SUCTION INTAKE OR ELECTRIC SUBMERSIBLE PUMP WITH 1" SCREEN INSTALLED AT INLET OR PUMP SUCTION FACE, OR OTHER SIZE RECOMMENDED BY PUMP SUPPLIER.
- 7 PUMP SUCTION SHALL BE OPERATIONAL ONLY WHILE ALL CREEK FLOW IS FULLY FILTERED BY FISH BLOCK NETS AND AFTER FISH EXCLUSION IS COMPLETED. BYPASS PUMPS SHALL BE SHUTDOWN DURING ANY FAILURE OF THE FISH BLOCK NET OR ANY CONDITION THAT CAN ALLOW FISH TO ENTER THE PUMP INTAKE.
- 8 DIRECT DISCHARGE TO APPROVED UPLAND DISPERSION AREA.

DEWATERING PUMP INTAKE 1
25
NOT TO SCALE

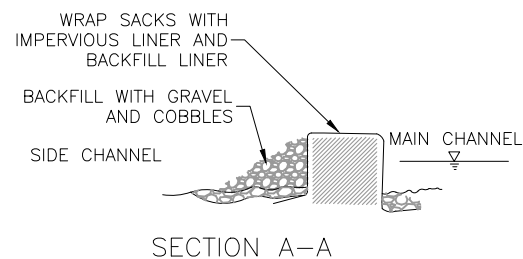


ENERGY DISSIPATOR 2
25
NOT TO SCALE



COFFERDAM NOTES

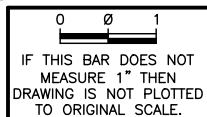
1. WRAP "SUPER SACKS" WITH IMPERVIOUS PLASTIC LINER TO PREVENT SEEPAGE.
2. BACKFILL THE DOWNSTREAM SIDE COFFER DAM WITH NATIVE, ADJACENT ALLUVIUM.
3. USE "SUPER SACKS" AS BUTTRESSES AS REQUIRED.
4. SAND BAGS MAY BE USED AS A REPLACEMENT FOR "SUPER SACKS".



COFFERDAM 3
25
NOT TO SCALE



1/8/2024



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DESIGNED	NT	LATITUDE	47°21'47"N
CHECKED	RLE	LONGITUDE	120°27'47"W
DRAWN	LZ, KS	TN/SC/RG	T22N/S28.33/R19E
CHECKED	JS	DATE	

**EAST FORK MISSION CREEK
RESTORATION PROJECT**

TESC DETAILS

25

SHEET **25** OF **25**

N:\PROJECTS\CONDOLEE_MISSIONCREEK\DESIGN\CAD.DWG - CURRENT\TESC_DETAILS.DWG - 1/5/2024 2:08:28 PM

Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION