

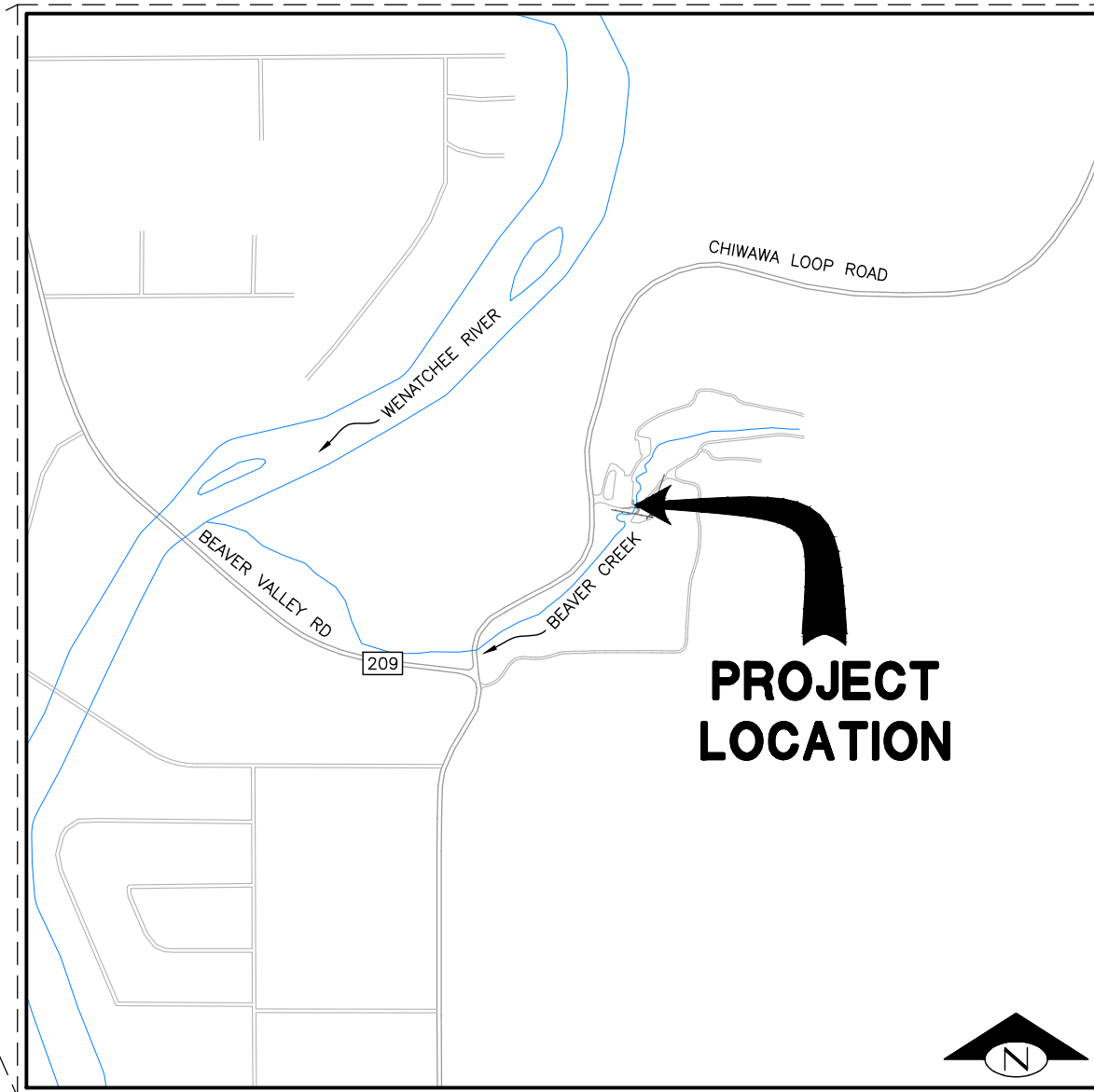
BEAVER CREEK

CULVERT REPLACEMENT PROJECT

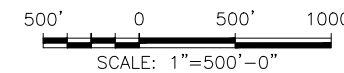
CHELAN COUNTY DEPARTMENT OF NATURAL RESOURCES



LOCUS MAP
SCALE: 1" = 50 MILES



VICINITY MAP
SCALE: 1" = 500'



PLAN SHEET INDEX

SHEET	TITLE
1	COVER SHEET
2	GENERAL NOTES
3	LEGEND AND EXISTING CONDITIONS
4	SITE PREPARATION
5	CHANNEL PLAN AND PROFILE
6	ROAD PLAN AND PROFILE
7	PAVING PLAN
8	MISCELLANEOUS DETAILS
9	SITE ISOLATION DETAILS
10	SITE RESTORATION PLAN

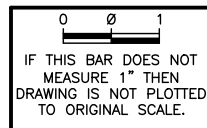
CONTACT INFORMATION

NATURAL SYSTEMS DESIGN, INC

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

CHELAN COUNTY DEPARTMENT OF NATURAL RESOURCES

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



NAME OR INITIALS AND DATE	GEOGRAPHIC INFORMATION
DESIGNED NT	LATITUDE 47°46'01"N
CHECKED JS	LONGITUDE 120°39'10"W
DRAWN DS/AL	TN/SC/RG T26N/S12/R17E
CHECKED DS	DATE 03/04/2022

BEAVER CREEK CULVERT REPLACEMENT

COVER SHEET

1
SHEET 1 OF 11

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Jul 05, 2022 DRAFT FINAL DESIGN NOT FOR CONSTRUCTION

GENERAL NOTES

1. THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF CHELAN COUNTY NATURAL RESOURCES DEPARTMENT, HEREAFTER REFERRED TO AS "CONTRACTING AGENCY" AND THEIR AUTHORIZED AGENTS. THE CONTRACTING AGENCY WILL DESIGNATE A REPRESENTATIVE, HEREAFTER REFERRED TO AS "CONTRACTING OFFICER", TO REPRESENT THE CONTRACTING AGENCY. THE CONTRACTING OFFICER WILL BE RESPONSIBLE FOR FACILITATING ADMINISTRATION OF THE CONTRACT.
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. MINOR MODIFICATIONS ARE EXPECTED TO SUIT JOB SITE DIMENSIONS OR CONDITIONS. SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION.
4. THE LOCATION OF ALL FEATURES SHOWN IS APPROXIMATE.
5. THE CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; AND FURTHER AGREES THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS IN ACCORDANCE WITH THE PROVISIONS OUTLINED BY THE PROJECT CONTRACT AND SPECIFICATIONS.
6. ALL WORK SHALL CONFORM TO THE SPECIAL PROVISIONS. ANY ITEM NOT EXPLICITLY MENTIONED IN THE SPECIAL PROVISIONS SHALL BE AS DESCRIBED IN THE "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION" (CURRENT EDITION) PUBLISHED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. THE CONTRACTOR IS RESPONSIBLE FOR HAVING COPIES OF THESE PLANS, THE SPECIAL PROVISIONS, AND THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS ON-SITE DURING CONSTRUCTION.
7. IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTOR(S) TO EXAMINE THE PROJECT SITE PRIOR TO THE OPENING OF BID PROPOSALS. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED, SUCH AS THE NATURE AND LOCATION OF THE WORK; AND THE GENERAL AND LOCAL CONDITIONS, PARTICULARLY THOSE AFFECTING THE AVAILABILITY OF TRANSPORTATION, THE DISPOSAL, HANDLING, AND STORAGE OF MATERIALS, AVAILABILITY OF LABOR, WATER, ELECTRICITY, ROADS, THE UNCERTAINTIES OF WEATHER, THE CONDITIONS OF THE GROUND, SURFACE AND SUBSURFACE MATERIALS, GROUNDWATER, THE EQUIPMENT AND FACILITIES NEEDED FOR AND DURING THE PERFORMANCE OF THE WORK, AND THE COSTS THEREOF. ANY FAILURE BY THE CONTRACTOR AND SUBCONTRACTOR(S) TO ACQUAINT THEMSELVES WITH ALL THE AVAILABLE INFORMATION WILL NOT RELIEVE THE CONTRACTOR AND SUBCONTRACTOR(S) FROM RESPONSIBILITY FOR PROPERLY ESTIMATING THE DIFFICULTY AND COST OF SUCCESSFULLY PERFORMING THE WORK.
8. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE CONTRACT DOCUMENTS AND FOR ALL SUBMITTALS REQUIRED TO THE OWNER FOR REVIEW AND ACCEPTANCE.

PERMIT NOTES

1. EVERY REASONABLE EFFORT SHALL BE MADE TO 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 WILL BE IN COMPLIANCE WITH PERMIT CONDITIONS ISSUED BY PERTINENT REGULATORY AGENCIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE COPIES OF ALL PERMITS ON THE JOB SITE, UNDERSTAND AND COMPLY WITH ALL PERMIT CONDITIONS.
3. ALL WORK THAT DISTURBS THE SUBSTRATE, BANK, OR SHORE OF A WATERS OF THE STATE THAT CONTAINS FISH LIFE SHALL BE CONDUCTED ONLY DURING THE APPROVED IN-WATER WORK WINDOW. THOSE PORTIONS OF THE PROJECT WORK THAT OCCUR OUTSIDE OR ABOVE THE ORDINARY HIGH WATER MARK (ABOVE THE USACE JURISDICTIONAL LINE) ARE NOT SUBJECT TO THE WORK PERIODS DESCRIBED ABOVE UNLESS SPECIFIED IN THE RELEVANT PERMITS.
4. ALL ACTIVITIES THAT INVOLVE WORK ADJACENT TO, OR WITHIN THE WETTED CHANNEL SHALL, AT ALL TIMES, REMAIN CONSISTENT WITH ALL APPLICABLE WATER QUALITY STANDARDS; EFFLUENT LIMITATION; AND STANDARDS OF PERFORMANCE, PROHIBITIONS, PRETREATMENT STANDARDS, AND MANAGEMENT PRACTICES ESTABLISHED PURSUANT TO THE CLEAN WATER ACT OR PURSUANT TO APPLICABLE STATE AND LOCAL LAW.
5. IF AT ANY TIME, AS A RESULT OF PROJECT ACTIVITIES, FISH ARE OBSERVED IN DISTRESS, A FISH KILL OCCURS, OR WATER QUALITY PROBLEMS DEVELOP (INCLUDING EQUIPMENT LEAKS OR SPILLS), OPERATIONS SHALL CEASE AND THE CONTRACTING OFFICER SHALL BE NOTIFIED IMMEDIATELY.
6. 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. UNLESS NOTED OTHERWISE ON THE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SURVEY MONUMENTS AND OTHER SURVEY MARKERS DURING CONSTRUCTION.
2. 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 A SET OF PLANS, MARKED UP TO THE SATISFACTION OF THE CONTRACTING OFFICER, REFLECTING THE AS-CONSTRUCTED MODIFICATIONS.
3. ELEVATIONS SHOWN ON THE PLANS ARE BASED UPON THE TOPOGRAPHIC INFORMATION SHOWN ON THE PLANS. THE CONTRACTOR SHALL VERIFY ALL NECESSARY SURFACE ELEVATIONS IN THE FIELD AND NOTIFY THE CONTRACTING OFFICER OF ANY DISCREPANCIES, WHICH MIGHT AFFECT THE WORK SHOWN ON THE PLANS.
4. SURVEY FOR THIS PROJECT WAS CONDUCTED BY LANDLINE SURVEYORS, PROVIDED DECEMBER 2020. THE VERTICAL DATUM IS NAVD88 (FT). THE HORIZONTAL DATUM IS WASHINGTON STATE PLANE NORTH (FT).

EROSION, SEDIMENT CONTROL AND WATER MANAGEMENT NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING ALL TEMPORARY EROSION CONTROL MEASURES. THE EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND PERFORMANCE OF THE TEMPORARY EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE PROJECT.
2. A SEDIMENT AND EROSION CONTROL PLAN WILL BE DEVELOPED BY THE CONTRACTOR AND SUBMITTED FOR APPROVAL BY THE CONTRACTING AGENCY BEFORE ANY CONSTRUCTION MAY BEGIN. THE SEDIMENT AND EROSION CONTROL PLAN SHALL IDENTIFY BEST MANAGEMENT PRACTICES TO ENSURE THAT THE TRANSPORT OF SEDIMENT TO SURFACE WATERS, DRAINAGE SYSTEMS, AND ADJACENT PROPERTIES IS MINIMIZED.
3. ACTIVITIES SHALL BE DESIGNED AND CONSTRUCTED TO AVOID AND MINIMIZE ADVERSE IMPACTS TO SURFACE WATERS, WETLANDS, AND GROUNDWATER TO THE MAXIMUM EXTENT PRACTICAL THROUGH THE USE OF PRACTICAL ALTERNATIVES. ALTERNATIVES THAT SHALL BE CONSIDERED INCLUDE THOSE THAT MINIMIZE THE NUMBER AND EXTENT OF IN-WATER WORK AND EQUIPMENT CROSSINGS OF WETTED CHANNELS.
4. AT NO TIME SHALL SEDIMENT-LADEN WATER BE DISCHARGED OR PUMPED DIRECTLY INTO SURFACE WATERS OR WETLANDS. WATER SHALL BE DISCHARGED IN ACCORDANCE WITH REQUIREMENTS SET FORTH IN THE PROJECT PERMITS AND SPECIFICATIONS.
5. IF HIGH WATER LEVEL CONDITIONS THAT CAUSE SILTATION OR EROSION ARE ENCOUNTERED DURING CONSTRUCTION, WORK SHALL STOP UNTIL THE WATER LEVEL SUBSIDES.
6. PERMIT CONDITIONS CONTAIN SPECIFIC REQUIREMENTS FOR THE CONTROL OF EROSION AND TURBIDITY FROM PROJECT OPERATIONS. TURBIDITY WILL BE MONITORED ON A FREQUENT BASIS BY THE CONTRACTING AGENCY. TURBIDITY AMOUNTS IN EXCESS OF THE PERMITTED LEVELS MAY CAUSE WORK TO BE STOPPED UNTIL IMPROVED PRACTICES ARE IN EFFECT. THE CONTRACTOR IS RESPONSIBLE FOR ANY PROJECT DELAYS THAT OCCUR BY NATURE OF THIS FAILURE TO ADEQUATELY CONTAIN SEDIMENT ON-SITE.
7. ALL EXTERNAL GREASE AND OIL SHALL BE PRESSURE-WASHED OFF THE EQUIPMENT PRIOR TO TRANSPORT TO THE SITE.
8. THE CONTRACTOR SHALL HAVE AN EMERGENCY SPILL KIT ONSITE AT ALL TIMES.
9. NO TREES OR WETLAND VEGETATION SHALL BE REMOVED UNLESS THEY ARE SHOWN AND NOTED TO BE REMOVED ON THE PLANS OR AS DIRECTLY SPECIFIED BY THE CONTRACTING OFFICER. ALL TREES CONFLICTING WITH GRADING SHALL BE REMOVED. NO GRADING SHALL TAKE PLACE WITHIN THE DRIP LINE OF TREES TO REMAIN UNLESS OTHERWISE APPROVED.

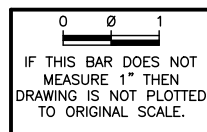
CONSTRUCTION NOTES

1. ALL WORK SHOWN ON THESE PLANS SHALL BE COMPLETED BETWEEN SEPTEMBER 18, 2023 AND OCTOBER 6, 2023.
2. CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO COMPLETE ALL WORK AS INDICATED IN THE CONTRACT DOCUMENTS.
3. CONSTRUCTION HOURS SHALL BE WEEKDAYS BETWEEN 7:30 A.M. AND 6:30 P.M. UNLESS PRIOR APPROVAL IS RECEIVED FROM THE OWNER.
4. SOILS AT THE SITE MAY CONTAIN SOFT SILT, CLAY AND HIGH GROUNDWATER AND MAY REQUIRE EQUIPMENT MATS TO SUPPORT CONSTRUCTION EQUIPMENT. CONSOLIDATION OF THE GROUND SURFACE SHOULD BE EXPECTED. CONTRACTOR IS RESPONSIBLE FOR DETERMINING NEED FOR, DESIGNING, PROCURING, INSTALLING, USING AND REMOVING ANY EQUIPMENT MATS NEEDED TO ALLOW FOR EQUIPMENT OPERATION SUFFICIENT TO CONSTRUCT THE PROJECT.
5. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE OWNER PRIOR TO PROCEEDING WITH THE WORK.
6. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
7. THE CONTRACTOR SHALL KEEP THE JOB SITE CLEAN AND HAZARD FREE. CONTRACTOR SHALL DISPOSE OF ALL DIRT, DEBRIS, AND RUBBISH FOR THE DURATION OF THE WORK. UPON COMPLETION OF WORK, CONTRACTOR SHALL REMOVE ALL MATERIAL AND EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY.

SUMMARY OF QUANTITIES

ITEM #	ITEM DESCRIPTION	QTY	UNIT
1	MOBILIZATION	1	LS
2	SURVEYING	1	LS
3	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	1	LS
4	SALVAGE AND REPLACEMENT OF STRUCTURES AND OBSTRUCTIONS	1	LS
5	HIGH VISIBILITY FENCE	375	LF
6	TEMPORARY ACCESS AND STAGING	1	LS
7	CLEARING	0.1	AC
8	TEMPORARY STREAM DIVERSION	1	LS
9	STRUCTURE EXCAVATION CL. A INCL. HAUL	350	CY
10	SHORING OR EXTRA EXCAVATION CL. A	1	LS
11	CONTRACTOR DESIGNED BURIED STRUCTURE NO. 1	1	LS
12	TIMBER GUARDRAIL	50	LF
13	TIMBER HANDRAIL	90	LF
14	ROCK EMBANKMENT	1	LS
15	ROCKERY WINGWALLS	1	LS
16	CHANNEL GRADING	1	LS
17	STREAMBED MATERIAL	140	CY
18	CRUSHED SURFACING BASE COURSE	125	CY
19	HMA CL. 3/8 IN. PG 64-28	70	TN
20	EROSION CONTROL AND WATER POLLUTION PREVENTION	1	LS
21	FORCE ACCOUNT PERMANENT UTILITY TRENCH	1	EST
22	FORCE ACCOUNT TEMPORARY DOMESTIC UTILITY RELOCATIONS	1	EST
23	FORCE ACCOUNT PERMANENT DOMESTIC UTILITY RECONNECTIONS	1	EST
24	SEEDING AND MULCHING	0.1	AC
25	MINOR CHANGE	5,000	DOL

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NAME OR INITIALS AND DATE		GEOGRAPHIC INFORMATION	
DESIGNED	NT	LATITUDE	47°46'01"N
CHECKED	JS	LONGITUDE	120°39'10"W
DRAWN	DS/AL	TN/SC/RG	T26N/S12/R17E
CHECKED	DS	DATE	03/04/2022

BEAVER CREEK CULVERT REPLACEMENT

GENERAL NOTES

2
SHEET **2** OF **11**

Jul 05, 2022 DRAFT FINAL DESIGN NOT FOR CONSTRUCTION

GENERAL LEGEND

- EXISTING PAVEMENT EDGE
- PROPOSED PAVEMENT EDGE
- ACCESS ROAD
- CLEARING LIMIT
- LIMIT OF EXCAVATION
- LIMIT OF FILL PLACEMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING OHWM
- EXISTING WATER
- PROPOSED WATER
- OVERHEAD POWERLINE
- UNDERGROUND POWERLINE
- TELEPHONE LINE
- STREAMBED GRAVEL
- PROPOSED CONCRETE
- RIPRAP
- EXISTING TREE
- CONTROL POINT LOCATION

TEMPORARY EROSION CONTROL LEGEND

- BLOCK NETS
- HIGH VISIBILITY FENCE
- DEWATERING LINE DISCHARGE
- PROPOSED STAGING AREA
- BULK BAG COFFERDAM
- PUMP DISCHARGE OUTLET
- DEWATERING PUMP

CONTROL

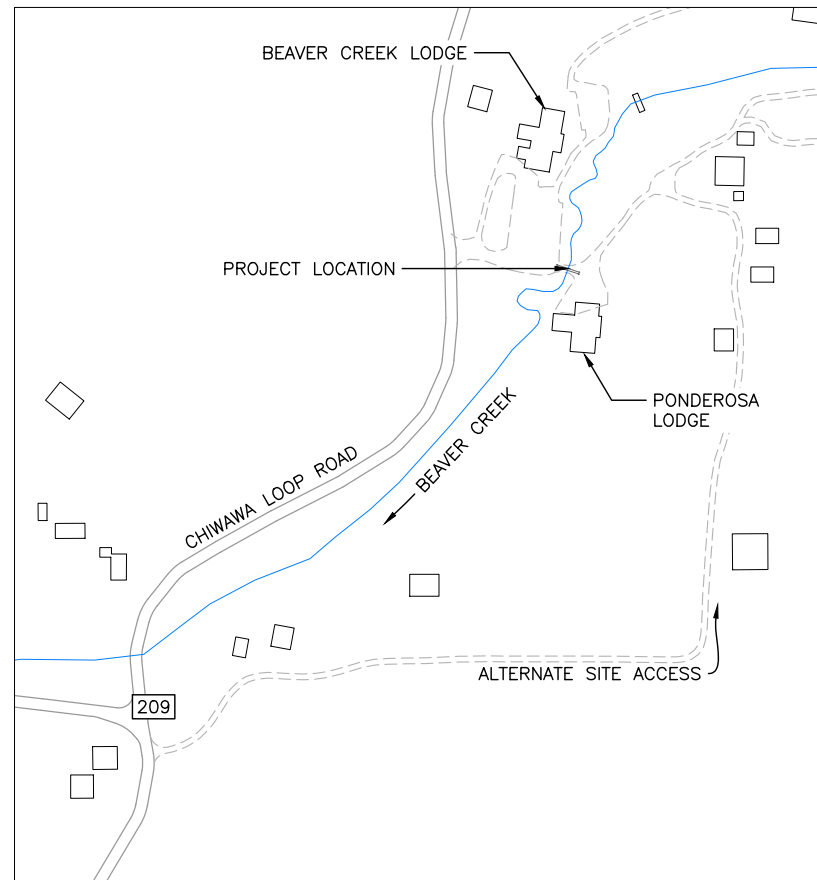
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CP-2	N: 279910.56 E: 1684751.73 ELEV: 1900.27
CP-3	N: 280075.28 E: 1684842.30 ELEV: 1905.56
CP-4	N: 279801.56 E: 1684817.15 ELEV: 1901.28
CP-5	N: 279742.19 E: 1684800.78 ELEV: 1902.46

DETAIL AND SECTION REFERENCING

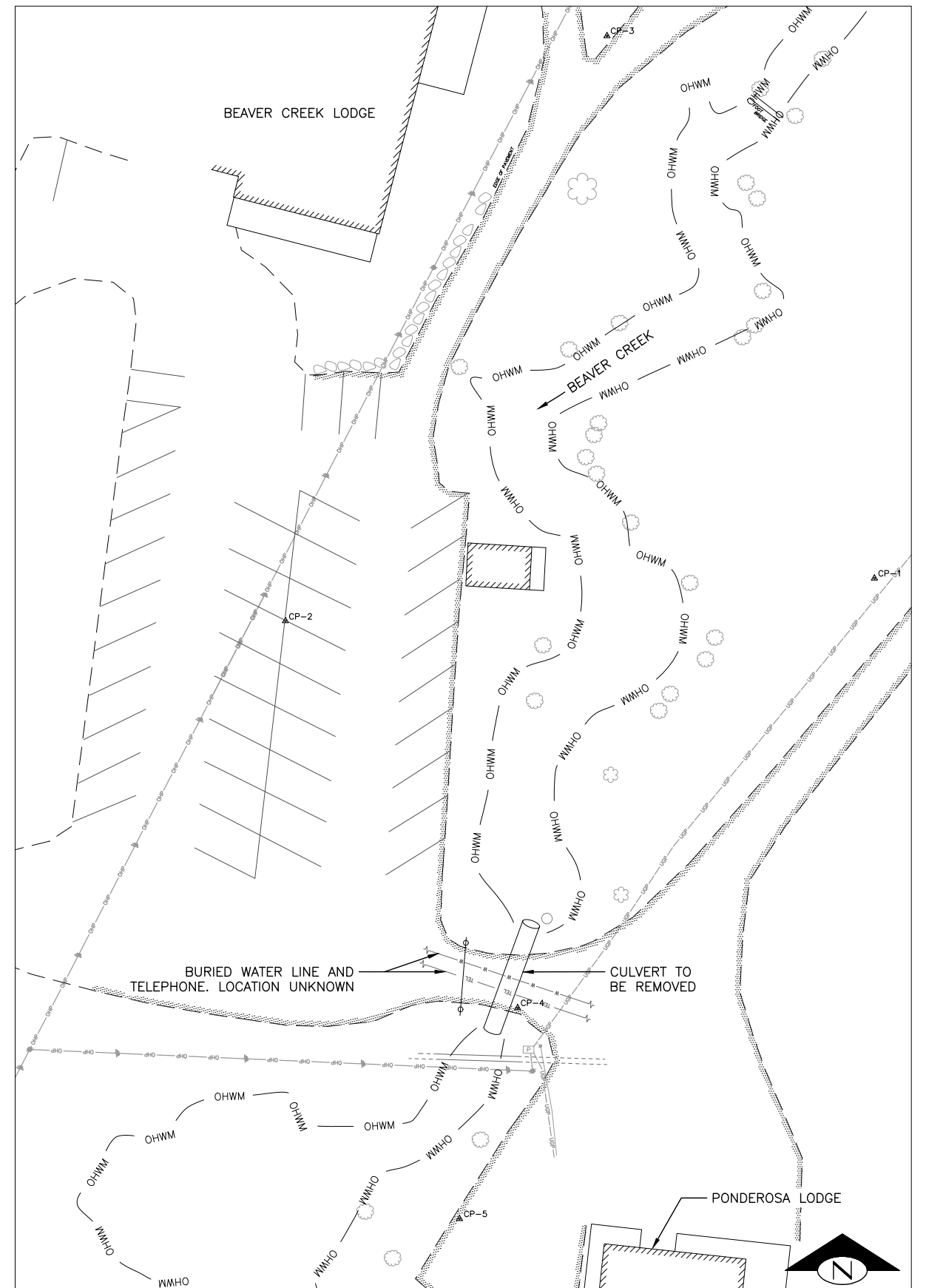
- NOTE REFERENCING NUMBER
- DETAIL REFERENCE NUMBER SHEET ON WHICH DETAIL APPEARS
- (TYP) SPECIFIES THAT DETAIL IS UNIFORMLY TYPICAL THROUGHOUT PROJECT EXCEPT WHERE OTHERWISE NOTED

A **A₃₂**
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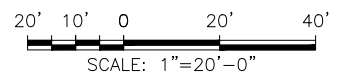
SECTION A-A 32 SECTION A-A IS SHOWN ON SHEET 32
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VICINITY MAP
 SCALE: 1" = 200'



PROJECT AREA
 SCALE: 1" = 20'



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°46'01"N
CHECKED JS	LONGITUDE 120°39'10"W
DRAWN DS/AL	TN/SC/RG T26N/S12/R17E
CHECKED DS	DATE 03/04/2022

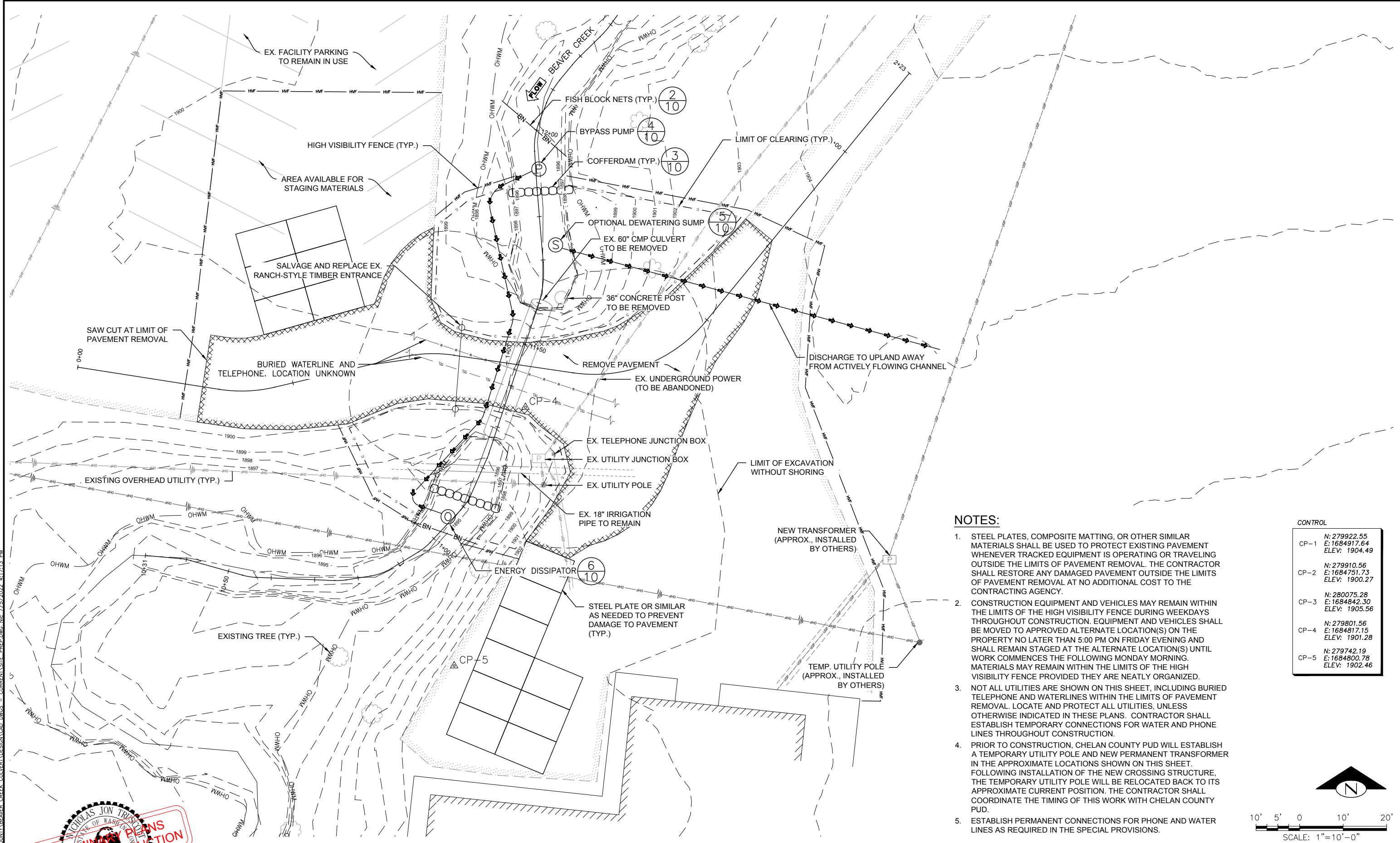
BEAVER CREEK CULVERT REPLACEMENT

LEGEND AND EXISTING CONDITIONS

3
 SHEET **3** OF **11**

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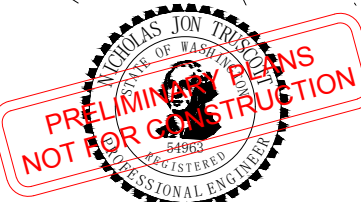
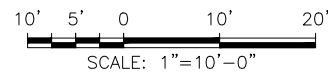
Jul 05, 2022 DRAFT FINAL DESIGN NOT FOR CONSTRUCTION



NOTES:

1. STEEL PLATES, COMPOSITE MATTING, OR OTHER SIMILAR MATERIALS SHALL BE USED TO PROTECT EXISTING PAVEMENT WHENEVER TRACKED EQUIPMENT IS OPERATING OR TRAVELING OUTSIDE THE LIMITS OF PAVEMENT REMOVAL. THE CONTRACTOR SHALL RESTORE ANY DAMAGED PAVEMENT OUTSIDE THE LIMITS OF PAVEMENT REMOVAL AT NO ADDITIONAL COST TO THE CONTRACTING AGENCY.
2. CONSTRUCTION EQUIPMENT AND VEHICLES MAY REMAIN WITHIN THE LIMITS OF THE HIGH VISIBILITY FENCE DURING WEEKDAYS THROUGHOUT CONSTRUCTION. EQUIPMENT AND VEHICLES SHALL BE MOVED TO APPROVED ALTERNATE LOCATION(S) ON THE PROPERTY NO LATER THAN 5:00 PM ON FRIDAY EVENING AND SHALL REMAIN STAGED AT THE ALTERNATE LOCATION(S) UNTIL WORK COMMENCES THE FOLLOWING MONDAY MORNING. MATERIALS MAY REMAIN WITHIN THE LIMITS OF THE HIGH VISIBILITY FENCE PROVIDED THEY ARE NEATLY ORGANIZED.
3. NOT ALL UTILITIES ARE SHOWN ON THIS SHEET, INCLUDING BURIED TELEPHONE AND WATERLINES WITHIN THE LIMITS OF PAVEMENT REMOVAL. LOCATE AND PROTECT ALL UTILITIES, UNLESS OTHERWISE INDICATED IN THESE PLANS. CONTRACTOR SHALL ESTABLISH TEMPORARY CONNECTIONS FOR WATER AND PHONE LINES THROUGHOUT CONSTRUCTION.
4. PRIOR TO CONSTRUCTION, CHELAN COUNTY PUD WILL ESTABLISH A TEMPORARY UTILITY POLE AND NEW PERMANENT TRANSFORMER IN THE APPROXIMATE LOCATIONS SHOWN ON THIS SHEET. FOLLOWING INSTALLATION OF THE NEW CROSSING STRUCTURE, THE TEMPORARY UTILITY POLE WILL BE RELOCATED BACK TO ITS APPROXIMATE CURRENT POSITION. THE CONTRACTOR SHALL COORDINATE THE TIMING OF THIS WORK WITH CHELAN COUNTY PUD.
5. ESTABLISH PERMANENT CONNECTIONS FOR PHONE AND WATER LINES AS REQUIRED IN THE SPECIAL PROVISIONS.

CONTROL	
CP-1	N: 279922.55 E: 1684917.64 ELEV: 1904.49
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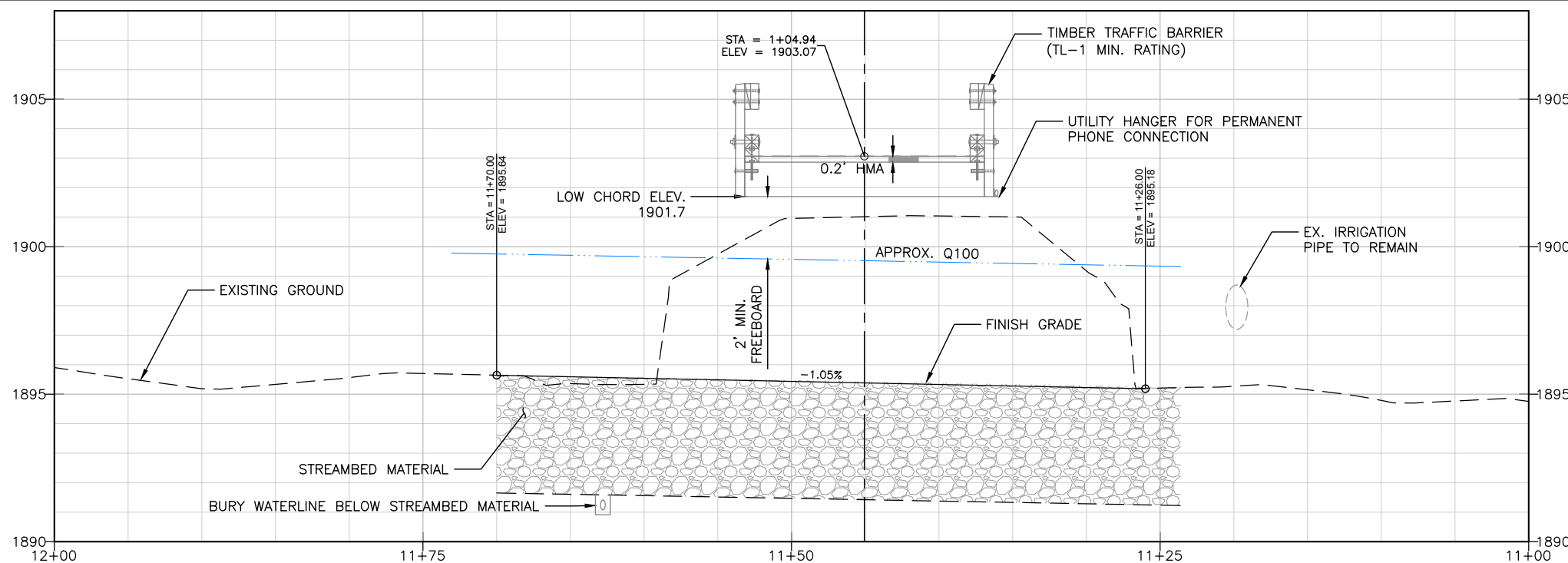
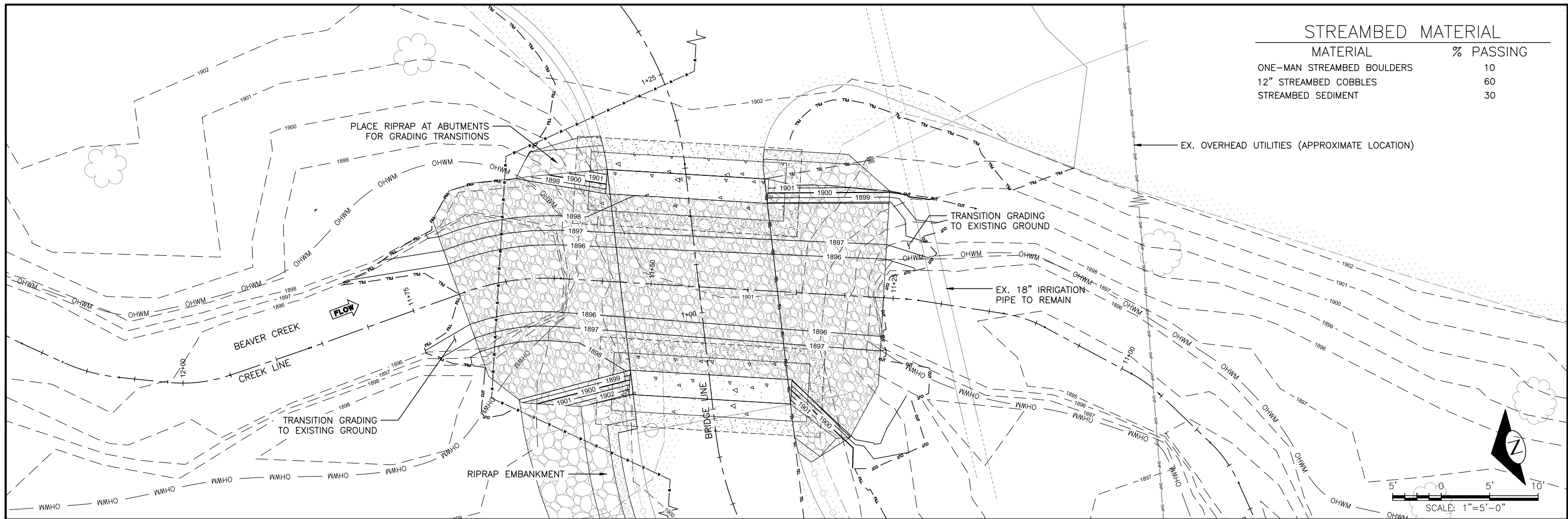
NAME OR INITIALS AND DATE		GEOGRAPHIC INFORMATION	
DESIGNED	NT	LATITUDE	47°46'01"N
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DRAWN	DS/AL	TN/SC/RG	T26N/S12/R17E
CHECKED	DS	DATE	03/04/2022

BEAVER CREEK CULVERT REPLACEMENT

SITE PREPARATION

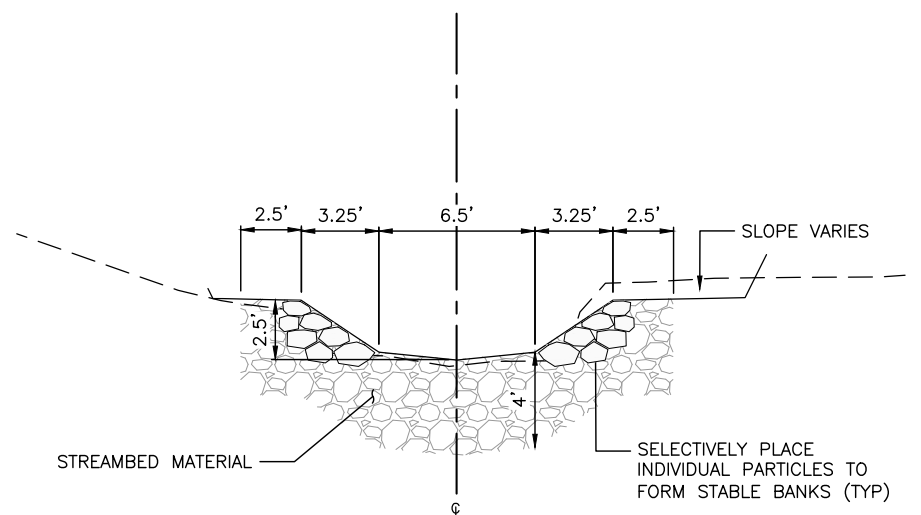
STREAMBED MATERIAL

MATERIAL	% PASSING
ONE-MAN STREAMBED BOULDERS	10
12" STREAMBED COBBLES	60
STREAMBED SEDIMENT	30



BEAVER CREEK PROFILE

SCALE: H 1" = 5.0'
V 1" = 2.5'



TYPICAL CHANNEL SECTION

SCALE: 1" = 4'

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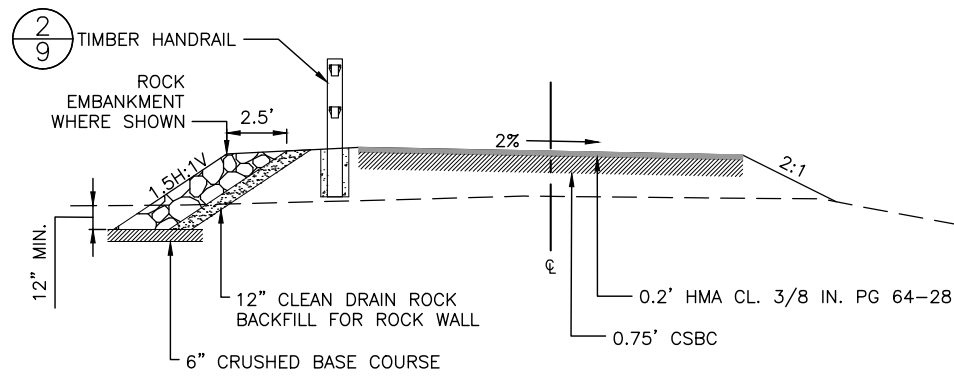


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BEAVER CREEK CULVERT REPLACEMENT

CHANNEL PLAN AND PROFILE

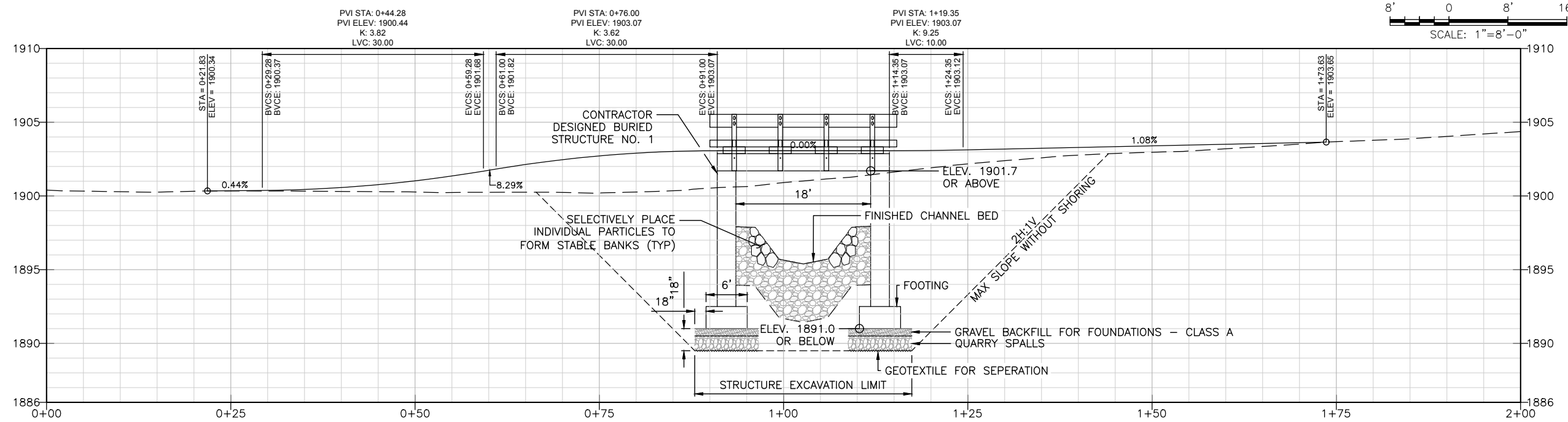
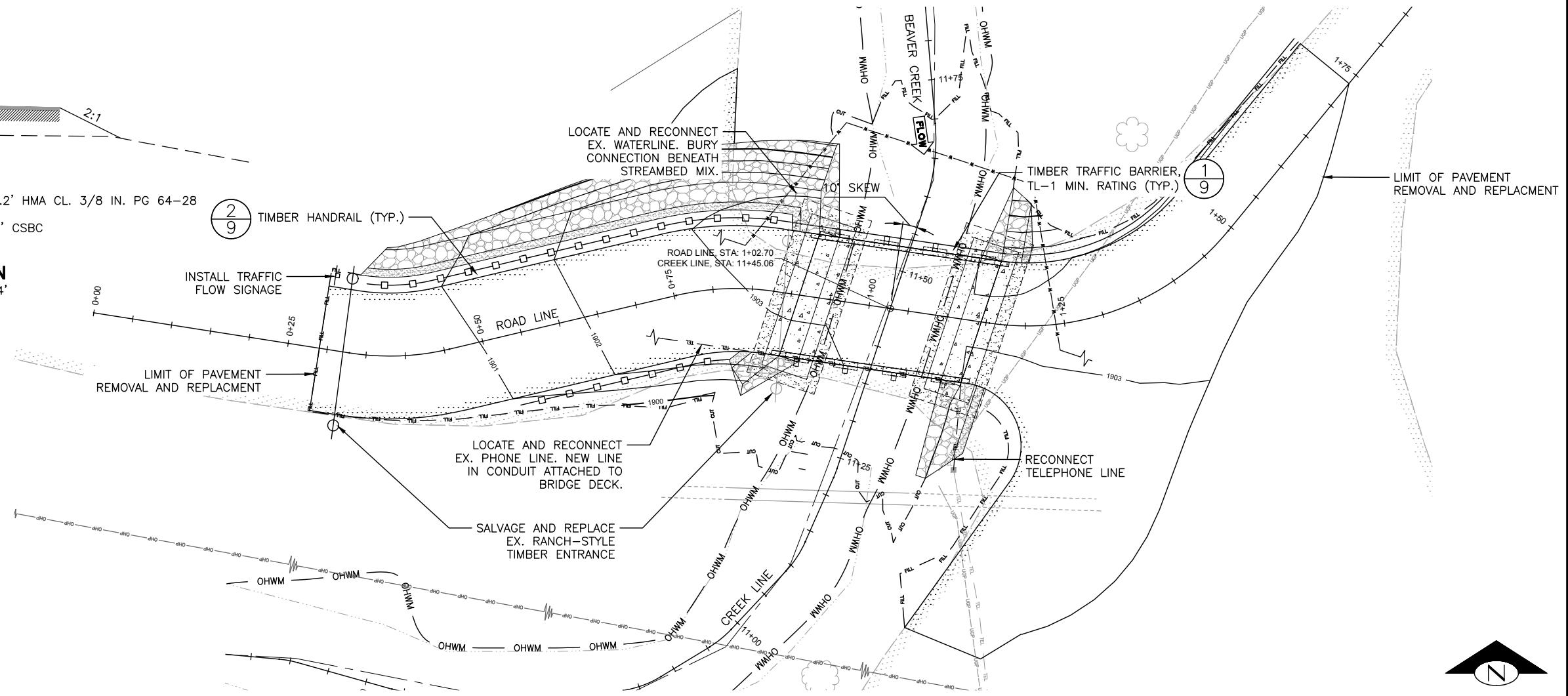
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TYPICAL ROAD SECTION
SCALE: 1" = 4'

NOTES:

1. CONTRACTOR SHALL FURNISH A PRECAST REINFORCED THREE SIDED STRUCTURE OR PRECAST REINFORCED CONCRETE SPLIT BOX CULVERT MEETING THE MINIMUM DIMENSIONS SHOWN ON THIS SHEET.
 - 1.1. THE CONTRACTOR SHALL SUBMIT TYPE 3E WORKING DRAWINGS FOR THE STRUCTURE DOCUMENTING CONFORMANCE WITH APPLICABLE DESIGN STANDARDS. LOAD RATINGS SHALL BE PROVIDED IN ACCORDANCE WITH THE WSDOT BRIDGE MANUAL.
 - 1.2. FOOTINGS SHALL BE DESIGNED BASED ON INFORMATION PROVIDED IN THE GEOTECHNICAL REPORT AND THE SUBGRADE SHALL BE PREPARED AS DESCRIBED IN THE GEOTECHNICAL REPORT.
 - 1.3. THE BOTTOM OF THE FOOTINGS OR STRUCTURE FOUNDATION SHALL BE PLACED AT ELEVATION 1891.0 FEET OR BELOW.
2. CONTRACTOR SHALL FURNISH A TIMBER GUARDRAIL SYSTEM DESIGNED FOR A MINIMUM TEST LEVEL ONE (TL-1) IMPACT LOAD.
 - 2.1. THE CONTRACTOR SHALL SUBMIT TYPE 3E WORKING DRAWINGS FOR THE GUARDRAIL SYSTEM WHICH INDICATE THE MANNER IN WHICH THE GUARDRAIL SYSTEM WILL INTEGRATE WITH THE THREE SIDED STRUCTURE OR SPLIT BOX CULVERT.
3. THE CONTRACTOR SHALL ALLOW FOR INSPECTION OF THE SUBGRADE BY A GEOTECHNICAL ENGINEER ON BEHALF OF THE CONTRACTING AGENCY. SUBGRADE PREPARATION MAY DIFFER FROM THAT SHOWN ON THIS SHEET BASED ON FIELD CONDITIONS AT THE TIME OF CONSTRUCTION.



ROAD LINE PROFILE
SCALE: H 1" = 8.0'
V 1" = 4.0'



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



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CHECKED	DS	DATE	03/04/2022

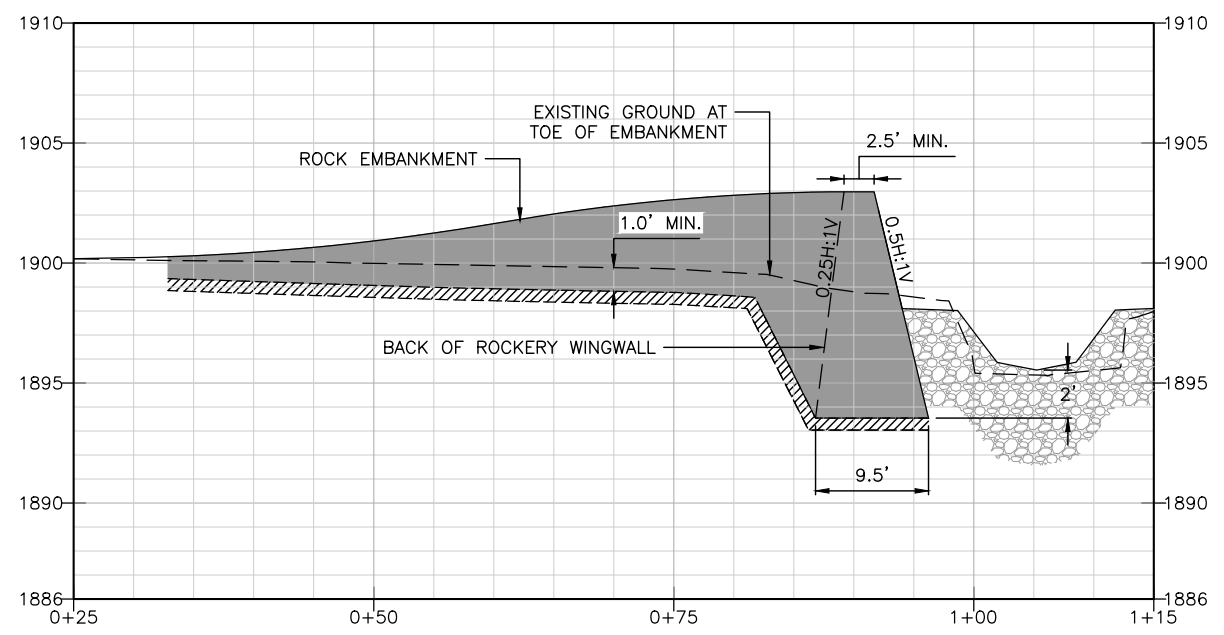
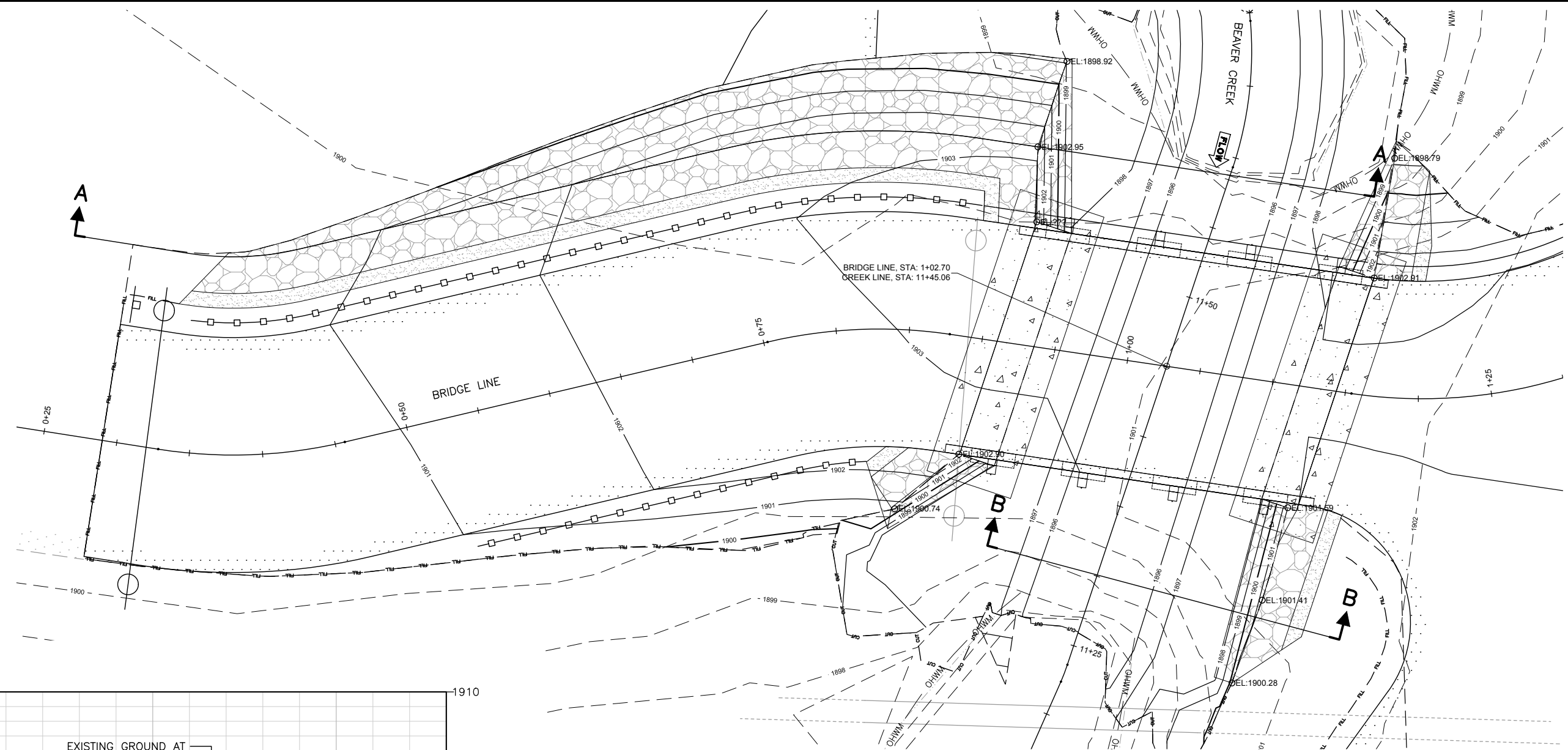
BEAVER CREEK CULVERT REPLACEMENT

ROAD PLAN AND PROFILE

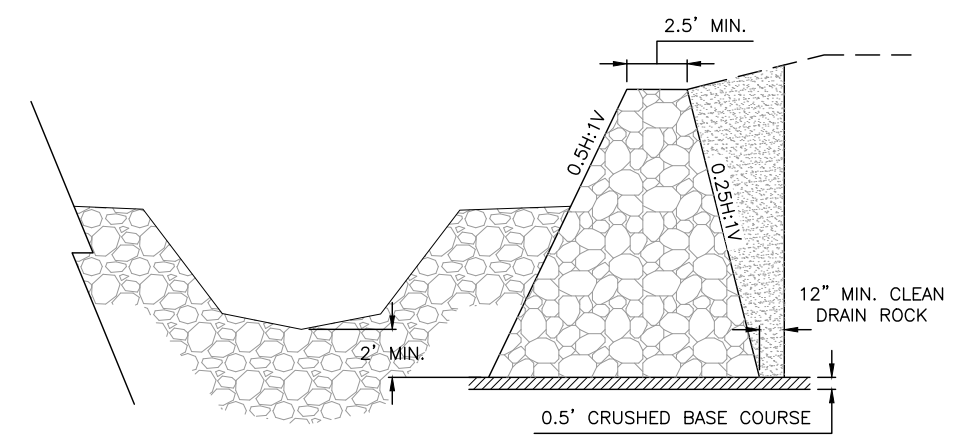
Jul 05, 2022 DRAFT FINAL DESIGN NOT FOR CONSTRUCTION

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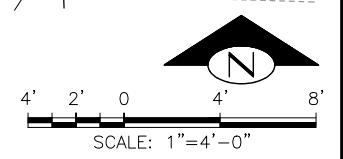
NOTES:
1. XXX



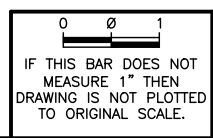
ROCK EMBANKMENT PROFILE
SECTION A-A
13.5' LEFT OF BRIDGE LINE
SCALE: H 1" = 8.0'
V 1" = 4.0'



ROCKERY WINGWALL
SECTION B-B
SCALE: 1" = 4'



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NAME OR INITIALS AND DATE		GEOGRAPHIC INFORMATION	
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CHECKED	JS	LONGITUDE	120°39'10"W
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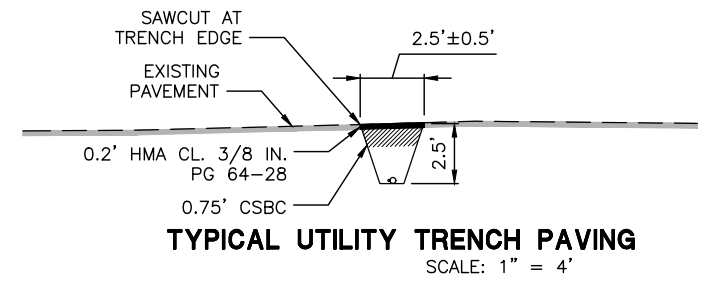
BEAVER CREEK CULVERT REPLACEMENT

EMBANKMENT AND WINGWALL DETAILS

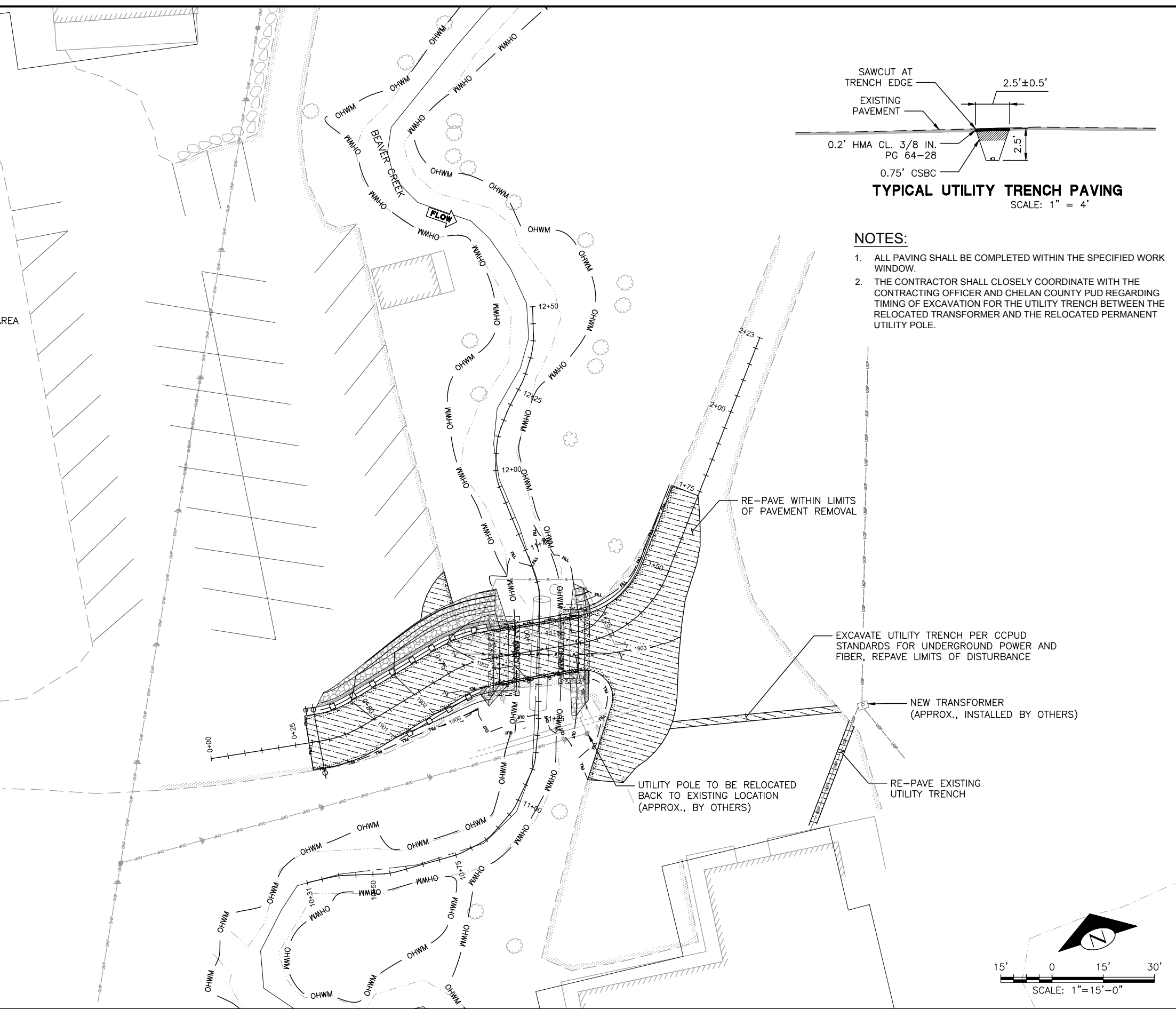
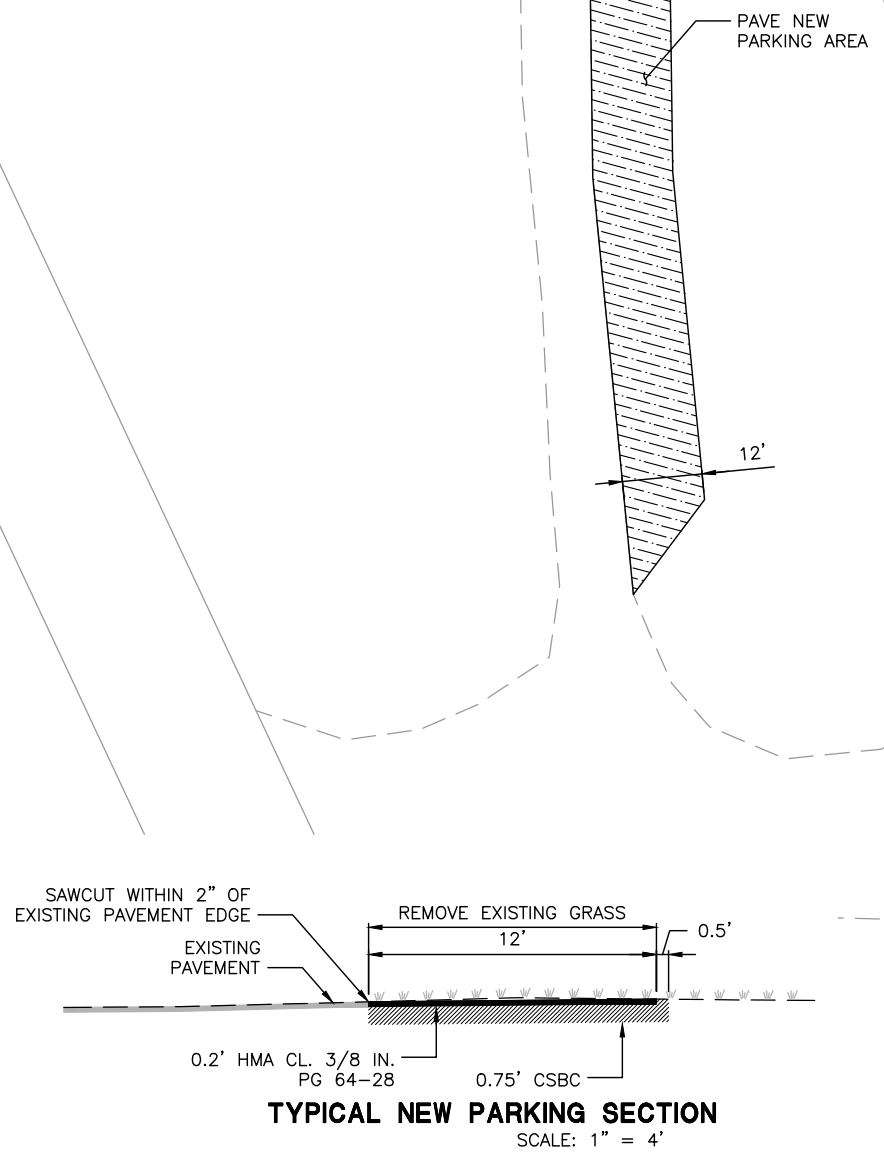
7
SHEET 7 OF 11

Jul 05, 2022 DRAFT FINAL DESIGN NOT FOR CONSTRUCTION

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- NOTES:**
1. ALL PAVING SHALL BE COMPLETED WITHIN THE SPECIFIED WORK WINDOW.
 2. THE CONTRACTOR SHALL CLOSELY COORDINATE WITH THE CONTRACTING OFFICER AND CHELAN COUNTY PUD REGARDING TIMING OF EXCAVATION FOR THE UTILITY TRENCH BETWEEN THE RELOCATED TRANSFORMER AND THE RELOCATED PERMANENT UTILITY POLE.



0 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT PLOTTED TO ORIGINAL SCALE.



Natural Systems Design

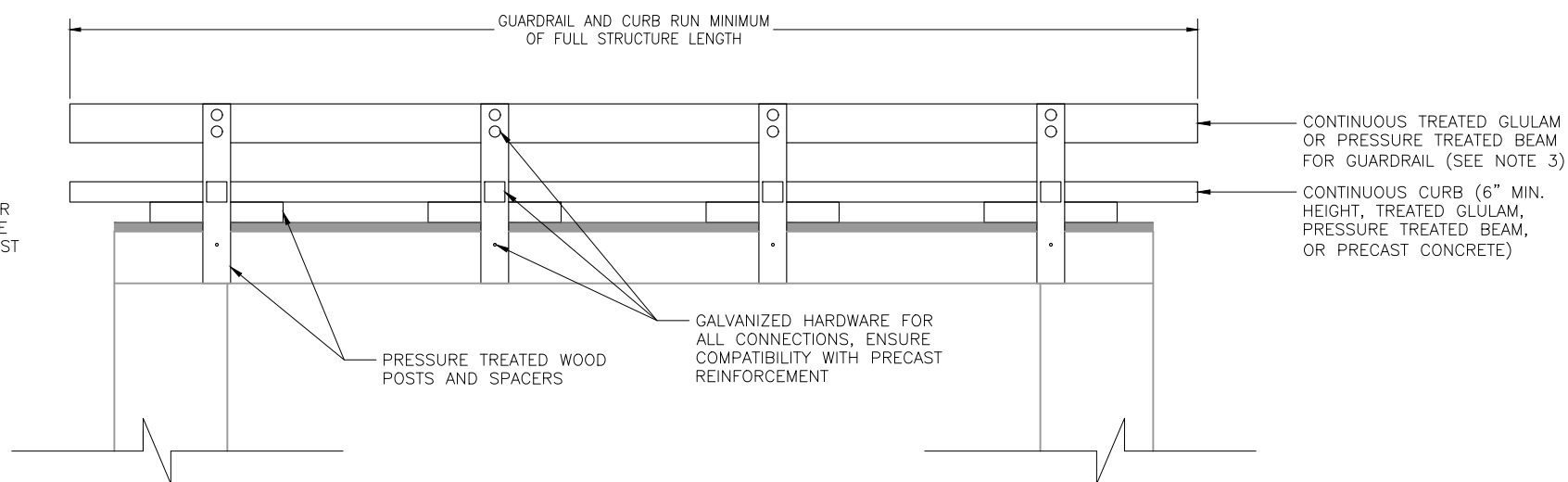
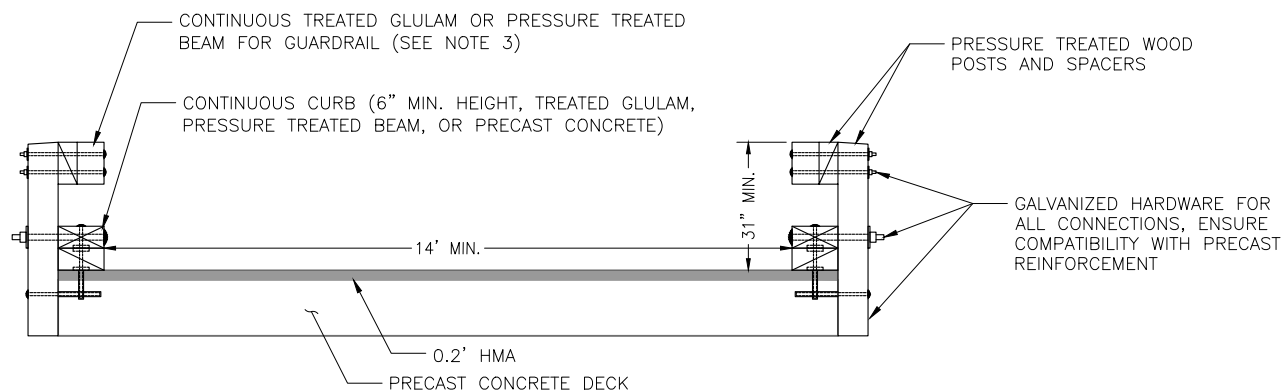
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DRAWN	DS/AL	TN/SC/RG	T26N/S12/R17E
CHECKED	DS	DATE	03/04/2022

BEAVER CREEK CULVERT REPLACEMENT

PAVING PLAN

8
SHEET **8** OF **11**

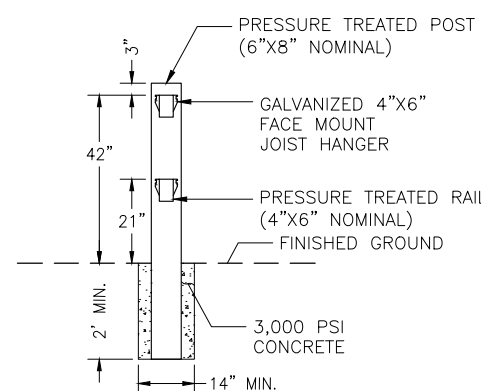
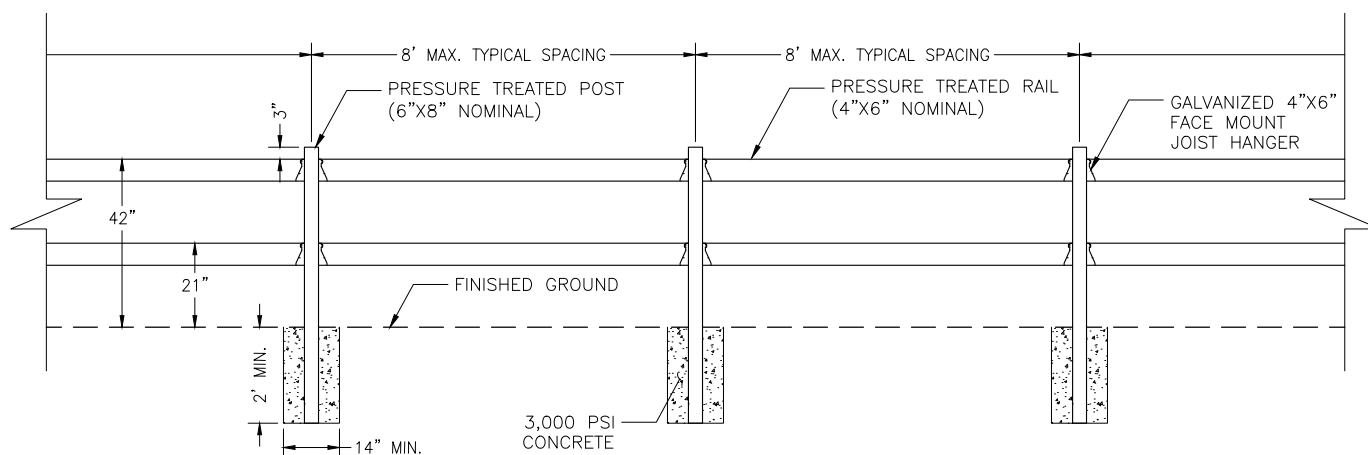
Jul 05, 2022 DRAFT FINAL DESIGN NOT FOR CONSTRUCTION



GUARDRAIL NOTES:

1. THE CONTRACTOR SHALL SUBMIT TYPE 3E WORKING DRAWINGS FOR A TIMBER GUARDRAIL SYSTEM COMPATIBLE WHICH IS COMPATIBLE WITH THE CONTRACTOR-FURNISHED PRECAST BURIED STRUCTURE.
2. THE TIMBER GUARDRAIL SYSTEM SHALL BE AN AASHTO APPROVED SYSTEM WITH A MINIMUM RATING OF TEST LEVEL ONE (TL-1).
3. SEVERAL TL-1 TIMBER RAIL SYSTEMS DO NOT INCLUDE A TOP RAIL WITH A MINIMUM HEIGHT OF 31 INCHES. SHOULD THE CONTRACTOR ELECT TO UTILIZE SUCH A SYSTEM, THE WORKING DRAWINGS SHALL INCLUDE A TIMBER GUARD SYSTEM TO PREVENT FALLS. THE TIMBER GUARD SYSTEM SHALL HAVE A CONTINUOUS TOP RAIL AND SHALL BE DESIGNED TO MEET THE SPACING AND LOADING REQUIREMENTS FOUND IN THE INTERNATIONAL BUILDING CODE (IBC). ALTERNATIVELY THE CONTRACTOR MAY ELECT TO UTILIZE A TIMBER GUARDRAIL SYSTEM WHICH INCLUDES A TOP RAIL WITH A MINIMUM HEIGHT OF 31 INCHES (MOST TL-2 SYSTEMS).
4. ALL WOOD COMPONENTS OF THE GUARDRAIL SYSTEM AND/OR TIMBER GUARD SHALL BE EITHER TREATED GLULAM OR PRESSURE TREATED LUMBER. TREATED GLULAM SHALL BE TREATED TO USE CATEGORY UC4C AS DEFINED BY THE ENGINEERED WOOD ASSOCIATION (APA); TREATMENT SHALL NOT INCLUDE CREOSOTE.
5. ALL HARDWARE USED FOR STRUCTURAL CONNECTIONS SHALL BE GALVANIZED. WORKING DRAWINGS SHALL CLEARLY ILLUSTRATE COMPATIBILITY WITH THE BURIED STRUCTURE AND THE MANNER IN WHICH CONNECTIONS TO THE BURIED STRUCTURE ARE TO BE MADE WITHOUT COMPROMISING THE INTEGRITY OF THE BURIED STRUCTURE.

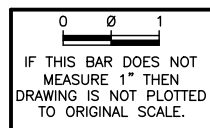
GUARDRAIL REQUIREMENTS 1
9
NOT TO SCALE



TIMBER HANDRAIL NOTES:

1. TIMBER HANDRAIL SHALL BE CONSTRUCTED FROM PRESSURE TREATED (GROUND CONTACT RATED) LUMBER; DIMENSIONS SHOWN ARE ALL NOMINAL.
2. EMBED TIMBER POSTS A MINIMUM OF 2 FEET BELOW THE EXISTING GROUND SURFACE.
3. PITS FOR POSTS SHALL BE NEATLY CREATED, FREE OF DEBRIS AND WATER, AND SHALL MEET THE MINIMUM DIMENSIONS SHOWN ON THIS SHEET.
4. BACKFILL PITS FOR POSTS WITH CONCRETE (MINIMUM 3,000 PSI COMPRESSIVE STRENGTH).
5. ALLOW CONCRETE TO CURE A MINIMUM OF 24 HOURS PRIOR TO ATTACHING RAILS.
6. CONNECT RAILS TO POSTS WITH GALVANIZED FACE MOUNTED JOIST HANGERS AND MANUFACTURER RECOMMENDED NAILS OR SCREWS.
7. ALL POSTS AND RAILS SHALL BE SIMILAR IN APPEARANCE.

TIMBER HANDRAIL 2
9
NOT TO SCALE



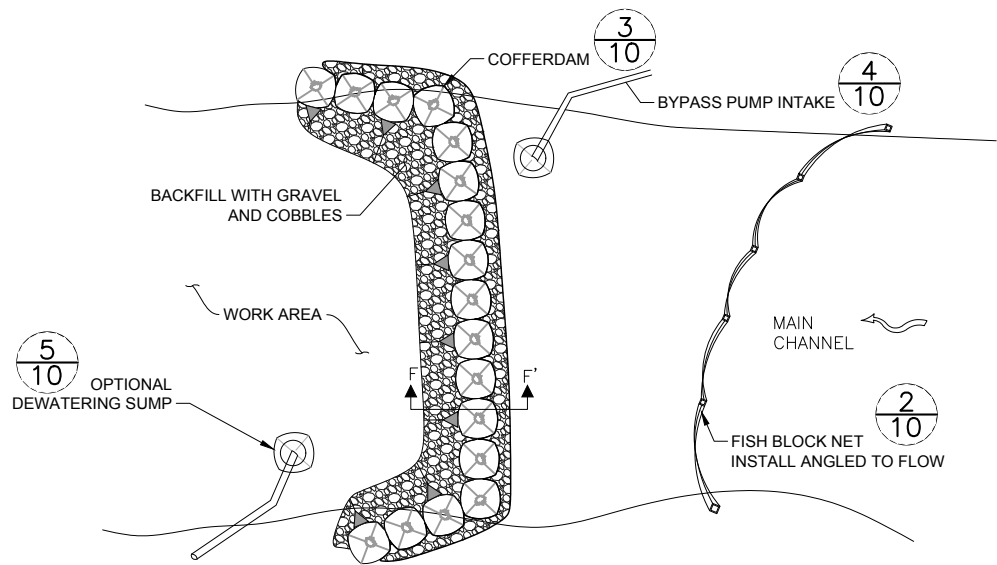
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DRAWN	DS/AL	TN/SC/RG	T26N/S12/R17E
CHECKED	DS	DATE	03/04/2022

BEAVER CREEK CULVERT REPLACEMENT

MISCELLANEOUS DETAILS

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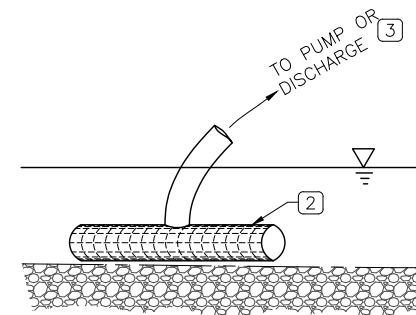
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WORK AREA ISOLATION DETAIL (1/10)
NOT TO SCALE

DEWATERING SEQUENCE

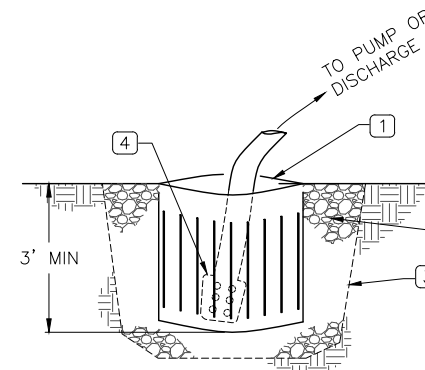
1. CONTRACTING AGENCY TO INSTALL TWO FISH BLOCK NETS; UPSTREAM AND DOWNSTREAM OF THE PROJECT WORK AREA.
2. FISH REMOVAL PERFORMED BY CONTRACTING AGENCY.
3. INSTALL TWO COFFERDAMS WITHIN THE FISH-ISOLATED AREA; UPSTREAM AND DOWNSTREAM OF THE PROJECT WORK AREA.
4. INSTALL UPSTREAM BYPASS PUMP AND DOWNSTREAM OUTLET (TEMPORARY STREAM DIVERSION).
5. ACTIVATE TEMPORARY STREAM DIVERSION.
6. INSTALL OPTIONAL DEWATERING SUMPS AS NECESSARY TO ALLOW FOR COMPLETION AND INSPECTION OF THE WORK



NOTES:

1. STREAM BYPASS INTAKE SHALL REST ON EXISTING STREAMBED.
2. PUMP INTAKE SHALL BE FITTED WITH FISH SCREEN MEETING APPLICABLE RCW SECTIONS (RCW 77.57.010 AND 77.57.070), AS WELL AS NMFS CRITERIA. SEE SECTION 7-06.3(5) FOR MORE INFORMATION.
3. PUMP CAPACITY SHALL BE SIZED TO CONVEY THE ENTIRETY OF STREAMFLOW WITHOUT DEWATERING THE CHANNEL OUTSIDE THE ISOLATED WORK AREA. VARIABLE PUMPING MAY BE REQUIRED. SEE PROJECT PERMITS AND SECTION 7-06.3(2)B FOR MORE INFORMATION.

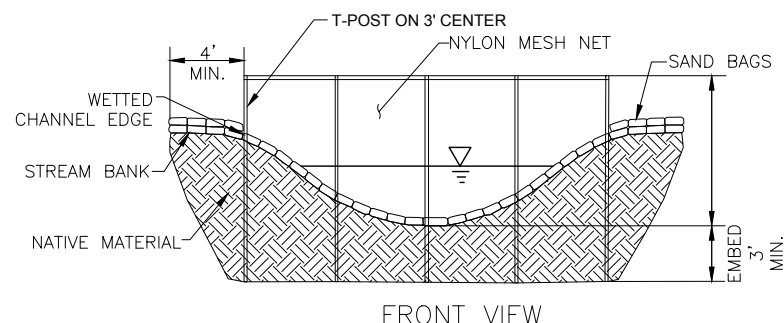
BYPASS PUMP (4/10)
NOT TO SCALE



NOTES:

1. CORRUGATED PLASTIC OR METAL PIPE 36" MIN DIAMETER PERFORATED PIPE, ONE PER EACH PUMP.
2. STREAMBED SEDIMENT.
3. LIMIT OF EXCAVATION. INSTALL PIPE AND BACKFILL WITH STREAMBED SEDIMENT.
4. PUMP INTAKE SHALL BE FITTED WITH FISH SCREEN MEETING RCW 77.57.010 AND RCW 77.57.070. SEE SECTION 7-06.3(5) FOR MORE INFORMATION.
5. THE INTENT OF DEWATERING PUMPS IS TO REMOVE GROUNDWATER OR SURFACE WATER WHICH SEEPS INTO THE ISOLATED WORK AREA. DEWATERING PUMPS ARE OPTIONAL; IF USED, DEWATERING PUMPS SHALL BE OPERATED IN SUCH A WAY THAT NO PORTION OF THE STREAMBED OUTSIDE THE ISOLATED WORK AREA BECOMES DEWATERED.

DEWATERING SUMP (5/10)
NOT TO SCALE

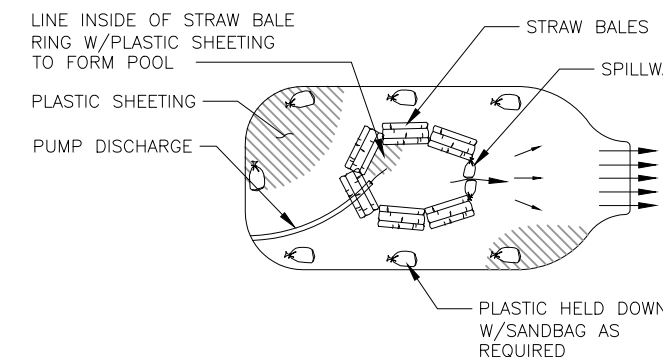
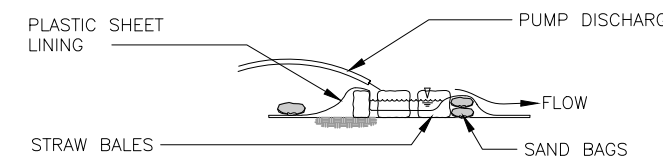


FISH BLOCK NET NOTES

(TO BE INSTALLED BY CONTRACTING AGENCY)

1. INSTALL T-POSTS ON 3' CENTERS.
2. SECURE 1/8" MAX. FISH NYLON NET TO UPSTREAM SIDE OF T-POSTS.
3. SECURE NYLON FISH NET TO STREAM BOTTOM WITH SAND BAGS.
4. EXTEND SAND BAGS 4' MINIMUM PAST THE ORDINARY HIGH WATER MARK.
5. ADD BRACING TIMBER AS NEEDED TO SUPPORT THE NET.
6. REMOVE DEBRIS FROM THE UPSTREAM SIDE OF NET AS NECESSARY TO PREVENT CLOGGING.
7. OPTIONALLY, SECURE 4" MESH 6' UPSTREAM FOR DEBRIS CATCHMENT (NOT DEPICTED).

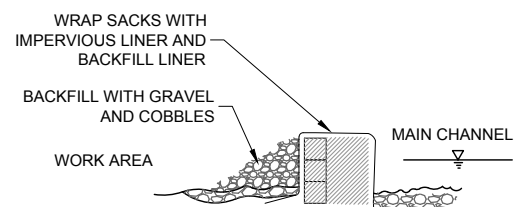
FISH BLOCK NET (2/10)
NOT TO SCALE



ENERGY DISSIPATOR (6/10)
NOT TO SCALE

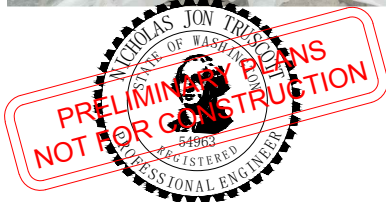
NOTES FOR COFFERDAM:

1. WRAP "SUPER SACKS" WITH IMPERVIOUS PLASTIC LINER TO PREVENT SEEPAGE.
2. BACKFILL THE DOWNSTREAM SIDE COFFERDAM WITH NATIVE, ADJACENT ALLUVIUM.
3. USE "SUPER SACKS" AS BUTTRESSES AS REQUIRED.
4. ALL NON-NATIVE FILL AND COFFERDAM MATERIAL SHALL BE FULLY REMOVED FROM THE STREAMBED AND PROJECT SITE AT COMPLETION OF THE PROJECT.



SECTION F-F'

COFFERDAM (3/10)
NOT TO SCALE



0 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT PLOTTED TO ORIGINAL SCALE.



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CHECKED	DS	DATE	03/04/2022

BEAVER CREEK CULVERT REPLACEMENT

SITE ISOLATION DETAILS

10

SHEET 10 OF 11

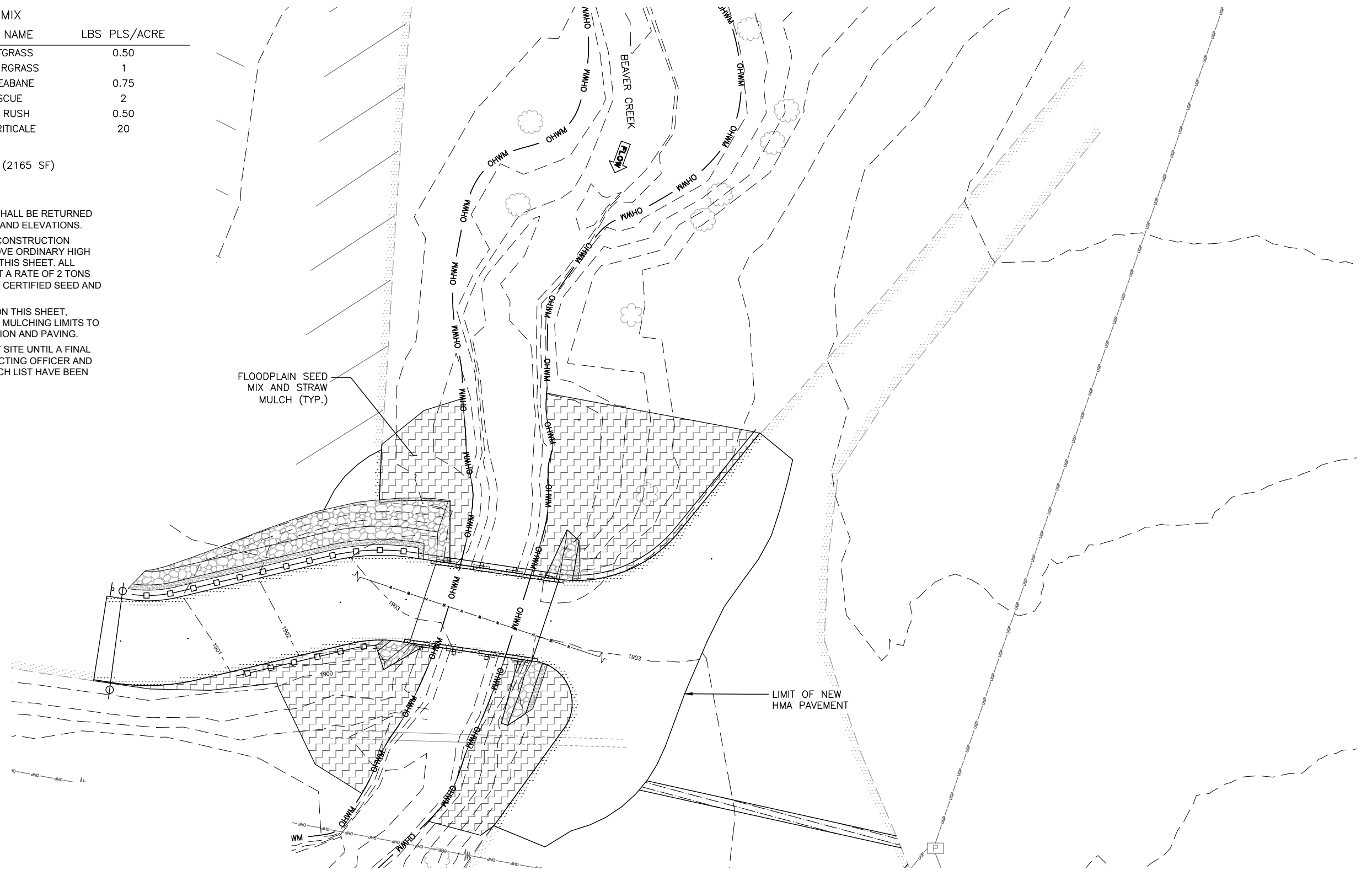
FLOODPLAIN SEED MIX

SPECIES	COMMON NAME	LBS PLS/ACRE
AGROSTIS SCABRA	HAIR BENTGRASS	0.50
DESCHAMPSIA CESPITOSA	TUFTED HAIRGRASS	1
ERIGERON SPECIOSUS	ASPEN FLEABANE	0.75
FESTUCA RUBRA VAR. RUBRA	RED FESCUE	2
JUNCUS TENUIS	SLENDER RUSH	0.50
TRITICUM AESTIVUM X SECALE CEREALE	STERILE TRITICALE	20

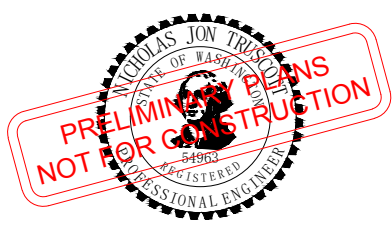
 FLOODPLAIN SEEDING AREA (2165 SF)

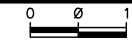
NOTES:

1. ALL DISTURBED AREAS OUTSIDE THE LIMITS OF GRADING SHALL BE RETURNED TO AS CLOSE AS POSSIBLE TO ORIGINAL GROUND SLOPES AND ELEVATIONS.
2. ALL DISTURBED AREAS OUTSIDE THE LIMITS OF CHANNEL CONSTRUCTION (COMPOSED OF STREAMBED MIX AND BOULDERS) AND ABOVE ORDINARY HIGH WATER SHALL BE SEEDED WITH THE SEED MIX SHOWN ON THIS SHEET. ALL SEEDED AREAS SHALL BE TREATED WITH STRAW MULCH AT A RATE OF 2 TONS PER ACRE. CONTRACTOR IS RESPONSIBLE FOR ACQUIRING CERTIFIED SEED AND WEED-FREE STRAW, PER THE SPECIFICATIONS.
3. ANTICIPATED LIMITS OF DISTURBANCE ARE ILLUSTRATED ON THIS SHEET, HOWEVER THE CONTRACTOR SHALL ADJUST SEEDING AND MULCHING LIMITS TO MATCH SITE CONDITIONS FOLLOWING BRIDGE CONSTRUCTION AND PAVING.
4. CONTRACTOR SHALL NOT DEMOBILIZE FROM THE PROJECT SITE UNTIL A FINAL WALKTHROUGH HAS BEEN COMPLETED WITH THE CONTRACTING OFFICER AND ALL ITEMS IDENTIFIED ON THE PROJECT COMPLETION PUNCH LIST HAVE BEEN COMPLETED.



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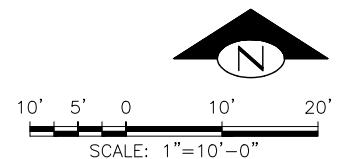


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BEAVER CREEK CULVERT REPLACEMENT

SITE RESTORATION PLAN

11
SHEET 11 OF 11



Jul 05, 2022 DRAFT FINAL DESIGN NOT FOR CONSTRUCTION