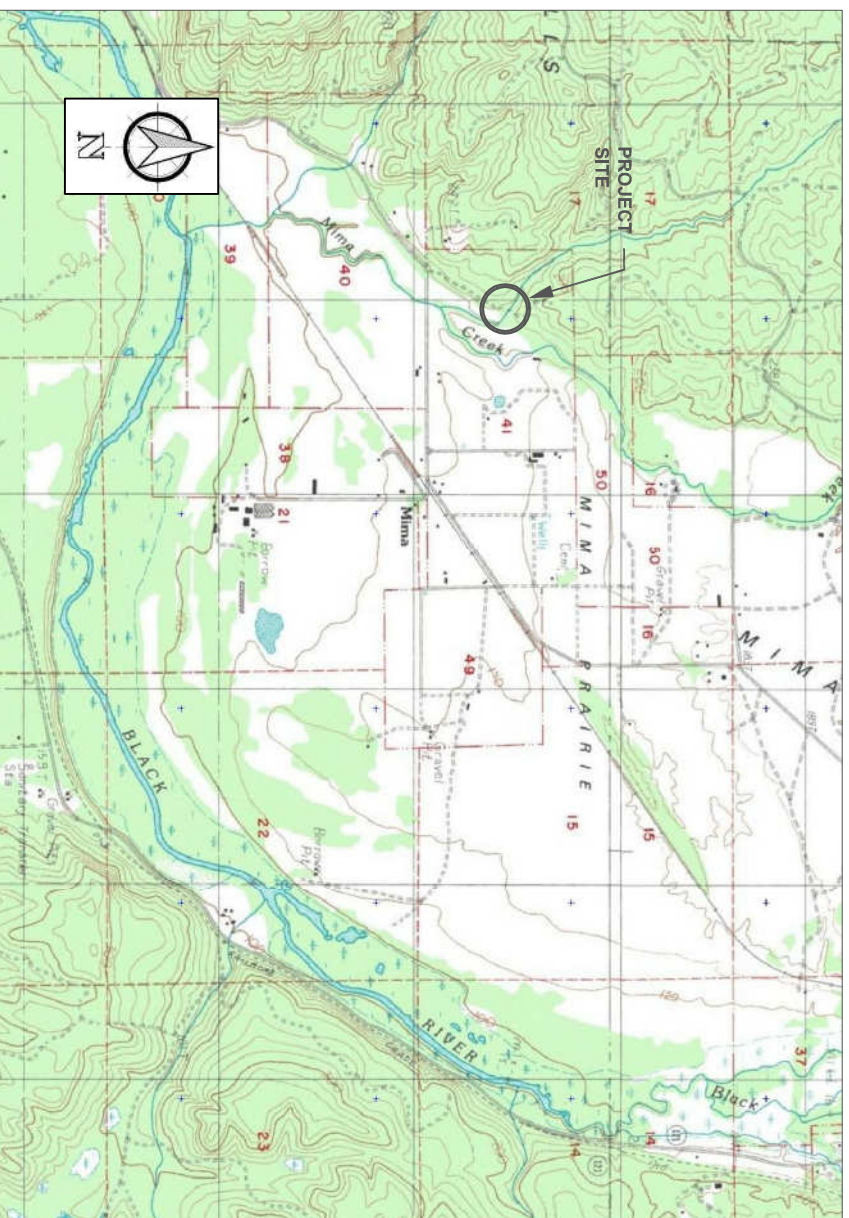
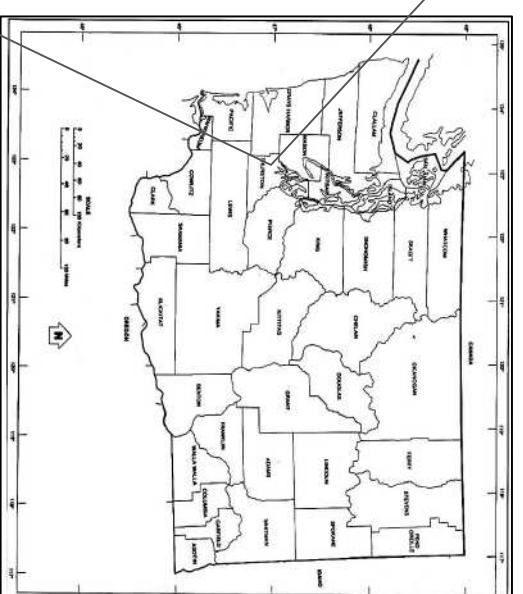


WILD FISH CONSERVANCY NORTHWEST BAKER / GOLLIATH CREEK CULVERT REPLACEMENT PROJECT FAMILY FOREST FISH PASSAGE PROGRAM # 10-1935

Project Contacts
 Project Manager: Jamie Glasgow 360-310-9302
 Project Engineer: Army Stonkus 206-349-3955

Driving Directions: From I-5, take exit 95 for WA-121 N toward Littlerock/Maytown. Follow Maytown Rd SW for 2.9 miles to 128th Ave SW and take a left onto Mira Rd SW. Continue onto Gate Rd SW/Mima Gate Rd SW for about four miles and then turn right onto a gravel road. The site is approximately 1/4 mile up the road.

Project Location:
 Parcel No. 09550013000
 Address: 9408 GATE RD SW, OLYMPIA
 Site Zip: 98512
 LAT: 46.869895 (NAD 83)
 LONG: -123.079853 (NAD 83)



VICINITY MAP



0 1
 WARNING
 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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DRAWN BY:	STEPHEN KROPP
DESIGNED BY:	ARMY STONKUS, P.E.
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TITLE SHEET

FAMILY FOREST FISH PASSAGE PROGRAM # 10-1935
 BAKER / GOLLIATH CREEK CULVERT REPLACEMENT PROJECT

ROCHESTER, WA

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GENERAL NOTES

1. BRIDGE TO BE DELIVERED TO SITE BY MANUFACTURER AND UNLOADED AND INSTALLED BY CONTRACTOR.
2. CONTOUR CHANNEL BANKS TO MINIMIZE ENERGY LOSS. MATCH TO WIDTH OF NATURAL UPSTREAM AND DOWNSTREAM REACHES. SLOPE BANKS AT 3:2 OR AS NEEDED. BIOENGINEERING WILL BE USED TO ESTABLISH VEGETATION.
3. BRIDGE CONSISTS OF FOUR STEEL GIRDERS AND A TOP DECK COMPOSED OF CRUSHED ROCK. INSTALL BRIDGE PER MANUFACTURER'S RECOMMENDATIONS.
4. MINIMIZE DISTURBANCE TO ADJACENT VEGETATION.
5. SPOILS TO BE DISPOSED OF ON SITE AS DIRECTED BY PROJECT ENGINEER. APPROPRIATE EROSION AND SEDIMENTATION CONTROL BMP'S WILL BE IN PLACE TO ENSURE NO TURBID WATER ENTERS THE STREAM.
6. ENGINEER TO VERIFY SOIL ADEQUACY BEFORE CRUSHED-ROCK BASE IS PLACED.
7. REPAIR ANY DAMAGED ROAD SURFACES TO PRE-PROJECT CONDITIONS.
8. REVEGETATE ALL DISTURBED SOILS WITH LOCAL NATIVE VEGETATION (BY OTHERS), MULCH ALL BARE SOILS.

WATER MANAGEMENT NOTES

1. FLOW SHALL BE DIVERTED TO ISOLATE THE WORK AREA AND MINIMIZE IMPACTS TO WATER QUALITY DURING CONSTRUCTION.
2. COFFER DAMS WILL BE INSTALLED UPSTREAM AND DOWNSTREAM OF THE WORK AREA FOR THE STREAM BYPASS SYSTEM. THE DIVERSION DAM MUST EFFECTIVELY ISOLATE THE WORK AREA AND PREVENT DISCHARGE OF SEDIMENT INTO THE CREEK.
3. THE COFFER DAMS WILL BE ADJUSTED TO INTRODUCE FLOWS INTO THE NEW CHANNEL.
4. PROVIDE AND OPERATE PUMP AS NEEDED PRIOR TO BEGINNING IN-CHANNEL WORK. PUMP SHALL BE AVAILABLE ON SITE AND MAINTAINED 24 HOURS A DAY DURING CONSTRUCTION.
5. INSTALLATION OF FLOW DIVERSION DAM SHALL NOT BEGIN UNTIL WFC HAS INSTALLED TEMPORARY UPSTREAM AND DOWNSTREAM FISH EXCLUSION NETS AND FISH SALVAGE IS COMPLETE. FISH WHICH MAY BE TRAPPED WITHIN THE WORK AREA AND POTENTIALLY AT RISK OF HARM SHALL BE CAPTURED AND RELEASED SAFELY UPSTREAM, ABOVE THE DIVERSION DAM.

MATERIALS LIST

	UNIT	QUANTITY
MOBILIZATION	LS	1
CONSTRUCTION SURVEYING AND STAKING	LS	1
REMOVAL OF CULVERT	CY	36
RESTORE ROAD ABOVE OLD CULVERT	CY	48
CRUSHED ROCK (BRIDGE APPROACH AND DECK)	CY	20
STREAM RE-ALIGNMENT: EXCAVATION	CY	650
FILL EXISTING UPSTREAM CHANNEL SEGMENT	CY	40
DISPOSE OF REMAINING SPOILS ABOVE ROAD	CY	504
INSTALL COIR LIFTS	LS	1
BACKFILL BEHIND COIR WRAPS	CY	94
COIR WRAPS IMPORTED FILL MATERIAL	CY	40
D-900 COIR FABRIC (13' X 165' ROLLS)	Each	3
IMPORTED STREAMBED GRAVEL	CY	70
WILLOW AND DOGWOOD STAKES	Each	300
INSTALL BRIDGE, ABUTMENTS, AND SHEET PILES	LS	1
CRUSHED ROCK (UNDER ABUTMENTS)	CY	2
LIGHT LOOSE RIPRAP	TONS	132
ROUNDED TOE ROCK (2'-3' DIA)	TONS	55

SPECIFICATIONS FOR HPA STREAMBED GRAVEL

GRAVEL SIZE	% FINER
6"-8"	85-100
3"-6"	50-84
1"-3"	16-49
NO. 200 SIEVE-1"	0-15

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GENERAL NOTES

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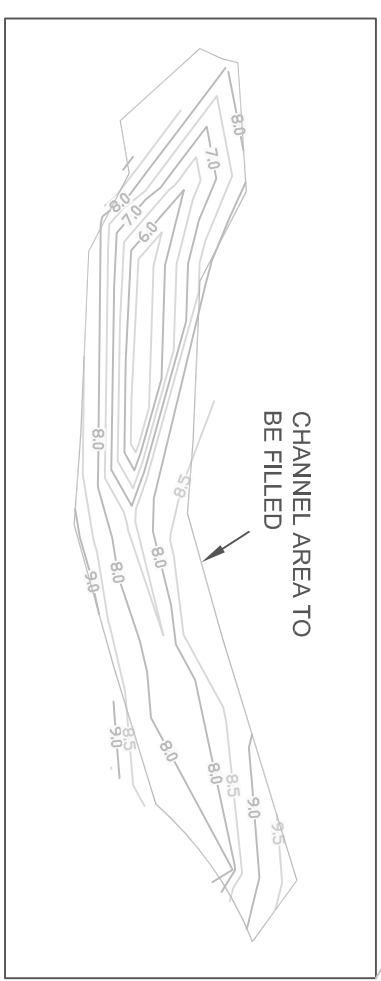
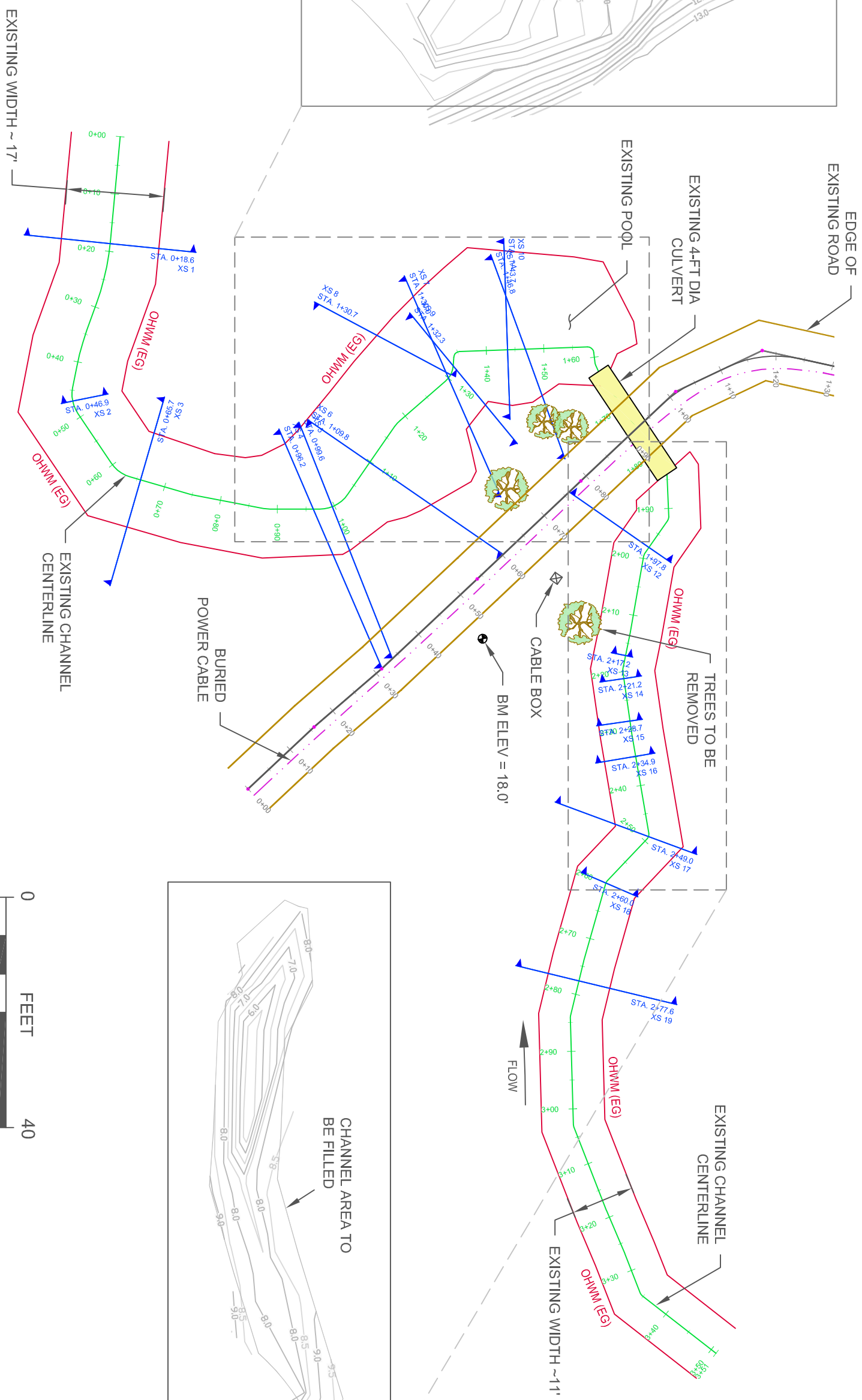
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EXISTING CONDITIONS

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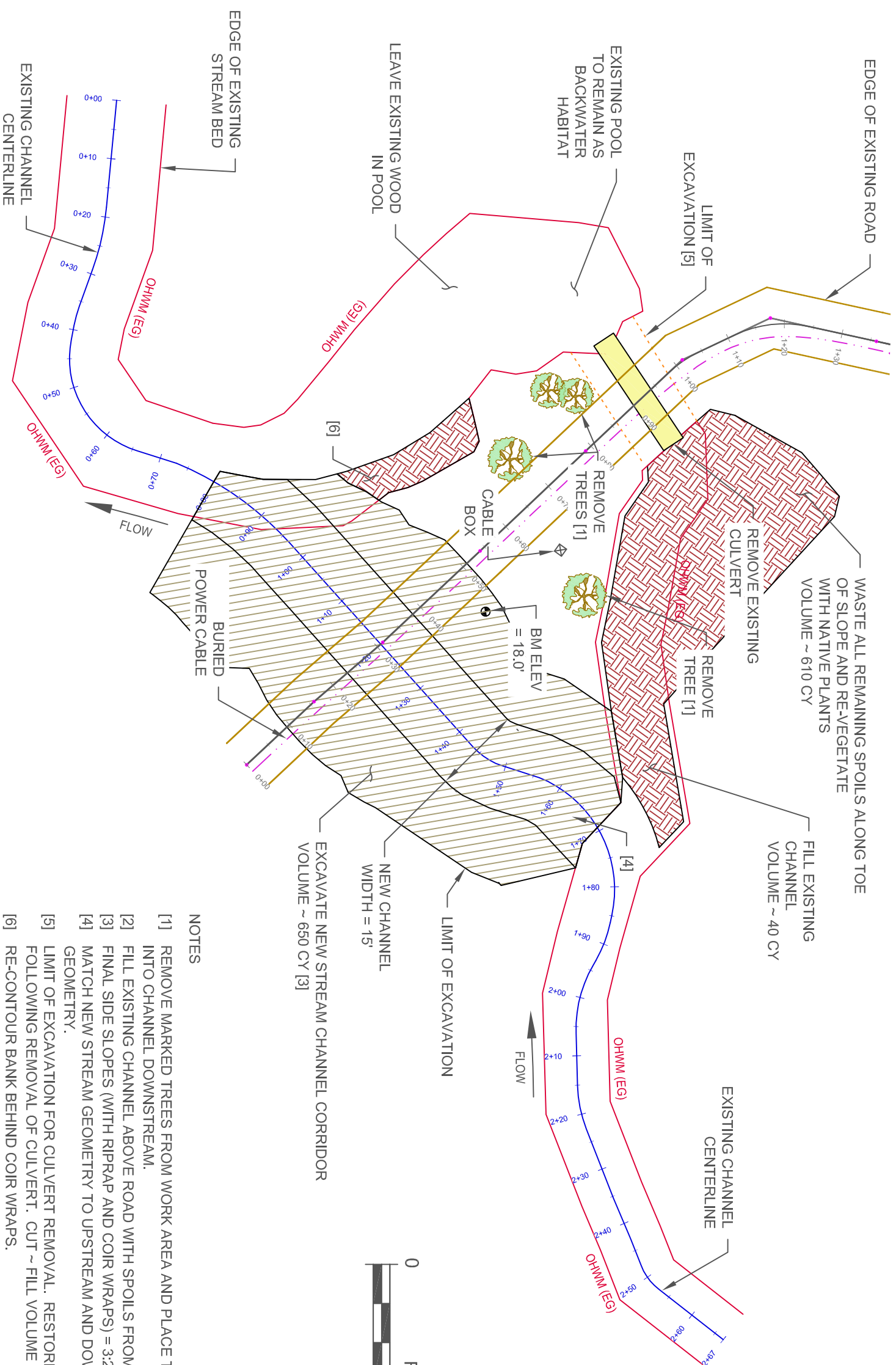
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- NOTES
- [1] REMOVE MARKED TREES FROM WORK AREA AND PLACE TREES AND ROOTWADS INTO CHANNEL DOWNSTREAM.
 - [2] FILL EXISTING CHANNEL ABOVE ROAD WITH SPOILS FROM CHANNEL EXCAVATION.
 - [3] FINAL SIDE SLOPES (WITH RIPRAP AND COIR WRAPS) = 3:2.
 - [4] MATCH NEW STREAM GEOMETRY TO UPSTREAM AND DOWNSTREAM CHANNEL GEOMETRY.
 - [5] LIMIT OF EXCAVATION FOR CULVERT REMOVAL. RESTORE ROAD PRISM FOLLOWING REMOVAL OF CULVERT. CUT ~ FILL VOLUME ~ 48 CY.
 - [6] RE-CONTOUR BANK BEHIND COIR WRAPS.



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GRADING PLAN

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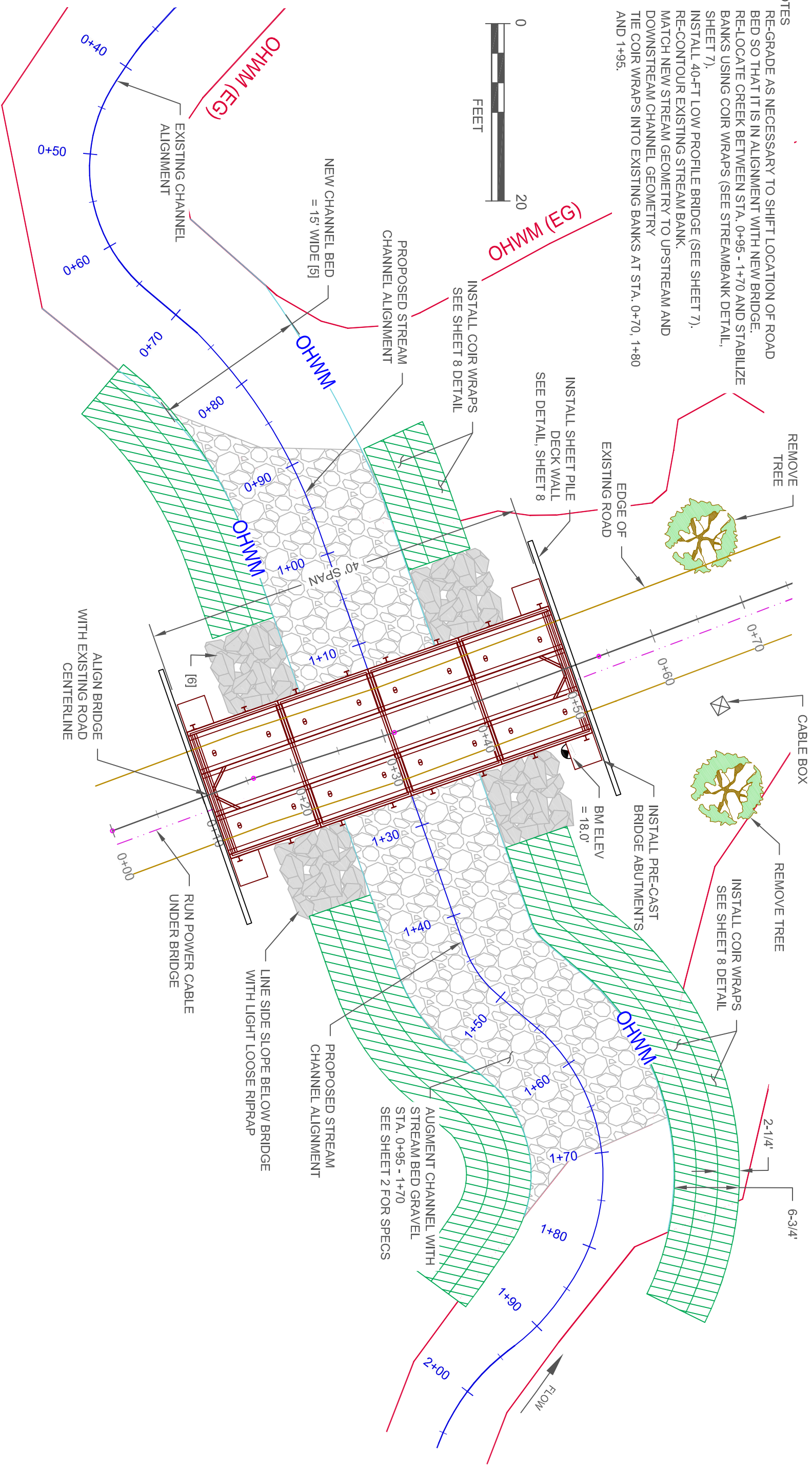
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- NOTES
- [1] RE-GRADE AS NECESSARY TO SHIFT LOCATION OF ROAD BED SO THAT IT IS IN ALIGNMENT WITH NEW BRIDGE.
 - [2] RE-LOCATE CREEK BETWEEN STA. 0+95 - 1+70 AND STABILIZE BANKS USING COIR WRAPS (SEE STREAMBANK DETAIL, SHEET 7).
 - [3] INSTALL 40-FT LOW PROFILE BRIDGE (SEE SHEET 7).
 - [4] RE-CONTOUR EXISTING STREAM BANK.
 - [5] MATCH NEW STREAM GEOMETRY TO UPSTREAM AND DOWNSTREAM CHANNEL GEOMETRY
 - [6] TIE COIR WRAPS INTO EXISTING BANKS AT STA. 0+70, 1+80 AND 1+95.



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SITE RESTORATION PLAN

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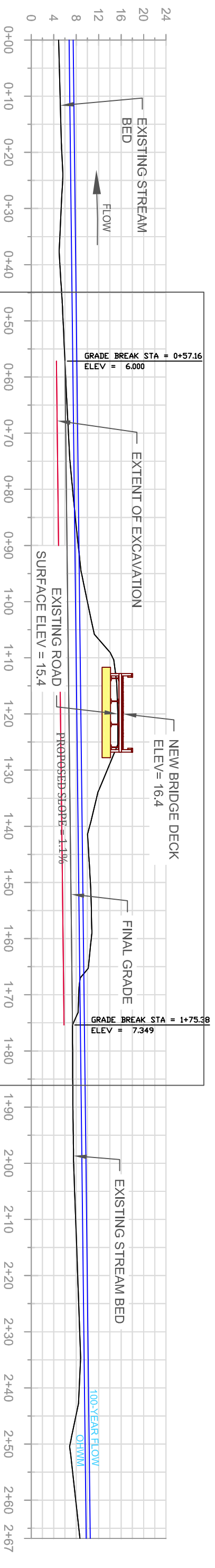
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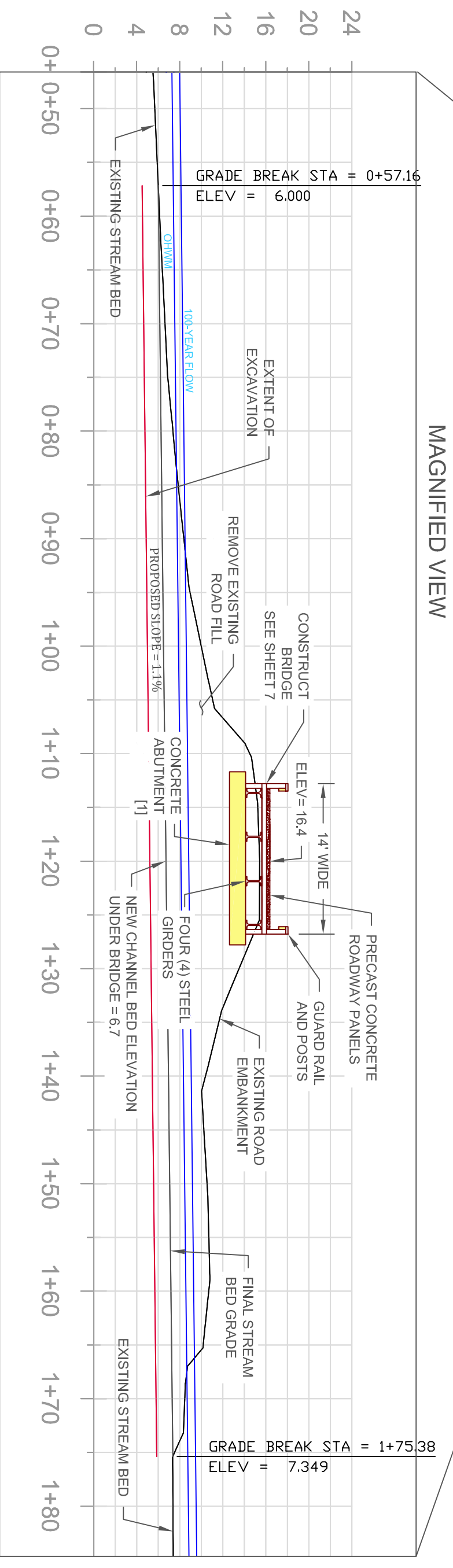
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STREAM PROFILE
 SCALE: AS SHOWN



MAGNIFIED VIEW

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STREAM PROFILE

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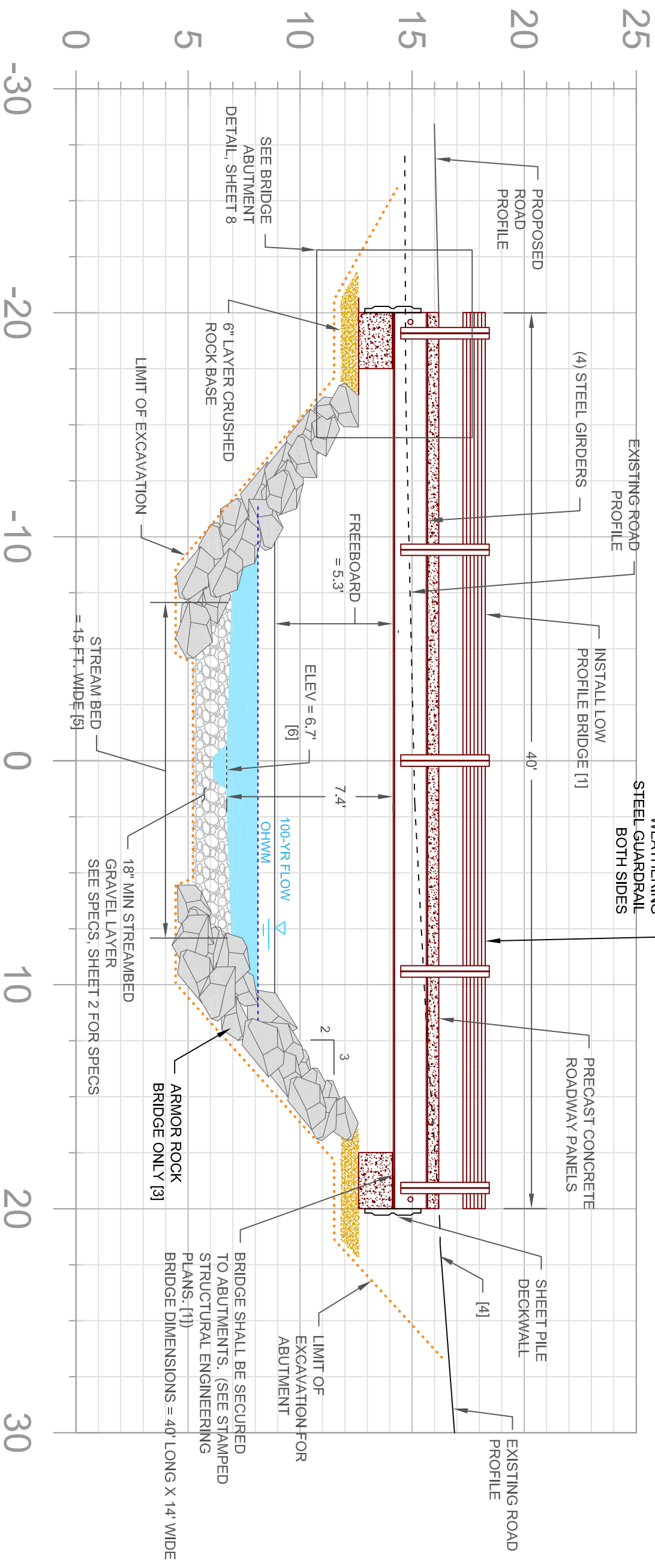
SHEET NO.

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- NOTES
- [1] BRIDGE SHALL BE DESIGNED BY A WA LICENSED STRUCTURAL ENGINEER AND A STAMPED DRAWING OF THE BRIDGE SHALL BE REVIEWED BY THE WILD FISH CONSERVANCY PRIOR TO INSTALLATION. THE BRIDGE SHALL COMPLY WITH AASHTO HL-93 LOADING.
 - [2] INSTALLATION SHALL COMPLY WITH WSDOT SEISMIC BRIDGE DESIGN SPECIFICATIONS, BRIDGE DESIGN MANUAL M23-50.04.
 - [3] PLACE ARMOR ROCKS TO PROTECT ABUTMENTS FROM SCOUR. USE LIGHT LOOSE RIPRAP STACKED AT 1.5:1 SLOPE.

- [4] THE INTO EXISTING ROAD SURFACE
- [5] BOTTOM OF STREAM BED DEFINED BY DISTANCE BETWEEN THE TOP EDGE OF THE TWO LOWERMOST COIR WRAPS.
- [6] MATCH THALWEG TO LOCATION OF EXISTING UPSTREAM THALWEG.
- [7] OHWM = 1.4' ABOVE STREAM BED (Q = 91 CFS); 100-YR FLOW DEPTH = 2.1' (Q100 = 210 CFS)



1
4

NEW BRIDGE PROFILE

SCALE: AS SHOWN

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BRIDGE AND EXISTING ROAD PROFILES

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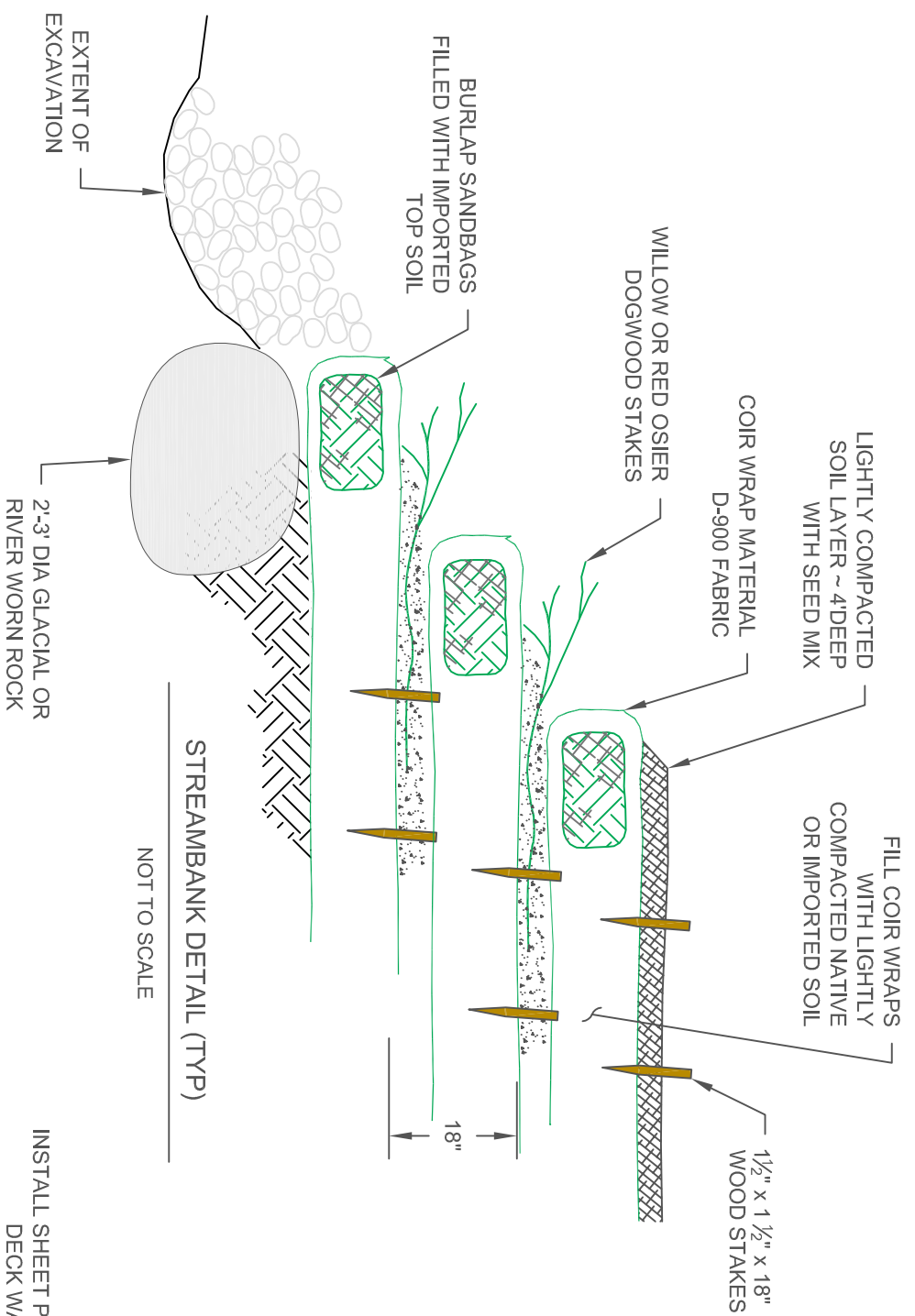
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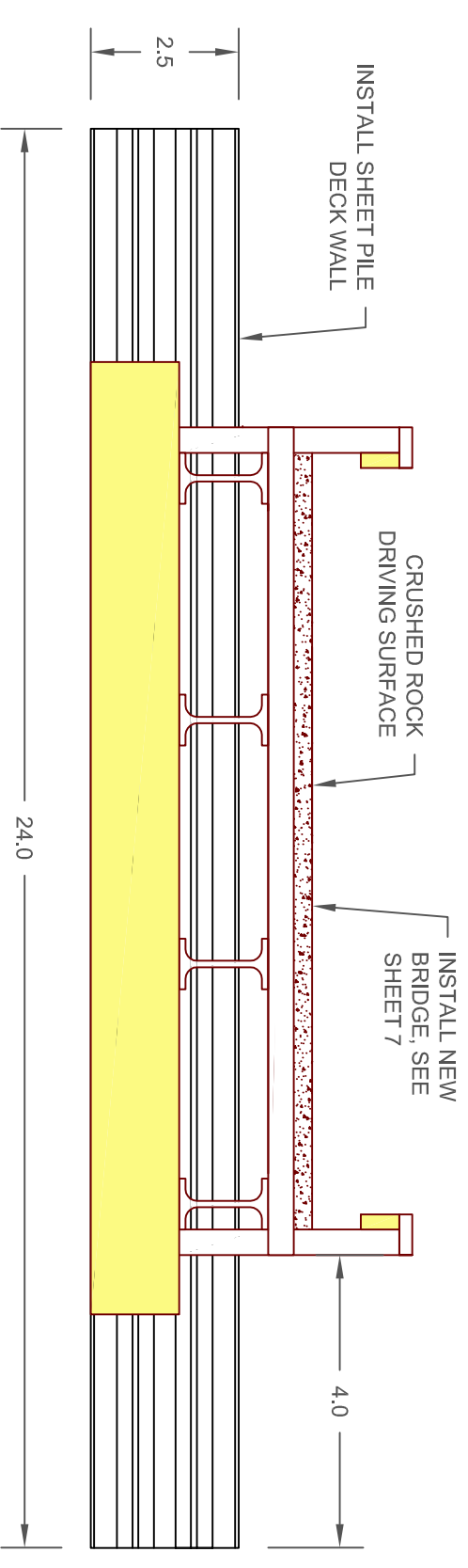
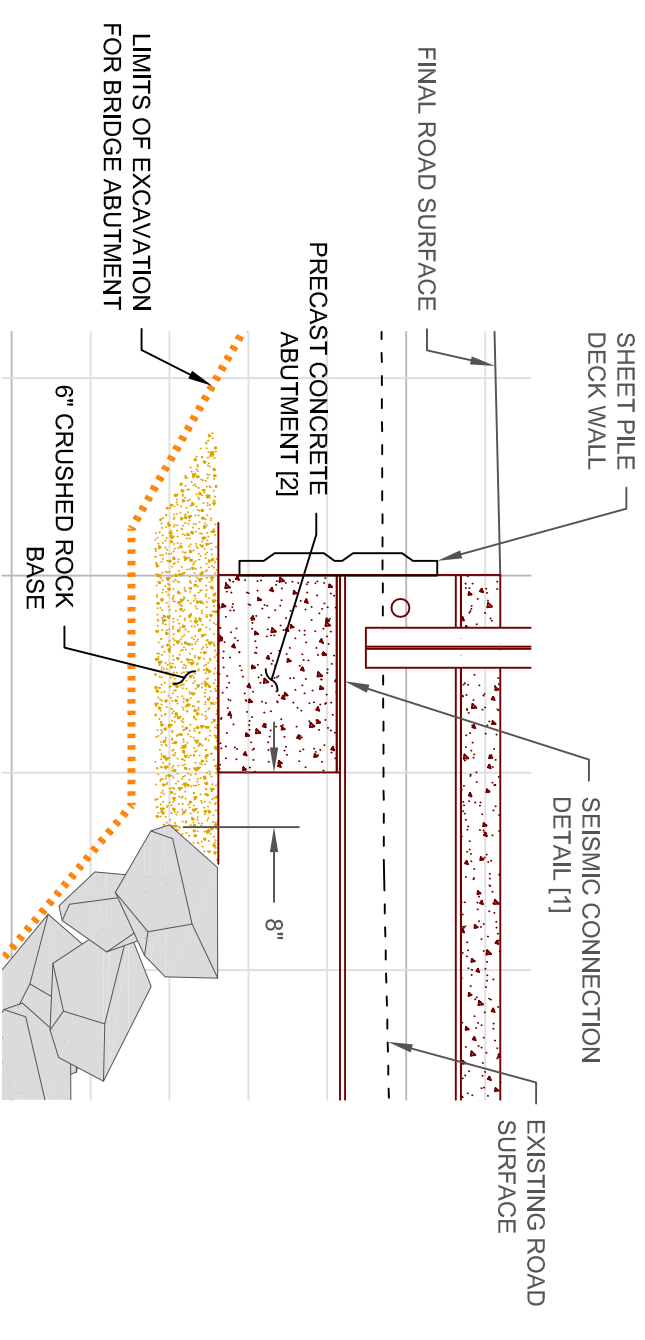
SHEET NO.

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NOTE
 [1] SEE SEISMIC CONNECTION DETAIL IN SEPERATE BRIDGE STRUCTURAL PLAN SET.
 [2] CONCRETE ABUTMENT 16' WIDE x 18" THICK x 30" DEEP.



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DETAILS

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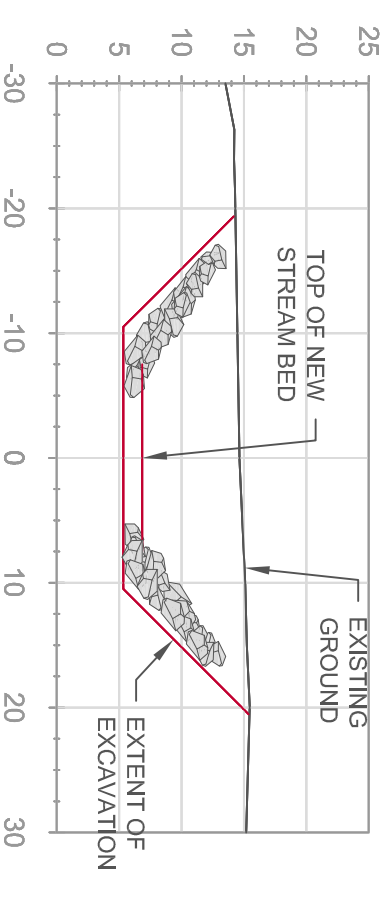
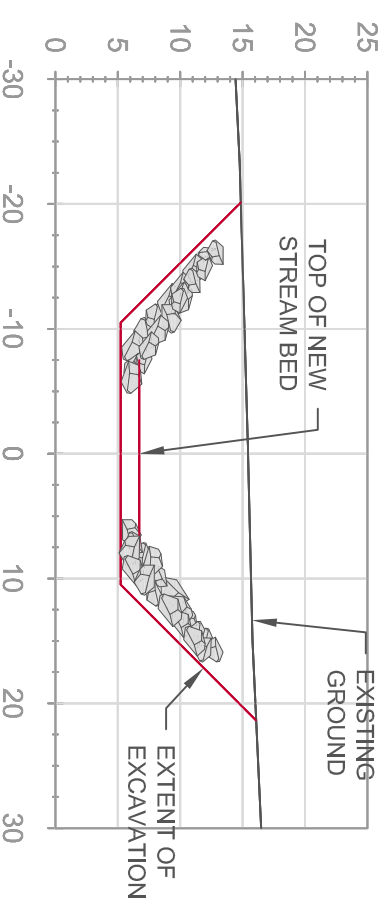
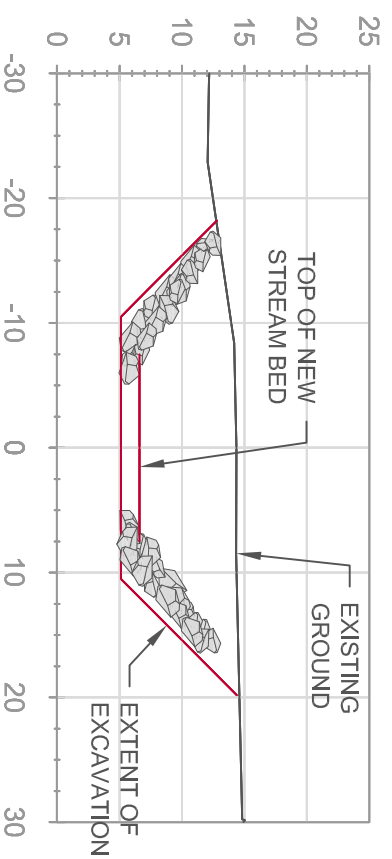
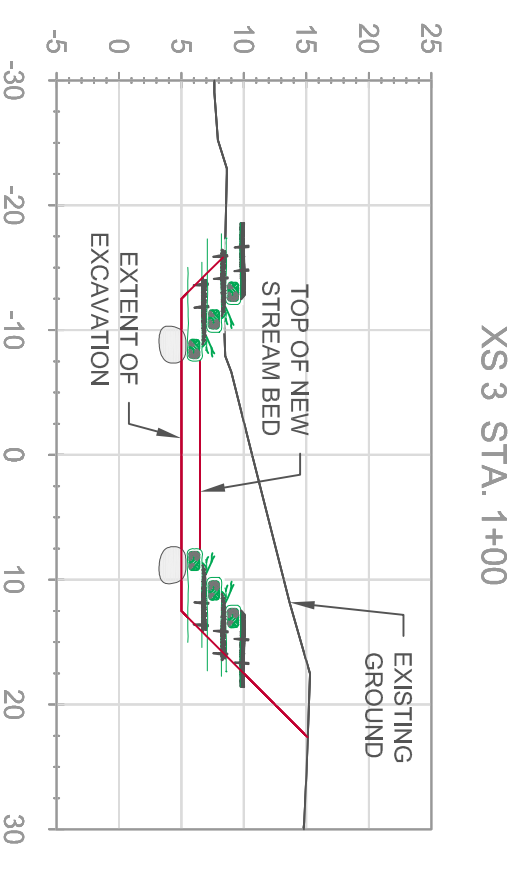
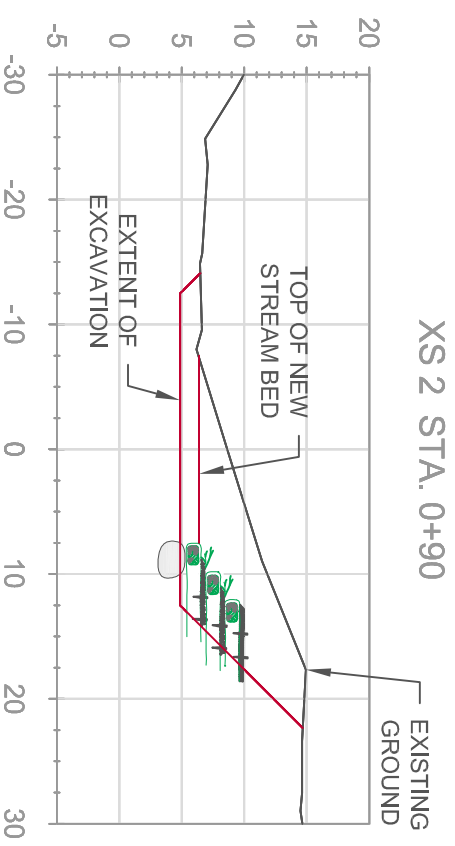
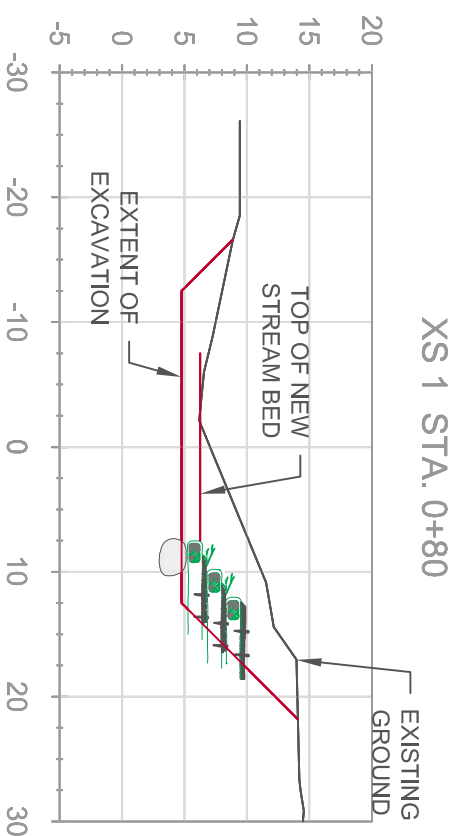
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NEW CHANNEL CROSS SECTIONS

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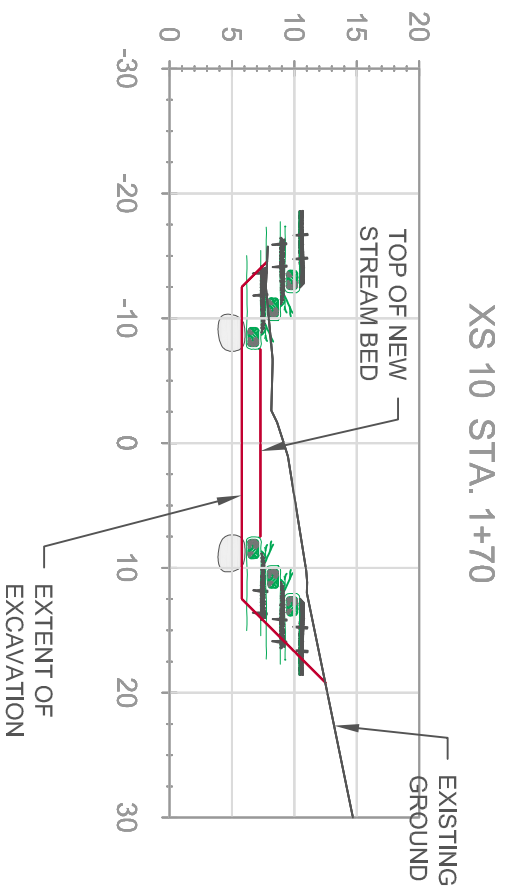
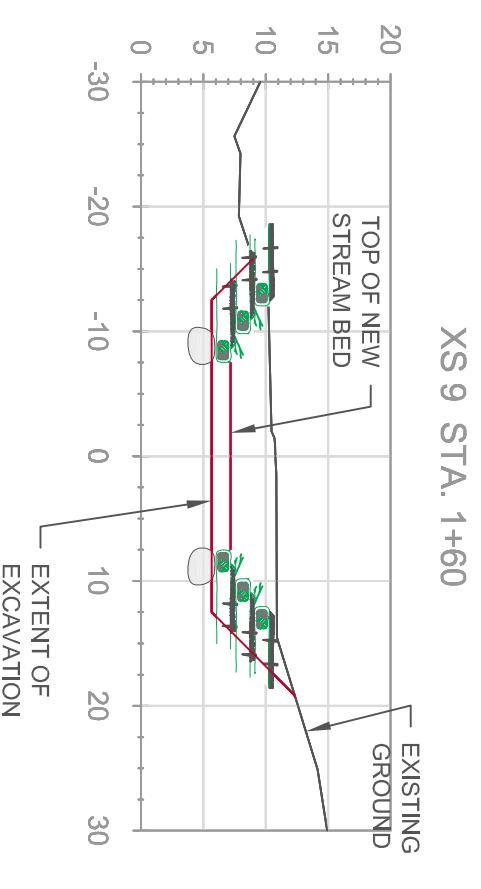
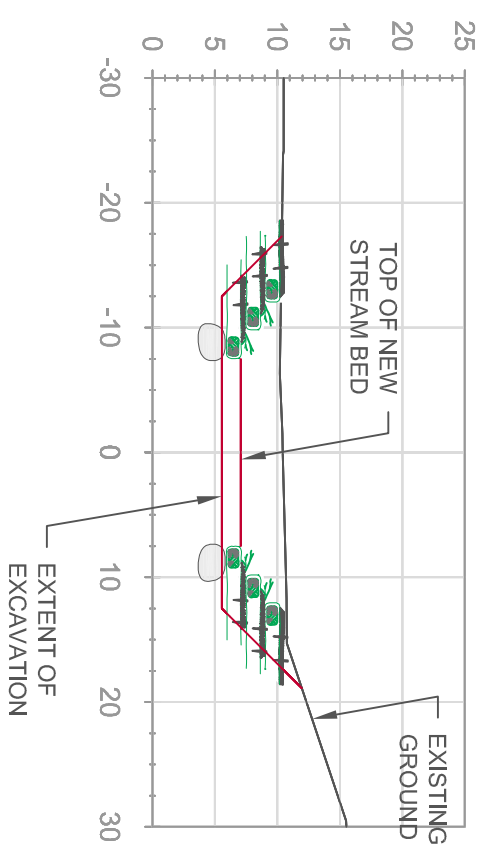
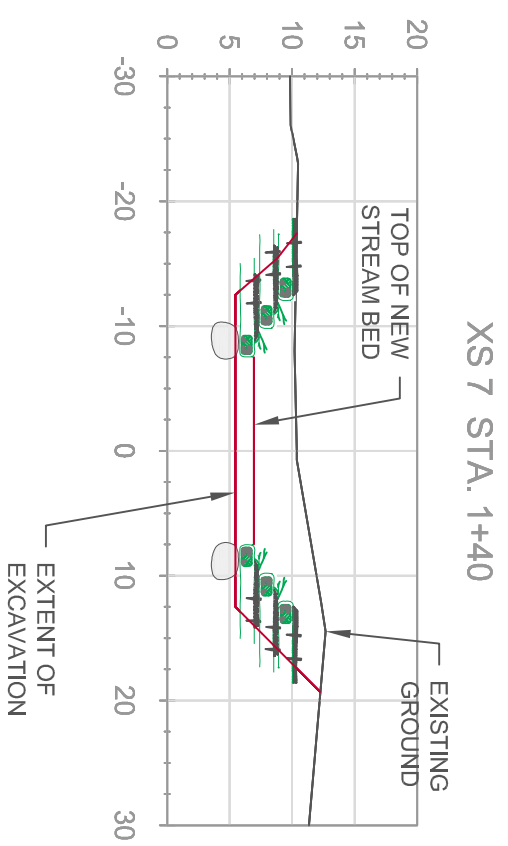
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NEW CHANNEL CROSS SECTIONS

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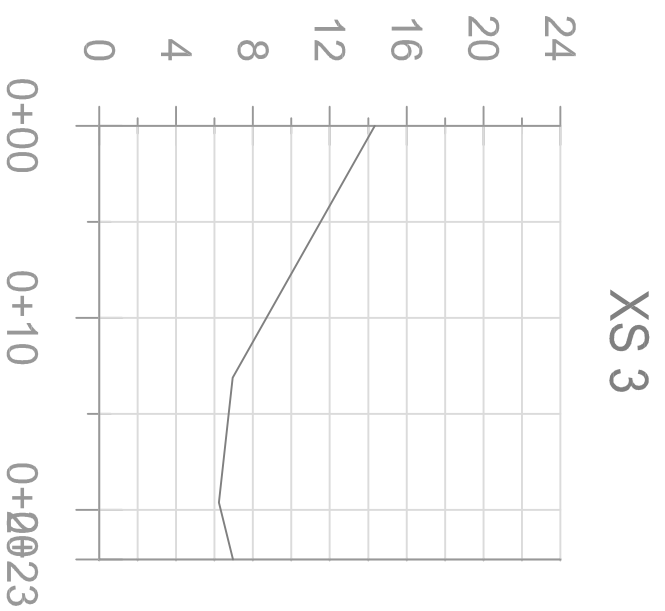
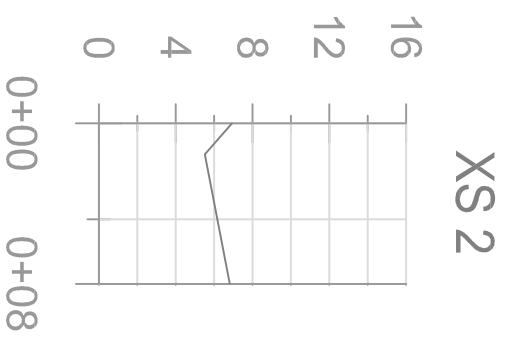
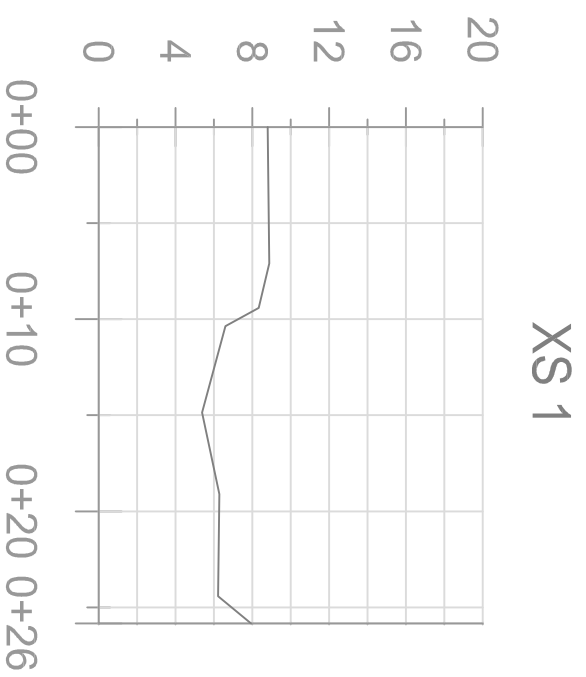
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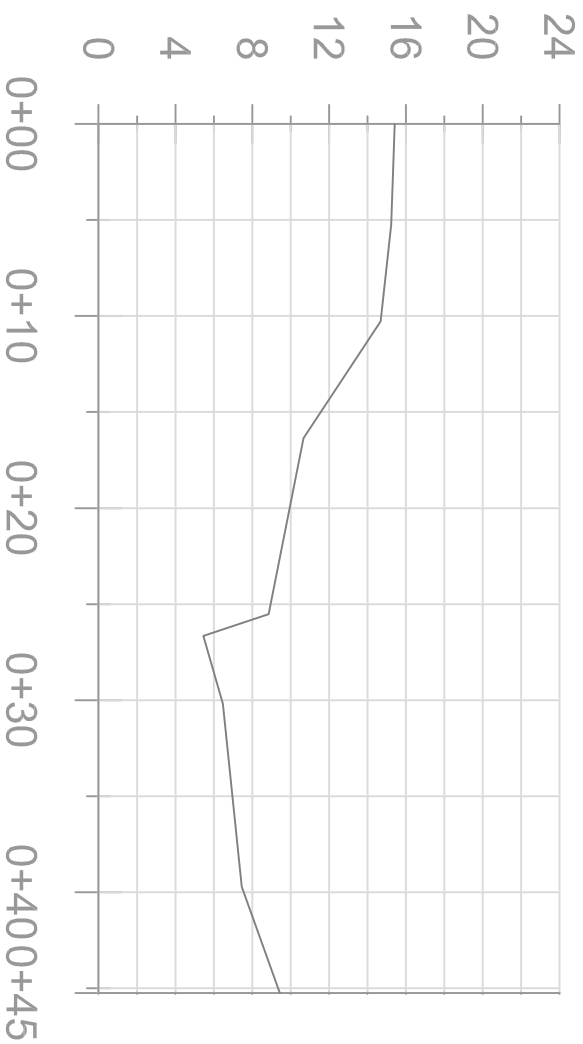
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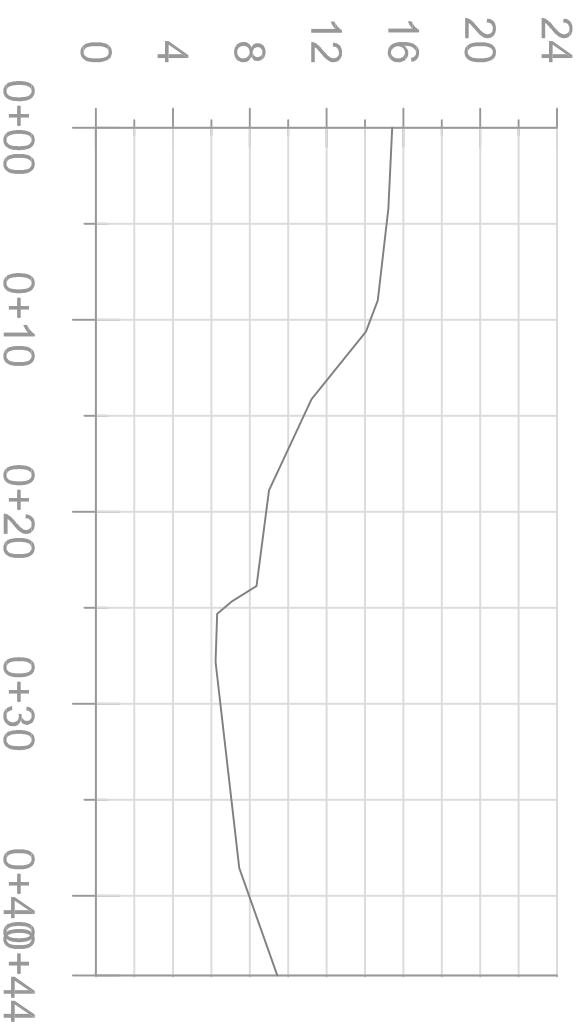
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XS 5



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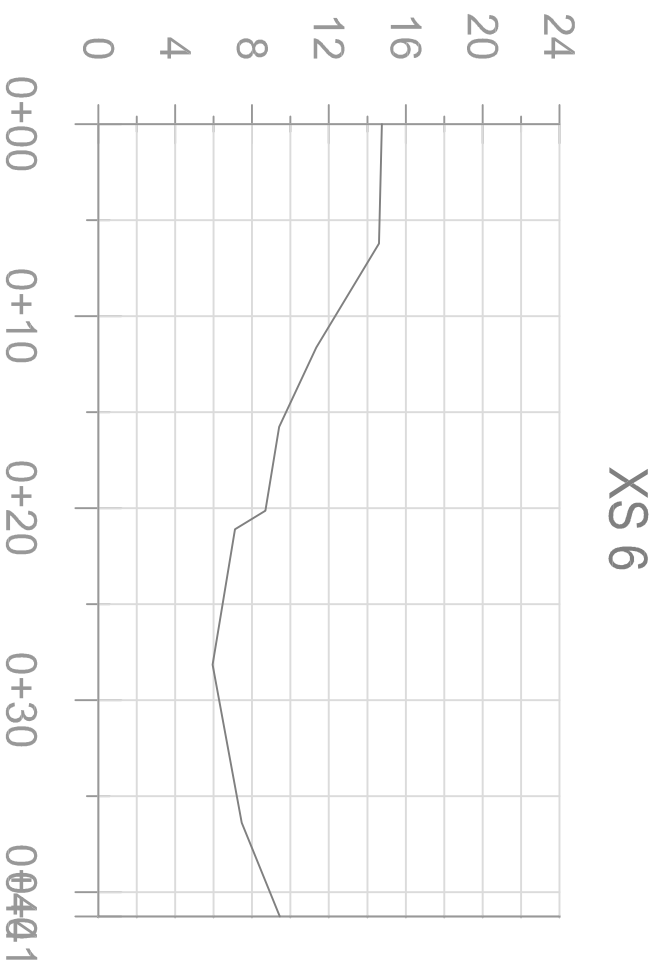
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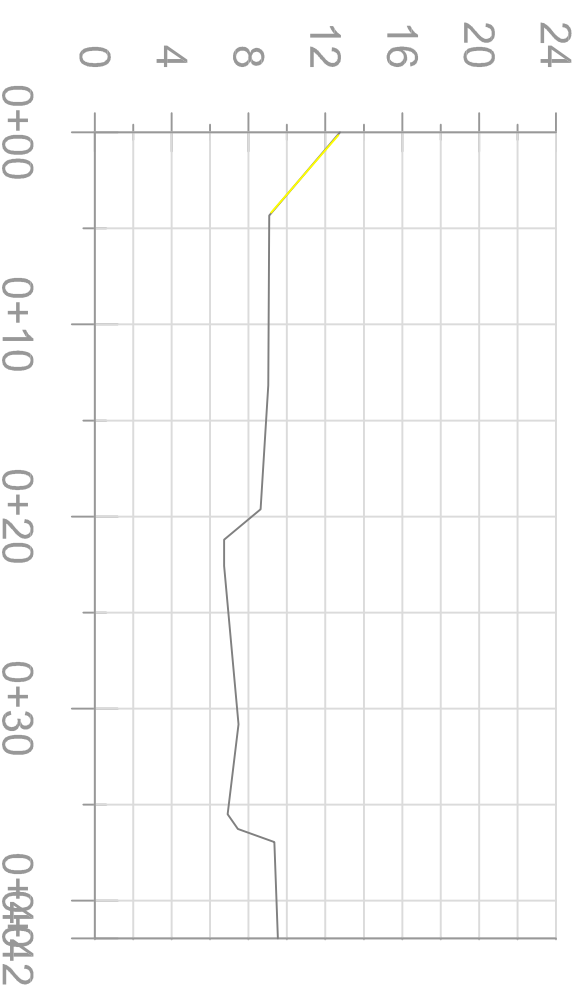
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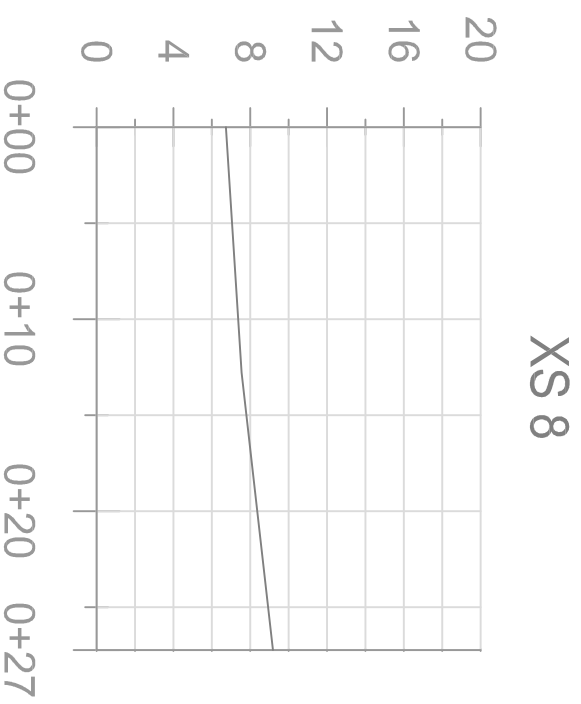
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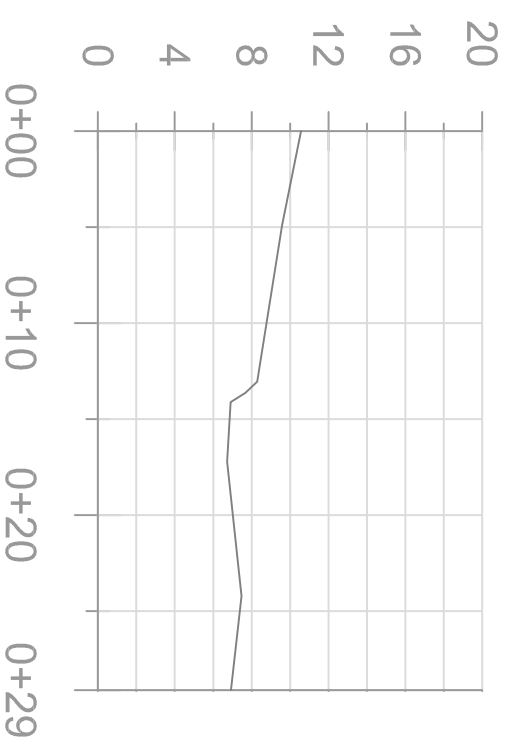
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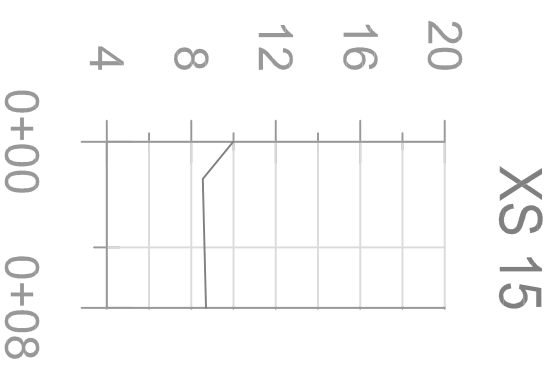
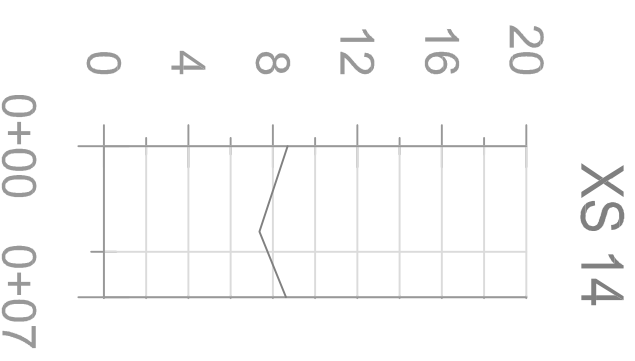
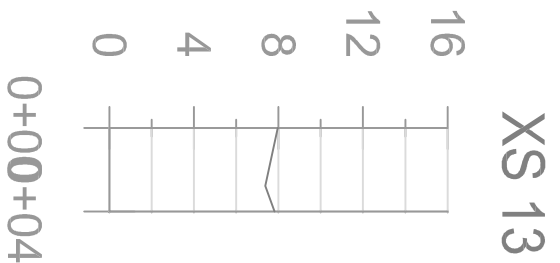
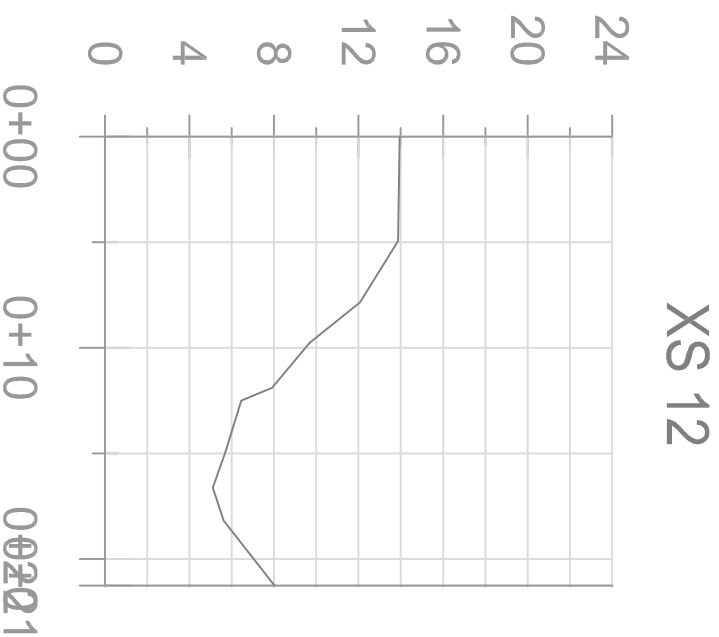
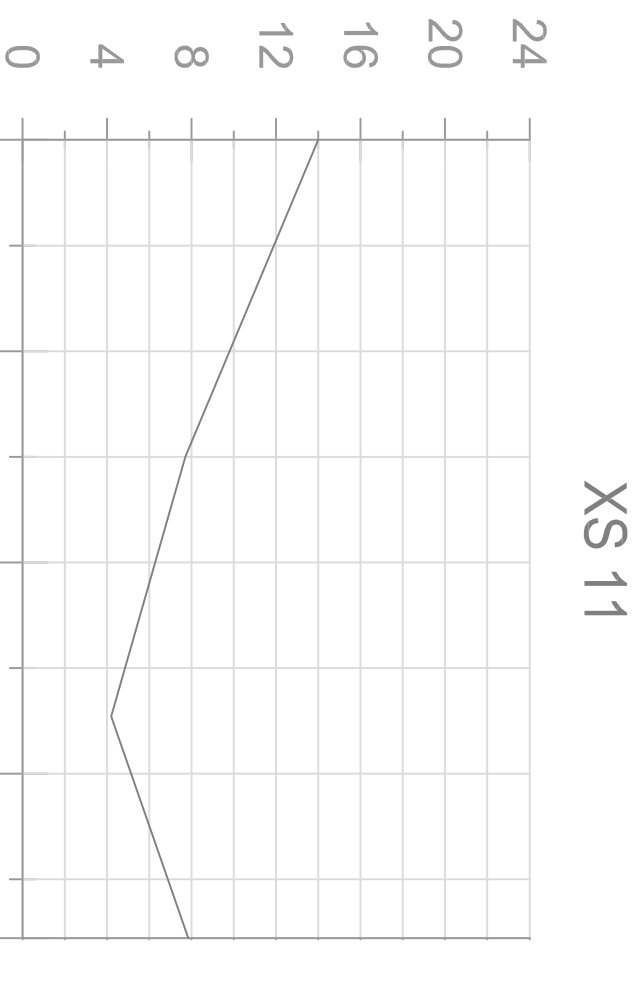
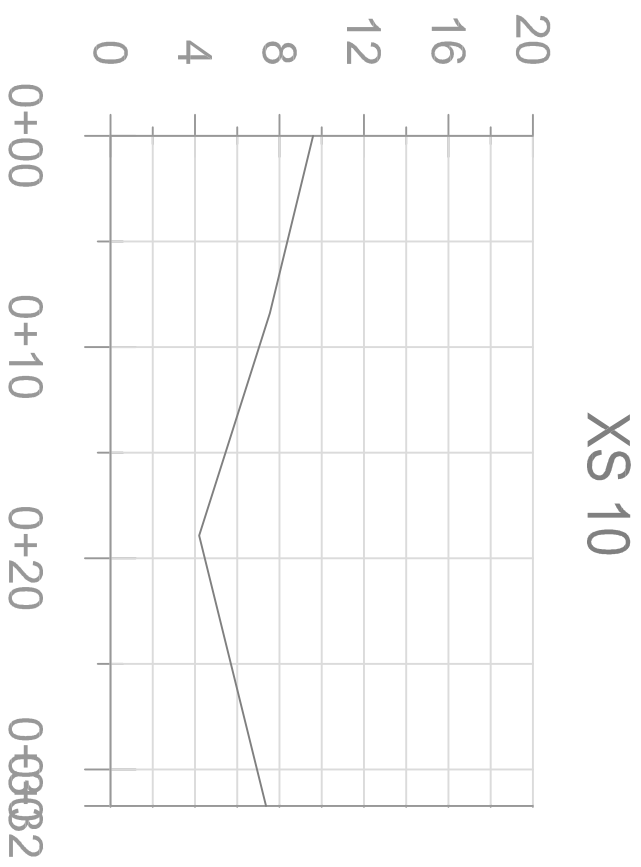
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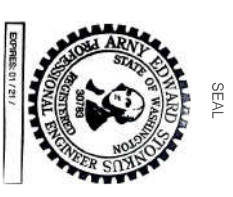
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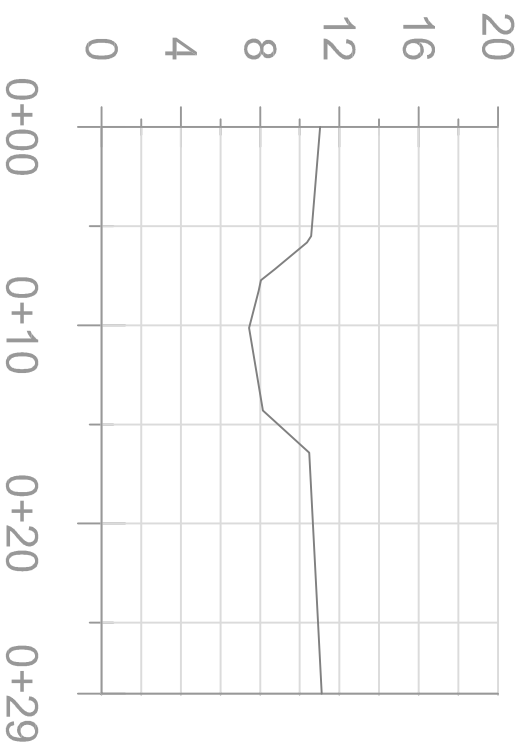
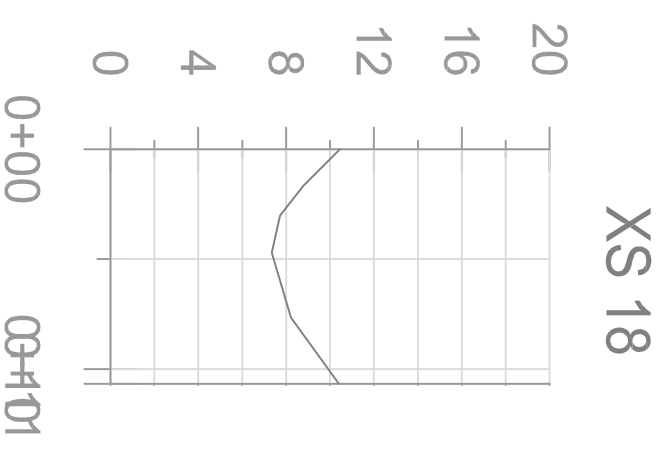
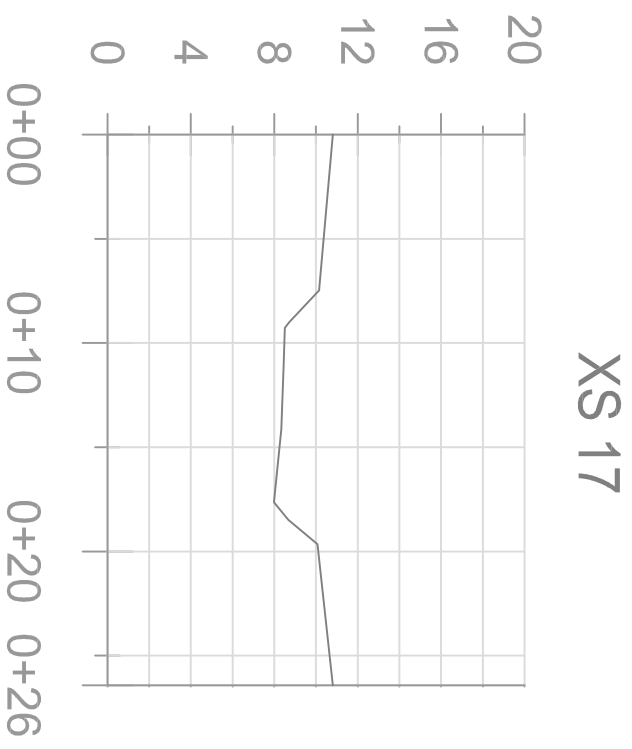
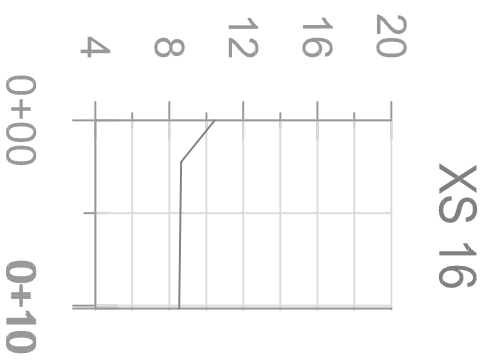
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EXISTING CROSS SECTIONS

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