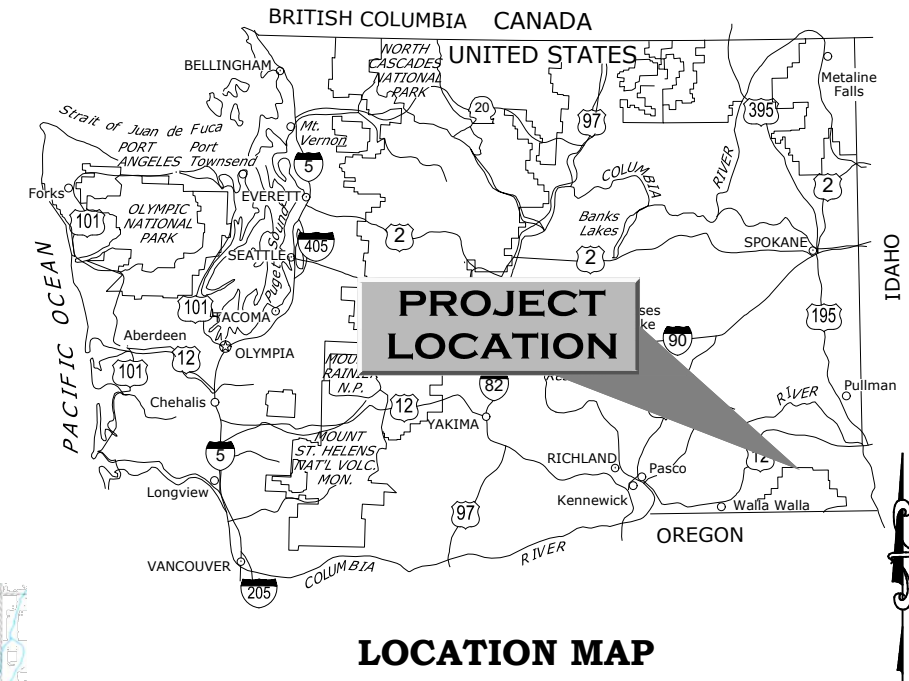




U.S. DEPARTMENT OF AGRICULTURE  
FOREST SERVICE, REGION 6

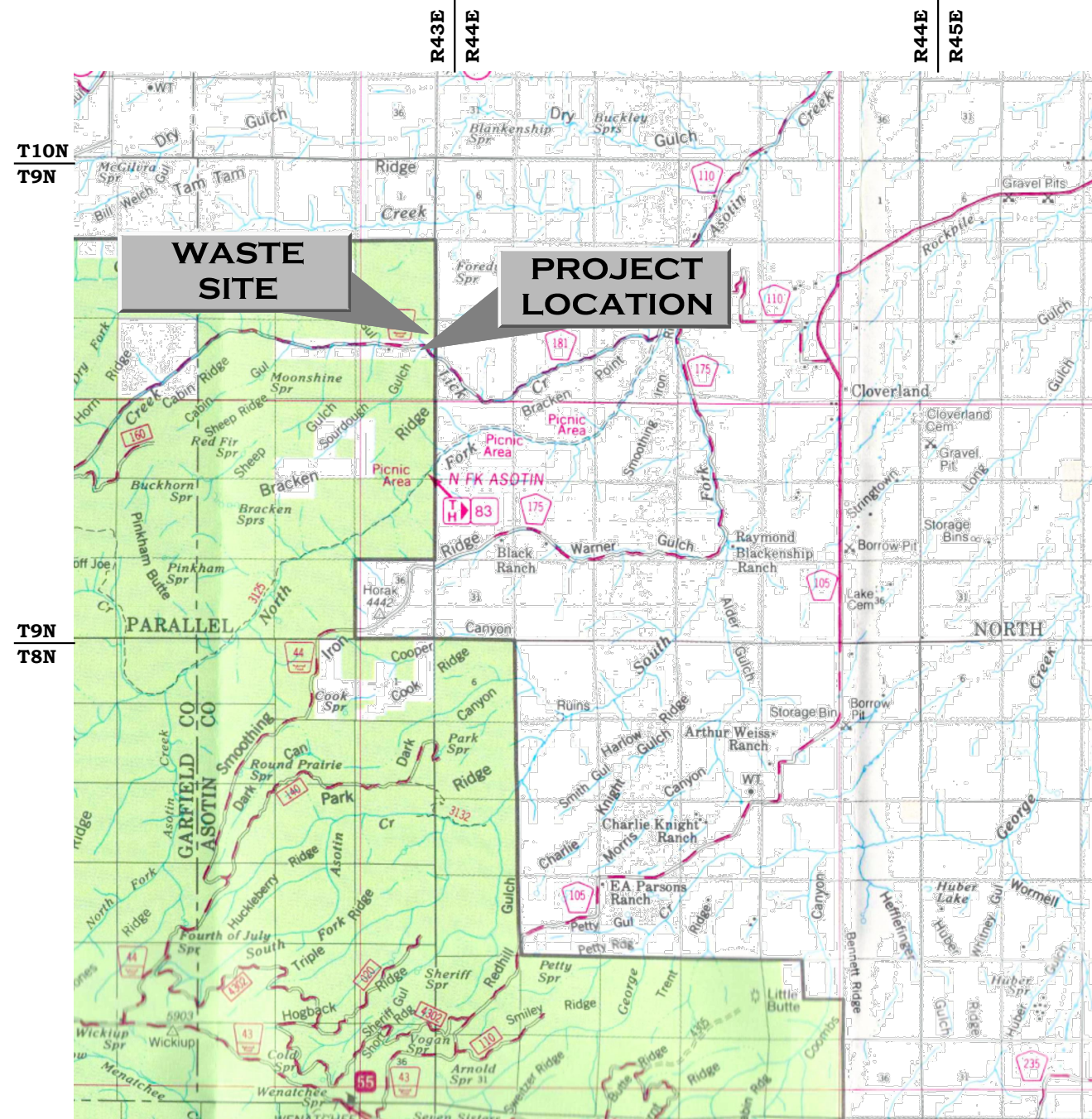
# CONSTRUCTION PLANS FOR: LICK CREEK AOP REPLACEMENT GREAT AMERICAN OUTDOORS ACT

**NFSR 4100350 MP 0.06**  
POMEROY RANGER DISTRICT  
UMATILLA NATIONAL FOREST  
ASOTIN COUNTY, WASHINGTON (46°15'34.33", -117°21'34.10")



**LOCATION MAP**

INDEX TO SHEETS	
NO.	DESCRIPTION
1	COVER SHEET
2	SUMMARY OF ESTIMATED QUANTITIES & GENERAL NOTES
3	PROJECT CONTROL & LAYOUT POINTS
4	GENERAL TRAFFIC CONTROL
5	TYPICAL SECTION & OBJECT MARKER DETAIL
6	ROADWAY PLAN & PROFILE
7	CREEK GUARD GENERAL LAYOUT
8	STRUCTURAL EXCAVATION & BACKFILL
9	FOUNDATION DETAILS
10	STREAM SIMULATION DESIGN & DETAILS
11	DEWATERING REQUIREMENTS
XS1-XS4	ROAD CROSS SECTIONS



**VICINITY MAP**

APPROVED:

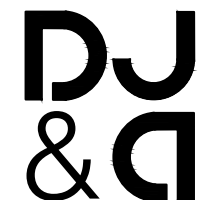
CHIEF ENGINEER  
WASHINGTON DEPT. FISH AND WILDLIFE

DATE

MATERIAL SOURCES
GOVERNMENT FURNISHED
WASTE SITE (OPTIONAL)
CONTRACTOR FURNISHED
UNCLASSIFIED BORROW
CRUSHED AGGREGATE SURFACING
RIPRAP
STRUCTURE BACKFILL
STREAM SIMULATION MATERIAL
CHANNEL ROCK
ALL OTHER MATERIALS ARE CONTRACTOR FURNISHED



2/6/2024



ENGINEERS  
PLANNERS  
SURVEYORS

SUMMARY OF ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY		COMMENTS
			ALL	LSQ	
15101	MOBILIZATION	LUMP SUM	ALL	LSQ	INCLUDES TRAFFIC CONTROL
15201	CONSTRUCTION SURVEY AND STAKING, METHOD 1, TOLERANCE CLASS A	LUMP SUM	ALL	LSQ	LICENSED SURVEYOR REQUIRED
15401	CONTRACTOR TESTING	LUMP SUM	ALL	LSQ	
15713	SOIL EROSION & POLLUTION CONTROL	LUMP SUM	ALL	LSQ	INCLUDES DEWATERING. SEE GENERAL NOTES THIS SHEET.
20301	REMOVAL OF EXISTING CORRUGATED STEEL CULVERTS, DISPOSAL METHOD (A)	LUMP SUM	ALL	LSQ	
20407	ROADWAY EXCAVATION	CUBIC YARD	712	CQ	INCLUDES EXISTING ROADWAY EXCAVATION AND NEW ROAD CONSTRUCTION.
20425	DRAINAGE EXCAVATION, TYPE DRAIN DIP	EACH	1	AQ	SEE SHEETS 5 AND 6.
20801	STRUCTURE EXCAVATION	LUMP SUM	ALL	LSQ	ESTIMATED EXCAVATION VOLUME IS 29 CY. QUANTITY IS INFORMATIONAL ONLY.
20859	STRUCTURAL BACKFILL	CUBIC YARD	35	CQ	IN PLACE QUANTITY, NOT ADJUSTED FOR SHRINK/SWELL. COMMERCIAL SOURCE
25101	PLACED RIPRAP, CLASS 2, METHOD A	CUBIC YARD	10	CQ	COMMERCIAL SOURCE, CERTIFIED WEED FREE
27201	GEOCELL FOOTING STABILIZATION, 6" DEPTH	SQUARE YARD	14	CQ	CONTRACTOR FURNISHED COARSE GRANULAR BACKFILL. INCLUDES GEOTEXTILE.
30207	AGGREGATE SURFACE COURSE, METHOD 1	CUBIC YARD	65	CQ	IN PLACE QUANTITY, NOT ADJUSTED FOR SHRINK/SWELL. COMMERCIAL SOURCE, CERTIFIED WEED FREE
55217	PRECAST CONCRETE MEMBER, ABUTMENTS	EACH	2	AQ	
55701	UNTREATED STRUCTURAL TIMBER & LUMBER. RUNNING PLANKS	MBF	0.25	CQ	
61902	GATE	EACH	1	AQ	INCLUDES FENCE REPAIR
61903	16' X 14' GALVANIZED STEEL CREEK GUARD	LUMP SUM	ALL	LSQ	ALL MATERIALS REQUIRED FOR SELECTED BRIDGE STRUCTURE, INCLUDING CREEK GUARD GRID AND CURB
63306	POSTS, WOOD	LINEAR FOOT	40	CQ	
63307	OBJECT MARKERS, TYPE 3	EACH	4	AQ	
64801	PLACED STREAMBED SIMULATION MATERIAL BED CLASS 4, METHOD A	CUBIC YARD	6	CQ	MATERIAL TO BE SALVAGED FROM EXCAVATION. SOME MIXING AND SORTING MAY BE REQUIRED TO MEET GRADATIONS. IF ADDITIONAL MATERIAL IS REQUIRED, USE COMMERCIAL SOURCE, CERTIFIED WEED FREE.
64803	PLACED CHANNEL ROCK FOR BANK MARGINS AND RANDOM ROCK/ROCK STRUCTURES, CLASS CR-1, METHOD A	CUBIC YARD	40	CQ	NOTIFY CO AT LEAST FIVE (5) DAYS PRIOR TO PERFORMING THE WORK. PERFORM WORK IN ACCORDANCE WITH FSSS SECTION 648.
<b>OPTIONAL ITEM(S)</b>					
20422	STREAM CHANNEL CONSTRUCTION	LUMP SUM	ALL	LSQ	FOR WORK PERFORMED UNDER 64801 AND 64803 ITEMS AS DIRECTED BY CO. NOTIFY CO AT LEAST FIVE (5) BUSINESS DAYS PRIOR TO PERFORMING THE WORK.

LSQ = LUMP SUM QUANTITY  
 CQ = CONTRACT QUANTITY (SEE SECTION 109.02(B) OF THE STANDARD SPECIFICATIONS)

MATERIALS NOTES

**CONCRETE:** USE CLASS P(AE) FOR ALL CAST-IN-PLACE AND PRECAST, NON-PRESTRESSED CONCRETE WITH F'C = 4000 PSI AT 28 DAYS AND AN ENTRAINED AIR CONTENT IN ACCORDANCE WITH SECTION 552. MAKE ALL CONCRETE IN ACCORDANCE WITH AN APPROVED MIX DESIGN. CHAMFER ALL EXPOSED EDGES OF CONCRETE 3/4" AND FILLET ALL ACUTE ANGLES 3/4" UNLESS OTHERWISE NOTED.

**STRUCTURAL STEEL:** USE STRUCTURAL STEEL SHAPES AND PLATES CONFORMING TO THE REQUIREMENTS OF ASTM A36.

**HOT DIP GALVANIZE (SINGLE DIP)** ALL STRUCTURAL STEEL MEMBERS IN ACCORDANCE WITH AASHTO M111 (ASTM A123).

**FASTENERS:** USE FASTENERS GALVANIZED IN ACCORDANCE WITH AASHTO M232 (ASTM A153).

**SOLID SAWN MEMBERS:** FURNISH UNTREATED SOLID SAWN RUNNING PLANKS OF COASTAL REGION DOUGLAS FIR-LARCH ROUGH SAWN NO. 2 OR BETTER GRADE.

DESIGN NOTES

**BRIDGE DESIGN:** THIS STRUCTURE SHALL BE DESIGNED FOR HL-93 LOADING IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION WITH CURRENT INTERIMS.

GENERAL NOTES

**SPECIFICATIONS:** CONSTRUCT THE PROJECT IN COMPLIANCE WITH FEDERAL HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROAD AND BRIDGES ON FEDERAL HIGHWAY PROJECTS (FP-14) AND APPLICABLE FOREST SERVICE SUPPLEMENTAL SPECIFICATIONS.

**DEWATERING & EROSION CONTROL PLAN:** SUBMIT A DEWATERING AND SOIL EROSION AND SEDIMENT CONTROL PLAN TO THE CONTRACTING OFFICER FOR APPROVAL AT LEAST THIRTY (30) DAYS PRIOR TO BEGINNING WORK. SEE SECTION 157 AND 648 OF THE SUPPLEMENTAL SPECIFICATIONS FOR DETAILS. CONSTRUCT TEMPORARY MEANS TO DIVERT THE FLOW OF THE LIVE STREAM AS NECESSARY TO PERFORM WORK. DO NOT ALLOW WATER FROM EXCAVATIONS TO FLOW DIRECTLY INTO THE LIVE STREAM.

**TEMPORARY TRAFFIC CONTROL:** SUBMIT A TEMPORARY TRAFFIC CONTROL PLAN TO THE CONTRACTING OFFICER FOR APPROVAL AT LEAST THIRTY (30) DAYS PRIOR TO INTENDED USE.

**EQUIPMENT STORAGE:** STORAGE OF ALL EQUIPMENT ON GOVERNMENT LANDS WILL BE AT A LOCATION APPROVED BY THE CO.

**SEEDING:** SEED AND MULCH ALL DISTURBED SOIL THAT IS NOT WITHIN TRAVEL WAY OR STREAM CHANNEL.

**IN-STREAM WORK:** ONLY CONDUCT IN-STREAM WORK BETWEEN JULY 15TH AND AUGUST 25TH. ALLOWANCE SHALL BE GIVEN TO THE FOREST SERVICE TO CAPTURE AND REMOVE FISH AND OTHER AQUATIC ORGANISMS FROM WITHIN THE CONSTRUCTION WORK AREA PRIOR TO AND DURING WORK ACTIVITIES.

**DISPOSAL:** ALL MATERIALS DESIGNATED FOR REMOVAL BECOME THE PROPERTY OF THE CONTRACTOR AND ARE TO BE DISPOSED OF BY REMOVING FROM THE FOREST IN AN ENVIRONMENTALLY SAFE MANNER IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REQUIREMENTS. DISPOSE OF EXCESS OR UNSUITABLE MATERIAL AT THE LOCATION DESIGNATED IN FSSS, SECTION 105. HAULING OF EXCESS OR UNSUITABLE MATERIAL IS INCIDENTAL TO ASSOCIATED WORK.

**WASTE SITE:** THE WASTE SITE DESIGNATED IN THE PLANS AND SPECIFICATIONS IS AN OPTIONAL SITE AND WILL NEED TO BE APPROVED BY CO PRIOR TO USE.



United States Department of Agriculture  
Forest Service

REGION 6  
PACIFIC NORTHWEST REGION

PROJECT NAME

LICK CREEK  
4100350-0.06 AOP  
REPLACEMENT

UMATILLA  
NATIONAL FOREST

POMEROY  
RANGER DISTRICT

DRAWING TITLE

SUMMARY OF  
ESTIMATED  
QUANTITIES &  
GENERAL NOTES

DATE

Feb-24

ARCHIVE NO.

DESIGNER

J. ROSKE

DWG SHEET NO.

2

DRAWN

J. ROSKE

CHECKED

B. KAMRUD

PROJECT NO.

6960.036

SHEET 2 OF 11

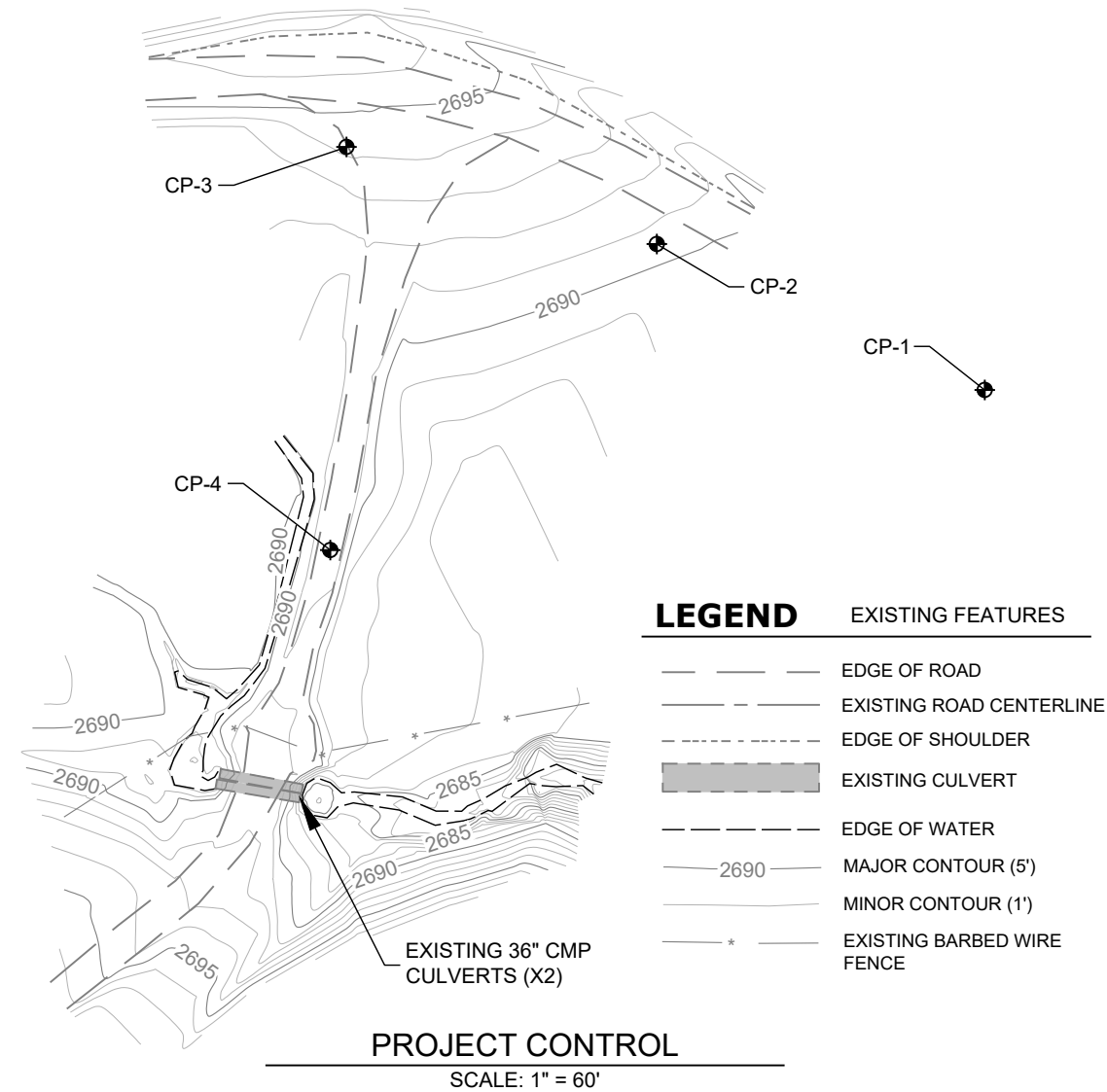
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LAYOUT POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1000	353724.80	2434635.07	2693.50	STA 10+10 BEGIN CONSTRUCTION
1001	353715.29	2434631.95	2693.11	STA 10+20
1002	353696.29	2434625.71	2692.35	STA 10+40
1003	353677.29	2434619.47	2691.60	STA 10+60
1004	353658.29	2434613.23	2690.95	STA 10+80
1005	353639.28	2434606.99	2690.47	STA 11+00
1006	353620.28	2434600.76	2690.15	STA 11+20
1007	353601.28	2434594.52	2689.99	STA 11+40
1008	353582.28	2434588.28	2689.99	STA 11+40
1009	353563.28	2434582.04	2690.14	STA 11+80
1010	353544.27	2434575.80	2690.34	STA 12+00
1011	353526.36	2434569.93	2690.53	STA 12+18.85 BEGINNING OF BRIDGE
1012	353511.64	2434565.09	2690.69	STA 12+34.35 END OF BRIDGE
1013	353510.51	2434564.72	0.00	STA 35.53 PC
1014	353497.52	2434558.46	2690.95	STA 12+50
1015	353480.38	2434540.56	0.00	STA 12+75
1016	353474.49	2434526.51	0.00	STA 12+90.29 PT
1017	353473.39	2434522.35	0.00	STA 12+94.59 PC
1018	353468.05	2434507.91	2694.14	STA 13+10
1019	353458.04	2434492.21	2695.83	STA 13+28.67 PT
1020	353456.56	2434490.40	2696.05	STA 13+31 END CONSTRUCTION

**ROAD CENTERLINE POINTS**  
\*CENTERLINE POINTS ARE AT PROFILE GRADE

LAYOUT POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
8000	353525.65	2434569.69	2685.54	ABUTMENT 1 LAYOUT
8001	353512.35	2434565.33	2685.68	ABUTMENT 2 LAYOUT

**FOUNDATION LAYOUT POINTS**  
\*ABUTMENT LAYOUT POINTS ARE BOTTOM OF FOOTING ELEVATIONS



CONTROL POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP-1	353648.97	2434784.76	2682.24	5/8" REBAR W/ RPC
CP-2	353695.88	2434679.41	2690.51	5/8" REBAR W/ RPC
CP-3	353727.04	2434579.74	2694.35	5/8" REBAR W/ RPC
CP-4	353597.51	2434574.52	2691.28	5/8" REBAR W/ RPC

**SURVEY CONTROL POINTS**



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**4100350-0.06 AOP**  
**REPLACEMENT**

UMATILLA  
NATIONAL FOREST

POMEROY  
RANGER DISTRICT

DRAWING TITLE  
**PROJECT CONTROL &**  
**LAYOUT POINTS**

DATE  
Feb-24

ARCHIVE NO.

DESIGNER  
J. ROSKE

DWG SHEET NO.

**3**

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J. ROSKE

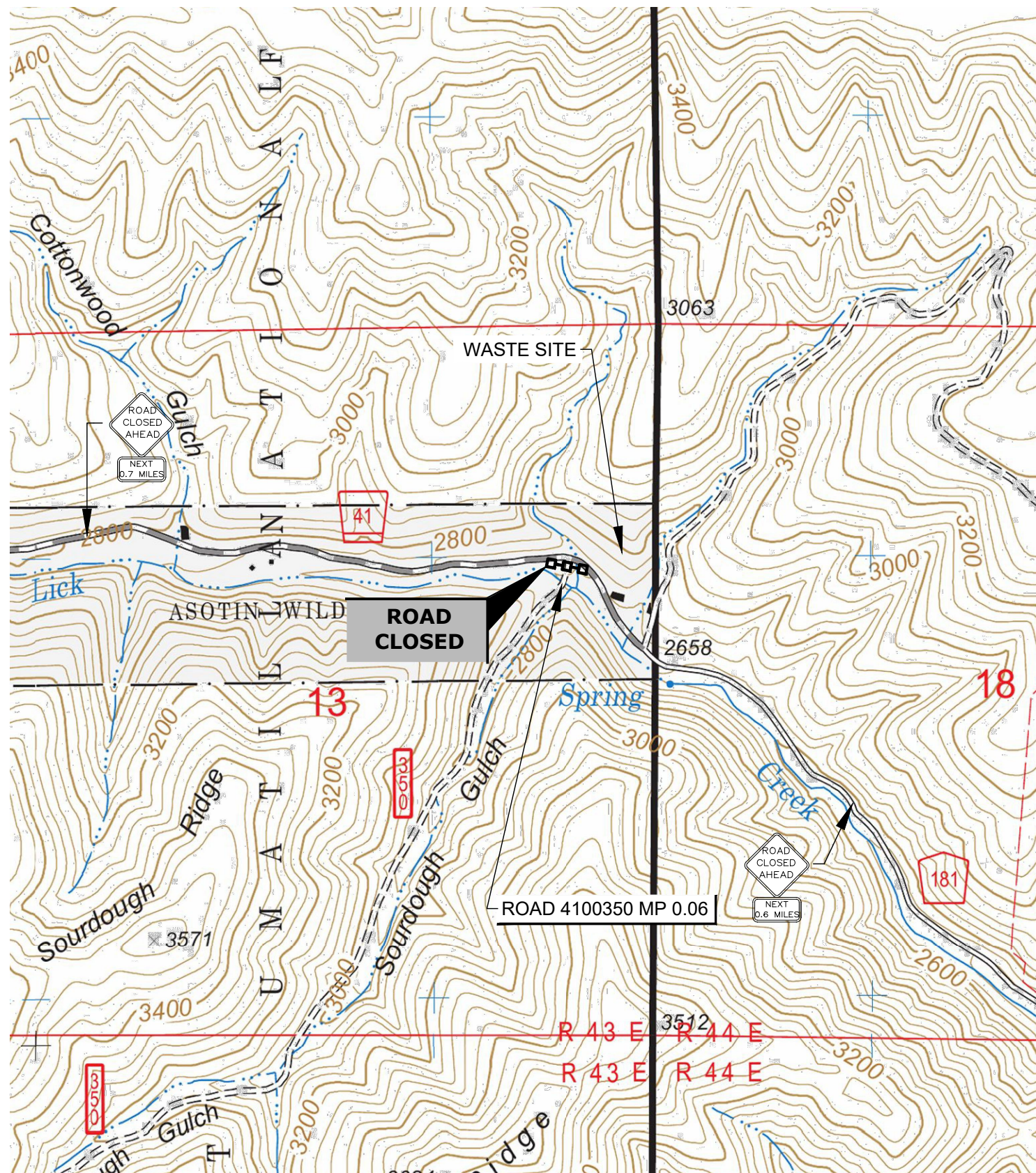
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PROJECT NO.  
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SHEET 3 OF 11

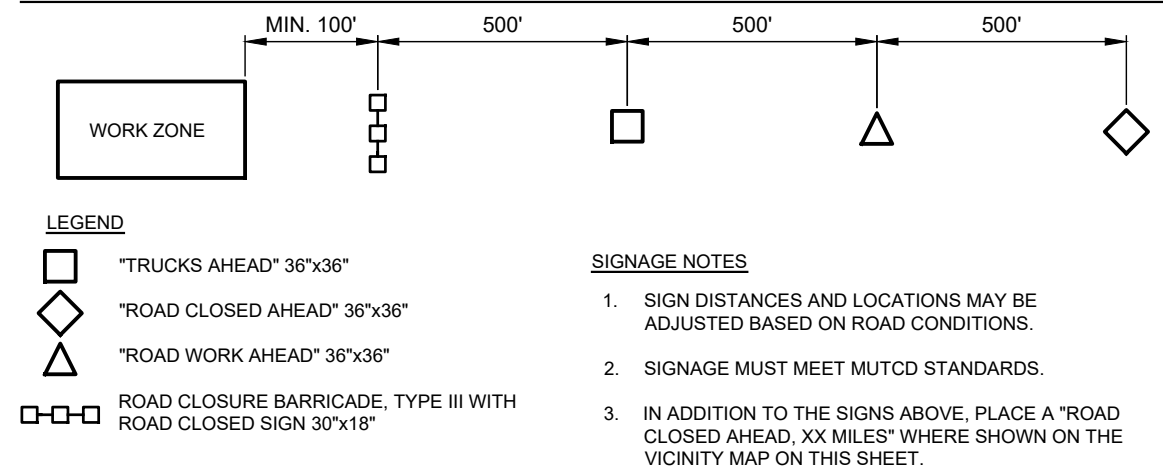


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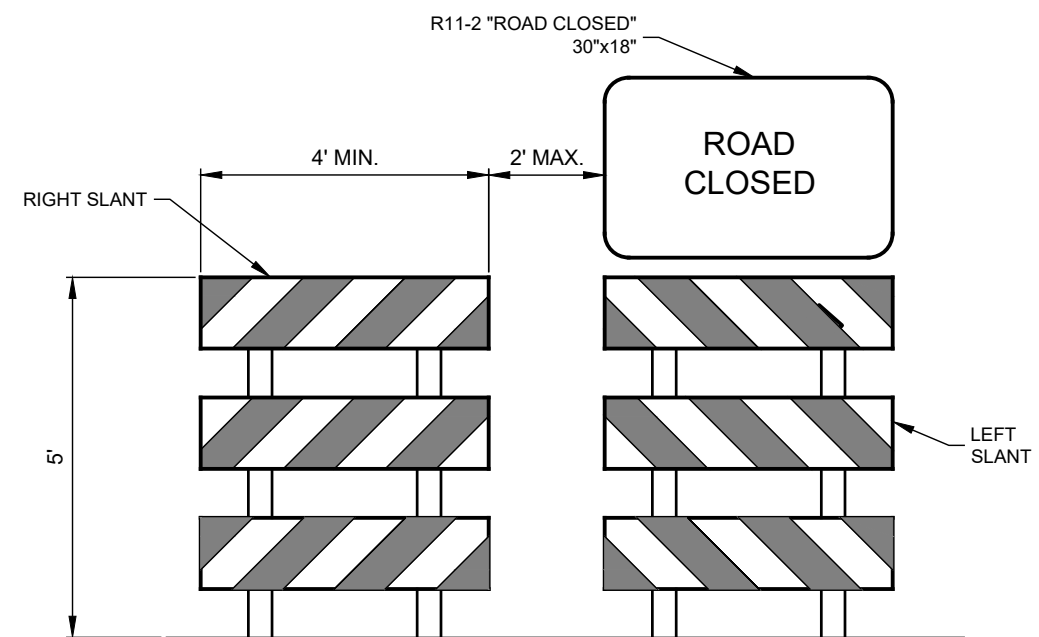
VICINITY MAP

**CONCEPTUAL TRAFFIC CONTROL DIAGRAM**



**TRAFFIC CONTROL NOTES:**

1. SUBMIT A TRAFFIC CONTROL PLAN FOR REVIEW PER SECTION 156 OF THE FOREST SERVICE SUPPLEMENTAL SPECIFICATIONS (FSSS).
2. THE CONCEPTUAL PLAN SHOWN REPRESENTS THE MINIMUM REQUIREMENTS FOR CLOSURE. THE CONTRACTOR IS RESPONSIBLE TO SUBMIT A TRAFFIC CONTROL PLAN AND FURNISH AND INSTALL ANY ADDITIONAL SIGNS THAT MAY BE REQUIRED BY THEIR OPERATIONS, AND IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. THE CONTRACTOR IS RESPONSIBLE TO NOTIFY THE CO IN WRITING AT LEAST 14 DAYS PRIOR TO ANY PROPOSED ROAD CLOSURE.
4. PERFORM NO WORK THAT INTERFERES OR CONFLICTS WITH TRAFFIC OR EXISTING ACCESS TO THE ROADWAY SURFACE UNTIL A TRAFFIC CONTROL PLAN HAS BEEN APPROVED. POST CONSTRUCTION SIGNS AND TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH MUTCD. ALL REQUIRED SIGNS WILL BE IN PLACE AND APPROVED PRIOR TO BEGINNING WORK ON PROJECT.
5. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN ALL TRAFFIC CONTROL SIGNS. IMMEDIATELY REPLACE ANY MISSING OR DEFACED SIGNS. REMOVE ALL SIGNS AND BARRICADES AT THE END OF THE CLOSURE PERIOD.
6. SIGN DISTANCES AND LOCATIONS MAY BE ADJUSTED BASED ON ROAD CONDITIONS



**TYPE III BARRICADE FOR CLOSURE**



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4100350-0.06 AOP  
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POMEROY  
RANGER DISTRICT

DRAWING TITLE  
**GENERAL TRAFFIC  
CONTROL**

DATE  
Feb-24

ARCHIVE NO.

DESIGNER  
V. NEARY

DWG SHEET NO.

**4**

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V. NEARY

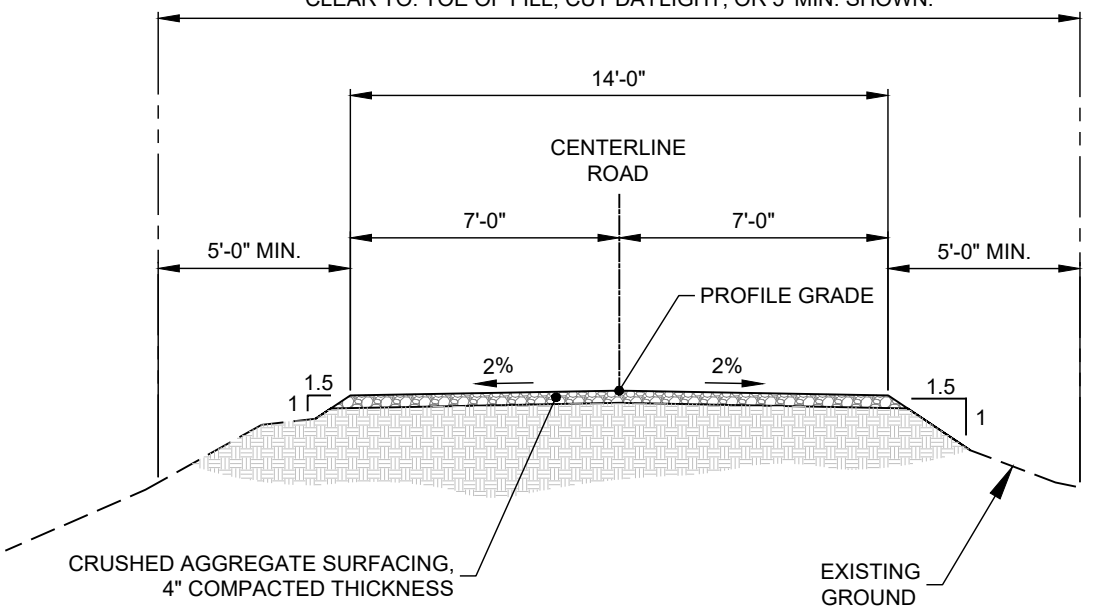
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PROJECT NO.  
6960.036

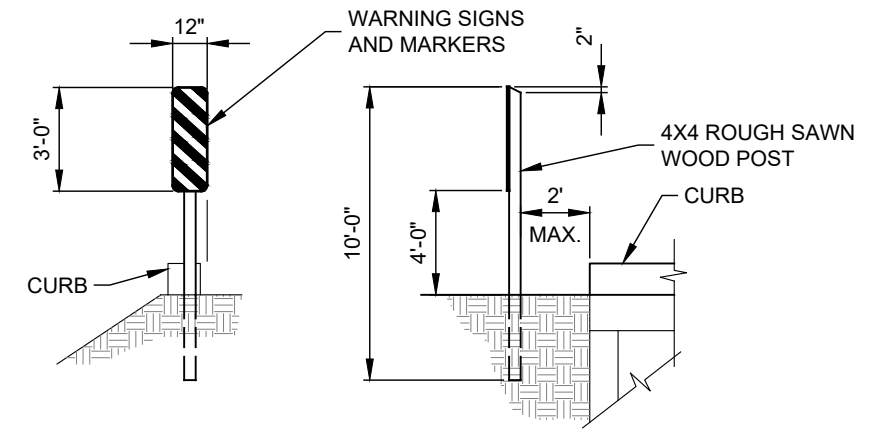
SHEET 4 OF 18



CLEARING LIMITS  
CLEAR TO: TOE OF FILL, CUT DAYLIGHT, OR 5' MIN. SHOWN.

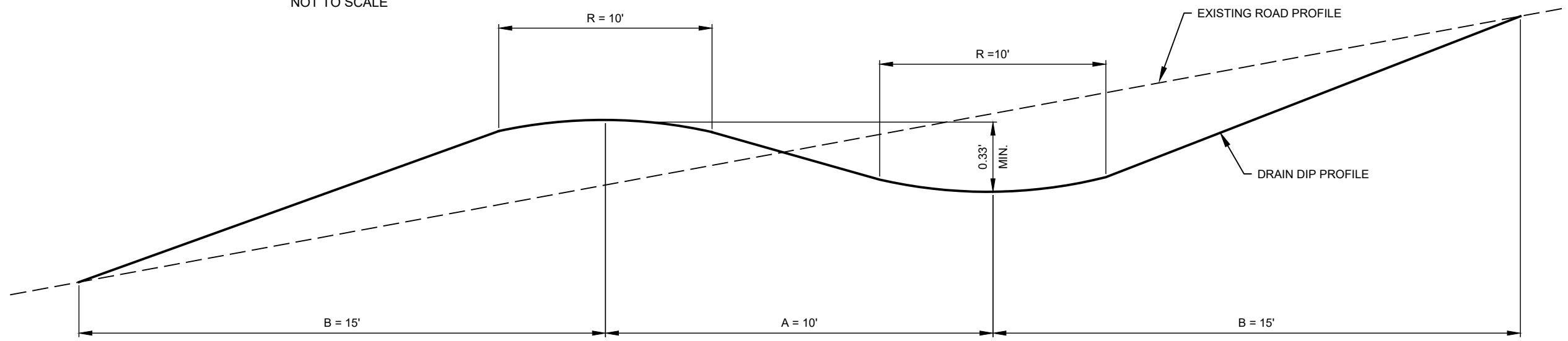


TYPICAL ROAD SECTION  
NOT TO SCALE



OBJECT MARKERS: USE 12"X 36" TYPE 3 OBJECT MARKERS COLORED YELLOW AND BLACK. USE MATERIAL MEETING MUTCD OM-3L OR OM-3R SPECIFICATIONS. FASTEN TO POST W/ (2) 1/4" Ø MACHINE BOLTS W/ WASHERS. FIELD DRILL BOLT HOLES. INSTALL POSTS SUCH THAT THE INSIDE EDGE OF THE REFLECTORIZED PANEL IS ON LINE WITH THE INSIDE EDGE OF THE CURB.

OBJECT MARKER TYPE 3  
NOT TO SCALE



DRAIN DIP  
NOT TO SCALE

GRADE (%)	LOWBOY				GRADE (%)	LOG TRUCK				GRADE (%)	4X4 (FIRE ENGINE)			
	LENGTH		TAPER	ROUNDING		LENGTH		TAPER	ROUNDING		LENGTH		TAPER	ROUNDING
	A(ft)	B(ft)	%	R(ft)		A(ft)	B(ft)	%	R(ft)		A(ft)	B(ft)	%	R(ft)
0-5	30	30	7	30	0-5	20	25	10	20	0-5	10	15	19	10
6-9	30	50	7	30	6-9	20	40	10	20	6-9	10	20	19	10
10-12	30	60	7	30	10-12	20	50	10	20	10-30	10	10	19	10
				15					15					5

CHORD LENGTH FOR ROUNDING, TYPICAL

- NOTES:
1. CONSTRUCT DRAIN DIP TO ACCOMMODATE A 4X4 AT 0-5% GRADE.
  2. MINIMUM CROSS SLOPE OF DRAINLINE: 2% MIN AND 4% MAX.
  3. SKEW OF DRAINLINE SHALL BE 0-25 DEGREES.
  4. WHEN RIPRAP IS SPECIFIED AT OUTLET, IT SHALL BE SHAPED TO ASSURE WATER GOES ONTO RIPRAP, NOT AROUND. INSTRUMENT SHALL BE USED TO DETERMINE LOW POINT.
  5. RIPRAP TOP ELEVATION SHALL BE AT TOP OF FINISHED OUTLET GRADE, NOT SUBGRADE.
  6. TAPER LENGTHS SHALL BE WITHIN 10% OF LISTED LENGTHS.



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NATIONAL FOREST

POMEROY  
RANGER DISTRICT

DRAWING TITLE  
**TYPICAL SECTION &  
OBJECT MARKER  
DETAIL**

DATE  
Feb-24

ARCHIVE NO.

DESIGNER  
J. ROSKE

DWG SHEET NO.  
**5**

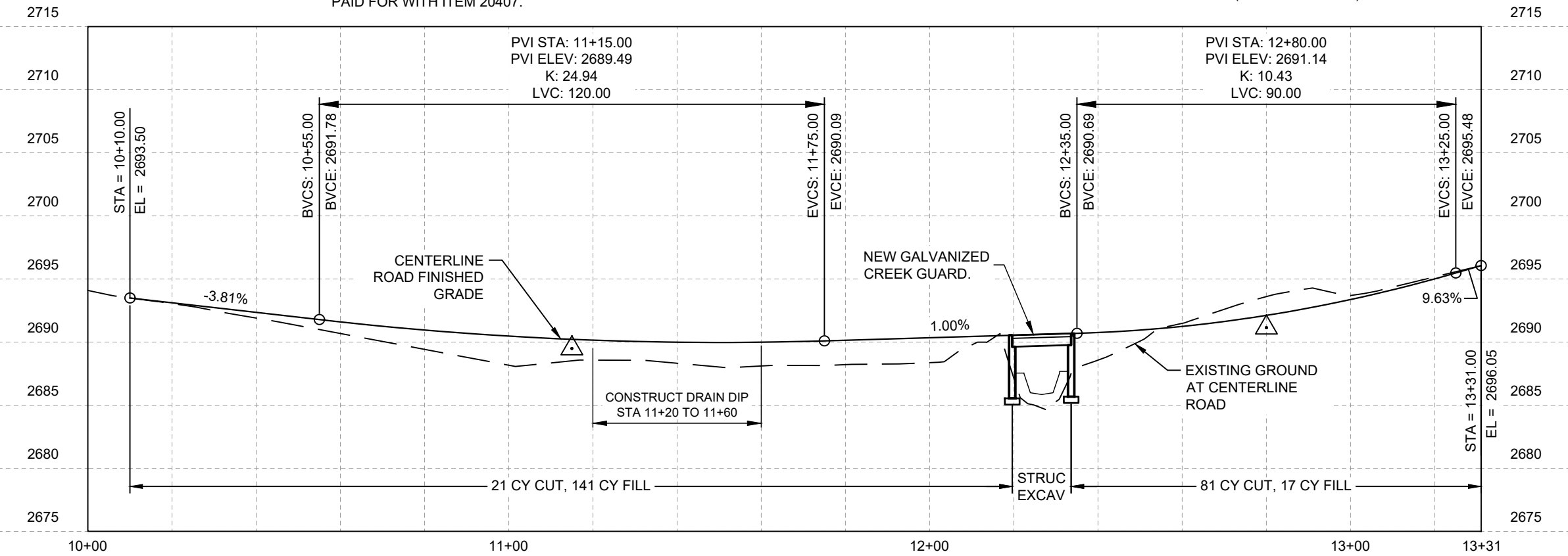
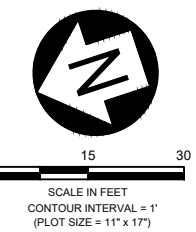
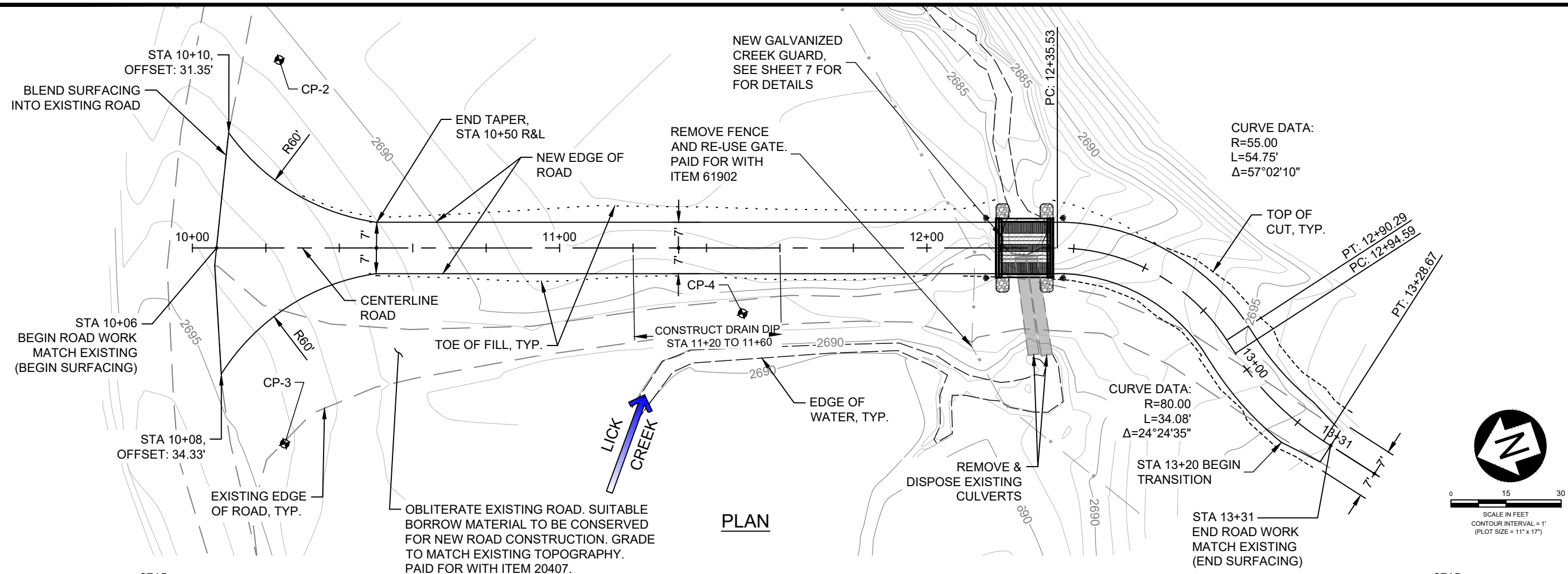
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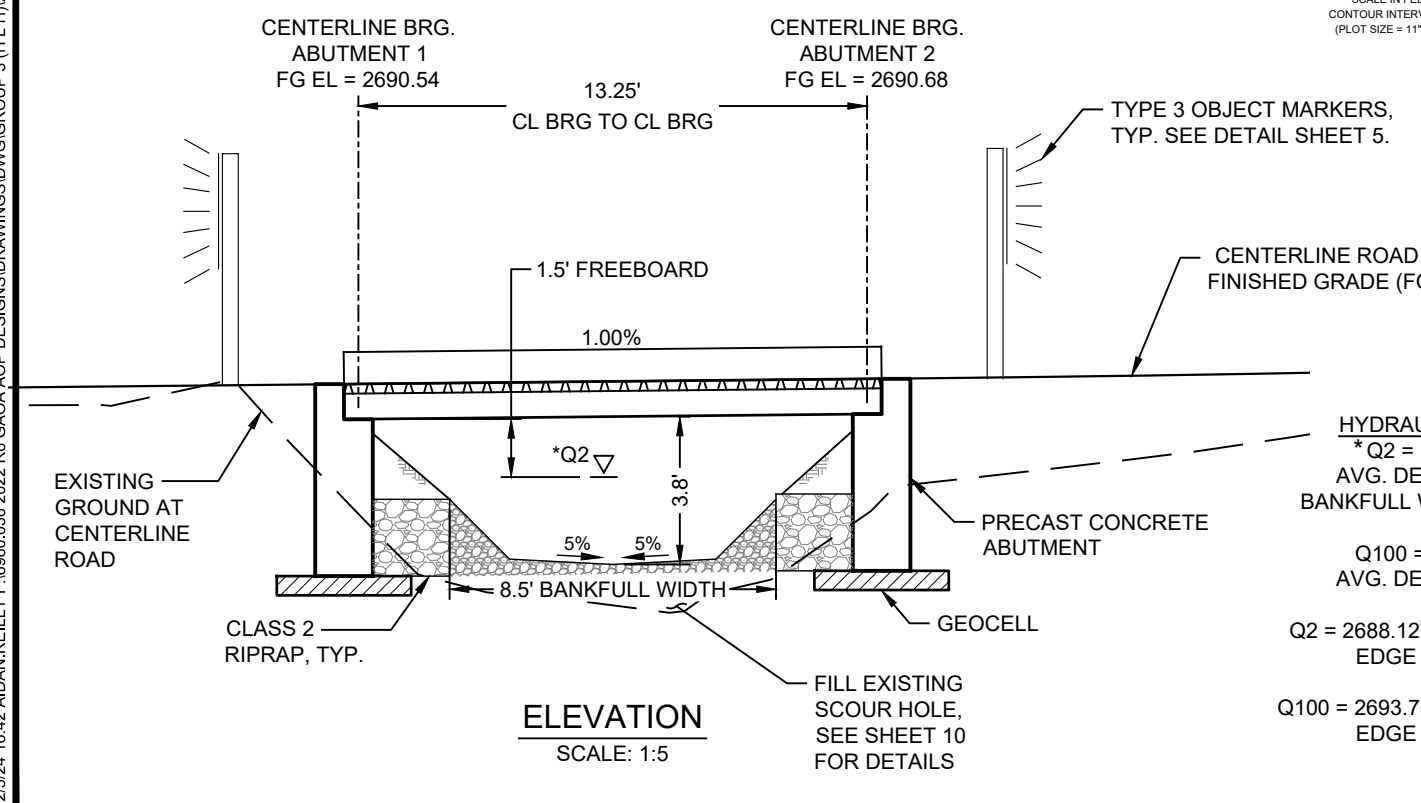
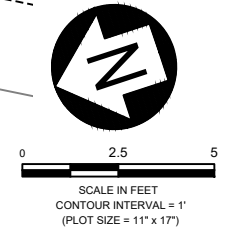
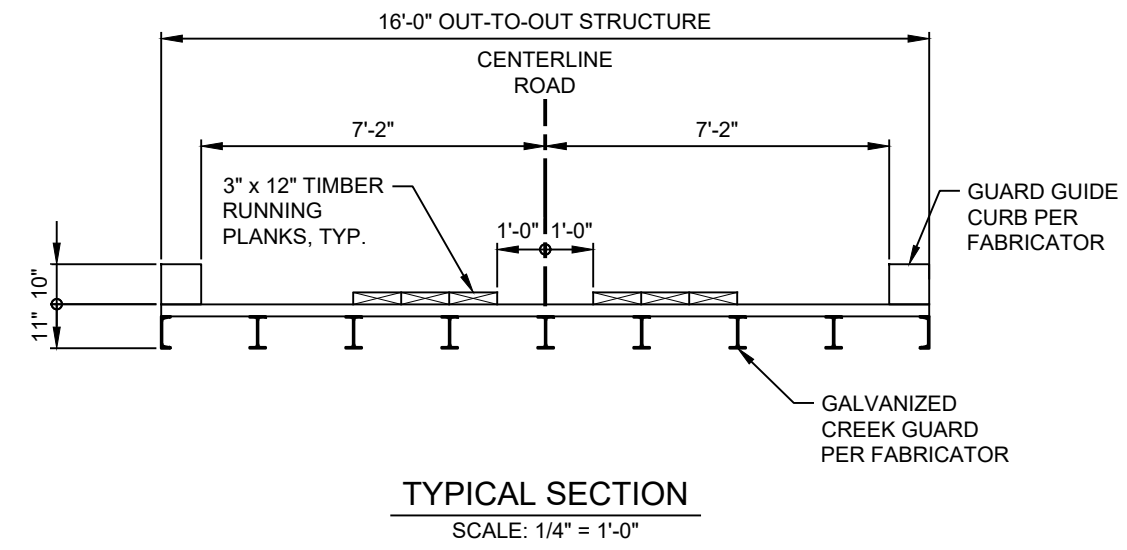
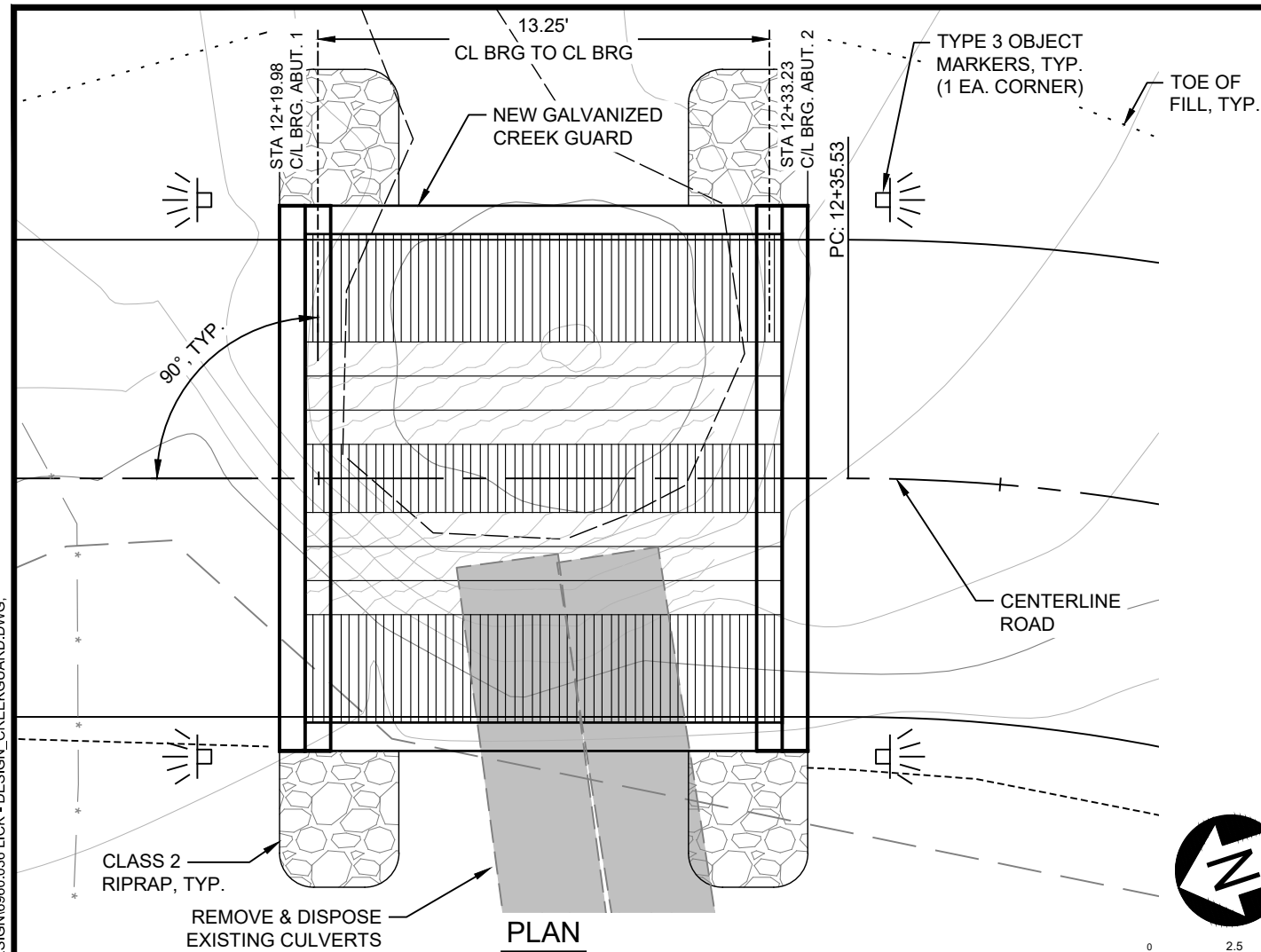
SHEET 5 OF 11

2/5/24 16:42 AIDAN.REILLY F:\6960.036 2022 R6 GAOA AOP DESIGNS\DRAWINGS\DWG\GROUP 3 (H.L.H.)\2 DESIGN\6960.036 LICK - DESIGN\_CREEKGUARD.DWG;



<p>United States Department of Agriculture Forest Service</p> <p><b>REGION 6</b> PACIFIC NORTHWEST REGION</p>	
<p>PROJECT NAME</p> <p><b>LICK CREEK 4100350-0.06 AOP REPLACEMENT</b></p> <p>UMATILLA NATIONAL FOREST</p> <p>POMEROY RANGER DISTRICT</p>	
<p>DRAWING TITLE</p> <p><b>ROADWAY PLAN &amp; PROFILE</b></p>	
<p>DATE</p> <p>Feb-24</p>	
<p>ARCHIVE NO.</p>	
<p>DESIGNER</p> <p>J. ROSKE</p>	<p>DWG SHEET NO.</p> <p><b>6</b></p>
<p>DRAWN</p> <p>J. ROSKE</p>	
<p>CHECKED</p> <p>B. KAMRUD</p>	
<p>PROJECT NO.</p> <p>6960.036</p>	<p>SHEET 6 OF 11</p>

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United States Department of Agriculture  
Forest Service

**REGION 6**  
PACIFIC NORTHWEST REGION

PROJECT NAME

**LICK CREEK  
4100350-0.06 AOP  
REPLACEMENT**

UMATILLA  
NATIONAL FOREST

POMEROY  
RANGER DISTRICT

DRAWING TITLE

**CREEK GUARD  
GENERAL LAYOUT**

DATE

Feb-24

ARCHIVE NO.

DESIGNER

J. ROSKE

DWG SHEET NO.

**7**

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J. ROSKE

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PROJECT NO.

6960.036

SHEET 7 OF 11



United States Department of Agriculture  
Forest Service

REGION 6  
PACIFIC NORTHWEST REGION

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**LICK CREEK  
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UMATILLA  
NATIONAL FOREST

POMEROY  
RANGER DISTRICT

DRAWING TITLE  
**STRUCTURAL  
EXCAVATION &  
BACKFILL**

DATE  
Feb-24

ARCHIVE NO.

DESIGNER  
J. ROSKE

DWG SHEET NO.

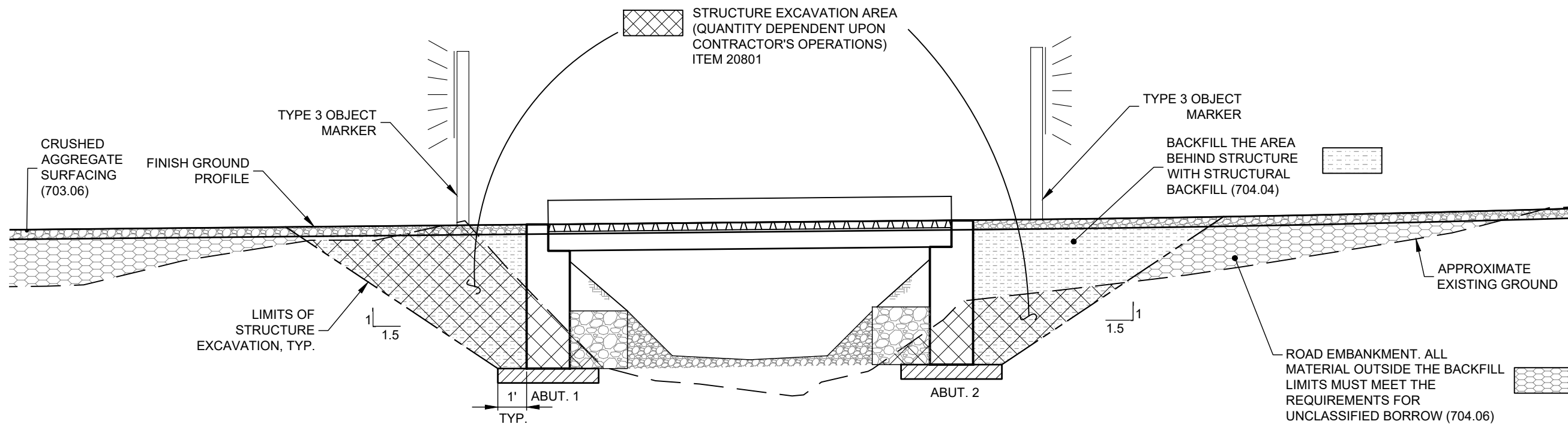
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PROJECT NO.  
6960.036

SHEET 8 OF 11



**STRUCTURE EXCAVATION**

NOT TO SCALE

ESTIMATED QUANTITIES			
ITEM	UNIT	QUANTITY	
IMPORTED STRUCTURAL BACKFILL (704.04)	CUBIC YARD	35	

**DEWATERING AND SOIL EROSION CONTROL NOTES:**

1. PROTECT AGAINST SOIL EROSION AND SEDIMENTATION DURING CONSTRUCTION IN ACCORDANCE WITH FP-14 SECTION 157, FSSS SECTIONS 157, 208 AND 648, AND PROJECT PERMITS. PREPARE AND SUBMIT A SOIL EROSION AND SEDIMENT CONTROL PLAN TO THE CO FOR APPROVAL A MINIMUM OF THIRTY (30) DAYS PRIOR TO ANY GROUND DISTURBING ACTIVITIES.
2. DEWATER THE EXCAVATION IN ACCORDANCE WITH FP-14 SECTIONS 157 AND 208, FSSS SECTIONS 157, 208 AND 648. REFER TO SHEET 11 FOR DEWATERING REQUIREMENTS.
3. DEWATERING IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. SHEET 11 ILLUSTRATES THE GENERAL DEWATERING REQUIREMENTS AND POSSIBLE METHODS AND EQUIPMENT AND IS NOT CONSIDERED ADEQUATE OR COMPLETE FOR THIS PROJECT. DEVELOP AND SUBMIT TO THE CO A PROJECT-SPECIFIC DEWATERING PLAN INCLUDING DRAWINGS AND A WRITTEN OUTLINE ILLUSTRATING AND DESCRIBING PROPOSED LAYOUT, METHODS, AND EQUIPMENT. APPROVAL OF THE CONTRACTOR'S DEWATERING PLAN DOES NOT RELIEVE THE CONTRACTOR FROM COMPLETING THE WORK AS REQUIRED. IF THE CONTRACTOR'S METHODS ARE NOT PRODUCING ADEQUATE RESULTS, THE CONTRACTOR MUST RE-EVALUATE AND SUBMIT ANOTHER DEWATERING PLAN. RE-SUBMITTAL OF THE DEWATERING PLAN, IF REQUIRED, IS INDIRECT TO THE WORK.
4. ALL WORK ASSOCIATED WITH REROUTING SURFACE WATER IS PAID FOR UNDER 15713.

**STRUCTURE EXCAVATION NOTES:**

1. COMPLETE STRUCTURE EXCAVATION IN ACCORDANCE WITH FP-14 SECTION 208.
2. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR EXCAVATION SUPPORT AND COMPLIANCE WITH ALL APPLICABLE OSHA REGULATIONS.
3. EXCAVATION LIMITS SHOWN ARE FOR DEMONSTRATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ADJUSTMENTS TO THE CUT SLOPES AND EXCAVATION QUANTITIES BASED ON THE ACTUAL SOIL TYPES ENCOUNTERED. NOTIFY THE CO IMMEDIATELY IF BEDROCK OR SOFT, UNSUITABLE SOILS ARE FOUND.
4. SUBMIT AN EXCAVATION PLAN FOR APPROVAL THAT INCLUDES, AS A MINIMUM, THE FOLLOWING: DRAWINGS AND A WRITTEN OUTLINE ILLUSTRATING AND DESCRIBING THE PROPOSED EXCAVATION LIMITS, METHODS, EQUIPMENT TO BE USED, LOCATION OF STOCKPILES, AND ESTIMATED QUANTITIES. THE EXCAVATION PLAN MUST COMPLY WITH ALL APPLICABLE OSHA REQUIREMENTS AND LIST THE SOIL TYPE ASSUMED. CHANGES TO THE EXCAVATION LIMITS SHOWN HERE FOR THE CONTRACTOR'S DEWATERING METHODS OR CONTRACTOR CONVENIENCE MUST BE SHOWN ON THE PLAN AND ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE EXCAVATION PLAN IS INCIDENTAL TO THE WORK.
5. ESTIMATED EXCAVATION VOLUME IS 29 CY. QUANTITY IS INFORMATIONAL ONLY.

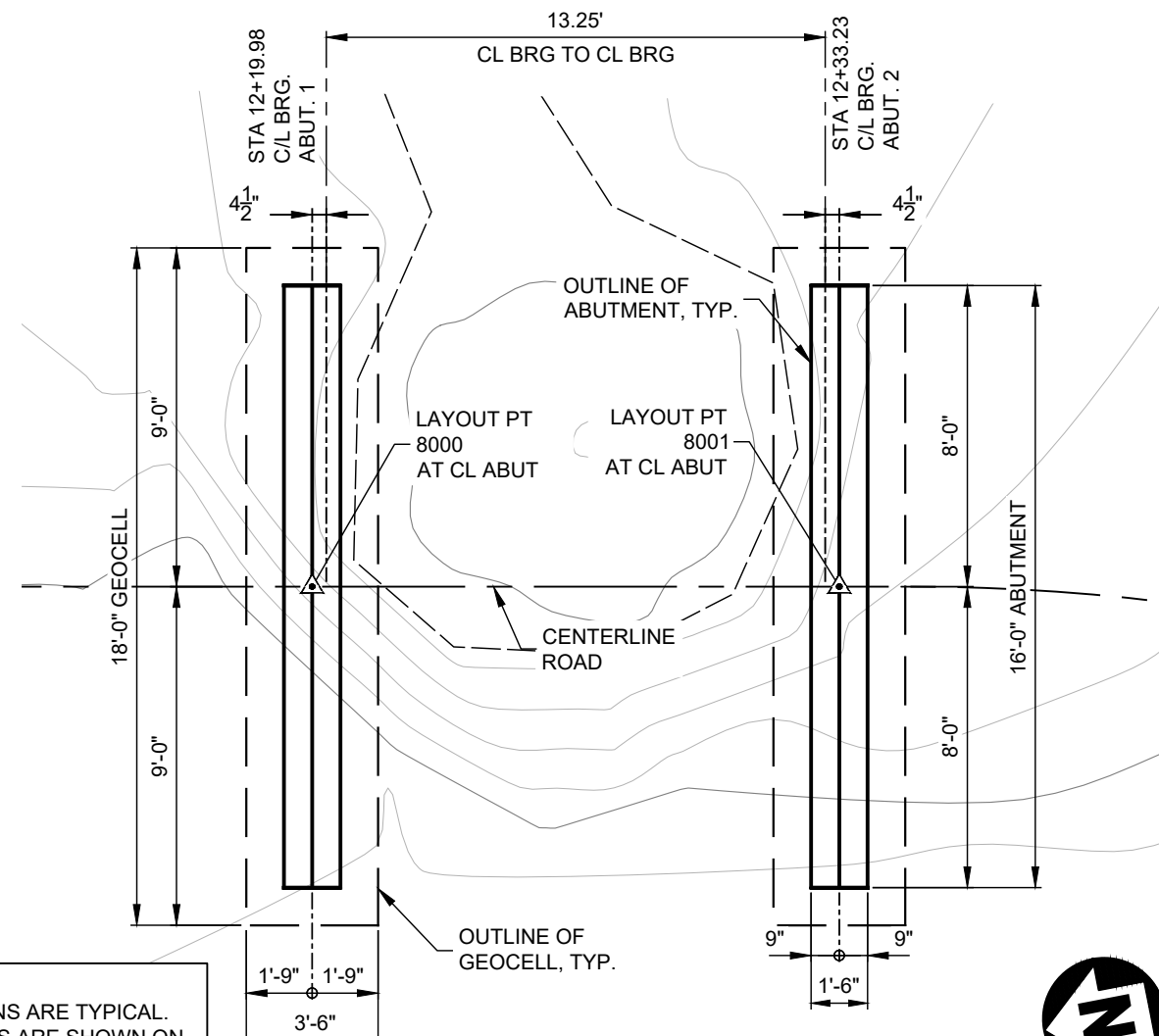
**STRUCTURE BACKFILL NOTES:**

1. STRUCTURAL BACKFILL LIMITS SHOWN HERE ARE THE MINIMUM REQUIREMENTS. PLACE STRUCTURAL BACKFILL IN ACCORDANCE WITH FP-14 SECTION 208, AND AS SHOWN ON THESE PLANS, WITH MATERIAL MEETING THE REQUIREMENTS OF SUBSECTION 704.04. COMPACT MATERIAL IN ACCORDANCE WITH SUBSECTION 208.10. ANY MATERIAL OUTSIDE THE LIMITS SHOWN IS CONSIDERED EMBANKMENT AND THE MATERIAL MUST MEET THE REQUIREMENTS OF FP-14 SUBSECTION 704.06.
2. IT IS ASSUMED THAT MATERIAL CONSERVED FROM THE STRUCTURE EXCAVATION AT THIS SITE WILL MEET THE REQUIREMENT FOR EMBANKMENT (704.06). SOME MIXING AND SORTING MAY BE REQUIRED TO MEET THE MATERIAL SPECIFICATION. HAUL AND DISPOSE UNSUITABLE AND EXCESS MATERIAL IS INDIRECT TO OTHER ITEMS IN THE SCHEDULE OF ITEMS.

2/5/24, 16:42 AIDAN.REILLY F:\6960.036 2022, R6 GAOA AOP DESIGNS\DRAWINGS\DWG\GROUP 3 (H L H)\2 DESIGN\6960.036 LICK - DESIGN\_CREEKGUARD.DWG;

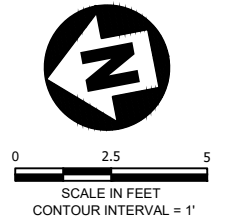


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**NOTES:**  
 1. ALL DIMENSIONS ARE TYPICAL.  
 2. LAYOUT POINTS ARE SHOWN ON SHEET 3.

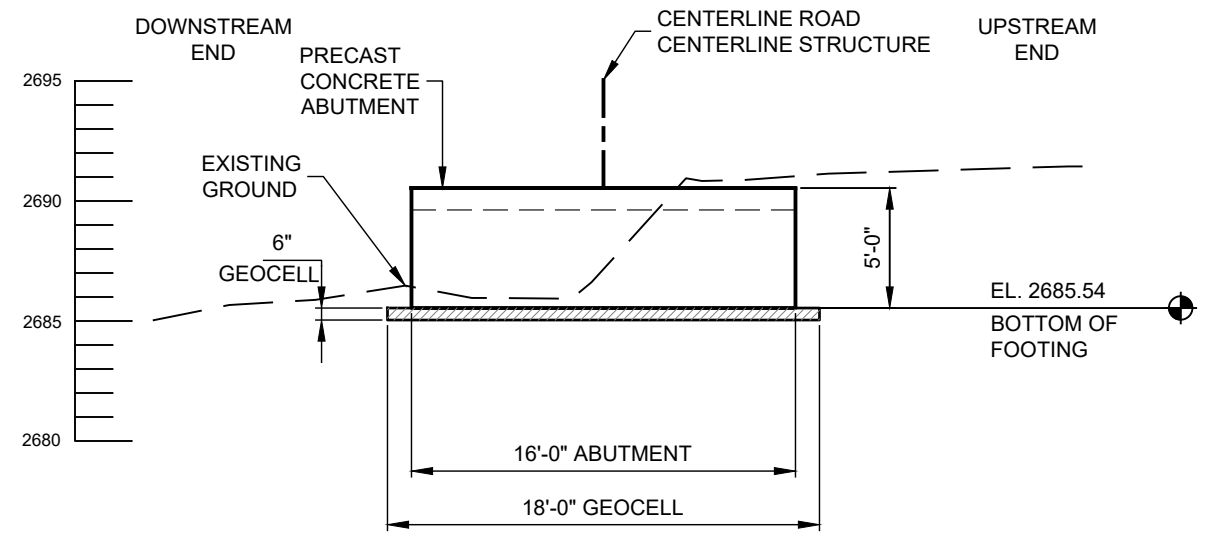
**PLAN**



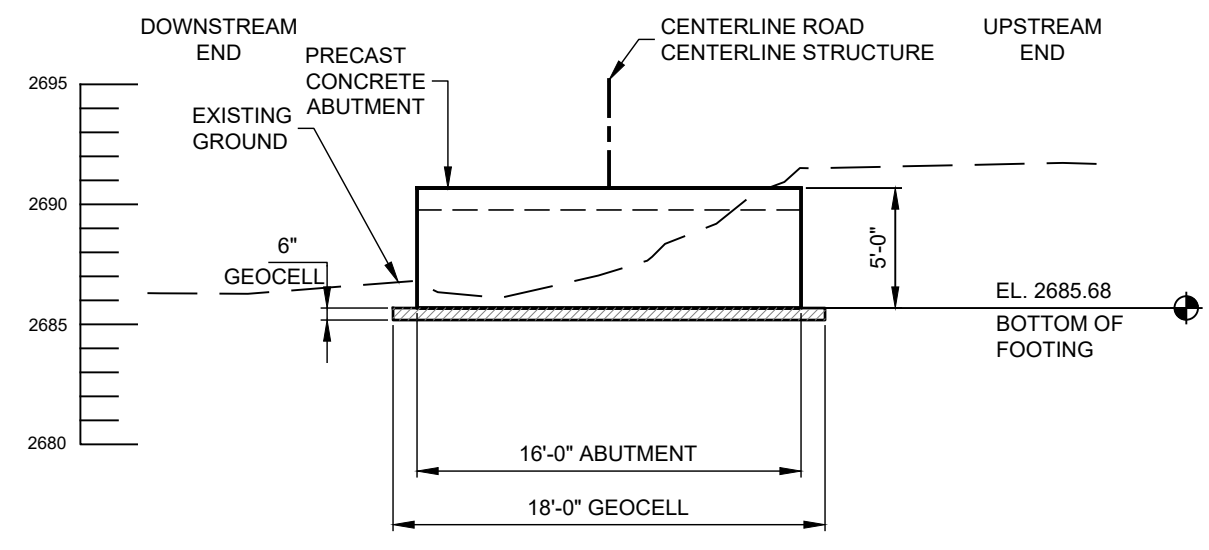
**A**  
**7** **GEOCELL DETAIL** ABUTMENT SECTION  
 NOT TO SCALE ABUTMENT 1 SHOWN  
 ABUTMENT 2 SIMILAR

**GEOCELL NOTES**

1. FIELD CUT GEOCELL PER MANUFACTURER'S SPECIFICATIONS TO WIDTH SHOWN.
2. PLACE TYPE II-A GEOTEXTILE UNDER GEOCELL AND WRAP OVER TOP AFTER BACKFILLING. INDIRECT TO ITEM 27201.
3. SECURE GEOCELL IN PLACE TO THE LINES AND GRADES SHOWN ON THE DRAWINGS WITH SUITABLE SIDE FORMS (STRETCHER FRAMES).



**ABUTMENT 1**  
SCALE: 1:8



**ABUTMENT 2**  
SCALE: 1:8



United States Department of Agriculture  
Forest Service

**REGION 6**  
PACIFIC NORTHWEST REGION

PROJECT NAME  
**LICK CREEK**  
4100350-0.06 AOP  
REPLACEMENT

UMATILLA  
NATIONAL FOREST

POMEROY  
RANGER DISTRICT

DRAWING TITLE  
**FOUNDATION DETAILS**

DATE  
Feb-24

ARCHIVE NO.

DESIGNER  
J. ROSKE

DWG SHEET NO.  
**9**

DRAWN  
J. ROSKE

CHECKED  
B. KAMRUD

PROJECT NO.  
6960.036

SHEET 9 OF 11



United States Department of Agriculture  
Forest Service

REGION 6  
PACIFIC NORTHWEST REGION

PROJECT NAME  
**LICK CREEK  
4100350-0.06 AOP  
REPLACEMENT**

UMATILLA  
NATIONAL FOREST

POMEROY  
RANGER DISTRICT

DRAWING TITLE  
**STREAM SIMULATION  
DESIGN & DETAILS**

DATE  
Feb-24

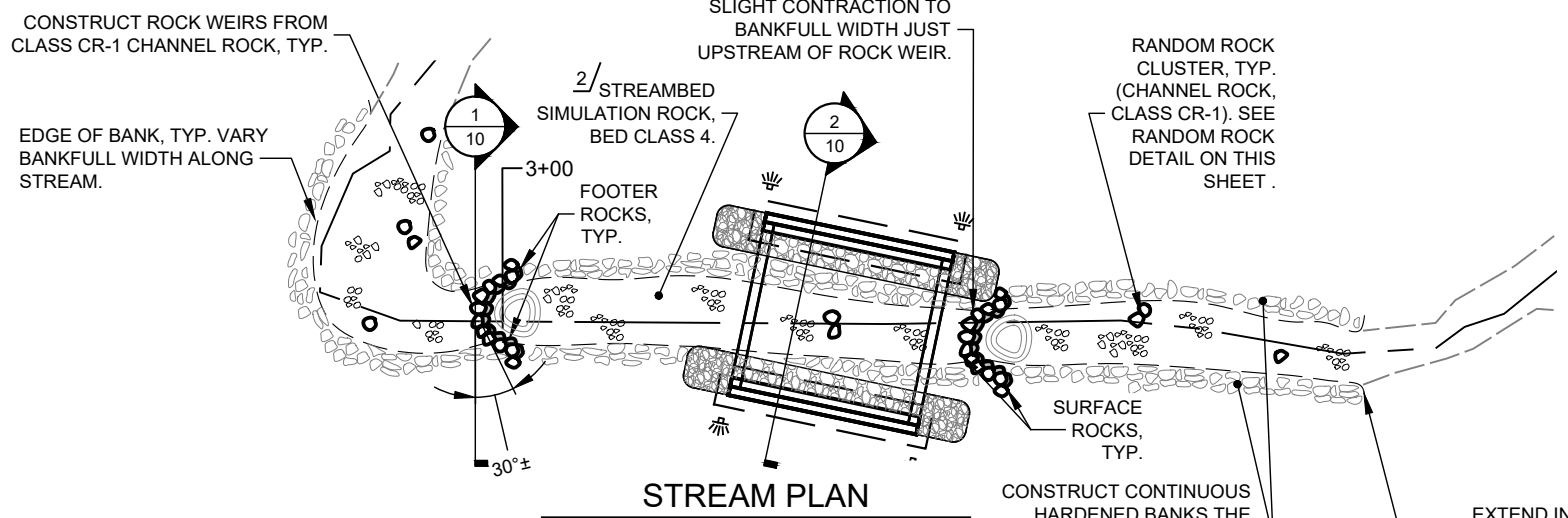
ARCHIVE NO.

DESIGNER  
J. ROSKE  
DWG SHEET NO.  
**10**

DRAWN  
J. ROSKE

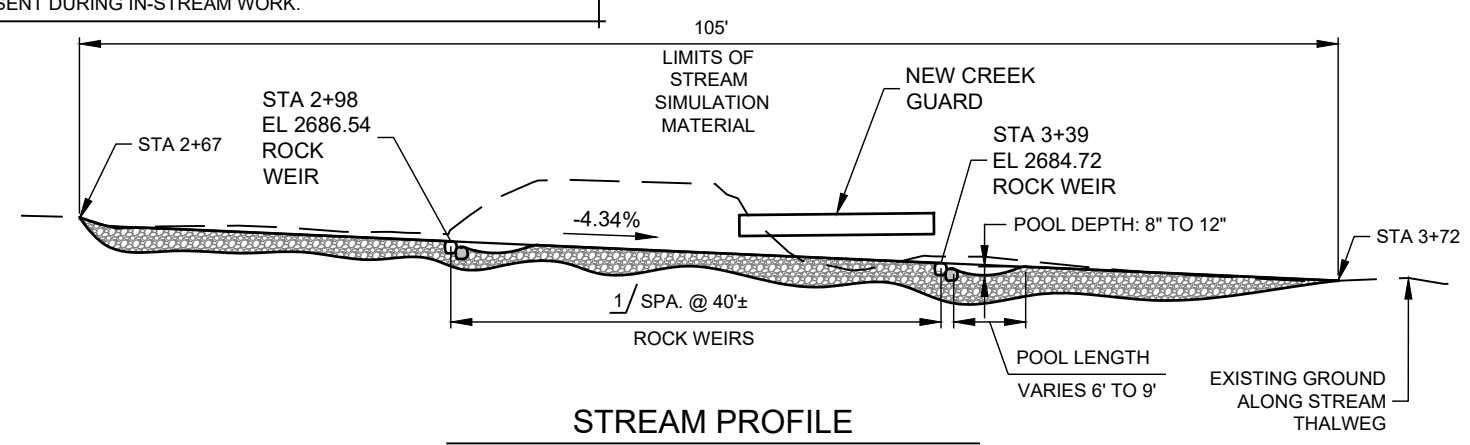
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B. KAMRUD

PROJECT NO.  
6960.036  
SHEET 10 OF 11



**STREAM PLAN**  
SCALE: 1" = 16'

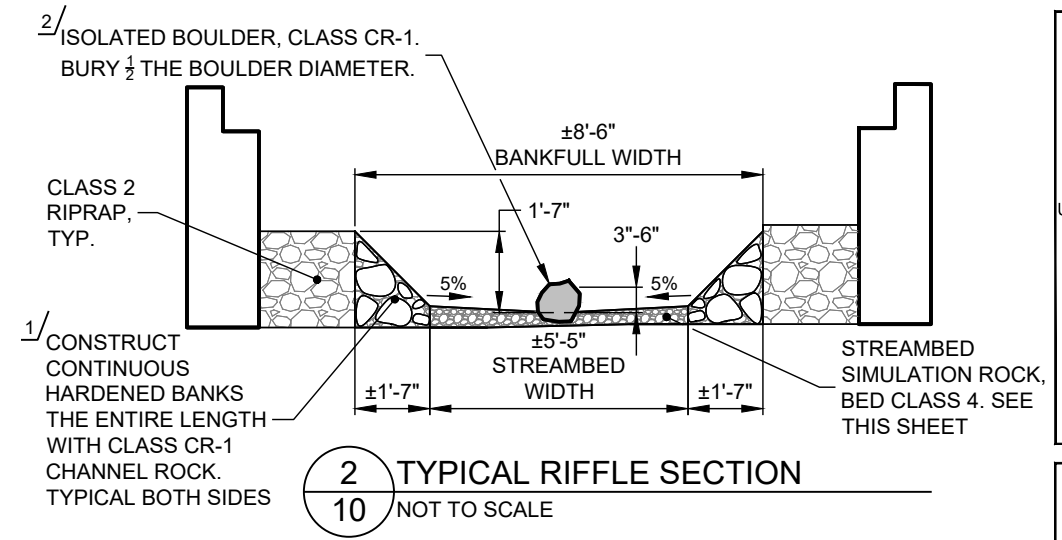
NOTE: PROVIDE THE FOREST SERVICE FIVE (5) BUSINESS DAYS ADVANCE NOTIFICATION PRIOR TO PERFORMING ANY IN-STREAM WORK. DO NOT BEGIN STREAM WORK WITHOUT PRIOR AUTHORIZATION FROM THE CO. CO OR REPRESENTATIVE WILL BE PRESENT DURING IN-STREAM WORK.



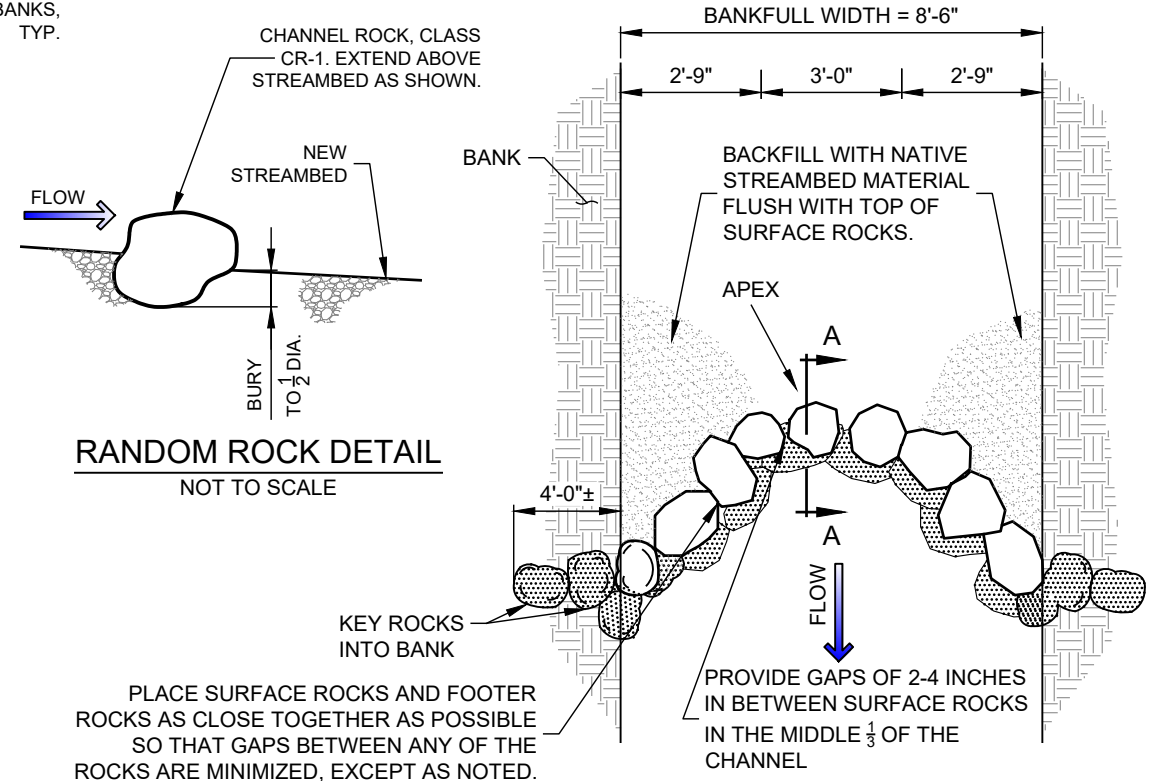
**STREAM PROFILE**  
NOT TO SCALE

**FOOTNOTES:**

- 1/ USE NATIVE MATERIAL SALVAGED FROM THE EXCAVATION MEETING THE SPECIFICATIONS FOR STREAM SIMULATION ROCK, BED CLASS 4 (SEE SUBSECTION 705.08A OF THE SPECIFICATIONS) TO FORM CHANNEL BED UNDER THE BRIDGE.  
  
THE FINAL CHANNEL BOTTOM SHOULD BE A DENSE, WELL INTERLOCKED STREAMBED WITH LOW PERMEABILITY. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT THE STREAM FLOW DOES NOT GO SUBSURFACE UNDER THE BRIDGE FOR A 48 HOUR PERIOD AFTER RE-WATERING. CONTRACTOR IS REQUIRED TO FOLLOW FSSS SECTION 648 FOR STREAM SIMULATION AND CHANNEL ROCK PLACEMENT. WORK WILL BE PERFORMED AT DIRECTION OF CO.
- 2/ ROCKS SALVAGED FROM THE EXCAVATION MEETING THE SPECIFICATION FOR CHANNEL ROCK, CLASS CR-1 MAY BE USED. (SEE SUBSECTION 705.08B OF THE SPECIFICATIONS)  
  
THE SPACING AND CONFIGURATION OF RANDOM ROCK, ROCK CLUSTERS AND WEIRS MAY BE ADJUSTED IN THE FIELD BY THE CO TO FIT THE ACTUAL STREAMBED CONDITIONS.  
  
INTER-MIX FINE NATIVE MATERIAL AS DIRECTED BY CO DURING CONSTRUCTION OF CHANNEL BANK. ALLOW ROOM FOR LIVE STAKE PLANTING AND ALLOW FOR REVEGETATION EFFORTS AS DIRECTED BY CO.
- 3/ VARY DIRECTION, SHAPE, AND ORIENTATION OF THE RANDOM ROCKS, CLUSTERS AND WEIRS. AFTER PLACEMENT OF RANDOM ROCKS, CLUSTERS AND WEIRS, PLACE A MINIMUM OF 12" OF ADDITIONAL STREAMBED SIMULATION MATERIAL, BED CLASS 4 ON TOP OF THE STRUCTURES AT THE DIRECTIONS OF THE CO.
- 4/ FILL SCOUR HOLE, AS DIRECTED BY THE CO, WITH EXCESS MATERIAL CONSERVED FROM STRUCTURE EXCAVATION MEETING THE REQUIREMENTS OF FP-14 SUBSECTION 704.06. SOME SORTING AND MIXING MAY BE REQUIRED. COMPACT MATERIAL IN ACCORDANCE WITH FP-14 SUBSECTION 209.10 AND FSSS SECTION 648. PLACE A MINIMUM OF 18" OF STREAM SIMULATION ROCK, BED CLASS 4 ON TOP OF FILLED SCOUR HOLE.

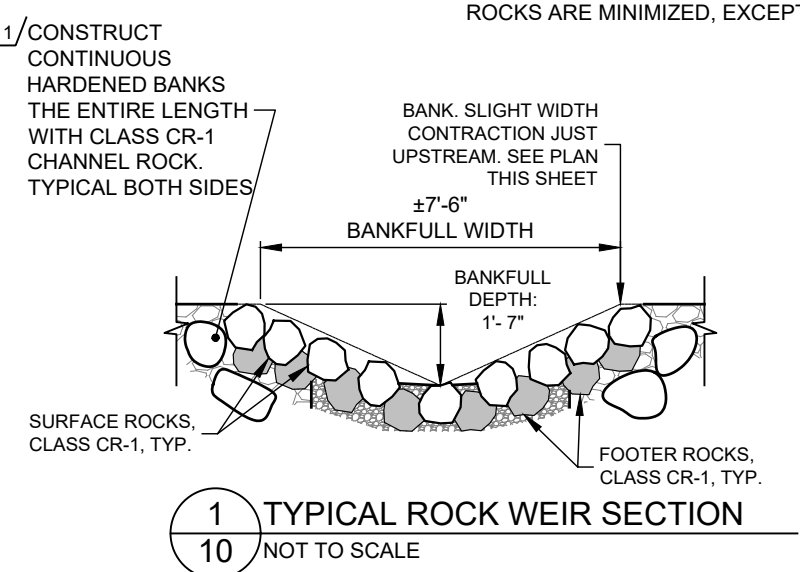


**2 TYPICAL RIFFLE SECTION**  
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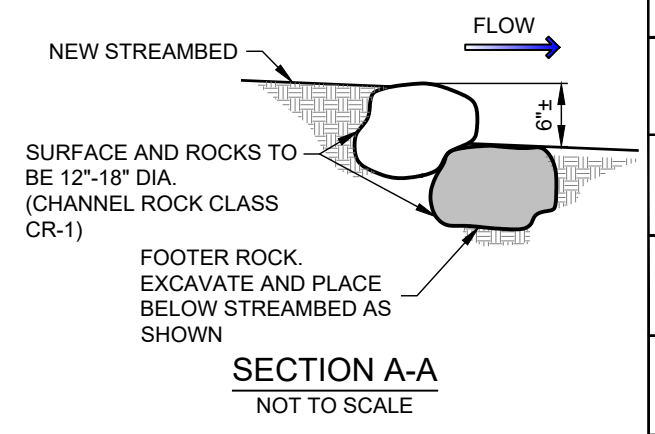


**RANDOM ROCK DETAIL**  
NOT TO SCALE

**TYPICAL ROCK WEIR PLAN**  
NOT TO SCALE



**1 TYPICAL ROCK WEIR SECTION**  
10 NOT TO SCALE

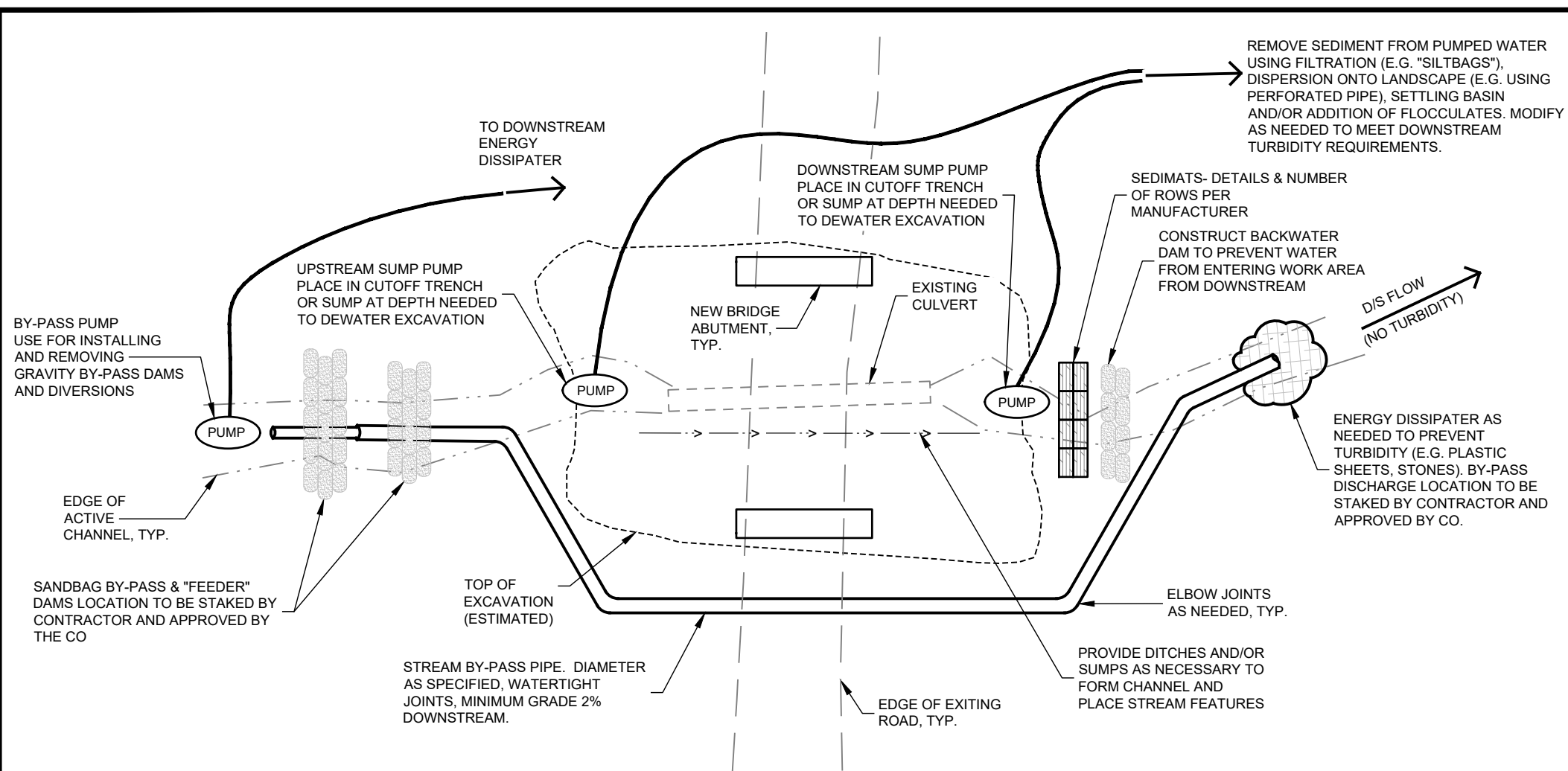


**SECTION A-A**  
NOT TO SCALE

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**NOTES:**

1. THE PLAN SHOWN HERE IS INTENDED TO REPRESENT THE GENERAL DEWATERING REQUIREMENTS AND NOT APPLICABLE TO A SPECIFIC SITE. SUBMIT A PLAN SPECIFIC TO THE SITE.
2. SUBMIT A DEWATERING PLAN TO THE CO FOR APPROVAL AT LEAST THIRTY (30) DAYS PRIOR TO BEGINNING WORK.
3. CONTRACTOR TO DETERMINE THE SIZE OF THE BYPASS PIPE BASED ON THE SPECIFIED FLOW.
4. ENSURE THAT THE BYPASS PIPE AND DAM ARE LEAK-PROOF. DO NOT PROCEED WITH CONSTRUCTION UNTIL THE IMPLEMENTED DEWATERING PLAN HAS BEEN INSPECTED AND ACCEPTED BY THE CO IN WRITING.
5. ENSURE PUMPS ARE CLEAN AND FREE OF LEAKS WHEN PLACED IN A CONTAINMENT KIT.
6. EXCAVATE DRAW DOWN POOL FOR SUMPS A MINIMUM OF 2 FEET BELOW THE BOTTOM OF THE EXCAVATION AND A MINIMUM OF 5 FEET IN DIAMETER.
7. MAINTAIN ALL ELEMENTS OF THE OPERATION IN ORDER TO DEWATER THE FOUNDATION, FACILITATE CONSTRUCTION, PREVENT HARM TO AQUATIC ORGANISMS (NOT JUST FISH) AND PREVENT SEDIMENT AND TURBIDITY FROM ENTERING THE STREAM. CONSTRUCT THE DEWATERING SYSTEM IN A MANNER WHICH ENABLES USFS BIOLOGISTS TO COLLECT AND TRANSPORT ORGANISMS FROM THE LIVE CHANNEL, JUST BEFORE COMPLETION OF THE DIVERSION DAM.
8. OPERATE PUMPS (PREFERABLY ELECTRIC) DOWNSTREAM OF THE BYPASS DAM IF THE DAM DOES NOT SEAL THOROUGHLY. MAINTAIN A PUMP RUNNING 24 HOURS A DAY IN THE DOWNSTREAM SEDIMENT RETENTION DAM TO DIVERT WATER CONTAINING SEDIMENT TO THE FOREST FLOOR WHERE IT WILL BE FILTERED BEFORE ENTERING BACK INTO THE STREAM. LEAVE PUMPS IN POSITION ON SITE EVEN IF WATER DISCHARGE DROPS CONSIDERABLY, TO BE PREPARED FOR STORM FLOWS.

United States Department of Agriculture  
Forest Service

**REGION 6**  
PACIFIC NORTHWEST REGION

PROJECT NAME

**LICK CREEK  
4100350-0.06 AOP  
REPLACEMENT**

UMATILLA  
NATIONAL FOREST

POMEROY  
RANGER DISTRICT

DRAWING TITLE

**DEWATERING  
REQUIREMENTS**

DATE

Feb-24

ARCHIVE NO.

DESIGNER

J. ROSKE

DWG SHEET NO.

**11**

DRAWN

J. ROSKE

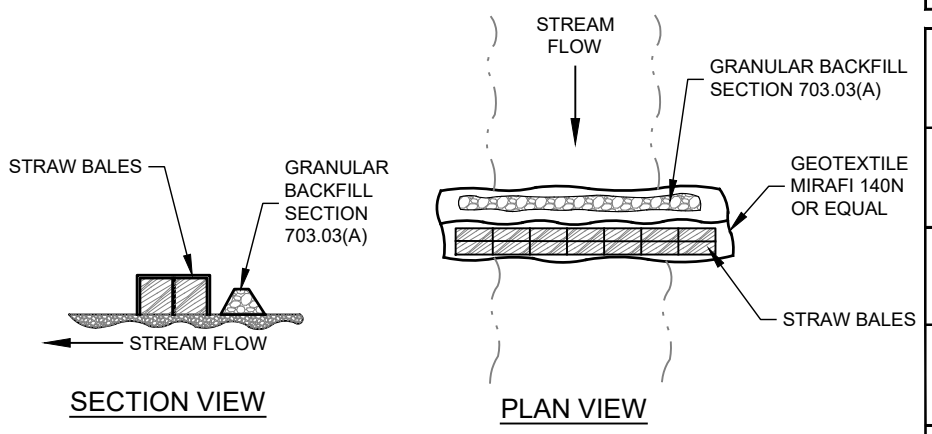
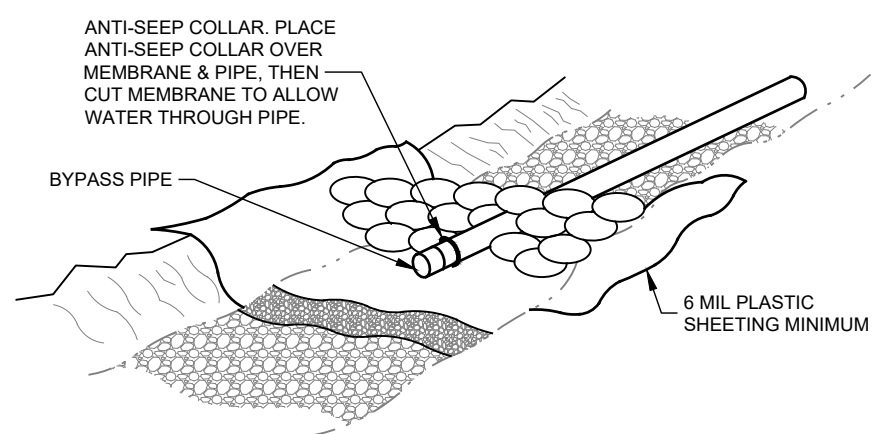
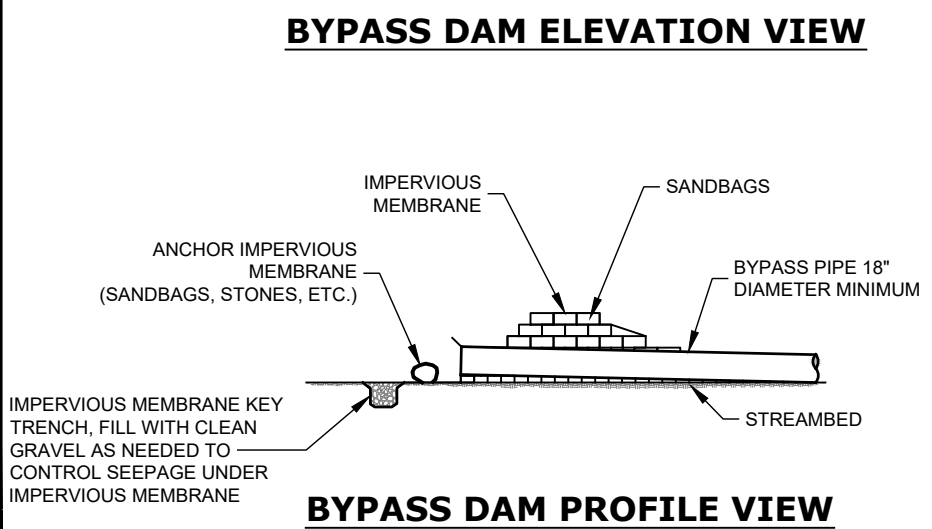
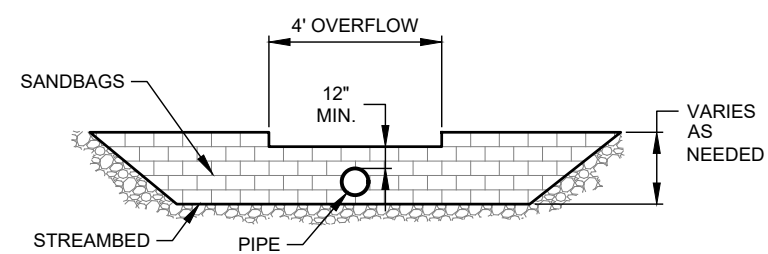
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B. KAMRUD

PROJECT NO.

6960.036

SHEET 11 OF 11



**GEOTEXTILE-WRAPPED STRAW BALE  
SEDIMENT CONTROL WEIR**

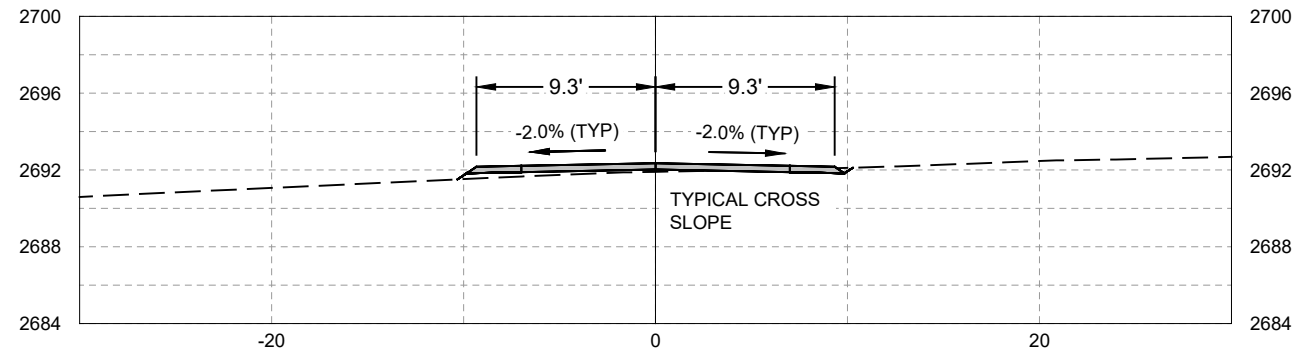
R6 GAOA AOP'S  
LICK CREEK AOP  
ROAD CROSS SECTIONS



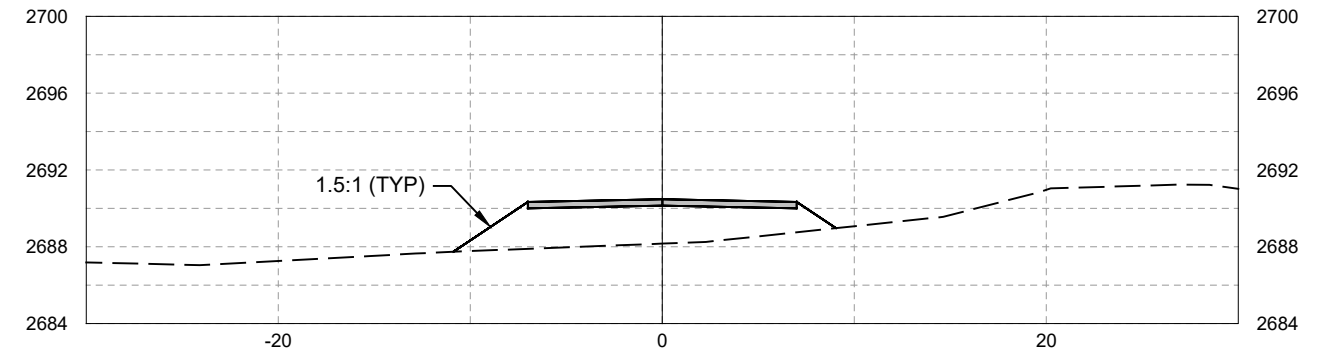
PREPARED BY:  
**DJ & C**  
ENGINEERS  
PLANNERS  
SURVEYORS

Sheet XS1 OF XS4

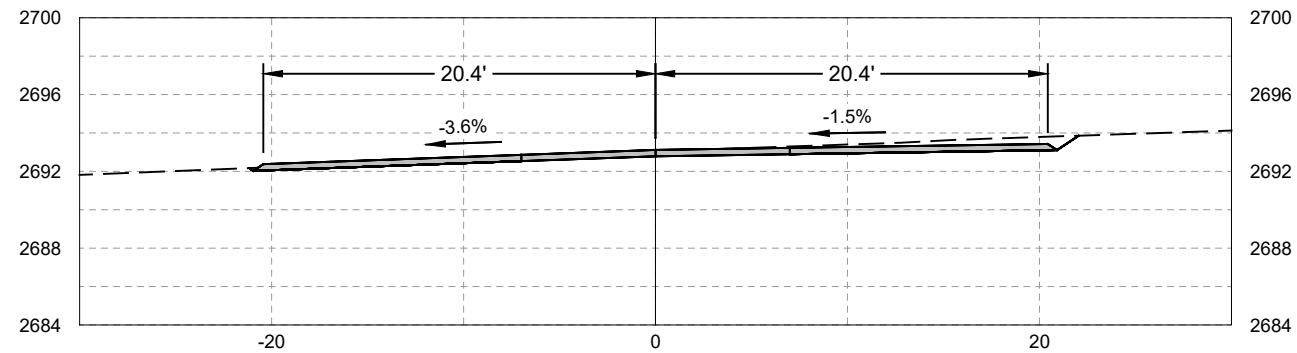
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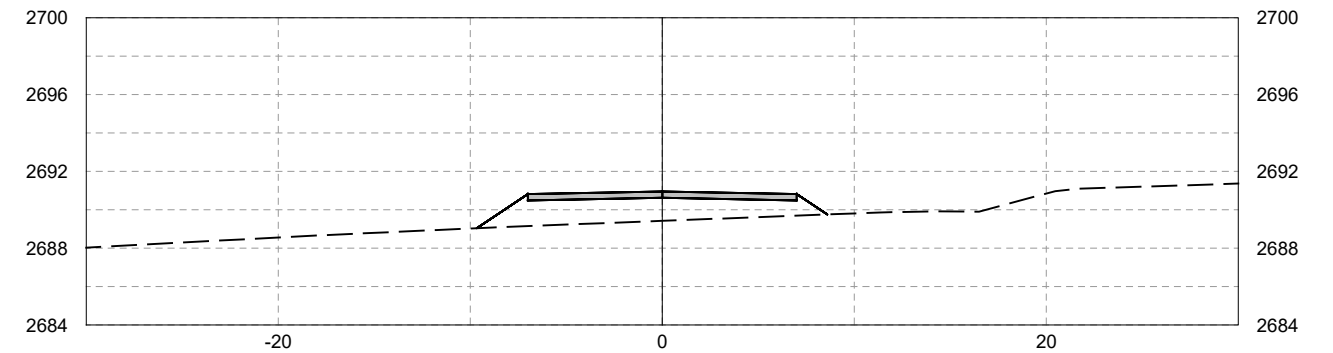
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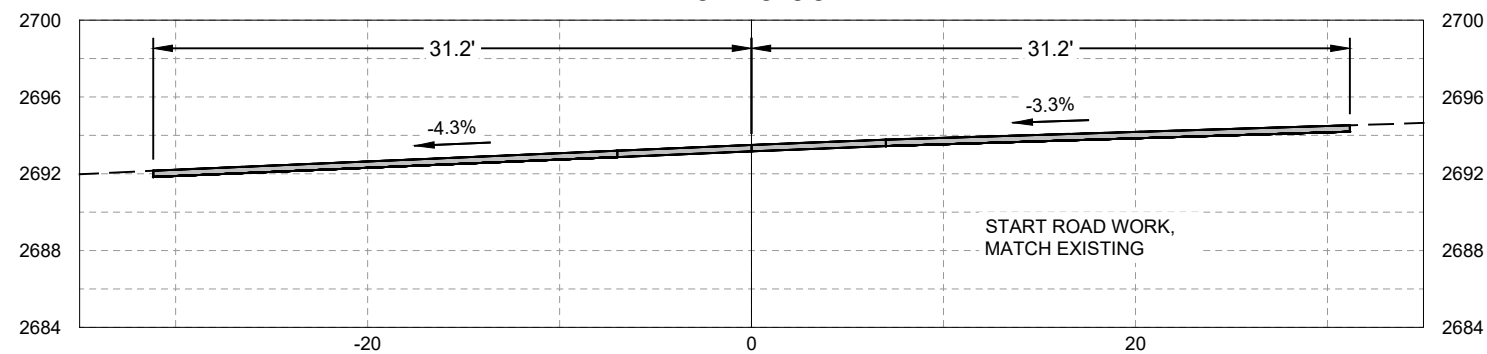
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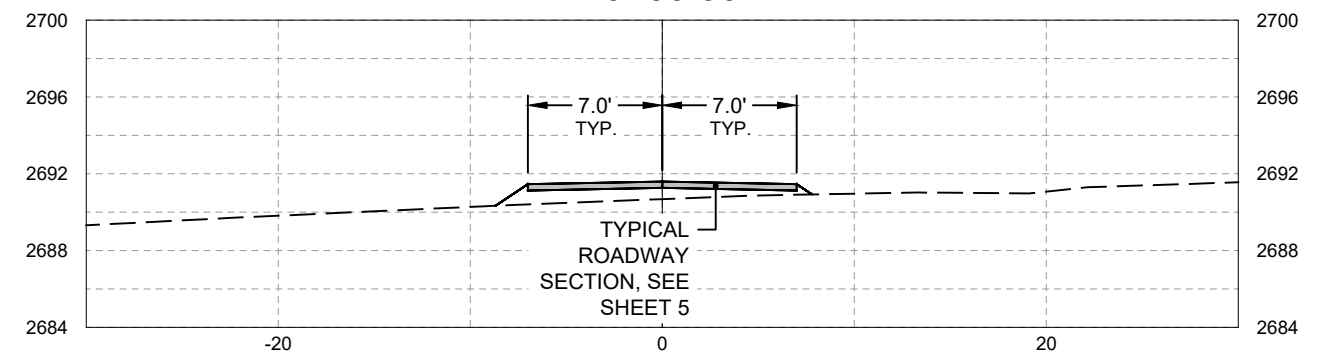
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10+10.00



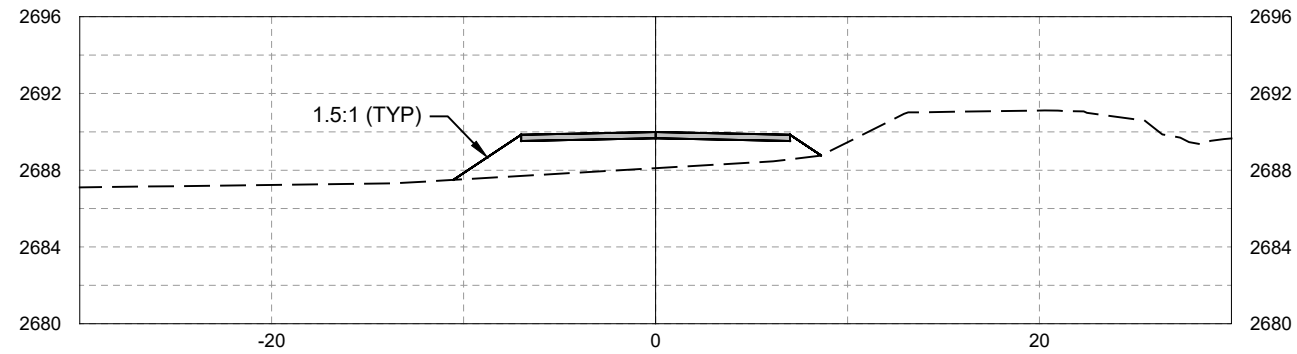
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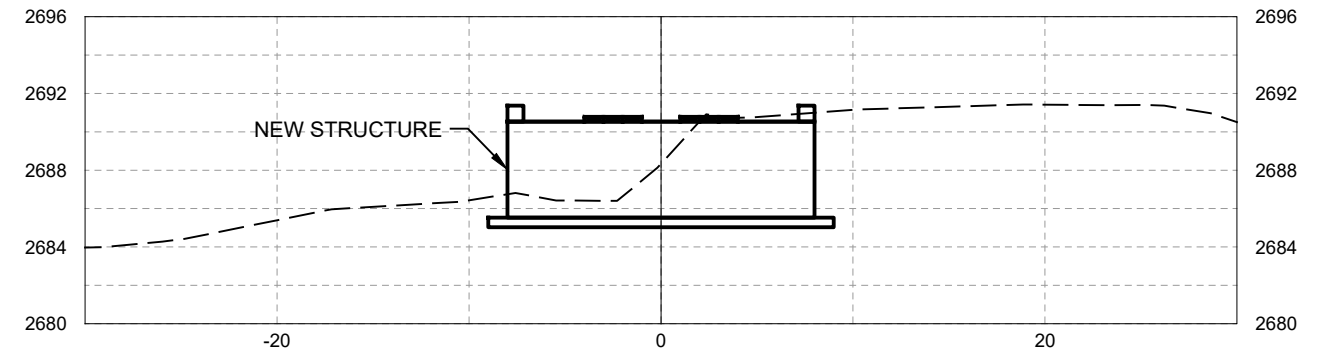




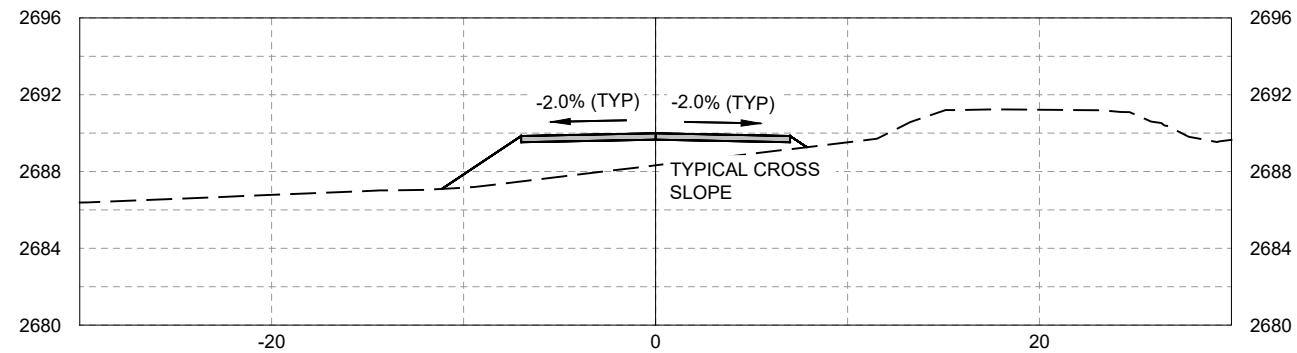
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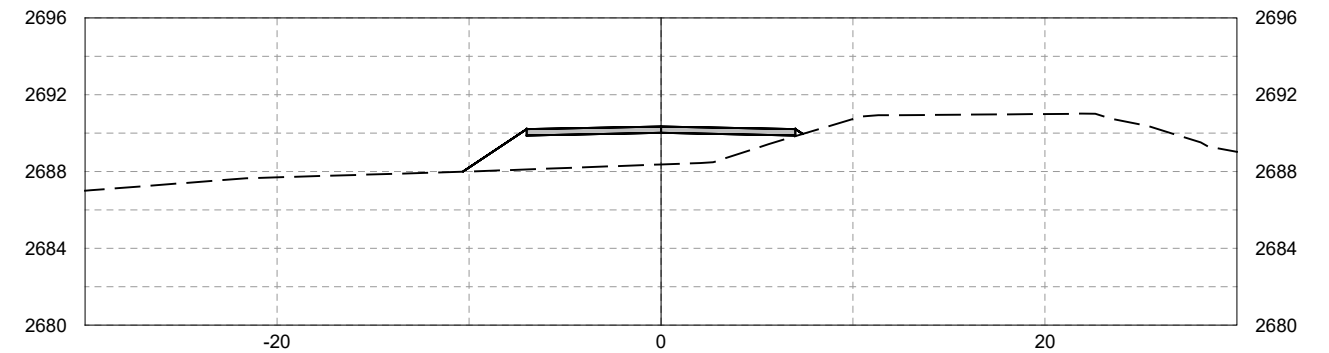
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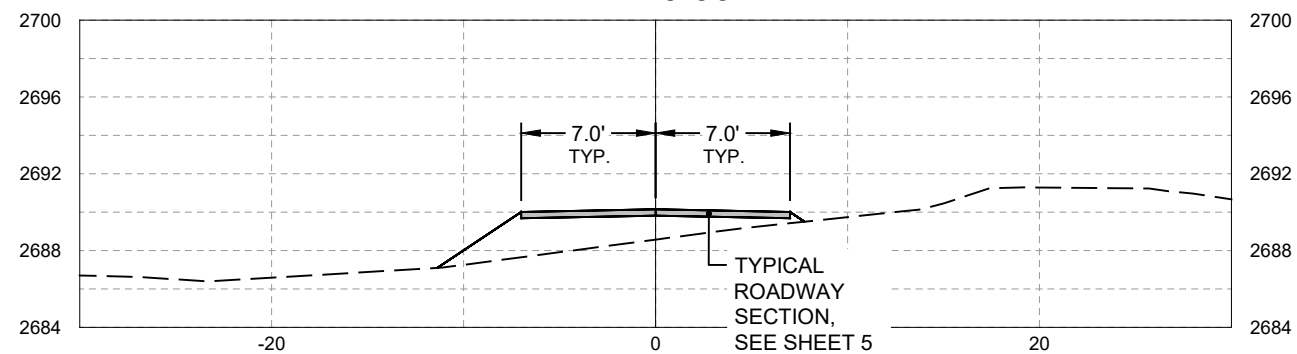
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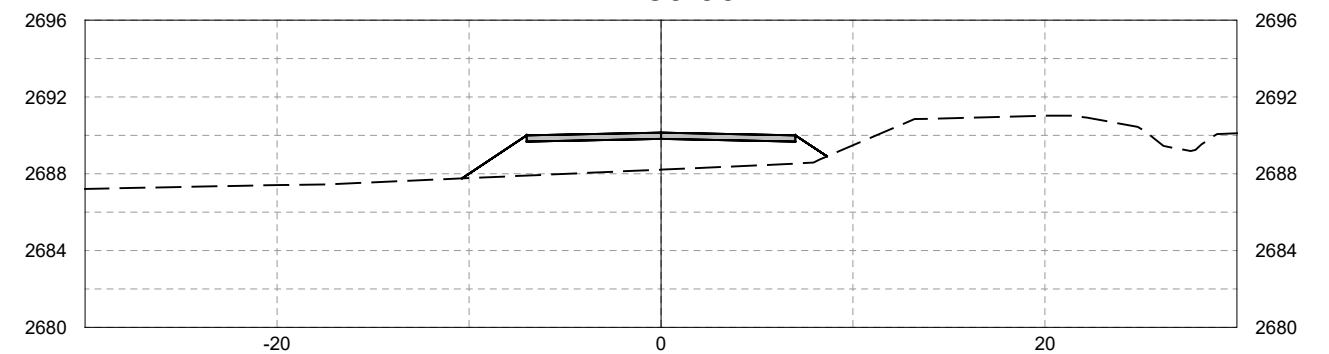
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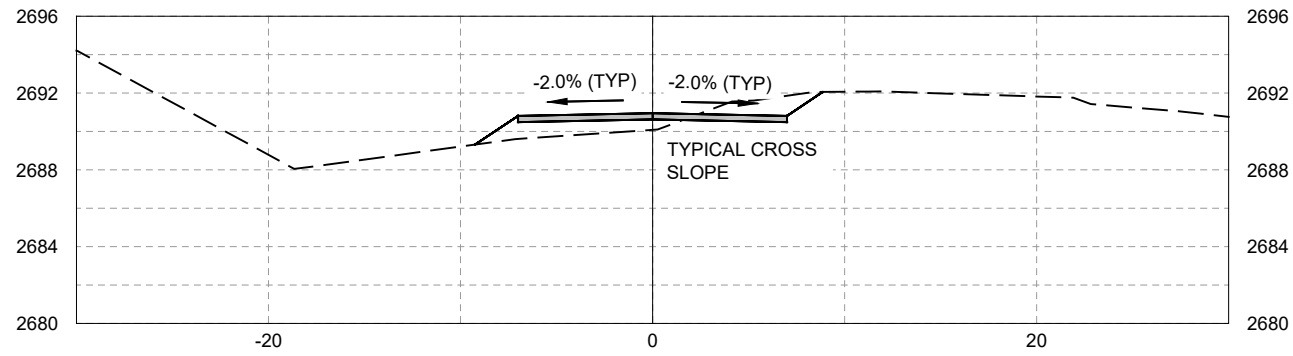


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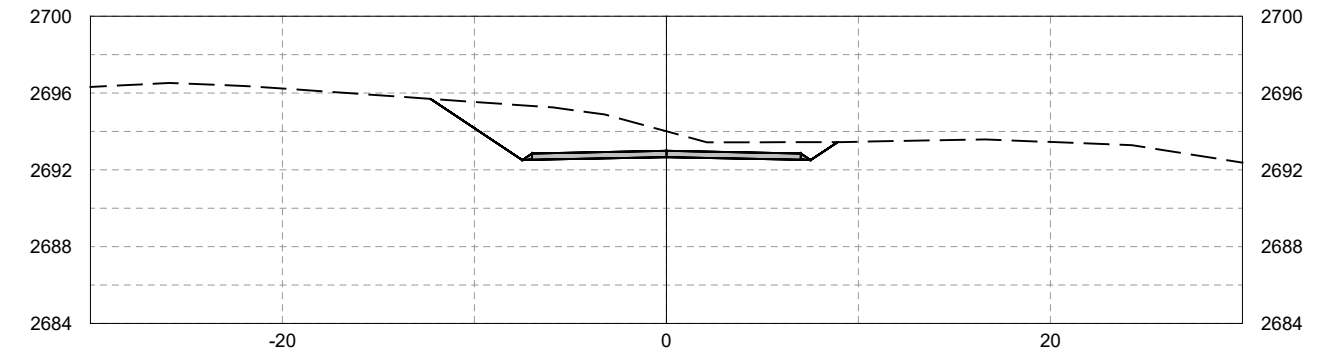




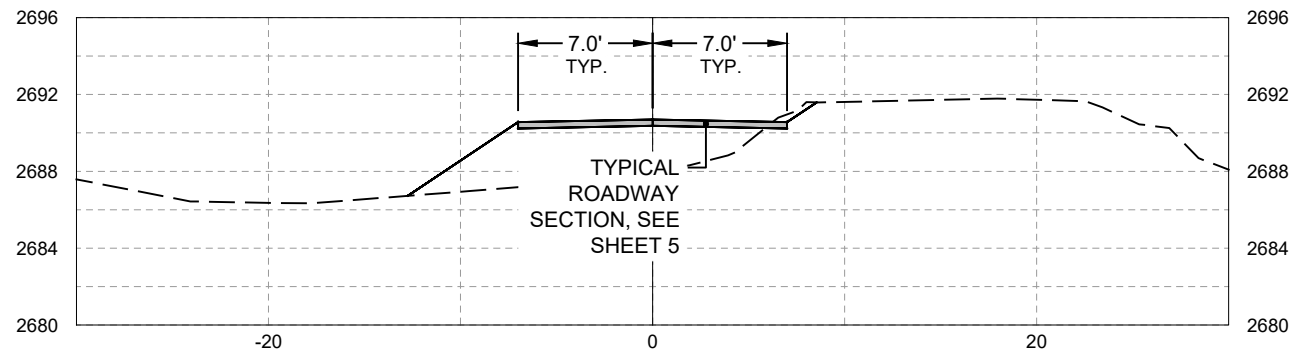
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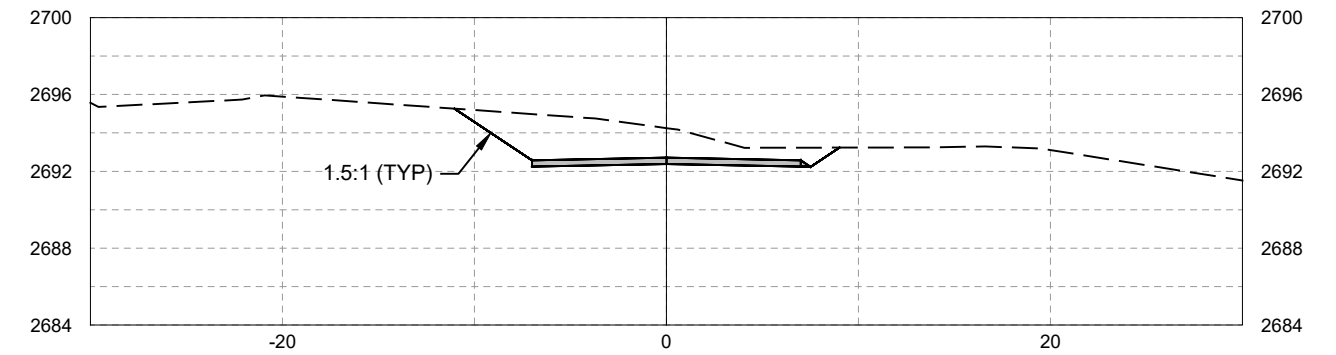
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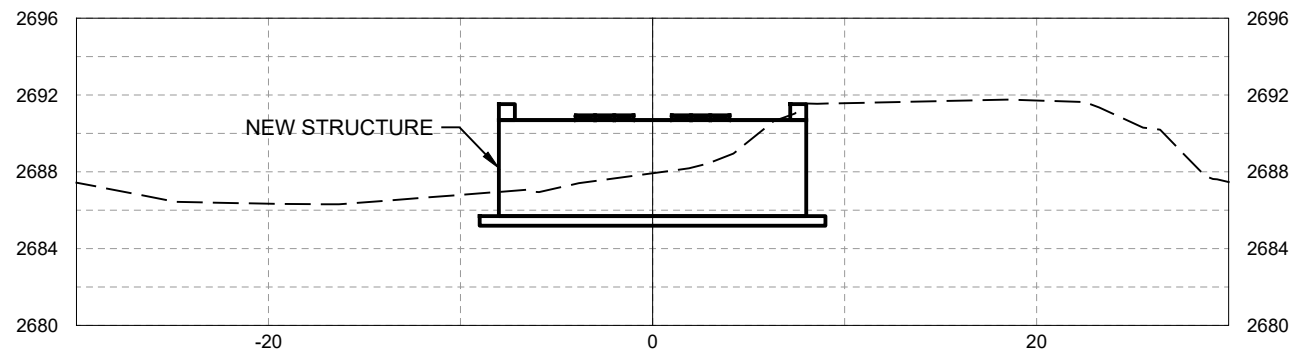
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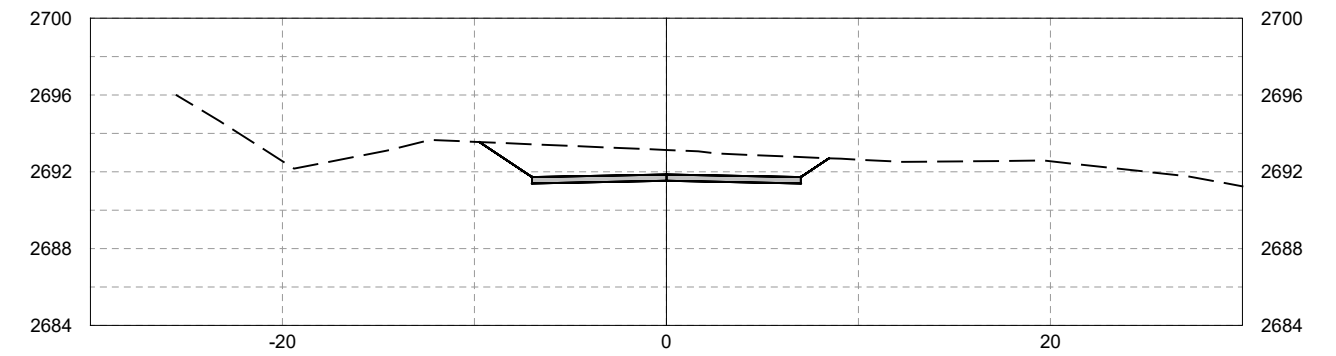
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12+75.00





R6 GAOA AOP'S  
LICK CREEK AOP  
ROAD CROSS SECTIONS



PREPARED BY:  
**DJ & C**  
ENGINEERS  
PLANNERS  
SURVEYORS

Sheet XS4 OF XS4

