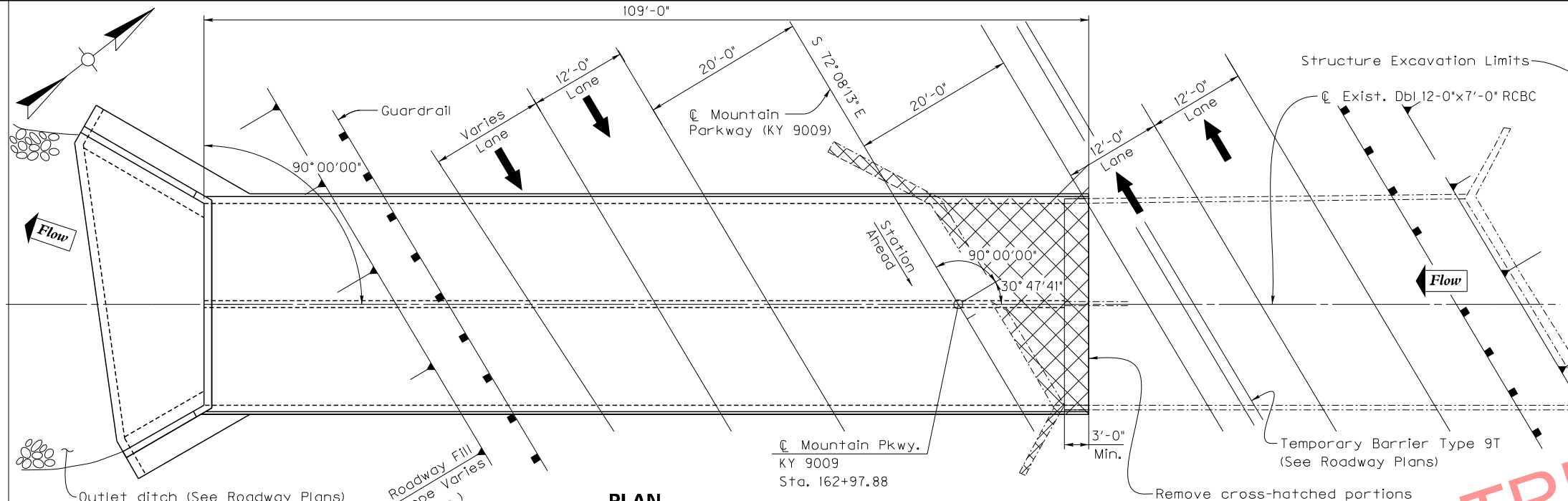


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USER: dsmitlison
DATE PLOTTED: June 21, 2016

E-SHEET NAME:

MicroStation v8.11.9.459



PLAN
Double 12'-0" x 7'-0" RCBC
109'-0" Outlet End Extension
30° 47' 41" RT Skew ~ KY HL-93 Loading ~ Variable Fill Slope
Design Fill Height 5.1' Yielding Foundation

GENERAL NOTES

SPECIFICATIONS: References to the Specifications are to the 2012 edition of Kentucky Department of Highways Standard Specifications For Road and Bridge Construction including any current Supplemental Specifications. All references to the AASHTO Specifications are to the sixth edition of the AASHTO LRFD Bridge Design Specifications.

DESIGN LOAD: This structure is designed for KY HL-93 live load. The KY HL-93 live load is arrived at by increasing the standard design truck and lane loads by 25%.

CONCRETE: Use Concrete, Class "A" throughout.

DESIGN STRESSES:
FOR CLASS "A" CONCRETE: $F'_c = 3500$ PSI
FOR STEEL REINFORCEMENT: $F_y = 60000$ PSI

WEIGHT OF FILL MATERIAL: The assumed weight of fill material is 120 PSF.

BEVELED EDGES: Bevel all exposed edges $\frac{3}{4}$ ", unless otherwise noted.

FOOTING PRESSURE: Foundation materials for wing footings are required to resist a maximum bearing pressure of 1,100 psf at the AASHTO Service I limit state.

SAWCUTTING EXISTING CONCRETE: Prior to the removal of the existing concrete masonry, cut the surface with a concrete saw to a depth of one inch to facilitate a neat line. The cost of cutting concrete shall be included in the unit price bid for Remove Concrete Masonry.

EXISTING REINFORCING STEEL: Existing horizontal reinforcing steel in the portion of the barrel to be removed shall be cleaned and straightened in order to bond with new concrete. The cost of cleaning and straightening existing reinforcing steel shall be incidental to the unit price bid for Remove Concrete Masonry.

REINFORCEMENT: Dimensions shown from the face of concrete to bars are to center of bars, unless otherwise shown. Spacing of bars is from center to center of bars. Clear distance to face of concrete is 2", unless otherwise noted.

TEMPORARY SHORING: Temporary sheeting, shoring, cofferdams, and/or a dewatering method may be required for installation of the culvert and footings. Payment for this work shall be included in the lump sum bid for Foundation Preparation.

DIMENSIONS: Dimensions are for a normal temperature of 60 degrees Fahrenheit. Layout dimensions are horizontal dimensions.

CONSTRUCTION JOINTS: If phased construction joints are required, locate the construction joint in the field. Place the joint perpendicular to the barrel using either couplers, mechanical splices, or lap splices for the E Bars. Ensure couplers or mechanical splices are capable of transferring 125% of the design yield strength of the bar. Include the cost of couplers, mechanical splices, or additional rebar for lap splices in the bid for steel reinforcement. No construction joint in the barrel is to be located within 6 ft. of the end the culvert.

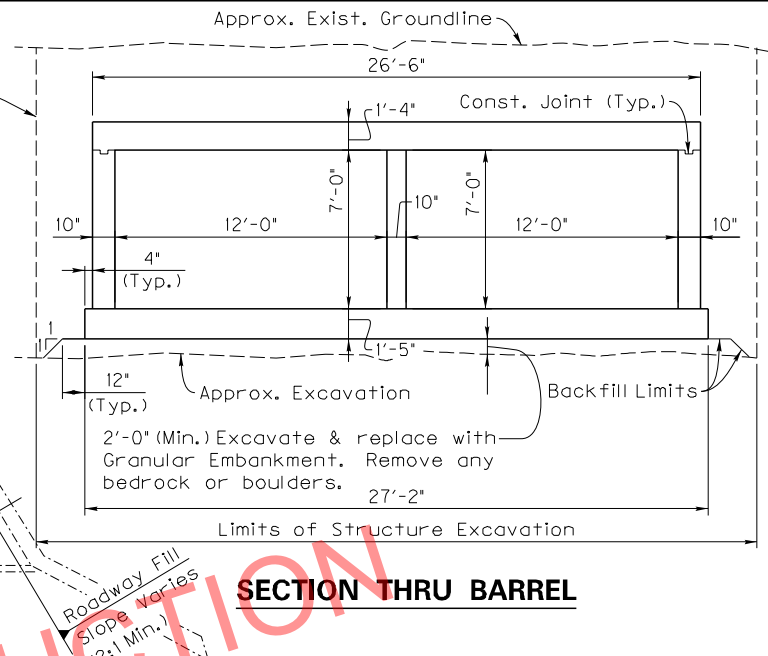
FLOWLINE REINFORCEMENT: Construct the 6-inch paved flowline using #4 steel reinforcement at 18-inch centers in each direction or 6"x6"-D7xD7 welded wire deformed steel fabric. Extend the bars a minimum of 12 inches into wing footings and/or bottom slab. Include the cost of this reinforcement in the bid for Class "A" Concrete.

BEFORE YOU DIG: The contractor can call 1-800-752-6007 toll free a minimum of 2 business days prior to excavation for information on the location of existing utilities. Also, see utility plans.

BONDING TO EXISTING CONCRETE USING STRUCTURAL ADHESIVES: Bond proposed plastic concrete to existing hardened concrete in all locations using a Type V Epoxy Resin or other approved Structural Adhesive as prescribed in section 826 of the specifications. Follow the manufacturer's recommended application instructions. This work and material is incidental to the unit price bid for Class "A" Concrete.

GRANULAR EMBANKMENT: Excavate and replace soil with Granular Embankment within 2 feet below the bottom of the culvert slab. Granular replacement material shall consist of "Granular Embankment," non-erodible only, meeting the material requirements of Section 805 of the Standard Specifications. The maximum size limit for "Granular Embankment" is 4 inches. The excavation for the granular replacement shall extend a minimum width beyond the edges of the footings equal to the replacement depth. The granular replacement shall be placed on a 1H:1V slope or flatter beginning 12" from the base of the footing to the bottom of the excavation. Place Geotextile Fabrics Type IV as a separator between the soil and the granular replacement. The Geotextile Fabric shall be in accordance with Section 214 and 843 of the Standard Specifications for Road and Bridge Construction, current edition.

COMPLETION OF THE STRUCTURE: The Contractor is required to complete the structure in accordance with the plans and specifications. Material, labor or construction operations, not otherwise specified, are to be included in the bid item most appropriate to the work involved. This may include cofferdams, shoring, excavations, backfilling, removal of all or parts of existing structures, phase construction, incidental materials, labor or anything else required to complete the structure.



ESTIMATE OF QUANTITIES

BID CODE	ITEM	QUANTITY	UNIT
8100	Class "A" Concrete	398	C.Y.
8150	Reinforcement	45590	LB.
8003	Foundation Preparation	1	L.S.
2223	Granular Embankment	302	C.Y.
2403	Remove Concrete Masonry	28	C.Y.

INDEX OF SHEETS

Sheet No.	Description
S1	Layout & General Notes
S2	Outlet Barrel Details
S3	Outlet Wing Details
S4	Bill of Reinforcement
S5	Subsurface Data

STANDARD DRAWINGS

BCX-006-10	Stencils for Structures
BCX-012-02	Geotechnical Legend

SPECIFICATIONS

2012 Standard Specifications for Road and Bridge Construction
2012 AASHTO LRFD Bridge Design Specifications, 6th Edition

Plans Prepared By:
H. W. LOCHNER, INC.

Bryan C. Reid, P.E.
KY. No. 27998

ITEM NUMBER
10-126.70

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY
WOLFE-MORGAN

ROUTE
KY 9009

CROSSING
STATE ROAD FORK

LAYOUT & GENERAL NOTES

PREPARED BY
LOCHNER
H. W. LOCHNER, INC.
LEXINGTON, KENTUCKY

SHEET NO.
S1

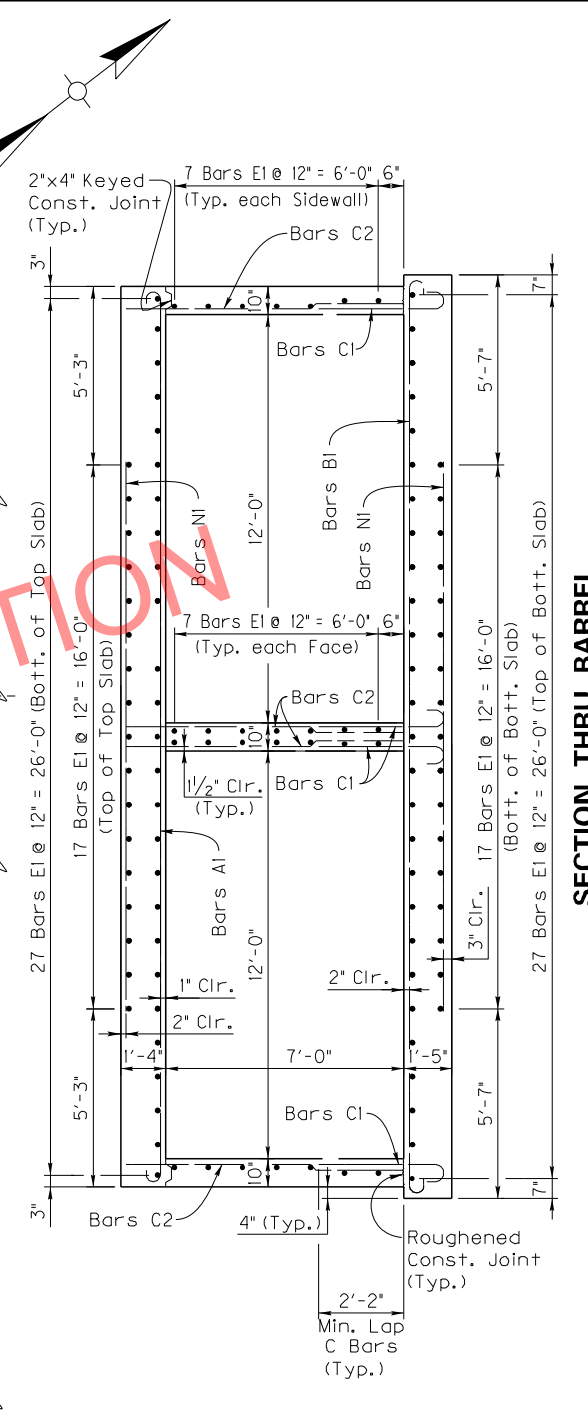
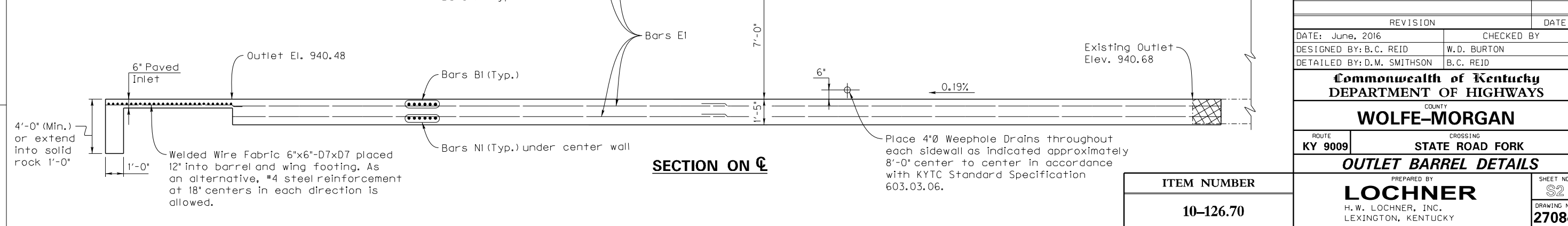
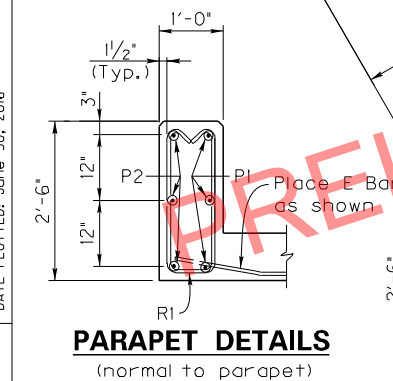
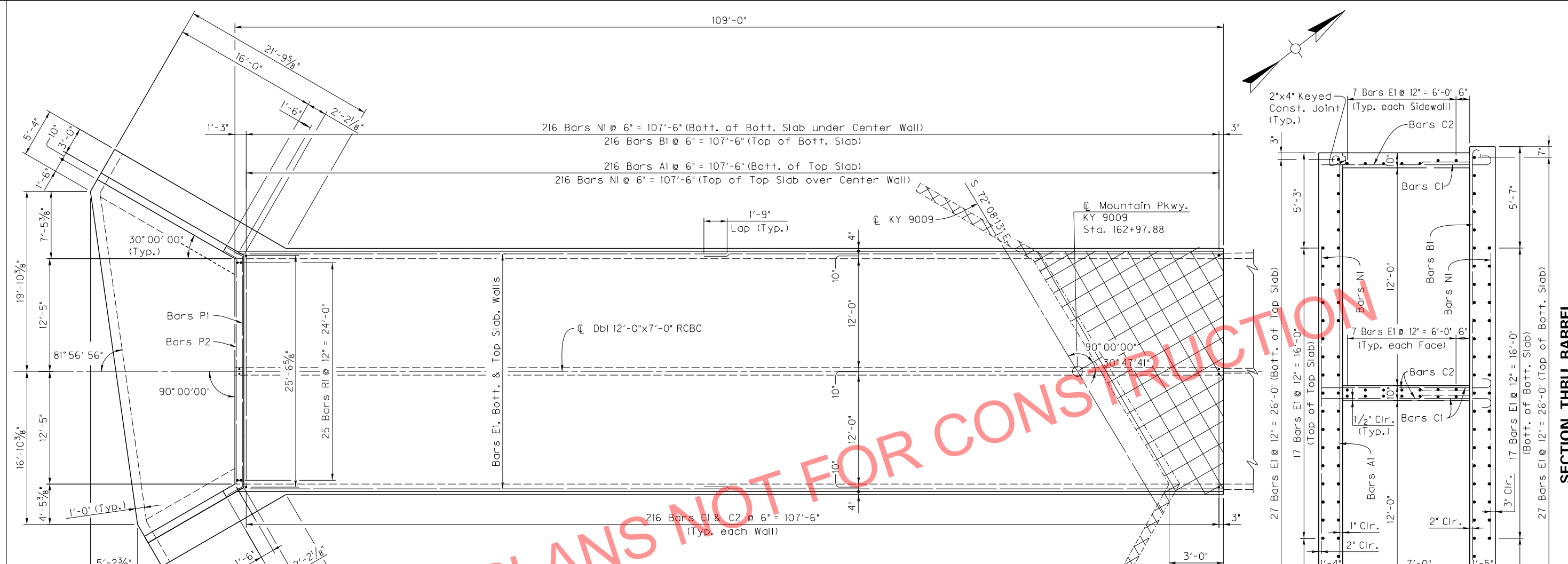
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DATE PLOTTED: June 30, 2016

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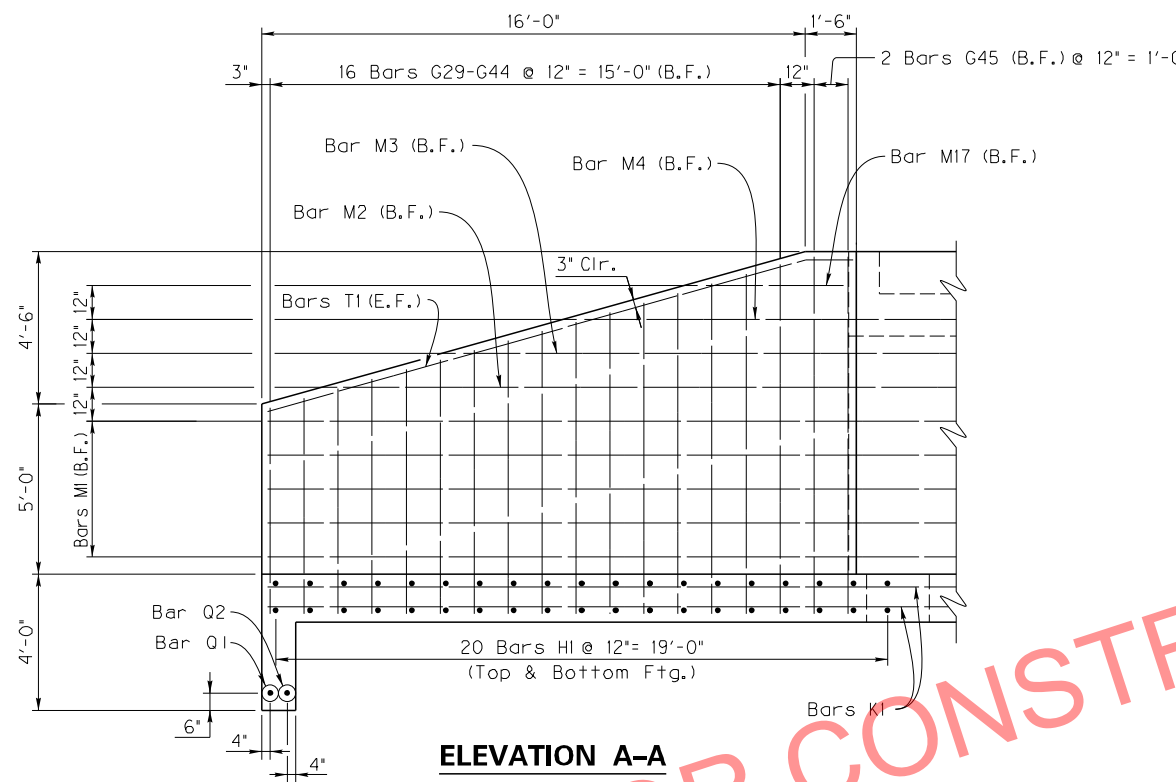
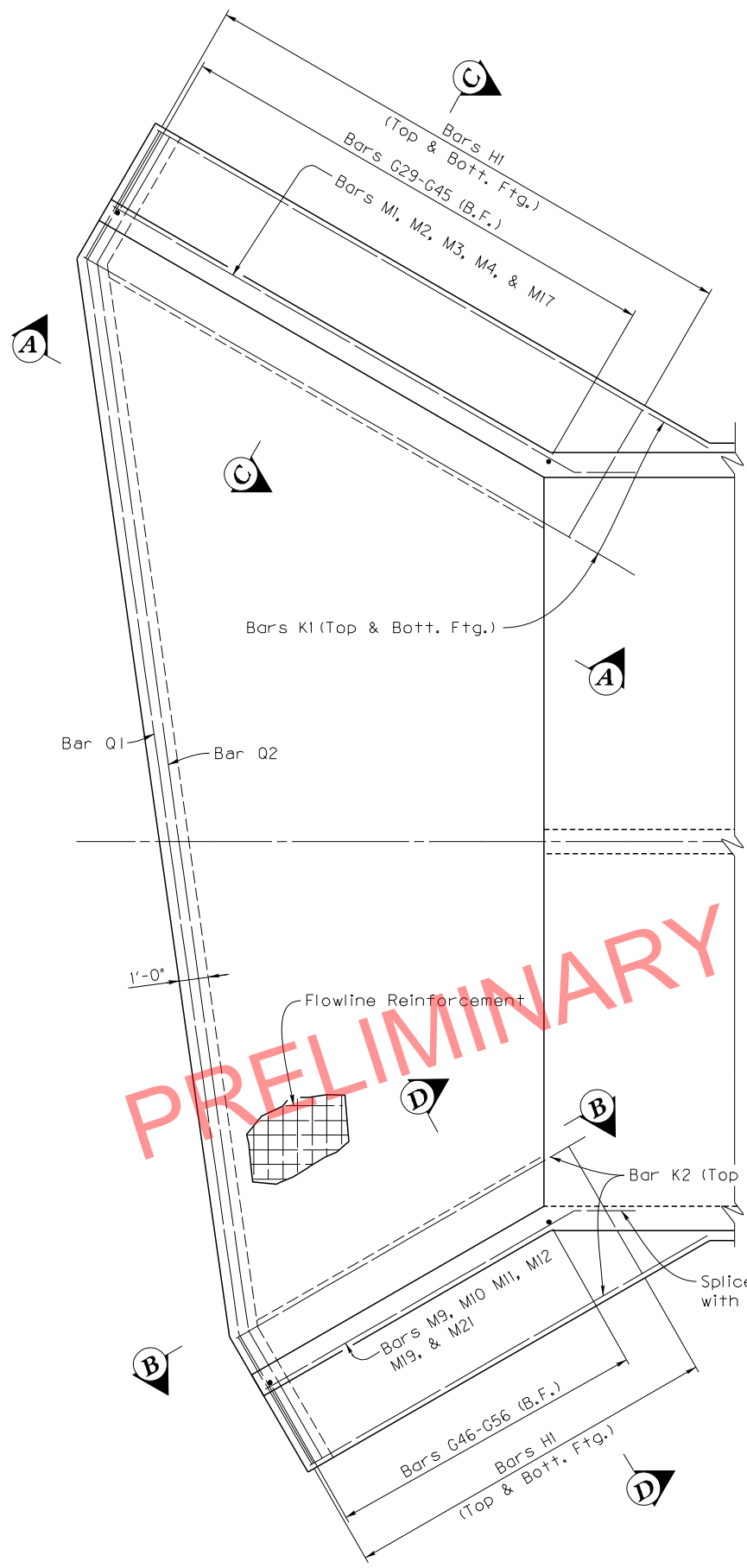
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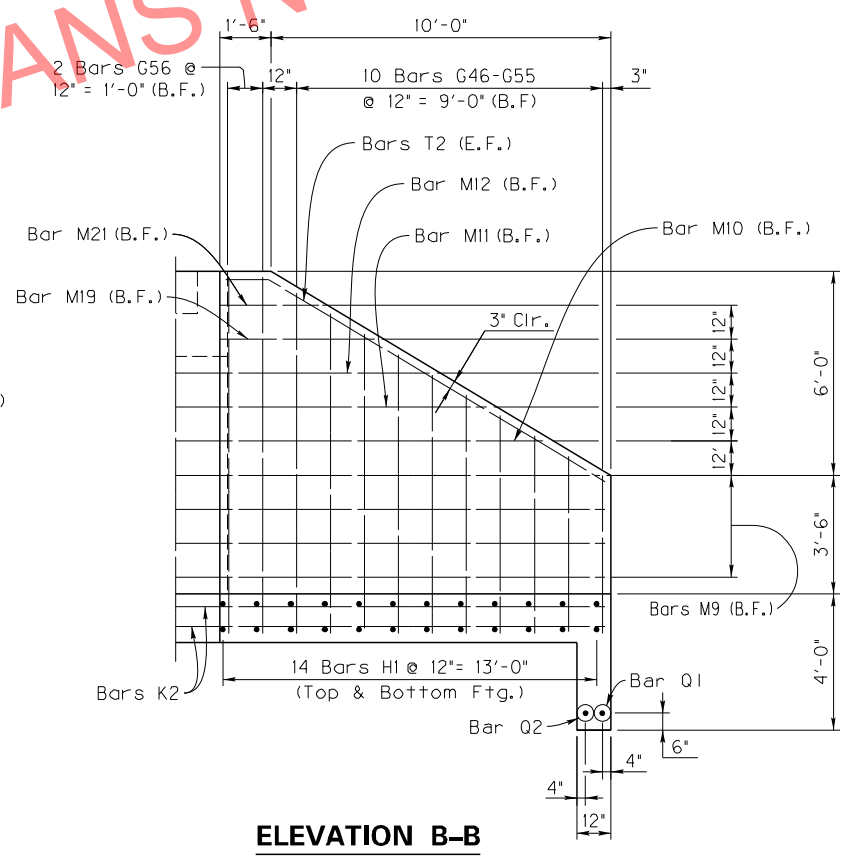
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DATE: June, 2016	DESIGNED BY: B.C. REID	CHECKED BY: W.D. BURTON
	DETAILED BY: D.M. SMITHSON	B.C. REID
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
WOLFE-MORGAN		
ROUTE KY 9009	CROSSING STATE ROAD FORK	
OUTLET BARREL DETAILS		
PREPARED BY LOCHNER H.W. LOCHNER, INC. LEXINGTON, KENTUCKY		SHEET NO. S2 DRAWING NO. 27084

ITEM NUMBER	10-126.70
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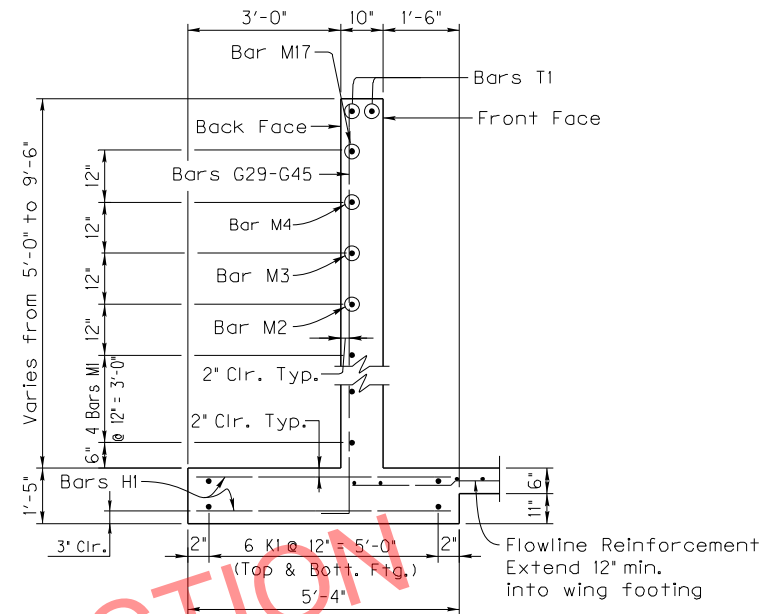
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DATE PLOTTED: June 30, 2016
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ELEVATION A-A

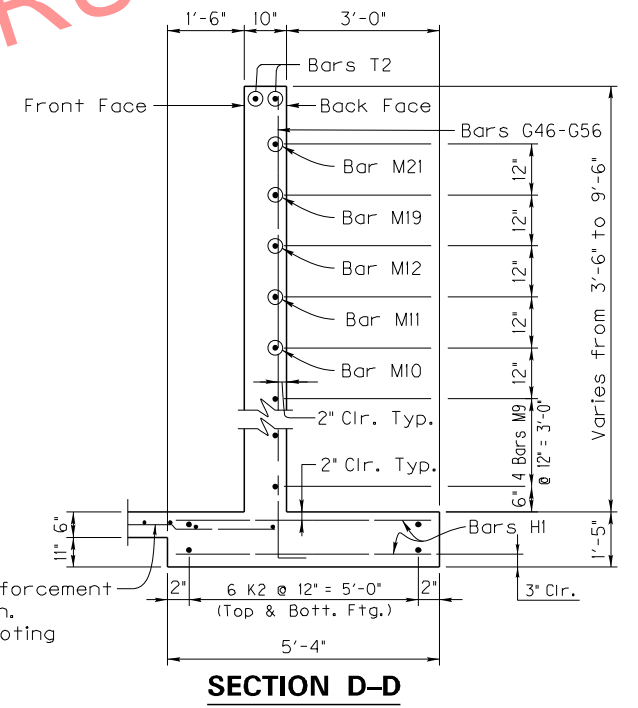


ELEVATION B-B



SECTION C-C

Note:
1. F.F. = Front Face
B.F. = Back Face
E.F. = Each Face



SECTION D-D

REVISION		DATE
DATE: June, 2016		CHECKED BY
DESIGNED BY: B.C. REID		W.D. BURTON
DETAILED BY: D.M. SMITHSON		B.C. REID
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
WOLFE-MORGAN COUNTY		
ROUTE KY 9009	CROSSING STATE ROAD FORK	
OUTLET WING DETAILS		
ITEM NUMBER	PREPARED BY	SHEET NO.
10-126-70	LOCHNER H.W. LOCHNER, INC. LEXINGTON, KENTUCKY	S3 DRAWING NO. 27084

SHEET LOCATION:

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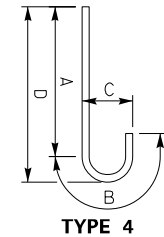
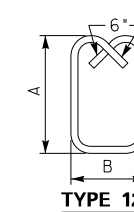
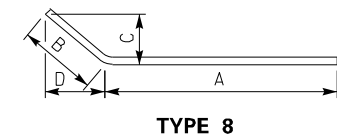
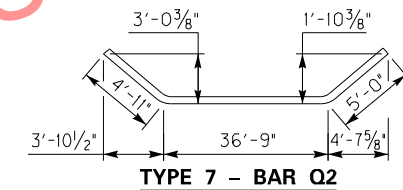
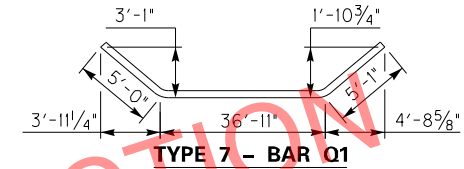
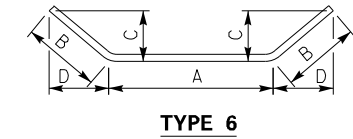
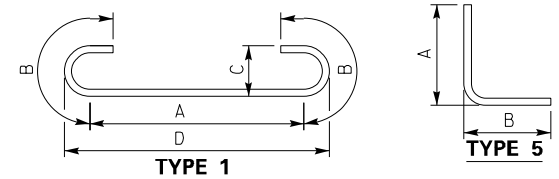
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BILL OF REINFORCEMENT

Table with columns: MARK, TYPE, NO., SIZE, LENGTH (FT., FT.), LOCATION, A (FT., IN.), B (FT., IN.), C (FT., IN.), D (FT., IN.). Rows include Wingwall, Top & Bottom Slab, Parapet, and Apron.



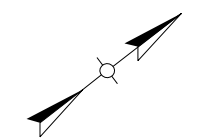
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- 1. Reinforcing Bars designated by suffix (s) shall be considered a stirrup for purposes of bend diameter.

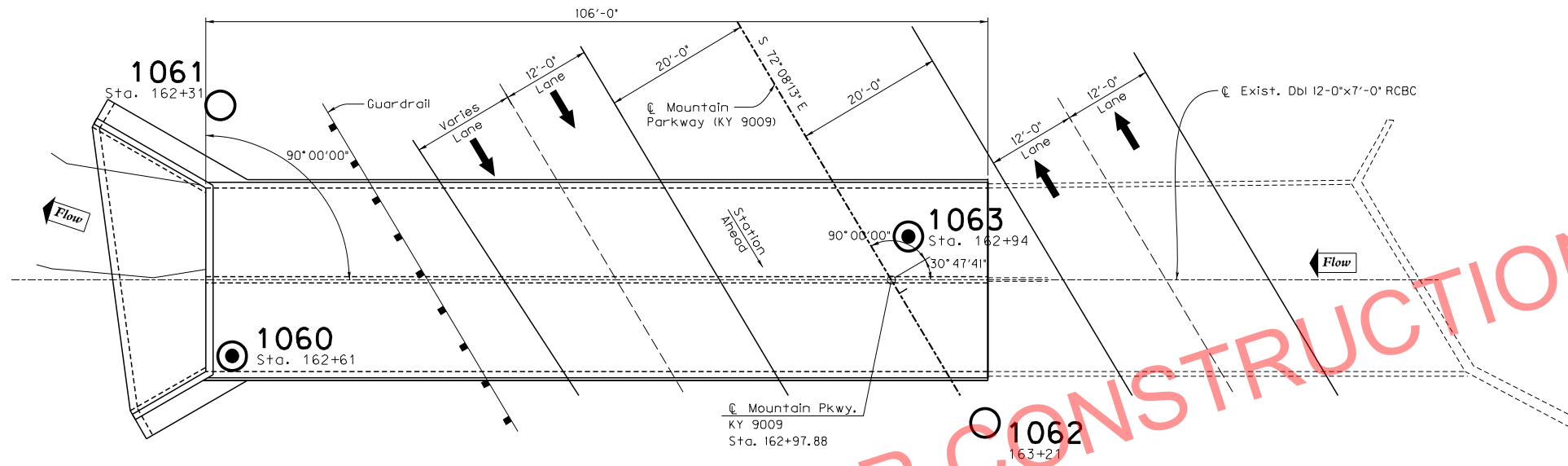
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Table with columns: ITEM NUMBER, 10-126.70

SUBSURFACE DATA



Plan Scale 1" = 20'



● UNDISTURBED BORING ○ SOUNDING

PRELIMINARY PLANS NOT FOR CONSTRUCTION

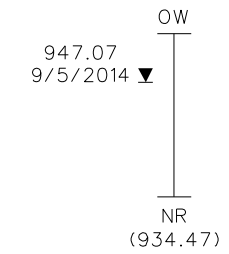
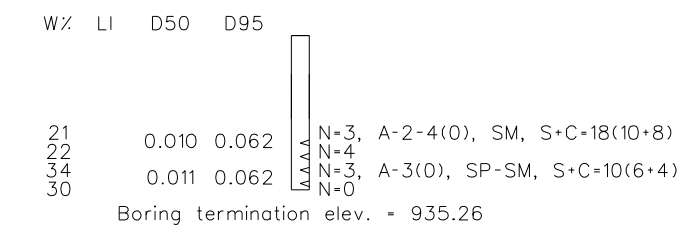
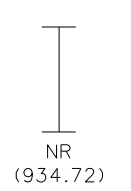
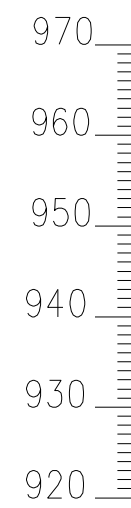
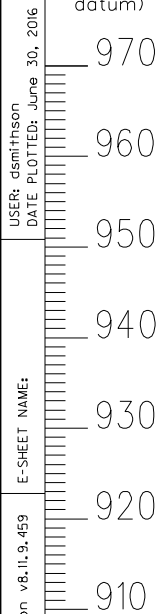
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Offset
Elev.
(NAVD 88
datum)

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946.22

1060
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82.0' Rt.
946.7

1063
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5.0' Lt.
952.26

1062
163+21.00
10.0' Lt.
952.47



MicroStation v8.11.9.459

USER: dsmitthson
DATE PLOTTED: June 30, 2016

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SHEET 1 OF 1

S-022-2014
ITEM NUMBER
10-126.70

REVISION		DATE
DATE: June, 2016	CHECKED BY	
DESIGNED BY:		
DETAILED BY: S. ANDREWS	J. GODFREY	
Commonwealth of Kentucky		
DEPARTMENT OF HIGHWAYS		
COUNTY		
WOLFE-MORGAN		
ROUTE	CROSSING	
KY 9009	State Road Fork	
SUBSURFACE DATA		
PREPARED BY		SHEET NO.
K.S. WARE & ASSOCIATES, LLC		S5
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