



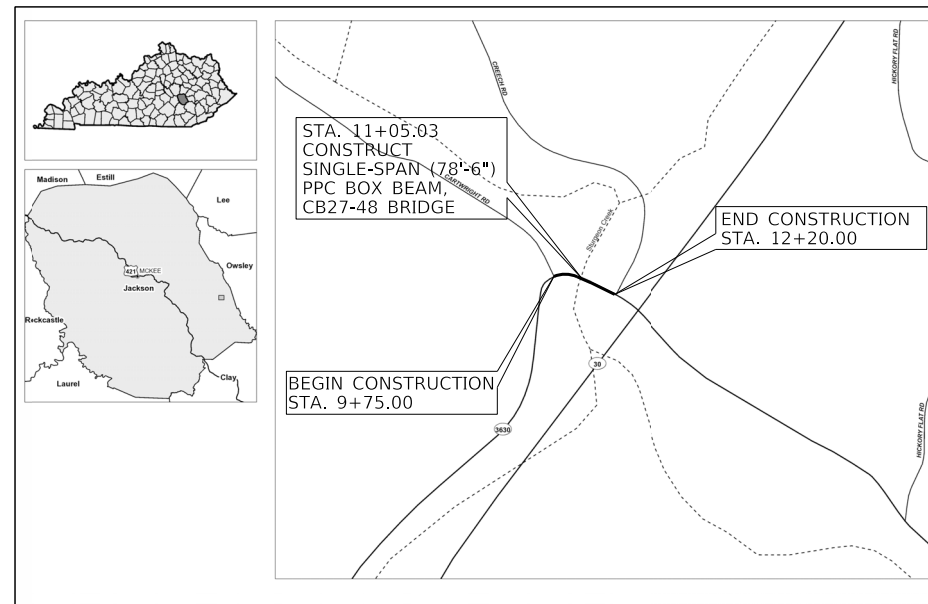
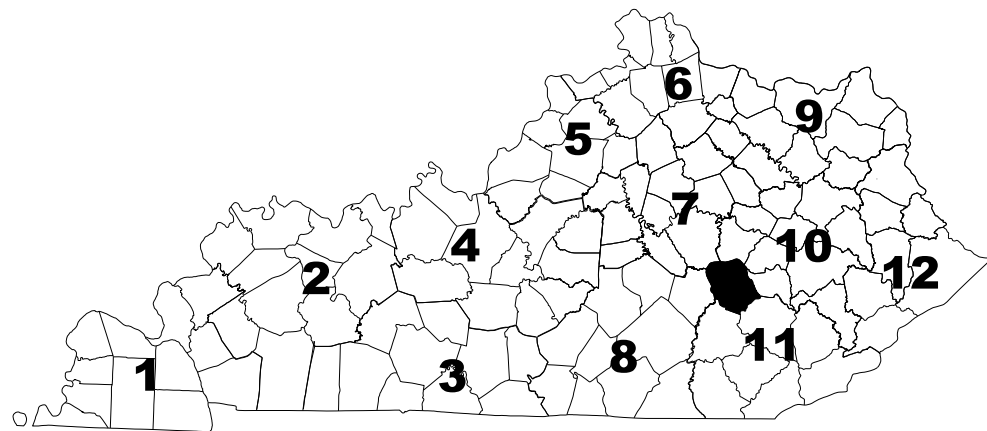
# COMMONWEALTH OF KENTUCKY

## DEPARTMENT OF HIGHWAYS

### PLANS OF PROPOSED PROJECT

### Jackson County

### KY-3630 OVER STURGEON CREEK



## LAYOUT MAP

### DESIGN CRITERIA

CLASS OF HIGHWAY Major Collector (Rural)  
TYPE OF TERRAIN Rolling  
DESIGN SPEED N/A  
REQUIRED NPSD N/A  
REQUIRED PSD N/A  
LEVEL OF SERVICE N/A  
ADT PRESENT ( 2023 ) 188  
ADT FUTURE ( N/A ) N/A  
DHV N/A  
D % N/A  
T % 5.84%

### GEOGRAPHIC COORDINATES

LATITUDE 37 DEGREES 23 MINUTES 50 SECONDS NORTH  
LONGITUDE 83 DEGREES 50 MINUTES 44 SECONDS WEST

### DESIGNED

% RESTRICTED SD N/A  
LEVEL OF SERVICE N/A  
MAX. DISTANCE W/O PASSING N/A

### INDEX OF SHEETS

R01 LAYOUT SHEET  
R02 TYPICAL SECTION, GENERAL SUMMARY  
AND COORDINATE CONTROL SHEET  
R02A LEGEND SHEET  
R03 PLAN AND PROFILE SHEET  
R04 MAINTENANCE OF TRAFFIC NOTES AND DETOUR PLAN  
X1-X6 CROSS SECTIONS  
S1-S16 STRUCTURE PLANS  
(SEE S1 FOR INDEX OF SHEETS FOR BRIDGE)

### STANDARD DRAWINGS

RBI-001-12 RDI-040-01 TPM-175  
RBI-002-07 RDX-210-03 TTC-100-05  
RBR-001-13 RDX-225-01 TTS-105-02  
RBR-005-11 RGX-001-06  
RBR-010-06 RGX-005-06  
RBR-015-06 RGX-100-07  
RBR-055-01 RGX-105-09

SEPIAS:  
001 RAILING SYSTEM TYPE II GUARDRAIL TREATMENT  
029 EDGELINE RUMBLE STRIPS TWO LANE ROADWAYS  
029N EDGELINE RUMBLE STRIPS TWO LANE ROADWAYS  
NOTES

### BEFORE YOU DIG

The contractor is instructed to call 1-800-752-6007 to reach KY 811, the one-call system for information on the location of existing underground utilities. The call is to be placed a minimum of two (2) and no more than ten (10) business days prior to excavation. The contractor should be aware that owners of underground facilities are not required to be members of the KY 811 one-call Before-a-Dig (BID) service. The contractor must coordinate excavation with the utility owners, including those whom do not subscribe to KY 811. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area.

THE CONTROL OF ACCESS ON THIS PROJECT SHALL BE BY PERMIT

THIS PROJECT IS OFF THE NH SYSTEM

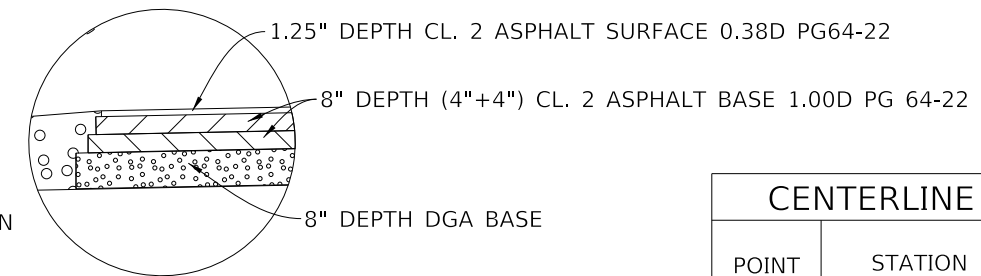
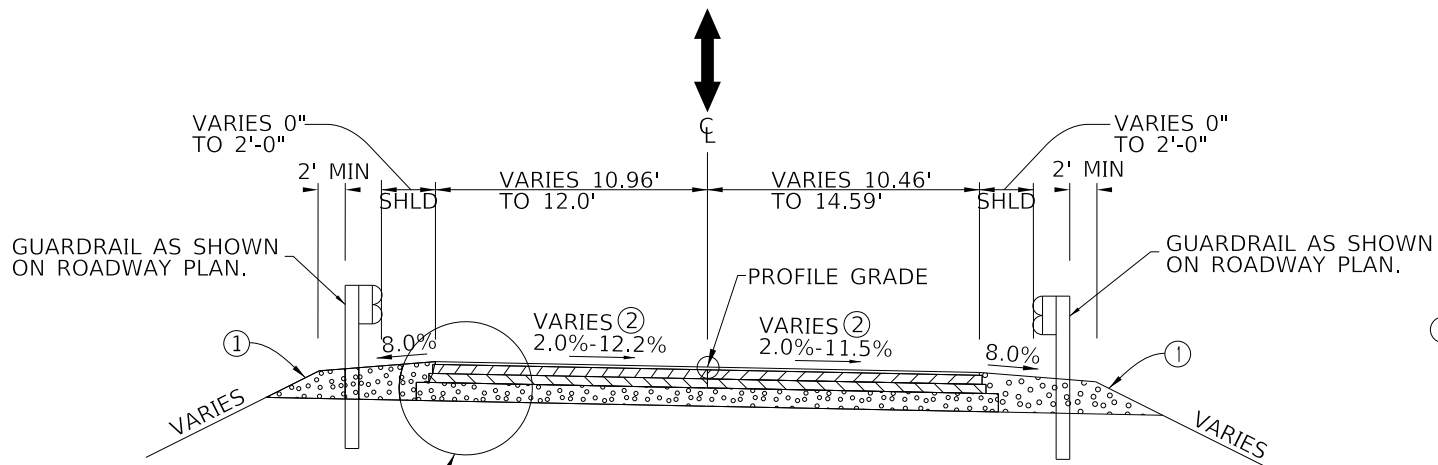
LENGTH <u>245</u> LIN. FT. <u>0.046</u> MILES ADDED <input type="checkbox"/> FOR EQUALITIES <u>0</u> LIN. FT. DEDUCTED <input type="checkbox"/> NOT INCLUDED	LENGTH <input type="checkbox"/> LIN. FT. <input type="checkbox"/> MILES ADDED <input type="checkbox"/> FOR EQUALITIES <input type="checkbox"/> LIN. FT. DEDUCTED <input type="checkbox"/> NOT INCLUDED	LENGTH <input type="checkbox"/> LIN. FT. <input type="checkbox"/> MILES ADDED <input type="checkbox"/> FOR EQUALITIES <input type="checkbox"/> LIN. FT. DEDUCTED <input type="checkbox"/> NOT INCLUDED	LENGTH <input type="checkbox"/> LIN. FT. <input type="checkbox"/> MILES ADDED <input type="checkbox"/> FOR EQUALITIES <input type="checkbox"/> LIN. FT. DEDUCTED <input type="checkbox"/> NOT INCLUDED
RAILROAD CROSSINGS NO. <u>0</u> LIN. FT. BRIDGES <u>78.5</u> LIN. FT.	RAILROAD CROSSINGS NO. <input type="checkbox"/> LIN. FT. BRIDGES <input type="checkbox"/> LIN. FT.	RAILROAD CROSSINGS NO. <input type="checkbox"/> LIN. FT. BRIDGES <input type="checkbox"/> LIN. FT.	RAILROAD CROSSINGS NO. <input type="checkbox"/> LIN. FT. BRIDGES <input type="checkbox"/> LIN. FT.

PROJECT NUMBER: FE02 1100 055 625B00034N  
(BRIDGE ID 055B00034N)  
PROJECT DESCRIPTION: KY-3630 BRIDGE REPLACEMENT OVER STURGEON CREEK

RECOMMENDED BY: CARL VAN ZEE PROJECT MANAGER DATE: \_\_\_\_\_  
PLAN APPROVED BY: \_\_\_\_\_ STATE HIGHWAY ENGINEER DATE: \_\_\_\_\_



LETTING DATE: 2/20/2025  
ITEM NO. N/A COUNTY OF JACKSON  
SHEET NO. R01



CENTERLINE COORDINATE DATA			
POINT	STATION	STATE PLANE SINGLE ZONE COORDINATES	
		NORTH (Y)	EAST (X)
P.O.B.	8+91.41	3673821.013	5474217.259
P.C.	9+09.65	3673837.368	5474225.333
P.I.	9+59.43	3673882.004	5474247.369
P.T.	9+99.33	3673883.584	5474297.123
P.C.	10+01.18	3673883.643	5474298.973
P.I.	10+39.10	3673884.847	5474336.871
P.T.	10+75.79	3673869.832	5474371.688
P.I.	11+60.17	3673836.420	5474449.167
P.O.E.	12+63.83	3673790.904	5474542.299

SEE DETAIL "A"

NORMAL SECTION

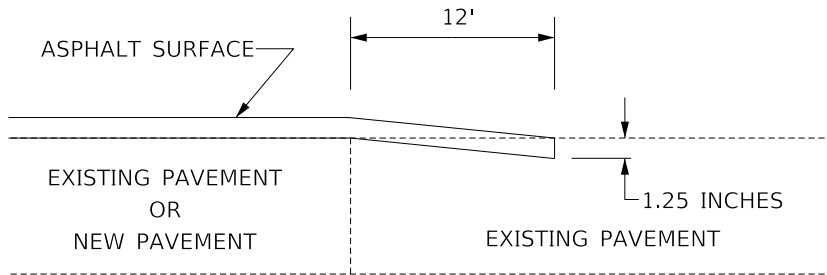
TRAFFIC LANE PAVEMENT	
ASPHALT SURFACE	1.25" DEPTH CL. 2 ASPHALT SURFACE 0.38D PG64-22
ASPHALT BASE	8" DEPTH (4"+4") CL. 2 ASPHALT BASE 1.00D PG 64-22
DGA BASE	8" DEPTH (4"+4")
SHOULDERS	
DGA BASE AND/OR GRANULAR EMBANKMENT	FULL DEPTH

SEE BRIDGE LAYOUT SHEET FOR BRIDGE TYPICAL SECTION

BRIDGE SECTION

NOTES:

1 APPROACH PAVEMENT WILL BE PLACED IN ACCORDANCE WITH THE SPECIAL NOTE FOR PLACING BRIDGE OVERLAY APPROACH PAVEMENT. DGA OR OTHER GRANULAR MATERIAL APPROVED BY THE ENGINEER NEEDED FOR SHOULDERS OUTSIDE OF PAVED AREAS WILL BE MEASURED AS GRANULAR EMBANKMENT. FULL-DEPTH PAVEMENT IS ONLY REQUIRED FOR EXCAVATED AREAS FOR CONSTRUCTION AND WIDENED AREAS. THE REMAINDER OF PAVEMENT AREAS SHALL BE WITH LEVELING AND WEDGING AND SURFACING ONLY.  
THE ESTIMATED PAVEMENT QUANTITIES ARE SHOWN BELOW:  
ASPHALT SURFACE: 31 TONS  
ASPHALT BASE: 34 TONS  
LEVELING AND WEDGING: 63 TONS  
DGA BASE: 60 TONS



EDGE KEY DETAIL

KY-3630  
JACKSON COUNTY  
EXISTING BRIDGE ID #055B00034N

COORDINATE SYSTEM  
COORDINATES FOR HORIZONTAL CONTROL WERE OBTAINED FROM GPS METHODS AND ADJUSTED TO CONTROL OBTAINED FROM KYTC IN RECORD DRAWING 10-279.61\_11-278.30 ROADWAY.

BASIS OF ELEVATIONS  
ELEVATIONS WERE DERIVED FROM GPS METHODS AND ARE ADJUSTED TO THE NAV88 VERTICAL DATUM. GEOID MODEL USED WAS GEOID 12A.

ITEM	DESCRIPTION	UNIT	TOTAL
00020	TRAFFIC BOUND BASE	TON	14
01987	DELINEATOR FOR GUARDRAILL B/W	EACH	6
02200	ROADWAY EXCAVATION	CUYD	60
02223	GRANULAR EMBANKMENT	CUYD	103
02351	GUARDRAIL-STEEL W BEAM-S FACE	LF	162.5
02355	GUARDRAIL-STEEL W BEAM-S FACE A	LF	100
02360	GUARDRAIL TERMINAL SECTION NO 1	EACH	2
02562	TEMPORARY SIGNS (A)	SQFT	180
02569	DEMOBILIZATION	LS	1
02585	EDGE KEY	LF	77
02650	MAINTAIN AND CONTROL TRAFFIC (B)	LS	1
02726	STAKING	LS	1
08301	REMOVE SUPERSTRUCTURE	LS	1
06515	PAVE STRIPING-PERM PAINT-6 IN	LF	980
03304	BRIDGE OVERLAY APPROACH PAVEMENT (1)	SQYD	455
20550ND	SAWCUT PAVEMENT	LF	267
21415ND	EROSION CONTROL (C)	LS	1

GENERAL SUMMARY NOTES:

- (A) THIS ITEM INCLUDES ALL TEMPORARY SIGNS USED FOR ROAD CLOSURE AND DETOUR ROUTE.  
(B) ALL TEMPORARY TRAFFIC CONTROL DEVICES EXCEPT TEMPORARY SIGNAGE ARE CONSIDERED INCIDENTAL TO THIS BID ITEM.  
(C) SEE SPECIAL NOTE. INCLUDES ALL CLEARING, TEMPORARY EROSION CONTROL BMPS AND PERMANENT SEEDING.

COORDINATE CONTROL POINTS						
POINT	DESCRIPTION	STATE PLANE SINGLE ZONE COORDINATES			STATION	OFFSET
		NORTH (Y)	EAST (X)	ELEV. (Z)		
HMB4	1/2" REBAR & CAP	3673867.8930	5474251.1352	966.78	9+50.02	43.26' LT.
CDI1	5/8" REBAR & CAP	3673814.7222	5474493.5639	963.11	12+09.58	14.14' RT.
CDI2	5/8" REBAR & CAP	3673648.0660	5474666.1280	979.68	N/A	N/A



COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF HIGHWAYS



TYPICAL SECTION, GENERAL SUMMARY AND COORDINATE CONTROL SHEET

ITEM NO. N/A COUNTY OF JACKSON  
SHEET NO. R2

Corporate Limits			Main Water Marker		Crash Cushion TY 9		Point (Misc)		Telephone Pedestal	
County Line			Main Water Greater Than 12 Marker		Cross Notch		Pole		Telephone Pole	
Easement			Sewer Sanitary Marker		Curb Box Inlet		Pole (Light)		Temporary Benchmark	
Fence COA			Sewer Sanitary Force Main Marker		Curb Notch		Post		Traffic Light	
Mineral Parcel			Sewer Storm Marker		Combination Pole		Power Pole		Traffic Signal Control Box	
Property Line			Multi Utility Bank Marker		Delineator Post		Quarry		Traffic Signal Junction Box	
Right of Way Line			Oil Line Marker		Drop Box		Random (Ground Shot)		Traffic Signal Pole	
All Overhead Utility Lines			Steam Line Marker		Existing Spring		Railroad Mile Marker		Traverse Point	
Cable Underground Electric With Quality Levels			Cable Guardrail		Electric Manhole		Railroad Spike		Tree	
Duct Underground Electric With Quality Levels			Edge of Water		Electric Pedestal		Right of Way Marker		TV Junction Box	
Cable Underground Fiber With Quality Levels			Fence Hedge		Electric Pole		RR Traffic Signal Pole		Utility Pole	
Cable Underground Telephone With Quality Levels			Fence		Fire Hydrant		RW Parcel		Underground Storage Tank	
Duct Underground Telephone With Quality Levels			Flow Line/Thalweg/Int. Stream or Ditch		Flag Pole		Sanitary Cleanout		Utility Test Hole	
Cable Underground TV With Quality Levels			Guardrail		Force Main Sewer Valve		Sanitary Manhole		Water Line Marker	
Main Gas With Quality Levels			Railroad		Fuel Tank Inlet		Satellite Dish		Water Meter	
Main Water With Quality Levels			Shrub Line		Fuel Tank Vent		Septic Tank Cleanout		Water Spigot	
Main Water Greater Than 12 With Quality Levels			Sink Hole		Gas Meter		Service Pole		Water Valve	
Sewer Sanitary With Quality Levels			Tree Line		Gas Monitoring Well		Sewer Air Release Valve		Water Well	
Sewer Sanitary Force Main With Quality Levels			Wall (WSM or DSM)		Gas Valve		Shrub		Yard Light	
Sewer Storm With Quality Levels			Blue Line Stream		Gas Vent		Sign		Yard Sprinkler	
Multi Utility Bank Quality Levels			Lakes and Ponds		Gas Well		Sign Post (Single)		Yard Sprinkler Water Valve	
Oil Line Quality Levels			Regulated Floodway		Guidewires & Anchors		Sign with 2 posts			
Steam Line Quality Levels			RDZ Line		Headstone		Sign group (4)			
Cable Underground Electric Marker			ADA Ramp		Interstate Shield		Station Stamp			
Duct Underground Electric Marker			Anchor Pole		Iron Pin		Storm Manhole			
Cable Underground Fiber Marker			Benchmark		Light Pole		Stub Power			
Cable Underground Telephone Marker			Bike Lane Symbol		Low Wire		Stub Telephone			
Duct Underground Telephone Marker			Bollard		Mag Nail		Survey Cross Notch			
Cable Underground TV Marker			Centerline		Mailbox		Survey Curb Notch			
Main Gas Marker			Centerline Stationing		Manhole		Survey Nail			
			Control Monument		Mile Marker Post		Survey Spike			
			Control Point		Mineral Parcel		Survey Stone Marker			
			Core Hole		Misc Location Point		Swamp			
			Crash Cushion TY 6 D		Monitoring Well		Telephone Booth			
			Crash Cushion TY 6 A		Parking Meter		Telephone Junction Box			
			Crash Cushion TY 9A		Pedestrian Signal		Telephone Line Overhead			
					Pins/Pipes		Telephone Manhole			
					PK Nail					

Utility Owners

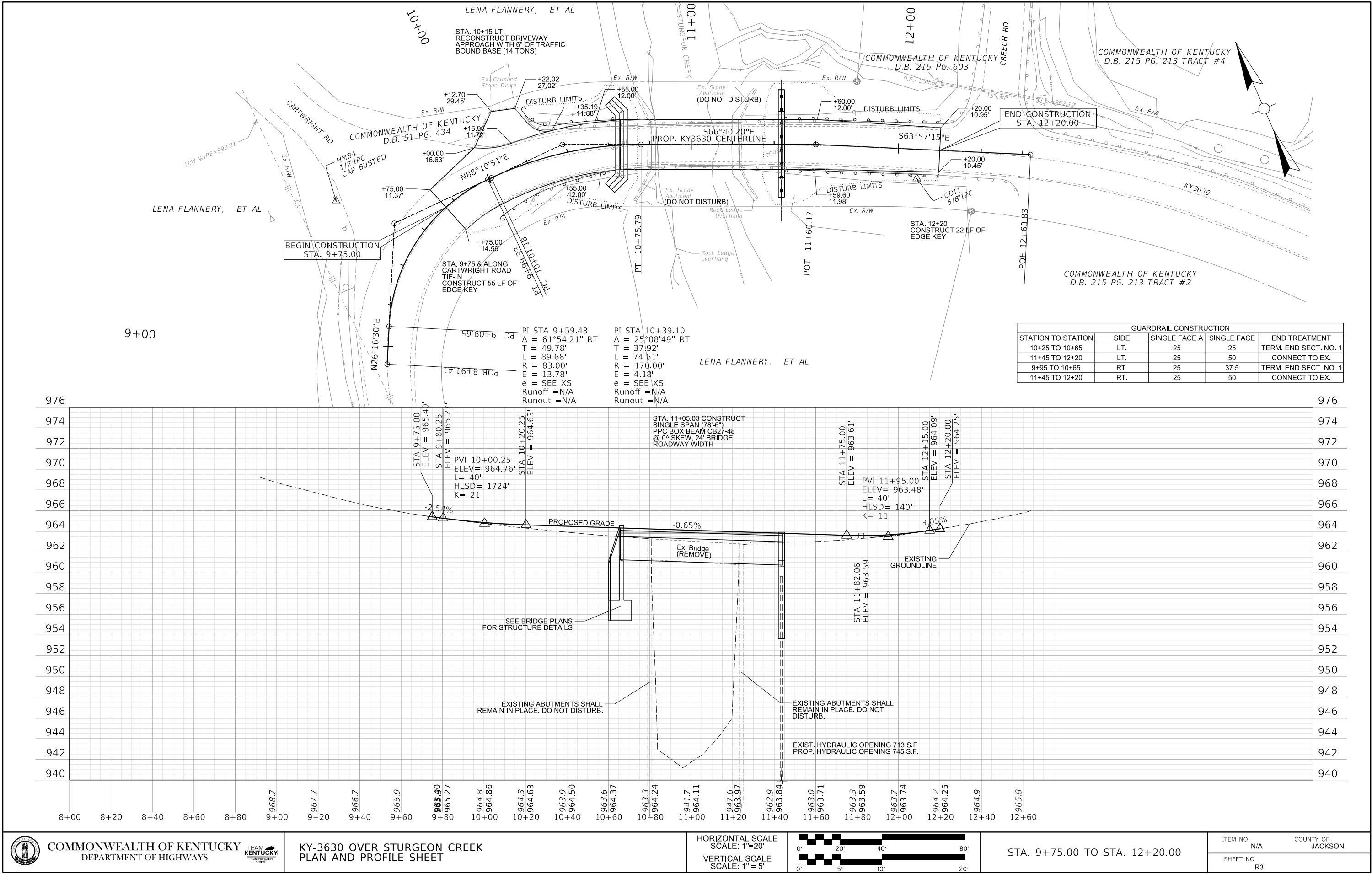
None



COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF HIGHWAYS



DRAWING TITLE: LEGEND SHEET





MAINTENANCE OF TRAFFIC NOTES:

- 1. CONTRACTOR SHALL INVENTORY, REMOVE AND REPLACE EXISTING SIGNS, WITH NEW SIGNS IMPACTED BY THE PROPOSED CONSTRUCTION. OFFSITE SIGNS CONFLICTING WITH THE PROPOSED IMPROVEMENTS SHALL BE REMOVED AND REPLACED AT THE DIRECTION OF KYTC.
- 2. CONTRACTOR SHALL COORDINATE WITH LOCAL RESIDENTS AND OFFICIALS PRIOR TO CONSTRUCTION AND ANY TEMPORARY CLOSURES.
- 3. INGRESS AND EGRESS SHALL BE MAINTAINED TO ALL DWELLINGS AFFECTED BY THE PROJECT.
- 4. CLOSURE SIGNS, DETOUR SIGNS AND BI-DIRECTIONAL LANE CLOSURE SIGNS SHOULD BE PLACED NO SOONER THAN TWO WEEKS PRIOR TO THE CLOSING OF THE BRIDGE (WHEN APPLICABLE) OR PLACING LANE CLOSURES.
- 5. TRAFFIC CONTROL SIGNS AND DEVICES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE 2019 KYTC STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND THE KYTC STANDARD DRAWINGS.
- 6. CONTRARY TO SECTION 106.01, TRAFFIC CONTROL DEVICES USED ON THIS PROJECT MAY BE NEW OR USED IN NEW CONDITION, AT THE BEGINNING OF THE WORK AND MAINTAINED IN LIKE NEW CONDITION UNTIL COMPLETION OF WORK.
- 7. TRAFFIC CONTROL DEVICES SHALL BE PLACED AND MAINTAINED IN THE WORK ZONE IN A MANNER THAT ENSURES THERE IS NO RESTRICTION TO THE VISIBILITY OF APPROACHING TRAFFIC.
- 8. SIGNS NOT APPLICABLE TO CURRENT PHASE OF CONSTRUCTION SHALL BE REMOVED OR COVERED IF LEFT IN PLACE.
- 9. TEMPORARY CLOSURES AND FLAGGERS SHALL BE UTILIZED AS NECESSARY.
- 10. EXISTING KY-3630 BRIDGE AND ROAD SHALL BE CLOSED AND TRAFFIC DIVERTED AND MAINTAINED ON THE TEMPORARY DETOUR DURING CONSTRUCTION OF THE PROPOSED BRIDGE AND ROADWAY.
- 11. BARRICADES SHALL BE TYPE III BARRICADES IN CONFORMANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). SECTION 6F.68 ADDRESSES TEMPORARY BARRICADES. MINIMUM LENGTH OF TYPE III BARRICADE WILL BE 48". UTILIZE ENOUGH DEVICES OF SUFFICIENT LENGTH TO ADEQUATELY BLOCK ROAD USERS FROM EDGE OF ROAD TO EDGE OF ROAD OR CURB TO CURB. IF PROVISIONS HAVE BEEN MADE FOR ACCESS OF AUTHORIZED EQUIPMENT AND VEHICLES THE DBT PROJECT TRAFFIC COORDINATOR, OR DESIGNATED REPRESENTATIVE, SHALL ENSURE THAT PROPER CLOSURE OF THE ROADWAY IS OBTAINED AT THE END OF EACH WORKDAY.

MAINTENANCE OF TRAFFIC PHASING NOTES:

PHASE 1:

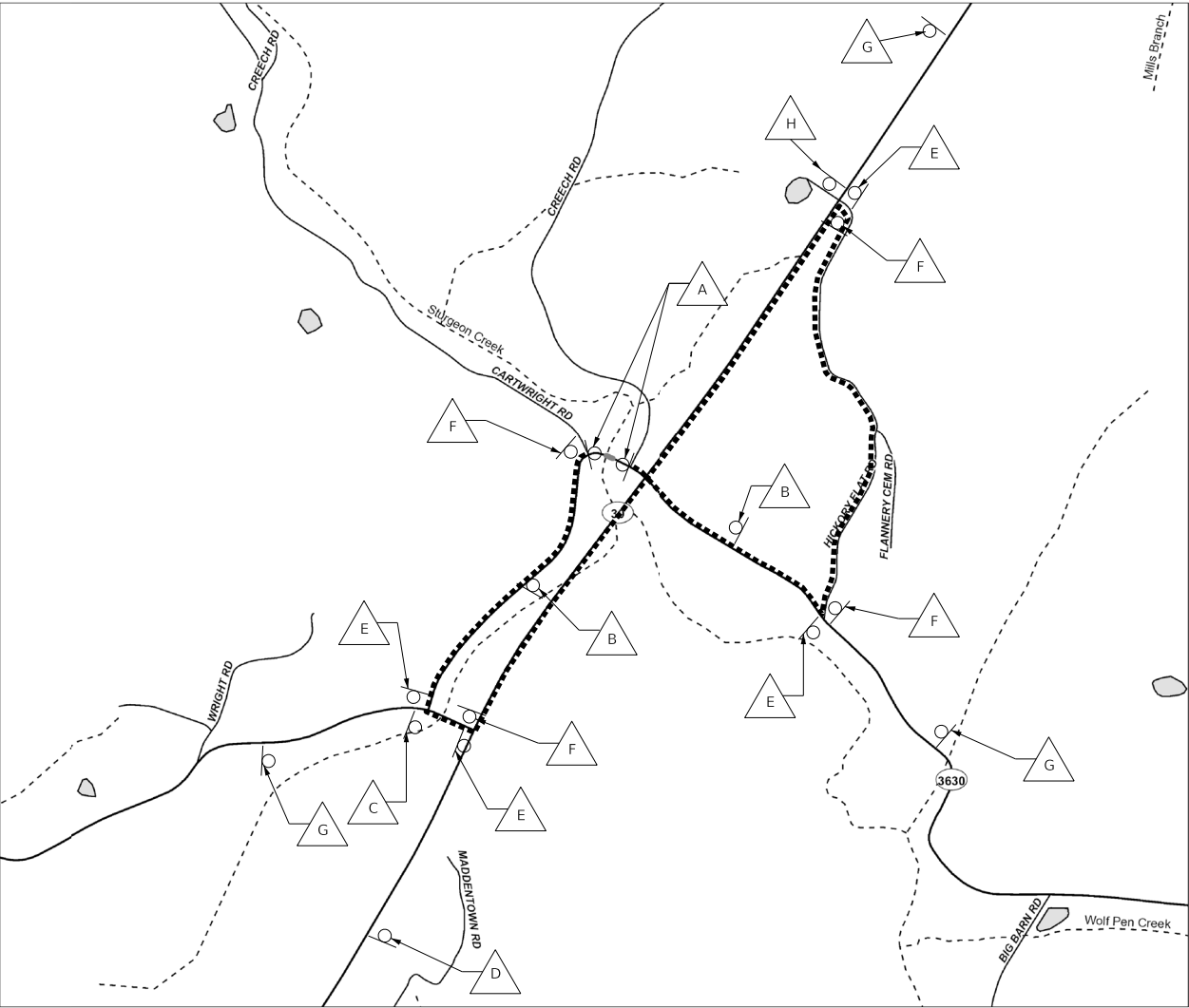
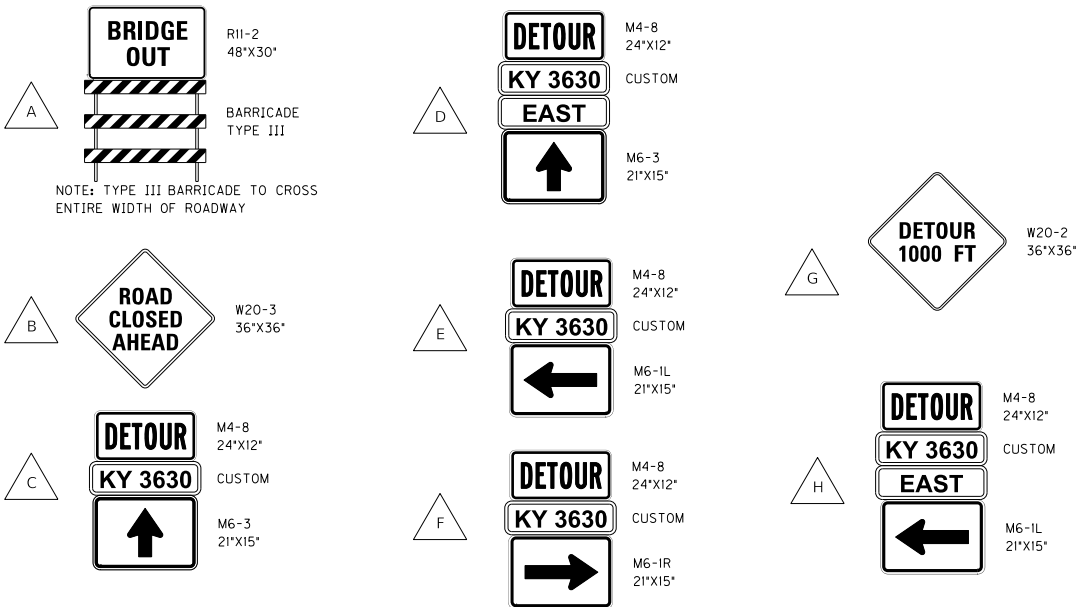
- 1. INSTALL AND MAINTAIN TRAFFIC CONTROL SIGNS AND DEVICES IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES TYPICAL APPLICATION 8, FIGURE 6H-8.
- 2. INSTALL TEMPORARY DETOUR SIGNING AND DEVICES PER THE MOT DETOUR PLAN.
- 3. TYPE III BARRICADES WITH SIGN R11-2 ATTACHED SHALL BE OF SUFFICIENT LENGTH TO CLOSE THE ENTIRE ROADWAY.
- 4. CLOSE THE EXISTING KY-3630 BRIDGE AND ROADWAY AND DIVERT TRAFFIC TO THE TEMPORARY DETOUR AS PER THE MOT DETOUR PLAN. MODIFICATIONS TO THE DETOUR ARE TO BE APPROVED BY THE ENGINEER.

PHASE 2:

- 1. REMOVE THE EXISTING KY-3630 BRIDGE AND ROADWAY.
- 2. CONSTRUCT THE PROPOSED KY-3630 BRIDGE AND ROADWAY.
- 3. INSTALL PERMANENT SIGNS ALONG NEW ROADWAY AND REQUIRED PAVEMENT MARKINGS.

PHASE 3:

- 1. REMOVE ALL TEMPORARY MAINTENANCE OF TRAFFIC DEVICES AND SIGNS AND TEMPORARY DETOUR SIGNS.
- 2. ROUTE TRAFFIC TO THE PROPOSED KY-3630 BRIDGE AND ROADWAY.



DETOUR PLAN  
(NTS)

DETOUR ROUTE

DETOUR LENGTH = 2.0 MILES

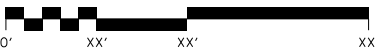


COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF HIGHWAYS

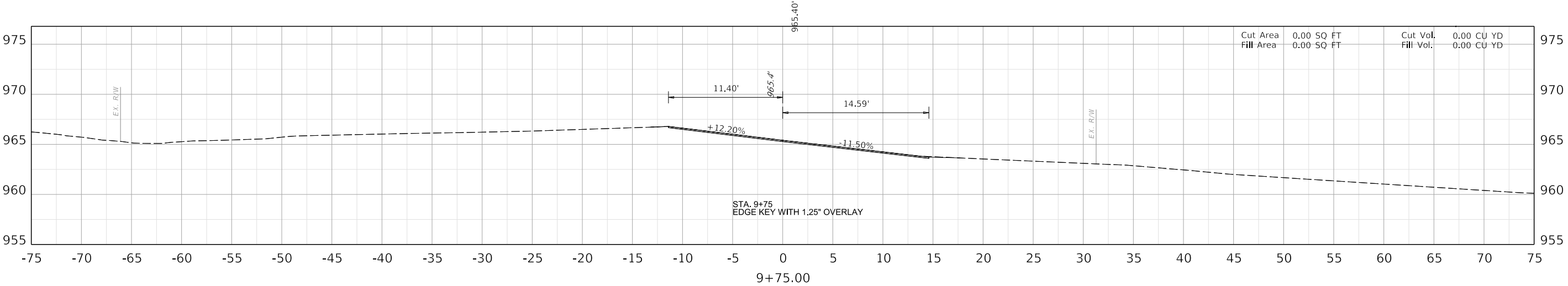
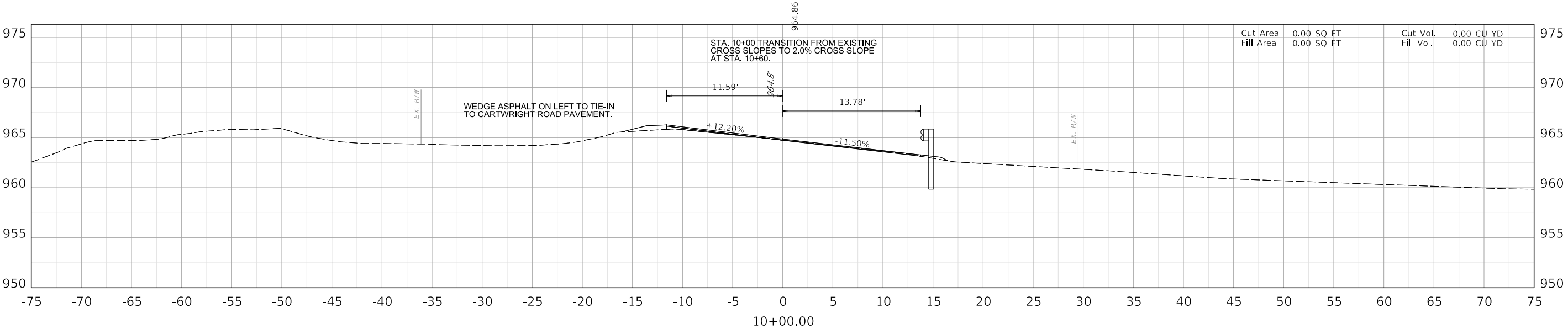


KY-3630 OVER STURGEON CREEK  
MAINTENANCE OF TRAFFIC NOTES AND DETOUR PLAN

HORIZONTAL SCALE  
SCALE: NTS



ITEM NO. N/A  
COUNTY OF JACKSON  
SHEET NO. R04

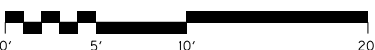


COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF HIGHWAYS



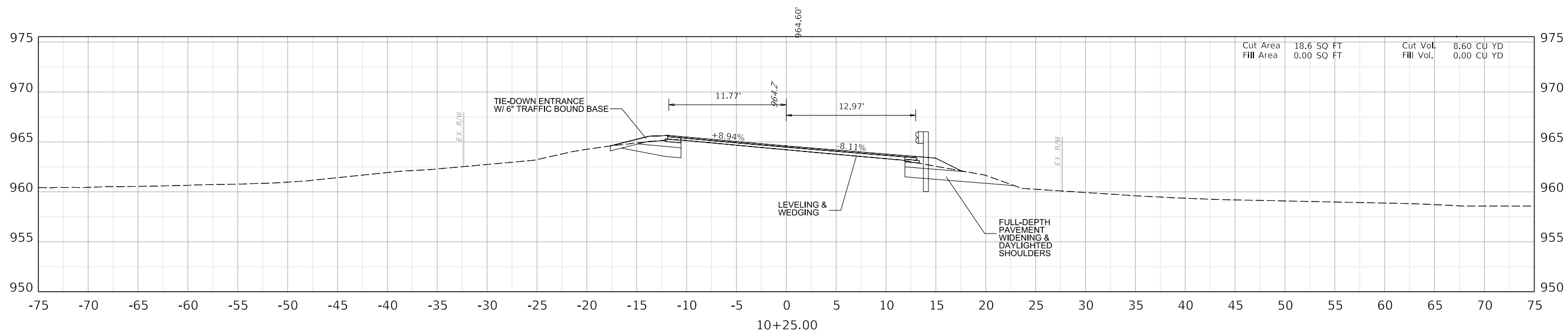
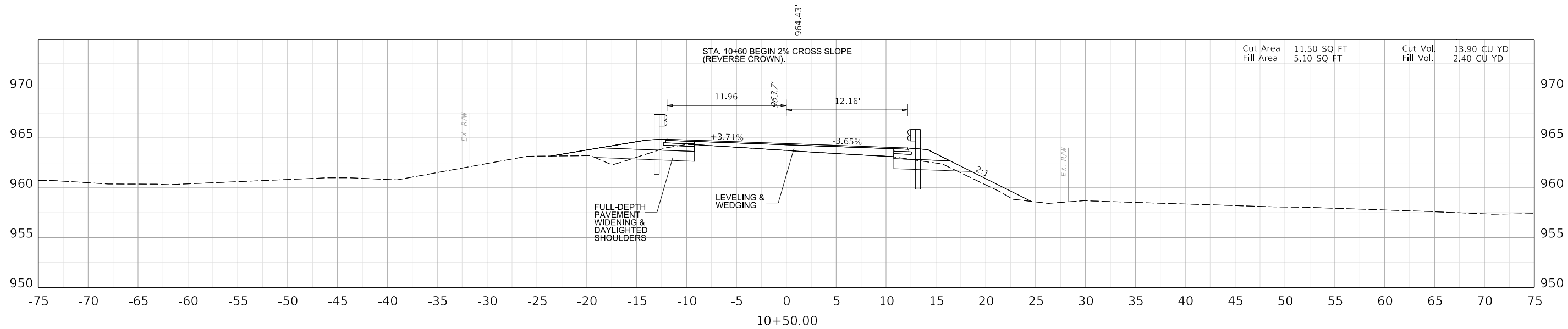
KY-3630 OVER STURGEON CREEK  
CROSS SECTIONS SHEET 1 OF 6

HORIZONTAL SCALE  
SCALE: 1" = 5'



STA. 9+75.00 TO STA. 10+00.00

ITEM NO.	N/A	COUNTY OF	JACKSON
SHEET NO.	X1		

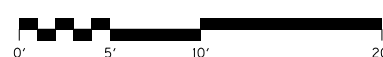


COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF HIGHWAYS



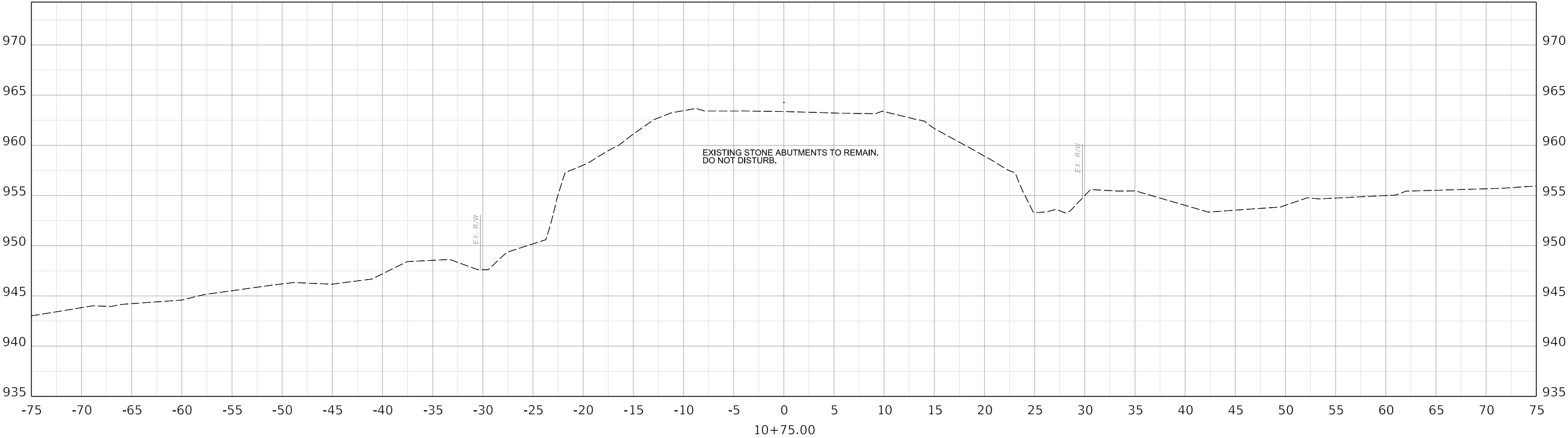
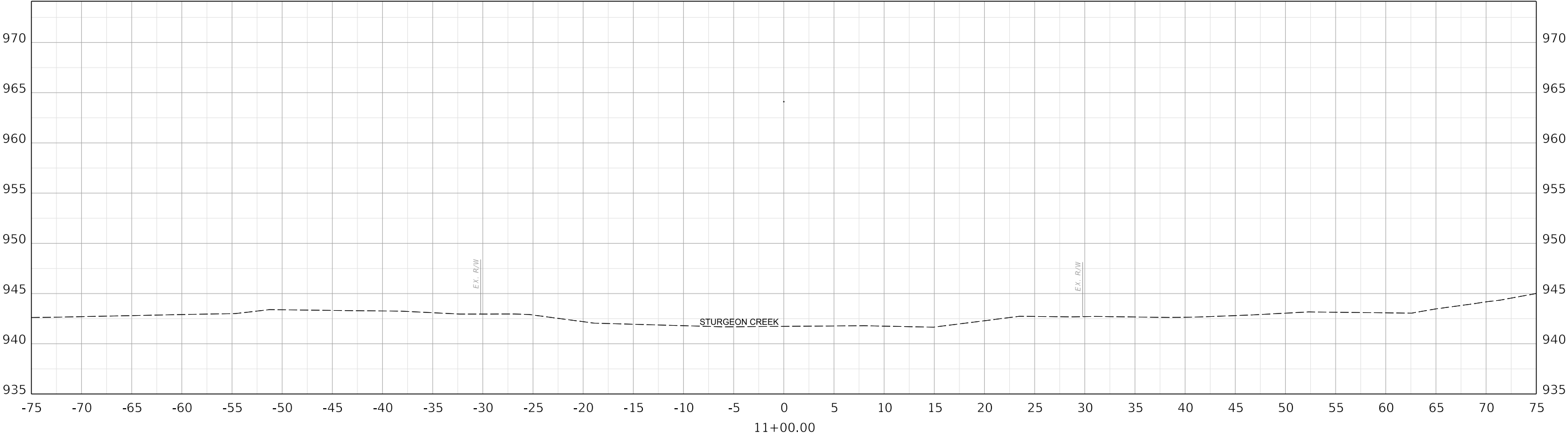
KY-3630 OVER STURGEON CREEK  
CROSS SECTIONS SHEET 2 OF 6

HORIZONTAL SCALE  
SCALE: 1" = 5'



STA. 10+25.00 TO STA. 10+50.00

ITEM NO.	N/A	COUNTY OF	JACKSON
SHEET NO.	X2		

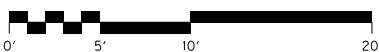


COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF HIGHWAYS



KY-3630 OVER STURGEON CREEK  
CROSS SECTIONS SHEET 3 OF 6

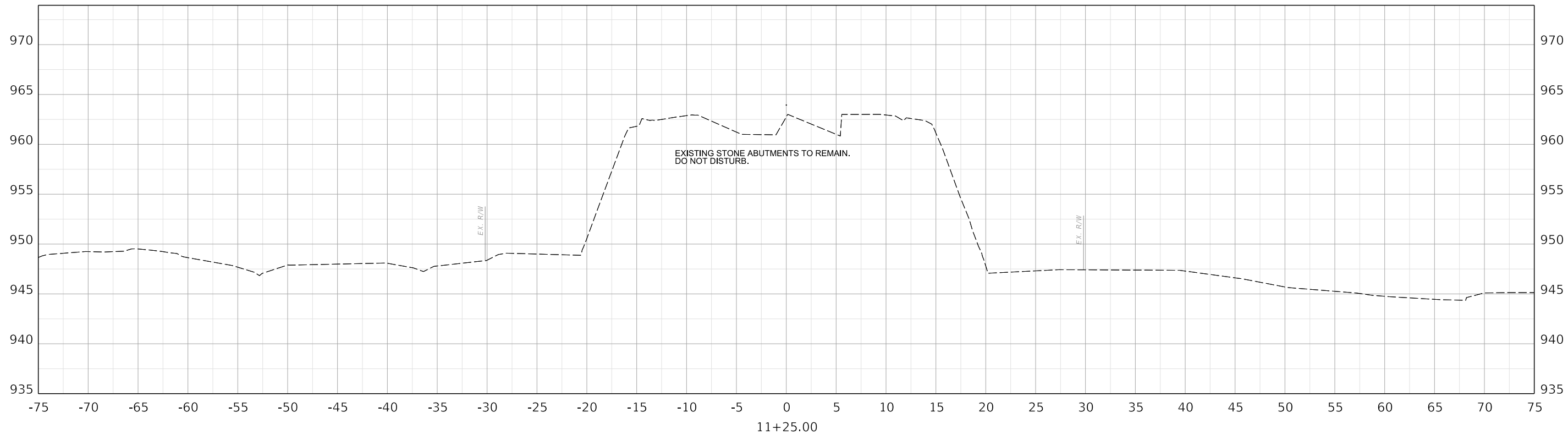
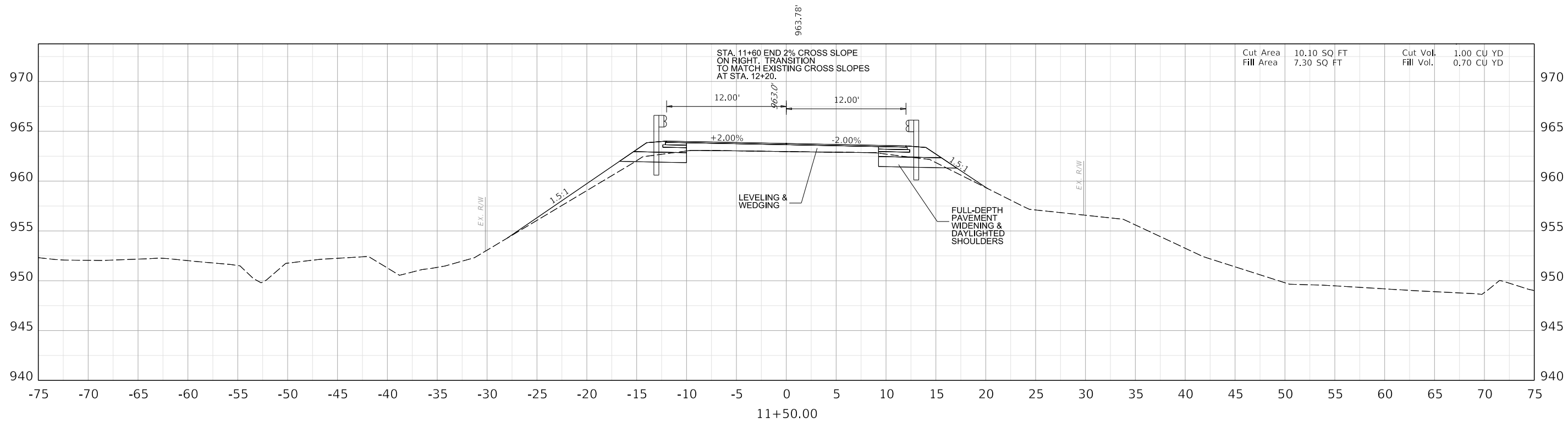
HORIZONTAL SCALE  
SCALE: 1" = 5'



STA. 10+75.00 TO STA. 11+00.00

ITEM NO. N/A  
COUNTY OF JACKSON

SHEET NO. X3

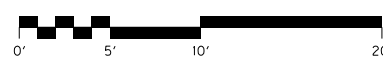


COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF HIGHWAYS



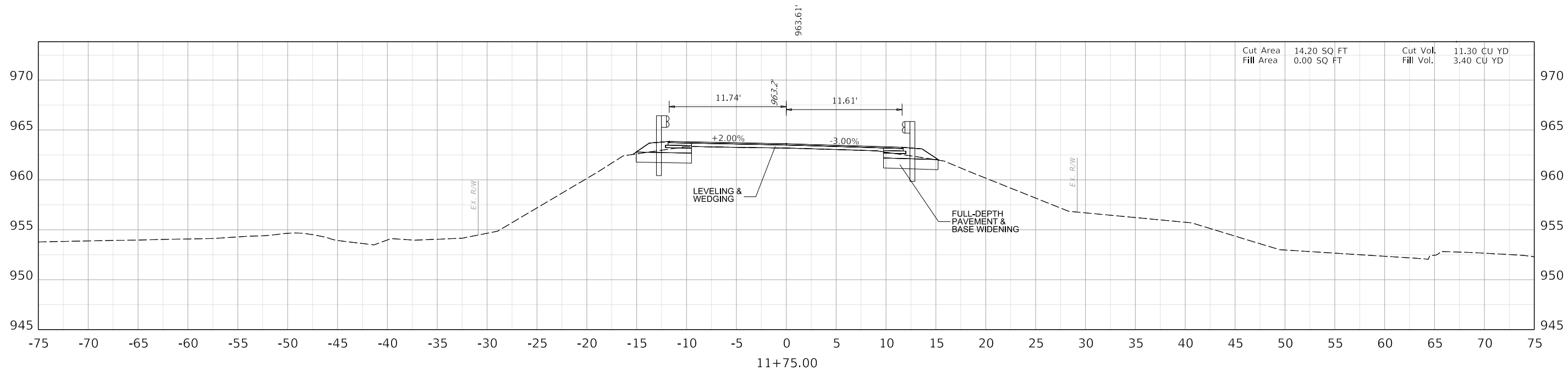
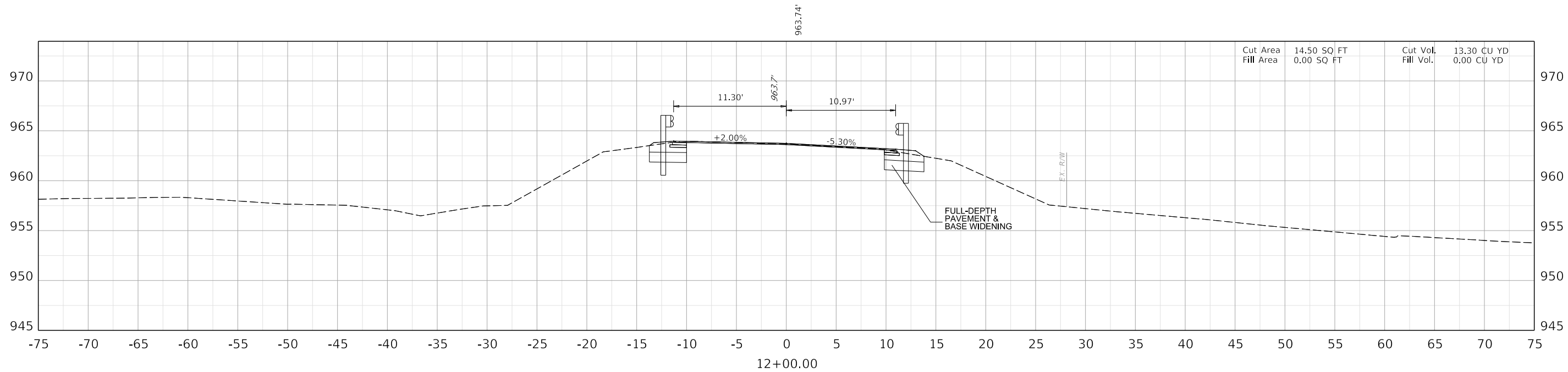
KY-3630 OVER STURGEON CREEK  
CROSS SECTIONS SHEET 4 OF 6

HORIZONTAL SCALE  
SCALE: 1" = 5'



STA. 11+25.00 TO STA. 11+50.00

ITEM NO.	N/A	COUNTY OF	JACKSON
SHEET NO.	X4		

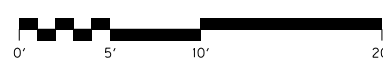


COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF HIGHWAYS



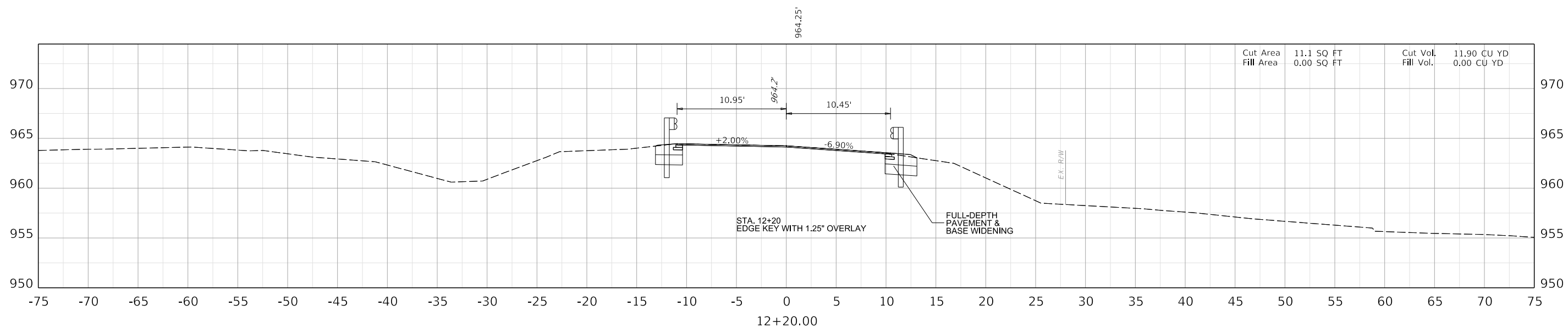
KY-3630 OVER STURGEON CREEK  
CROSS SECTIONS SHEET 5 OF 6

HORIZONTAL SCALE  
SCALE: 1" = 5'



STA. 11+75.00 TO STA. 12+00.00

ITEM NO.	N/A	COUNTY OF	JACKSON
SHEET NO.	X5		

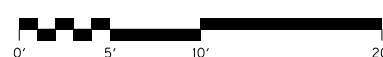


COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF HIGHWAYS



KY-3630 OVER STURGEON CREEK  
CROSS SECTIONS SHEET 6 OF 6

HORIZONTAL SCALE  
SCALE: 1" = 5'





STA. 12+20.00 TO STA. 12+20.00

ITEM NO.	N/A	COUNTY OF	JACKSON
SHEET NO.	X6		



CONSTRUCTION PROJECT NO.	LETTING DATE
--------------------------	--------------

[illegible]

 <b>COMMONWEALTH OF KENTUCKY</b> DEPARTMENT OF HIGHWAYS 	REVISION	DATE	PREPARED BY <b>Division of Structural Design</b>	DATE: October 2024	CHECKED BY
				DESIGNED BY: L. Likins	W. Deaton
				DETAILED BY: L. Likins	W. Deaton
MicroStation v24.00.00.170	USER: Lizabeth.Likins	DATE PLOTTED: 22-NOV-2024	FILE NAME: J:\District11\RS & M\055800034N\28908\DETAILS\28908.dgn		

GENERAL NOTES

SPECIFICATIONS: All references to the Specifications are to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction with current Supplemental Specifications. All references to the AASHTO Specifications are to the current edition of the AASHTO LRFD Bridge Design Specs, with interims.

DESIGN LOAD: This bridge is designed for a KYHL-93 live load. The KYHL-93 live load is arrived at by increasing the standard HL-93 truck and lane loads as specified in the AASHTO Specifications by 25%.

FUTURE WEARING SURFACE: This structure is designed for a 15 PSF future wearing surface load.

DESIGN STRESSES: Concrete Class "A" ~ f'c = 3500 psi  
Concrete Class "AA" ~ f'c = 4000 psi  
Steel Reinforcement ~ Fy = 60,000 psi

DESIGN METHOD: All reinforced concrete members are designed by the load and resistance factor method as specified in the current AASHTO Specifications.

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. Any reinforcement bars designed be suffix (e) in the plans shall be epoxy coated in accordance with section 811.10 of the Standard Specifications. Any reinforcing bars designated by suffix (s) in a bill of reinforcement shall be considered a stirrup for purposes of bend diameters.

BEVELED EDGES: Bevel all exposed edges ¾" unless otherwise noted.

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.

SHOP DRAWINGS: Submit shop drawings that are required by the plans and specifications directly to the Division of Structural Design. Is any changes in the design plans are proposed by a fabricator or supplier, submit those changes to the Department through the Contractor.

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

SUPERSTRUCTURE SLAB: Ensure the entire superstructure slab is poured continuously, out to out, before allowing any concrete to set.

CONCRETE SEALER: The superstructure deck and overhangs shall be sealed as shown herein these plans. Concrete surfaces (except the deck) shall receive the ordinary surface finish as described in section 601.03.18(A) prior to being sealed.

CONCRETE: Class "AA" is to be used throughout the superstructure. Class "A" is to be used on substructures.

FOUNDATION PREPARATION: Foundation Preparation shall be in accordance with Section 603 fo the Specifications.

TEMPORARY SUPPORTS: Temporary Supports or shoring will not be permitted under beams when pouring the concrete deck slab or when taking top of beam elevations.

ON-SITE INSPECTION: Each contractor submitting a bid for this work shall make a thorough inspection of the project site prior to submitting a bid and shall be thoroughly familiarized with existing conditions so that work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. Any claims resulting from site conditions will be honored be the Department of Highways.

DIMENSIONS AND ELEVATIONS: All dimensions and elevations given in these plans are based on field surveyed data and dimensions from the old plans. Prior to beginning work or ordering any materials, the contractor shall verify all dimensions and elevations. No claim shall be honored by KYTC regarding site conditions.

MASTIC TAPE: Mastic tape application is required at the abutments as shown in the Joint Waterproofing Detail on sheet S13. See sheet S13 for all mastic tape requirements. The cost of labor, materials, and incidental items for furnishing and installing Mastic Tape shall be considered incidental to the unit price bid for Concrete Class "AA" and no separate measurement or payment shall be made.

TENSION RODS: Tension rods are to be installed prior to pouring the deck.

COFFERDAMS: Cofferdams and/or dewatering methods will be required to facilitate foundation construction.

SHEETING/SHORING: Temporary sheeting and/or shoring may be required for installation of foundations. The contractor shall be responsible for the stability and safety of all excavations.

EMBANKMENTS: Construct the embankments in accordance with Special Provision 69.

SLOPE PROTECTION: Slope protection will be required at the bridge end bent meeting the requirements of Sections 703 & 805 of the Standard Specifications for Road and Bridge Construction, current edition. Place a Class 1 Geotextile Fabric, in accordance with Sections 214 & 843 of the Standard Specifications for Road and Bridge Construction, current edition, between the embankment and the slope protection.

The following abbreviations may have been used in the preparation of these plans:

bet.	between
b.f.	Back Face
BOF	Bottom of Footing
BOS	Bottom of Slab
bot.	Bottom
Brg.	Bearing
C to C	Center to Center
c.e.	Current Edition
C.Y.	Cubic Yards
Chd.	Chord
CL	Center Line
Clr.	Clear
Conc.	Concrete
CubicCu.	
DrawingDwg.	
e.f.	Each Face
El.	Elevation
eq.	Equal
Est.	Estimate
ExteriorExt.	
F to F	Face to Face
f.f.	Front Face
f.s.	Far Side
fr.	Front
ft.	Feet
I.D.	Inside Diameter
in.	Inch
Int.	Interior
L	Left
LBS	Low Bridge Seat
LBS.	Pounds
M	Meter
MPH	Miles Per Hour
n.s.	Near Side
O.D.	Outside Diameter
Opp.	Opposite
PC	Point of Curvature
Perp.	Perpendicular
PI	Point of Intersection
PPC	Precast Prestressed Concrete
PPCDU	Precast Prestressed Deck Unit
PSI	Pounds per Square Inch
PT	Point of Tangency
R	Radius
R	Right
RCBC	Reinforced Concrete Box Culvert
RCDG	Reinforced Concrete Deck Girder
Req'd	Required
RR	Railroad
Shld.	Shoulder
spa.	Spaces
Sta.	Station
Std.	Standard
Str.	Straight
Tan	Tangent
Thru	Through
TOF	Top of Footing
TOS	Top of Slab
Tot.	Total
Typ.	Typical
Vert.	Vertical
W.P.	Working Point
Yd.	Yard



COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF HIGHWAYS



USER: Lizabeth.Likins

REVISION

DATE

PREPARED BY

Division of  
Structural Design

DATE: October 2024

CHECKED BY

DESIGNED BY: L. Likins

W. Deaton

DETAILED BY: L. Likins

W. Deaton

GENERAL NOTES

CROSSING

Sturgeon Creek

ROUTE

KY 3630

BRIDGE ID

055B00034N

SHEET NO.

S2

COUNTY OF

JACKSON

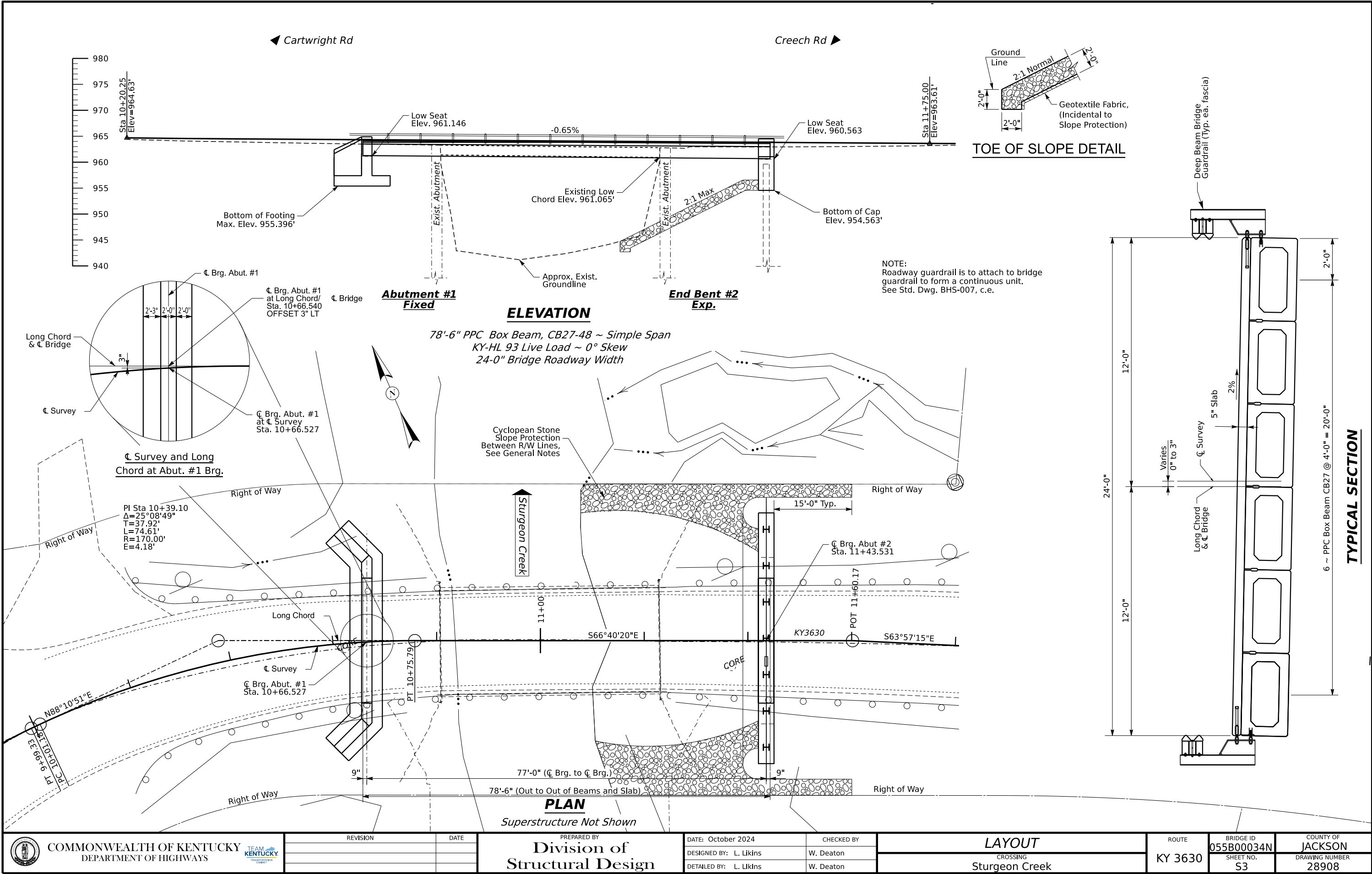
DRAWING NUMBER

28908

MicroStation v24.00.00.170

DATE PLOTTED: 22-NOV-2024

FILE NAME: J:\District11\RS & M\055B00034N\28908\DETAILS\28908.dgn



COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF HIGHWAYS



USER: Lizabeth.Likins

REVISION

DATE

PREPARED BY  
**Division of  
Structural Design**

DATE: October 2024

DESIGNED BY: L. Likins

DETAILED BY: L. Likins

CHECKED BY

W. Deaton

W. Deaton

**LAYOUT**

CROSSING  
Sturgeon Creek

ROUTE  
KY 3630

BRIDGE ID  
055B00034N  
SHEET NO.  
S3

COUNTY OF  
JACKSON  
DRAWING NUMBER  
28908

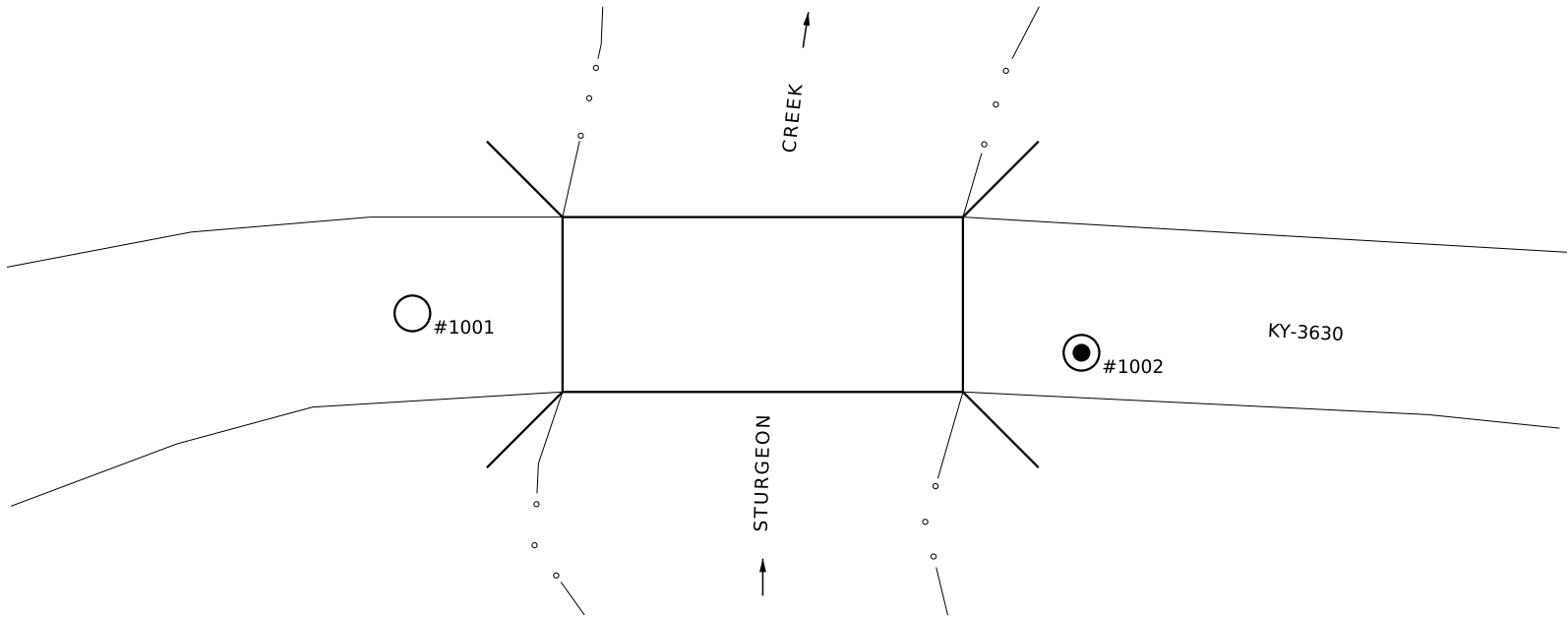
MicroStation v24.00.00.170

DATE PLOTTED: 22-NOV-2024

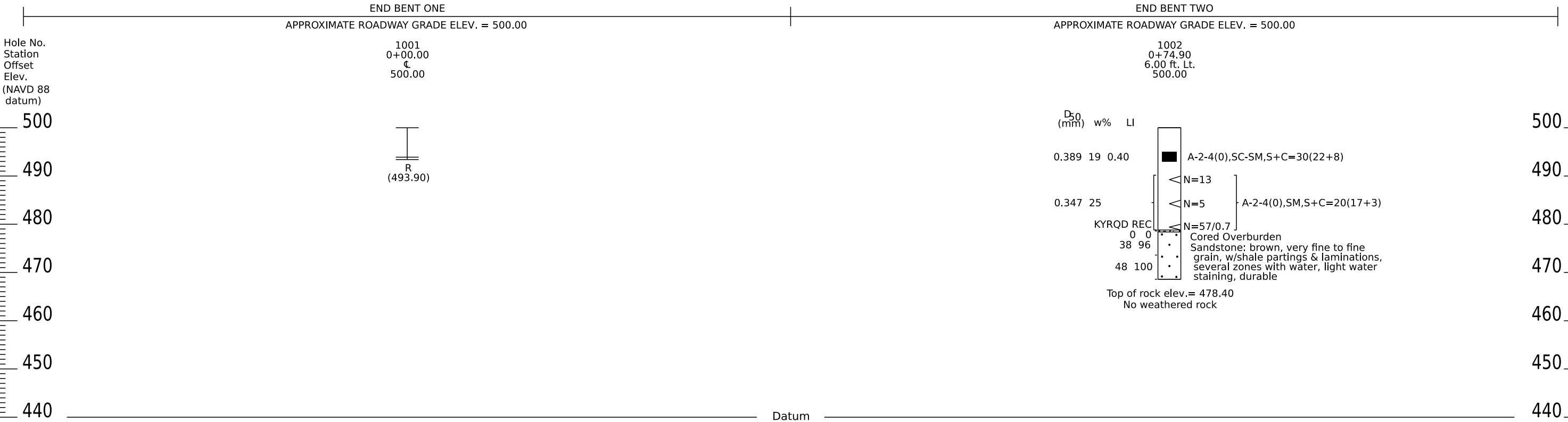
FILE NAME: J:\District11\RS & M\055B00034N\28908\DETAILS\28908.dgn

SUBSURFACE DATA

Plan Scale 1" = 10'



Profile Scale:  
Vertical 1" = 10'  
Horizontal not to scale



Hole No.  
Station  
Offset  
Elev.  
(NAVD 88  
datum)

1001  
0+00.00  
500.00

1002  
0+74.90  
6.00 ft. Lt.  
500.00

R  
(493.90)

D<sub>50</sub>  
(mm) w% LI

0.389	19	0.40	A-2-4(0),SC-SM,S+C=30(22+8)
0.347	25		A-2-4(0),SM,S+C=20(17+3)
			N=13
			N=5
			N=57/0.7
			Cored Overburden
			Sandstone: brown, very fine to fine grain, w/shale partings & laminations, several zones with water, light water staining, durable
			Top of rock elev.= 478.40
			No weathered rock

KYRQD REC  
0 0  
38 96  
48 100



COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF HIGHWAYS



REVISION

DATE

PREPARED BY

Division of Structural Design  
Geotechnical Branch

DATE: 23-October-2023

CHECKED BY

DESIGNED BY:

DETAILED BY: E. BAILEY

R. McDONALD

SUBSURFACE DATA

CROSSING

Bridge over Sturgeon Creek

ROUTE  
KY 3630

BRIDGE ID  
055B00034N

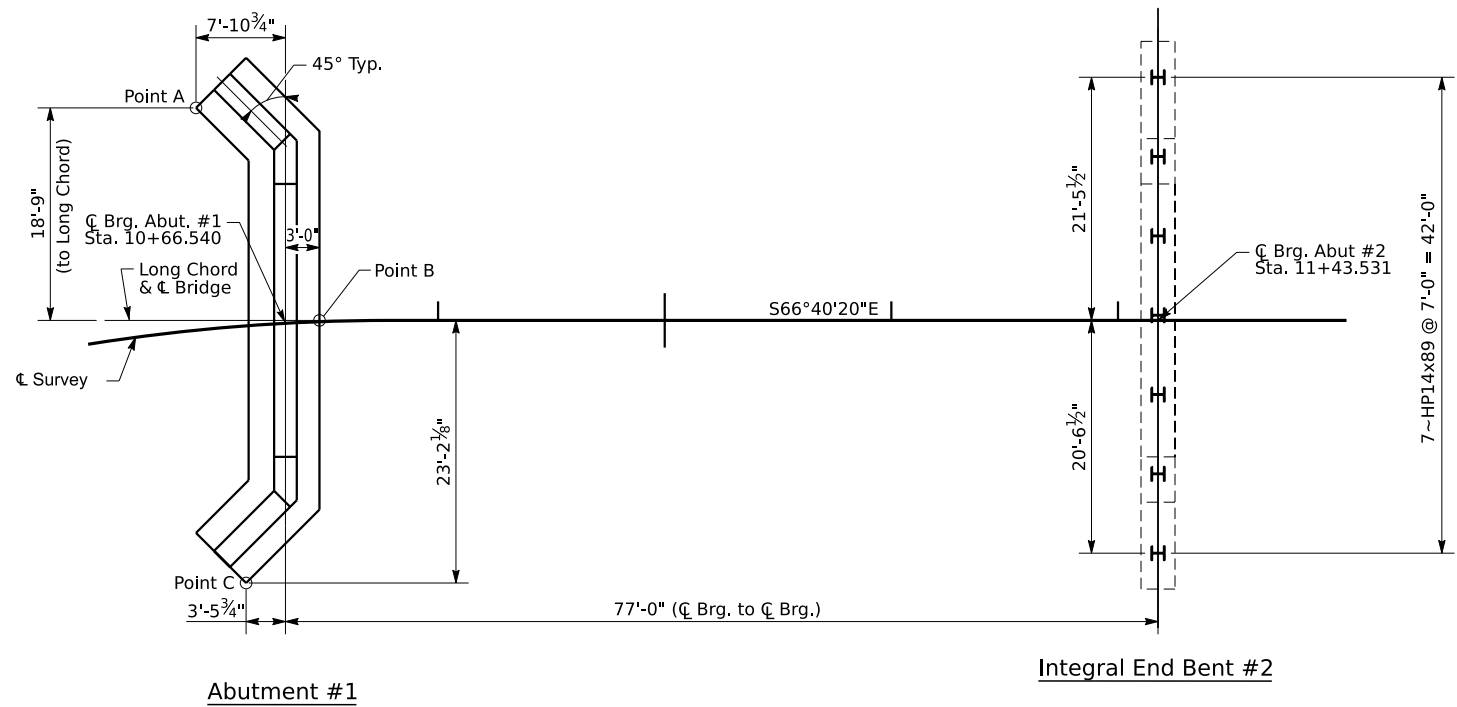
SHEET NO.

S4

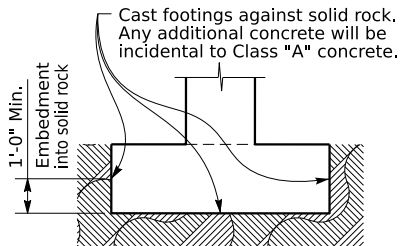
COUNTY OF  
JACKSON

DRAWING NUMBER

28908



FOUNDATION LAYOUT



Spread Footing Record Abutment #1			The Project Resident Engineer is to record the "As-Built Footing Elevation" taken at the bottom of footing and submit one copy of this sheet to:  Kentucky Transportation Cabinet Division of Structural Design Room #322 200 Mero Street Frankfort, KY 40622
Point	Plan Footing Elevation	As-Built Footing Elevation	
A	955.396'		
B	955.396'		
C	955.396'		
Footing is designed for a maximum pressure of 8 KSF.  The allowable bearing capacity is 30 KSF.			If the spread footing foundation is stepped due to unsuitable material found at the given elevation, record the location and elevation of the step as well.

ABUTMENT #1 FOOTING

FOOTING EXCAVATION: All footing excavations in bedrock shall be cut neatly so that no forming or backfilling is necessary in the construction of the portions of the footings located in rock. Concrete should be placed directly against the cut rock faces. Mass concrete should be placed in the excavation from the top of the footing to the bedrock surface where the footing does not extend to the bedrock surface.

The bedrock at this location is highly susceptible to weathering and softening in the presence of water. Water must be kept out of the footing excavations. The footing steel and concrete should be placed the same day as or as soon as practical after the footing excavation is made.

If the bedrock becomes softened at bearing elevations, the softened material should be undercut to unweathered material prior to placing the concrete. Seasonal groundwater fluctuations may cause groundwater infiltration into the footing excavations and a dewatering method may be necessary.

The spread footings shall be embedded a minimum of 1.0 feet into competent unweathered bedrock. Footings may be raised if competent unweathered bedrock is encountered at a higher elevation. Note: Minimum 1.0 feet of embedment must still be attained.

Solid rock excavation will be required for installation of this structure's spread footings.

Cofferdams and/or dewatering methods may be required to facilitate foundation construction of spread footings. Include all costs in the price bid for Concrete Class "A".

Construct the embankments in accordance with Special Provision 69.

Temporary sheeting and/or shoring may be required for installation of spread footings. The contractor shall be responsible for the stability and safety of all excavations.



COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF HIGHWAYS



REVISION

DATE

PREPARED BY

Division of  
Structural Design

DATE: October 2024

CHECKED BY

DESIGNED BY: L. Likins

W. Deaton

DETAILED BY: L. Likins

W. Deaton

FOUNDATION LAYOUT

CROSSING

Sturgeon Creek

ROUTE

KY 3630

BRIDGE ID

055B00034N

SHEET NO.

S5

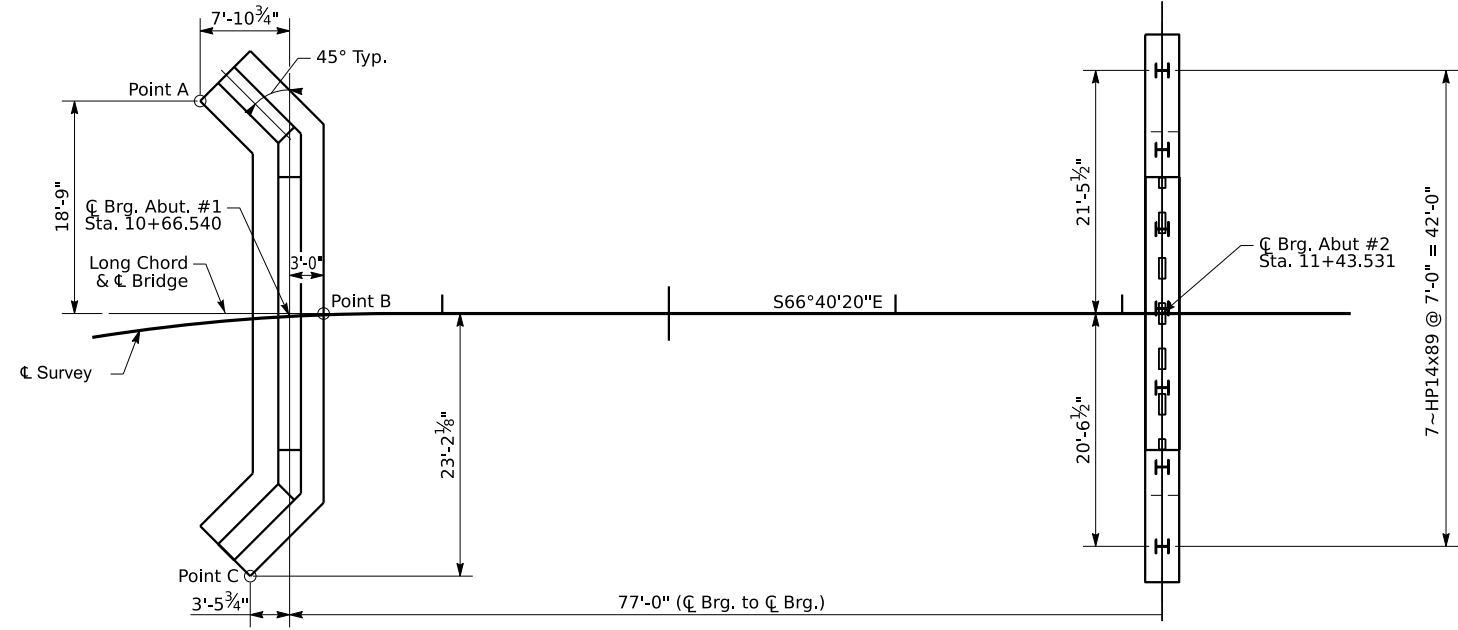
COUNTY OF

JACKSON

DRAWING NUMBER

28908

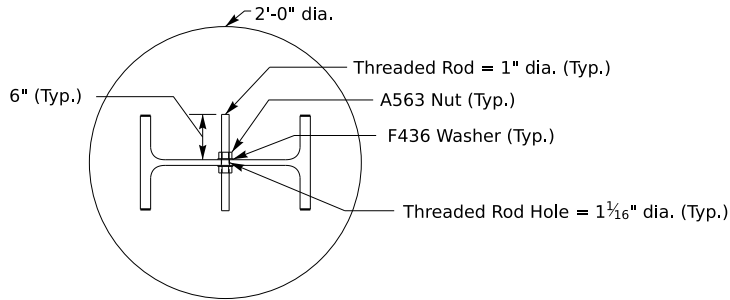




Abutment #1

Integral End Bent #2

FOUNDATION LAYOUT

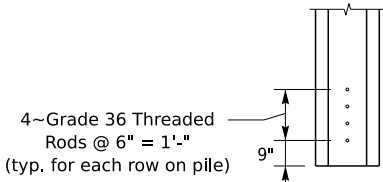


PLAN VIEW OF PILE IN ROCK SOCKET  
WITH THREADED ROD DETAIL

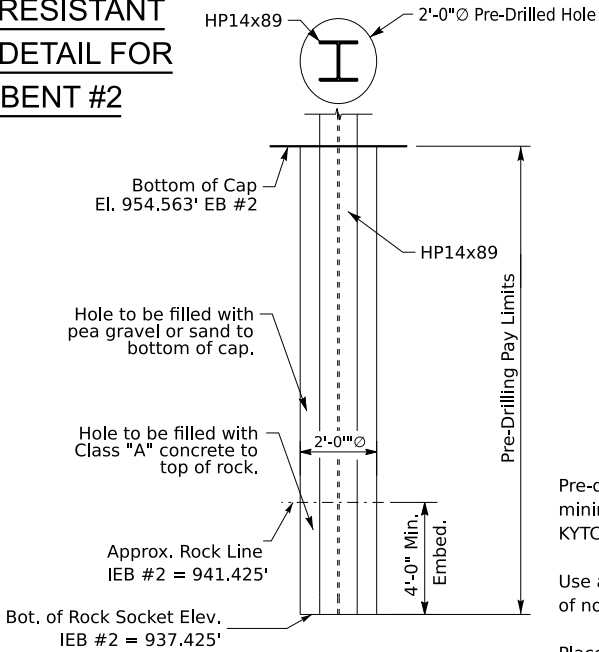
DRIVING CRITERIA

PRACTICAL REFUSAL: Drive point bearing piles to practical refusal. For this project minimum blow requirements are reached after total penetration becomes ¼ inch or less for 5 consecutive blows, practical refusal is obtained after the pile is struck an additional 5 blows with total penetration of ¼ inch or less. Advance the production piling to the driving resistances specified above and to the depths determined by test pile(s) and subsurface data sheet(s). Immediately cease driving operations if the pile visibly yields or becomes damaged during driving. If hard driving is encountered because of dense strata or an obstruction, such as a boulder before the pile is advanced to the depth anticipated, the Engineer will determine if more blows than the average driving resistance specified for practical refusal is required to further advance the pile. Drive additional production and test piles if directed by the Engineer.

HAMMER CRITERIA: A hammer with a rated energy between 20 and 30 kip-ft will be required to drive the H-piles to practical refusal without encountering excessive blow counts or damaging the piles. The contractor shall submit the proposed pile driving system to the Department for approval prior to the installation of the first pile. Approval of the pile driving system by the Engineer will be subject to satisfactory field performance of the pile driving procedures.



SHEAR RESISTANT  
DEVICE DETAIL FOR  
END BENT #2



PRE-DRILLING DETAIL (EB #2)

NON-STRIKE PILE OPTION

As an alternative to striking the pile once placed inside the pre-drilled hole, the contractor may include shear resistance device on the pile and place and load the piles with an excavator.

Details for shear resistance device for piles is provided on this sheet. Use Grade 36 threaded rods with a minimum tensile strength of 58 ksi. The cost of all materials needed is incidental to Pre-Drilling For Piles. The shear resistant device alternative was designed to withstand 125% of the pile's design axial load shown on the pile record.

Provide an excavator with sufficient capacity and reach to lift and place piles without contacting the ground or sides of the boring and to place casing.

Contractor is to ensure hole is cleaned during and after excavation. The rock socket shall be visually inspected. The bottom of hole shall be visible to the inspector by normal means from the surface elevation. If not adequately cleared of debris or water the contractor may be required to clean out the holes using vacuum excavator and/or a pump.

Measure final excavation depths with a weighted tape or other approved methods after final cleaning. Ensure the base of excavation has less than ½ inch of sediment at the time of pile and concrete placement. Do not allow the depth of water to exceed 3 inches during concrete placement.

Cofferdams and/or dewatering methods and temporary sheeting and/or shoring may be required to facilitate foundation construction. All costs shall be incidental to Predrilling Piles.

PILE RECORD FOR POINT BEARING PILES				
Pile No.	Pile Cut-off Elevation	Pile Length In Place	Point of Pile Elevation As Driven	Design Axial Load
	FEET	FEET	FEET	TONS
End Bent #2				
1	959.563			55
2	959.563			55
3	959.563			55
4	959.563			55
5	959.563			55
6	959.563			55
7	959.563			55

FIELD DATA

For each pile, the Project Engineer shall record the following on this sheet: Pile Length in Place and Point of Pile Elevations as Driven.

Submit this record to:

Kentucky Transportation Cabinet  
Division of Structural Design  
3rd, Floor East  
200 Mero Street  
Frankfort, KY 40622

This pile record does not replace other pile records the Project Engineer is required to keep and submit.

PRE-DRILLING PILES

Pre-drilling piles is required for construction of End Bents in order to attain minimum pile embedment as recommended by section GT-605-1 in the KYTC Geotechnical Manual.

Use a 24-inch diameter rock socket with a bottom of rock socket elevation of no higher than 937.425 '.

Place pile in center of hole and drive the pile according to criteria on this sheet or use piles with threaded rod details shown on this sheet and apply hydraulic pressure using available excavation equipment to ensure that adequate refusal has been achieved. A temporary casing may be required to prevent collapse of the hole. If used, the casing may be removed as the hole is being backfilled. The predrilled hole shall be filled to top of solid rock with Class "A" concrete conforming to Section 601 of the Standard Specifications; however, provide a mix with a 6 to 10 inch slump at the time of placement. High range water reducing and retarding admixtures and Class F fly ash may be used to obtain this slump. The predrilled hole through overburden shall be backfilled with sand or pea-gravel to bottom of cap.

The cost of all materials, labor, and equipment needed to pre-drill , backfill, and drive pile to refusal shall be included in the price per linear foot for "Pre-drilling for Piles."

Care must be taken that the piling is located correctly since the piling is an integral part of the structure and protrudes up into end bent caps. Contrary to specification for piling, HP14x89 sections shall not vary more than 2" from plan position to prevent any eccentricities in loading. Ensure pile orientation matches that shown. Pile orientation is critical to design function.

Contractor is to ensure hole is cleaned during and after excavation. The rock socket shall be visually inspected. The bottom of hole shall be visible to the inspector by normal means from the surface elevation. If not adequately cleared of debris or water the contractor may be required to clean out the holes using vacuum excavator and/or a pump.

Measure final excavation depths with a weighted tape or other approved methods after final cleaning. Ensure the base of excavation has less than ½ inch of sediment at the time of pile and concrete placement. Do not allow the depth of water to exceed 3 inches during concrete placement.

Cofferdams and/or dewatering methods and temporary sheeting and/or shoring may be required to facilitate foundation construction. All costs shall be incidental to Predrilling Piles.



COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF HIGHWAYS



USER: Lizabeth.Likins

REVISION

DATE

PREPARED BY

Division of  
Structural Design

DATE: October 2024

CHECKED BY

DESIGNED BY: L. Likins

W. Deaton

DETAILED BY: L. Likins

W. Deaton

FOUNDATION LAYOUT

CROSSING  
Sturgeon Creek

ROUTE

KY 3630

BRIDGE ID

055B00034N

SHEET NO.

S6

COUNTY OF

JACKSON

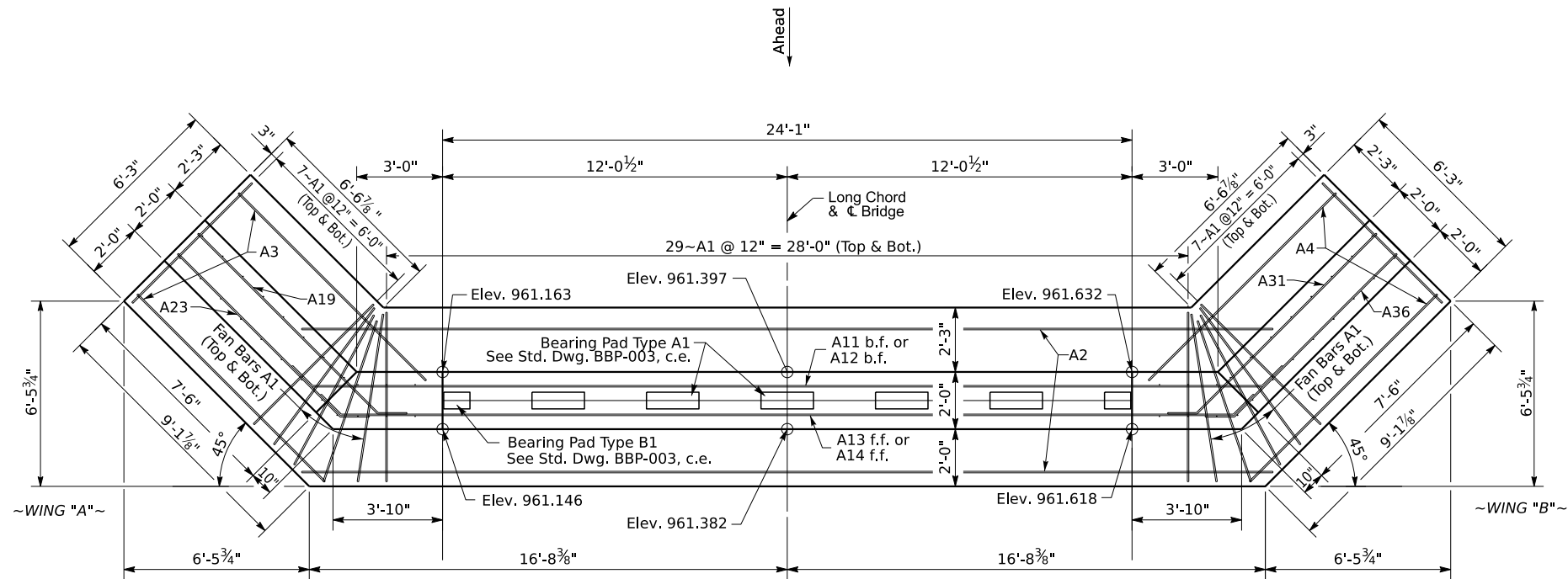
DRAWING NUMBER

28908

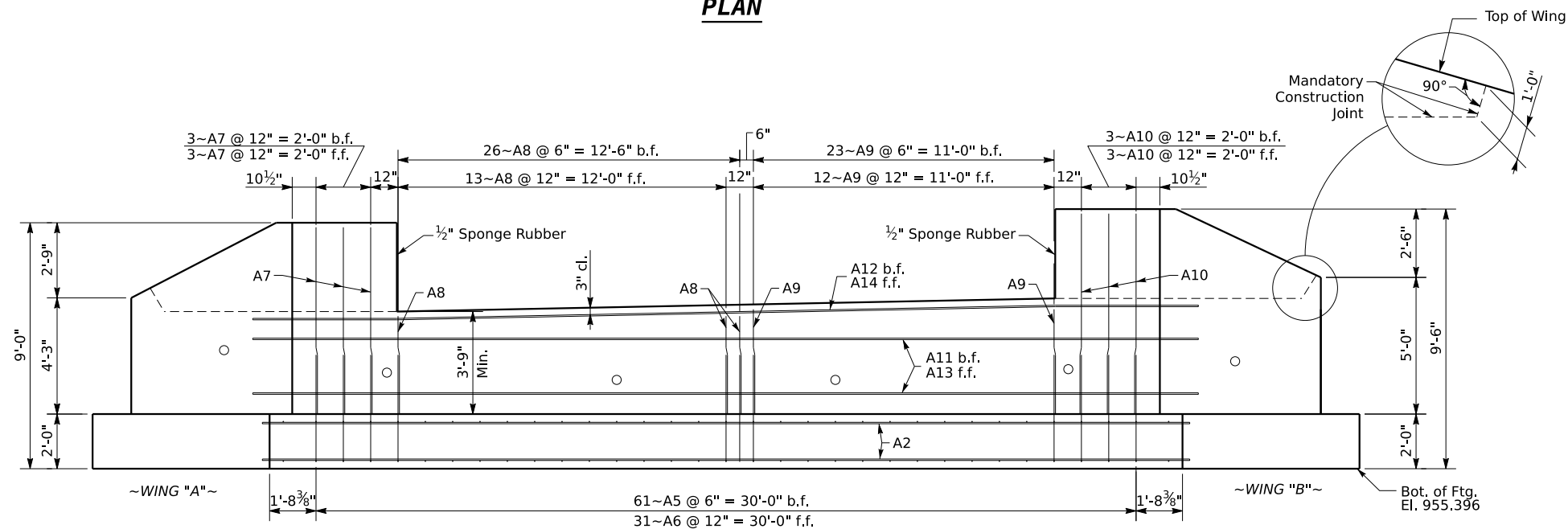
MicroStation v24.00.00.170

DATE PLOTTED: 22-NOV-2024

FILE NAME: J:\District11\RS & M\055B00034N\28908\DETAILS\28908.dgn



**PLAN**



**ELEVATION**

NOTE: Provide 4" weep hole drains in accordance with Subsection 613.03.06.

NOTE: For additional bearing and dowel details see Std Dwg. BBP-002, c.e and BDP-002, c.e.

Pour footings against solid rock. Any additional concrete required will be incidental to Class "A" Concrete. See General Notes and Foundation Layout for additional requirements.

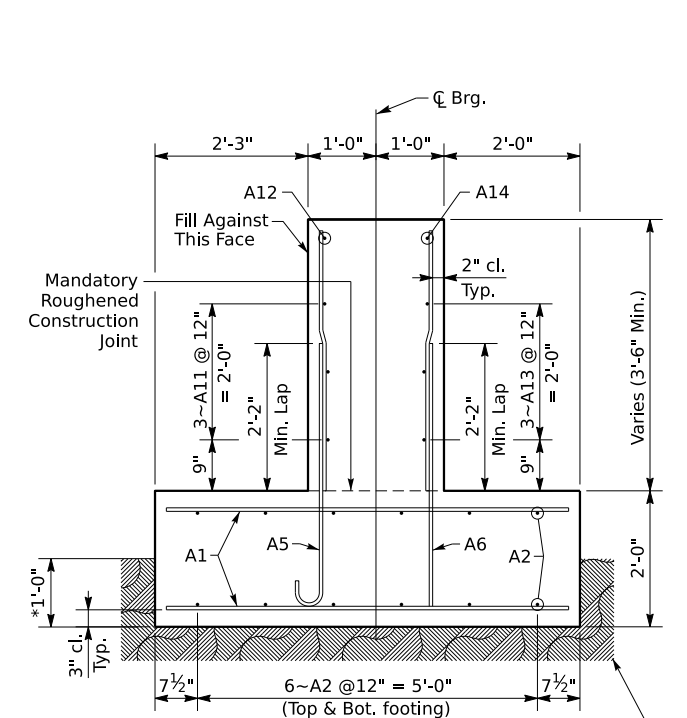
The top portion of the wings are to be constructed after the superstructure is constructed so the concrete can be poured directly against the Sponge Rubber that is against the sides of the beams.

Place 1/2" Sponge Rubber on vertical faces as shown. Place 1.25" Sponge Rubber on bearing areas around bearing pads as shown on Sheet S8. Sponge Rubber is incidental to Class "A" Concrete.

Elevations are given at top of concrete.

Construction Sequence:

1. Pour Class "A" Concrete below mandatory construction joint.
2. Erect beams and install lateral tension rods.
3. Pour wings above mandatory construction joint.

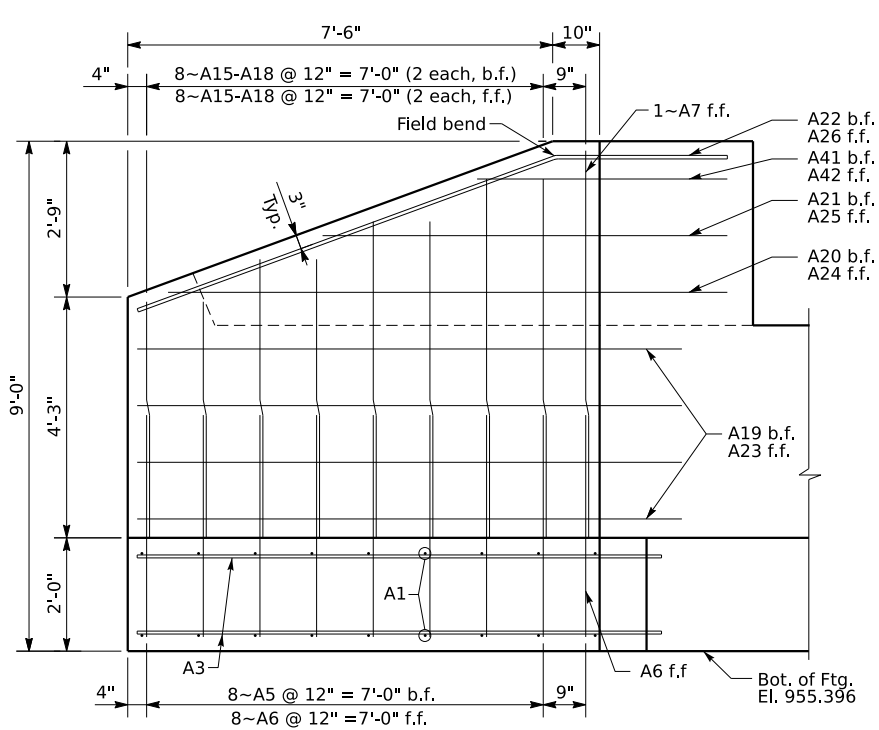


**SECTION THROUGH BREASTWALL**

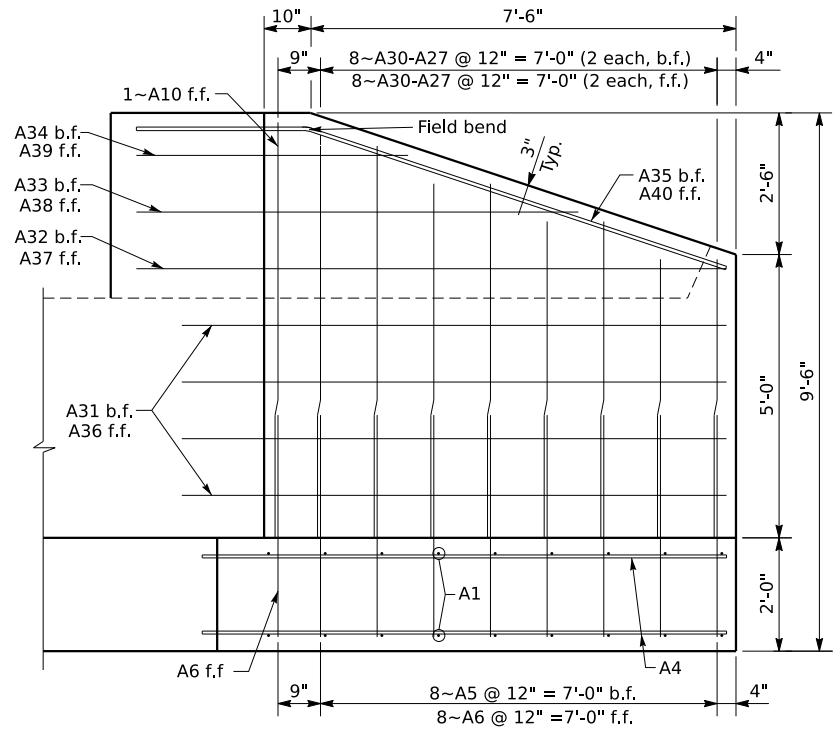
Pour against solid rock. Any additional concrete required will be incidental to Class "A" Concrete.

\*Footing must be embedded minimum 1'-0" into competent bedrock.

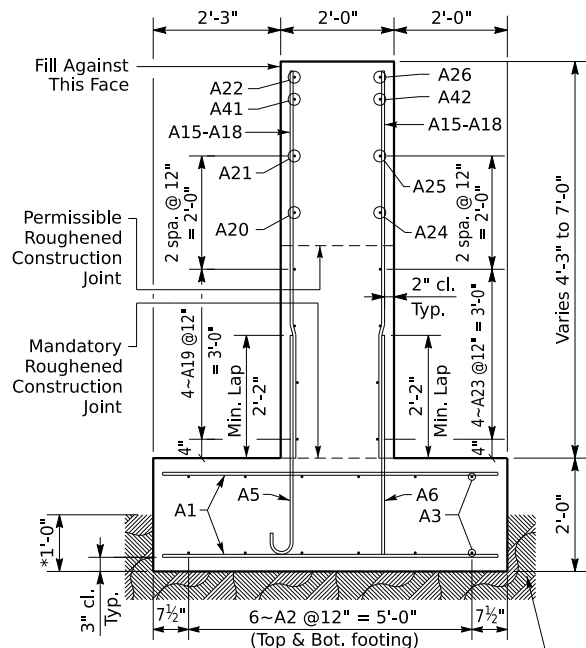




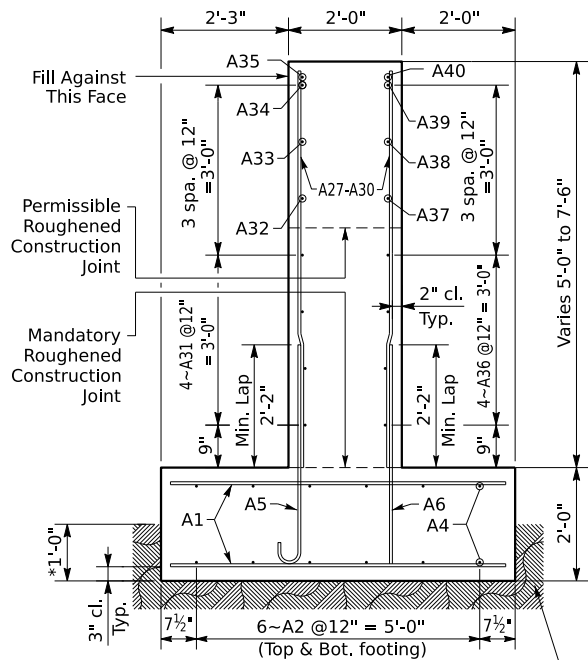
WING "A" ELEVATION



WING "B" ELEVATION



SECTION THROUGH WING "A"

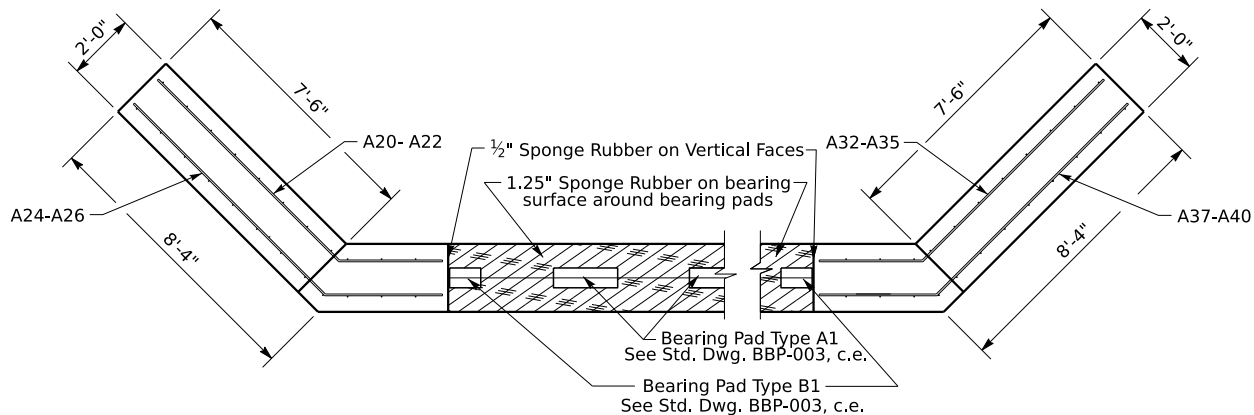
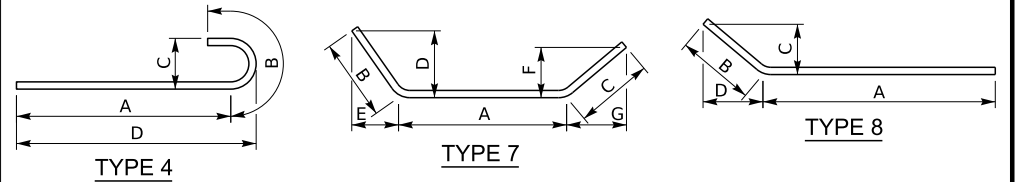


SECTION THROUGH WING "B"

\*Footing must be embedded minimum 1'-0" into competent bedrock.

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A/E	B/F	C/G	D/H
A1	Str.	102	5	5-11	Top & Bot. of Ftg.				
A2	Str.	12	5	33-11	Top & Bot. of Ftg.				
A3	Str.	12	5	9-3	Top & Bot. Wing A Ftg.				
A4	Str.	12	5	9-3	Top & Bot. Wing B Ftg.				
A5	4	77	6	4-8	Footing Dowel B.F.	3- 8	1- 0	0- 6	3-11
A6	Str.	47	5	3-11	Footing Dowel F.F.				
A7	Str.	7	5	6-10	Breastwall				
A8	Str.	39	6	3- 7	Breastwall				
A9	Str.	35	6	3-10	Breastwall				
A10	Str.	7	5	7- 4	Breastwall				
A11	7	3	5	35- 2	Breastwall B.F.	33- 3	1- 0	1- 0	0- 8½
						0- 8½	0- 8½	0- 8½	
A12	7	1	8	35- 2	Top of Breastwall B.F.	33- 3	1- 0	1- 0	0- 8½
						0- 8½	0- 8½	0- 8½	
A13	7	3	5	33- 2	Breastwall F.F.	31- 3	1- 0	1- 0	0- 8½
						0- 8½	0- 8½	0- 8½	
A14	7	1	8	33- 2	Top of Breastwall F.F.	31- 3	1- 0	1- 0	0- 8½
						0- 8½	0- 8½	0- 8½	
A15	Str.	4	5	4- 2	Wing A				
A16	Str.	4	5	4-11	Wing A				
A17	Str.	4	5	5- 7	Wing A				
A18	Str.	4	5	6- 4	Wing A				
A19	8	4	5	9-11	Wing Wall A B.F.	8-11	1- 0	0- 8½	0- 8½
A20	8	1	5	10- 0	Wing Wall A B.F.	7- 0	3- 0%	2- 1%	2- 1%
A21	8	1	5	7- 4	Wing Wall A B.F.	4- 3%	3- 0%	2- 1%	2- 1%
A22	8	1	6	11- 1	Top of Wing A B.F.	8- 0%	3- 0%	2- 1%	2- 1%
A23	8	4	5	9- 0	Wing Wall A F.F.	8- 0	1- 0	0- 8½	0- 8½
A24	8	1	5	10-10	Wing Wall A F.F.	7- 5	3- 5%	2- 5%	2- 5%
A25	8	1	5	8- 2	Wing Wall A F.F.	4- 8%	3- 5%	2- 5%	2- 5%
A26	8	1	6	11-11	Top Wing A F.F.	8- 5%	3- 5%	2- 5%	2- 5%
A27	Str.	4	5	4-11	Wing B				
A28	Str.	4	5	5- 7	Wing B				
A29	Str.	4	5	6- 3	Wing B				
A30	Str.	4	5	6-11	Wing B				
A31	8	4	5	9-11	Wing Wall B B.F.	8-11	1- 0	0- 8½	0- 8½
A32	8	1	5	10- 7	Wing Wall B B.F.	7- 6%	3- 0%	2- 1%	2- 1%
A33	8	1	5	8- 0	Wing Wall B B.F.	4-11¼	3- 0%	2- 1%	2- 1%
A34	8	1	5	4-11	Wing Wall B B.F.	1-11	3- 0%	2- 1%	2- 1%
A35	8	1	6	11- 0	Top of Wing B B.F.	7-11½	3- 0%	2- 1%	2- 1%
A36	8	4	5	11-10	Wing Wall B F.F.	8- 1	3- 9	2- 7%	2- 7%
A37	8	1	5	11- 5	Wing Wall B F.F.	7-11½	3- 5%	2- 5%	2- 5%
A38	8	1	5	8-10	Wing Wall B F.F.	5- 4¼	3- 5%	2- 5%	2- 5%
A39	8	1	5	5- 9	Wing Wall B F.F.	2- 4	3- 5%	2- 5%	2- 5%
A40	8	1	6	11-10	Top of Wing B F.F.	8- 4%	3- 5%	2- 5%	2- 5%
A41	8	1	5	4- 7	Wing Wall A B.F.	1- 6%	3- 0%	2- 1%	2- 1%
A42	8	1	5	5- 5	Wing Wall A F.F.	1-11½	3- 5%	2- 5%	2- 5%



DETAILS ABOVE BEAM SEATS



COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF HIGHWAYS



USER: Lizabeth.Likins

REVISION

DATE

PREPARED BY

Division of  
Structural Design

DATE: October 2024

DESIGNED BY: L. Likins

DETAILED BY: M. Bawltawng

CHECKED BY

W. Deaton

L. Likins

ABUTMENT 1

CROSSING  
Sturgeon Creek

ROUTE  
KY 3630

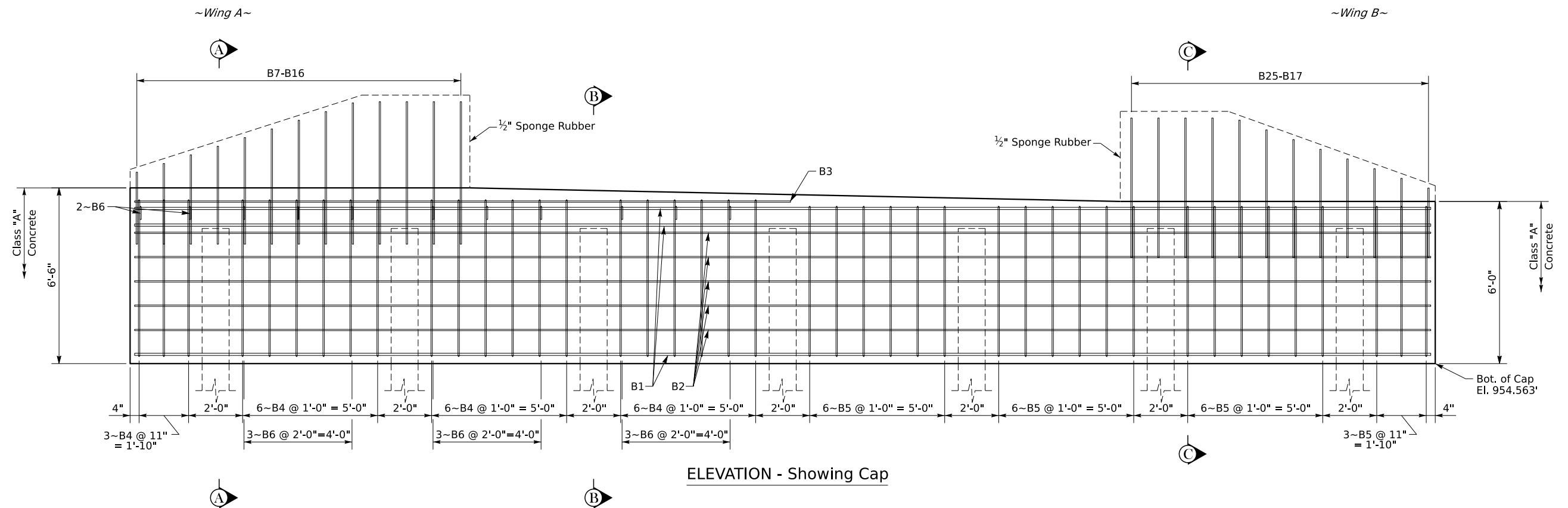
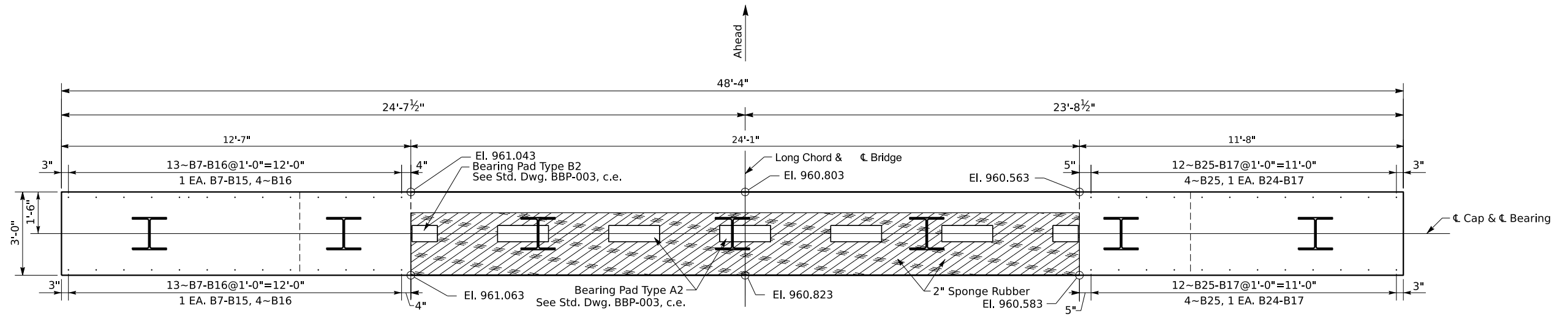
BRIDGE ID  
055B00034N  
SHEET NO.  
S8

COUNTY OF  
JACKSON  
DRAWING NUMBER  
28908

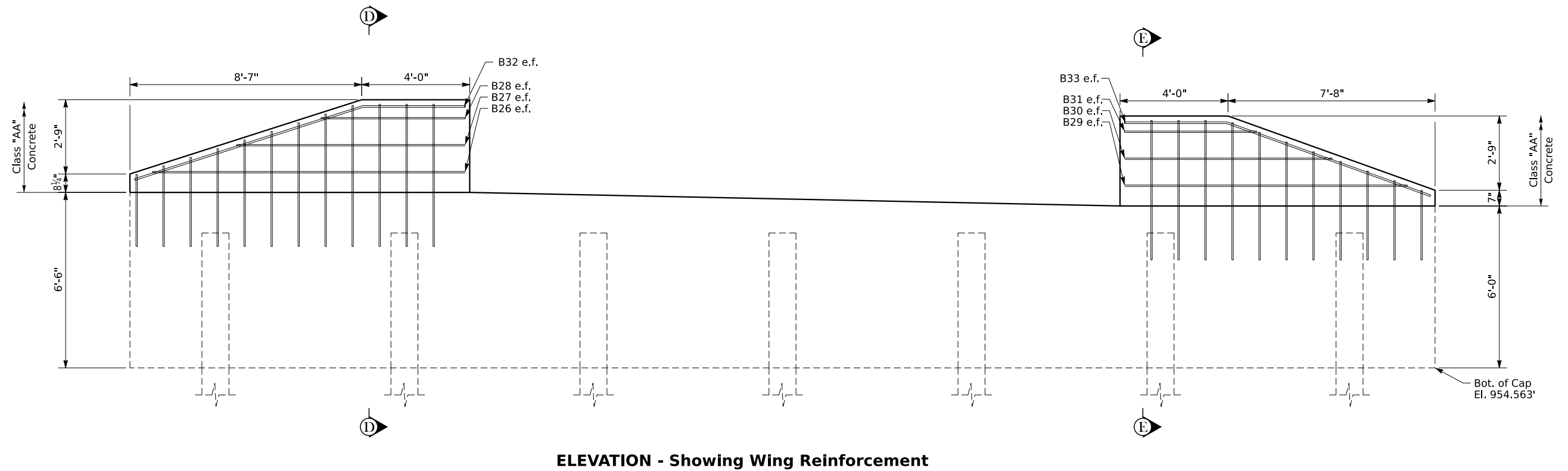
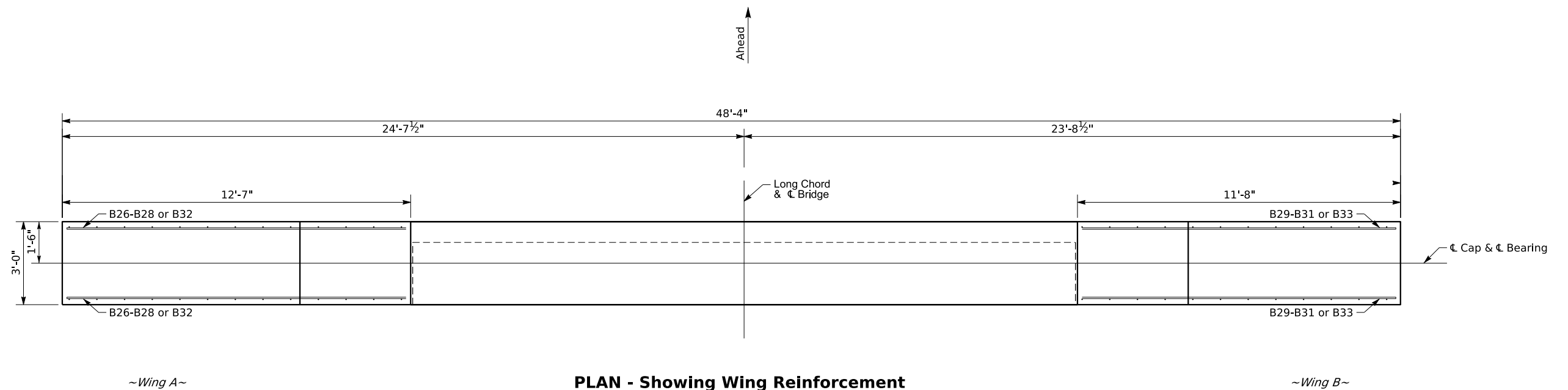
MicroStation v24.00.00.170

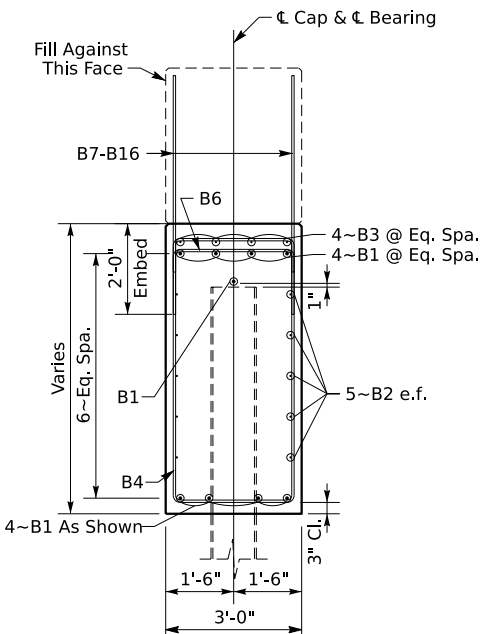
DATE PLOTTED: 22-NOV-2024

FILE NAME: J:\District11\RS & M\055B00034N\28908\DETAILS\28908.dgn

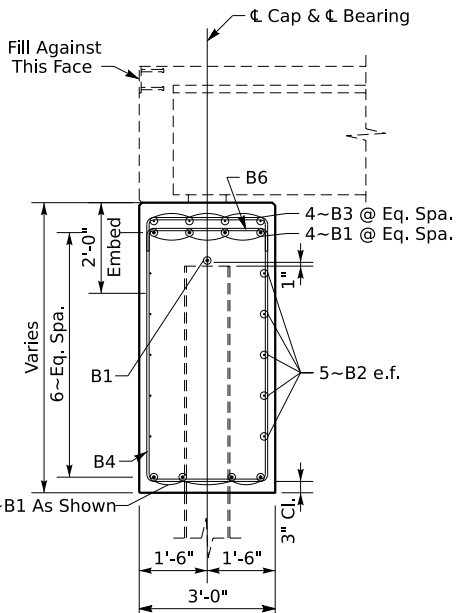


- NOTES:
- Dowel box beams in accordance with Std. Dwg. BDP-002 & BDP-003, c.e.
  - Install tension rods according to Std. Dwg. BDP-004 c.e.
  - Do not backfill until beams are placed, doweled, and grouted, and the wings are poured.
  - Mandatory Construction Sequence:
    1. Pour Class "A" Concrete
    2. Erect beams and tension rods
    3. Pour wings with 1/2" Sponge Rubber between vertical face of beams and wings
- For pile placement see Foundation Layout sheet.
- Elevations are given at top of concrete.
- Place 1/2" Sponge Rubber on vertical faces as shown. Place 2" Sponge Rubber on bearing areas around bearing pads as shown.
- Sponge Rubber is incidental to Class "A" Concrete.

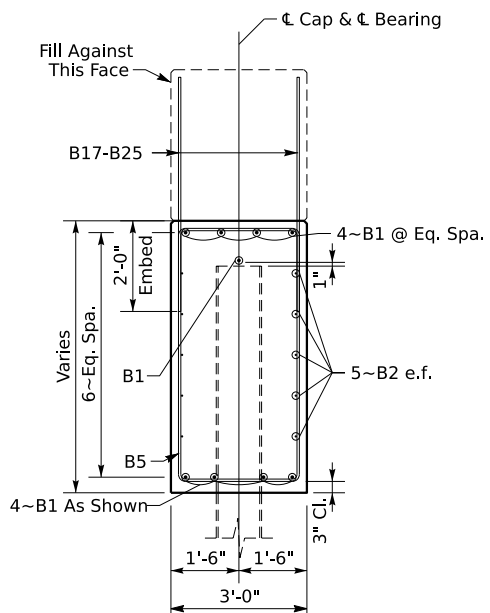




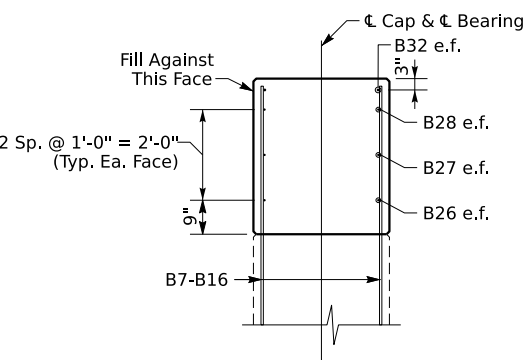
Section A-A



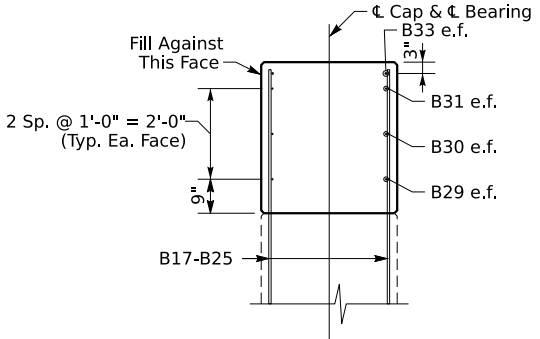
Section B-B



Section C-C



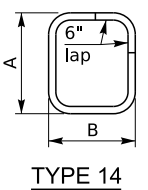
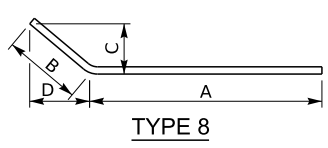
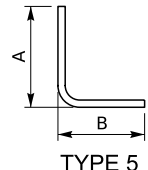
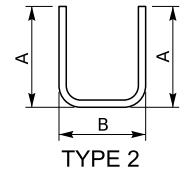
Section D-D



Section E-E

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A	B	C	D
B1e	Str.	9	8	48- 0	Cap				
B2e	Str.	10	5	48- 0	Cap Sides				
B3e	Str.	4	5	24- 3	Cap Seats				
B4e	14s	21	5	17- 5	Cap Stirrups	5- 9%	2- 8		
B5e	14s	21	5	17- 0	Cap Stirrups	5- 7	2- 8		
B6e	2s	11	5	3- 5	Cap Hangers	0- 6	2- 8		
B7e	Str.	2	5	2- 7	Wing A Vertical				
B8e	Str.	2	5	2-11	Wing A Vertical				
B9e	Str.	2	5	3- 3	Wing A Vertical				
B10e	Str.	2	5	3- 7	Wing A Vertical				
B11e	Str.	2	5	3-11	Wing A Vertical				
B12e	Str.	2	5	4- 3	Wing A Vertical				
B13e	Str.	2	5	4- 7	Wing A Vertical				
B14e	Str.	2	5	4-10	Wing A Vertical				
B15e	Str.	2	5	5- 2	Wing A Vertical				
B16e	Str.	8	5	5- 3	Wing A Vertical				
B17e	Str.	2	5	2- 6	Wing B Vertical				
B18e	Str.	2	5	2-11	Wing B Vertical				
B19e	Str.	2	5	3- 3	Wing B Vertical				
B20e	Str.	2	5	3- 7	Wing B Vertical				
B21e	Str.	2	5	4- 0	Wing B Vertical				
B22e	Str.	2	5	4- 4	Wing B Vertical				
B23e	Str.	2	5	4- 8	Wing B Vertical				
B24e	Str.	2	5	5- 1	Wing B Vertical				
B25e	Str.	8	5	5- 2	Wing B Vertical				
B26e	Str.	2	5	11- 8	Wing A Horizontal				
B27e	Str.	2	5	8- 7	Wing A Horizontal				
B28e	Str.	2	5	5- 4	Wing A Horizontal				
B29e	Str.	2	5	10- 7	Wing B Horizontal				
B30e	Str.	2	5	7-10	Wing B Horizontal				
B31e	Str.	2	5	4-10	Wing B Horizontal				
B32e	8	2	6	12- 7	Wing A Top	8-10	3- 9	1- 1 3/4	3- 6 1/8
B33e	8	2	6	11- 9	Wing B Top	8- 0	3- 9	1- 3 1/4	3- 6 1/8



COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF HIGHWAYS



REVISION	DATE

PREPARED BY  
**Division of  
Structural Design**

DATE: October 2024	CHECKED BY
DESIGNED BY: L. Likins	W. Deaton
DETAILED BY: L. Likins	W. Deaton

**END BENT 2**  
CROSSING  
Sturgeon Creek

ROUTE  
KY 3630

BRIDGE ID  
**055B00034N**  
SHEET NO.  
**S11**

COUNTY OF  
**JACKSON**  
DRAWING NUMBER  
**28908**

# PRECAST PRESTRESSED BOX BEAMS

## General Notes

**SPECIFICATIONS:** All references to the standard Specifications are to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction, with current supplemental specifications. All references to the AASHTO Specifications are to the current edition of the AASHTO LRFD Bridge Design Specifications, with interims.

**DESIGN LOADS:** Beam sections are designed for 1.25\*HL93 (KYHL93) Live Load.

**DESIGN LOAD DISTRIBUTION:** Contrary to AASHTO LRFD Bridge Design Specifications, the design moment and shear distribution for all beams is 0.5 lanes.

**FUTURE WEARING SURFACE:** These beams are designed for a 15 PSF future wearing surface load.

**SUBSTRUCTURE DESIGN LOADS:** Unfactored design reaction forces per beam end.  
DC (kips): Beam, Slab (if applicable), and Type II railing dead loads.  
DW (kips): Future wearing surface.  
LL (kips): Beam Live Load reaction per lane x Design load distribution.  
LL+I (kips): LL with Dynamic load allowance.

**DESIGN DEFLECTIONS:**  
 $\Delta_d$  (in.): Sum of the downwards deflections caused by the design 5" deck, railing, and future wearing surface. (Positive Downwards)  
 $\Delta_c$  (in.): Upwards midspan camber of the beam caused by prestressing minus the downward deflection of the beam due to self weight. (Positive Upwards)

<b>MATERIAL DESIGN SPECIFICATIONS:</b> for Steel Reinforcement for Prestressed Girder Concrete (Typ. U.N.O.)  for Class "AA" Concrete for Prestressing Steel	<b>FY = 60000 PSI</b> <b>F'C = 9000 PSI</b> <b>F'CI = 8000 PSI</b> <b>F'C = 4000 PSI</b> <b>F'S = 270000 PSI</b>
---	--

**DESIGN LENGTH:** Beam lengths shown in the Standards represent total beam length. Use the next greater designed section for non-Standard lengths.

**CONSTRUCTION METHOD:** Transferring bond stress to the concrete will not be allowed, nor releasing of end anchors until the concrete has attained a minimum compressive strength of F'CI as shown by standard cylinders made and cured identically with the girders; attain F'C at or prior to 28 days. Apply an initial prestress force of 33817 lbs. per low relaxation strand. Beams with honeycomb of such extent as to affect the strength of resistance to deterioration will not be accepted. The allowance of .0005L (length) is made for shortening of beams due to shrinkage and elastic change. Furnish shop plans showing a detensioning plan by numbering, in sequence, the strand pattern.

**PRESTRESSING STRANDS:** Ensure prestressing strands to be 1/2" oversize (0.167 sq. in.) uncoated seven-wire stress relieved, low-relaxation strands conforming to AASHTO M 203, Grade 270. If an alternate strand arrangement or strand type is preferred by the Contractor, the designer that developed the original plans will provide the design and also revise the original plans to reflect the changes. These design and plan modifications will be done at the Contractor's expense.

**CORROSION INHIBITOR:** Provide a corrosion inhibitor for B-type (non-composite) beams from the list of approved materials.

**BEVELED EDGES:** Bevel all exposed edges 3/4".

**BEAM SEALER:** For composite box beams (CB Beams), seal the full length of the exterior face of all exterior beams with the extent from the top of the beam to 1'-0" underneath the beam. For non-composite box beams (B beams), seal all faces of all beams, except take care to ensure the grout pockets are not sealed. Use an approved silane sealer as specified by the Division of Structural Design.

**REINFORCEMENT:** Dimensions shown from the face of concrete to reinforcement are clear distances. Spacing of reinforcement is from center to center of reinforcement. All steel reinforcement is to be epoxy coated in accordance with Section 811.10 of the Specifications. Consider bars marked "C" to be a stirrup for purposes of bend diameters. Non-epoxy reinforcement may be used for fabrication purposes, only, provided that the steel is not used in the top 5 1/2" of the beam and the location of the steel is indicated on the shop drawings.

**FABRICATION:** Beams shall not be fabricated more than 120 days before the deck is to be poured.

**GROUT:** Provide non-shrink grout for anchor dowels, shear keys, and tensioning rod block-outs conforming with Section 601.03.03 of the Specifications. When side by side superstructure is utilized, grouting will be completed after lateral tension rods have been fully tightened and before leveling devices have been removed. Include the cost of furnishing and placing grout in the price of beam.

**RAILING SYSTEM TYPE II:** ~~Furnish this material per these specifications.~~

ITEM	DESCRIPTION	MATERIAL SPECIFICATION	COATING SPECIFICATION
Post	W6x25	ASTM A36 or A572	A123
Channel	C7x9.8	ASTM A36 or A572	A123
Plate	1/2"x 7"	ASTM A36 or A572	A123
Tubing	8x4x0.1875	ASTM A500 or A501	A123
Bolts	5/8"	ASTM A307	A153
Nuts	for 5/8"	ASTM A563, Grade A or better	A153
Washers	for 5/8"	ASTM A563, Grade A or better	A153
Stud	1 1/4"	ASTM A108 (1045 C.D. Bar)	B633, Type II, Class 25
Ferrule	2 1/2"x 5"	ASTM A108 (11L17 Steel)	B633, Type II, Class 25
Wire	3/8"	ASTM A510 (1018 Steel)	B633, Type II, Class 25
Nut	for 1 1/4" Bolt	ASTM A108 (12L14 Steel)	B633, Type II, Class 25
Nut	for 1 1/4" Stud	ASTM A325M	B633, Type II, Class 25
Washers	for 1 1/4" Stud	ASTM A325M	B633, Type II, Class 25

Use the current edition of the references listed below with these standards.

### STANDARD DRAWINGS

BBP-003 Elastomeric Bearing Pads  
~~BHS-007 Railing System Type II~~  
BJE-001 Armored Edge & Neoprene Joints  
RBR-001 Steel Beam Guardrail  
RBR-005 Guardrail Components

### SPECIAL NOTES

for Corrosion Inhibitors



COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF HIGHWAYS



USER: Lizabeth.Likins

REVISION

DATE

PREPARED BY

Division of  
Structural Design

DATE: October 2024

CHECKED BY

DESIGNED BY: L. Likins

W. Deaton

DETAILED BY: L. Likins

W. Deaton

### BOX BEAM GENERAL NOTES

CROSSING

Sturgeon Creek

ROUTE

KY 3630

BRIDGE ID

055B00034N

SHEET NO.

S12

COUNTY OF

JACKSON

DRAWING NUMBER

28908

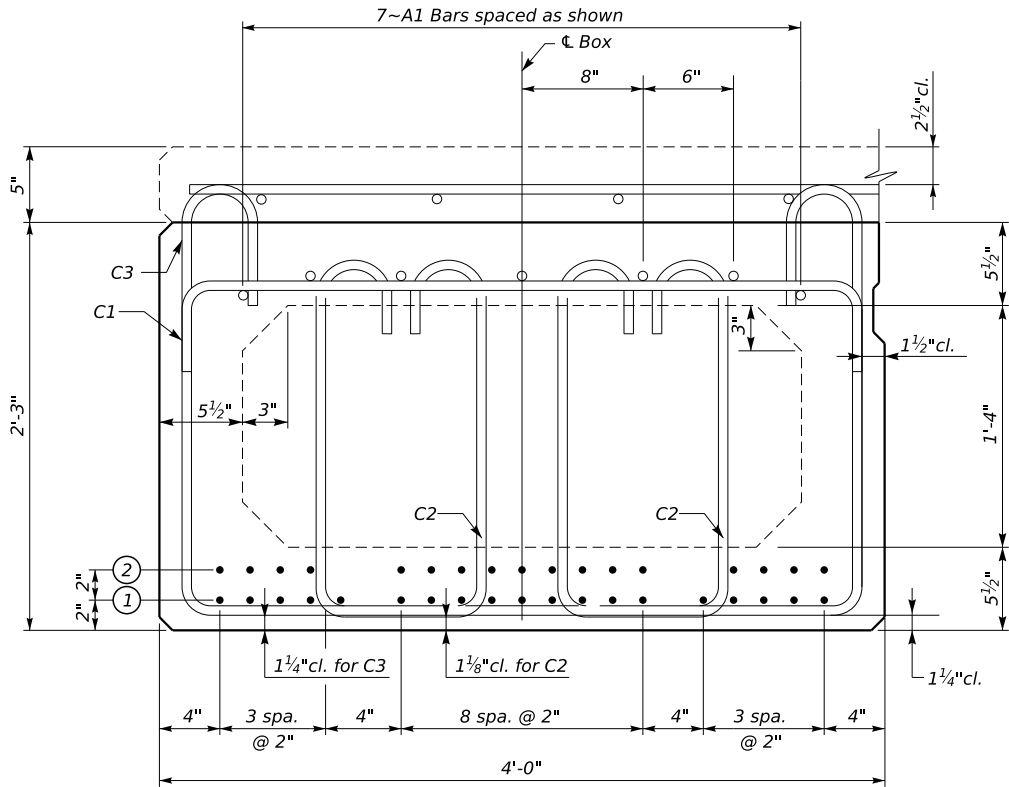
MicroStation v24.00.00.170

DATE PLOTTED: 22-NOV-2024

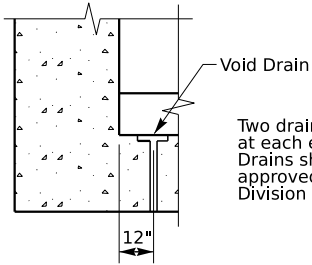
FILE NAME: J:\District11\RS & M\055B00034N\28908\DETAILS\28908.dgn

Strand Data with number indicated in rows													Box Beam Data							Straight Reinforcement			Maximum Allowable Camber				
Mark	Midspan						End						Total # of Strands	Concrete Stress (psi)		Total # of Beams	Approx. Weight (lbs)	No. of C Bars									
	Fully Stressed						Fully Stressed							f'c1	f'c			C1	C2	C3							
B1	19	17					19	17					36	8000	9000	6	58,263	97	6	97				Mark A1	Size #5	Length 40'-2"	2¼"

Note: A1 Bars ~2 Lengths, 2'-2" Min. Lap  
1" clear from ends of beam

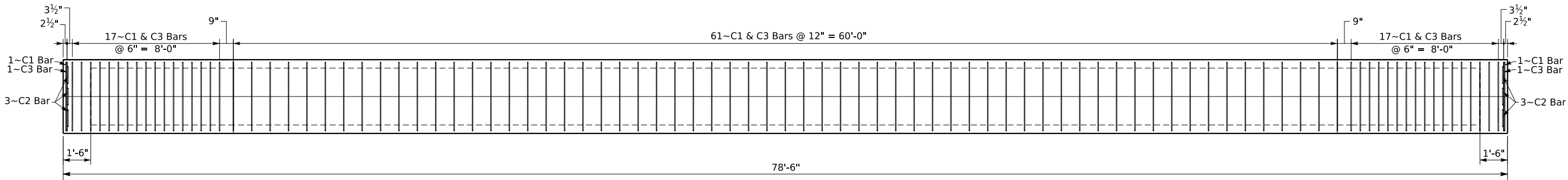
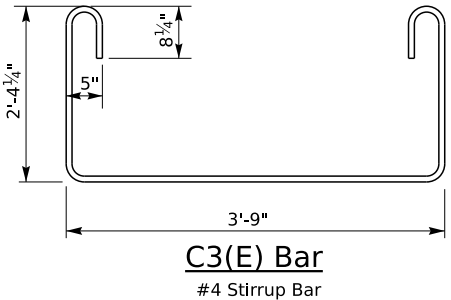
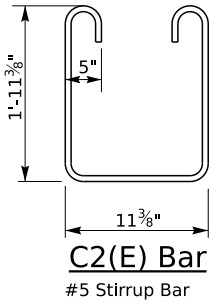
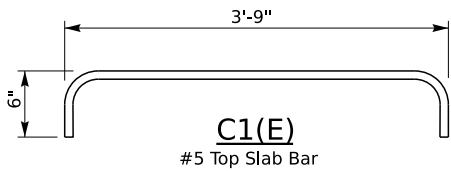


CB27 BEAM



Two drains are to be located at each end of each void. Drains shall be 1"Ø of a type approved by the Department's Division of Materials.

VOID DRAIN DETAIL



Plan View (CB27 BEAM)



COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF HIGHWAYS



USER: Lizabeth.Likins

REVISION

DATE

PREPARED BY  
**Division of  
Structural Design**

DATE: October 2024

DESIGNED BY: L. Likins

DETAILED BY: M. BawThawng

CHECKED BY

W. Deaton

W. Deaton

**BOX BEAM CB-27 DETAILS**

CROSSING  
Sturgeon Creek

ROUTE  
KY 3630

BRIDGE ID  
**055B00034N**  
SHEET NO.  
**S13**

COUNTY OF  
**JACKSON**  
DRAWING NUMBER  
**28908**

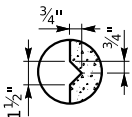
MicroStation v24.00.00.170

DATE PLOTTED: 22-NOV-2024

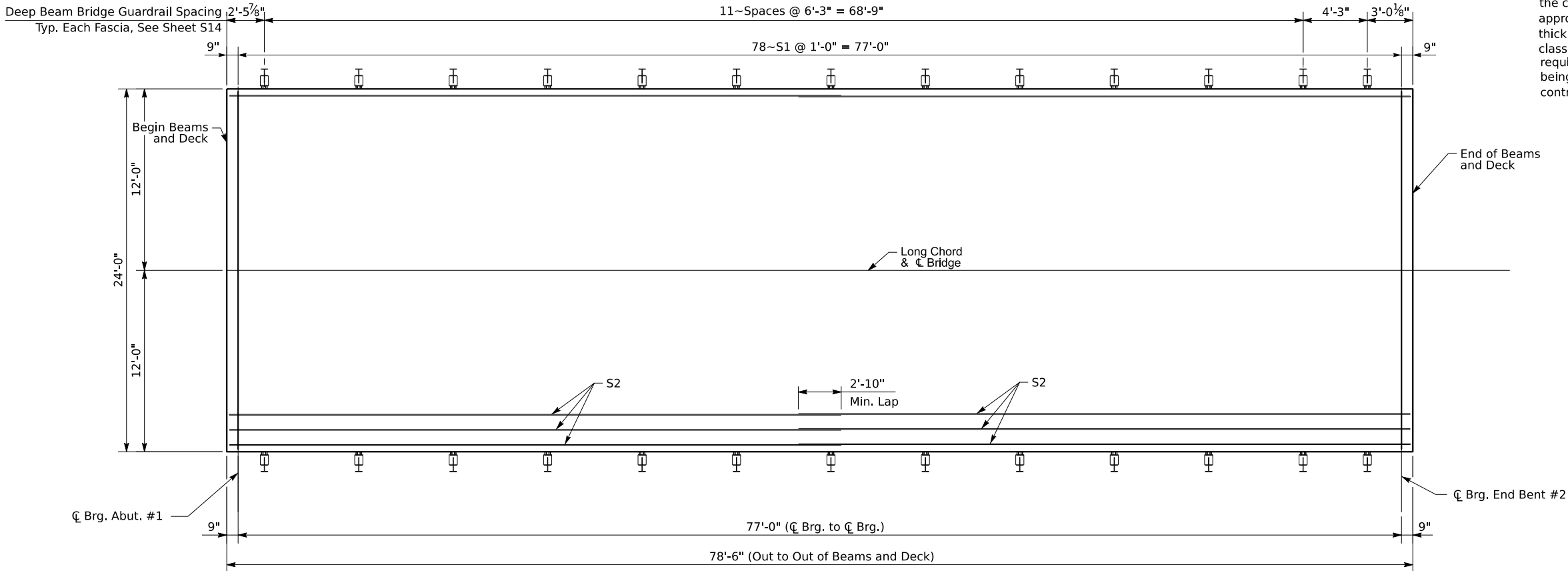
FILE NAME: J:\District11\RS & M\055B00034N\28908\DETAILS\28908.dgn

BILL OF REINFORCEMENT					
MARK.	TYPE.	NO.	SIZE	LENGTH	LOCATION
S1e	Str.	78	5	23- 8	Slab Transverse
S2e	Str.	48	5	40- 6	Slab Longitudinal

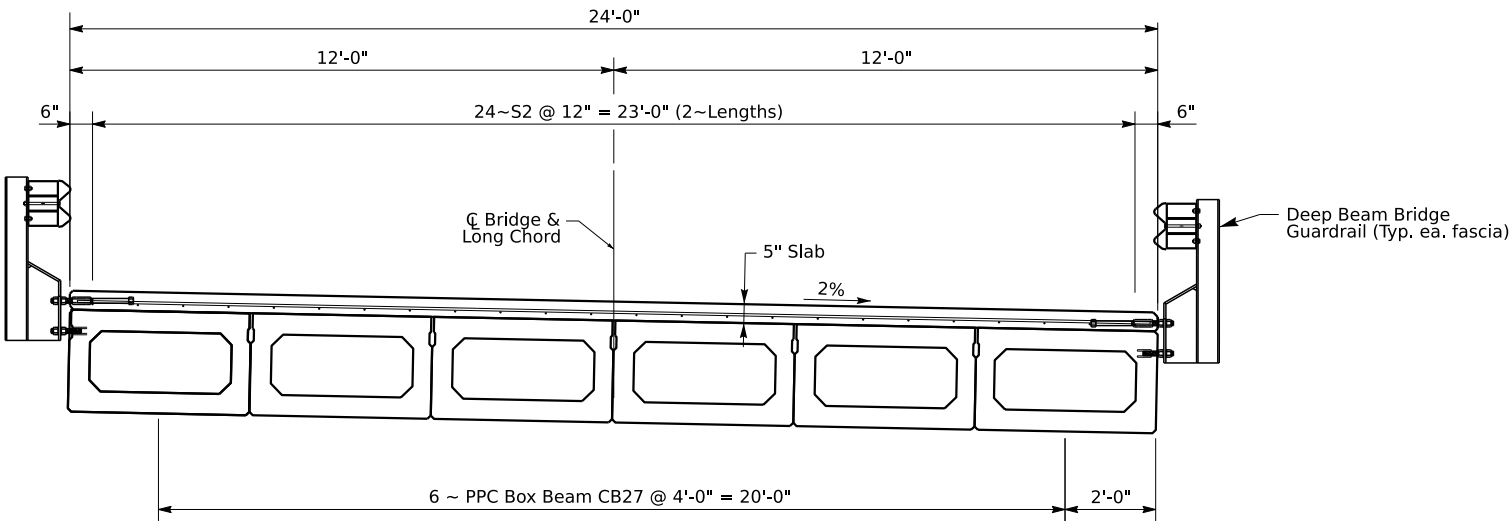
Note: Contrary to the Standard Drawings (5" thickness), the construction elevations will cause the slab to be approximately 7" thick at each end and go to approximately 5.5" thick at the center of the span. This is how the quantity of class "AA" concrete was calculated. Any additional concrete required above the plan quantity, due to beam camber being different from the designers assumptions, is the contractor's responsibility and at no cost to the department.



"V-Groove" Rustication



PLAN



TYPICAL SECTION

NOTE: See Std. Dwg. BGX-022, Joint Waterproofing for treatment at both substructures.



COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF HIGHWAYS



USER: Lizabeth.Likins

REVISION

DATE

PREPARED BY

Division of  
Structural Design

DATE: October 2024

DESIGNED BY: L. Likins

DETAILED BY: L. Likins

CHECKED BY

W. Deaton

W. Deaton

SUPERSTRUCTURE

CROSSING

Sturgeon Creek

ROUTE

KY 3630

BRIDGE ID

055B00034N

SHEET NO.

S14

COUNTY OF

JACKSON

DRAWING NUMBER

28908

MicroStation v24.00.00.170

DATE PLOTTED: 22-NOV-2024

FILE NAME: J:\District11\RS & M\055B00034N\28908\DETAILS\28908.dgn



CONSTRUCTION ELEVATIONS									
LOCATION	LEFT FASCIA			CL			RIGHT FASCIA		
	CONSTR. ELEV.	TOP OF BEAM	DIM. "X"	CONSTR. ELEV.	TOP OF BEAM	DIM. "X"	CONSTR. ELEV.	TOP OF BEAM	DIM. "X"
Skew Line AA	964.571			964.336			964.101		
Skew Line BB	964.566			964.330			964.095		
Skew Line CC	964.060			963.820			963.580		
Skew Line DD	964.055			963.815			963.575		
Grid Line 1	964.555			964.318			964.082		
Grid Line 2	964.523			964.283			964.043		
Grid Line 3	964.488			964.248			964.008		
Grid Line 4	964.448			964.208			963.968		
Grid Line 5	964.402			964.162			963.922		
Grid Line 6	964.350			964.110			963.870		
Grid Line 7	964.291			964.051			963.811		
Grid Line 8	964.226			963.986			963.746		
Grid Line 9	964.156			963.916			963.676		
Grid Line 10	964.083			963.843			963.603		

NOTES FOR ELEVATIONS TAKEN ON PRESTRESSED CONCRETE BOX BEAMS

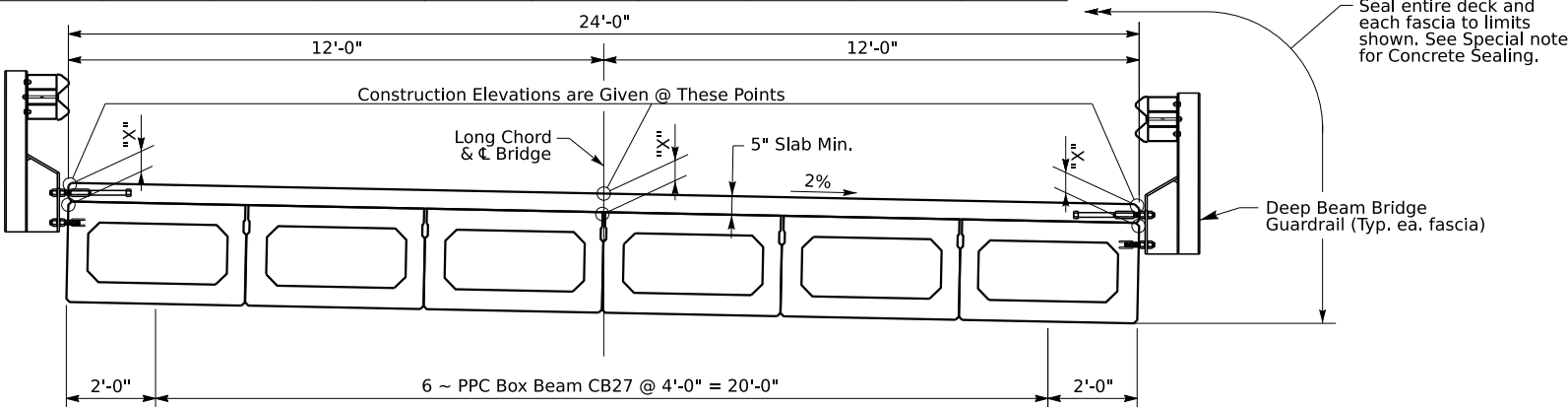
Take elevations on top of beam at points indicated after the beams have been laterally tensioned and grouted. The beam elevations are to be read to three decimal places and entered in tables under "Top of Beam" elevations.

Compute dimension "X" as follows: "Construction Elevation" minus "Top of Beam" elevation equals dimension "X". Construction Elevations include camber due to weight of the concrete slab and barrier. Measuring of dimension "X" gives the final check on beam tolerances for camber, beam damage, and errors in erection that produce reverse cambers, sags, and unsightly fascia beams.

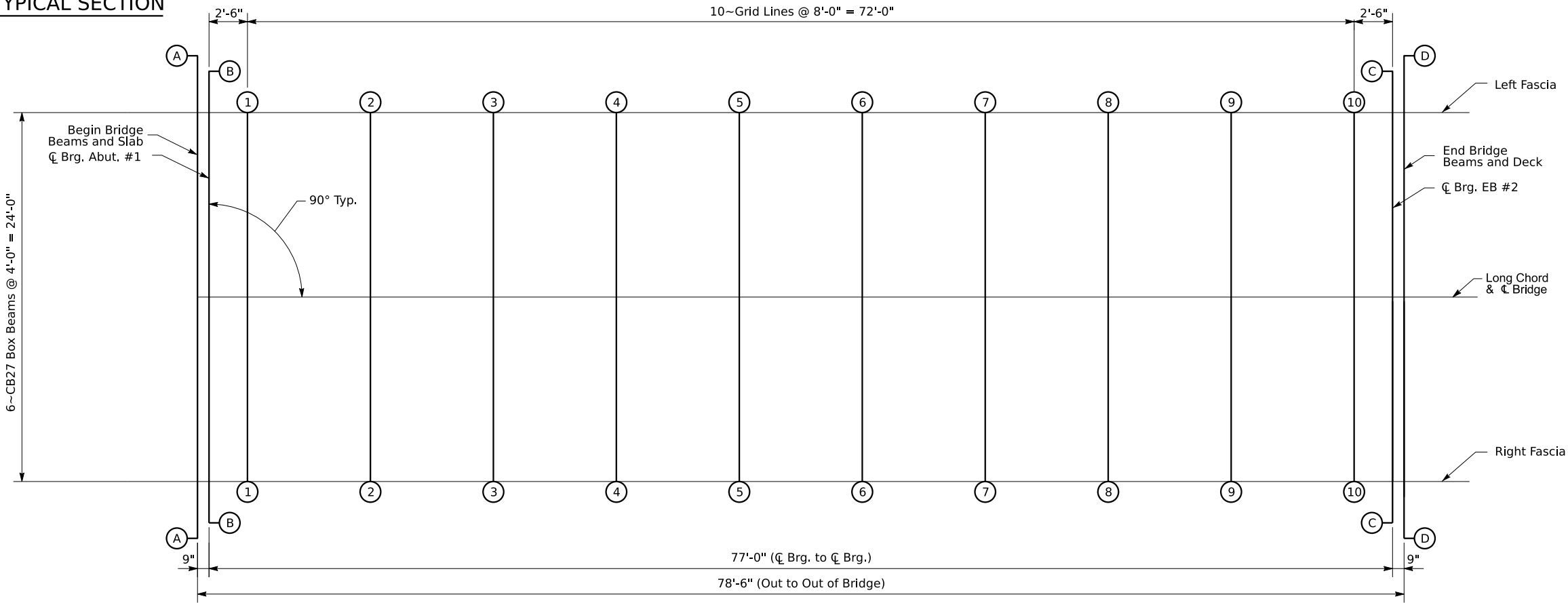
The minimum allowable dimension "X" or slab thickness is 5" (0.4167') If any computed dimension "X" is less than that, adjustments will need to be made to the dimensions "X" on some or all grid lines. Adjustments must meet approval of the Engineer.

For setting templates, measure dimension "X" above top of beams for top of template. Do not set template by elevations.

Temporary supports or shoring will not be permitted under the girders when pouring the concrete floor slab or when taking "Top of Beam" elevations.



TYPICAL SECTION



GRID LAYOUT



COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF HIGHWAYS



USER: Lizabeth.Likins

REVISION

DATE

PREPARED BY  
**Division of  
Structural Design**

DATE: October 2024

DESIGNED BY: L. Likins

DETAILED BY: L. Likins

CHECKED BY

W. Deaton

W. Deaton

**CONSTRUCTION ELEVATIONS**

CROSSING  
Sturgeon Creek

ROUTE  
KY 3630

BRIDGE ID  
055B00034N  
SHEET NO.  
S15

COUNTY OF  
JACKSON  
DRAWING NUMBER  
28908

MicroStation v24.00.00.170

DATE PLOTTED: 22-NOV-2024

FILE NAME: J:\District11\RS & M\055B00034N\28908\DETAILS\28908.dgn

