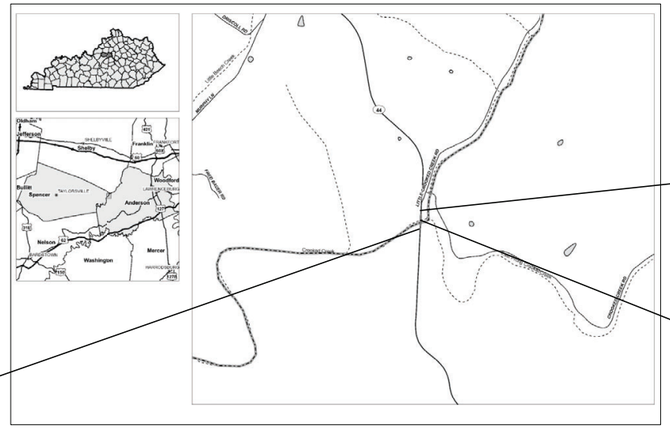
COUNTY OF	ITEM NO.	SHEET NO.
ANDERSON	7-10020	R1

TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
ANDERSON COUNTY
KY 44 OVER CROOKED CREEK
STA. 42+25.75



LOCATION MAP

INDEX OF SHEETS

SPECIAL NOTES

- PLACING BRIDGE OVERLAY APPROACH PAVEMENT
- SEDIMENT PREVENTION AND EROSION CONTROL
- TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS
- STRUCTURES WITH OVER THE SIDE DRAINAGE
- CONTRACT COMPLETION DATE AND LIQUIDATED DAMAGES ON STRUCTURES WITH BRIDGE REPAIR CONTRACTS
- TREE CLEARING RESTRICTION
- CONCRETE SEALING
- NATIONAL BENCHMARK MONUMENT DISC REMOVAL OR REPLACEMENT
- ADDITIONAL ENVIRONMENTAL COMMITMENTS

SPECIAL PROVISIONS

69 - EMBANKMENT AT END BENT STRUCTURES

SPECIFICATIONS

2019 Standard Specifications for Road and Bridge Construction.

2017 AASHTO LRFD Bridge Design Specifications with Current Interims.

REVISION	DATE

STANDARD DRAWINGS

BBP-003-02	ELASTOMERIC BEARING PADS FOR BOX BEAMS
BDP-002-03	BOX BEAM BEARING DETAILS
BDP-003-03	BOX BEAM MISCELLANEOUS DETAILS
BGX-006-10	STENCILS FOR STRUCTURES
BGX-012-02	GEOTECHNICAL LEGEND
BJE-001-13	NEOPRENE EXPANSION DAMS AND ARMORED EDGES
BPS-003-09	HP12 X 53 STEEL PILE
RBR-005-11	GUARDRAIL COMPONENTS
RBR-010-06	GUARDRAIL TERMINAL SECTIONS
RBR-016-05	TIMBER GUARDRAIL POSTS
RDD-021-07	FLUME INLET TYPE 2
RDD-040-05	CHANNEL LINING CLASS II AND III
RDI-040-01	EROSION CONTROL BLANKET SLOPE INSTALLATION
RDX-210-03	TEMPORARY SILT FENCE
RDX-215-01	TEMPORARY SILT FENCE WITH WOVEN WIRE FENCE FABRIC
RDX-225-01	SILT TRAP TYPE B
RGX-001-06	MISCELLANEOUS STANDARDS PART 1
RGX-200-01	ONE POINT PROCTOR FAMILY OF CURVES
RPM-110-07	APPROACHES, ENTRANCES AND MAIL BOX TURNOUT

ACTIVE SEPIAS

SEPIA 009	TREATMENT OF EMBANKMENTS AT END-BENTS
SEPIA 010	TREATMENT OF EMBANKMENTS AT END-BENTS - DETAILS
SEPIA 024	TYPICAL GUARDRAIL INSTALLATIONS
SEPIA 027	STEEL BEAM GUARDRAIL ("W" BEAM)
SEPIA 028	STEEL GUARDRAIL POSTS
SEPIA 032	DELINEATORS FOR GUARDRAIL
SEPIA 033	GUARDRAIL SYSTEM TRANSITION
SEPIA 047	BOX BEAM GENERAL NOTES AND REFERENCES
SEPIA 053	RAILING SYSTEM 40 INCH SINGLE SLOPE
SEPIA 057	THRIE-BEAM GUARDRAIL TRANSITION (TL-3)
SEPIA 060	CURB AND GUTTER, CURBS AND VALLEY GUTTER

DESIGN CRITERIA

CLASS OF HIGHWAY: RURAL MAJOR COLLECTOR
TYPE OF TERRAIN:
DESIGN SPEED:
REQUIRED NPSD:
REQUIRED PSD:
LEVEL OF SERVICE:
ADT PRESENT (2018): 385
ADT FUTURE ( ):
DHV:
D %:
T %:

GEOGRAPHIC COORDINATES

LATITUDE 38 DEGREES 01 MINUTES 37 SECONDS NORTH
LONGITUDE 85 DEGREES 06 MINUTES 35 SECONDS WEST

DESIGNED

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

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-U-Dig (BUD) 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.

REV. NO.	SHEETS REVISED	DATE

TABLE OF REVISIONS

EXISTING BRIDGE ID 003B00029N

PREPARED BY AECOM

BRIDGING KENTUCKY

ROADWAY SHEETS R1–R4

STATE OF KENTUCKY — DARRELL ANDREW SMITH — 30964 — LICENSED PROFESSIONAL ENGINEER

Digitally signed by Smith, Darrell
DN: cn=Smith, Darrell, ou=USLVL1
Date: 2020.04.10 17:05:30 -04'00'
Smith, Darrell

STRUCTURE SHEETS S1–S18

STATE OF KENTUCKY — JOHN ROBERT CROSSLIN — 22242 — LICENSED PROFESSIONAL ENGINEER — 4/10/2020

John Robert Crosslin, PE
KY. NO. 22242

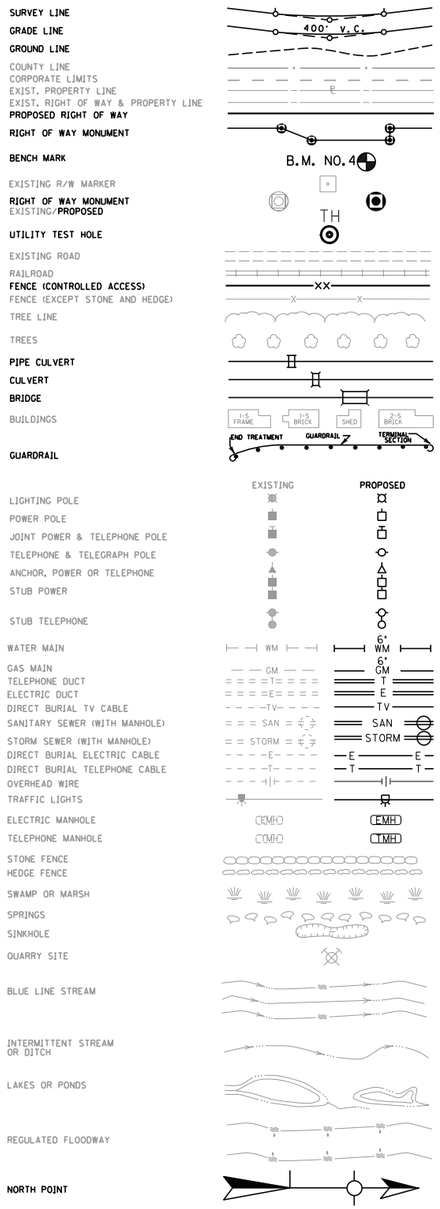
Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
COUNTY OF
ANDERSON

ITEM NO. 7-10020.00
DRAWING NO. 28332
PROJECT NUMBER:
LETTING DATE: MAY 22. 2020

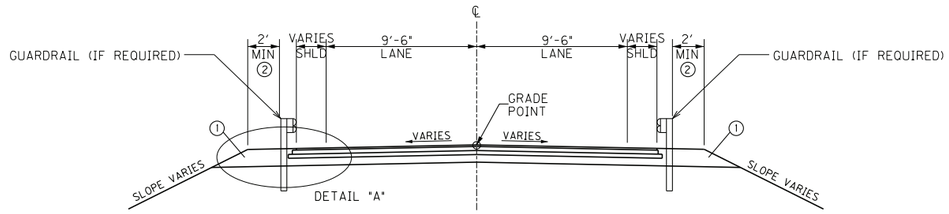
RECOMMENDED BY: _____ PROJECT MANAGER DATE:

PLAN APPROVED BY: _____ STATE HIGHWAY ENGINEER DATE:

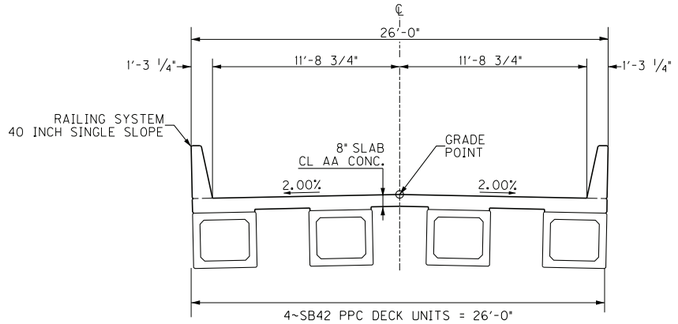
CONVENTIONAL SIGNS



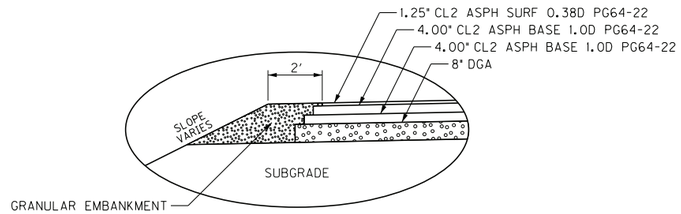
TYPICAL SECTIONS
KY 44



ROADWAY TYPICAL SECTION
KY 44



BRIDGE NORMAL SECTION
KY 44



DETAIL "A"
FULL-DEPTH MAINLINE & SHOULDER PAVEMENT RECONSTRUCTION
NOT TO SCALE

COUNTY OF	ITEM NO.	SHEET NO.
ANDERSON	7-10020	R2

FULL-DEPTH MAINLINE & SHOULDER PAVEMENT RECONSTRUCTION

TRAFFIC LANES:

DENSE GRADED AGGREGATE	8" DEPTH
CL2 ASPH BASE 1.00D PG64-22	4" DEPTH
CL2 ASPH BASE 1.00D PG64-22	4" DEPTH
CL2 ASPH SURF 0.38D PG64-22	1.25" DEPTH

SHOULDERS:

DENSE GRADED AGGREGATE	8" DEPTH
CL2 ASPH BASE 1.00D PG64-22	4" DEPTH
CL2 ASPH BASE 1.00D PG64-22	4" DEPTH
CL2 ASPH SURF 0.38D PG64-22	1.25" DEPTH

ENTRANCES:

DENSE GRADED AGGREGATE	4" DEPTH
CL2 ASPH BASE 1.00D PG64-22	2.25" DEPTH
CL2 ASPH SURF 0.38D PG64-22	1.25" DEPTH

NOTES:
SEE SHEET R3 FOR LIMITS OF FULL DEPTH PAVEMENT CONSTRUCTION. AREAS OUTSIDE OF FULL DEPTH LIMITS SHALL BE OVERLAID. APPROACH PAVEMENT SHALL BE IN ACCORDANCE WITH THE SPECIAL NOTE FOR BRIDGE OVERLAY APPROACH PAVEMENT.

① DGA BASE OR OTHER GRANULAR MATERIAL APPROVED BY THE ENGINEER NEEDED FOR SHOULDERS OUTSIDE OF PAVED AREA WILL BE MEASURED AND PAID AS GRANULAR EMBANKMENT IN ACCORDANCE WITH THE SPECIAL NOTE FOR BRIDGE OVERLAY APPROACH PAVEMENT.

② CONTRARY TO SEPIA 024, WIDENING FOR GUARDRAIL SHOULD INCLUDE THE WIDTH OF THE GUARDRAIL AND 2 FEET OF FILL BEHIND THE GUARDRAIL POST.

NOT TO SCALE

PREPARED BY AECOM

BRIDGING KENTUCKY

KY 44
LEGEND & TYPICAL SECTIONS SHEET

PROJECT COORDINATES
Coordinates for horizontal control were obtained by redundant GPS observations using Trimble R12 GNSS receivers on the NAD83 Kentucky State Plane Coordinate System, KY Single Zone, US Survey Feet utilizing the KYCORS RTN GPS Network on March 5, 2020. Coordinates shown are State Plane Coordinates, US Survey Feet. No project datum factor was calculated or used for this project.

BASIS OF ELEVATIONS
Elevations were established by redundant GPS observations using Trimble R12 GNSS receivers on the NAVD88 vertical datum, GEOID12B utilizing the KYCORS RTN Network on March 5, 2020 and were adjusted by closed differential level loop based on the elevation of CP 101 = 672.01'.

GUARDRAIL STEEL "W" BEAM ~ KY 44 ℄							
SIDE	STA.	TO	STA.	SINGLE FACE-A (LF)	SINGLE FACE (LF)	END TREATMENT (EACH)	THRIE-BEAM GUARDRAIL TRANSITION (TL-3) (EACH)
RT	40+38	-	41+06	-	75	TERM. SECT. NO. 1	1
LT	40+54	-	40+92	-	37.5	TIE TO EXIST.	1
LT	43+46	-	43+83	-	37.5	TIE TO EXIST.	1
RT	43+59	-	43+97	-	37.5	TIE TO EXIST.	1

KY-44 over Crooked Creek
Existing Bridge #003B00029N

COUNTY OF	ITEM NO.	SHEET NO.
ANDERSON	7-10020	R3

COORDINATE CONTROL POINTS

POINT	DESCRIPTION	State Plane Coordinates			STATION	OFFSET
		NORTH (Y)	EAST (X)	ELEV. (Z)		
CP 101	5/8" REBAR & CAP	3898042.85	5105669.30	672.01	40+54.90	16.29' RT
CP 102	5/8" REBAR & CAP	3898185.46	5105727.23	650.92	42+00.13	67.29' RT
CP 103	5/8" REBAR & CAP	3898305.55	5105652.15	665.76	43+16.47	13.48' LT

ENVIRONMENTALLY CLEARED AREA

56-06
James J. Vermillion and Karen M. Vermillion
D.B. 120, Pg. 166

CONSTRUCT SNOW FENCE - 1128 LF
NOTE: ADDITIONAL QUANTITY OUTSIDE OF EXISTING RIGHT OF WAY SHALL BE INCIDENTAL TO ITEM SNOW FENCE

5-3
Pamela Gay Walls and Stephen Blake Young
D.B. 141, Pg. 352

CONSTRUCT EDGE KEY
RT/LT STA. 40+25 (22 LF)
RT/LT STA. 44+25 (22 LF)

BEGIN PROJECT CONSTRUCTION
STA. 40+25
N 3898013.7675
E 5105651.5894

END PROJECT CONSTRUCTION
STA. 44+25
N 3898413.3042
E 5105670.8359

41+00 42+00 43+00 44+00

EXIST R/W

SIDE SLOT DRAIN (SEE SHEET S02 FOR LOCATION & SEPIA 053 FOR FURTHER DETAIL)

REMOVE AND REPLACE SIGN

T-Post

STANDARD HEADER CURB (SEE SEPIA 057)

CORE AND SAMPLE BORING HOLE #1

CORE AND SAMPLE BORING HOLE #2

℄ KY 44

N2° 45'29"E

BBB El.=664.66 BBB El.=664.43 BBB El.=663.40 BBB El.=665.46 BBB El.=664.73 BBB El.=664.07 BBB El.=663.28

C.P. 101
STANDARD HEADER CURB (SEE SEPIA 057)

C.P. 103

C.P. 102

139+5x
END NRS 335-8

736+57
END NRS 335-8

REMOVE
Weight Limit 10 Tons

2' FB OUTLET DT

FLUME INLET - TYPE 2

STANDARD HEADER CURB (SEE SEPIA 057)

STA. 42+25.75 CONSTRUCT
65'-84'-65' THREE SPAN BRIDGE
B42X48 BOX BEAMS
@ 30° SKEW LEFT

END FULL DEPTH PAVEMENT CONSTRUCTION
STA. 43+55

BEGIN FULL DEPTH PAVEMENT CONSTRUCTION
STA. 40+95

POB 40+00.00

POE 44+50.00

Crooked Creek

Woven Wire

4' Plank

Gate

Old Well

Pond

Anderson County Bdry.

DITCH CONSTRUCTION							GEOTEXTILE FABRIC CLASS 1 QUANTITY
STATION	LOCATION	SIZE-SHAPE & TYPE	CHANNEL LINING TYPE	CHANNEL LINING QUANTITY	D	T	
43+67	LT	2' FB DT OUTLET	CL III	19 TON	1	2.0	19 SQYD
43+81	RT	2' FB DT OUTLET	CL III	19 TON	1	2.0	19 SQYD

RT STA. 40+28.69
CONST. 12' WIDE ENTRANCE
17 SQYD 1.25" SURFACE
17 SQYD 2.25" BASE
17 SQYD 4" DGA

REMOVE GUARDRAIL
90 LF - LT STA. 40+48 TO LT STA. 41+38
103 LF - RT STA. 40+48 TO RT STA. 41+51
92 LF - LT STA. 42+98 TO LT STA. 43+90
92 LF - RT STA. 43+11 TO RT STA. 44+03

STA. 42+25 REMOVE EXIST STRUCTURE
(3-50 FT R.C.D.G. - 30 DEG SKEW BRIDGE)

56-06
James J. Vermillion and Karen M. Vermillion
D.B. 120, Pg. 166

*3432 Witness Pin

5-1
Ron Nelson and Linda J. Nelson
D.B. 255, Pg. 260

5-2
Garrett L. Perry
D.B. 291, Pg. 608
(see PC D. Pg. 65)

ENVIRONMENTALLY CLEARED AREA

PROPOSED CENTERLINE COORDINATE DATA

POINT	State Plane Coordinates		STATION
	NORTH (Y)	EAST (X)	
POB	3897988.7965	5105650.3865	40+00.00
POE	3898438.2752	5105672.0388	44+50.00

NOTE: ALL MATERIAL THAT WAS PLACED OR THAT HAD FALLEN INTO STREAM SHALL BE REMOVED BY THE CONTRACTOR AT THE END OF THE PROJECT AND THE STREAM SHALL BE RESTORED TO ITS PRECONSTRUCTION CONDITION.

REASONABLE MEANS OF INGRESS AND EGRESS SHALL BE MAINTAINED TO ALL PROPERTIES WITHIN THE PROJECT LIMITS. ACCESS TO FIRE HYDRANTS MUST ALSO BE MAINTAINED AT ALL TIMES.

0' 20' 40' 80'

SCALE: 1"=40'

PREPARED BY AECOM

BRIDGING KENTUCKY

KY 44
PLAN SHEET
STA. 40+00 TO STA. 44+50

FILE NAME: ...\Disciplines\Roadway\Drawing\R3
USER: darrell.smith
DATE PLOTTED: 4/10/2020 4:57:03 PM
E-SHEET NAME:
MicroStation v8.11.9.867

COUNTY OF	ITEM NO.	SHEET NO.
ANDERSON	7-10020	R4

SCALE: 1" =40' HORIZONTAL
1" = 4' VERTICAL

NOTE: ALL MATERIAL THAT WAS PLACED OR THAT HAD FALLEN INTO STREAM SHALL BE REMOVED BY THE CONTRACTOR AT THE END OF THE PROJECT AND THE STREAM SHALL BE RESTORED TO ITS PRECONSTRUCTION CONDITION.

DATUM

676 674 672 670 668 666 664 662 660 658 656 654 652 650 648 646 644 642 640

BEGIN PROJECT CONSTRUCTION STA. 40+25

-4.85%

PVC 40+47.00
Elev 673.53

L = 70.00 FT
G1 = -4.85%
G2 = -1.85%
E = 0.26 FT
K = 23.35
HLSD = 244.45 FT

PVI 40+25.00
Elev 674.60

PVI 40+82.00
Elev 671.83

PVT 41+17.00
Elev 671.19

PROPOSED GRADE

-1.85%

STA. 42+25.75 CONSTRUCT 65'X84'X65' THREE SPAN BRIDGE B42X48 BOX BEAMS @ 30° SKEW LEFT

PVC 43+35.00
Elev 667.16

L = 90.00 FT
G1 = -1.85%
G2 = 1.12%
E = 0.33 FT
K = 30.32
HLSD = 273.88 FT

EO 43+91.07
Elev 666.64

PVT 44+25.00
Elev 666.83

2%

EXISTING GROUND

PVI 43+80.00
Elev 666.33

END PROJECT CONSTRUCTION STA. 44+25

PROPOSED LOW BEAM ELEV 662.84'

EXISTING HYDRAULIC OPENING = 2977 SF
PROPOSED HYDRAULIC OPENING = 3419 SF

NOTE: PROPOSED BRIDGE GRAPHICAL REPRESENTATION ONLY. FOR INFORMATIONAL PURPOSES ONLY. SEE STRUCTURE SHEETS FOR FURTHER INFORMATION.

SEE STRUCTURE SHEETS FOR MORE INFORMATION

STRUCTURE REMOVAL NOTE:
THE EXISTING 3-50 FT R.C.D.G. - 30 DEG SKEW THREE SPAN BRIDGE SHALL BE REMOVED IN ACCORDANCE WITH THE CURRENT SPECIFICATIONS. ALL MATERIAL IN THE EXISTING STRUCTURE SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN ACCORDANCE WITH THE CURRENT SPECIFICATIONS. LUMP SUM PAYMENT IN FULL SHALL INCLUDE THE REMOVAL OF THE BRIDGE, ABUTMENTS, PIERS, AND APPURTENANCES.

40+00	41+00	42+00	43+00	44+00	45+00
675.9	674.6	673.4	672.3	671.5	670.8
674.60	674.60	673.39	672.34	671.56	671.04
					650.0
					670.58
					646.5
					670.12
					664.7
					669.65
					640.5
					669.19
					664.4
					668.73
					644.7
					668.27
					648.3
					667.80
					667.4
					667.34
					666.9
					666.92
					666.7
					666.68
				666.5	666.8
				666.65	666.83
					667.0

8' 4' 2' 0' — 0' 20' 40' 80'

PREPARED BY AECOM

BRIDGING KENTUCKY — Renovate | Renovar | Regalare

KY 44
PROFILE SHEET
STA. 40+00 TO STA. 44+50

FILE NAME: C:\PW_WORKING\D0251366\R4.DGN
USER: darrell.smith
DATE PLOTTED: April 9, 2020
E-SHEET NAME:
MicroStation v8.11.9.867

General Notes

Specifications: References to the specifications are to the current edition of the 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 AASHTO LRFD Bridge Design Specifications, 8th edition with interims.

Design Load: This bridge is designed for KYHL-93 live load, (i.e. 1.25xAASHTO HL93 live load). This bridge is designed for a future wearing surface of 15 psf.

Design Method: All reinforced concrete members are designed to be equivalent or greater than the load and resistance factor design method as specified in the current AASHTO Specifications.

Materials Design Specifications:

For Class "A" Reinforced Concrete	f'c = 3500 psi
For Class "AA" Reinforced Concrete	f'c = 4000 psi
For Steel Reinforcement	fy = 60000 psi
For Pile Steel	fy = 50000 psi

Material Specifications: AASHTO Specifications or ASTM, current edition, as designated below shall govern the materials furnished.

AASHTO M153	Premolded Cork Filler, Type II
AASHTO M-31	Deformed and Plain Billet-Steel for Concrete Reinforcement, Grade 60

Preformed Cork Expansion Joint Material: Preformed Cork Expansion Joint Material shall conform to subsection 807.04.02 (Type II) of the Kentucky Department of Highways Standard Specifications.

Payment for Precast Concrete Beams: The basis of payment for the Prestressed Concrete Beams shall be at the contract unit price per linear foot of beam, in accordance with the specifications.

Slope Protection: Slope Protection at abutments shall be dry cyclopean stone riprap in accordance with the plans and specifications. Geotextile Fabric, Class I shall be placed between the embankment and the slope protection in accordance with Standard Specifications 214 and 843. Payment for Geotextile Fabric, Class I, shall be considered incidental to the unit price bid for Dry Cyclopean Stone Riprap.

Stay-In-Place Metal Forms: Stay-In-Place Metal Forms may be used on bridge decks under the following additional conditions:

The valleys of forms shall be filled with trimmed styrofoam to eliminate increased dead load from concrete.

The welding shall be performed by a certified welder.

Piling: Piling shall be driven to practical refusal as defined on the pile record sheet.

Test piles shall be driven where designated on the plans to determine the length of pile required.

All test piles shall be accurately located so that they may be used in the finished structure.

Contrary to the standard drawings for steel piling, mill test reports are not required to be notarized.

Pile Points: Provide pile points for all piles. Pile points shall be in accordance with Section 604 of the specifications and of the type shown on the pile record sheet.

Wind Load: This bridge is designed for a wind load based on a wind velocity of 100 mph.

Concrete: Class "AA" Concrete is to be used throughout the superstructure and in the portions of the substructure above the tops of caps. Class "A" concrete is to be used in the substructure below the caps.

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. Any reinforcing bars designated by 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.

Construction Identification: The names of the Prime Contractor and the Sub-Contractor shall be imprinted in the concrete with 1 inch letters at a location designated by the engineer. The contractor shall furnish all plans, equipment and labor necessary to do the work for which no direct payment will be made.

Beveled Edges: All exposed edges shall be beveled ¾", unless otherwise shown.

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: The fabricator shall submit all required shop plans, by email to SHOP_003B00029N@docs.e-Builder.net, for review. These submissions shall depict the shop plans in .PDF format, as either 11"x17" or 22"x36" sheets. Designers will make review comments on these electronic submissions as needed and, if required, shall return them to the fabricator for corrections and resubmittal. Upon acceptable reconciliation of all comments, files shall be sent to the Bridging Kentucky Shop Plan Coordinator for distribution. Only plans submitted directly to the Shop Plan Coordinator will be distributed. Additionally, only plans electronically stamped "Distributed by The Bridging Kentucky Program Team" are to be used for fabrication. While this process does not require the submission of paper copies, the Engineer of Record reserves the right to require such copies on a case by case basis.
When any changes to the design plans are proposed, the shop drawings reflecting these changes shall be submitted through the process above.

Note: The designation in the email 003B00029N refers to the Bridge ID number which is located on the Title Sheet, R1 of the Bridge Plans. Example: SHOP_003B00029N@docs.e-Builder.net

Utilities: The contractor shall be responsible for locating any and all existing utilities prior to excavation of material or installation of guardrail or other construction activities that may involve utilities (overhead or underground).

Verifying Field Conditions: The contractor shall field verify all dimensions before ordering material. New material that is unsuitable because of variations in the existing structure shall be replaced at the contractor's expense.

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

Slab Pour Sequences: Ensure the entire superstructure slab is poured continuously, out to out, before allowing any concrete to set.

Concrete Sealer:
Apply concrete sealer in accordance with the Special Note for Concrete Sealing and to the limits as indicated in the plans.

Elastomeric Bearing Pads: Elastomeric Bearing Pads shall conform to the AASHTO Standard Specifications for Highway Bridges.

Bearings shall be Low Temperature Grade 3 with a shear modulus between 95 psi and 130 psi and shall be subjected to the load testing requirements corresponding to Design Method B. The cost of bearing pads is to be included in the unit price per linear feet for Precast Beams.

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

Armored Edge: Fabricate armored edge to match cross slope and parabolic crown at each end of bridge.

Foundation Preparation: Foundation Preparation shall be in accordance with Section 603 of the Specifications.

Foundation excavations should be properly braced/shored to provide adequate safety to persons working in or around excavations. Bracing should be performed in accordance with applicable federal, state and local guidelines.

Temporary shoring, sheeting, cofferdams, and/or dewatering methods may be required to facilitate foundation construction. It should be anticipated that groundwater will be encountered at foundation locations within the flood plain.

Temporary shoring, bracing, sheeting, cofferdams and dewatering shall be included in the Lump Sum Bid for Foundation Preparation.

Structural Granular Backfill: Materials for Structural Granular Backfill shall be in accordance with Section 805 of the Specifications.

Contrary to the Specifications, Structural Granular Backfill will not be measured for payment but shall be included in the Lump Sum Bid for Foundation Preparation.

Spread Footing: Based on a review of the existing subsurface conditions and anticipated structural loads, it is recommended that rock bearing foundation system consisting of spread footings be used for pier substructure elements. A presumptive bearing resistance of 20 ksf on unweathered bedrock is being recommended.

Excavation for footings at the structure locations should be level and free of loose, water softened material, etc. Additional rock excavation to achieve suitable bearing conditions may be required depending upon topography and bedrock weathering conditions.

Solid rock excavation will be required for installation of the substructure's spread footings. The contractor shall take care during blasting and other excavation methods to avoid over-breakage and damage to the bedrock beneath the footings.

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 shall 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.

Bearing elevation of footings may be adjusted at the discretion of the Engineer if competent, unweathered bedrock is found at a higher elevation than specified for the respective substructure element. The top of new spread footings should be fully embedded into unweathered bedrock. At a minimum, two-foot embedment into competent bedrock shall be maintained.

Prior to placement of any concrete or reinforcing steel in a foundation excavation, the excavation bottom should be clean and all soft, wet, or loose materials should be removed. In no case should concrete be placed upon compressible or water-softened materials. Any clay seams or suspect weak materials at or near the bearing elevation will need to be undercut and replaced with mass concrete.

Concrete placement for footings should be placed as soon as practical after completion of the footing excavation. If the bedrock becomes softened at bearing elevation, the softened material should be undercut to unweathered material prior to placement of reinforcing steel and concrete. Seasonal groundwater fluctuations may cause groundwater infiltration into the footing excavation, and a dewatering method may be necessary.

REVISION	DATE

DATE: 04/01/2020	CHECKED BY
DESIGNED BY: J. CROSSLIN	A. EDELEN
DETAILED BY: J. CROSSLIN	A. EDELEN

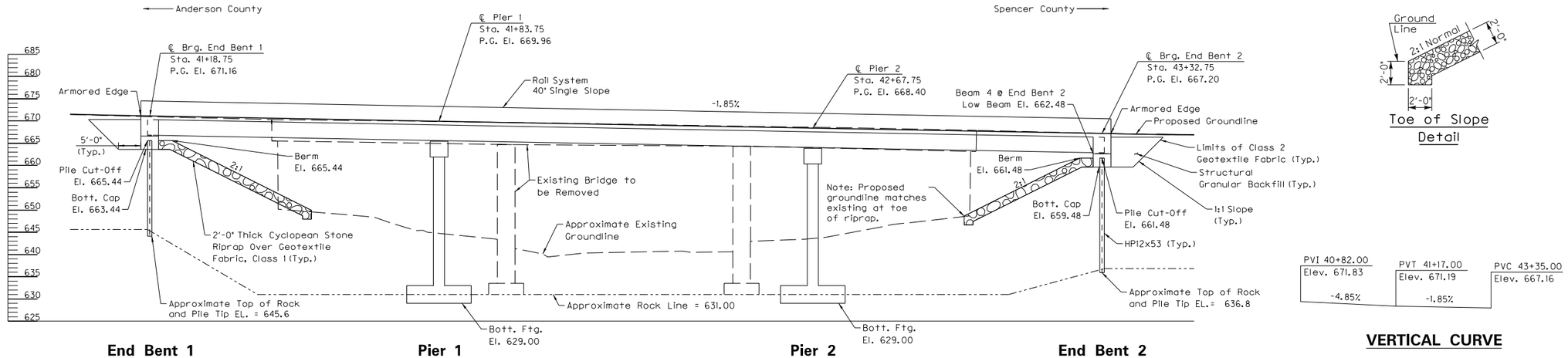
Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY
ANDERSON

ROUTE	CROSSING
KY-44	Crooked Creek

GENERAL NOTES

ITEM NUMBER	PREPARED BY	SHEET NO.
7-10020	AECOM	S01
	BRIDGING KENTUCKY	DRAWING NO. 28332



End Bent 1
INTEGRAL

Pier 1
FIX

Pier 2
FIX

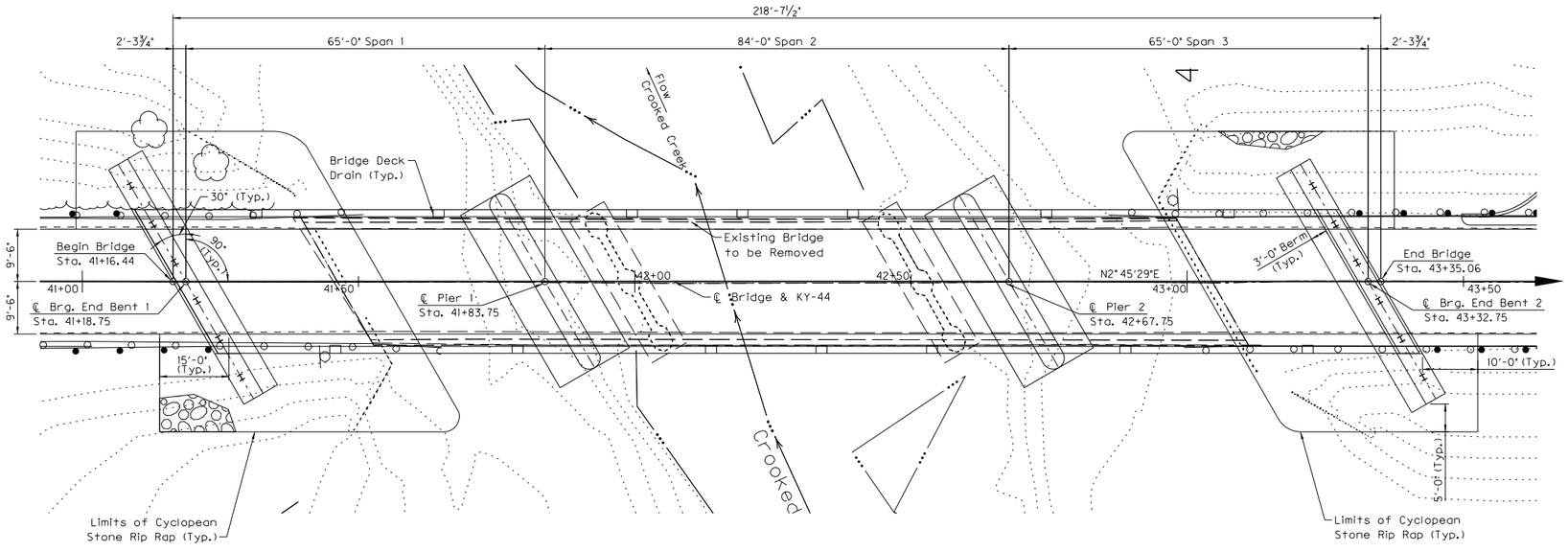
End Bent 2
INTEGRAL

ELEVATION

65' x 84' x 65' SB42 Box Beams ~ 30° Skew Left ~ Spans Continuous for Live Load
HL93x125% ~ 23'-7½" Bridge Roadway Width ~ 2:1 Fill Slopes

Toe of Slope Detail

VERTICAL CURVE



PLAN

DECK DRAIN STATIONS

Left Gutter Sta.	Right Gutter Sta.
41+31.51	41+45.78
41+64.51	41+78.78
41+99.51	42+13.78
42+19.51	42+33.78
42+39.51	42+53.78
42+74.51	42+88.78
43+07.51	43+21.78

REVISION	DATE

DATE: 04/01/2020	CHECKED BY
DESIGNED BY: A. EDELEN	J. CROSSLIN
DETAILED BY: A. EDELEN	J. CROSSLIN

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

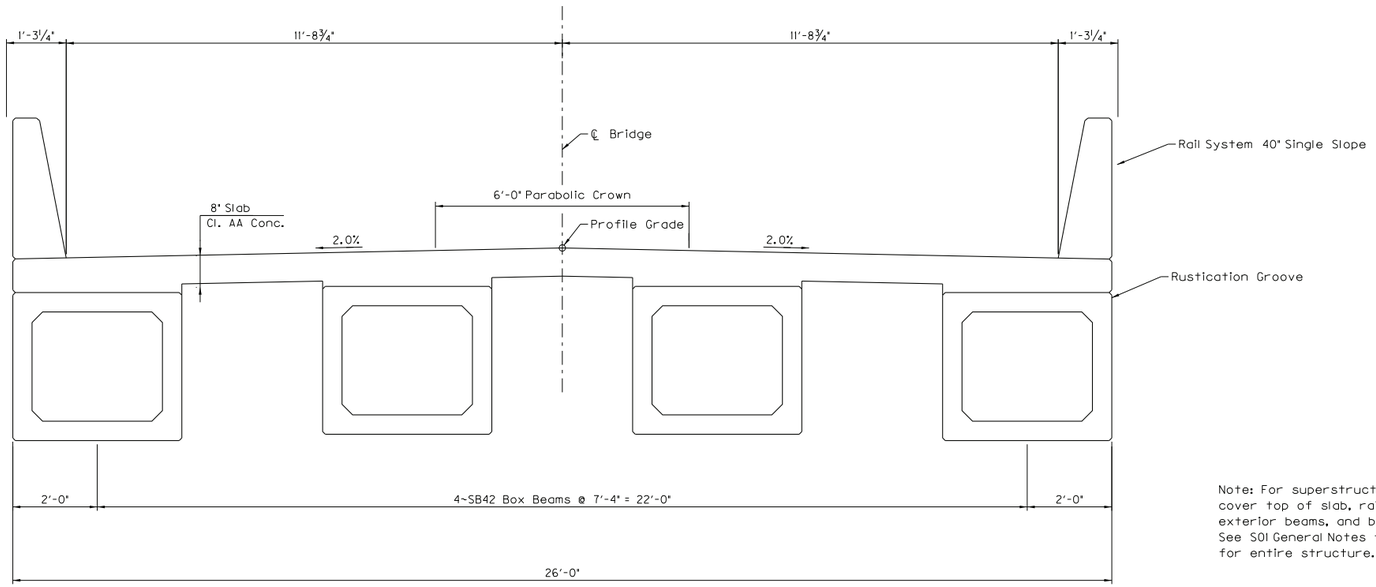
COUNTY
ANDERSON

ROUTE
KY-44

CROSSING
Crooked Creek

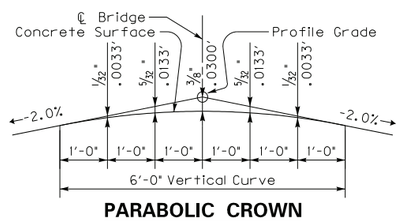
LAYOUT

ITEM NUMBER	PREPARED BY		SHEET NO.
7-10020	AECOM	BRIDGING KENTUCKY Restore | Renew | Replace	S02
			DRAWING NO. 28332



TYPICAL SECTION

Note: For superstructure, Concrete Sealer to cover top of slab, railings, exterior face of exterior beams, and bottom face of exterior beams. See S01 General Notes for Concrete Sealer guidance for entire structure.



PARABOLIC CROWN

REVISION	DATE

DATE: 04/01/2020	CHECKED BY
DESIGNED BY: A. EDELEN	J. CROSSLIN
DETAILED BY: A. EDELEN	J. CROSSLIN

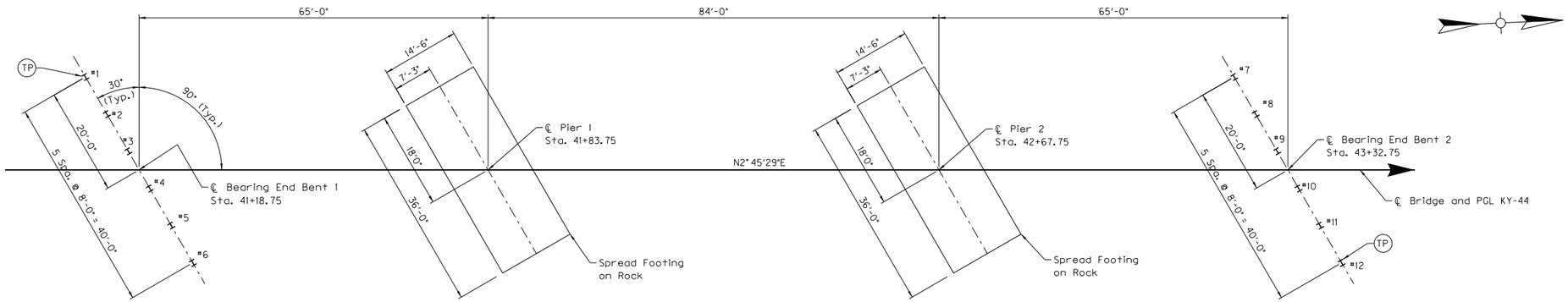
Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY
ANDERSON

ROUTE	CROSSING
KY-44	Crooked Creek

TYPICAL SECTION

ITEM NUMBER	PREPARED BY	SHEET NO.
7-10020	AECOM	S03
	BRIDGING KENTUCKY	DRAWING NO. 28332



INTEGRAL END BENT 1 **PIER 1** **PIER 2** **INTEGRAL END BENT 2**

FOUNDATION LAYOUT

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
1	665.44			100
2	665.44			100
3	665.44			100
4	665.44			100
5	665.44			100
6	665.44			100
7	661.48			100
8	661.48			100
9	661.48			100
10	661.48			100
11	661.48			100
12	661.48			100

Notes

1. A diesel pile driving hammer with a rated energy between 13.5 foot-kips and 20.1 foot-kips will be required to drive 12x53 steel 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 Engineer 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.
2. The installation of the pile foundations should conform to current AASHTO LRFD Bridge Design Specifications, and Section 604 of the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction.
3. The Kentucky Transportation Cabinet recommends that protective pile points be used on end bearing piles to allow for embedment into the top of bedrock. Use of reinforced pile points capable of penetrating boulders and hard layers which may be encountered is recommended. Installation of pile points should be in accordance with Section 604 of the Kentucky Standard Specifications for Road and Bridge Construction, current edition.
4. For spread footing on rock, see general notes sheet.

Definitions of Terms

PILE CUT-OFF ELEVATION: Elevation of the top of pile in the finished structure.

PILE LENGTH IN PLACE: Actual pile length below the Pile Cut-Off Elevation in the finished structure.

POINT OF PILE ELEVATION AS DRIVEN: Actual point of pile elevation in the finished structure.
structure.

DESIGN AXIAL LOAD: Load carried by each pile as estimated from structural design calculations for Factored LRFD Loadings.

CALCULATED FIELD BEARING: Contrary to Section 604.03.07 of the Standard Specifications, in place bearing values are not required for piles bearing on rock when driven to practical refusal.

Driving Criteria

DRIVING CRITERIA: Drive point bearing piles to practical refusal.

PRACTICAL REFUSAL : For this project minimum blow requirements are reached after total penetration becomes ½" or less for 10 consecutive blows, practical refusal is obtained after the pile is struck an additional 10 blows with total penetration of ½" or less. Advance the production piling to the driving resistances specifed above and to 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.

Field Data

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

Submit this record to:

Kentucky Transportation Cabinet
Director, 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.

Use HP 12x53 in accordance with BPS-003, c.e.

REVISION	DATE

DATE: 04/01/2020	CHECKED BY
DESIGNED BY: J. CROSSLIN	A. EDELEN
DETAILED BY: J. CROSSLIN	A. EDELEN

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

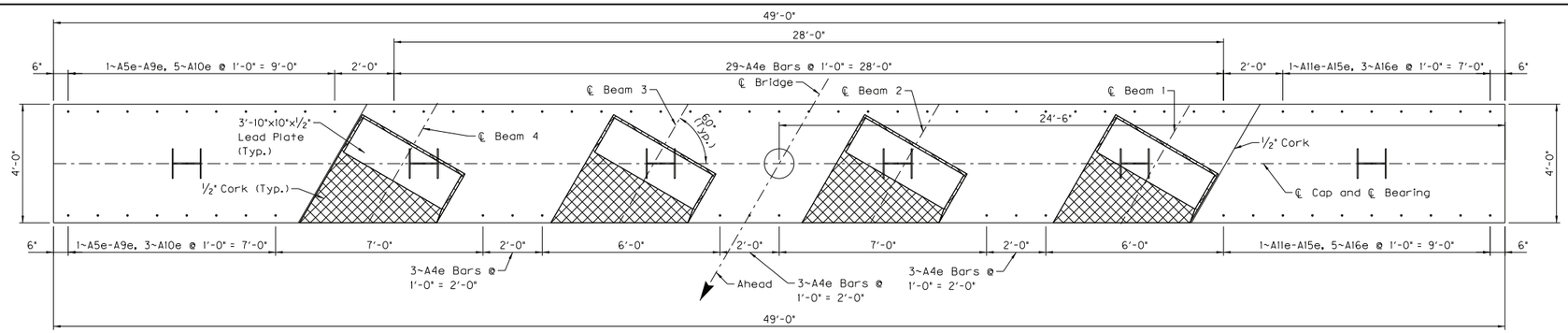
COUNTY
ANDERSON

ROUTE	CROSSING
KY-44	Crooked Creek

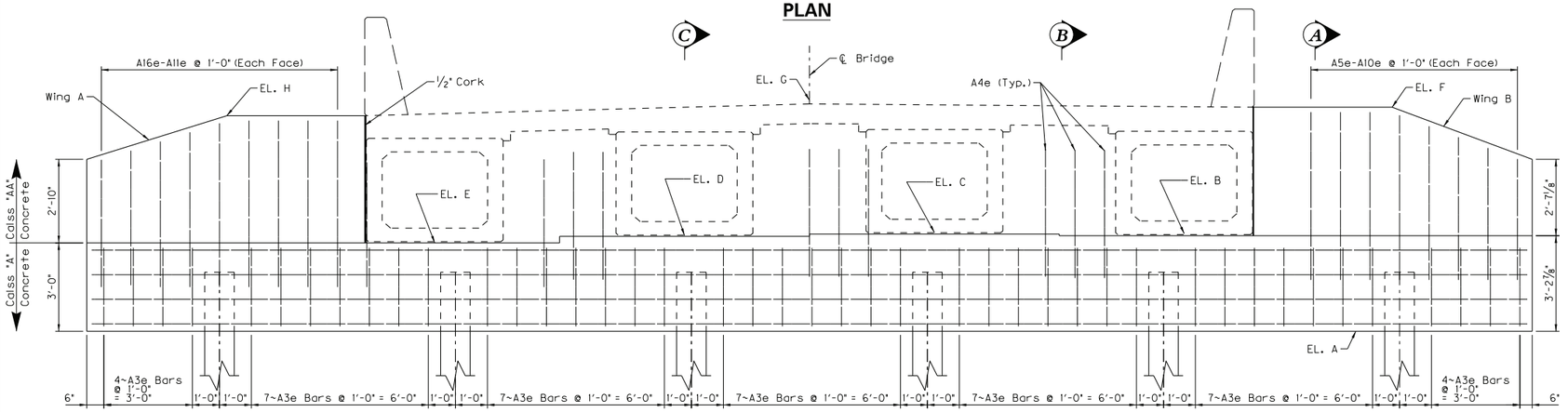
FOUNDATION LAYOUT

ITEM NUMBER	PREPARED BY		SHEET NO.
7-10020	AECOM	BRIDGING KENTUCKY Remove | Renew | Replace	S04
			DRAWING NO. 28332

FILE NAME: c:\pw_working\d0251363\S04_Foundation Layout.dgn
USER: Crossl[n]
DATE PLOTTED: 4/9/2020 10:37:50 AM
E-SHEET NAME:
MicroStation v8.11.9.714

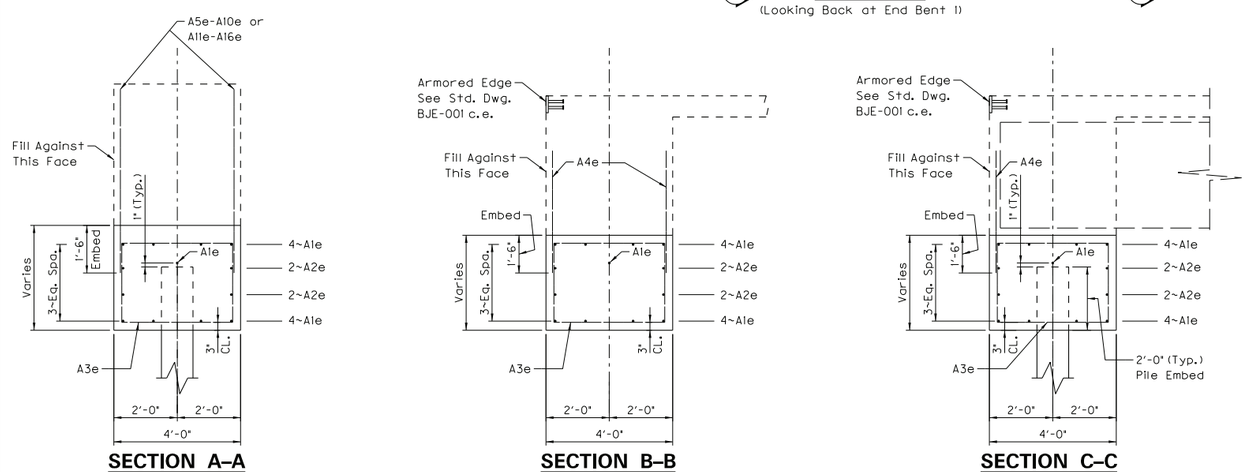


PLAN



ELEVATION

(Looking Back at End Bent 1)



SECTION A–A | **SECTION B–B** | **SECTION C–C**

Notes:
If laps are necessary
#8 Bars = 4'-4"
#5 Bars = 2'-4"

I.D.	End Bent 1 EL.
A	663.44
B	666.68
C	666.74
D	666.66
E	666.44
F	671.54
G	671.15
H	671.25

REVISION	DATE

DATE: 04/01/2020 — CHECKED BY
DESIGNED BY: J. CROSSLIN — A. EDELEN
DETAILED BY: J. CROSSLIN — A. EDELEN

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: ANDERSON

ROUTE: KY-44 — CROSSING: Crooked Creek

END BENT 1

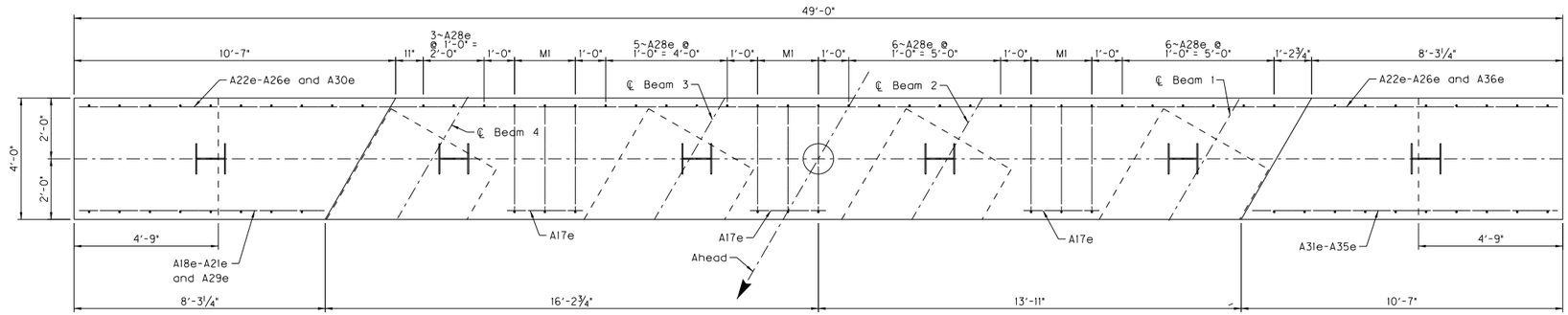
ITEM NUMBER: 7-10020

PREPARED BY: AECOM

BRIDGING KENTUCKY — Restore | Renew | Replace

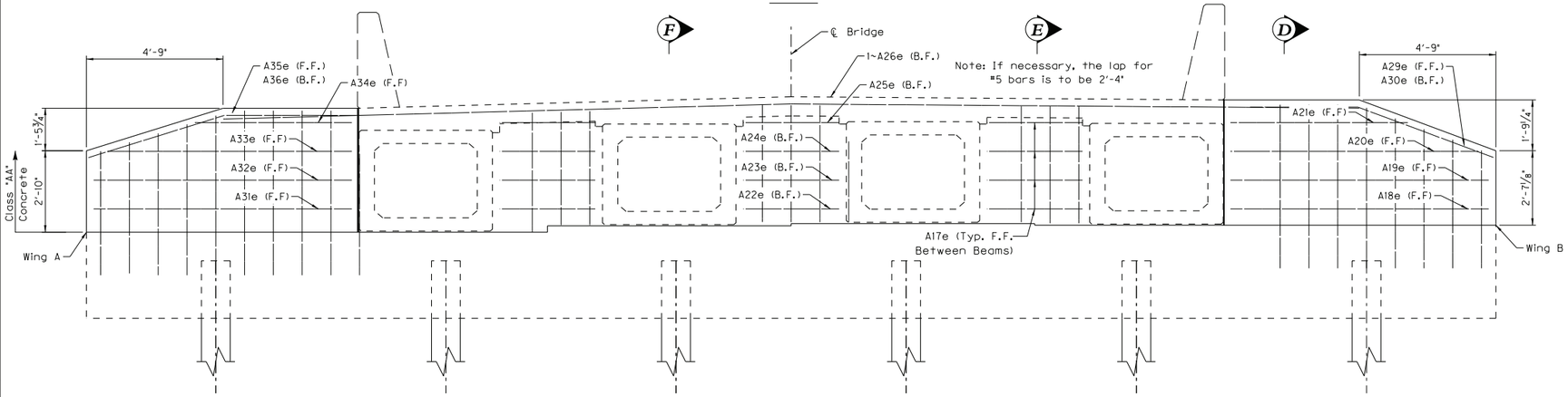
SHEET NO. S05

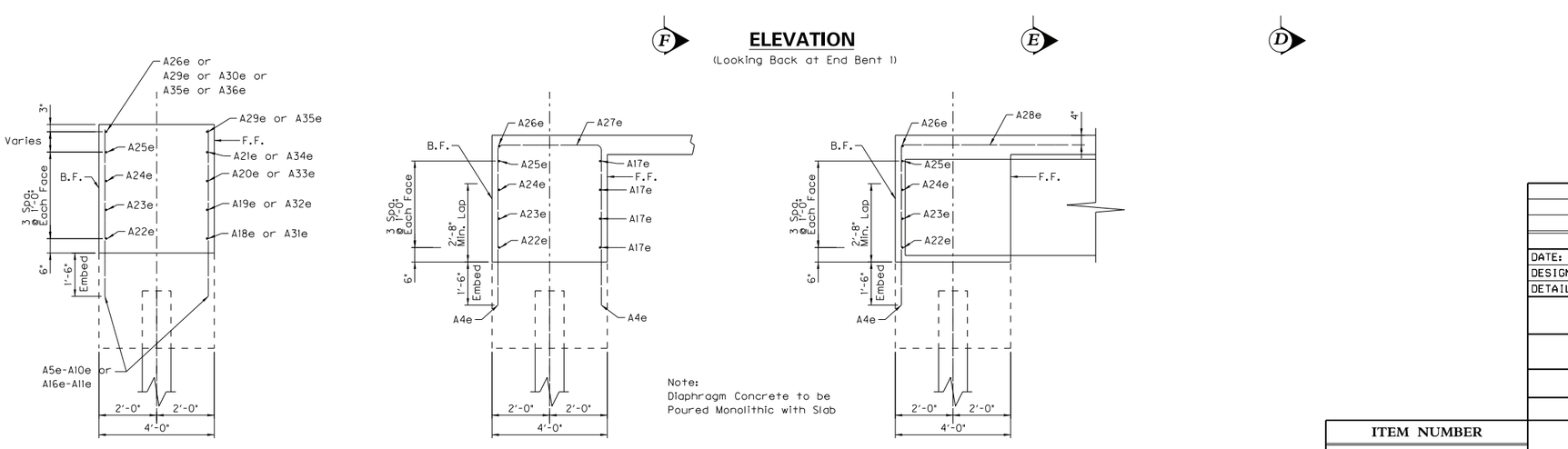
DRAWING NO. 28332



MI Denotes: 3~A27e Bars @ 1'-0" = 2'-0"

PLAN





Section D–D

Section E–E

Note:
Diaphragm Concrete to be Poured Monolithic with Slab

Section F–F

ITEM NUMBER
7–10020

REVISION	DATE

DATE: 04/01/2020	CHECKED BY
DESIGNED BY: J. CROSSLIN	A. EDELEN
DETAILED BY: J. CROSSLIN	A. EDELEN

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY
ANDERSON

ROUTE	CROSSING
KY–44	Crooked Creek

END BENT 1

PREPARED BY
AECOM

BRIDGING KENTUCKY
Restore | Renew | Replace

SHEET NO. S06
DRAWING NO. 28332

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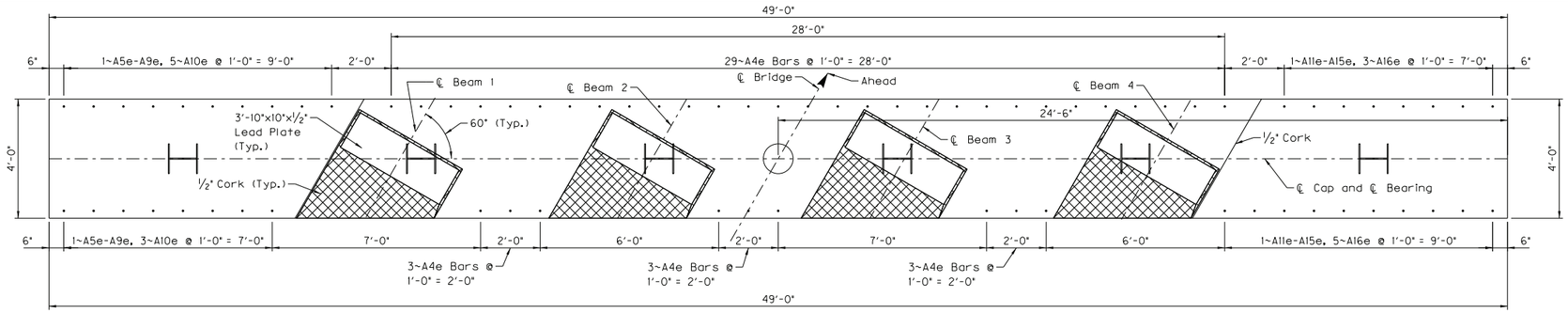
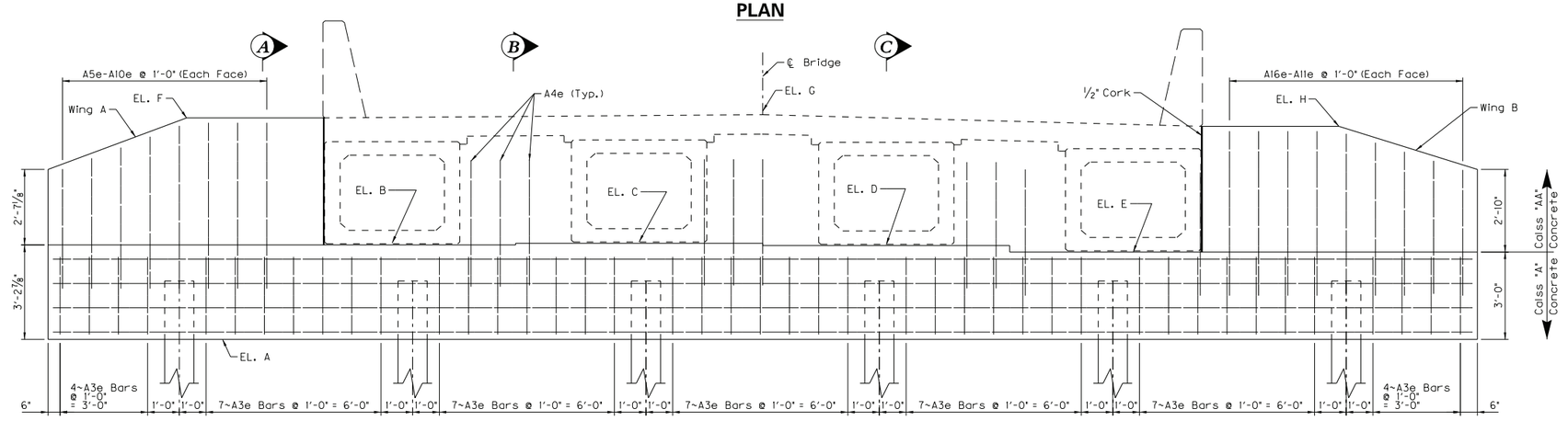
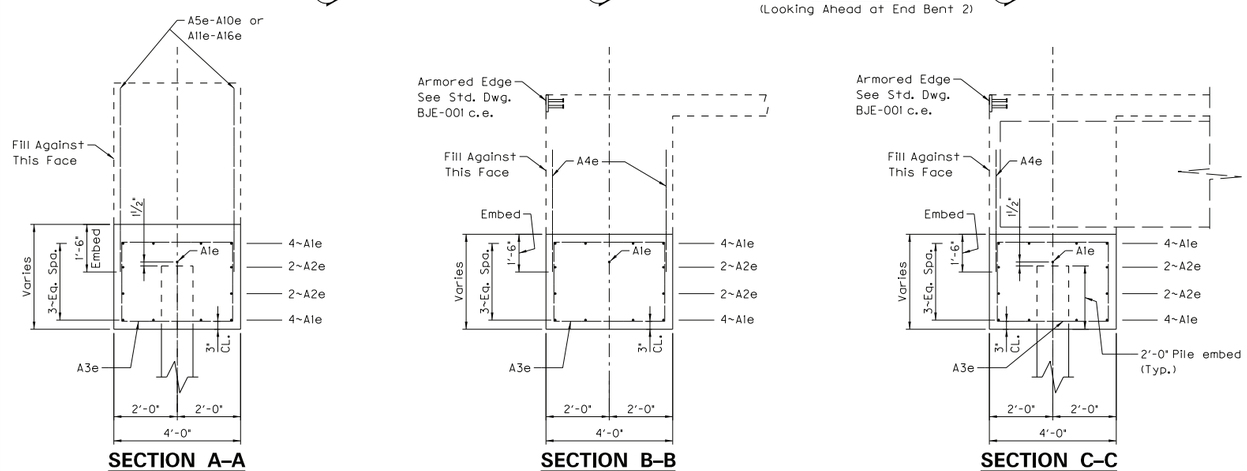
USER: Crosslinj
DATE PLOTTED: 4/9/2020 10:38:50 AM
E-SHEET NAME:
MicroStation v8.11.9.714



PLAN



ELEVATION
(Looking Ahead at End Bent 2)



SECTION A–A **SECTION B–B** **SECTION C–C**

Notes:
If laps are necessary
#8 Bars = 3'-9"
#5 Bars = 2'-4"

I.D.	End Bent 2 EL.
A	659.48
B	662.71
C	662.78
D	662.70
E	662.48
F	667.57
G	667.19
H	667.29

REVISION	DATE

DATE: 04/01/2020	CHECKED BY
DESIGNED BY: J. CROSSLIN	A. EDELEN
DETAILED BY: J. CROSSLIN	A. EDELEN

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: ANDERSON

ROUTE: KY-44 | CROSSING: Crooked Creek

END BENT 2

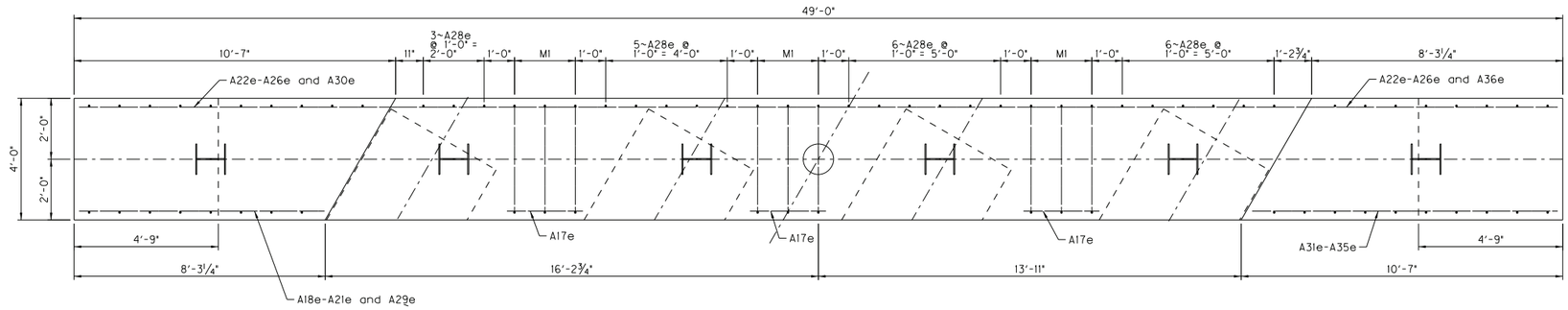
ITEM NUMBER: 7-10020

PREPARED BY: AECOM

BRIDGING KENTUCKY — Restore | Renew | Replace

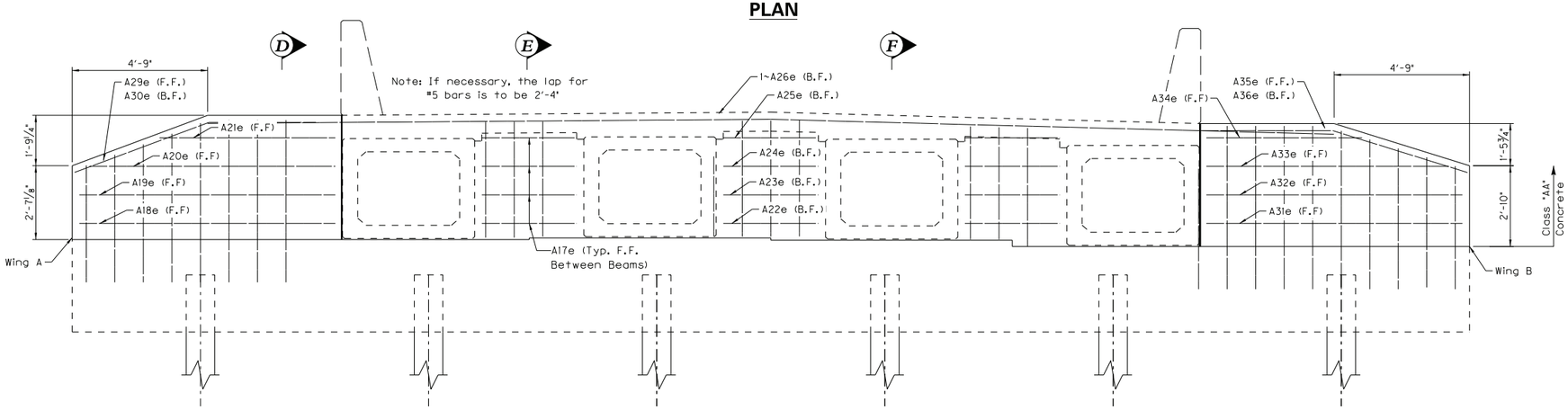
SHEET NO. S07

DRAWING NO. 28332



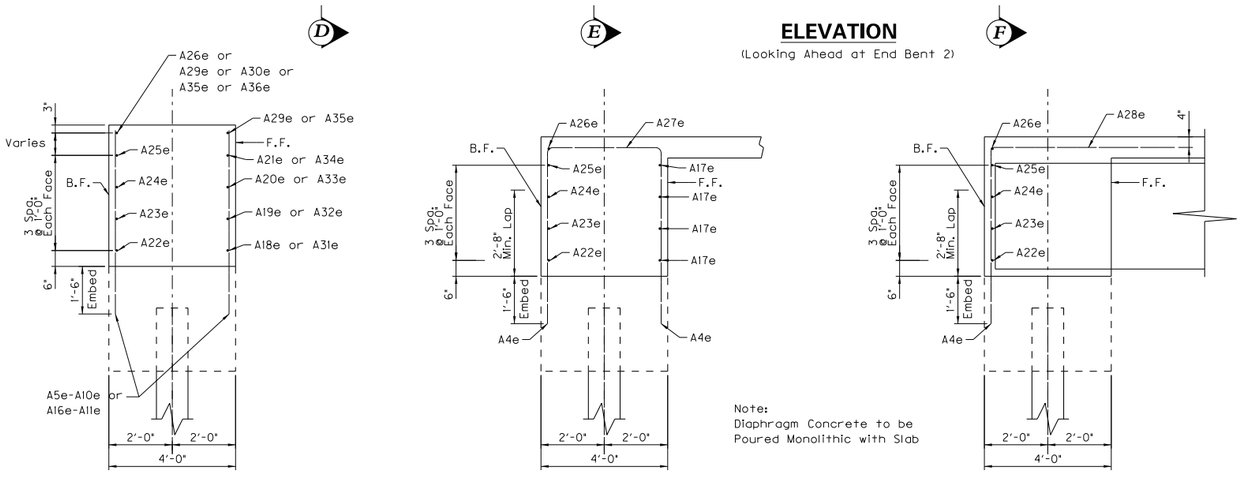
MI Denotes: 3~A27e Bars @ 1'-0" = 2'-0"

PLAN



ELEVATION

(Looking Ahead at End Bent 2)



Note:
Diaphragm Concrete to be Poured Monolithic with Slab

Section D–D **Section E–E** **Section F–F**

REVISION	DATE

DATE: 04/01/2020	CHECKED BY
DESIGNED BY: J. CROSSLIN	A. EDELEN
DETAILED BY: J. CROSSLIN	A. EDELEN

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: ANDERSON

ROUTE: KY–44

CROSSING: Crooked Creek

END BENT 2

ITEM NUMBER: 7–10020

PREPARED BY: AECOM

BRIDGING KENTUCKY — Restore | Renew | Replace

SHEET NO. S08

DRAWING NO. 28332

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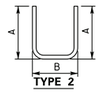
USER: Crosslinj
DATE PLOTTED: 4/9/2020 10:39:30 AM
E-SHEET NAME:
MicroStation v8.11.9.714

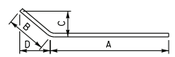
BILL OF REINFORCING PER END BENT

Mark	Type	NUMBER REQD.	SIZE	Length ft	Length in	LOCATION	a ft	a in	b ft	b in	c ft	c in	d ft	d in
A1e	Str	9	8	48	8	Cap								
A2e	Str	4	5	48	8	Cap Sides								
A3e	14	43	5	13	6	Cap Stirrups	2	7	3	8				
A4e	Str	38	5	4	4	Cap Dowell								
A5e	Str	2	5	4	1	Wing A Vertical								
A6e	Str	2	5	4	5	Wing A Vertical								
A7e	Str	2	5	4	10	Wing A Vertical								
A8e	Str	2	5	5	2	Wing A Vertical								
A9e	Str	2	5	5	7	Wing A Vertical								
A10e	Str	8	5	5	8	Wing A Vertical								
A11e	Str	2	5	4	3	Wing B Vertical								
A12e	Str	2	5	4	7	Wing B Vertical								
A13e	Str	2	5	4	11	Wing B Vertical								
A14e	Str	2	5	5	3	Wing B Vertical								
A15e	Str	2	5	5	6	Wing B Vertical								
A16e	Str	8	5	5	5	Wing B Vertical								
A17e	Str	12	5	3	3.5	Diaphragm								
A18e	Str	1	5	8	0	Wing A Horizontal								
A19e	Str	1	5	8	0	Wing A Horizontal								
A20e	Str	1	5	7	8	Wing A Horizontal								
A21e	Str	1	5	5	3	Wing A Horizontal								
A22e	Str	1	5	48	8	Long Diaphragm Bars								
A23e	Str	1	5	48	8	Long Diaphragm Bars								
A24e	Str	1	5	47	11	Long Diaphragm Bars								
A25e	Str	1	5	43	2	Long Diaphragm Bars								
A26e	Str	1	5	39	2	Long Diaphragm Bars								
A27e	2	9	5	10	11	Diaphragm	3	8	3	7				
A28e	5	20	5	8	0.5	Diaphragm over Beams	4	0.5	4	0				
A29e	8	1	6	8	9	Wing A Top	5	0	3	9	1	9	3	6
A30e	8	1	6	8	9	Wing A Top	5	0	3	9	1	9	3	6
A31e	Str	1	5	10	0	Wing B Horizontal								
A32e	Str	1	5	10	0	Wing B Horizontal								
A33e	Str	1	5	9	7	Wing B Horizontal								
A34e	Str	1	5	6	5	Wing B Horizontal								
A35e	8	1	6	8	9	Wing B Top	5	0	3	9	1	9	3	6
A36e	8	1	6	8	9	Wing B Top	5	0	3	9	1	9	3	6



TYPE 2

TYPE 5



TYPE 8

TYPE 14

BAR TYPES

REVISION	DATE

DATE: 04/01/2020	CHECKED BY
DESIGNED BY: J. CROSSLIN	A. EDELEN
DETAILED BY: J. CROSSLIN	A. EDELEN

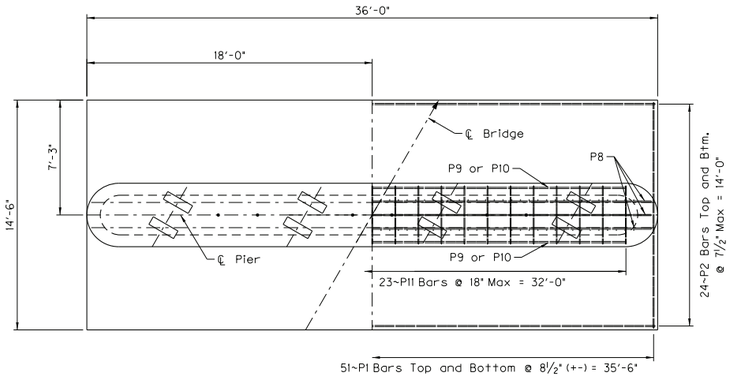
Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY
ANDERSON

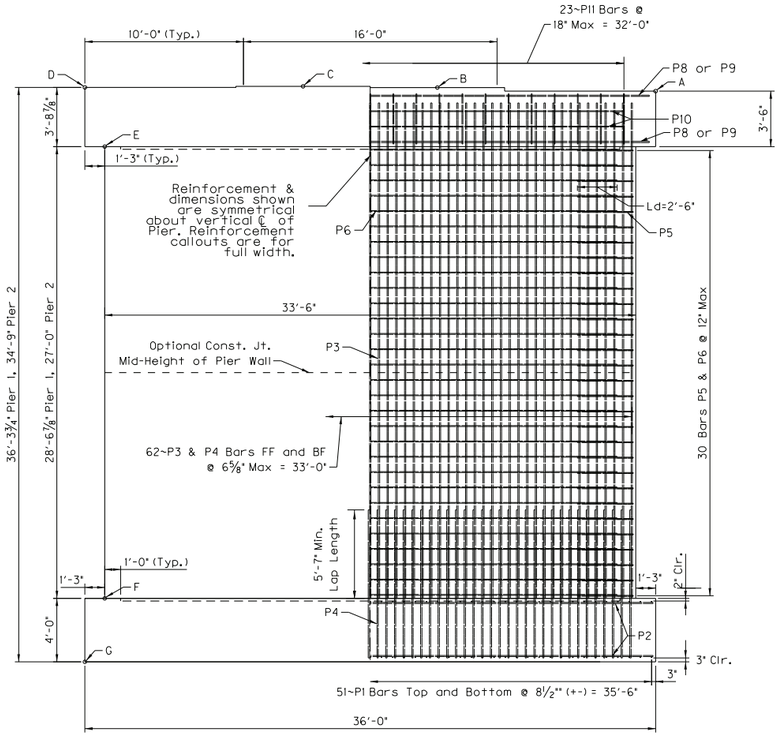
ROUTE	CROSSING
KY-44	Crooked Creek

END BENT 1 AND 2 BAR LIST

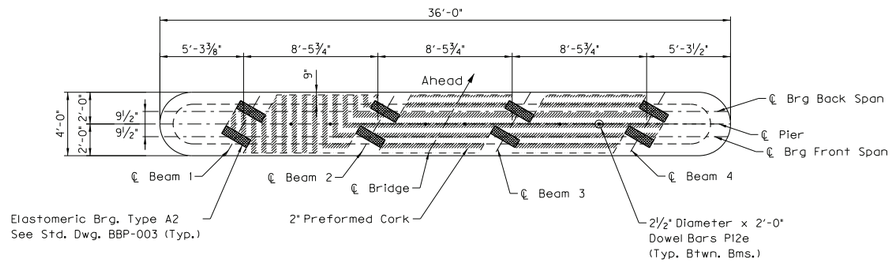
ITEM NUMBER	PREPARED BY	SHEET NO.
7-10020	AECOM	S09
	BRIDGING KENTUCKY	DRAWING NO. 28332



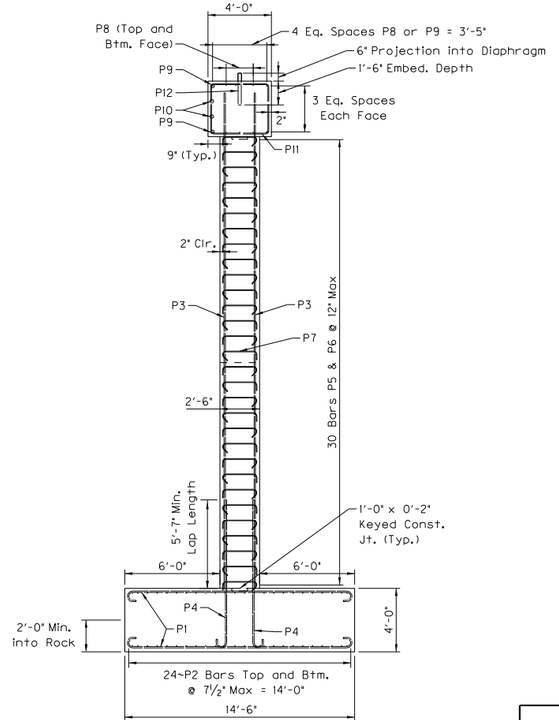
PLAN



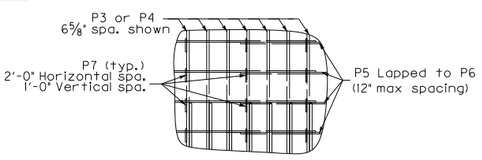
ELEVATION
(Looking Ahead)



PLAN OF CAP (TYP.)



END ELEVATION



P7 BAR PLACEMENT
(alternate 90° & 135° bar ends)

Elevations		
	Pier 1	Pier 2
A	665.11	663.56
B	665.34	663.78
C	665.41	663.86
D	665.35	663.79
E	661.61	660.06
F	633.00	633.00
G	629.00	629.00

Note: Consult with Engineer if Field Measurements show rock elevation at piers < 630.00'.

REVISION	DATE
DATE: 04/01/2020	CHECKED BY
DESIGNED BY: A. EDELEN	J. CROSSLIN
DETAILED BY: A. EDELEN	J. CROSSLIN

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: **ANDERSON**

ROUTE: **KY-44** | CROSSING: **Crooked Creek**

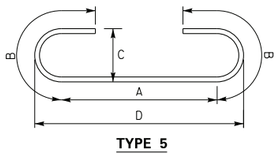
PIER DETAILS

ITEM NUMBER	PREPARED BY	SHEET NO.
7-10020	AECOM / BRIDGING KENTUCKY	S10
		DRAWING NO. 28332

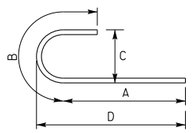
BILL OF REINFORCEMENT - PIER 1

Mark	Type	No.	Size	Length ft	Length in	Location	a ft	a in	b ft	b in	c ft	c in	d ft	d in
P1	5	102	8	16	0	Footing	13	6	1	3	0	8	14	2
P2	STR	48	7	35	8	Footing								
P3	STR	124	8	31	3	Column								
P4	4	124	8	10	5	Column	9	0	1	5	0	8	9	4
P5	10	60	5	8	4¾	Column	2	6	3	4¾				
P6	STR	60	5	31	1¾	Column								
P7	31	450	4	3	3	Column								
P8	STR	6	8	35	2.5	Cap								
P9	STR	4	8	32	0	Cap								
P10	STR	5	4	32	0	Cap								
P11	14	23	5	14	8	Cap	3	2	3	8				
P12e	STR	6	•	2	0	Cap/Diaphragm								
D1e	2	12	5	11	10	Diaphragm	3	10	3	8				
D2e	STR	24	5	3	0	Diaphragm								

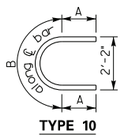
• Denotes: P12e - 2½" Smooth Round Bar.
May be Commercial Grade Steel,
Epoxy Coated



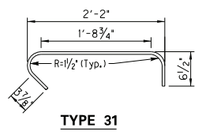
TYPE 5



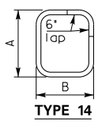
TYPE 4



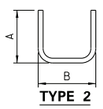
TYPE 10
(#5 bar)



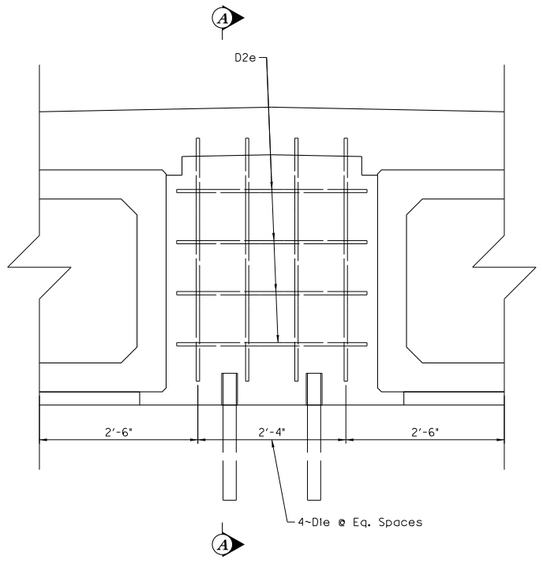
TYPE 31
(#4 bar)



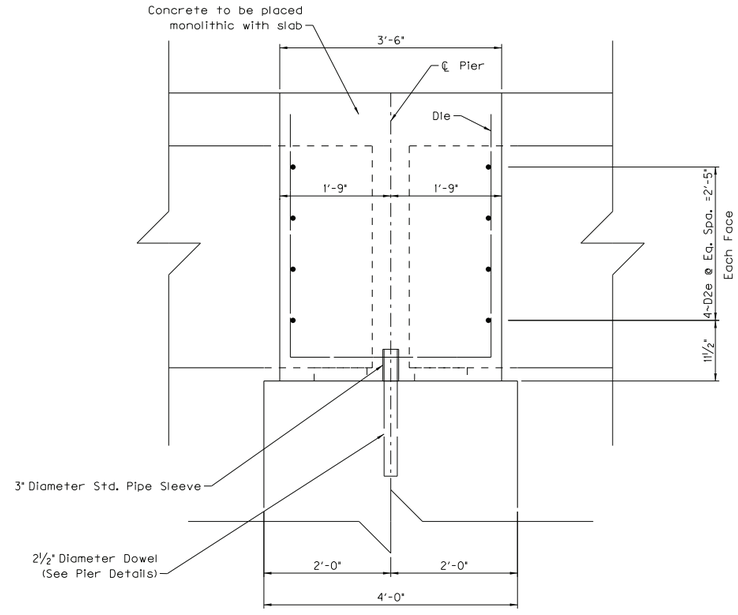
TYPE 14
(#5 bar)



TYPE 2



TYPICAL PIER DIAPHRAGM



SECTION A-A

BILL OF REINFORCEMENT - PIER 2

Mark	Type	No.	Size	Length ft	Length in	Location	a ft	a in	b ft	b in	c ft	c in	d ft	d in
P1	5	102	8	16	0	Footing	13	6	1	3	0	8	14	2
P2	STR	48	7	35	8	Footing								
P3	STR	124	8	29	9	Column								
P4	4	124	8	10	5	Column	9	0	1	5	0	8	9	4
P5	10	60	5	8	4¾	Column	2	6	3	4¾				
P6	STR	60	5	31	1¾	Column								
P7	31	450	4	3	3	Column								
P8	STR	6	8	35	2.5	Cap								
P9	STR	4	8	32	0	Cap								
P10	STR	5	4	32	0	Cap								
P11	14	23	5	14	8	Cap	3	2	3	8				
P12e	STR	6	•	2	0	Cap/Diaphragm								
D1e	2	12	5	11	4	Diaphragm	3	10	3	8				
D2e	STR	24	5	3	0	Diaphragm								

Diaphragm Notes:
1) Diaphragm stirrups are to project into the slab regardless of slab forming method.
2) Place stirrup bars parallel to face of beams.

REVISION	DATE

DATE: 04/01/2020	CHECKED BY
DESIGNED BY: A. EDELEN	J. CROSSLIN
DETAILED BY: A. EDELEN	J. CROSSLIN

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: ANDERSON

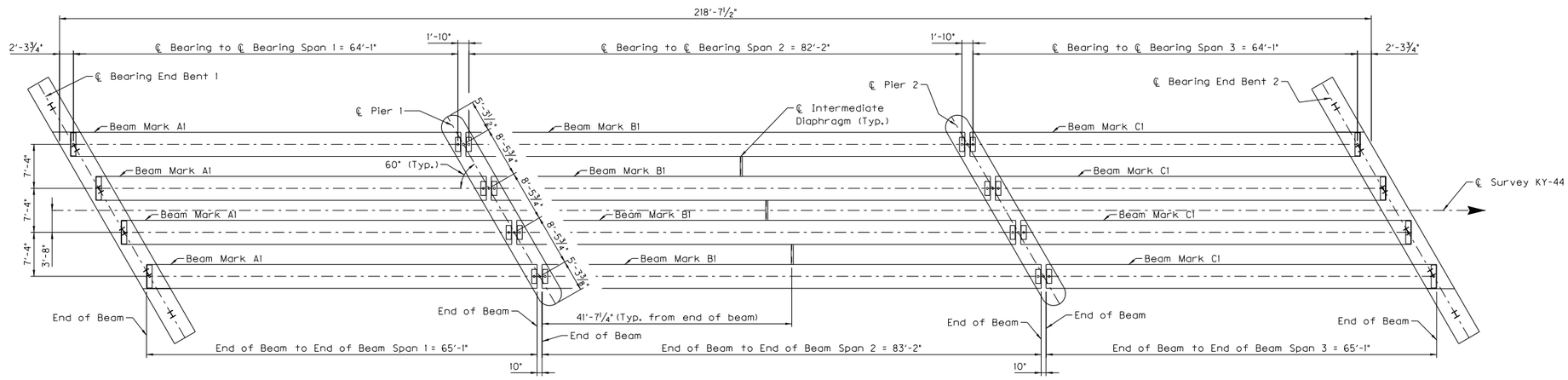
ROUTE: KY-44

CROSSING: Crooked Creek

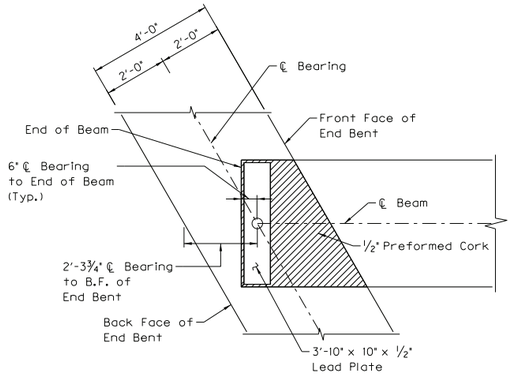
PIER DETAILS

ITEM NUMBER	PREPARED BY		SHEET NO.
7-10020	AECOM	BRIDGING KENTUCKY	S11
			DRAWING NO. 28332

MicroStation v8.11.9.714 | E-SHEET NAME: | USER: Crossljn DATE PLOTTED: 4/9/2020 10:40:24 AM | FILE NAME: c:\pw_working\d0251363\S11_Pier-2.dgn

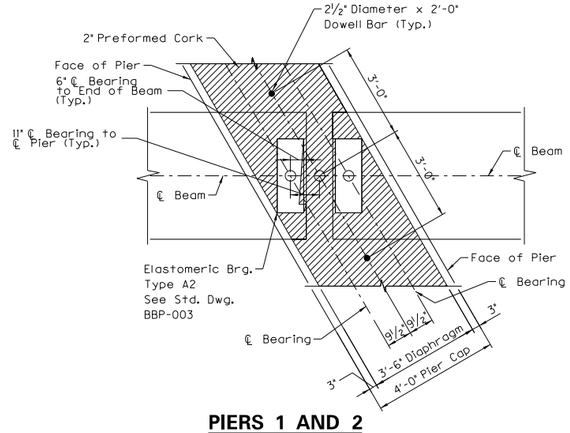


FRAMING PLAN



END OF BEAM DETAIL

(At End Bents)



PIERS 1 AND 2 BEARING DETAIL

REVISION	DATE

DATE: 04/01/2020	CHECKED BY
DESIGNED BY: J. CROSSLIN	A. EDELEN
DETAILED BY: J. CROSSLIN	A. EDELEN

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: ANDERSON

ROUTE: KY-44 | CROSSING: Crooked Creek

FRAMING PLAN

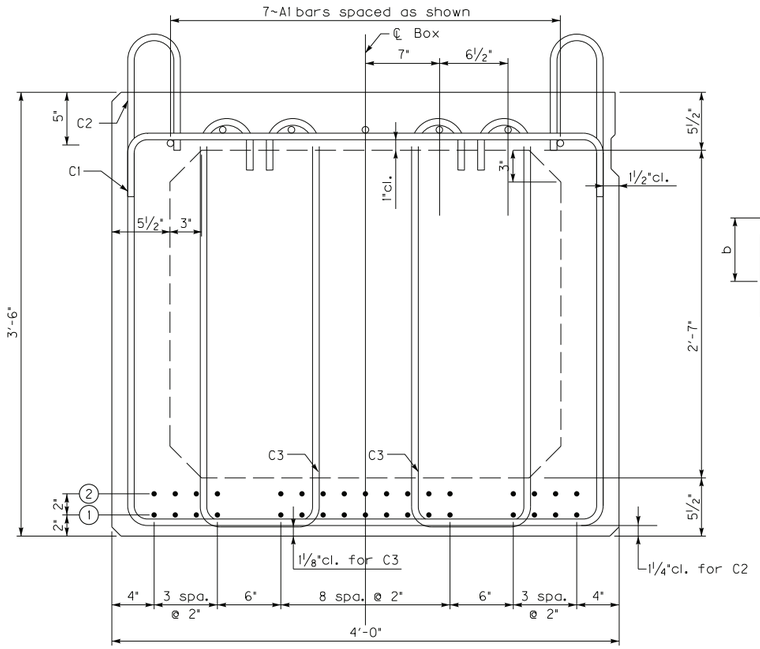
ITEM NUMBER: 7-10020

PREPARED BY: AECOM

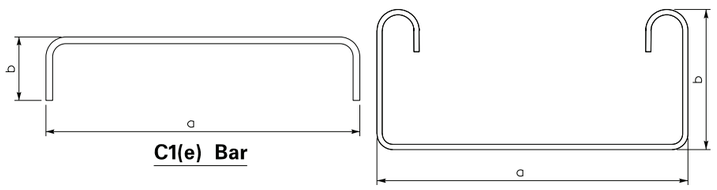
BRIDGING KENTUCKY — Restore | Renew | Replace

SHEET NO. S12

DRAWING NO. 28332



SB42 BEAM



C1(e) Bar

C2(e)–C3(e) Bars

MARK	TABLE OF STRAND DATA					TABLE OF DIMENSION DATA				CONCRETE STRENGTHS (psi)		MAX ALLOWABLE CAMBER (in)	APPROXIMATE WEIGHT (lbs)
	Beam Type	Beam Length	Number of Strands Required Row 1	Row 2	Row 3	"F"	"G"	"H"	"J"	f'ci	f'c		
A1	SB42	65'-1"	15	0	0	20	6"	9.5"	12"	5500	7000	2.0	59454
B1	SB42	83'-2"	17	2	0	20	6"	10"	12"	5500	7000	2.0	75973
C1	SB42	65'-1"	15	0	0	20	6"	9.5"	12"	5500	7000	2.0	59454

BAR QUANTITIES TABLE

Mark	C1	C2	C3
A1	66	86	4
B1	84	104	4
C1	66	86	4

Straight Reinforcement

Mark	Bar	Size	Number	Length
A1	A1(e)	#5	7	64'-7"
B1	A1(e)	#5	7	82'-8"
C1	A1(e)	#5	7	64'-7"

Bent Reinforcement

Bar	Size	a	b	
C1(e)	#5	3'-9"	6"	
C2(e)	#5	3'-9"	3'-10"	
C3(e)	#5	0'-11⅜"	3'-2⅜"	

GENERAL NOTES

CONCRETE: Ensure prestressed girder concrete is in accordance with these plans and the specifications.

MATERIALS DESIGN SPECIFICATIONS: For prestressed beams:
FY = 60,000 psi F'S = 270,000 psi

PRESTRESSING REINFORCEMENT: Ensure that strands are ½" oversize (0.167 sq. in.), uncoated seven-wire stress relieved, low-relaxation conforming to AASHTO M 203, Grade 270. Billing of the costfor redesign of beam and subsequent plan modifications will be made for any request of alternate strand type of arrangment. The designer of the original plans is responsible for the billing and work.

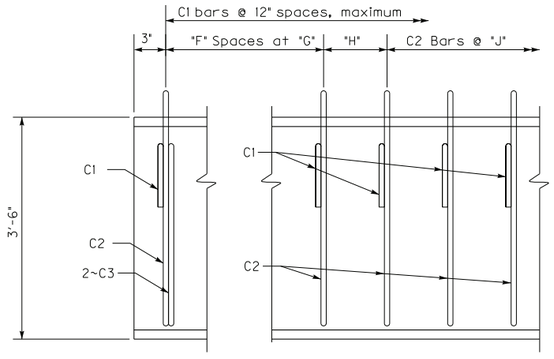
CONSTRUCTION METHOD: Pretension all beams. Ensure concrete has attained f'ci (shown in the table) in standard test cylinders that are made and cured identically with the beams without bond stresses being transferred to the concrete or releasing the end anchors. Attain f'c (shown in the table) at or prior to 28 days. Apply an initial force of 33,817 lbs. per low-relaxation strand to develop a stress of 202,500 psi. No beam will be accepted that is honeycombed to the extent that strength of the beam or resistance to deterioration has been affected. An allowance of 0.0005L is made for shortening of beams due to shrinkage and elastic change. Show a detensioning plan by sequential numbering of the strand pattern on the shop plans.

LIFTING DEVICES: Detail lifting devices on the shop plans. Loads are to be distributed equally to each device.

BEARING DEVICES: Include the price for lead plates and/or bearing pads and any necessary galvanized metal shims in the bid for precast beams.

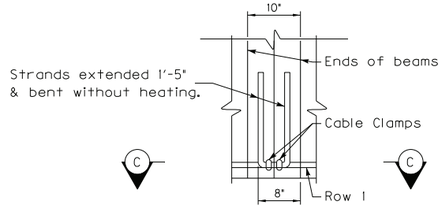
FABRICATION: The "Maximum Allowable Camber" shown on the beam sheet is the amount of camber, measured prior to casting the deck, aboe which the beam will begin to encorach into the slab. If the measured camber is greater than the "Maximum Allowable Camber" the contractor will be responsible for any necessary adjustments to assure a minimum slab thickness of eight (8) inches as shown in the plans. This work will be considered incidental to the completion of the structure and have the approval of the Engineer.

REINFORCEMENT: Dimensions shown from the face of concrete to reinforcement are clear distances. Spacing of reinforcement is from center to center of reinforcement. Epoxy Coated Reinforcement shall be in accordance with Section 811.10 of the Specifications. All bars marked "C" shall be considered a stirrup for purposes of bend diameters.



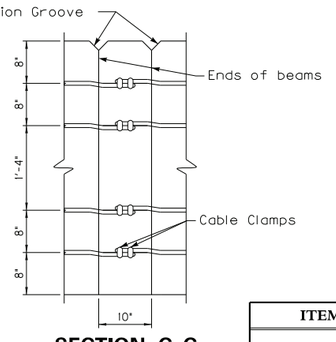
SB42 ELEVATION OF O° SKEW

(Refer to BDP-003, for skewed details)



STRAND SPLICE DETAIL

~Typical at Fixed Pier~



SECTION C–C

REVISION	DATE

DATE: 04/01/2020	CHECKED BY
DESIGNED BY: A. EDELEN	J. CROSSLIN
DETAILED BY: A. EDELEN	J. CROSSLIN

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: ANDERSON

ROUTE: KY–44 | CROSSING: Crooked Creek

SB42 BOX BEAM DETAILS

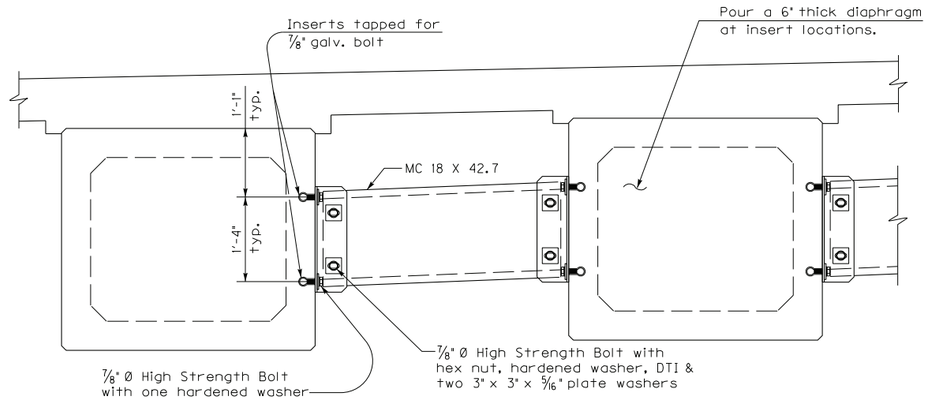
ITEM NUMBER: 7–10020

PREPARED BY: AECOM

BRIDGING KENTUCKY — Restore | Renew | Replace

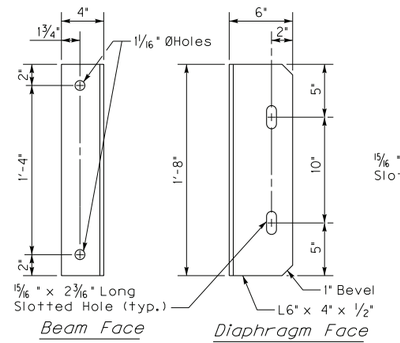
SHEET NO. S13

DRAWING NO. 28332

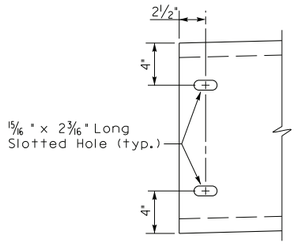


INTERMEDIATE DIAPHRAGM

~Typical for SB-42 Beams~



CLIP ANGLE



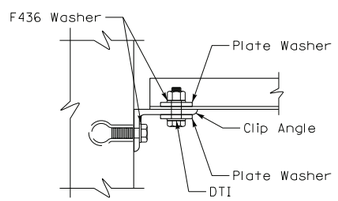
CHANNEL END

Diaphragm Notes

CONNECTIONS: Ensure all bolted connections are ASTM A325, 7/8 inch diameter high strength bolts, nuts, and washers, mechanically zinc coated in accordance with AASHTO M298, for Class 50. Install all high strength bolted field connections using "direct tension indicators" (DTI's) in accordance with the Standard Specifications and ASTM F959. Ensure all DTI's are mechanically zinc coated. Show installation details of the DTI's on the shop plans. Place DTI's under the bolt head.

STRUCTURAL STEEL: Ensure plates, angles, and channels conform to ASTM A36 or A572 and galvanized after fabrication.

DIAPHRAGMS: Erect the diaphragms the same day that the precast beams are placed on the substructure. Include the cost of all materials and labor required to fabricate and erect the diaphragms in the bid for Precast Beams.



CONNECTION DETAILS

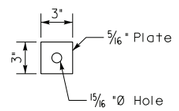


PLATE WASHER

REVISION	DATE
DATE: 04/01/2020	CHECKED BY
DESIGNED BY: J. CROSSLIN	A. EDELEN
DETAILED BY: J. CROSSLIN	A. EDELEN

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: ANDERSON

ROUTE: KY-44 | CROSSING: Crooked Creek

INTERMEDIATE DIAPHRAGM DETAILS

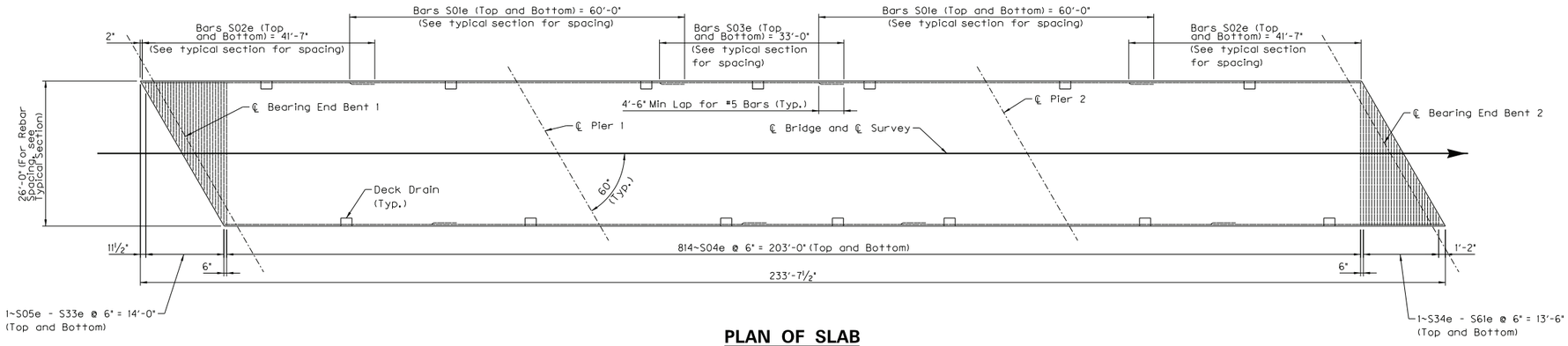
ITEM NUMBER: 7-10020

PREPARED BY: AECOM

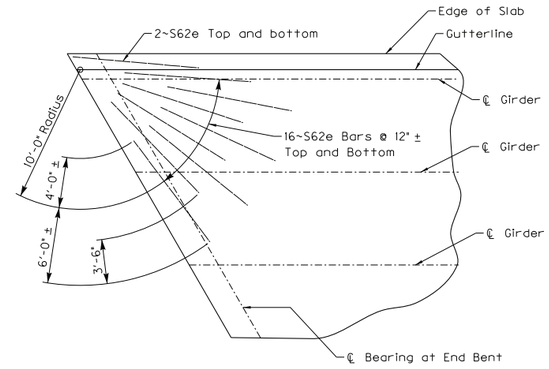
BRIDGING KENTUCKY

SHEET NO. S14

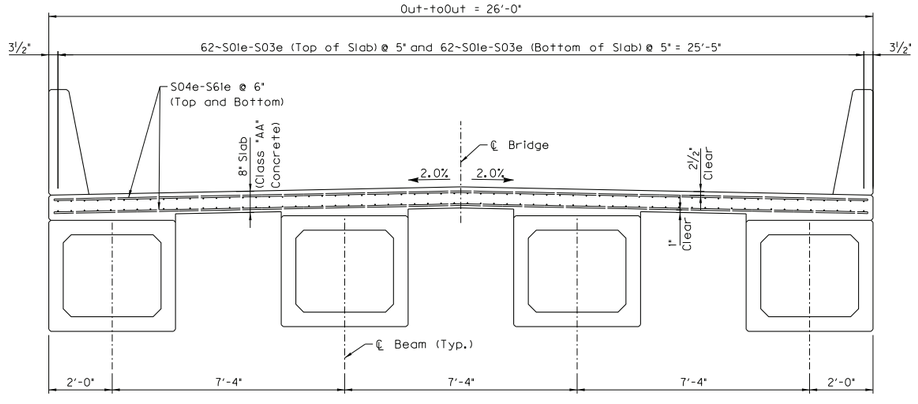
DRAWING NO. 28332



PLAN OF SLAB



TYPICAL CORNER REINFORCING DETAIL



TYPICAL SECTION

DECK DRAIN STATIONS

Left Gutter Sta.	Right Gutter Sta.
41+31.51	41+45.78
41+64.51	41+78.78
41+99.51	42+13.78
42+19.51	42+33.78
42+39.51	42+53.78
42+74.51	42+88.78
43+07.51	43+21.78

REVISION	DATE
DATE: 04/01/2020	CHECKED BY
DESIGNED BY: J. CROSSLIN	A. EDELEN
DETAILED BY: J. CROSSLIN	A. EDELEN

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY
ANDERSON

ROUTE: **KY-44**

CROSSING: **Crooked Creek**

SUPERSTRUCTURE

ITEM NUMBER: **7-10020**

PREPARED BY: AECOM

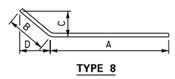
BRIDGING KENTUCKY — Renew | Renew | Replace

SHEET NO. S15

DRAWING NO. 28332

BILL OF REINFORCEMENT FOR SLAB

Mark	Type	NUMBER REQD.	SIZE	Length ft	Length in	LOCATION	a ft	a in	b ft	b in	c ft	c in	d ft	d in
S01e	Str.	248	5	60	0	Slab Top and Bot. Long.								
S02e	Str.	248	5	41	7	Slab Top and Bot. Long.								
S03e	Str.	124	5	33	0	Slab Top and Bot. Long.								
S04e	Str.	814	5	25	8	Slab Top and Bot. Trans								
S05e	Str.	2	5	1	1.875	Slab Top and Bot. Trans								
S06e	Str.	2	5	2	0.25	Slab Top and Bot. Trans								
S07e	Str.	2	5	2	10.625	Slab Top and Bot. Trans								
S08e	Str.	2	5	3	9	Slab Top and Bot. Trans								
S09e	Str.	2	5	4	7.375	Slab Top and Bot. Trans								
S10e	Str.	2	5	5	5.75	Slab Top and Bot. Trans								
S11e	Str.	2	5	6	4.125	Slab Top and Bot. Trans								
S12e	Str.	2	5	7	2.5	Slab Top and Bot. Trans								
S13e	Str.	2	5	8	0.875	Slab Top and Bot. Trans								
S14e	Str.	2	5	8	11.25	Slab Top and Bot. Trans								
S15e	Str.	2	5	9	9.75	Slab Top and Bot. Trans								
S16e	Str.	2	5	10	8.125	Slab Top and Bot. Trans								
S17e	Str.	2	5	11	6.5	Slab Top and Bot. Trans								
S18e	Str.	2	5	12	4.875	Slab Top and Bot. Trans								
S19e	Str.	2	5	13	3.25	Slab Top and Bot. Trans								
S20e	Str.	2	5	14	1.625	Slab Top and Bot. Trans								
S21e	Str.	2	5	15	0	Slab Top and Bot. Trans								
S22e	Str.	2	5	15	10.375	Slab Top and Bot. Trans								
S23e	Str.	2	5	16	8.75	Slab Top and Bot. Trans								
S24e	Str.	2	5	17	7.25	Slab Top and Bot. Trans								
S25e	Str.	2	5	18	5.625	Slab Top and Bot. Trans								
S26e	Str.	2	5	19	4	Slab Top and Bot. Trans								
S27e	Str.	2	5	20	2.375	Slab Top and Bot. Trans								
S28e	Str.	2	5	21	0.75	Slab Top and Bot. Trans								
S29e	Str.	2	5	21	11.125	Slab Top and Bot. Trans								
S30e	Str.	2	5	22	9.5	Slab Top and Bot. Trans								
S31e	Str.	2	5	23	7.875	Slab Top and Bot. Trans								
S32e	Str.	2	5	24	6.25	Slab Top and Bot. Trans								
S33e	Str.	2	5	25	4.75	Slab Top and Bot. Trans								
S34e	Str.	2	5	24	11	Slab Top and Bot. Trans								
S35e	Str.	2	5	24	0.5	Slab Top and Bot. Trans								
S36e	Str.	2	5	23	2.125	Slab Top and Bot. Trans								
S37e	Str.	2	5	22	3.75	Slab Top and Bot. Trans								
S38e	Str.	2	5	21	5.375	Slab Top and Bot. Trans								
S39e	Str.	2	5	20	7	Slab Top and Bot. Trans								
S40e	Str.	2	5	19	8.625	Slab Top and Bot. Trans								
S41e	Str.	2	5	18	10.25	Slab Top and Bot. Trans								
S42e	Str.	2	5	17	11.875	Slab Top and Bot. Trans								
S43e	Str.	2	5	17	1.5	Slab Top and Bot. Trans								
S44e	Str.	2	5	16	3	Slab Top and Bot. Trans								
S45e	Str.	2	5	15	4.625	Slab Top and Bot. Trans								
S46e	Str.	2	5	14	6.25	Slab Top and Bot. Trans								
S47e	Str.	2	5	13	7.875	Slab Top and Bot. Trans								
S48e	Str.	2	5	12	9.5	Slab Top and Bot. Trans								
S49e	Str.	2	5	11	11.125	Slab Top and Bot. Trans								
S50e	Str.	2	5	11	0.75	Slab Top and Bot. Trans								
S51e	Str.	2	5	10	2.375	Slab Top and Bot. Trans								
S52e	Str.	2	5	9	4	Slab Top and Bot. Trans								
S53e	Str.	2	5	8	5.5	Slab Top and Bot. Trans								
S54e	Str.	2	5	7	7.125	Slab Top and Bot. Trans								
S55e	Str.	2	5	6	8.75	Slab Top and Bot. Trans								
S56e	Str.	2	5	5	10.375	Slab Top and Bot. Trans								
S57e	Str.	2	5	5	0	Slab Top and Bot. Trans								
S58e	Str.	2	5	4	1.625	Slab Top and Bot. Trans								
S59e	Str.	2	5	3	3.25	Slab Top and Bot. Trans								
S60e	Str.	2	5	2	4.875	Slab Top and Bot. Trans								
S61e	Str.	2	5	1	6.5	Slab Top and Bot. Trans								
S62e	Str	36	6	10	0	Slab Corner								



BAR TYPES

REVISION	DATE

DATE: 04/01/2020	CHECKED BY
DESIGNED BY: J. CROSSLIN	A. EDELEN
DETAILED BY: J. CROSSLIN	A. EDELEN

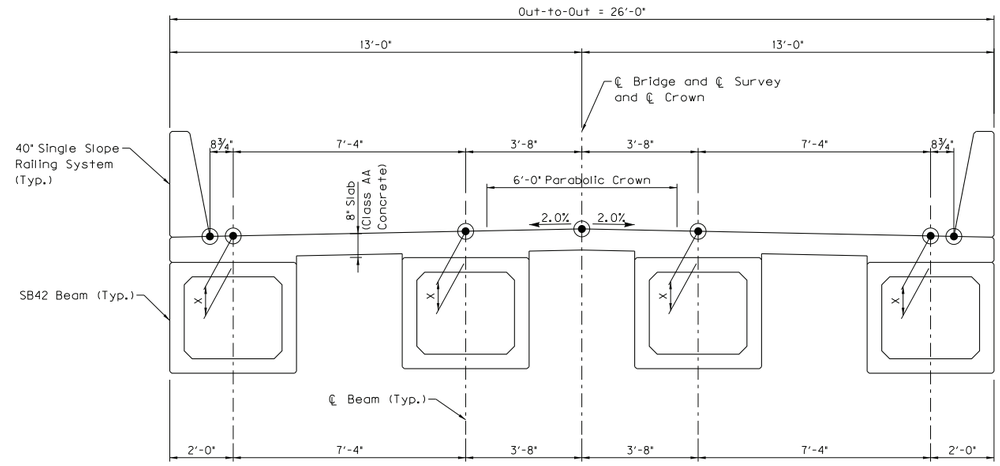
Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY
ANDERSON

ROUTE	CROSSING
KY-44	Crooked Creek

SUPER STRUCTURE BAR LIST

ITEM NUMBER	PREPARED BY	SHEET NO.
7-10020	AECOM / BRIDGING KENTUCKY	S16
		DRAWING NO. 28332



TYPICAL SECTION

◉ Denotes: Constructon Elevations are Given at These Points

NOTES

Take elevations on top of girder at points indicated by the grid layout. The beam elevations are to be read to three decimals, and entered in the tables under "Top of Girder" elevations.

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

The minimum allowable dimension "X" on a beam results in the design deck thickness (8") at the edge of the beam flange. This is calculated as the deck thickness +(half the top flange width • the cross slope of the bridge). This is 8"+(24½"•0.02) = 8.49" = 0.708'. Any necessary modifications to some or all of the "X"-dimensions must meet approval of the Engineer.

For setting templates, measure dimension "X" above top of girders 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 Girder" elevations.

Construct barrier curb to roadway grade. Do not add camber to barrier grade.

Note: The "Maximum Allowable Camber" shown on Sheet S11 is the amount of camber, measured prior to the casting of the deck, above which the beam will begin to encroach into the slab. If the measured camber is greater than the "Maximum Allowable Camber" the contractor will be responsible for any necessary adjustments to assure a minimum slab thickness of eight (8) inches as shown in the plans. This work will be considered incidental to the completion of the structure and have the approval of the Engineer.

REVISION	DATE

DATE: 04/01/2020	CHECKED BY
DESIGNED BY: J. CROSSLIN	A. EDELEN
DETAILED BY: J. CROSSLIN	A. EDELEN

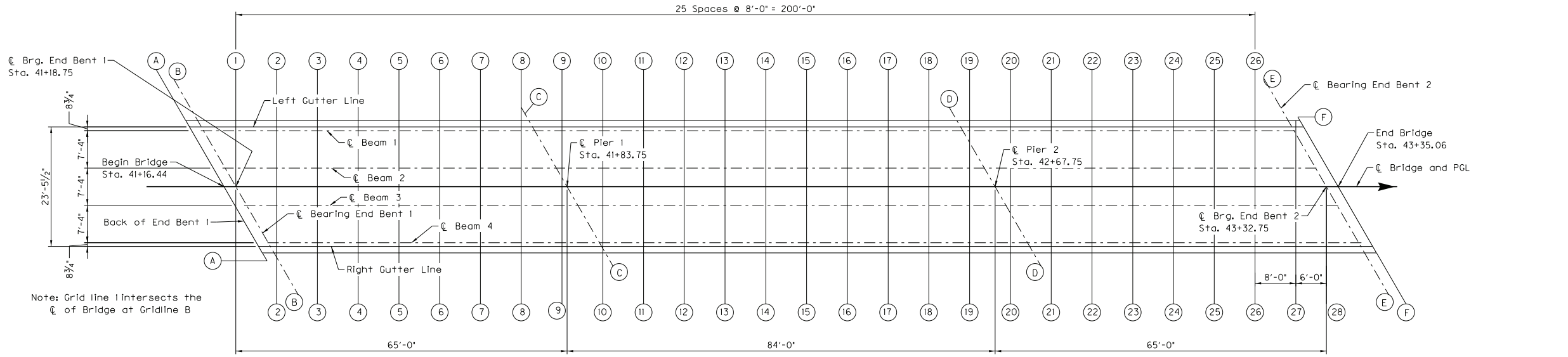
Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY
ANDERSON

ROUTE	CROSSING
KY-44	Crooked Creek

CONSTRUCTION ELEVATIONS 1

ITEM NUMBER	PREPARED BY		SHEET NO.
7-10020	AECOM	BRIDGING KENTUCKY Restore | Remove | Replace	S17
			DRAWING NO. 28332



Note: Grid line 1 intersects the ℄ of Bridge at Gridline B

Note: Grid line 28 intersects the ℄ of Bridge at Gridline E

PLAN OF SLAB

CONSTRUCTION ELEVATIONS

	LT Gutter			G1			G2			CL. Bridge			G3			G4			RT Gutter		
Line	CONST. EL.	TOP OF BEAM	DIM. "X"	CONST. EL.	TOP OF BEAM	DIM. "X"	CONST. EL.	TOP OF BEAM	DIM. "X"	CONST. EL.	TOP OF BEAM	DIM. "X"	CONST. EL.	TOP OF BEAM	DIM. "X"	CONST. EL.	TOP OF BEAM	DIM. "X"	CONST. EL.	TOP OF BEAM	DIM. "X"
A-A	671.095			671.101			671.160			671.162			671.080			670.855			670.833		
B-B	671.046			671.052			671.116			671.119			671.038			670.813			670.790		
C-C	669.838			669.845			669.913			669.917			669.835			669.610			669.588		
D-D	668.284			668.291			668.359			668.363			668.281			668.056			668.034		
E-E	667.082			667.089			667.157			667.160			667.079			666.854			666.831		
F-F	667.039			667.046			667.114			667.117			667.036			666.811			666.789		
1	670.932			670.946			671.082			671.119			-------			-------			-------		
2	670.794			670.808			670.948			670.987			670.942			670.786			670.771		
3	670.651			670.665			670.806			670.847			670.804			670.655			670.639		
4	670.504			670.519			670.660			670.702			670.659			670.515			670.500		
5	670.356			670.371			670.513			670.555			670.513			670.370			670.355		
6	670.205			670.220			670.364			670.407			670.365			670.223			670.208		
7	670.049			670.065			670.213			670.256			670.215			670.074			670.059		
8	669.885			669.901			670.056			670.101			670.061			669.922			669.907		
9	669.755			669.768			669.897			669.937			669.900			669.764			669.750		
10	669.632			669.645			669.781			669.816			669.765			669.601			669.584		
11	669.499			669.513			669.653			669.691			669.643			669.486			669.470		
12	669.359			669.373			669.517			669.556			669.511			669.358			669.342		
13	669.214			669.229			669.374			669.415			669.371			669.221			669.206		
14	669.066			669.081			669.228			669.270			669.227			669.079			669.064		
15	668.915			668.930			669.079			669.122			669.080			668.933			668.919		
16	668.759			668.774			668.926			668.970			668.929			668.784			668.770		
17	668.597			668.613			668.768			668.813			668.774			668.632			668.617		
18	668.425			668.442			668.602			668.650			668.613			668.474			668.460		
19	668.256			668.269			668.425			668.476			668.442			668.308			668.295		
20	668.124			668.138			668.276			668.314			668.267			668.132			668.119		
21	667.984			667.998			668.139			668.179			668.134			667.982			667.966		
22	667.840			667.854			667.995			668.037			667.993			667.847			667.832		
23	667.692			667.707			667.849			667.891			667.848			667.704			667.690		
24	667.543			667.558			667.701			667.743			667.701			667.559			667.544		
25	667.391			667.406			667.551			667.594			667.552			667.411			667.396		
26	667.233			667.248			667.398			667.443			667.401			667.261			667.246		
27	-------			-------			667.238			667.285			667.246			667.107			667.093		
28	-------			-------			-------			667.160			667.123			666.987			666.974		

REVISION	DATE

DATE: 04/01/2020	CHECKED BY
DESIGNED BY: J. CROSSLIN	A. EDELEN
DETAILED BY: J. CROSSLIN	A. EDELEN

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY
ANDERSON

ROUTE	CROSSING
KY-44	Crooked Creek

CONSTRUCTION ELEVATIONS 2

ITEM NUMBER	PREPARED BY	SHEET NO.
7-10020	AECOM	S18
	BRIDGING KENTUCKY	DRAWING NO. 28332