

TRANSPORTATION CABINET DEPARTMENT OF HIGHWAYS

EDMONSON COUNTY BIG REEDY- BEE SPRINGS ROAD KY 238 OVER BIG REEDY CREEK

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SPECIAL NOTES

Special Note for Concrete Sealing
Special Note for Epoxy Injection Crack Repair
Special Note for Embedded Galvanic Anodes Type 1A

SPECIAL PROVISIONS

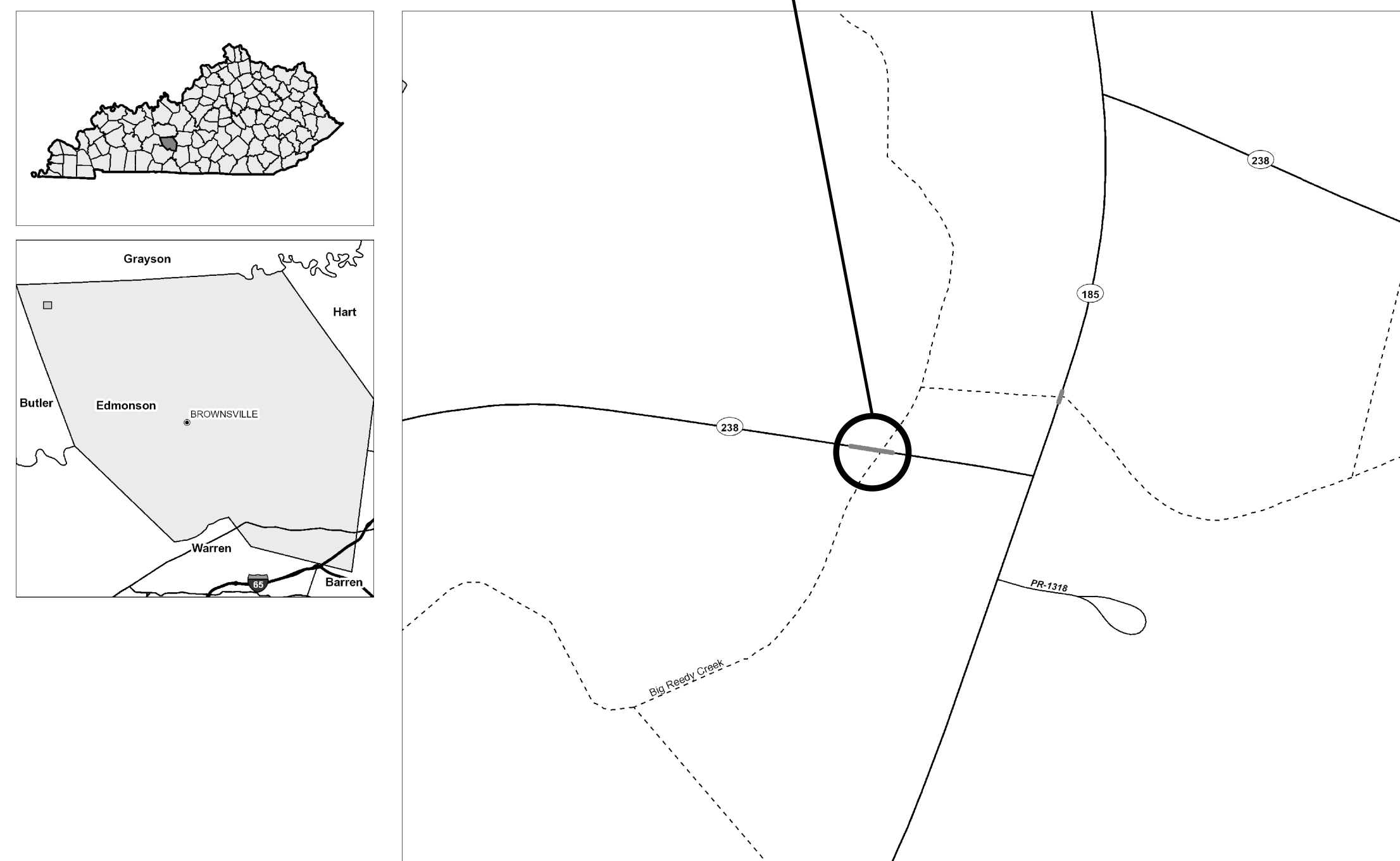
STANDARD DRAWINGS

BBP-003-02 Elastomeric Bearing Pads for Box Beams
BGX-006-10 Stencils for Structures
BGX-012-02 Geotechnical Legend
BJE-001-14 Neoprene Expansion Dams and Armored Edges
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BDP-001-06 Replaced by sheet S6
BDP-002-03 Box Beam Bearing Details
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BDP-004-04 Box Beam Tension Rod Details
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SPECIFICATIONS

2019 Standard Specifications for Road and Bridge Construction.
2020 AASHTO LRFD Bridge Design Specifications

PROJECT LOCATION



ESTIMATE OF QUANTITIES

BID ITEM CODE	08100	08104	23378EC	02998	08151	08301	08662	08665	25017ED	03299	02383	02585	02014	26141EC	08003	23744EC
BID ITEM	Concrete Class "A"	Concrete Class "AA"	Concrete Sealing	Masonry Coating	Steel Reinforcement, Epoxy Coated	Remove Superstructure	PPC Box Beams CB-17	PPC Box Beams CB-33	Rail System Side Mounted MGS	Armored Edge for Concrete	Remove & Reset Guardrail	Edge Key	Barricade Type III	Galvanic Anode-XPX	Foundation Preparation	Epoxy Injection Crack Repair
UNIT	C.Y.	C.Y.	S.F.	S.Y.	LBS.	L.S.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	Each	Each	L.S.	L.F.
Substructure																
End Bent #1	1.6			11	177									50		31
End Bent #2	1.6			11	177									50		20
Intermediate Bent	1.9			118	258									50		31
Superstructure		48.6	3126		6846		264	462	237.5	55.4						
BRIDGE TOTALS	5.1	48.6	3126	140	7458	1	264	462	237.5	55.4	100	48	2	150	1	82
BID ITEM CODE	02726	02650	02569	02568	00001	00214	00339	02562	00356							
BID ITEM	Staking	Maintain and Control Traffic	Demobilization	Mobilization- For Concrete Sealing	DGA Base	CL3 ASPH BASE 1.00D PG64-22	CL3 ASPH SURF 0.38D PG64-22	Temporary Signs	Asphalt Material for Tack							
UNIT	L.S.	L.S.	L.S.	L.S.	Ton	Ton	Ton	S.F.	Ton							
Substructure																
End Bent #1																
End Bent #2																
Intermediate Bent																
Superstructure																
BRIDGE TOTALS	1	1	1	1	20	59	44	120	0.5							

LETTING DATE

CONSTRUCTION PROJECT NO.



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS



REVISION	DATE
Added Bid Item "Asphalt Material for Tack"	10/23/24

PREPARED BY
**Division of
Structural Design**

DATE: JULY 2024	CHECKED BY:
DESIGNED BY: J. VAN ZEE	S.T. ANDARDS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

TITLE SHEET
CROSSING
BIG REEDY CREEK

ROUTE KY 238	BRIDGE ID. 031B00027N	COUNTY OF EDMONSON
	SHEET NO. S1	DRAWING NUMBER 28916

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	~	F _y = 60,000 psi
Structural Steel Yield Strength	~	F _y = 50,000 psi

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

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

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 3/4" 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.

MASONRY COATING: Apply masonry coating to substructures in accordance with the specifications. Superstructure shall receive concrete sealing in accordance with the Special Note for Concrete Sealing.

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

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

CONCRETE: Class "AA" Concrete is to be used throughout the superstructure. Class "A" concrete is to be used in the substructures. Prestressed beam concrete shall be in accordance with the plans and specifications.

REMOVAL OF EXISTING SUPERSTRUCTURE: The existing superstructure shall be removed in accordance with section 203 of the Specifications, except all materials of the superstructure shall become property of the contractor and shall be removed from the right-of-way. Care shall be taken to prevent damage to the substructure during this procedure. The cost of removing the superstructure shall be included in the lump sum bid for "Remove Existing Superstructure".

CORK/STYROFOAM: The cost for the cork/styrofoam under and cork up the sides of the slab and abutment wings is incidental to the unit price bid for Class "AA" Concrete.

CONCRETE SEALER: All areas detailed in the specifications as requiring masonry coating shall be sealed in accordance with the special note for concrete sealing. The superstructure deck, barriers and overhangs shall also 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 REMOVAL: Any concrete removal outside the detailed limits shall be replaced at the contractor's expense. The contractor shall make a saw cut at the removal limits to form a neat construction joint. All costs for the saw cut & concrete removal are included in the price bid for, "Remove Existing Superstructure".

DAMAGE TO THE SUBSTRUCTURE: The contractor is responsible for any and all damages to the existing substructures during reconstruction even to the replacement of the entire substructure, should they be damaged due to his actions.

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 not be honored by the Department of Highways.

FIELD MEASUREMENTS: Prior to beginning work or ordering any materials, the contractor shall verify all dimensions and elevations. No claim shall be honored by the Department of Highways regarding site conditions.

ELEVATIONS: The contractor is to verify existing elevations and make a reference benchmark before removing any concrete.

EXISTING STRUCTURE: See drawing number 20922 and std. A410 for details of existing structure.

EXISTING REINFORCING STEEL: Take care not to damage existing reinforcement during concrete removal. Bend, straighten, abrasive blast clean, and coat with cold galvanizing material prior to adding zinc anodes. All costs to do this work is incidental to Class A Concrete.

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
Cu.	Cubic
Dwg.	Drawing
e.f.	Each Face
El.	Elevation
eq.	Equal
Est.	Estimate
Ext.	Exterior
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

REVISION	DATE
Masonry Coating note updated.	10/21/24

PREPARED BY
**Division of
Structural Design**

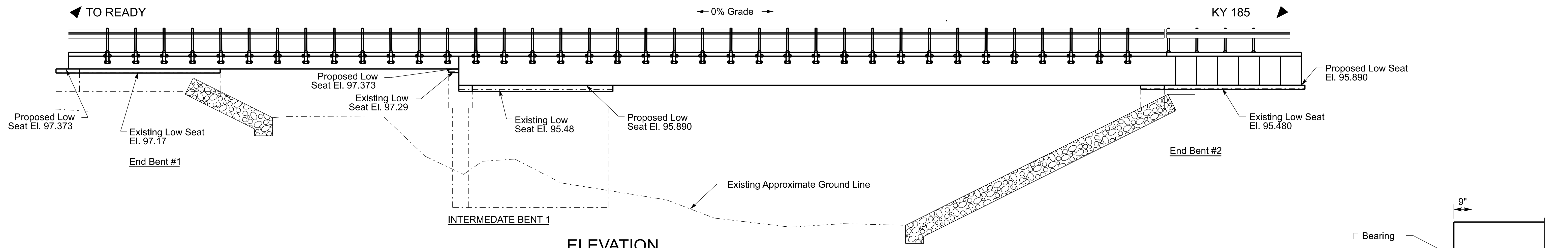
DATE: JULY 2024	CHECKED BY
DESIGNED BY: J. VAN ZEE	S.T. ANDARDS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

GENERAL NOTES
CROSSING
BIG REEDY CREEK

ROUTE
KY 238

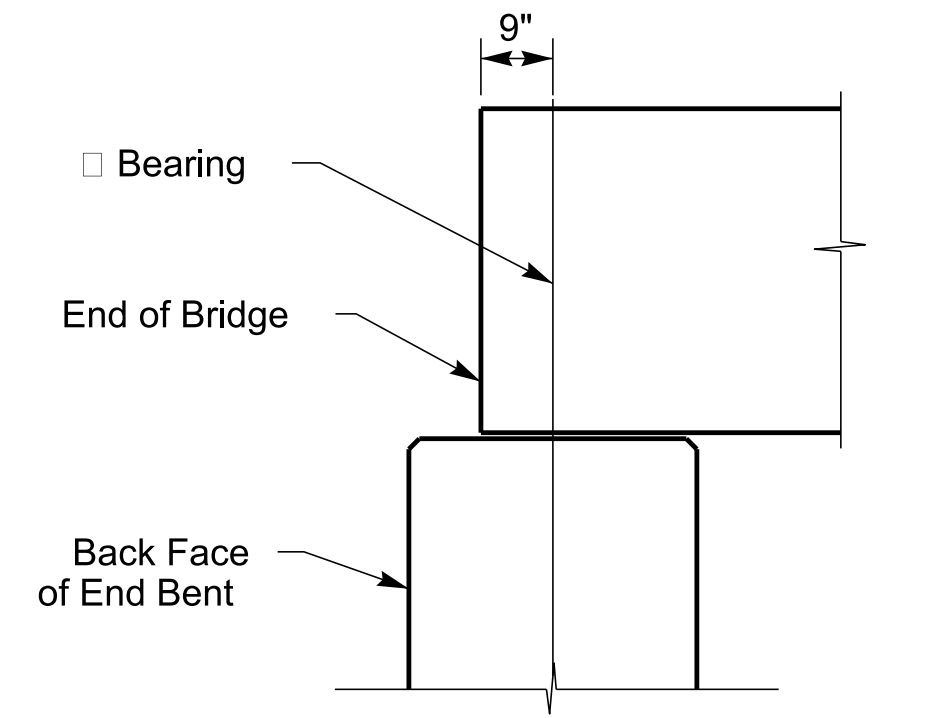
BRIDGE ID.
031B00027N
SHEET NO.
S2

COUNTY OF
EDMONSON
DRAWING NUMBER
28916

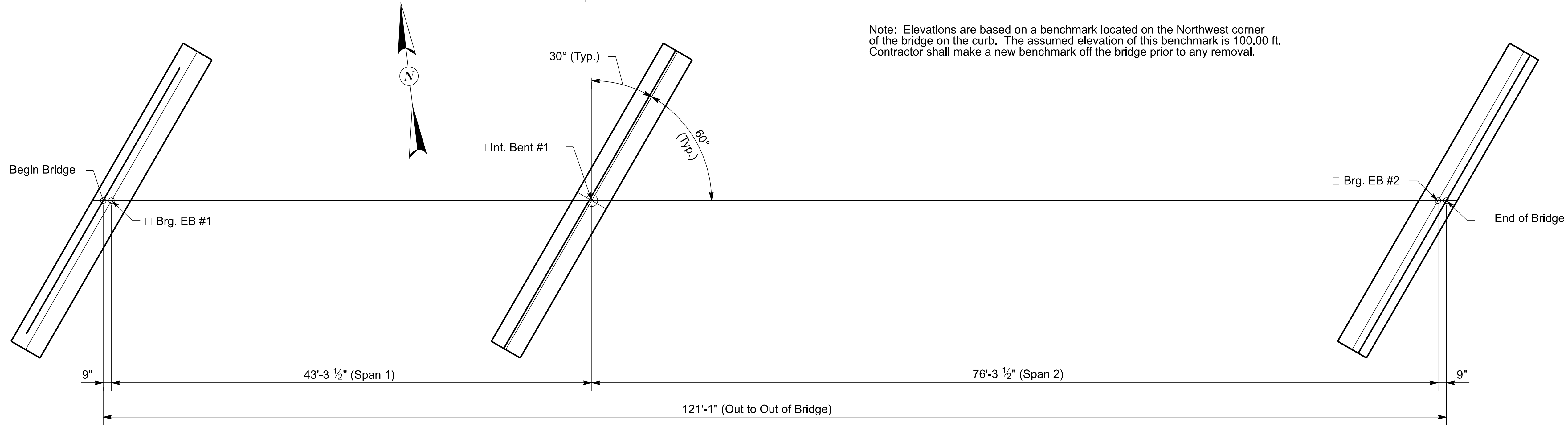


ELEVATION
 44'-78" PPC Box Beam, CB17 Span 1,
 CB33 Span 2 ~ 30° SKEW RT. ~ 23'-4" ROADWAY

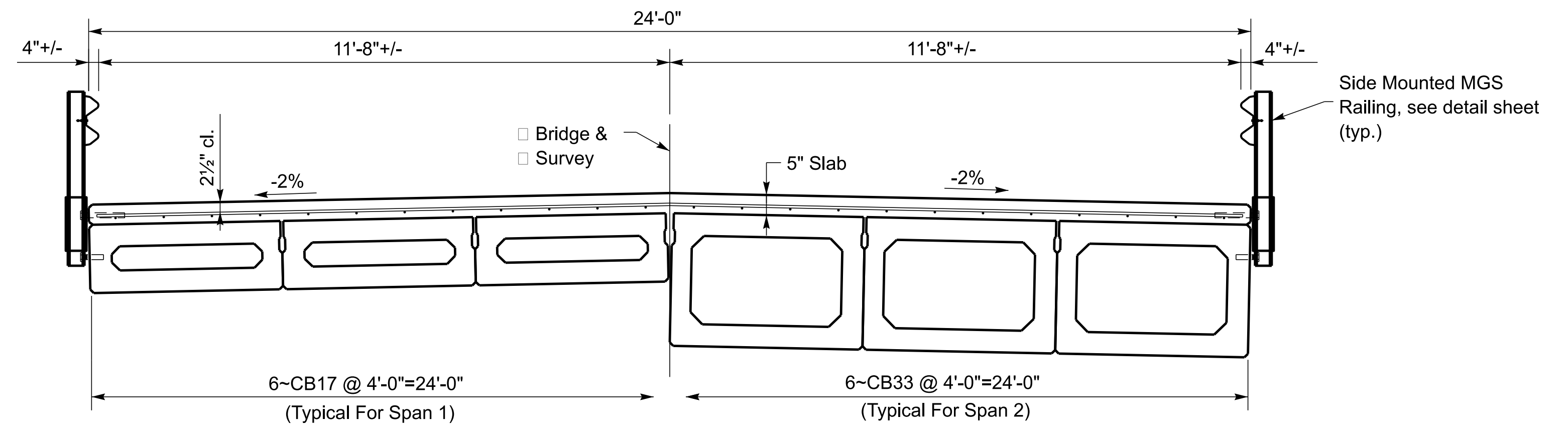
Note: Elevations are based on a benchmark located on the Northwest corner of the bridge on the curb. The assumed elevation of this benchmark is 100.00 ft. Contractor shall make a new benchmark off the bridge prior to any removal.



END OF BEAM DETAIL
 (Measured along □ Beam)



PLAN
 ~Superstructure not shown~



TYPICAL ROADWAY HALF SECTION



COMMONWEALTH OF KENTUCKY
 DEPARTMENT OF HIGHWAYS



USER: Brian.Miller

REVISION

DATE

PREPARED BY
**Division of
 Structural Design**

DATE: JULY 2024

DESIGNED BY: J. VAN ZEE

DETAILED BY: M. BAWITHAWNG

CHECKED BY

S.T. ANDARDS

J. VAN ZEE

LAYOUT

CROSSING
BIG REEDY CREEK

ROUTE

KY 238

BRIDGE ID.

031B0027N

SHEET NO.

S3

COUNTY OF

EDMONSON

DRAWING NUMBER

28916

MicroStation v10.16.3.31

DATE PLOTTED: 23-OCT-2024

FILE NAME: J:\District\03\IRS & M\Edmonson\031B0027N\Final Files for Letting and Certs\28916.dgn

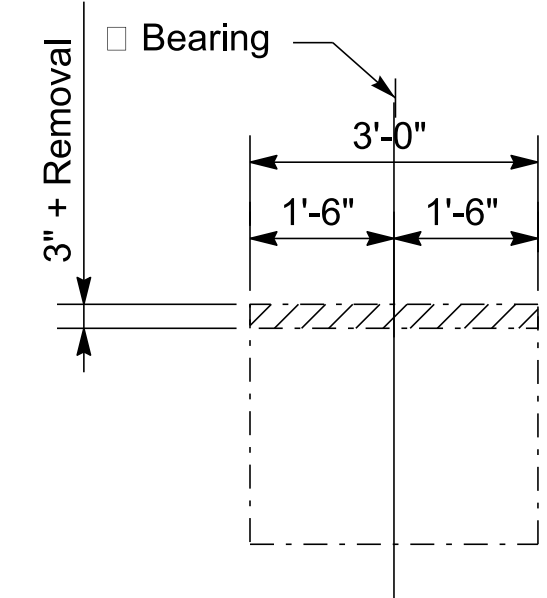
EB #2 Existing Seat El. 95.48
EB #1 Existing Seat El. 97.17

31'-0"

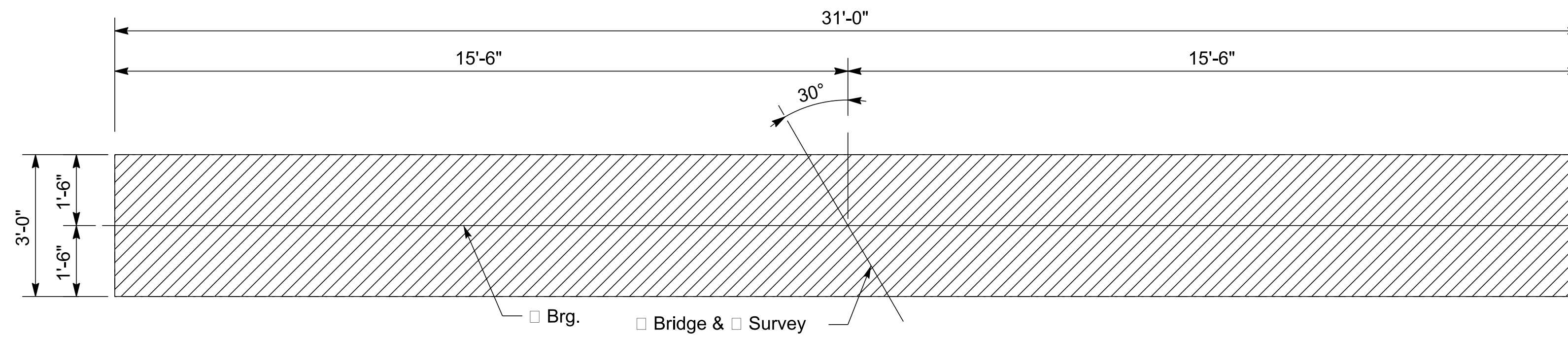
□ Bridge & □ Survey
EB #1 Existing Seat El. 97.42
EB #2 Existing Seat El. 95.73

EB #1 Existing Seat El. 97.17
EB #2 Existing Seat El. 95.48

END BENTS- ELEVATION



SECTION A-A



PLAN

Note: Remove superstructure (not shown).
Note: Remove cross-hatched portion of existing concrete.
Note: Clean and straighten existing reinforcement and incorporate it into the new concrete.

Existing Seat El. 97.30

31'-0"

□ Bridge & □ Survey
Existing Seat El. 97.55

Existing Seat El. 97.29

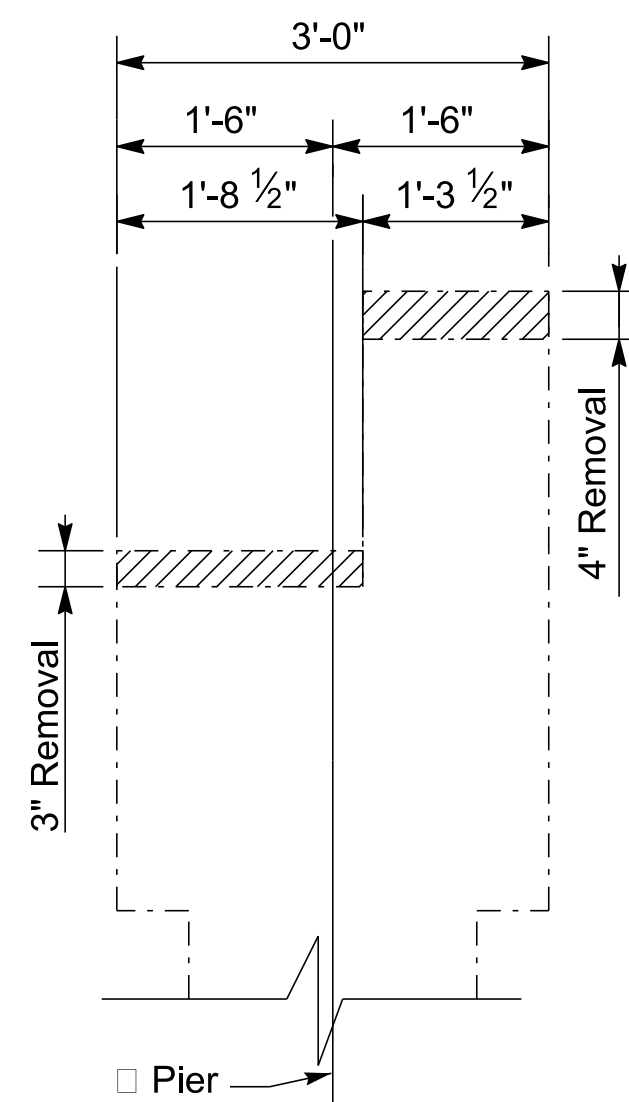
Existing Seat El. 95.48

Existing Seat El. 95.73

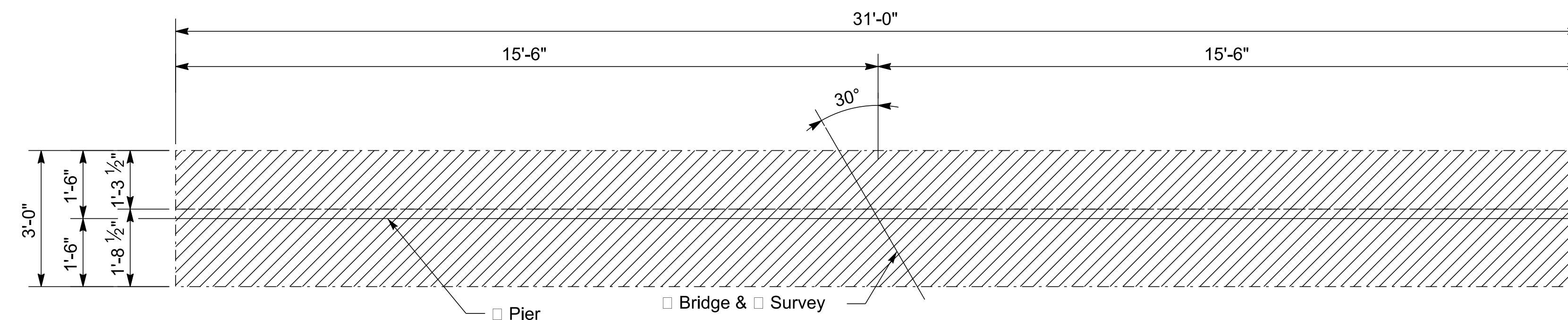
3" Removal

Existing Seat El. 95.48

INTERMEDIATE BENT - ELEVATION



SECTION B-B



PLAN



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS



USER: Brian.Miller

REVISION

DATE

PREPARED BY

Division of
Structural Design

DATE: JULY 2024

DESIGNED BY: J. VAN ZEE

DETAILED BY: M. BAWITHAWNG

CHECKED BY

S.T. ANDARDS

J. VAN ZEE

CONCRETE REMOVAL DETAILS

CROSSING
BIG REEDY CREEK

ROUTE

KY 238

BRIDGE ID.

031B00027N

SHEET NO.

S4

COUNTY OF

EDMONSON

DRAWING NUMBER

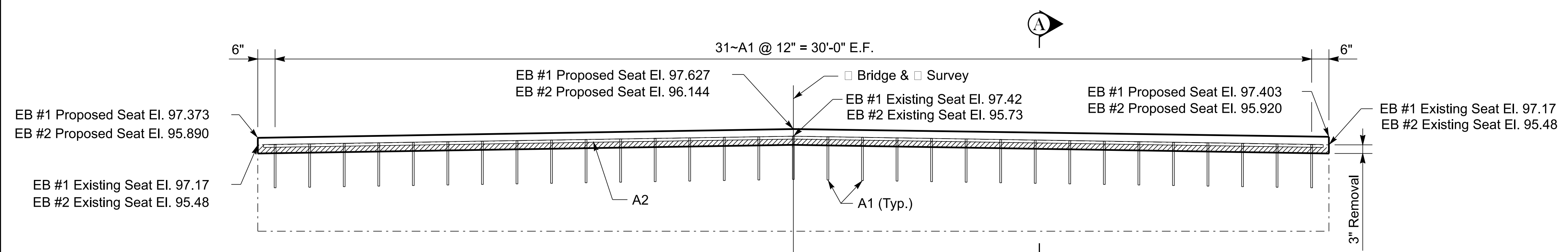
28916

MicroStation v10.16.3.31

DATE PLOTTED: 23-OCT-2024

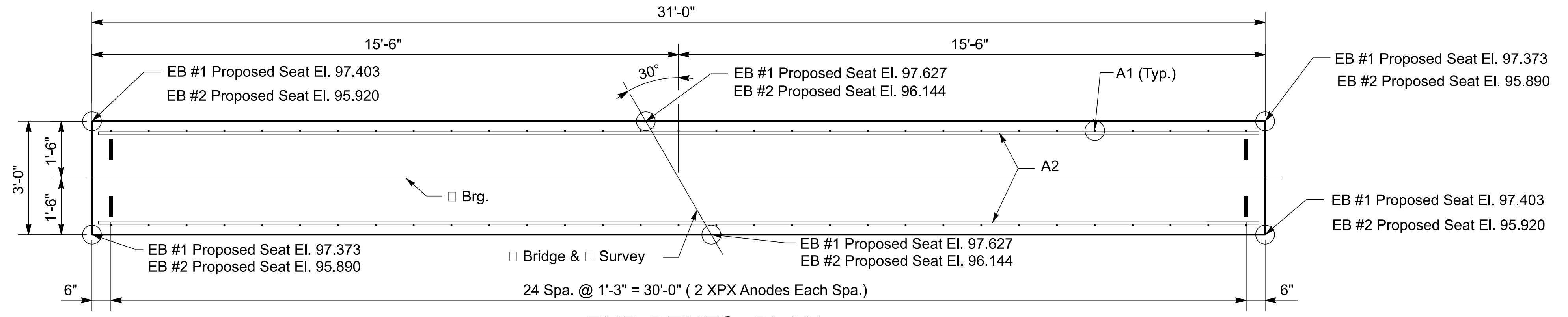
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BILL OF REINFORCEMENT						
MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	
A1e	Str.	186	5	1- 3	End Bents & Int. Bent	
A2e	Str.	8	5	30- 8	Cap & Pier	
A3e	Str.	62	5	1- 9	Int. Bent	

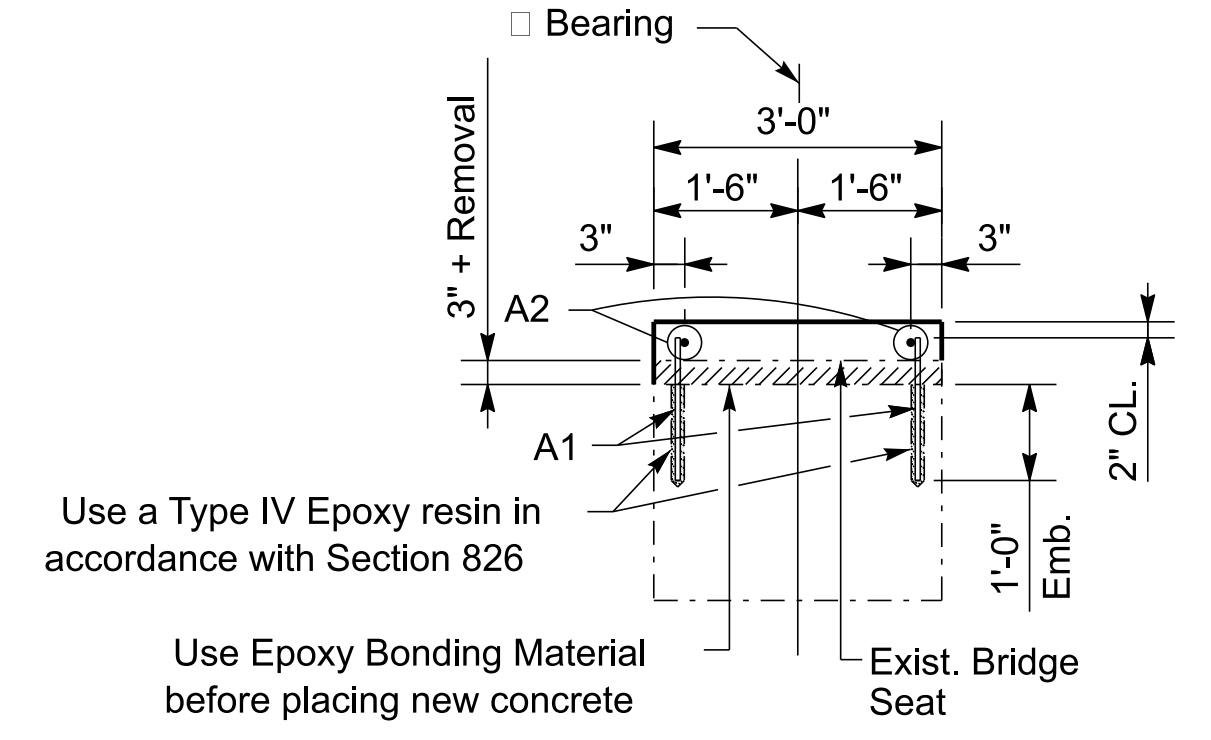


NOTE:
Ensure to not drill into existing rebars, adjust location if necessary

END BENTS- ELEVATION

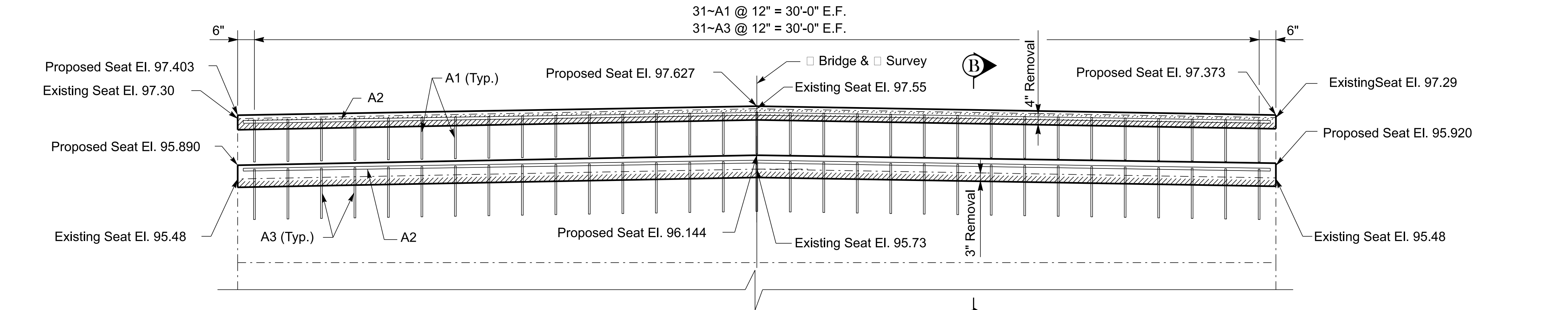


END BENTS- PLAN

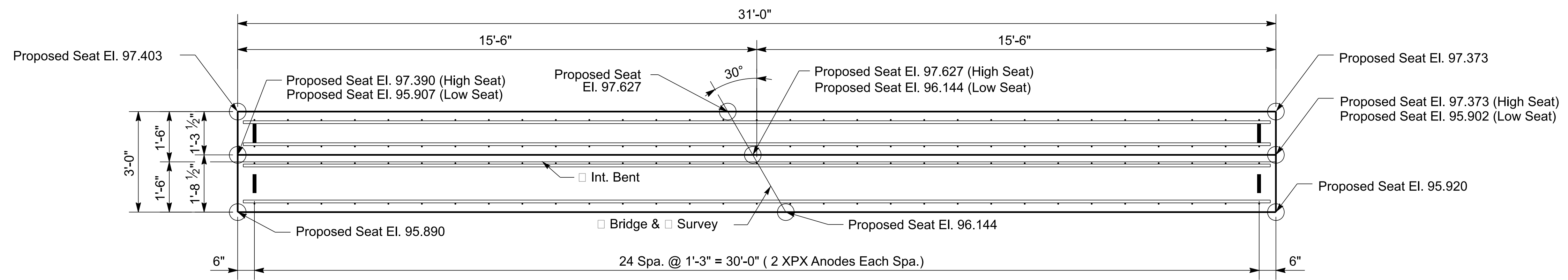


SECTION A-A

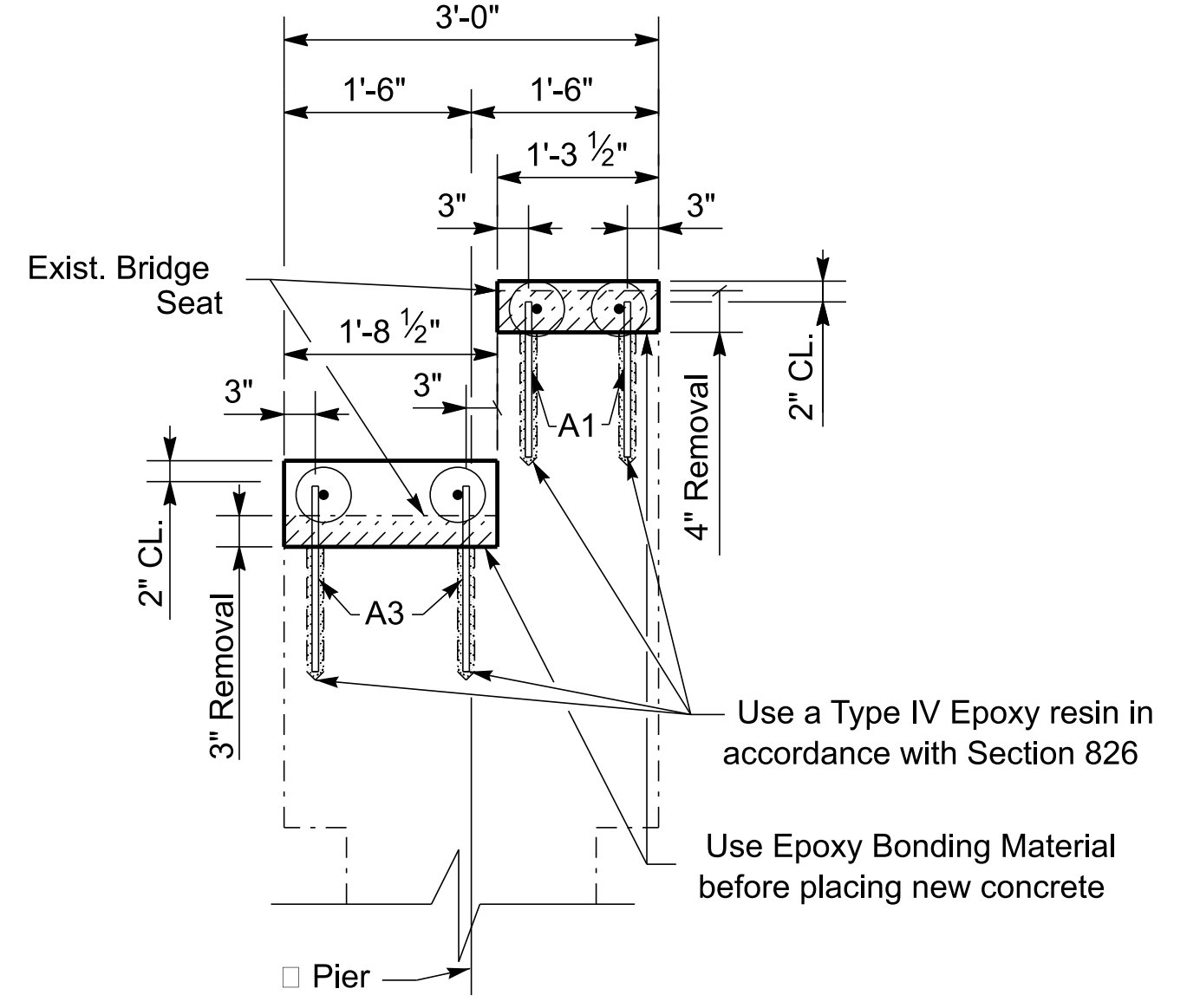
NOTE:
The cost of drilling holes, grouting, and epoxy bonding material shall be incidental to the cost of Class "A" Concrete.



INTERMEDIATE BENT- ELEVATION



INTERMEDIATE BENT- PLAN



SECTION B-B

NOTE:
The cost of drilling holes, grouting, and epoxy bonding material shall be incidental to the cost of Class "A" Concrete.

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:

- d (in.): Sum of the downwards deflections caused by the design 5" deck, railing, and future wearing surface. (Positive Downwards)
- c (in.): Upwards midspan camber of the beam caused by prestressing minus the downward deflection of the beam due to self weight. (Positive Upwards)

MATERIAL DESIGN SPECIFICATIONS:

for Steel Reinforcement	FY = 60000 PSI
for Prestressed Girder Concrete (Typ. U.N.O.)	F'C = 7000 PSI
	F'CI = 5500 PSI
for Class "AA" Concrete	F'C = 4000 PSI
for Prestressing Steel	F'S = 270000 PSI

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 b" 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 5".

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

RAILING SYSTEM SIDE MOUNTED MGS: Is to be used on this structure, see Std. Dwg. BHS-011, c.e.

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



REVISION

DATE

PREPARED BY

Division of
Structural Design

DATE: JULY 2024

CHECKED BY

DESIGNED BY: J. VAN ZEE

S.T. ANDARDS

DETAILED BY: M. BAWITHAWNG

J. VAN ZEE

BOX BEAM GENERAL NOTES

CROSSING

BIG REEDY CREEK

ROUTE

KY 238

BRIDGE ID.

031B00027N

SHEET NO.

S6

COUNTY OF

EDMONSON

DRAWING NUMBER

28916

TABLE OF STRAND DATA

Beam Type	Beam Length (feet)	Number of Strands Required			Conc. Strength	
		Row ①	Row ②	Row ③	F'CI (psi)	F'C (psi)
B17	28	12				
	30	13				
	32	14				
	34	15				
	36	16				
	38	17	1			
CB17	40	17	3			
	42	17	5			
	36	14				
	38	15				
	40	16				
	42	17	1			
	44	17	2			
	46	17	9		6000	7000
48	17	17	2	7000	8000	

TABLE OF DIMENSION DATA

Beam Type	Beam Length (feet)	"F"	"G"	"H"	"J"				
B17	28	4	9"	8 1/2"	11"				
	30	4	9"	9 1/2"	11"				
	32	4	9"	10 1/2"	11"				
	34	5	8"	7 1/2"	11"				
	36	6	8"	8"	11"				
	38	7	7"	6 1/2"	10"				
CB17	40	7	7"	8 1/2"	10"				
	42	7	7"	5 1/2"	10"				
	36	8	8"	11 1/2"	14"				
	38	6	8"	9 1/2"	14"				
	40	6	8"	7 1/2"	14"				
	42	7	7"	8 1/2"	12"				
CB17	44	8	7"	7 1/2"	12"				
	46	8	7"	7 1/2"	12"				
	48	10	6"	9 1/2"	12"				

TABLE OF BAR QUANTITIES DESIGN DATA

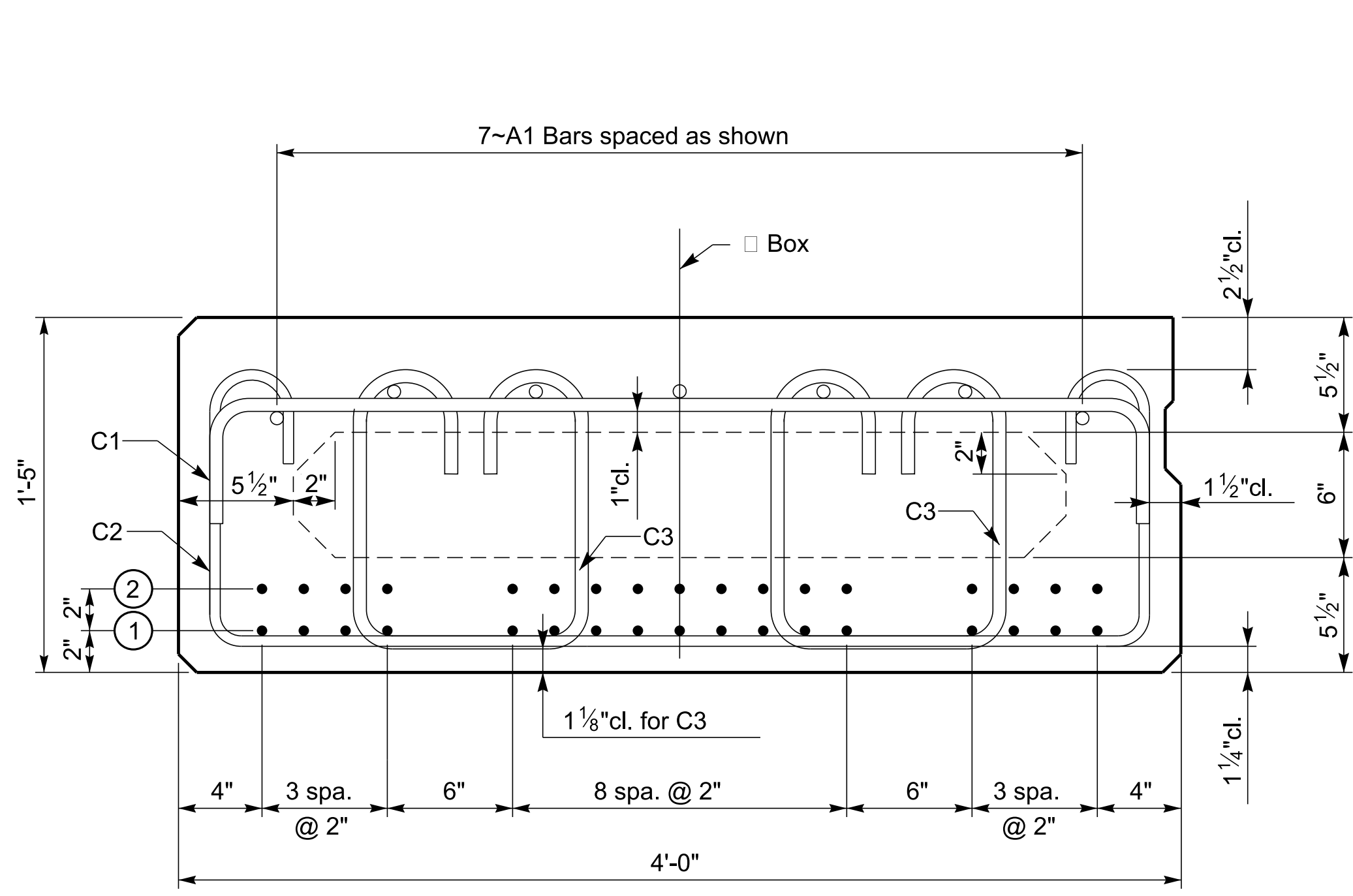
Beam Type	Beam Length (feet)	C1	C2	C3	C4	DC (kips)	DW (kips)	LL (kips)	LL+I (kips)	□d (in.)	□c (in.)
B17	28	57	33	2		9.4	0.8	35.1	44.9		
	30	61	35	2		10.1	0.9	36.4	46.4		
	32	65	37	2		10.7	0.9	37.7	48.1		
	34	69	41	2		11.4	1.0	38.9	49.6		
	36	73	44	4		12.1	1.0	40.0	50.9		
	38	77	51	4		12.7	1.1	41.1	52.2		
CB17	40	81	53	4		13.4	1.1	42.1	53.4		
	42	85	56	4		14.1	1.2	43.0	54.5		
	36	37		2	37	16.6	1.0	40.0	50.9	0.2	0.6
	38	39		2	39	17.5	1.1	41.1	52.2	0.2	0.7
	40	41		4	41	18.4	1.1	42.1	53.4	0.2	0.8
	42	43		4	43	19.3	1.2	43.0	54.5	0.3	0.9
	44	45		4	45	20.2	1.3	43.9	55.5	0.3	1.0
	46	47		4	47	21.1	1.3	44.7	56.5	0.3	1.3
48	49		4	49	22.0	1.4	45.6	57.4	0.4	1.8	

Straight Reinforcement

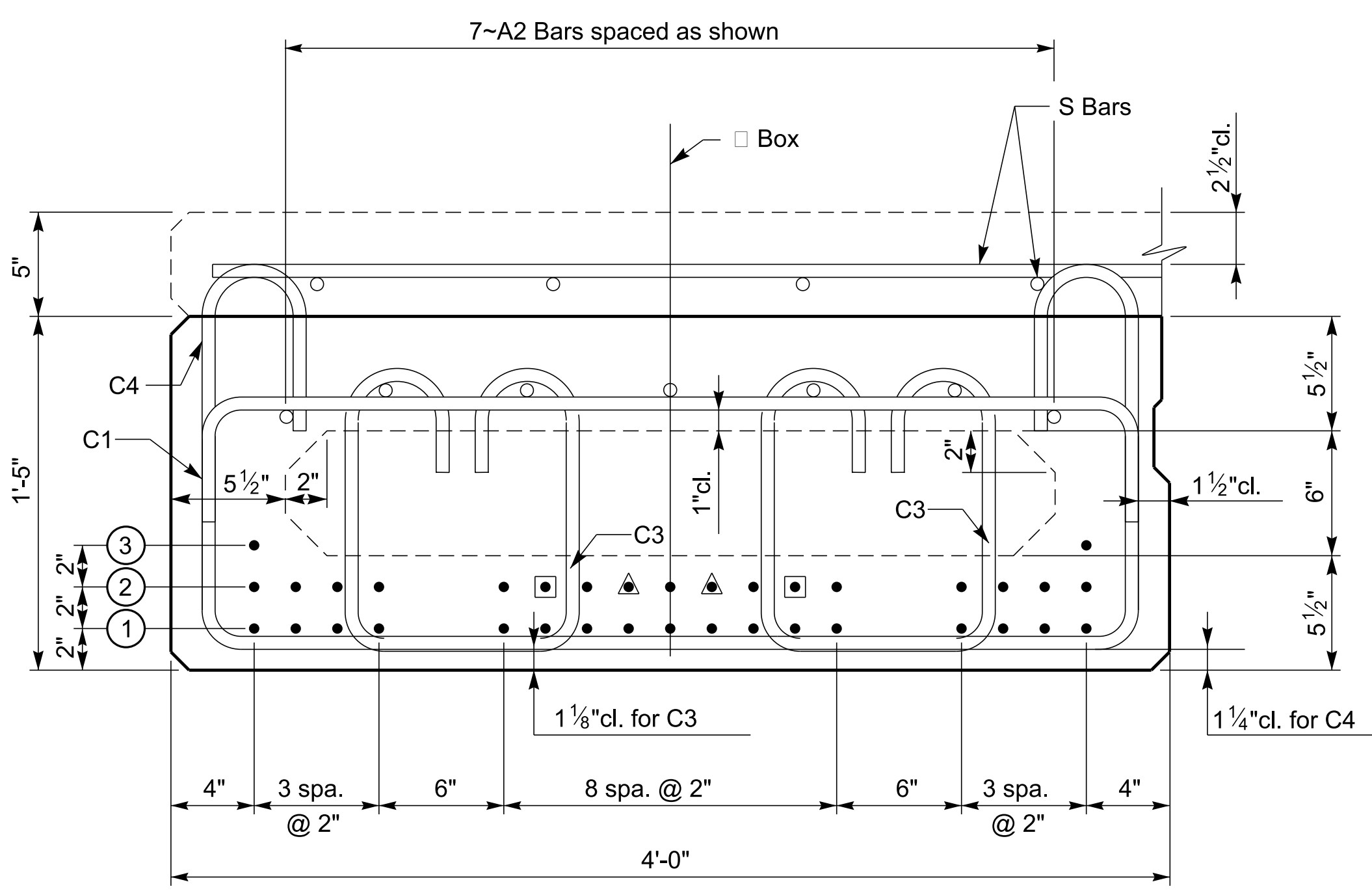
Mark	Size	Length
A1(E)	#5	Beam Length Minus 3"
A2(E)	#4	Beam Length Minus 3"
D(E)	#8	2'-0"

Bent Reinforcement

Mark	Size	a	b
C1(e)	#5	3'-9"	6"
C2(e)	#4	3'-9"	1'-1 1/4"
C3(e)	#5	11 3/8"	1'-1 3/8"
C4(e)	#4	3'-9"	1'-6 1/4"

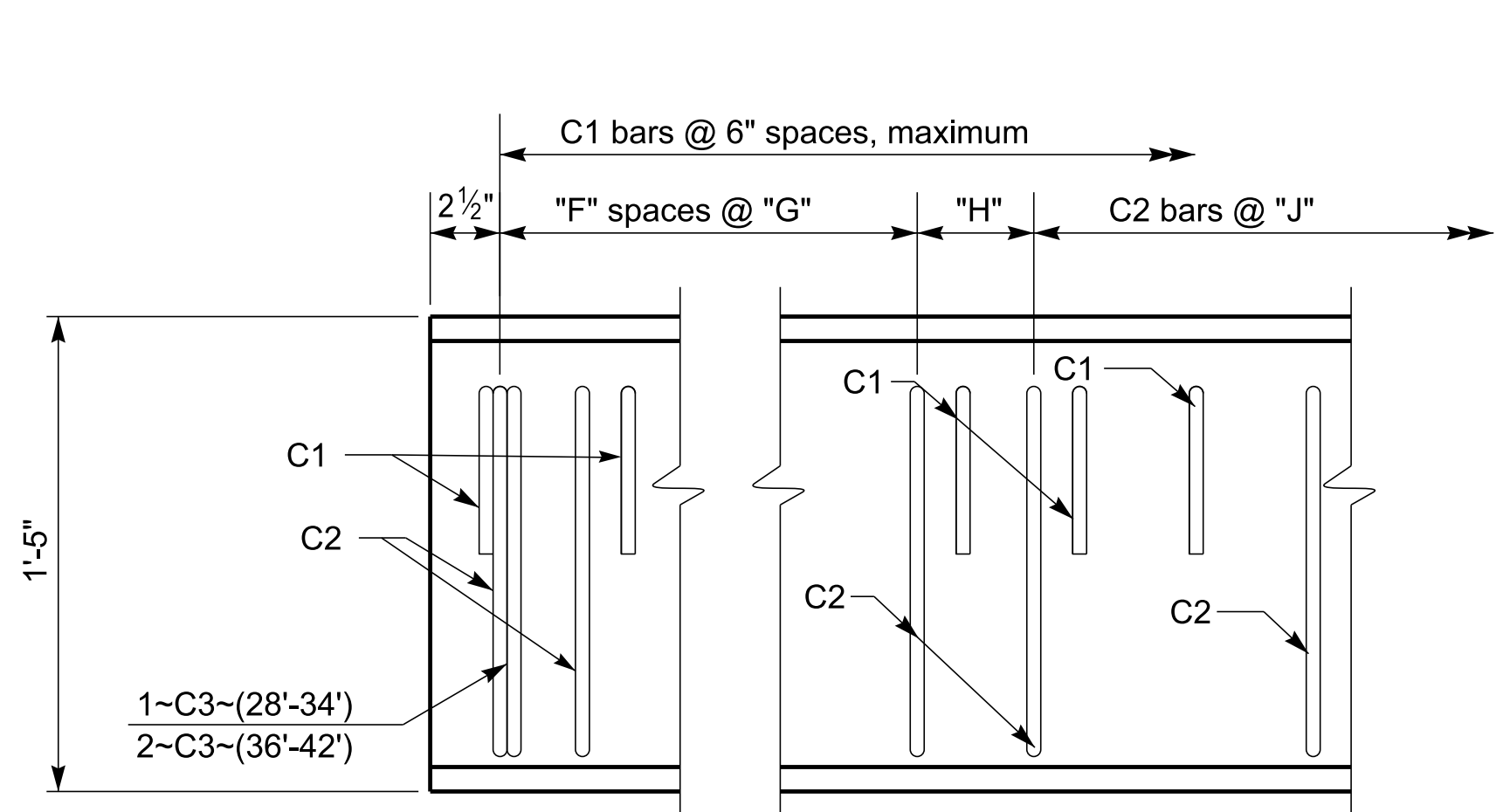


B17 BEAM

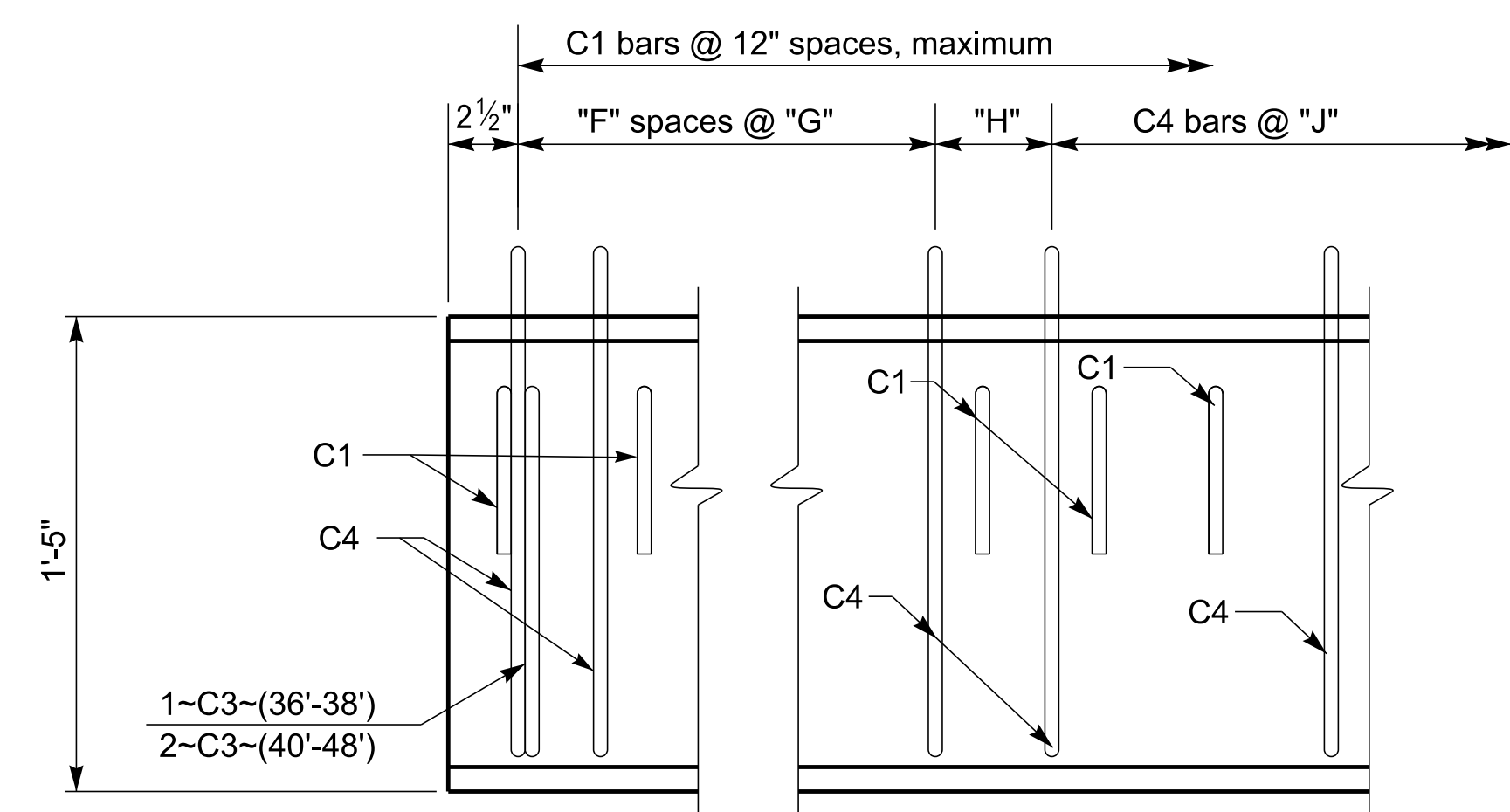


CB17 BEAM

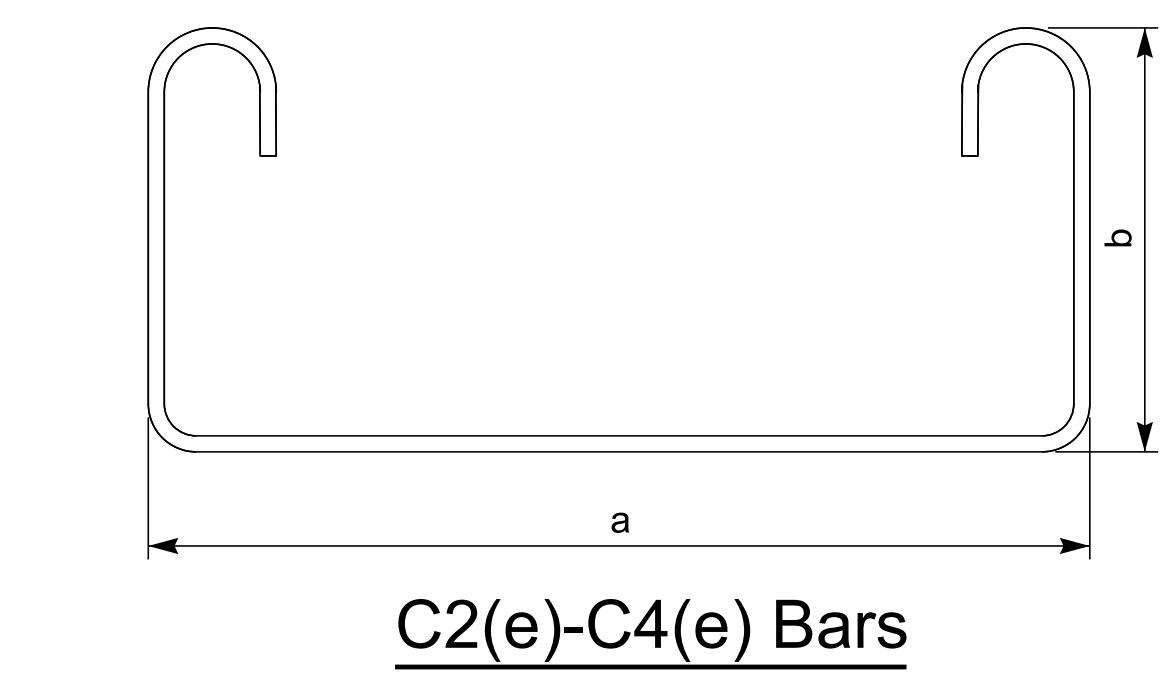
- Debond these strands 4' each end of beam
- △ Debond these strands 6' each end of beam
- CB17-48 Beam Only



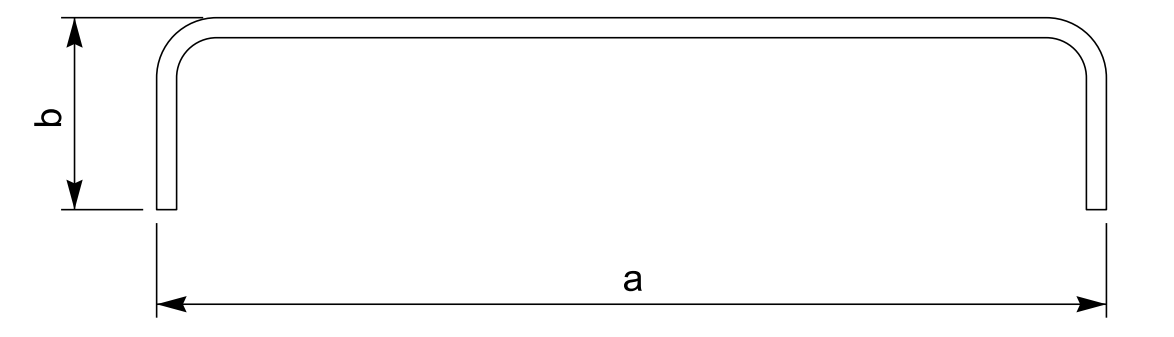
B17 ELEVATION OF 0° SKEW
(Refer to BDP-003,c.e. for skewed details)



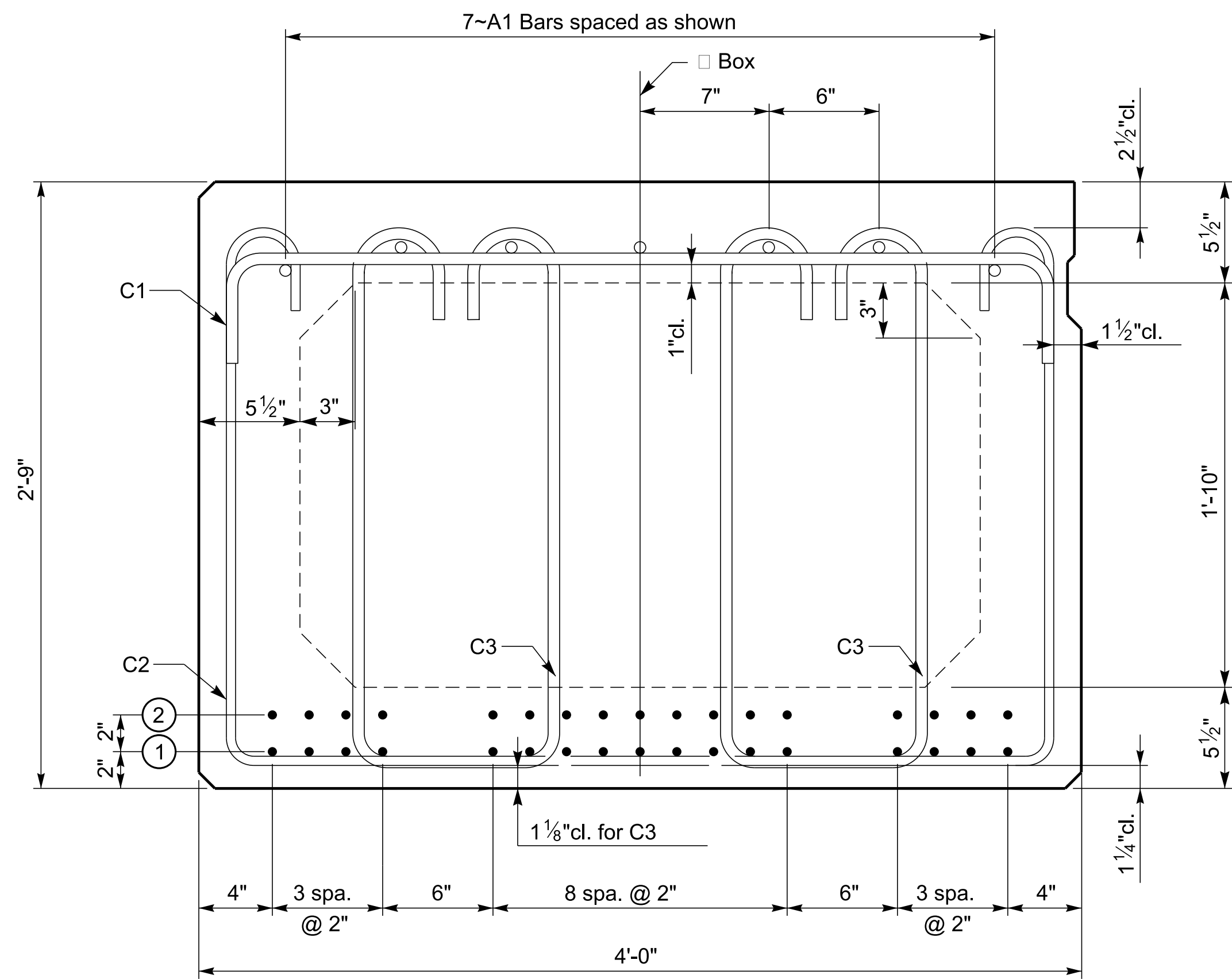
CB17 ELEVATION OF 0° SKEW
(Refer to BDP-003,c.e. for skewed details)



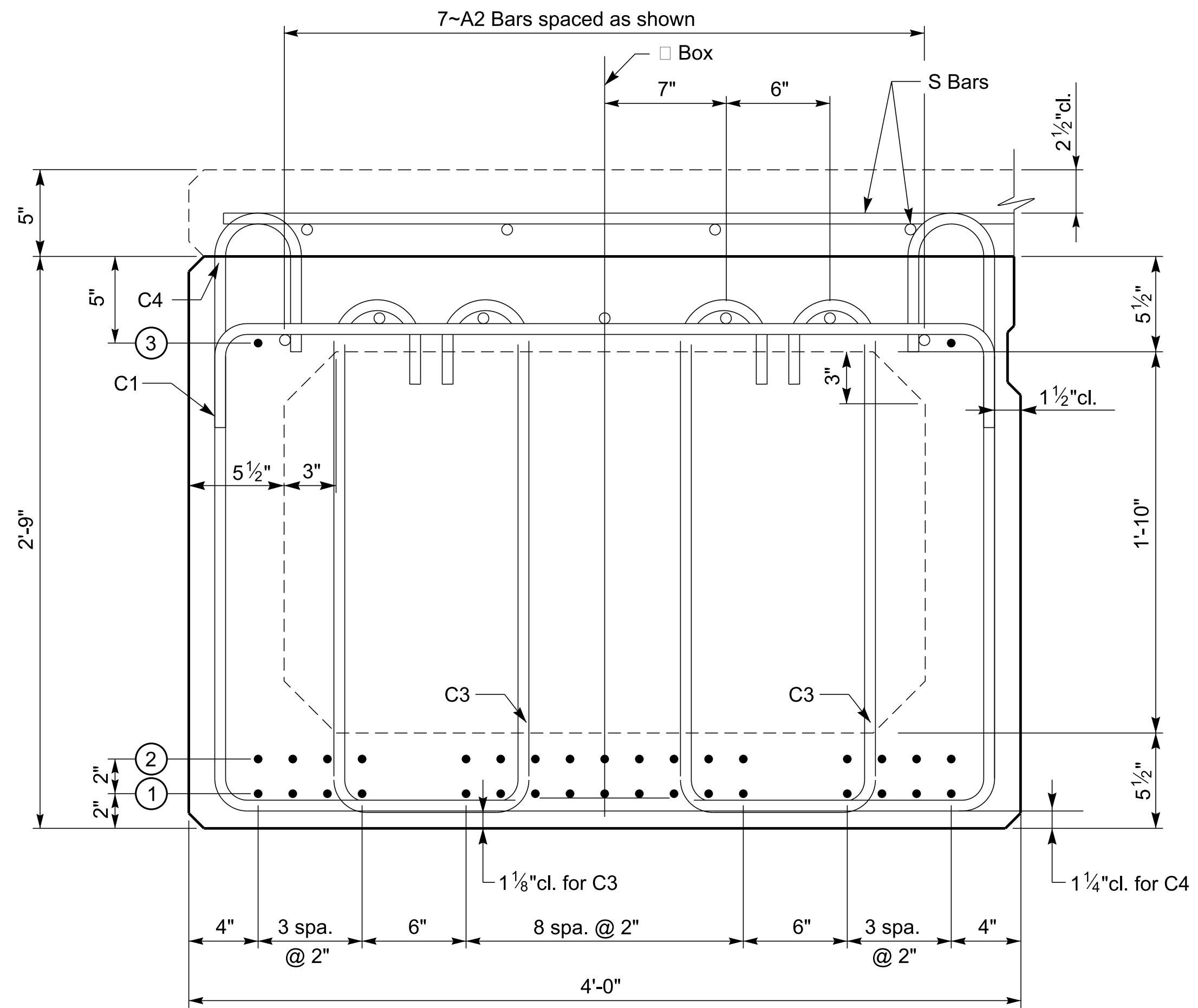
C2(e)-C4(e) Bars



C1(e) Bar



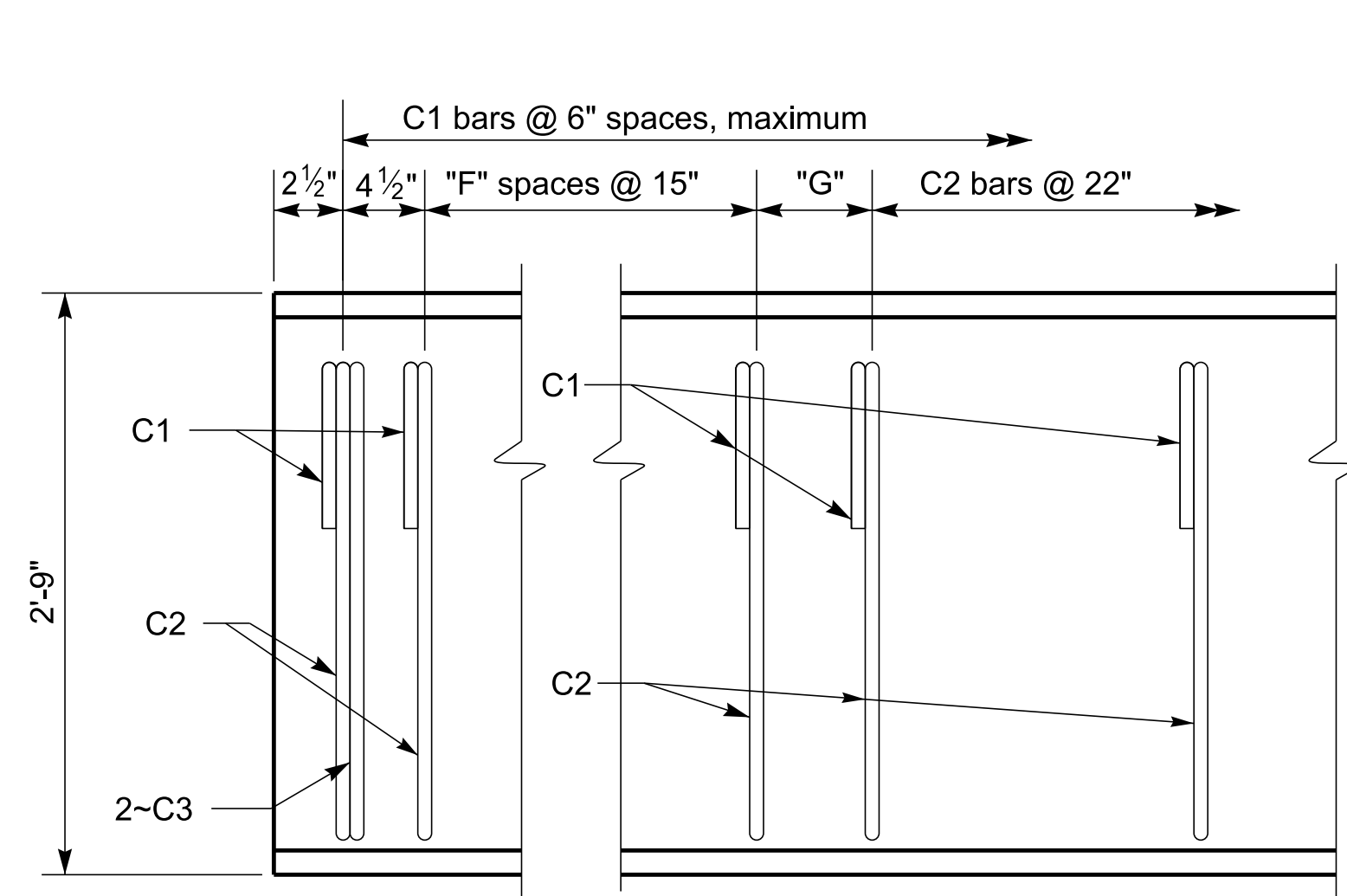
B33 BEAM



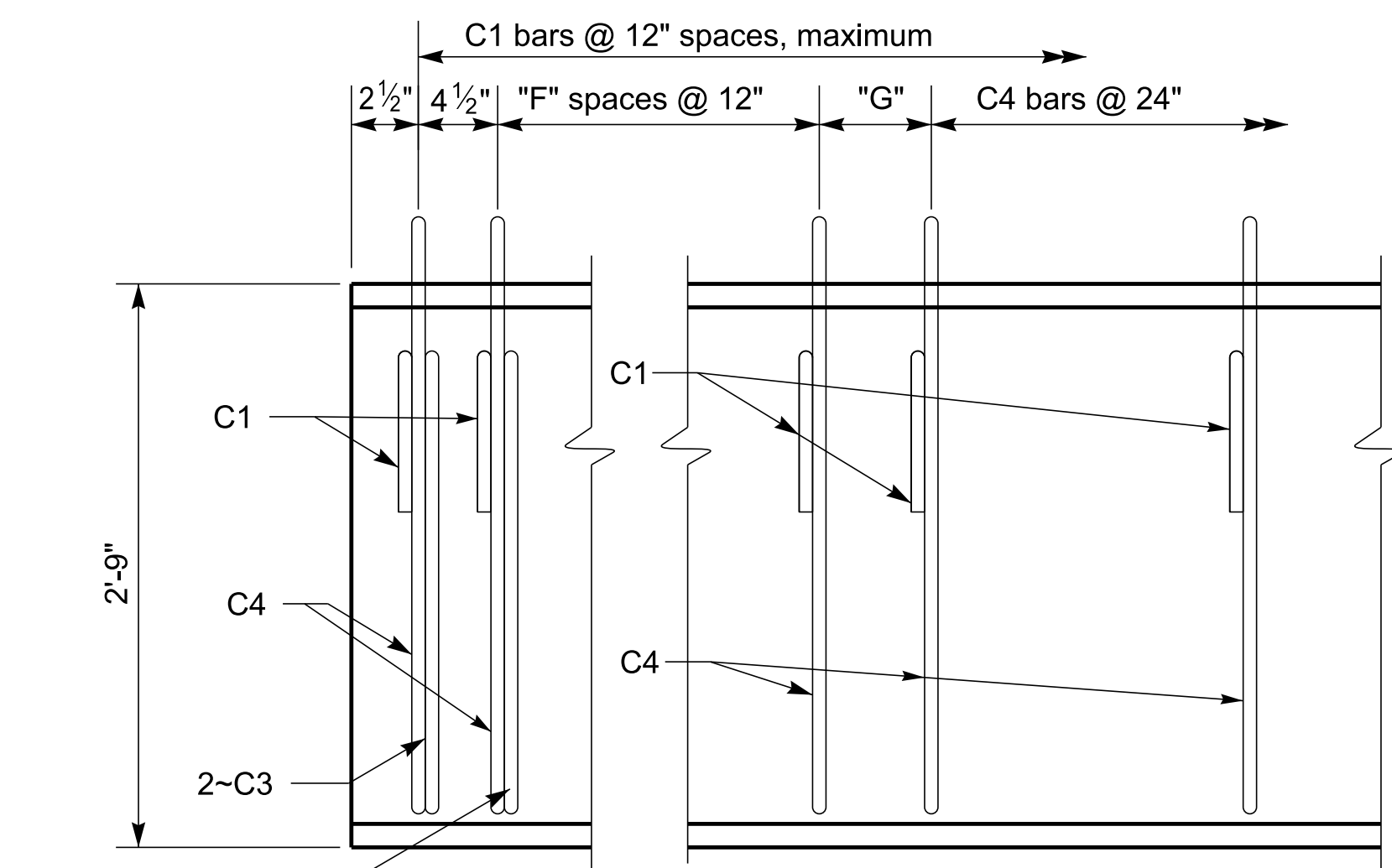
CB33 BEAM

TABLE OF STRAND DATA				
Beam Type	Beam Length (feet)	Number of Strands Required		
		Row ①	Row ②	Row ③
B33	66	17	5	
	68	17	8	
	70	17	7	
	72	17	8	
	74	17	10	
	76	17	11	
CB33	78	17	12	
	72	17	7	
	74	17	9	
	76	17	10	
	78	17	11	
	80	17	13	
	82	17	14	2
	84	17	15	2

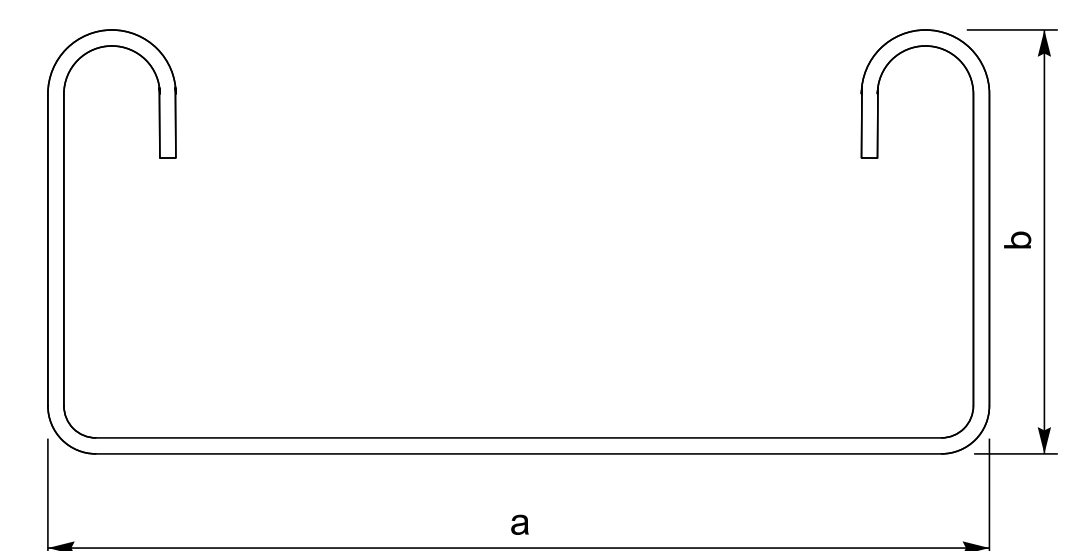
TABLE OF DIMENSION DATA				
Beam Type	Beam Length (feet)	"F"	"G"	
B33	66	5'	17"	
	68	5'	18"	
	70	6'	15"	
	72	6'	18"	
	74	6'	17"	
	76	6'	18"	
CB33	78	6'	19"	
	72	7'	17"	
	74	7'	17"	
	76	8'	17"	
	78	8'	17"	
	80	8'	17"	
	82	8'	17"	
	84	8'	17"	



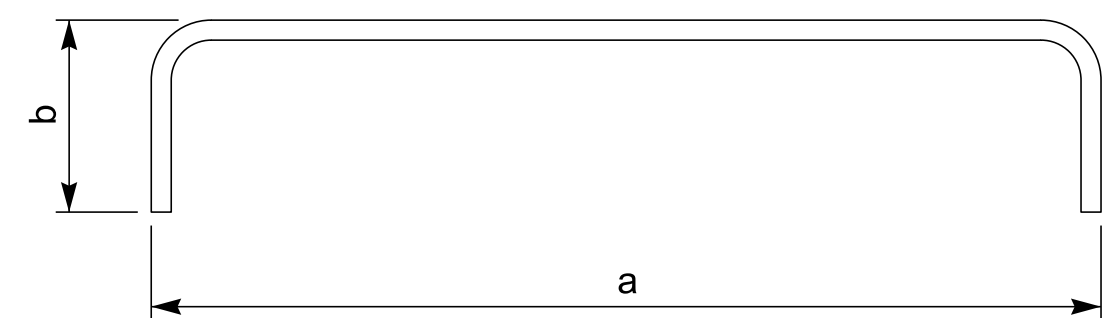
B33 ELEVATION OF 0° SKEW
(Refer to BDP-003,c.e. for skewed details)



CB33 ELEVATION OF 0° SKEW
(Refer to BDP-003,c.e. for skewed details)



C2(e)-C4(e) Bars



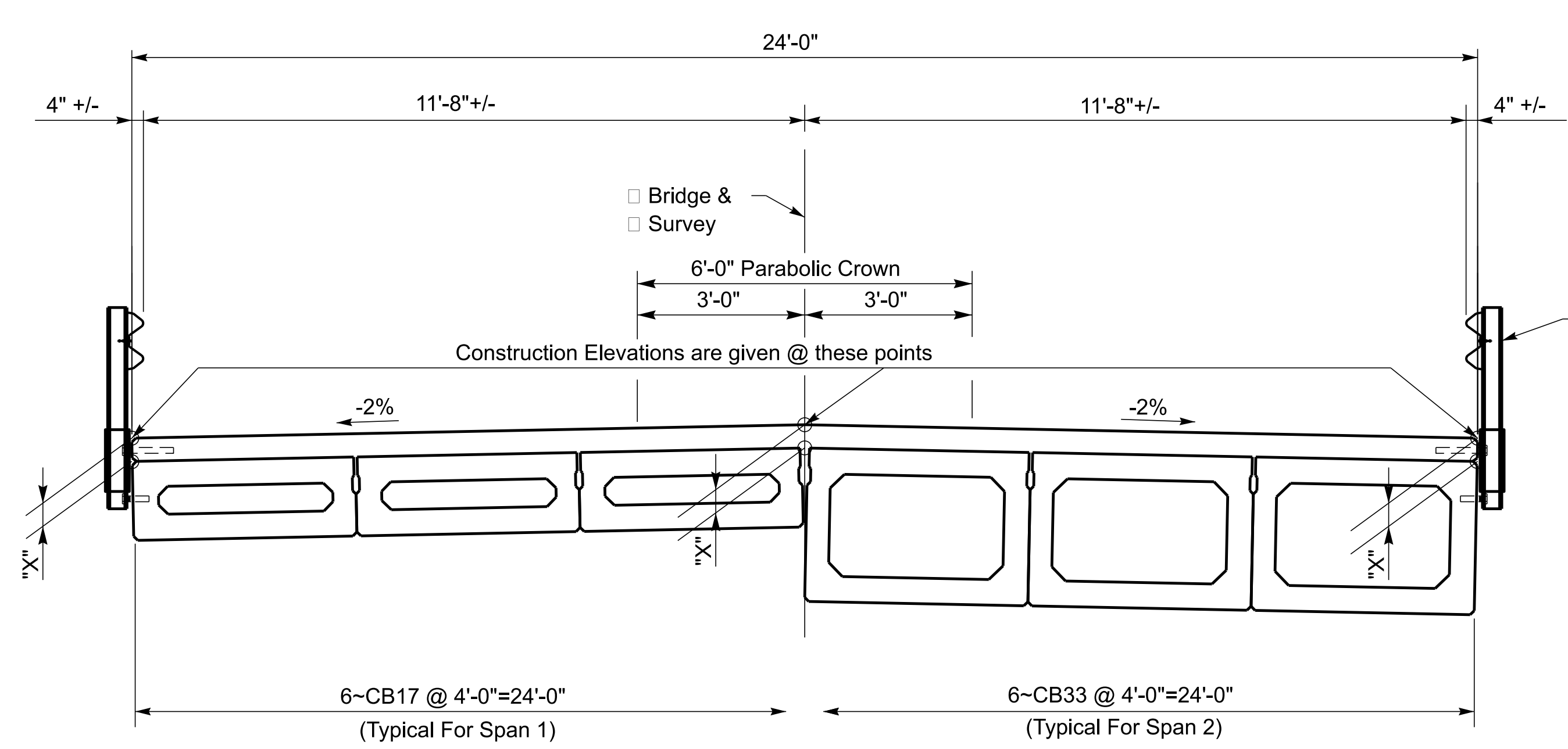
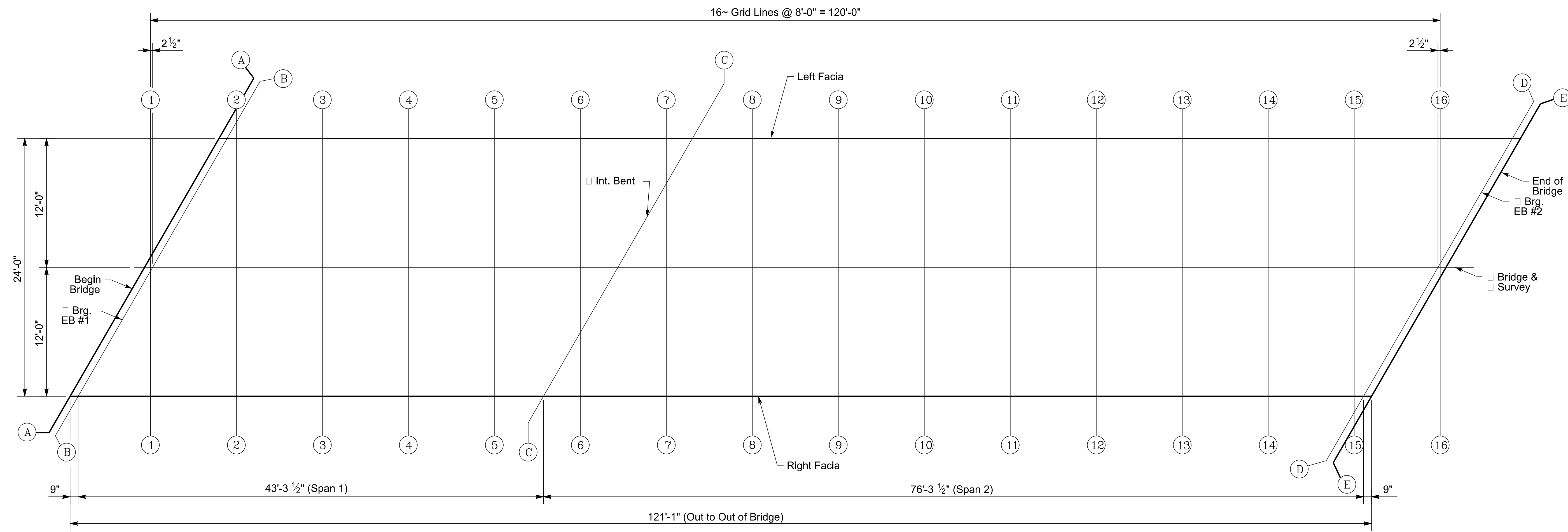
C1(e) Bar

BAR QUANTITIES TABLE				DESIGN DATA							
Beam Type	Beam Length (feet)	C1	C2	C3	C4	DC kips	DW kips	LL kips	LL+I kips	d (in.)	c (in.)
B33	66	133	42	4		28.4	1.9	51.6	64.3		
	68	137	43	4		29.3	1.9	52.2	65.0		
	70	141	45	4		30.2	2.0	52.8	65.6		
	72	145	46	4		31.0	2.0	53.3	66.2		
	74	149	47	4		31.9	2.1	53.9	66.8		
	76	153	48	4		32.7	2.2	54.4	67.5		
CB33	78	157	49	4		33.6	2.2	55.0	68.0		
	72	73		4	46	40.0	2.0	53.3	66.2	0.4	1.1
	74	75		4	47	41.1	2.1	53.9	66.8	0.4	1.2
	76	77		4	49	42.2	2.2	54.4	67.5	0.5	1.3
	78	79		4	50	43.3	2.2	55.0	68.0	0.5	1.4
	80	81		4	51	44.4	2.3	55.5	68.6	0.6	1.5
	82	83		6	52	45.5	2.3	56.1	69.2	0.6	1.4
	84	85		6	53	46.6	2.4	56.6	69.8	0.7	1.8

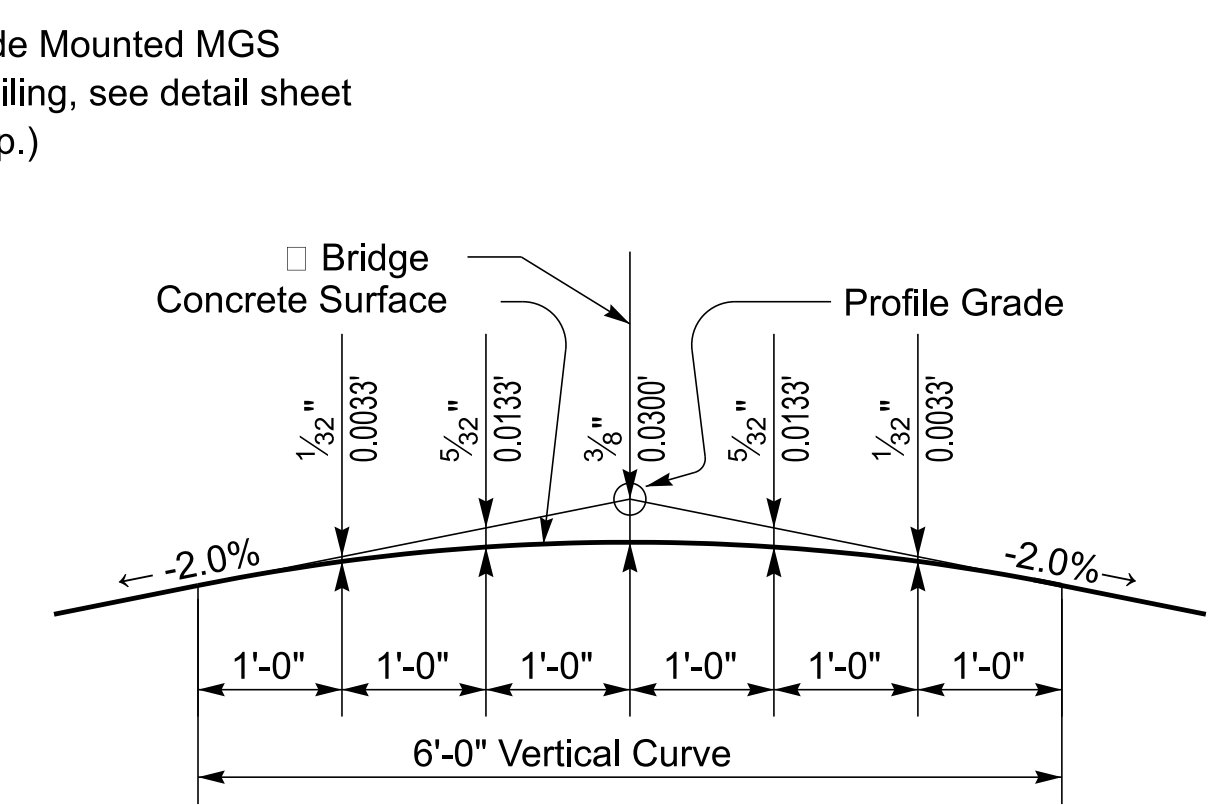
Straight Reinforcement		
Mark	Size	Length
A1(E)	#5	Beam Length Minus 3"
A2(E)	#4	Beam Length Minus 3"
D(E)	#8	2'-0"

NOTE: A1 and A2 bars are to be lapped 2'-2" when necessary.

Bent Reinforcement			
Mark	Size	a	b
C1(e)	#5	3'-9"	6"
C2(e)	#4	3'-9"	2'-5 1/4"
C3(e)	#5	1'-3 3/8"	2'-5 3/8"
C4(e)	#4	3'-9"	2'-10 1/4"



TYPICAL SECTION



PARABOLIC CROWN

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.

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.

Note to Resident: The "Maximum Allowable Camber" shown on the beam sheet is the amount of camber, measured prior to casting the deck, above which the beam will begin to encroach into the slab.

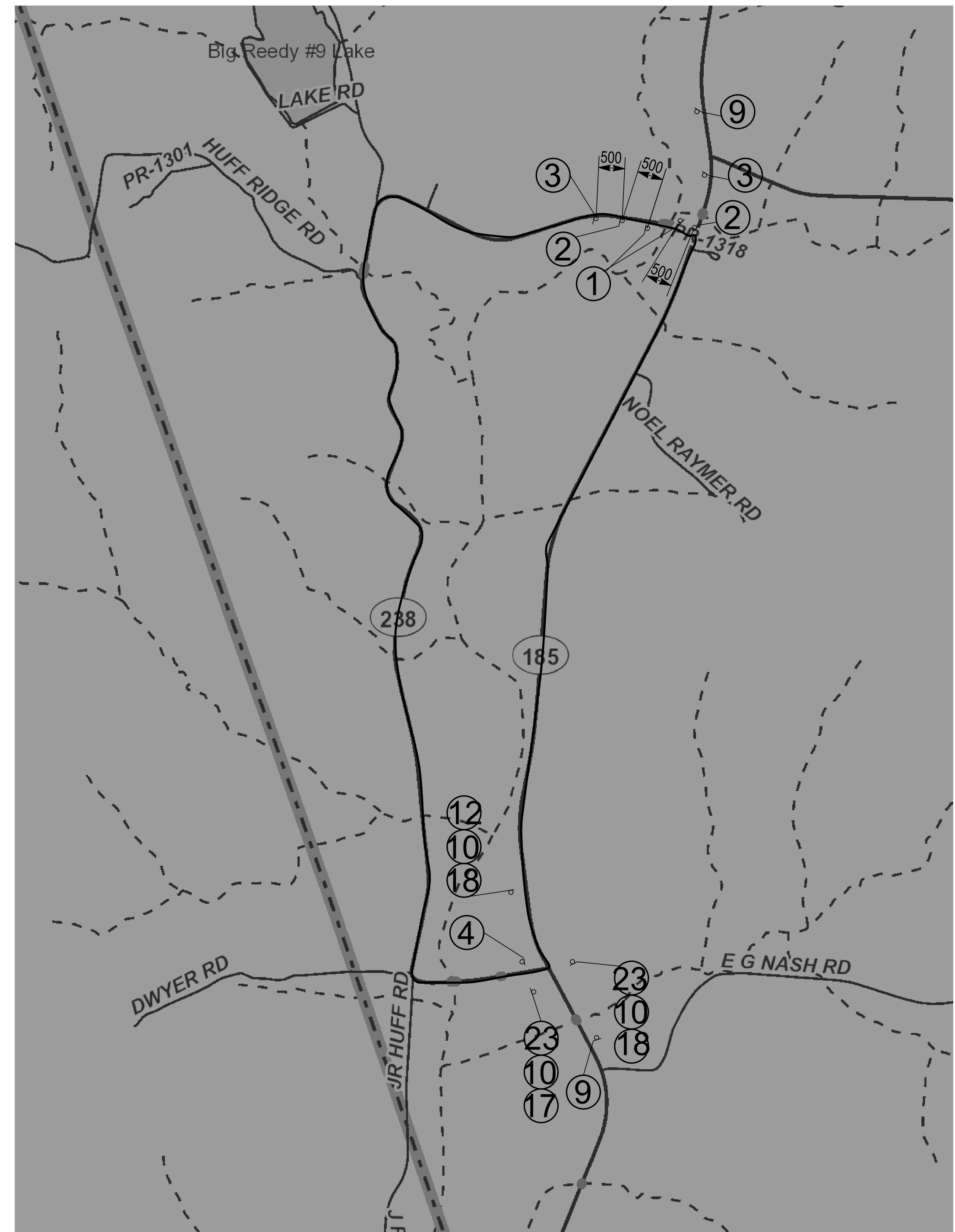
The minimum allowable dimension "X" or slab thickness is 4 3/4" (0.395'). If any computed dimension "X" is less than that, adjustments will need to be made to the "X" dimensions on some or all grid lines. Adjustments must meet approval of the Engineer.

CONSTRUCTION ELEVATIONS

LOCATION	Left Fascia			□ Bridge			Right Fascia		
	CONSTR.	TOP OF	DIM.	CONSTR.	TOP OF	DIM.	CONSTR.	TOP OF BEAM	DIM. "X"
SKEW LN AA	99.349			99.560			99.349		
SKEW LN BB	99.349			99.560			99.349		
SKEW LN CC	99.349			99.560			99.349		
SKEW LN DD	99.349			99.560			99.349		
SKEW LN EE	99.349			99.560			99.349		
GRID LN 01	0.000			0.000			99.361		
GRID LN 02	99.351			99.574			99.371		
GRID LN 03	99.364			99.583			99.374		
GRID LN 04	99.373			99.585			99.369		
GRID LN 05	99.374			99.579			99.357		
GRID LN 06	99.367			99.566			99.355		
GRID LN 07	99.354			99.568			99.368		
GRID LN 08	99.359			99.581			99.379		
GRID LN 09	99.371			99.591			99.387		
GRID LN 10	99.382			99.599			99.391		
GRID LN 11	99.388			99.602			99.390		
GRID LN 12	99.391			99.600			99.385		
GRID LN 13	99.389			99.595			99.376		
GRID LN 14	99.383			99.585			99.364		
GRID LN 15	99.373			99.573			99.351		
GRID LN 16	99.361			0.000			0.000		

 COMMONWEALTH OF KENTUCKY DEPARTMENT OF HIGHWAYS	 TEAM KENTUCKY <small>TRANSPORTATION COMPLEX</small>	REVISION	DATE	PREPARED BY Division of Structural Design	DATE: JULY 2024	CHECKED BY	CONSTRUCTION ELEVATION <small>CROSSING</small> BIG REEDY CREEK	ROUTE	BRIDGE ID.	COUNTY OF
						DESIGNED BY: J. VAN ZEE		S.T. ANDARDS	KY 238	031B00027N
					DETAILED BY: M. BAWITHAWNG	J. VAN ZEE			SHEET NO.	DRAWING NUMBER
									S11	28916

- ① **ROAD CLOSED** R11-2 (48"x30")
- ② **ROAD CLOSED 500 FT** W20-3 (36"x36")
- ③ **ROAD CLOSED 1000 FT** W20-3 (36"x36")
- ④ **BRIDGE CLOSED 3.3 MILES AHEAD LOCAL TRAFFIC ONLY** R11-4 (60"x30")
- ⑨ **DETOUR 1500 FT** W20-2 (36"x36")
- ⑩ **238** M1-5 (24"x24")
- ⑫ **DETOUR** M4-9 (30"x24")
- ⑰ **WEST** M3-4 (24"x12")
- ⑱ **EAST** M3-2 (24"x12")
- ⑳ **DETOUR** M4-9 (30"x24")



23
 10
 17