Andy Beshear
GOVERNOR

TRANSPORTATION CABINET
200 Mero Street
Frankfort, Kentucky 40601

Jim Gray
SECRETARY

August 16, 2023

CALL NO. 100
CONTRACT ID NO. 235316
ADDENDUM # 1

Subject: Robertson County, STP BRZ 9030 (419)
Letting August 24, 2023

(1) Revised – Proposal Bid Items – Page 125 of 125
(2) Revised – Plan Sheets – S1, S2, S3, S4 and S5

Proposal revisions are available at http://transportation.ky.gov/Construction-Procurement/.

If you have any questions, please contact us at 502-564-3500.

Sincerely,

Rachel Mills,

Rachel Mills, P.E.
Director
Division of Construction Procurement

RM:mr
Enclosures

235316

PROPOSAL BID ITEMS

Report Date 8/16/23

Section: 0001 - BRIDGE - 101B00006N

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00001		DGA BASE (REVISED 8-16-23)	202.00	TON		$	
0020	00100		ASPHALT SEAL AGGREGATE	1.00	TON		$	
0030	00103		ASPHALT SEAL COAT	1.00	TON		$	
0040	00212		CL2 ASPH BASE 1.00D PG64-22 (REVISED 8-16-23)	202.00	TON		$	
0050	00301		CL2 ASPH SURF 0.38D PG64-22 (REVISED 8-16-23)	32.00	TON		$	
0060	01982		DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	11.00	EACH		$	
0070	02223		GRANULAR EMBANKMENT	410.00	CUYD		$	
0080	02230		EMBANKMENT IN PLACE	1,012.00	CUYD		$	
0090	02351		GUARDRAIL-STEEL W BEAM-S FACE	162.50	LF		$	
0100	02367		GUARDRAIL END TREATMENT TYPE 1	4.00	EACH		$	
0110	02399		EXTRA LENGTH GUARDRAIL POST	56.00	EACH		$	
0120	02545		CLEARING AND GRUBBING APPROX LESS THAN 1 ACRE	1.00	LS		$	
0130	02555		CONCRETE-CLASS B	67.00	CUYD		$	
0140	02585		EDGE KEY	44.00	LF		$	
0150	02603		FABRIC-GEOTEXTILE CLASS 2	322.00	SQYD		$	
0160	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		$	
0170	02671		PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH		$	
0180	02726		STAKING	1.00	LS		$	
0190	02731		REMOVE STRUCTURE	1.00	LS		$	
0200	03299		ARMORED EDGE FOR CONCRETE	46.00	LF		$	
0210	06514		PAVE STRIPING-PERM PAINT-4 IN	450.00	LF		$	
0220	08001		STRUCTURE EXCAVATION-COMMON	33.00	CUYD		$	
0230	08003		FOUNDATION PREPARATION	1.00	LS		$	
0240	08019		CYCLOPEAN STONE RIP RAP	109.00	TON		$	
0260	08039		PRE-DRILLING FOR PILES (REVISED 8-16-23)	150.00	LF		$	
0270	08051		PILES-STEEL HP14X89 (REVISED 8-16-23)	346.50	LF		$	
0280	08100		CONCRETE-CLASS A	125.00	CUYD		$	
0290	08104		CONCRETE-CLASS AA	31.00	CUYD		$	
0300	08151		STEEL REINFORCEMENT-EPOXY COATED	41,452.00	LB		$	
0310	08665		PRECAST PC BOX BEAM CB33-48	480.00	LF		$	
0320	20191ED		OBJECT MARKER TY 3	4.00	EACH		$	
0330	21415ND		EROSION CONTROL	1.00	LS		$	
0340	23378EC		CONCRETE SEALING	4,805.00	SQFT		$	
0350	25017ED		RAIL SYSTEM SIDE MOUNTED MGS	160.00	LF		$	

Section: 0002 - DEMOBILIZATION &/OR MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0360	02569		DEMOBILIZATION	1.00	LS		$	

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 CURRENT EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

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.

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 STEEL PILES	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. COST OF PREFORMED CORK IS TO BE INCLUDED IN THE UNIT BID PRICE FOR PRESTRESSED BEAMS.

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. PRESTRESSED BEAM CONCRETE SHALL BE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.

REINFORCEMENT:
DIMENSIONS SHOWN FROM THE FACE OF CONCRETE TO BARS ARE TO CENTER OF BARS UNLESS OTHERWISE SHOWN. CLEAR DISTANCE TO FACE OF CONCRETE IS 2" UNLESS OTHERWISE NOTED. 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:
APPLY STENCILS FOR STRUCTURES IN ACCORDANCE WITH STANDARD DRAWING BGX-006-CE. THE CONTRACTOR SHALL FURNISH ALL PLANS, EQUIPMENTS, 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.

SLOPE PROTECTION:
SLOPE PROTECTION AT ABUTMENTS SHALL BE DRY CYCLOPEAN STONE RIPRAP IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. GEOTEXTILE FABRIC, CLASS 1 SHALL BE PLACED BETWEEN THE EMBANKMENT AND THE SLOPE PROTECTION IN ACCORDANCE WITH STANDARD SPECIFICATIONS 214 AND 843. PAYMENT FOR GEOTEXTILE FABRIC, CLASS 1, SHALL BE CONSIDERED INCIDENTAL TO THE UNIT PRICE BID FOR DRY CYCLOPEAN STONE RIPRAP.

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 AND OTHERWISE CONSIDERED INCIDENTAL TO THE CONTRACT. 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 DRAWING:
SHOP DRAWING: THE FABRICATOR SHALL SUBMIT ALL REQUIRED SHOP PLANS, BY EMAIL TO SHOP_101B00006N@DOCS.E-BUILDER.NET, FOR REVIEW. THESE SUBMISSIONS SHALL DEPICT THE SHOP PLANS IN .PDF FORMAT, AS EITHER 11"X17" OR 22"X36" SHEETS. WHEN ANY CHANGES TO THE DESIGN PLANS ARE PROPOSED, THE SHOP DRAWINGS SHALL IDENTIFY THE PROPOSED CHANGES WITH REVISION CLOUDS AND NOTES. 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 BRIDGE PROGRAM GEC 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 BRIDGE PROGRAM GEC TEAM" ARE TO BE USED FOR FABRICATION.

UTILITIES:
BEFORE BEGINNING WORK, LOCATE ALL EXISTING UTILITIES. CONSIDER LOCATION OF UTILITIES SHOWN ON THE DRAWINGS TO BE APPROXIMATE AND FOR INFORMATIONAL PURPOSES ONLY. THE DEPARTMENT DOES NOT WARRANT THE LOCATIONS AND ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS. THE CONTRACTOR MUST MAKE HIS OWN DETERMINATION. EXCEPT AS SHOWN ON THE PLANS, WORK AROUND AND DO NOT DISTURB EXISTING UTILITIES.

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.

SUPERSTRUCTURE SLAB:
THE SUPERSTRUCTURE SLAB SHALL BE POURED CONTINUOUSLY FROM END TO END OF SLAB BEFORE THE CONCRETE IS ALLOWED TO SET. THE CONTRACTOR MAY CHANGE THE POURING SEQUENCE WITH WRITTEN APPROVAL OF THE ENGINEER.

SLAB THICKNESS:
THE SLAB THICKNESS SHOWN IN THE PROPOSED TYPICAL SECTION IS TAKEN AT MID-SPAN. DUE TO BEAM CAMBER AND IN ORDER TO ACHIEVE THE DESIGN PROFILE, THE SLAB WILL BE APPROXIMATELY 1" THICKER AT THE SUPPORTS. NO ADDITIONAL PAYMENT WILL BE MADE FOR ANY ADDITIONAL SLAB CONCRETE DUE TO BEAM CAMBER IN EXCESS OF THE DESIGNER'S ASSUMPTION. NO ADDITIONAL CONCRETE ABOVE PLAN QUANTITY SHOULD BE PLACED WITHOUT THE APPROVAL OF THE ENGINEER. IF APPLICABLE, GUARDRAIL INSERTS ARE TO BE PLACED IN SUCH A WAY THAT ACCOMMODATES TOLERANCES FOR GUARDRAIL HEIGHT.

MASTIC TAPE:
APPLY MASTIC TAPE AT BRIDGE ENDS IN ACCORDANCE WITH STANDARD DRAWING BGX-022-CE. THE CONTRACTOR SHALL FURNISH ALL PLANS, EQUIPMENT, AND LABOR NECESSARY TO DO THE WORK FOR WHICH NO DIRECT PAYMENT WILL BE MADE.

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 THE SPECIAL NOTE FOR FOUNDATION PREPARATION.

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. MATERIAL IS INCIDENTAL TO THE LUMP SUM BID PRICE FOR FOUNDATION PREPARATION.

CONCRETE SEALER:
APPLY CONCRETE SEALER IN ACCORDANCE WITH THE SPECIAL NOTE CONCRETE SEALING.

NO GEOTECHNICAL REPORT:
THIS BRIDGE DID NOT HAVE ANY DRILLING PERFORMED BECAUSE ROCK WAS NOTED IN THE CREEK.

PRE-DRILLING END BENT PILES:
USE 24-INCH DIAMETER HOLES WITH A MINIMUM EMBEDMENT OF 10 FEET INTO SOUND BEDROCK AND A MINIMUM OF 10 FEET TOTAL EMBEDMENT BELOW THE CAP. THE PILE MUST BE STRUCK WITH A PILE HAMMER ONCE IN PLACE TO ENSURE THAT ADEQUATE CAPACITY AND REFUSAL HAS BEEN ACHIEVED. THE ROCK SOCKET SHALL THEN BE FILLED WITH CLASS B CONCRETE MOD CONFORMING TO SECTION 601 OF THE STANDARD SPECIFICATIONS; HOWEVER, MAXIMUM AGGREGATE SIZE SHALL BE 3/8" AND PROVIDE A MIX WITH A 6 TO 10 INCH SLUMP AT THE TIME OF PLACEMENT. HIGH RANGE WATER REDUCING AND RETARDING ADMIXTURES AND CLASS F FLYASH MAY BE USED TO OBTAIN THIS SLUMP. CASING OR OTHER METHODS OF MAINTAINING AN OPEN HOLE ABOVE THE ROCK SOCKET MAY BE NEEDED FOR INSTALLATION OF THE PILES AND CONCRETE. IF CASING IS USED, IT MUST BE REMOVED, AS THE HOLE ABOVE THE ROCK SOCKET IS BACKFILLED WITH SAND OR PEA GRAVEL. CARE MUST BE TAKEN THAT THE PILING IS LOCATED CORRECTLY SINCE THE PILING IS AN INTEGRAL PART OF THE STRUCTURE AND PROTRUDES UP INTO THE CAP. THE COST OF ALL MATERIALS, LABOR, AND EQUIPMENT REQUIRED TO PRE-DRILL, CONCRETE, AND BACKFILL THE HOLES SHALL BE INCLUDED IN THE PRICE PER LINEAR FOOT FOR "PRE-DRILLING FOR PILES". PAY LIMITS ARE MEASURED FROM THE BOTTOM OF THE CONCRETE SUBSTRUCTURE TO THE BOTTOM OF THE HOLE.

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
KENTUCKY TRANSPORTATION CABINET

REVISION	DATE

PREPARED BY Stantec

DATE: June 22, 2023	CHECKED BY	GENERAL NOTES
DESIGNED BY: M. Sturdevant	E. Adkins	CROSSING: NORTH BRANCH CEDAR CREEK
DETAILED BY: A. HUIZING	M. Sturdevant	

ROUTE	ITEM NO.	COUNTY OF
US 62	6-80151	ROBERTSON
	SHEET NO. S1	DRAWING NUMBER 28690

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 CURRENT EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

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.

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 STEEL PILES	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. COST OF PREFORMED CORK IS TO BE INCLUDED IN THE UNIT BID PRICE FOR PRESTRESSED BEAMS.

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. PRESTRESSED BEAM CONCRETE SHALL BE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.

REINFORCEMENT:
DIMENSIONS SHOWN FROM THE FACE OF CONCRETE TO BARS ARE TO CENTER OF BARS UNLESS OTHERWISE SHOWN. CLEAR DISTANCE TO FACE OF CONCRETE IS 2" UNLESS OTHERWISE NOTED. 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:
APPLY STENCILS FOR STRUCTURES IN ACCORDANCE WITH STANDARD DRAWING BGX-006-CE. THE CONTRACTOR SHALL FURNISH ALL PLANS, EQUIPMENTS, 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.

SLOPE PROTECTION:
SLOPE PROTECTION AT ABUTMENTS SHALL BE DRY CYCLOPEAN STONE RIPRAP IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. GEOTEXTILE FABRIC, CLASS 1 SHALL BE PLACED BETWEEN THE EMBANKMENT AND THE SLOPE PROTECTION IN ACCORDANCE WITH STANDARD SPECIFICATIONS 214 AND 843. PAYMENT FOR GEOTEXTILE FABRIC, CLASS 1, SHALL BE CONSIDERED INCIDENTAL TO THE UNIT PRICE BID FOR DRY CYCLOPEAN STONE RIPRAP.

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 AND OTHERWISE CONSIDERED INCIDENTAL TO THE CONTRACT. 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 DRAWING:
SHOP DRAWING: THE FABRICATOR SHALL SUBMIT ALL REQUIRED SHOP PLANS, BY EMAIL TO SHOP_101B00006N@DOCS.E-BUILDER.NET, FOR REVIEW. THESE SUBMISSIONS SHALL DEPICT THE SHOP PLANS IN .PDF FORMAT, AS EITHER 11"X17" OR 22"X36" SHEETS. WHEN ANY CHANGES TO THE DESIGN PLANS ARE PROPOSED, THE SHOP DRAWINGS SHALL IDENTIFY THE PROPOSED CHANGES WITH REVISION CLOUDS AND NOTES. 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 BRIDGE PROGRAM GEC 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 BRIDGE PROGRAM GEC TEAM" ARE TO BE USED FOR FABRICATION.

UTILITIES:
BEFORE BEGINNING WORK, LOCATE ALL EXISTING UTILITIES. CONSIDER LOCATION OF UTILITIES SHOWN ON THE DRAWINGS TO BE APPROXIMATE AND FOR INFORMATIONAL PURPOSES ONLY. THE DEPARTMENT DOES NOT WARRANT THE LOCATIONS AND ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS. THE CONTRACTOR MUST MAKE HIS OWN DETERMINATION. EXCEPT AS SHOWN ON THE PLANS, WORK AROUND AND DO NOT DISTURB EXISTING UTILITIES.

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.

SUPERSTRUCTURE SLAB:
THE SUPERSTRUCTURE SLAB SHALL BE POURED CONTINUOUSLY FROM END TO END OF SLAB BEFORE THE CONCRETE IS ALLOWED TO SET. THE CONTRACTOR MAY CHANGE THE POURING SEQUENCE WITH WRITTEN APPROVAL OF THE ENGINEER.

SLAB THICKNESS:
THE SLAB THICKNESS SHOWN IN THE PROPOSED TYPICAL SECTION IS TAKEN AT MID-SPAN. DUE TO BEAM CAMBER AND IN ORDER TO ACHIEVE THE DESIGN PROFILE, THE SLAB WILL BE APPROXIMATELY 1" THICKER AT THE SUPPORTS. NO ADDITIONAL PAYMENT WILL BE MADE FOR ANY ADDITIONAL SLAB CONCRETE DUE TO BEAM CAMBER IN EXCESS OF THE DESIGNER'S ASSUMPTION. NO ADDITIONAL CONCRETE ABOVE PLAN QUANTITY SHOULD BE PLACED WITHOUT THE APPROVAL OF THE ENGINEER. IF APPLICABLE, GUARDRAIL INSERTS ARE TO BE PLACED IN SUCH A WAY THAT ACCOMMODATES TOLERANCES FOR GUARDRAIL HEIGHT.

MASTIC TAPE:
APPLY MASTIC TAPE AT BRIDGE ENDS IN ACCORDANCE WITH STANDARD DRAWING BGX-022-CE. THE CONTRACTOR SHALL FURNISH ALL PLANS, EQUIPMENT, AND LABOR NECESSARY TO DO THE WORK FOR WHICH NO DIRECT PAYMENT WILL BE MADE.

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 THE SPECIAL NOTE FOR FOUNDATION PREPARATION.

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. MATERIAL IS INCIDENTAL TO THE LUMP SUM BID PRICE FOR FOUNDATION PREPARATION.

CONCRETE SEALER:
APPLY CONCRETE SEALER IN ACCORDANCE WITH THE SPECIAL NOTE CONCRETE SEALING.

NO GEOTECHNICAL REPORT:
THIS BRIDGE DID NOT HAVE ANY DRILLING PERFORMED BECAUSE ROCK WAS NOTED IN THE CREEK.

PRE-DRILLING END BENT PILES:
USE 24-INCH DIAMETER HOLES WITH A MINIMUM EMBEDMENT OF 10 FEET INTO SOUND BEDROCK AND A MINIMUM OF 10 FEET TOTAL EMBEDMENT BELOW THE CAP. THE PILE MUST BE STRUCK WITH A PILE HAMMER ONCE IN PLACE TO ENSURE THAT ADEQUATE CAPACITY AND REFUSAL HAS BEEN ACHIEVED. THE ROCK SOCKET SHALL THEN BE FILLED WITH CLASS B CONCRETE MOD CONFORMING TO SECTION 601 OF THE STANDARD SPECIFICATIONS; HOWEVER, MAXIMUM AGGREGATE SIZE SHALL BE 3/8" AND PROVIDE A MIX WITH A 6 TO 10 INCH SLUMP AT THE TIME OF PLACEMENT. HIGH RANGE WATER REDUCING AND RETARDING ADMIXTURES AND CLASS F FLYASH MAY BE USED TO OBTAIN THIS SLUMP. CASING OR OTHER METHODS OF MAINTAINING AN OPEN HOLE ABOVE THE ROCK SOCKET MAY BE NEEDED FOR INSTALLATION OF THE PILES AND CONCRETE. IF CASING IS USED, IT MUST BE REMOVED, AS THE HOLE ABOVE THE ROCK SOCKET IS BACKFILLED WITH SAND OR PEA GRAVEL. CARE MUST BE TAKEN THAT THE PILING IS LOCATED CORRECTLY SINCE THE PILING IS AN INTEGRAL PART OF THE STRUCTURE AND PROTRUDES UP INTO THE CAP. THE COST OF ALL MATERIALS, LABOR, AND EQUIPMENT REQUIRED TO PRE-DRILL, CONCRETE, AND BACKFILL THE HOLES SHALL BE INCLUDED IN THE PRICE PER LINEAR FOOT FOR "PRE-DRILLING FOR PILES". PAY LIMITS ARE MEASURED FROM THE BOTTOM OF THE CONCRETE SUBSTRUCTURE TO THE BOTTOM OF THE HOLE.

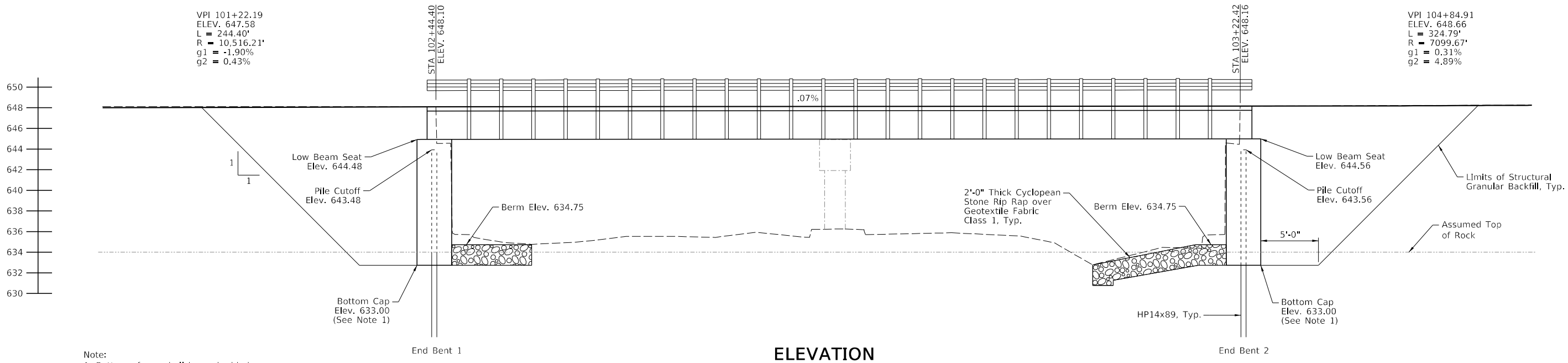
COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
KENTUCKY TRANSPORTATION CABINET

REVISION	DATE

PREPARED BY Stantec

DATE: June 22, 2023	CHECKED BY	GENERAL NOTES
DESIGNED BY: M. Sturdevant	E. Adkins	CROSSING: NORTH BRANCH CEDAR CREEK
DETAILED BY: A. HUIZING	M. Sturdevant	

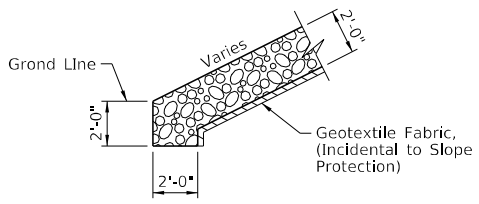
ROUTE	ITEM NO.	COUNTY OF
US 62	6-80151	ROBERTSON
	SHEET NO. S1	DRAWING NUMBER 28690



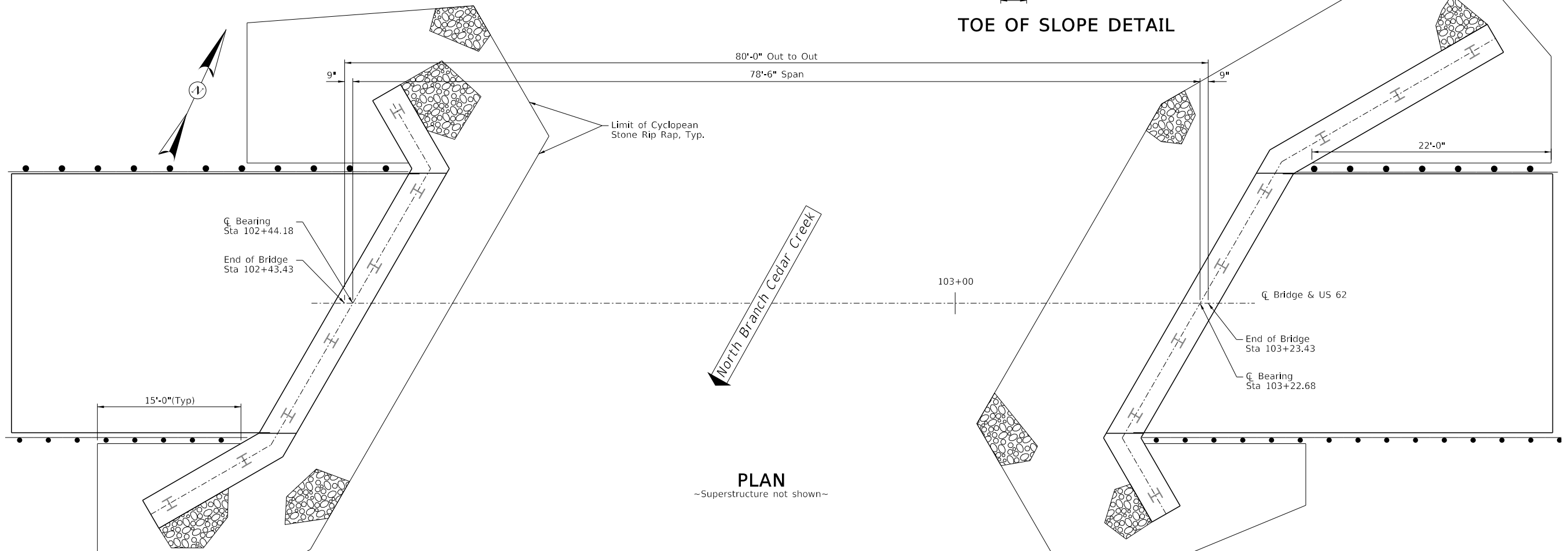
Note:
1. Bottom of cap shall be embedded a minimum of 1'-0" into rock.

ELEVATION

80'-0" PPC Box Beam, CB33, 77'-6" Span
KYHL-93 Live Load ~ 22'-6" Shoulder Width @ Bridge
30° Skew ~ 22'-4" Bridge Roadway Width ~ 2:1 Fill Slopes



TOE OF SLOPE DETAIL



PLAN

~Superstructure not shown~

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
KENTUCKY TRANSPORTATION CABINET

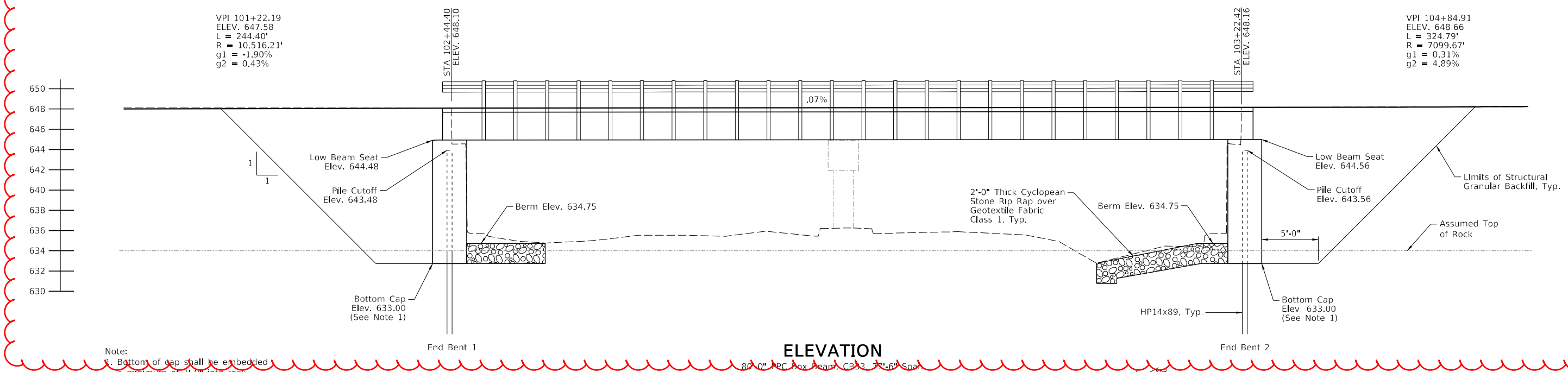
REVISION	DATE

PREPARED BY Stantec

DATE: June 22, 2023	CHECKED BY
DESIGNED BY: M. Sturdevant	E. Adkins
DETAILED BY: M. Sturdevant	E. Adkins

PLAN AND ELEVATION
CROSSING
NORTH BRANCH CEDAR CREEK

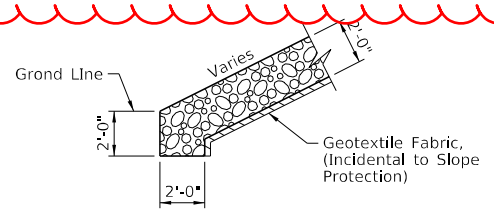
ROUTE	ITEM NO.	COUNTY OF
US 62	6-80151	ROBERTSON
	SHEET NO. S2	DRAWING NUMBER 28690



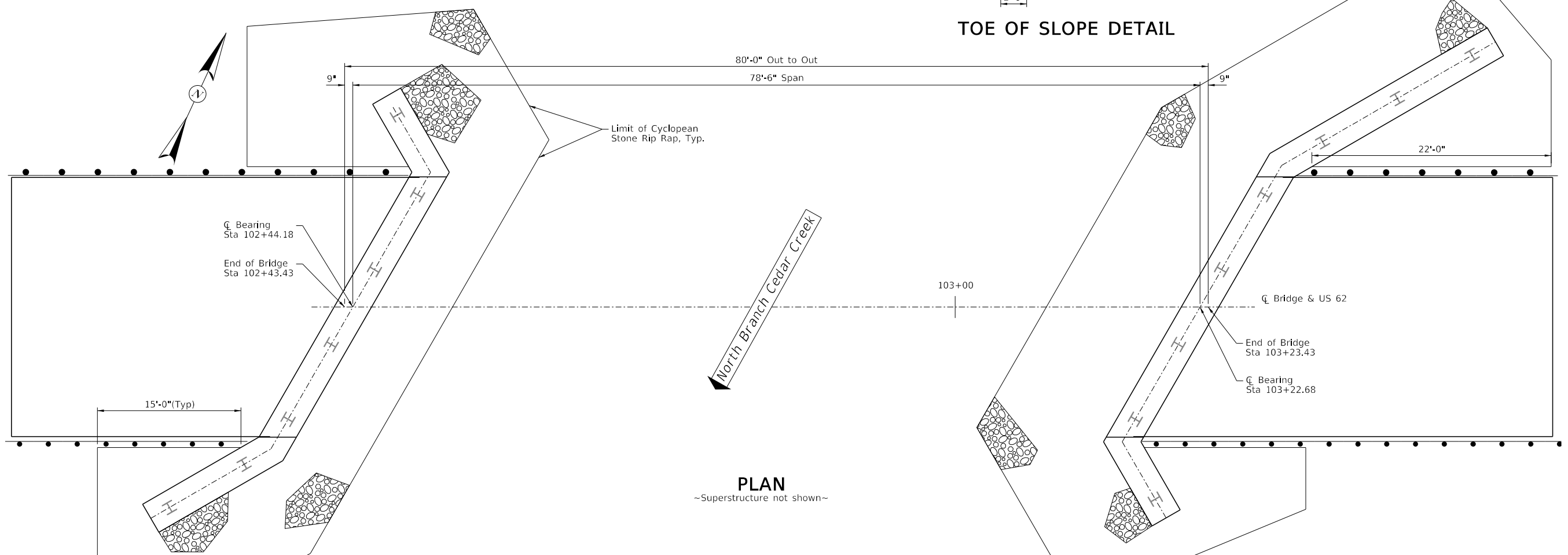
Note:
1. Bottom of cap shall be embedded a minimum of 1'-0" into rock.

ELEVATION

80'-0" PPC Box Beam, CB33, 77'-6" Span
KYHL-93 Live Load ~ 22'-6" Shoulder Width @ Bridge
30° Skew ~ 22'-4" Bridge Roadway Width ~ 2:1 Fill Slopes



TOE OF SLOPE DETAIL

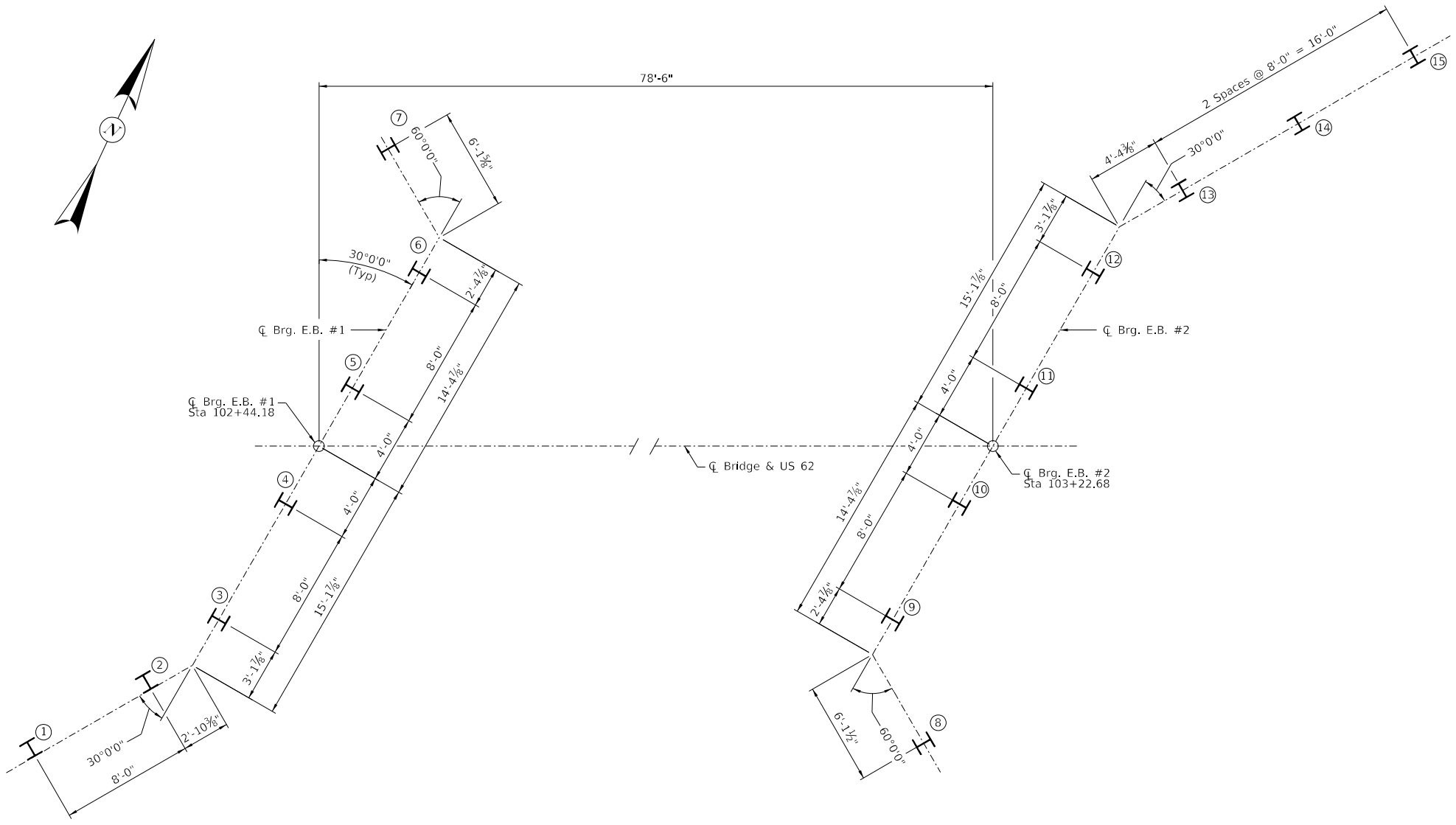


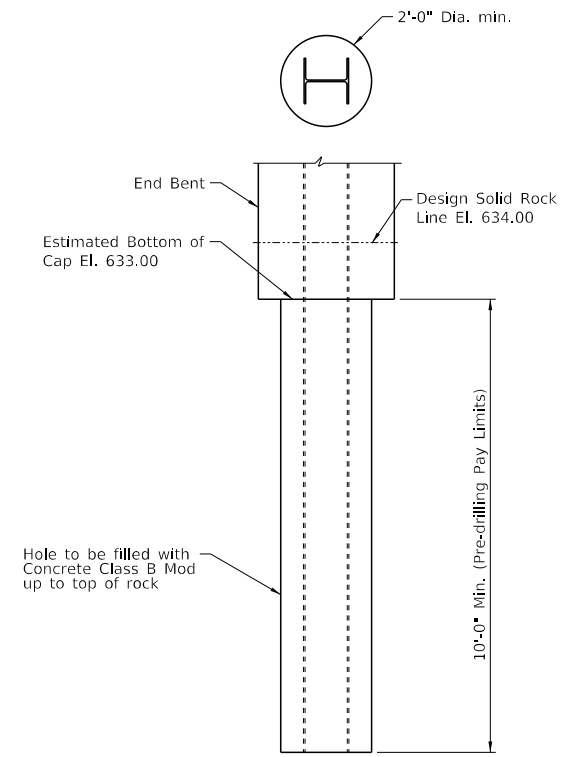
PLAN

~Superstructure not shown~

COMMONWEALTH OF KENTUCKY DEPARTMENT OF HIGHWAYS	REVISION	DATE	PREPARED BY Stantec	DATE: June 22, 2023	CHECKED BY	*PLAN AND ELEVATION*	ROUTE	ITEM NO. 6-80151 / COUNTY OF ROBERTSON
				DESIGNED BY: M. Sturdevant	E. Adkins	CROSSING NORTH BRANCH CEDAR CREEK	US 62	SHEET NO. S2 / DRAWING NUMBER 28690
				DETAILED BY: M. Sturdevant	E. Adkins			

OpenRoads Designer v10.16.0.80 USER: msturdevant DATE PLOTTED: 8/14/2023 9:32 AM FILE NAME: S02_PLAN_AND_ELEVATION.DGN





Note: Maintain a 10'-0" minimum pre-drilled pile embedment into solid unweathered bedrock below the pile cap. See Pre-Drilling End Bent Piles note for additional details.

The unweathered rock elevation is assumed to be El. 634.00+/- for design. The pile cap shall be embedded 12 inches into unweathered rock. Items 08100 Concrete-Class A, 08151 Steel Reinforcement-Epoxy Coated, and 08001 Structure Excavation-Common may need to be increased or decreased based on in-place unweathered rock elevations. Any additional reinforcement shall be similar type and spacing. Unused reinforcement shall be delivered as directed to a KYTC facility.

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.

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.

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 14x89 in accordance with BPS-011, c.e.

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	643.48			
2	643.48			
3	643.48			
4	643.48			
5	643.48			
6	643.48			
7	643.48			
8	643.56			
9	643.56			
10	643.56			
11	643.56			
12	643.56			
13	643.56			
14	643.56			
15	643.56			

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
KENTUCKY TRANSPORTATION CABINET

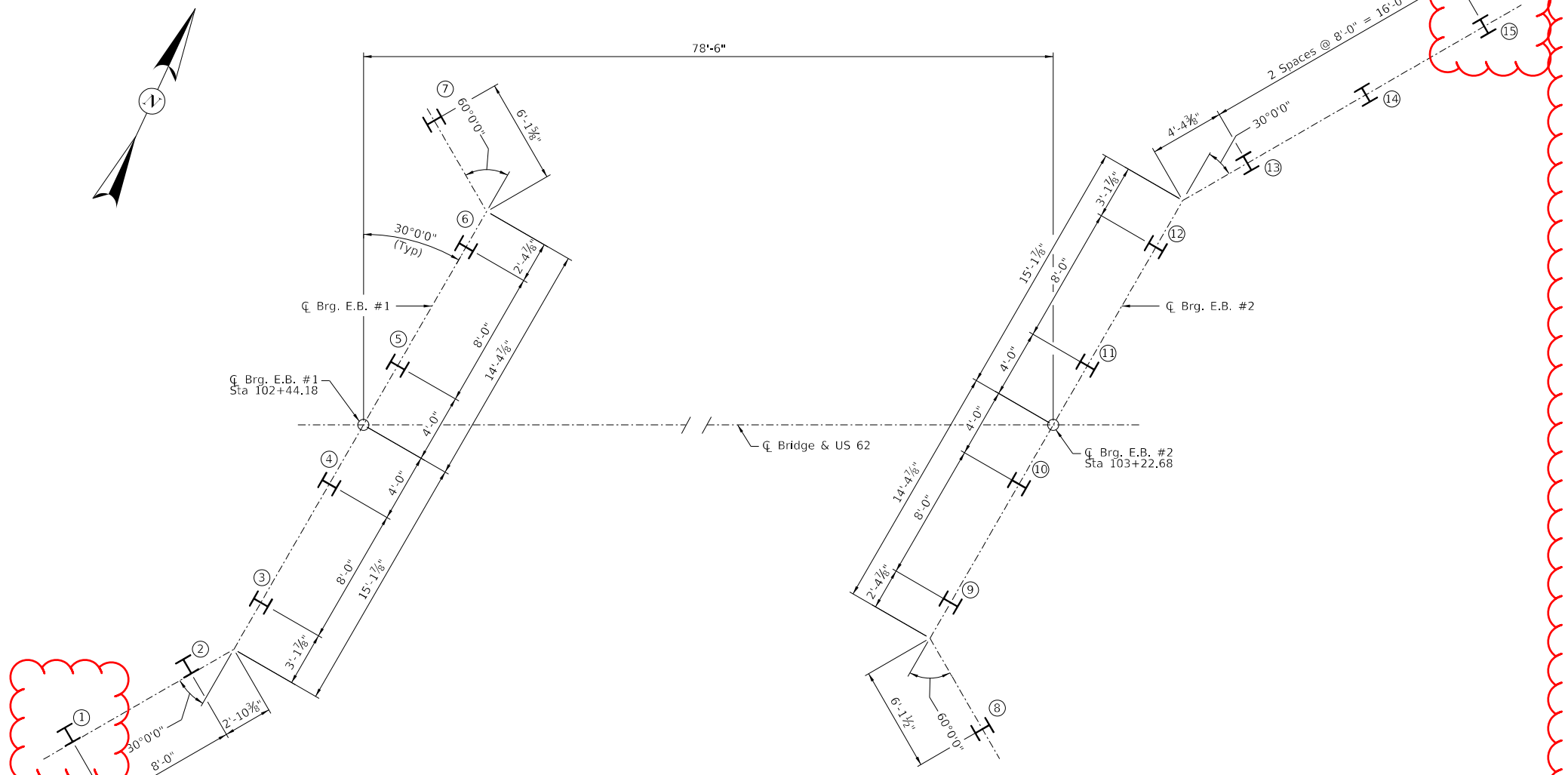
REVISION	DATE

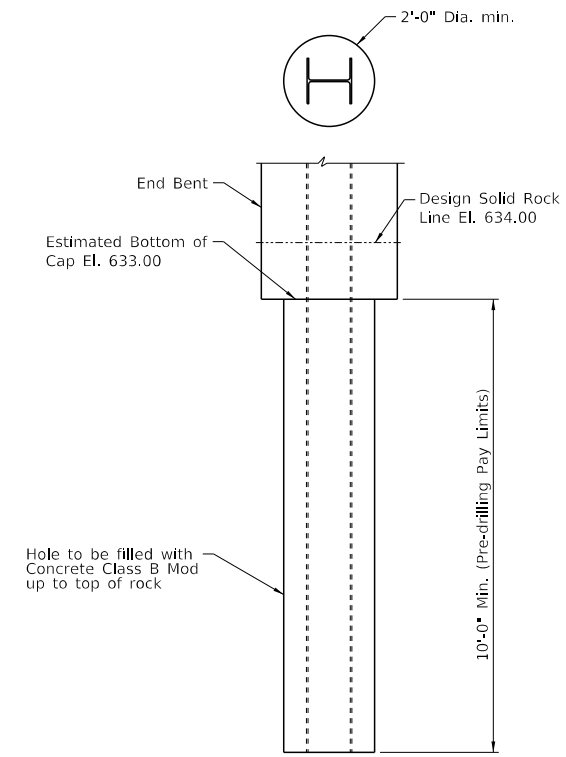
PREPARED BY Stantec

DATE: June 22, 2023	CHECKED BY
DESIGNED BY: M. STURDEVANT	E. ADKINS
DETAILED BY: A. HUIZING	E. ADKINS

FOUNDATION LAYOUT
CROSSING
NORTH BRANCH CEDAR CREEK

ROUTE	ITEM NO.	COUNTY OF
US 62	6-80151	ROBERTSON
	SHEET NO. S3	DRAWING NUMBER 28690





Note: Maintain a 10'-0" minimum pre-drilled pile embedment into solid unweathered bedrock below the pile cap. See Pre-Drilling End Bent Piles note for additional details.

The unweathered rock elevation is assumed to be El. 634.00+/- for design. The pile cap shall be embedded 12 inches into unweathered rock. Items 08100 Concrete-Class A, 08151 Steel Reinforcement-Epoxy Coated, and 08001 Structure Excavation-Common may need to be increased or decreased based on in-place unweathered rock elevations. Any additional reinforcement shall be similar type and spacing. Unused reinforcement shall be delivered as directed to a KYTC facility.

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.

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.

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 14x89 in accordance with BPS-011, c.e.

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	643.48			
2	643.48			
3	643.48			
4	643.48			
5	643.48			
6	643.48			
7	643.48			
8	643.56			
9	643.56			
10	643.56			
11	643.56			
12	643.56			
13	643.56			
14	643.56			
15	643.56			

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
KENTUCKY TRANSPORTATION CABINET

REVISION	DATE

PREPARED BY Stantec

DATE: June 22, 2023	CHECKED BY	FOUNDATION LAYOUT
DESIGNED BY: M. STURDEVANT	E. ADKINS	CROSSING: NORTH BRANCH CEDAR CREEK
DETAILED BY: A. HUIZING	E. ADKINS	

ROUTE	ITEM NO.	COUNTY OF
US 62	6-80151	ROBERTSON
	SHEET NO. S3	DRAWING NUMBER 28690

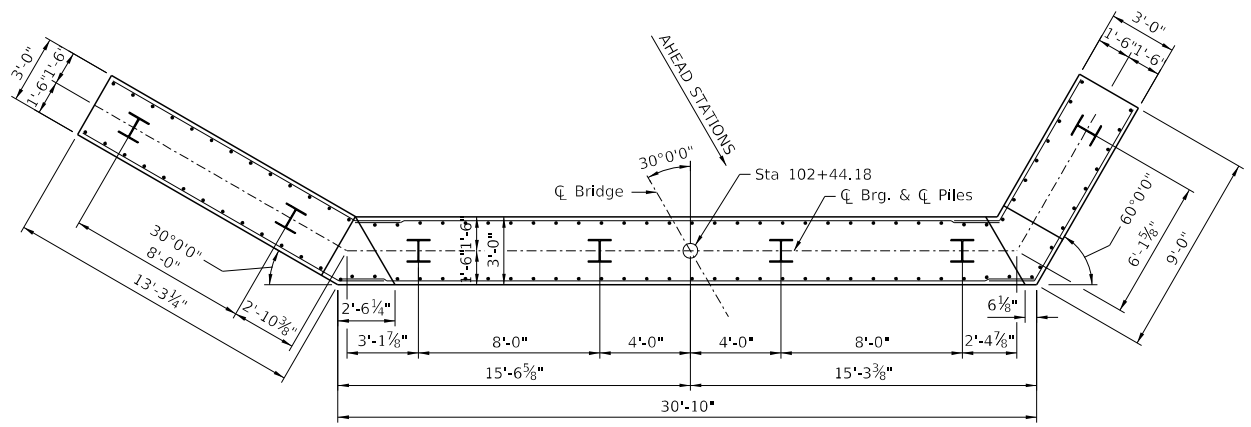
OpenRoads Designer v10.16.2.267 USER: JaMoss DATE PLOTTED: 6/22/2023 8:31 AM FILE NAME: S03_FOUNDATION LAYOUT.DGN

BILL OF REINFORCEMENT

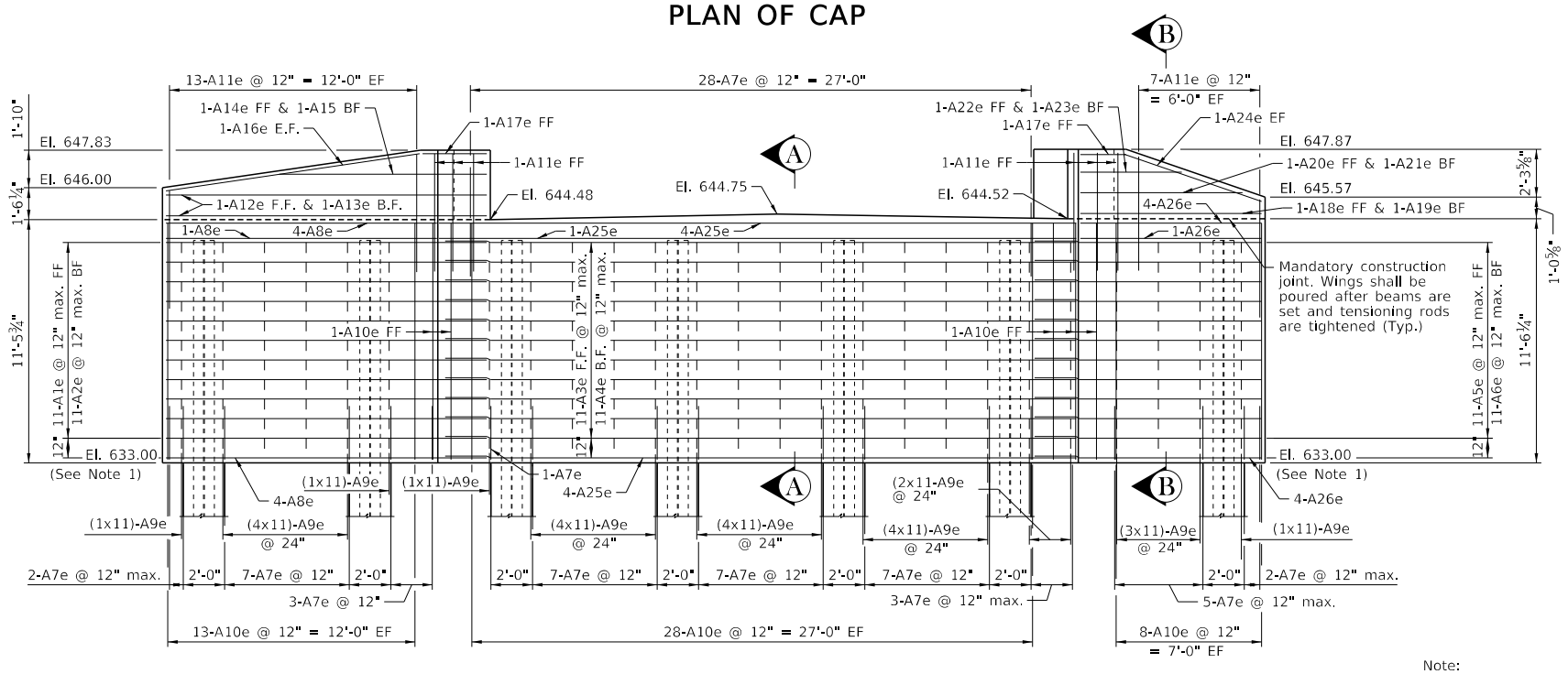
MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A	B	C	D
A1e	8	11	6	15'-0"	Wingwall	13'-0"	2'-0"	1'-0"	1'-9"
A2e	8	11	6	14'-4"	Wingwall	12'-4"	2'-0"	1'-0"	1'-9"
A3e	STR	11	6	30'-8"	Beam Seat				
A4e	STR	11	6	28'-5"	Beam Seat				
A5e	8	11	6	10'-9"	Wingwall	8'-9"	2'-0"	1'-9"	1'-0"
A6e	8	11	6	9'-2"	Wingwall	7'-2"	2'-0"	1'-9"	1'-0"
A7e	2	72	5	7'-8"	Wingwall	2'-6"	2'-8"		
A8e	STR	9	8	13'-0"	Wingwall				
A9e	36	275	5	3'-7"	Beam Seat & Wingwall	6"	2'-8"	5"	
A10e	STR	103	5	11'-1"	Beam Seat & Wingwall				
A11e	STR	102	5	5'-8"	Wingwall				
A12e	8	2	5	15'-2"	Wingwall	13'-0"	2'-0"	1'-0"	1'-9"
A13e	STR	2	5	12'-1"	Wingwall				

BILL OF REINFORCEMENT CONTINUED

MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A	B	C	D
A14e	8	1	5	9'-10"	Wingwall	7'-8"	2'-0"	1'-0"	1'-9"
A15e	STR	1	5	7'-6"	Wingwall				
A16e	STR	2	5	12'-4"	Wingwall				
A17e	STR	2	5	2'-0"	Wingwall				
A18e	STR	1	5	8'-8"	Wingwall				
A19e	STR	1	5	7'-6"	Wingwall				
A20e	STR	1	5	7'-8"	Wingwall				
A21e	STR	1	5	6'-6"	Wingwall				
A22e	STR	1	5	4'-10"	Wingwall				
A23e	STR	1	5	3'-8"	Wingwall				
A24e	STR	2	5	6'-11"	Wingwall				
A25e	STR	9	8	30'-8"	Wingwall				
A26e	STR	9	8	8'-9"	Wingwall				

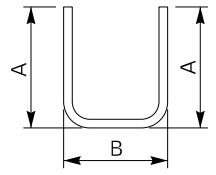


PLAN OF CAP

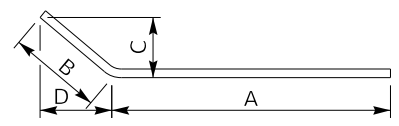


DEVELOPED ELEVATION OF CAP

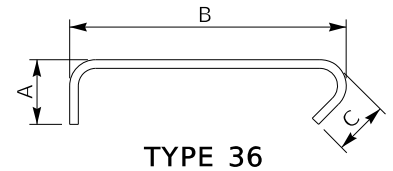
#5 Bars - 2'-0" Min. Lap



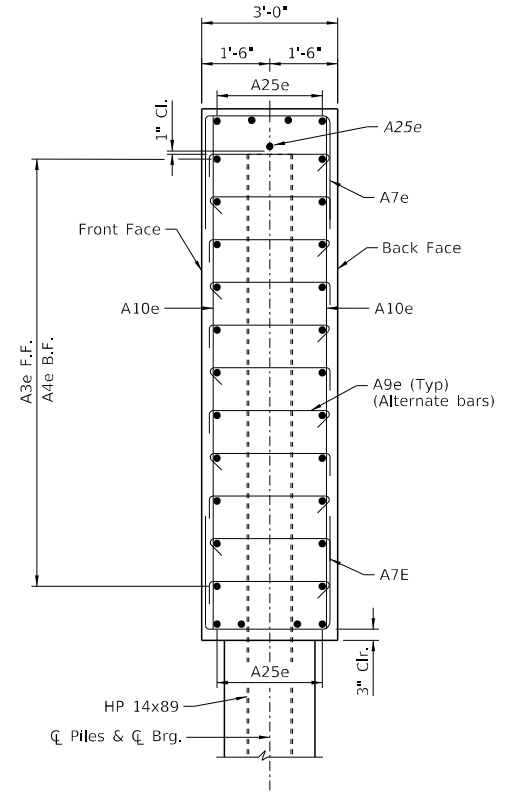
TYPE 2



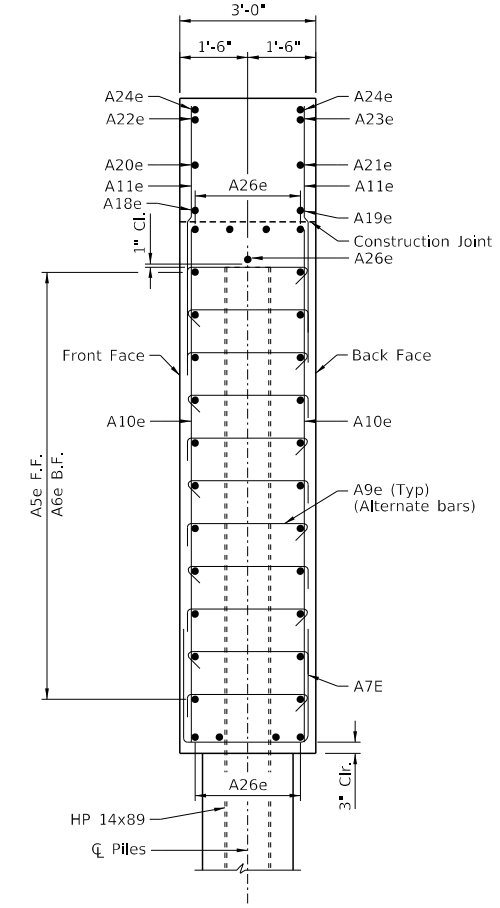
TYPE 8



TYPE 36



SECTION A-A



SECTION B-B

Note:
1. Bottom of cap shall be embedded a minimum of 1'-0" into rock.

LEGEND:
FF = Front Face
BF = Back Face
EF = Each Face

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

KENTUCKY TRANSPORTATION CABINET

REVISION	DATE

PREPARED BY Stantec

DATE: June 22, 2023	CHECKED BY
DESIGNED BY: M. STURDEVANT	E. ADKINS
DETAILED BY: A. HUIZING	E. ADKINS

END BENT #1

CROSSING: NORTH BRANCH CEDAR CREEK

ROUTE	ITEM NO.	COUNTY OF
US 62	6-80151	ROBERTSON
	SHEET NO.	DRAWING NUMBER
	S4	28690

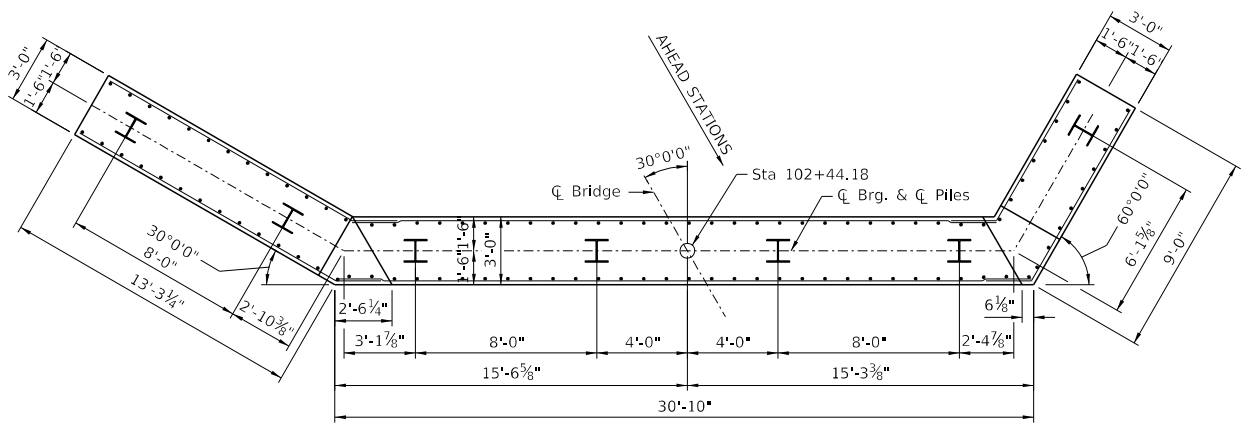
OpenRoads Designer v10.16.2.267 USER: JoMoss DATE PLOTTED: 6/22/2023 8:37 AM FILE NAME: S04_END BENT #1.DGN

BILL OF REINFORCEMENT

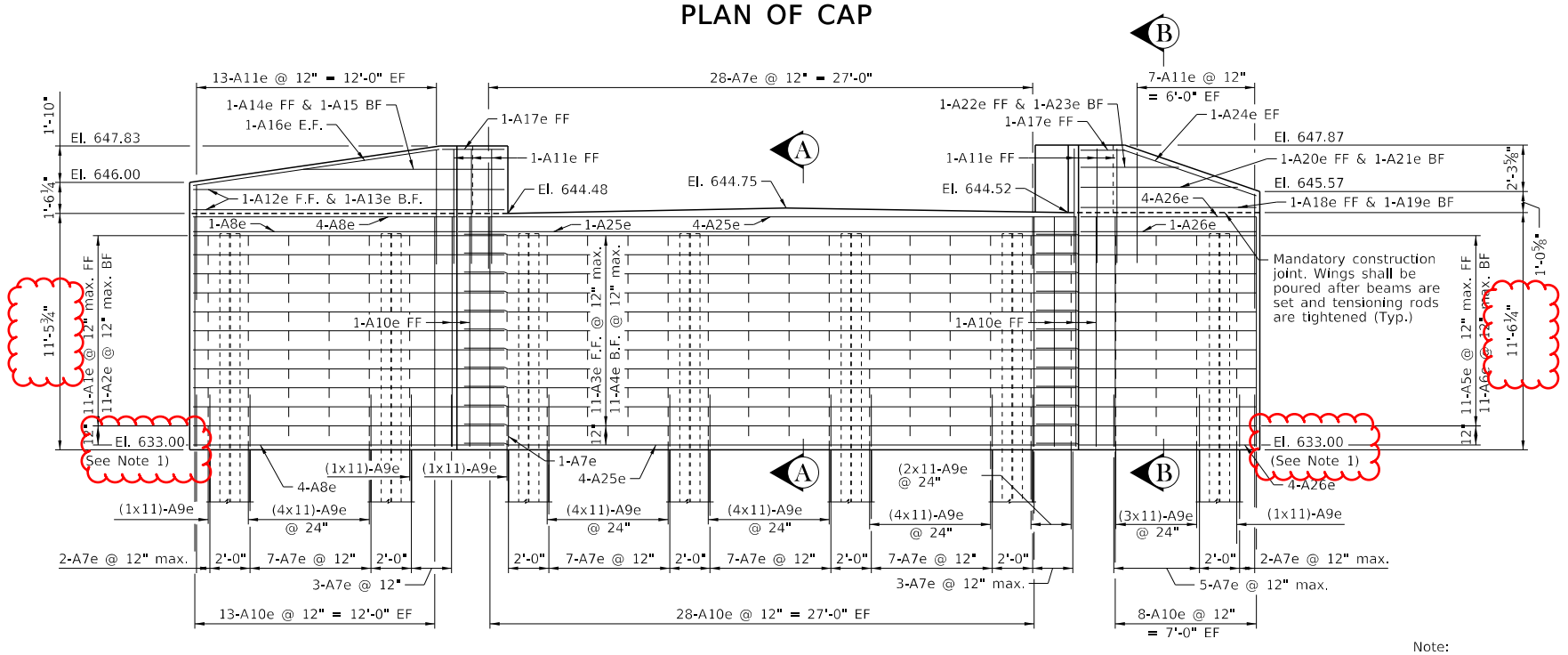
MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A	B	C	D
A1e	8	11	6	15'-0"	Wingwall	13'-0"	2'-0"	1'-0"	1'-9"
A2e	8	11	6	14'-4"	Wingwall	12'-4"	2'-0"	1'-0"	1'-9"
A3e	STR	11	6	30'-8"	Beam Seat				
A4e	STR	11	6	28'-5"	Beam Seat				
A5e	8	11	6	10'-9"	Wingwall	8'-9"	2'-0"	1'-9"	1'-0"
A6e	8	11	6	9'-2"	Wingwall	7'-2"	2'-0"	1'-9"	1'-0"
A7e	2	72	5	7'-8"	Wingwall	2'-6"	2'-8"		
A8e	STR	9	8	13'-0"	Wingwall				
A9e	36	275	5	3'-7"	Beam Seat & Wingwall	6"	2'-8"	5"	
A10e	STR	103	5	11'-1"	Beam Seat & Wingwall				
A11e	STR	102	5	5'-8"	Wingwall				
A12e	8	2	5	15'-2"	Wingwall	13'-0"	2'-0"	1'-0"	1'-9"
A13e	STR	2	5	12'-1"	Wingwall				

BILL OF REINFORCEMENT CONTINUED

MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A	B	C	D
A14e	8	1	5	9'-10"	Wingwall	7'-8"	2'-0"	1'-0"	1'-9"
A15e	STR	1	5	7'-6"	Wingwall				
A16e	STR	2	5	12'-4"	Wingwall				
A17e	STR	2	5	2'-0"	Wingwall				
A18e	STR	1	5	8'-8"	Wingwall				
A19e	STR	1	5	7'-6"	Wingwall				
A20e	STR	1	5	7'-8"	Wingwall				
A21e	STR	1	5	6'-6"	Wingwall				
A22e	STR	1	5	4'-10"	Wingwall				
A23e	STR	1	5	3'-8"	Wingwall				
A24e	STR	2	5	6'-11"	Wingwall				
A25e	STR	9	8	30'-8"	Wingwall				
A26e	STR	9	8	8'-9"	Wingwall				

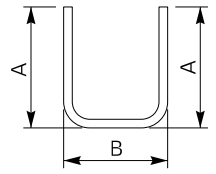


PLAN OF CAP

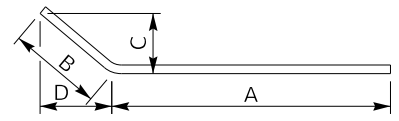


DEVELOPED ELEVATION OF CAP

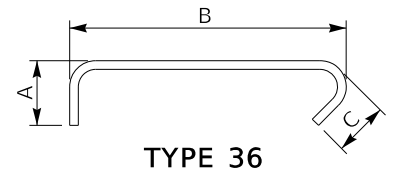
#5 Bars - 2'-0" Min. Lap



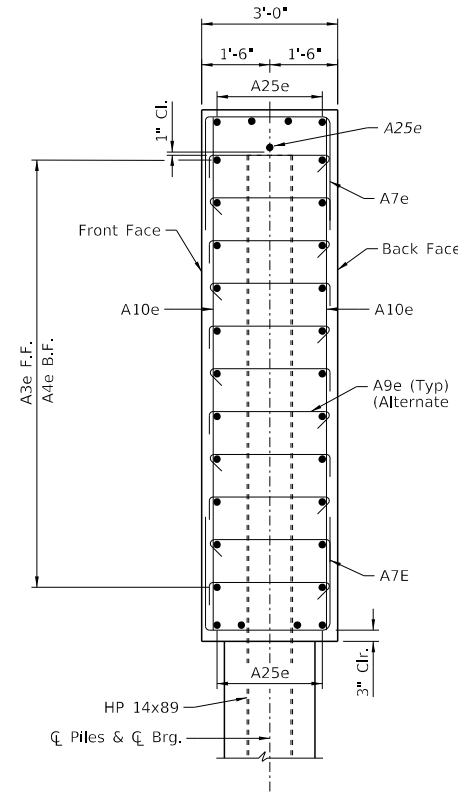
TYPE 2



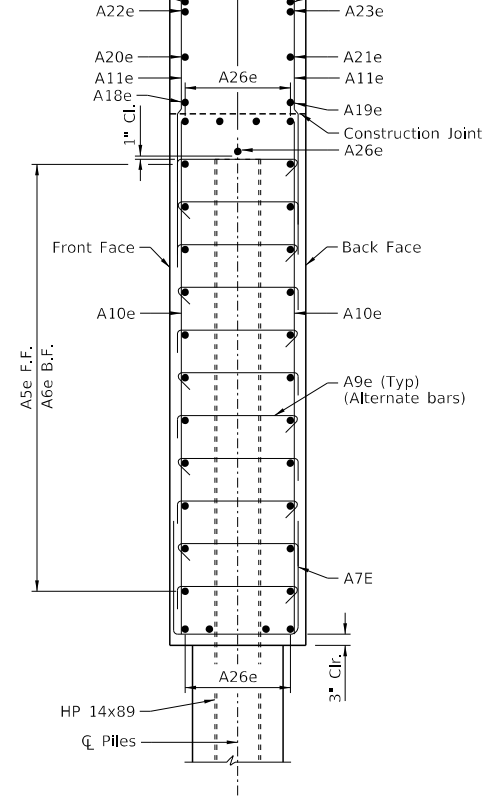
TYPE 8



TYPE 36



SECTION A-A



SECTION B-B

Note:
1. Bottom of cap shall be embedded a minimum of 1'-0" into rock.

LEGEND:
FF = Front Face
BF = Back Face
EF = Each Face

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
KENTUCKY TRANSPORTATION CABINET

REVISION	DATE

PREPARED BY Stantec

DATE: June 22, 2023	CHECKED BY
DESIGNED BY: M. STURDEVANT	E. ADKINS
DETAILED BY: A. HUIZING	E. ADKINS

END BENT #1

CROSSING
NORTH BRANCH CEDAR CREEK

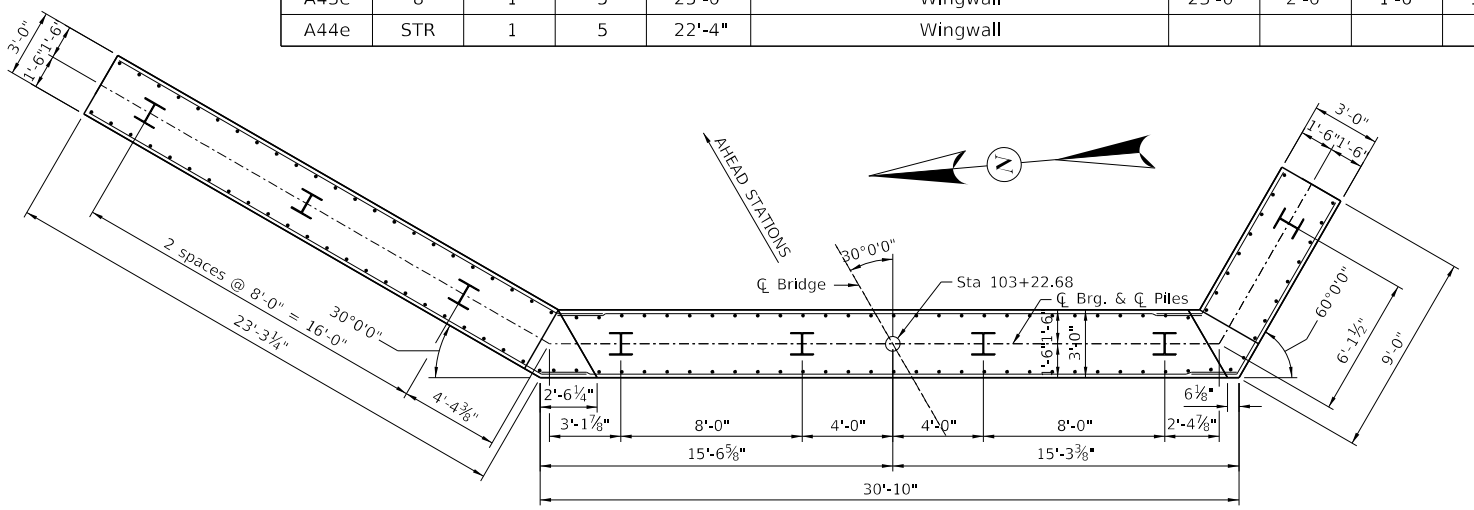
ROUTE	ITEM NO.	COUNTY OF
US 62	6-80151	ROBERTSON
	SHEET NO.	DRAWING NUMBER
	S4	28690

BILL OF REINFORCEMENT

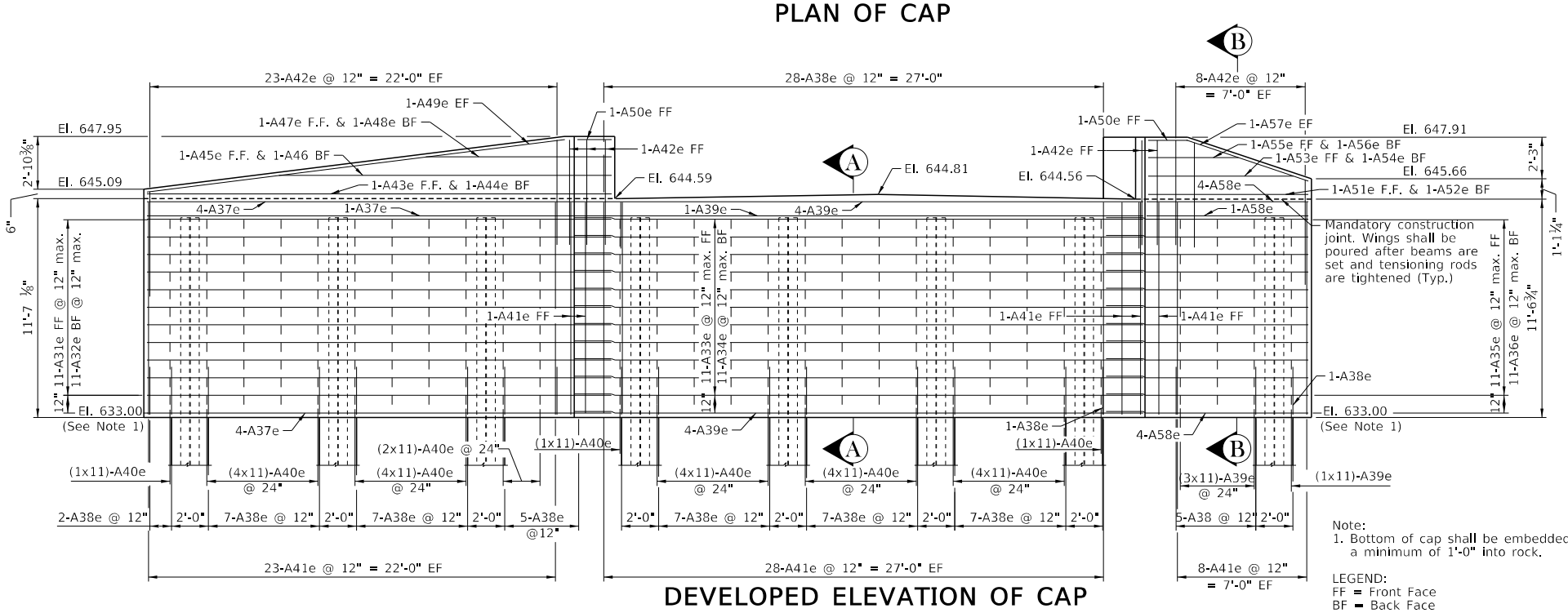
MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A	B	C	D
A31e	8	11	6	25'-2"	Wingwall	23'-0"	2'-0"	1'-0"	1'-9"
A32e	8	11	6	24'-4"	Wingwall	22'-4"	2'-0"	1'-0"	1'-9"
A33e	STR	11	6	30'-8"	Beam Seat				
A34e	STR	11	6	28'-5"	Beam Seat				
A35e	8	11	6	10'-9"	Wingwall	8'-9"	2'-0"	1'-9"	1'-0"
A36e	8	11	6	9'-2"	Wingwall	7'-2"	2'-0"	1'-9"	1'-0"
A37e	STR	9	8	23'-0"	Wingwall				
A38e	2	77	5	7'-8"	Beam Seat & Wingwall	2'-6"	2'-8"		
A39e	STR	9	8	30'-8"	Beam Seat				
A40e	36	319	5	3'-7"	Beam Seat & Wingwall	6"	2'-8"	5"	
A41e	STR	123	5	11'-1"	Beam Seat & Wingwall				
A42e	STR	123	5	5'-8"	Wingwall				
A43e	8	1	5	25'-0"	Wingwall	23'-0"	2'-0"	1'-0"	1'-9"
A44e	STR	1	5	22'-4"	Wingwall				

BILL OF REINFORCEMENT CONTINUED

MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A	B	C	D
A45e	8	1	5	17'-11"	Wingwall	15'-11"	2'-0"	1'-0"	1'-9"
A46e	STR	1	5	15'-3"	Wingwall				
A47e	8	1	5	9'-11"	Wingwall	7'-11"	2'-0"	1'-0"	1'-9"
A48e	STR	1	5	7'-3"	Wingwall				
A49e	STR	2	5	22'-9"	Wingwall				
A50e	STR	2	5	2'-4"	Wingwall				
A51e	STR	1	5	8'-9"	Wingwall				
A52e	STR	1	5	7'-2"	Wingwall				
A53e	STR	1	5	7'-11"	Wingwall				
A54e	STR	1	5	6'-4"	Wingwall				
A55e	STR	1	5	5'-0"	Wingwall				
A56e	STR	1	5	3'-5"	Wingwall				
A57e	STR	2	5	6'-11"	Wingwall				
A58e	STR	9	8	8'-9"	Wingwall				



PLAN OF CAP

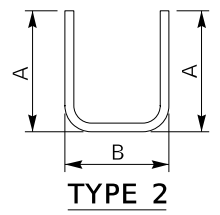


DEVELOPED ELEVATION OF CAP

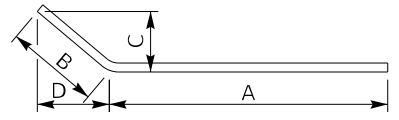
#5 Bars - 2'-0" Min. Lap

Note:
1. Bottom of cap shall be embedded a minimum of 1'-0" into rock.

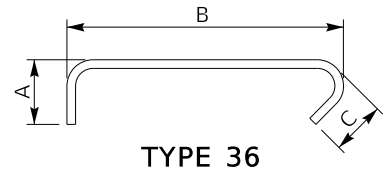
LEGEND:
FF = Front Face
BF = Back Face
EF = Each Face



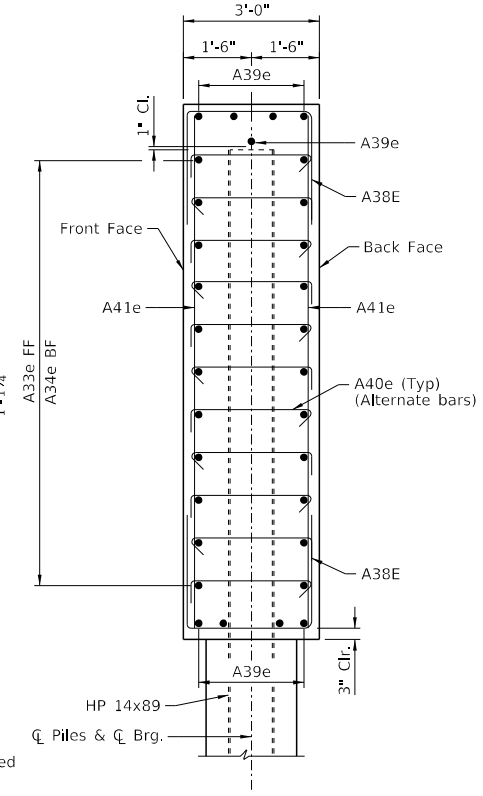
TYPE 2



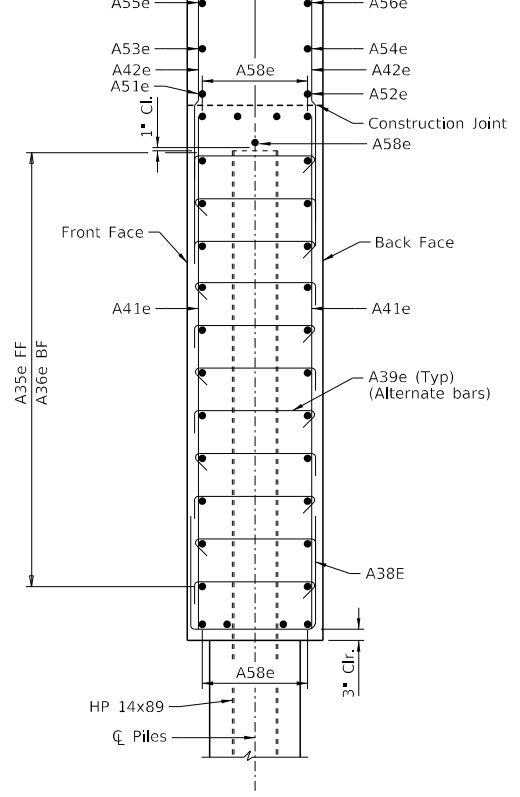
TYPE 8



TYPE 36



SECTION A-A



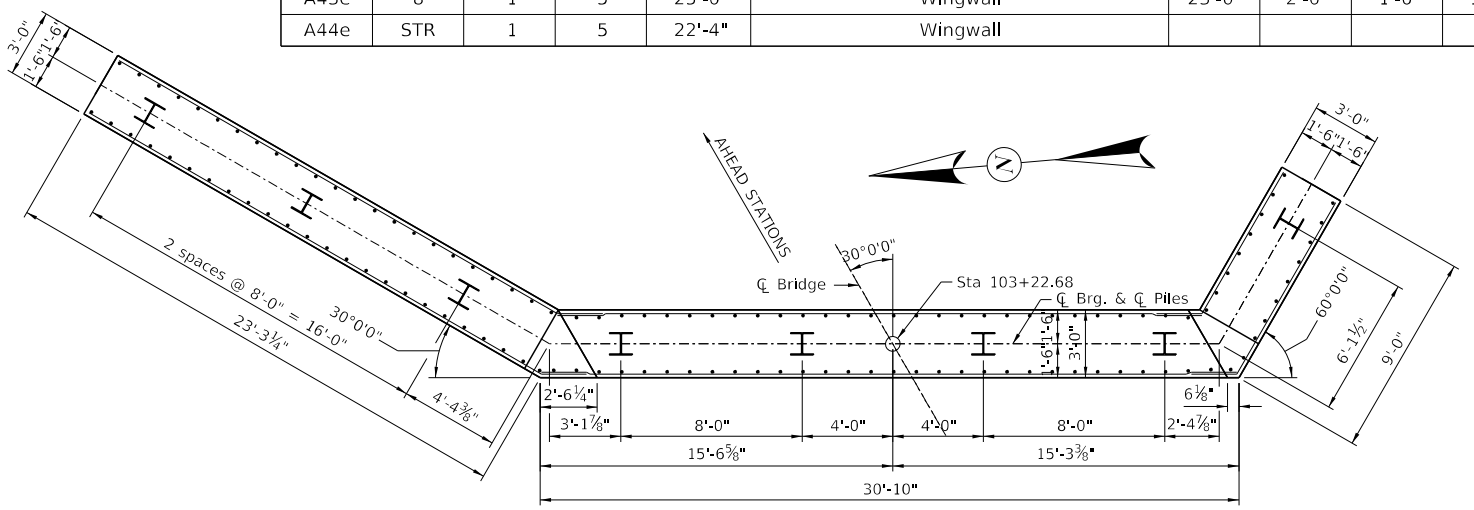
SECTION B-B

BILL OF REINFORCEMENT

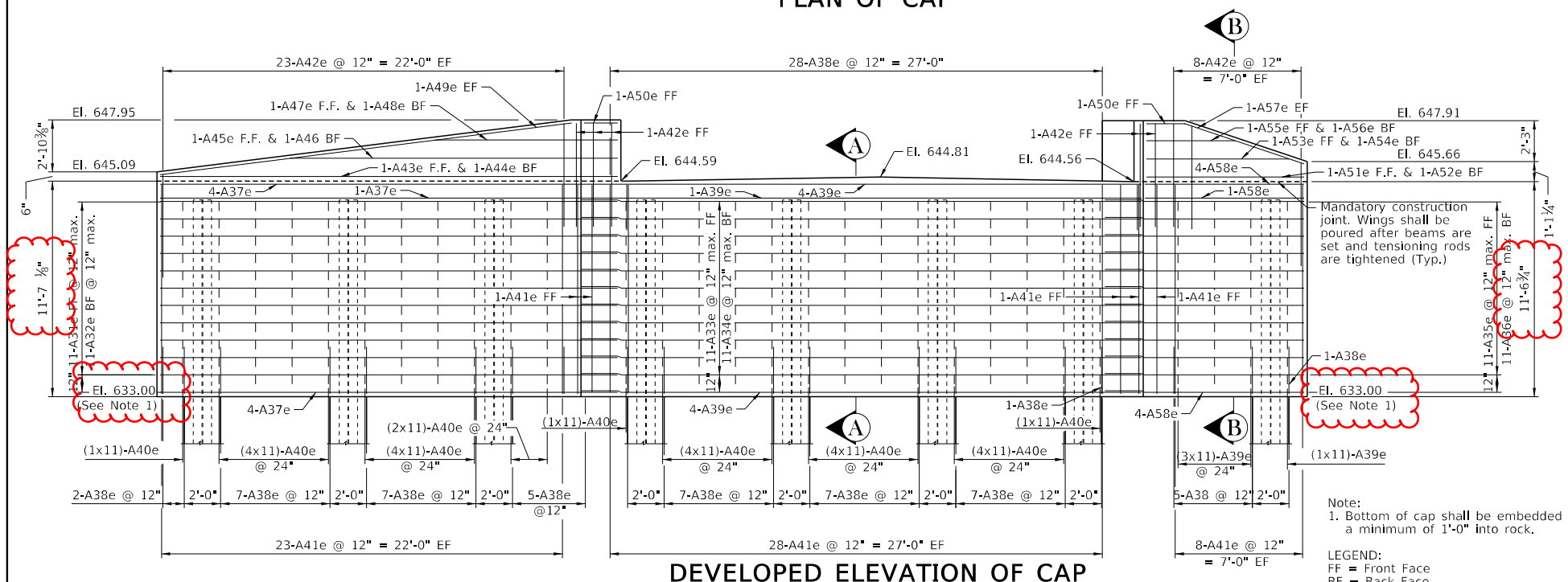
MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A	B	C	D
A31e	8	11	6	25'-2"	Wingwall	23'-0"	2'-0"	1'-0"	1'-9"
A32e	8	11	6	24'-4"	Wingwall	22'-4"	2'-0"	1'-0"	1'-9"
A33e	STR	11	6	30'-8"	Beam Seat				
A34e	STR	11	6	28'-5"	Beam Seat				
A35e	8	11	6	10'-9"	Wingwall	8'-9"	2'-0"	1'-9"	1'-0"
A36e	8	11	6	9'-2"	Wingwall	7'-2"	2'-0"	1'-9"	1'-0"
A37e	STR	9	8	23'-0"	Wingwall				
A38e	2	77	5	7'-8"	Beam Seat & Wingwall	2'-6"	2'-8"		
A39e	STR	9	8	30'-8"	Beam Seat				
A40e	36	319	5	3'-7"	Beam Seat & Wingwall	6"	2'-8"	5"	
A41e	STR	123	5	11'-1"	Beam Seat & Wingwall				
A42e	STR	123	5	5'-8"	Wingwall				
A43e	8	1	5	25'-0"	Wingwall	23'-0"	2'-0"	1'-0"	1'-9"
A44e	STR	1	5	22'-4"	Wingwall				

BILL OF REINFORCEMENT CONTINUED

MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A	B	C	D
A45e	8	1	5	17'-11"	Wingwall	15'-11"	2'-0"	1'-0"	1'-9"
A46e	STR	1	5	15'-3"	Wingwall				
A47e	8	1	5	9'-11"	Wingwall	7'-11"	2'-0"	1'-0"	1'-9"
A48e	STR	1	5	7'-3"	Wingwall				
A49e	STR	2	5	22'-9"	Wingwall				
A50e	STR	2	5	2'-4"	Wingwall				
A51e	STR	1	5	8'-9"	Wingwall				
A52e	STR	1	5	7'-2"	Wingwall				
A53e	STR	1	5	7'-11"	Wingwall				
A54e	STR	1	5	6'-4"	Wingwall				
A55e	STR	1	5	5'-0"	Wingwall				
A56e	STR	1	5	3'-5"	Wingwall				
A57e	STR	2	5	6'-11"	Wingwall				
A58e	STR	9	8	8'-9"	Wingwall				



PLAN OF CAP

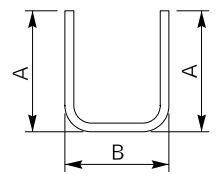


DEVELOPED ELEVATION OF CAP

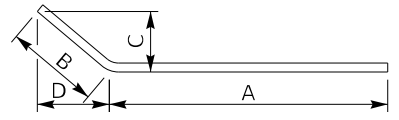
#5 Bars - 2'-0" Min. Lap

Note:
1. Bottom of cap shall be embedded a minimum of 1'-0" into rock.

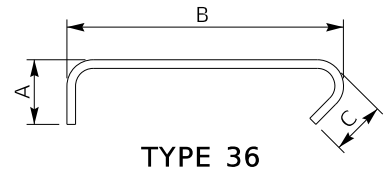
LEGEND:
FF = Front Face
BF = Back Face
EF = Each Face



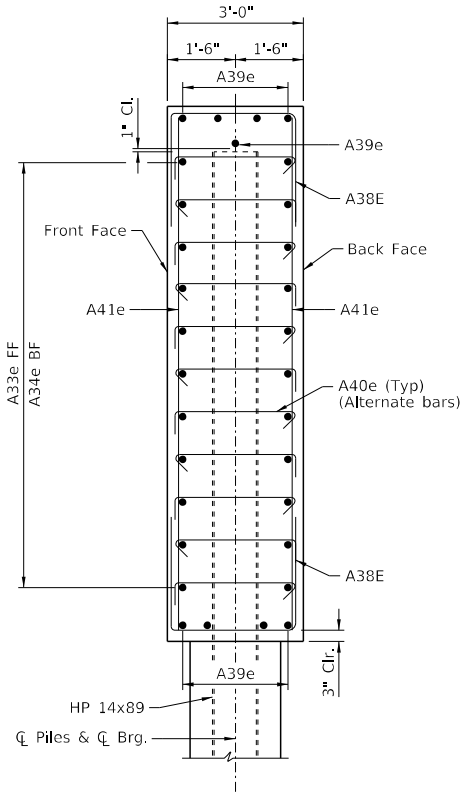
TYPE 2



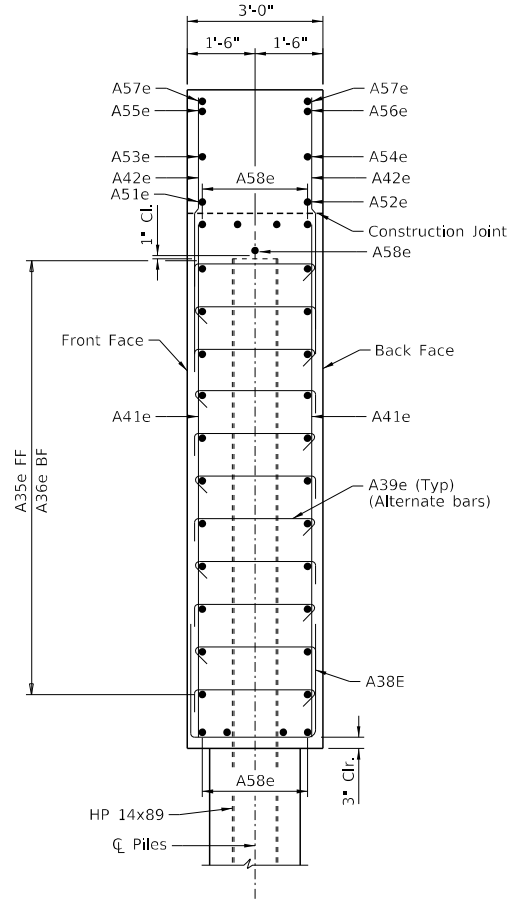
TYPE 8



TYPE 36



SECTION A-A



SECTION B-B