



Joseph Andrew Laine	2026.03.13 11:05:25 -05'00'
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TENNESSEE DEPARTMENT OF TRANSPORTATION
JAMES K. POLK BUILDING, SUITE 1100
505 DEADERICK STREET
NASHVILLE, TN 37243
JOSEPH ANDREW LAINE, P.E. NO. 123434

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE OF TENN. CODE ANN. §62-2-306.

SHEET NAME _____ **SHEET NO.** _____

SIGNATURE SHEETSTRUCTURE-SIGN1

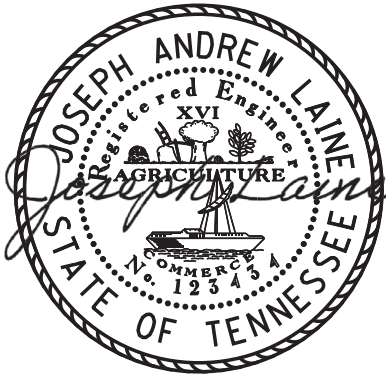
BRIDGE NO. 1	
LAYOUT OF BRIDGE	U-101-001
GENERAL NOTES AND ESTIMATED QUANTITIES	U-101-002
SUPERSTRUCTURE	U-101-005
SUPERSTRUCTURE DETAILS	U-101-006
SUPERSTRUCTURE DETAILS	U-101-007
PHASE CONSTRUCTION DETAILS	U-101-008
PHASE CONSTRUCTION DETAILS	U-101-009
PRESTRESSED BOX BEAM DETAILS	U-101-010
ABUTMENT NO. 1	U-101-011
ABUTMENT NO. 1 DETAILS	U-101-012
ABUTMENT NO. 1 DETAILS	U-101-013
ABUTMENT NO. 2	U-101-014
ABUTMENT NO. 2 DETAILS	U-101-015
ABUTMENT NO. 2 DETAILS	U-101-016
BILL OF STEEL	U-101-018

BRIDGE NO. 2	
LAYOUT OF BRIDGE	U-101-019
GENERAL NOTES	U-101-020
ESTIMATED QUANTITIES	U-101-021
SUPERSTRUCTURE	U-101-024
SUPERSTRUCTURE DETAILS	U-101-025
SUPERSTRUCTURE DETAILS	U-101-026
SUPERSTRUCTURE DETAILS	U-101-027
PHASE CONSTRUCTION DETAILS	U-101-028
PRESTRESSED I-BEAM DETAILS SPAN NO. 1	U-101-029
PRESTRESSED I-BEAM DETAILS SPAN NO. 2	U-101-030
PRESTRESSED I-BEAM DETAILS SPAN NO. 3	U-101-031
ABUTMENT NO. 1	U-101-032
ABUTMENT NO. 1 DETAILS	U-101-033
ABUTMENT NO. 1 DETAILS	U-101-034
ABUTMENT NO. 2	U-101-035
ABUTMENT NO. 2 DETAILS	U-101-036
ABUTMENT NO. 2 DETAILS	U-101-037
PIER NO. 1	U-101-038
PIER NO. 2	U-101-039
PIER NO. 1 AND NO. 2 DETAILS	U-101-040
BILL OF STEEL	U-101-042

YEAR	PROJECT NO.	SHEET NO.
2026	STP/HHP-31(12)	STRUCTURE-SIGN1

**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION**

**SIGNATURE
SHEET**



6/23/26

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE OF TENN. CODE ANN. §62-2-306.

SHEET NAME	SHEET NO.
SIGNATURE SHEET	STRUCTURE-SIGN1
SIGNATURE SHEET	STRUCTURE-SIGN2

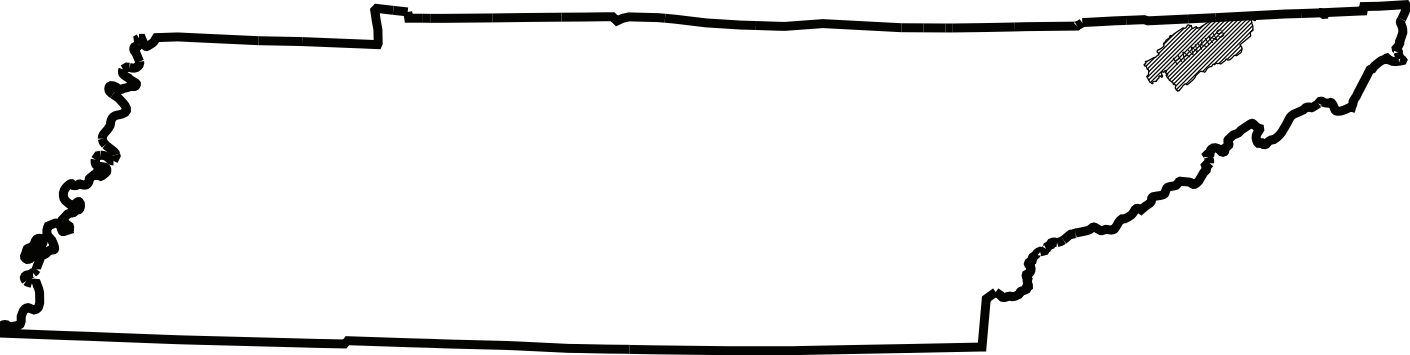
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ESTIMATED QUANTITIES.....	U-101-021
SUPERSTRUCTURE	U-101-024
SUPERSTRUCTURE DETAILS	U-101-025
SUPERSTRUCTURE DETAILS	U-101-026
SUPERSTRUCTURE DETAILS	U-101-027
PHASE CONSTRUCTION DETAILS.....	U-101-028
PRESTRESSED I-BEAM DETAILS SPAN NO. 1	U-101-029
PRESTRESSED I-BEAM DETAILS SPAN NO. 2	U-101-030
PRESTRESSED I-BEAM DETAILS SPAN NO. 3	U-101-031
ABUTMENT NO. 1	U-101-032
ABUTMENT NO. 1 DETAILS.....	U-101-033
ABUTMENT NO. 1 DETAILS.....	U-101-034
ABUTMENT NO. 2	U-101-035
ABUTMENT NO. 2 DETAILS.....	U-101-036
ABUTMENT NO. 2 DETAILS.....	U-101-037
PIER NO. 1	U-101-038
PIER NO. 2	U-101-039
PIER NO. 1 AND NO. 2 DETAILS	U-101-040
BILL OF STEEL	U-101-042

YEAR	PROJECT NO.	SHEET NO.
2026	STP/HPP-31(12)	STRUCTURE-SIGN2

STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION
SIGNATURE SHEET

6/24/2026 10:32:27 AM C:\USERS\J07491\DOCUMENTS\JOE\BRIDGES\HAWKINS\101394.00\LATEST DRAFTING\37SR0310001\BORDERB1.DGN



HAWKINS COUNTY

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	TOTAL	TOTAL	GRAND TOTAL
202-01.02	REMOVAL OF ASBESTOS	L.S.	0.5	0.5	1
202-04.01	REMOVAL OF STRUCTURES (EXISTING BRIDGE NO. 37SR0310001)	L.S.	1		1
202-04.02	REMOVAL OF STRUCTURES (EXISTING BRIDGE NO. 37-SR031-00.07)	L.S.		1	1
204-02.01	DRY EXCAVATION (BRIDGES)	C.Y.	711	361	1072
204-03.01	WET EXCAVATION (BRIDGES)	C.Y.		98	98
204-04.01	ROCK EXCAVATION (BRIDGES)	C.Y.		130	130
204-05	ROCK DRILLING (BRIDGES)	L.F.		120	120
204-10.02	FOUNDATION PREPARATION (BRIDGE NO. 2, PIER NO.1, STA. 230+68.21)	L.S.		1	1
204-10.03	FOUNDATION PREPARATION (BRIDGE NO. 2, PIER NO.2, STA. 231+19.79)	L.S.		1	1
204-14	CORE DRILLING FOR PILES (ROCK)	L.F.	165		165
204-15	CORE DRILLING FOR PILES (SOIL)	L.F.	40		40
303-01.02	GRANULAR BACKFILL (BRIDGES)	TON	105	42	147
604-02.03	EPOXY COATED REINFORCING STEEL	LB.	25,090	75,434	100,524
604-03.01	CLASS 'A' CONCRETE (BRIDGES)	C.Y.	82	351	433
604-03.02	STEEL BAR REINFORCEMENT (BRIDGES)	LB.	12,190	52,533	64,723
604-03.04	PAVEMENT @ BRIDGE ENDS	S.Y.	299	248	547
604-03.09	CLASS D CONCRETE (BRIDGE DECK)	C.Y.	120	219	339
604-04.01	APPLIED TEXTURE FINISH (NEW STRUCTURES)	S.Y.	349	1,024	1,373
604-05.31	BRIDGE DECK GROOVING (MECHANICAL)	S.Y.	768	827	1,595
606-02.03	STEEL PILES (10 INCH)	L.F.	232	341	573
606-02.06	PILE TIPS (STEEL PILES, 10 INCH)	L.F.		22	22
615-01.02	PRESTRESSED CONCRETE I-BEAM (TYPE II)	L.F.		902	902
615-02.05	PRESTRESSED CONCRETE BOX BEAM (33" x 36")	L.F.	616		616
617-02	BRIDGE DECK CRACK SEALING	L.F.	80	159	239
617-05	SEALANT (HMVM)	GAL.	1	1	2
620-05.01	CONCRETE PARAPET SINGLE SLOPE (STD-1-1SS)	L.F.		376	376
620-06	CONCRETE RAILING (STD-7-1)	L.F.	234		234
621-05.02	TEMPORARY SHORING	L.S.	1		1
710-09.01	6" PERF. PIPE WITH VERTICAL DRAIN SYSTEM	L.F.	181	166	347
710-09.02	6" PIPE UNDERDRAIN	L.F.	52	34	86

PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 09/24
DRAWN BY: A. HUNTER DATE: 05/25
SUPERVISED BY: EASTERLY/SOULDERSDATE: 05/25
CHECKED BY: DATE: /

BRIDGE NO. 1		LAST
LIST OF DRAWINGS	DWG. NO.	REV. DATE
LAYOUT OF BRIDGE.....	U-101-001	6/23/26
GENERAL NOTES AND ESTIMATED QUANTITIES.....	U-101-002	6/23/26
FOUNDATION DATA.....	U-101-003	
FOUNDATION DATA.....	U-101-004	
SUPERSTRUCTURE.....	U-101-005	6/23/26
SUPERSTRUCTURE DETAILS.....	U-101-006	6/23/26
SUPERSTRUCTURE DETAILS.....	U-101-007	
PHASE CONSTRUCTION DETAILS.....	U-101-008	6/23/26
PHASE CONSTRUCTION DETAILS.....	U-101-009	6/23/26
PRESTRESSED BOX BEAM DETAILS.....	U-101-010	
ABUTMENT NO. 1.....	U-101-011	6/23/26
ABUTMENT NO. 1 DETAILS.....	U-101-012	6/23/26
ABUTMENT NO. 1 DETAILS.....	U-101-013	6/23/26
ABUTMENT NO. 2.....	U-101-014	6/23/26
ABUTMENT NO. 2 DETAILS.....	U-101-015	6/23/26
ABUTMENT NO. 2 DETAILS.....	U-101-016	6/23/26
FINAL FOUNDATION DATA.....	U-101-017	
BILL OF STEEL.....	U-101-018	6/23/26

STATE ROUTE 31 OVER MOORSBURG BRANCH STATION 23+46.68	STATE ROUTE 109 OVER POOR VALLEY CREEK STATION 230+94.00
CONTINUOUS PRECAST PRESTRESSED CONCRETE BOX BEAM (33" x 36") WITH COMPOSITE CONCRETE DECK SLAB	CONTINUOUS PRECAST PRESTRESSED CONCRETE I-BEAM (TYPE II) WITH COMPOSITE CONCRETE DECK SLAB
SINGLE SPAN BRIDGE TOTAL LENGTH = 80'-0"	3 SPAN BRIDGE SPAN NO. 1 = 53'-8½" SPAN NO. 2 = 51'-7" SPAN NO. 3 = 53'-8½" TOTAL LENGTH = 159'-0"
58'-10" ROADWAY WITH STD-7-1 PARAPET 90°00'00" SKEW	48'-0" ROADWAY WITH STD-1-1SS PARAPET 45°00'00" SKEW
LAYOUT OF BRIDGE DWG. NO. U-101-001	LAYOUT OF BRIDGE DWG. NO. U-101-019

LIST OF STANDARD DRAWINGS	DWG. NO.	LAST REV. DATE
BRIDGE RAILING SINGLE SLOPE CONCRETE PARAPET.....	STD-1-1SS.....	07-09-2025
STEEL SLIDER PLATE ASSEMBLIES FOR SINGLE SLOPE CONCRETE PARAPET AND BRIDGE DECK DRAIN DETAILS.....	STD-1-2SS.....	05-31-2024
REINFORCED CONCRETE PAVEMENT AT BRIDGE ENDS.....	STD-1-5.....	06-05-2023
BRIDGE MOUNTED INTERCONNECTED PORTABLE BARRIER RAIL.....	STD-2-1.....	08-26-25
BARRIER RAIL ALTERNATE CONNECTION DETAIL.....	STD-2-3.....	08-26-25
STANDARD PRECAST PRESTRESSED BRIDGE DECK PANELS GENERAL DETAILS.....	STD-4-1.....	04-08-2005
STANDARD PRECAST PRESTRESSED BRIDGE DECK PANELS DESIGN CRITERIA.....	STD-4-2.....	04-08-2005
STANDARD PRECAST PRESTRESSED BRIDGE DECK PANELS DESIGN DETAILS.....	STD-4-3.....	03-02-2002
STANDARD PRECAST PRESTRESSED BRIDGE DECK PANELS CONSTRUCTION DETAILS.....	STD-4-4.....	06-10-1996
STANDARD PILE DETAILS.....	STD-5-1.....	
STANDARD SEISMIC DETAILS.....	STD-6-1.....	12-08-2023
STANDARD CONCRETE RAIL.....	STD-7-1.....	04-17-2026
STANDARD CONCRETE RAIL.....	STD-7-1A.....	
TRI-STAR STATE EMBLEM FINISH DETAILS.....	STD-8-6.....	10-03-2018
STANDARD REINFORCEMENT BAR SUPPORT DETAILS FOR CONCRETE SLABS.....	STD-9-1.....	10-07-2008
MISCELLANEOUS ABUTMENT AND DRAINAGE DETAILS.....	STD-10-1.....	06-05-2023
MISCELLANEOUS ABUTMENT AND PAVEMENT AT BRIDGE ENDS BACKFILL DETAILS.....	STD-10-2.....	06-05-2023
DETAILS FOR I-BEAMS.....	STD-14-2.....	03-06-2024
STANDARD DETAILS AND INTERMEDIATE DIAPHRAGM BOX BEAMS.....	STD-14-3.....	03-06-2024

LIST OF SPECIAL PROVISIONS	PROV. NO.	LAST REV. DATE
REMOVAL OF ASBESTOS CONTAINING MATERIALS (ACM)....	202ACM.....	07-07-2014
REPAIR OF BRIDGE CRACKS.....	604CR.....	02-08-2021

BRIDGE NO. 2		LAST
LIST OF DRAWINGS	DWG. NO.	REV. DATE
LAYOUT OF BRIDGE.....	U-101-019	
GENERAL NOTES.....	U-101-020	
ESTIMATED QUANTITIES.....	U-101-021	6/23/26
FOUNDATION DATA.....	U-101-022	
FOUNDATION DATA.....	U-101-023	
SUPERSTRUCTURE.....	U-101-024	
SUPERSTRUCTURE DETAILS.....	U-101-025	
SUPERSTRUCTURE DETAILS.....	U-101-026	
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PIER NO. 1.....	U-101-038	
PIER NO. 2.....	U-101-039	
PIER NO. 1 AND NO. 2 DETAILS.....	U-101-040	
FINAL FOUNDATION DATA.....	U-101-041	
BILL OF STEEL.....	U-101-042	

MISC. DRAWINGS	DWG. NO.	LAST REV. DATE
SIGNATURE SHEET.....	STRUCTURE-SIGN1	
SIGNATURE SHEET.....	STRUCTURE-SIGN2	
INDEX OF BRIDGE QUANTITIES AND ESTIMATED QUANTITIES.....	B-1.....	6/23/26

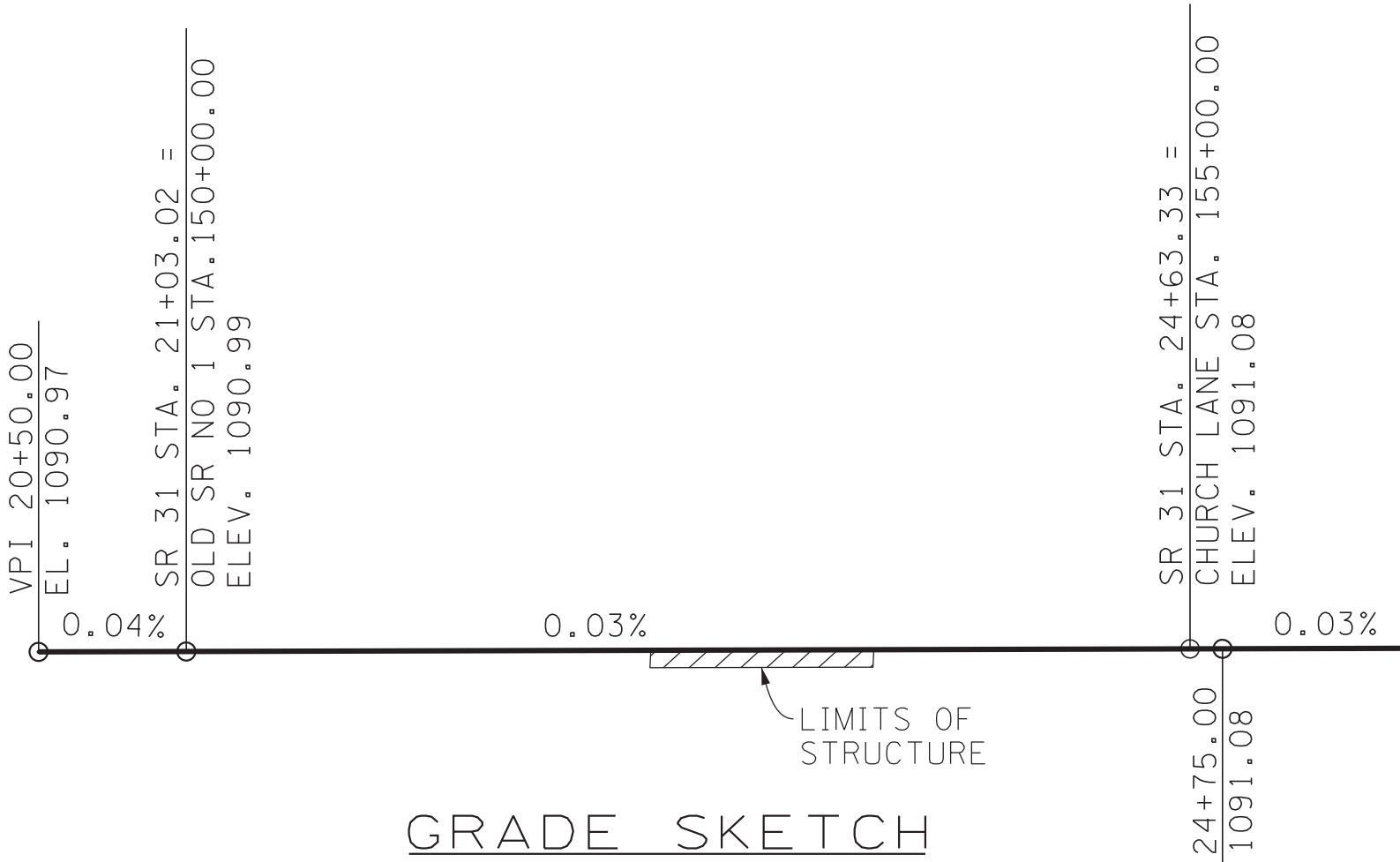
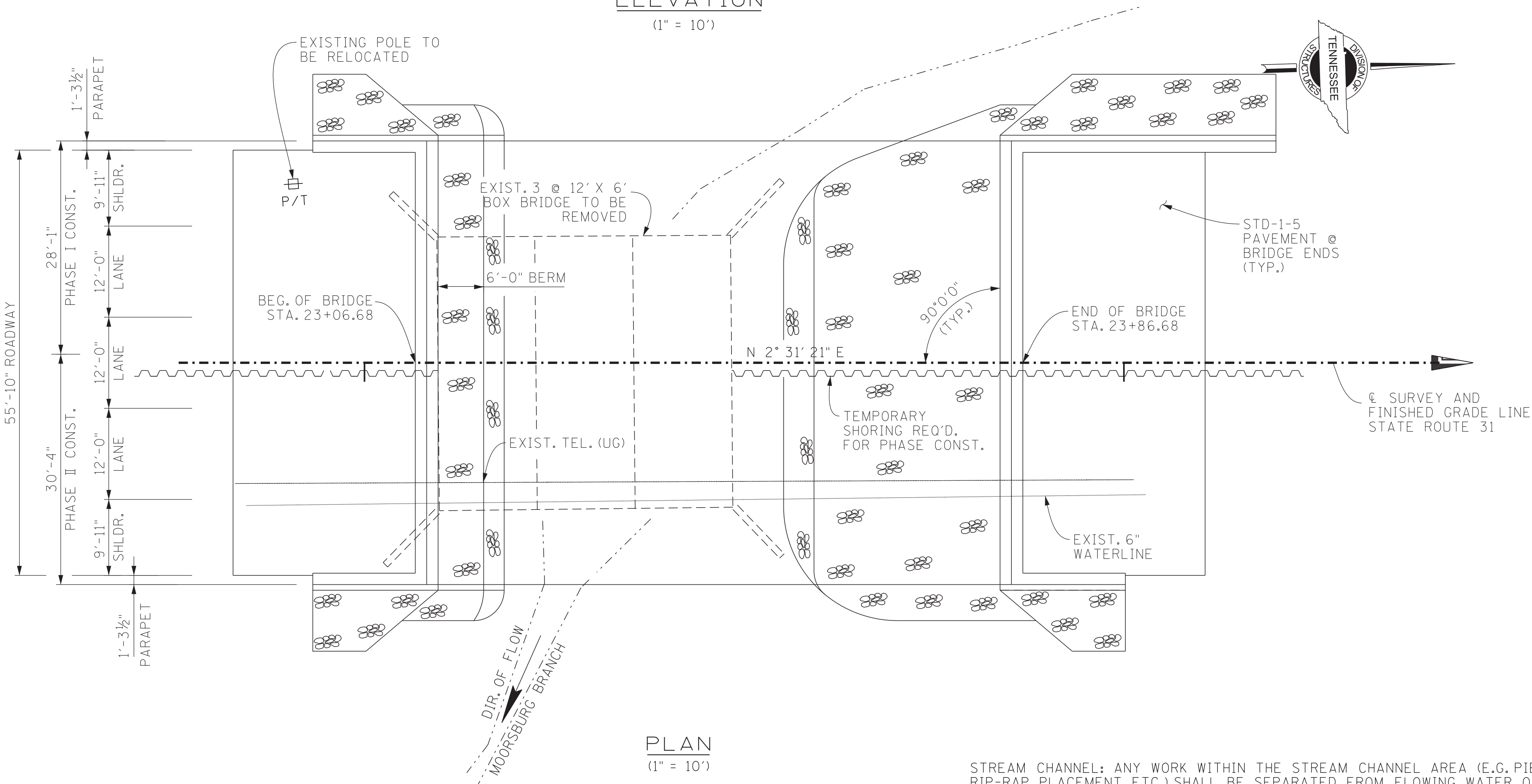
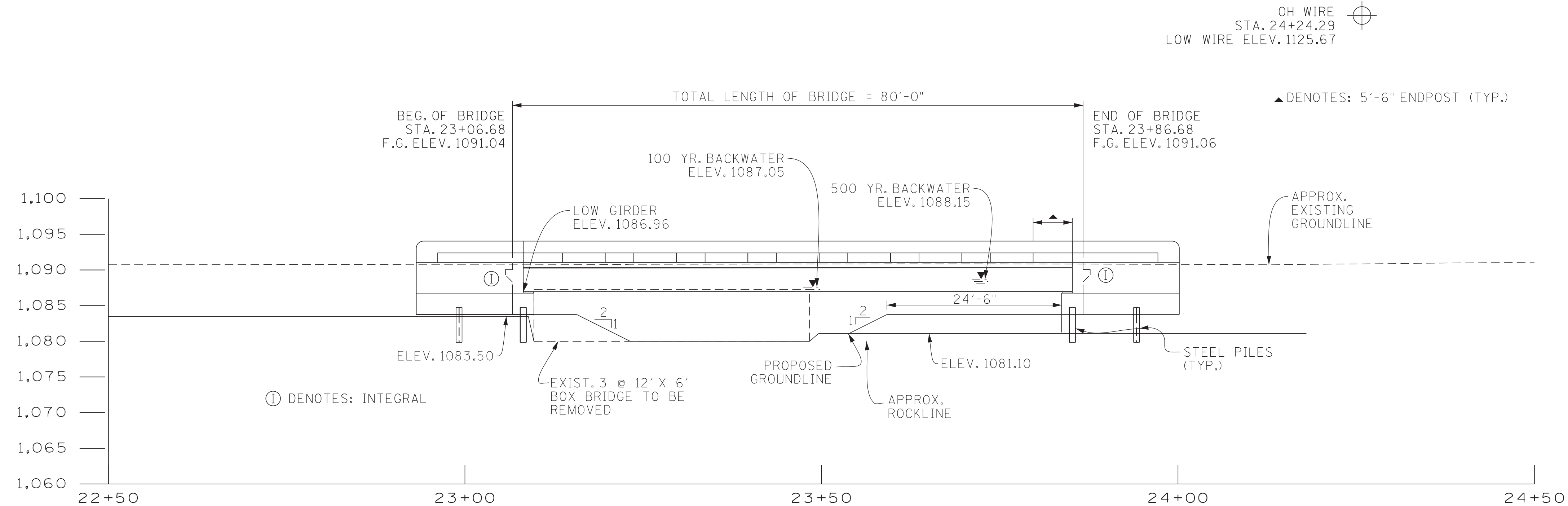
EXISTING BRIDGE NO. 2	
LIST OF DRAWINGS	DWG. NO.
LAYOUT OF BRIDGE.....	F-12-11
STANDARD CONCRETE BRIDGE DECK GIRDER TYPE.....	F-2-43
STANDARD CONCRETE BRIDGES DECK GIRDER TYPE.....	F-2-44
STANDARD SLAB DETAILS.....	F-2-48
STANDARD SLAB DETAILS.....	F-2-90
STANDARD CONCRETE HANDRAIL RAIL TYPE.....	E-12-105
STANDARD CONCRETE BENTS.....	F-10-10
STANDARD CONCRETE PIERS.....	A-0-12
PIERS NO. 1 & NO. 2.....	F-12-12
STANDARD PILE DETAILS.....	F-2-118

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

INDEX OF BRIDGES AND
ESTIMATED QUANTITIES
STATE ROUTE 31 FROM
MOORESBURG TO ADAMS LANE
HAWKINS COUNTY

6/24/2026 10:14:41 AM C:\USERS\J07491\DOCUMENTS\J07491\BRIDGES\HAWKINS\101394.00\LATEST DRAFTING\37SR0310001\BORDER1.DGN

PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 09/24
DRAWN BY: P. MOSHER DATE: 05/25
SUPERVISED BY: EASTERLY/SHOULDERS DATE: 05/25
CHECKED BY: A. DAHIR DATE: 03/25



2042 ADT = 4,630
56'-0" ROADWAY WITH
STD-1-1SS PARAPETS
DESIGN SPEED = 55 mph

BRIDGE NO. 1
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

LAYOUT OF BRIDGE
STATE ROUTE 31
OVER
MOORSBURG BRANCH
BRIDGE ID. NO. 37SR0310001
LOG MILE 0.24
STATION 23+46.68
HAWKINS COUNTY

U-101-1

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: TENNESSEE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (JANUARY 1, 2021 EDITION).

DESIGN SPECIFICATIONS: 9TH EDITION (2020) AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND THE 2ND EDITION (2011) AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN WITH INTERIMS.

- LOADING:**
- A. HL-93 LIVE LOADING
 - B. SEISMIC DESIGN CATEGORY "A" WITH A_S= 0.138, S_{D5}=0.254, S_{D1}=0.066, (1000 YEAR RETURN PERIOD).
 - C. DEAD LOAD INCLUDES 35 LB/SQ. FT. FOR FUTURE WEARING SURFACE.

CONCRETE: TO BE CLASS A (CAST-IN-PLACE) F'C = 3000 PSI EXCEPT AS NOTED OTHERWISE.

BRIDGE DECKS: CLASS D CONCRETE FOR BRIDGE DECKS SHALL BE IN ACCORDANCE WITH SECTION 604 OF THE STANDARD SPECIFICATIONS.

BRIDGE DECK SURFACE FINISH: TO BE IN ACCORDANCE WITH METHOD 3 IN ARTICLE 604.22 OF THE STANDARD SPECIFICATIONS.

BRIDGE DECK FORMS: BRIDGE DECK FORMS FOR CONCRETE DECKS SHALL BE CONSTRUCTED USING EITHER REMOVABLE FORMS OR PERMANENT FORMS. PERMANENT FORMS SHALL BE REMAIN-IN-PLACE STEEL. FORMS SHALL BE ATTACHED BY MEANS OTHER THAN WELDING TO MAIN STRUCTURAL MEMBERS OR REINFORCING STEEL. TEMPORARY ERECTION DIAPHRAGMS MUST BE USED AT THE ENDS OF PRECAST CONCRETE GIRDERS WHERE END DIAPHRAGMS, SUPPORT DIAPHRAGMS, OR ABUTMENT ENDWALLS ARE TO BE POURED CONCURRENTLY WITH THE DECK AND SHALL BE PROVIDED ELSEWHERE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS TO PREVENT GIRDER ROTATION. SEE STANDARD DRAWING STD-14-3 AND ARTICLE 604.05 OF THE STANDARD SPECIFICATIONS.

REINFORCING STEEL: SHALL BE ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE. SEE SECTIONS 604 AND 907 OF THE STANDARD SPECIFICATIONS.

STREAM CHANNEL: ANY WORK WITHIN THE STREAM CHANNEL AREA (E.G. PIER/BENT FOOTING, RIP-RAP PLACEMENT, ETC.) SHALL BE SEPARATED FROM FLOWING WATER OR EXPECTED FLOW PATH AND PERFORMED DURING LOW FLOW CONDITIONS. ALL ITEMS USED WITHIN THE STREAM CHANNEL AREA FOR DIVERSION OF FLOW (OR EXPECTED FLOW), UNLESS SPECIFIED IN THE PLANS, SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE INCLUDED IN THE COST OF OTHER ITEMS. THIS NOTE EXCLUDES ANY ITEMS SPECIFIED IN THE PLANS FOR TEMPORARY DIVERSION CHANNELS (EC-STR-31).

ABUTMENTS ON FILL: THE FILLS AT THE ENDS OF THE BRIDGE SHALL BE IN PLACE AND THOROUGHLY COMPACTED BEFORE ANY ABUTMENT PILES ARE DRIVEN.

END-BEARING STEEL PILES: TO BE HP10X42 DRIVEN TO REFUSAL ON ROCK OR A MINIMUM BEARING OF 84 TONS FOR THE ABUTMENTS. ALL PILES SHALL BE ASTM A709 GRADE 50 STEEL.

UTILITIES: IT IS INTENDED THAT THE COST OF MATERIALS AND LABOR NECESSARY FOR THE COMPLETE INSTALLATION OF UTILITIES SHALL BE BORNE BY OTHERS AND SHALL NOT BE PAID FOR AS A PART OF THIS CONTRACT. THE CONTRACTOR SHALL COOPERATE WITH OTHERS IN THE INSTALLATION OF UTILITIES WITH NO ADDITIONAL COMPENSATION ALLOWED THE CONTRACTOR AS A RESULT.

SHOP DRAWINGS: SEE SECTION 105.02 OF THE STANDARD SPECIFICATIONS.

PARAPET SYSTEM: BUILD PARAPETS ACCORDING TO STANDARD DRAWING STD-7-1 & STD-7-1A. THE PARAPETS SHALL BE FORMED AND CAST PLUMB, NOT PERPENDICULAR TO THE SLAB. THE DIMENSIONS AT THE TRAFFIC FACE SHALL BE KEPT CONSTANT, WITH VARIATION DUE TO CROSS-SLOPE ACCOMMODATED AT THE REAR FACE.

VALUE ENGINEERING ALTERNATE BRIDGE DESIGN CRITERIA: ALTERNATE BRIDGE DESIGN PROPOSALS MAY NOT DIMINISH THE FUNCTIONAL OR STRUCTURAL EQUIVALENCY OF THE BRIDGE AND MUST MEET OR EXCEED THE CAPACITIES OF THE CONTRACT PLANS STRUCTURE AT ALL LIMIT STATES IN AASHTO TABLE 3.4.1-1. ADDITIONALLY, THE WATERWAY OPENING AND FLOOD CLEARANCES MAY NOT BE REDUCED. FOR GRADE SEPARATIONS, THE HORIZONTAL CLEARANCES MAY NOT BE REDUCED, NOR MAY THE VERTICAL CLEARANCES BE LESS THAN THE MINIMUM ACCEPTABLE FOR THE TYPE FACILITY CROSSED.

REQUIREMENTS AND RESTRICTIONS FOR PHASE CONSTRUCTION:

- A. THE PHASE CONSTRUCTION SEQUENCE MAY PROHIBIT THE EXTRACTION OF SOME SHEET PILING. ALL COSTS ASSOCIATED WITH SHEET PILING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OTHER ITEMS.
- B. THE LOCATION OF LONGITUDINAL CONSTRUCTION JOINTS SHALL NOT BE CHANGED TO ACCOMMODATE STAY-IN-PLACE DECK FORMS.
- C. NO SHEET PILES OR BEARING PILES MAY BE DRIVEN FROM THE EXISTING OR PROPOSED STRUCTURE.

FINISHING CONCRETE SURFACES: CONCRETE FINISHING SHALL BE IN ACCORDANCE WITH SECTION 604.21 OF THE STANDARD SPECIFICATIONS. A CLASS I FINISH FOLLOWED BY AN APPLIED TEXTURE FINISH SHALL BE USED IN LIEU OF A CLASS II FINISH. NO TEXTURE FINISH SHALL BE APPLIED PRIOR TO COMPLETION OF PAVING AND HAULING OPERATIONS AT THE BRIDGE SITE. THE APPLIED TEXTURE FINISH SHALL BE MEASURED AND PAID FOR UNDER ITEM NO. 604-04.01.

TEXTURE FINISH: IN ADDITION TO THE SURFACES SHOWN IN THE APPLIED TEXTURE FINISH SKETCH, ALL EXPOSED SURFACES OF THE [WINGWALLS, ABUTMENT BEAMS, APRON WALLS, AND EXTERIOR PORTIONS OF THE ENDWALLS SHALL RECEIVE AN APPLIED TEXTURE FINISH, (GRAY, AMS-STD-595A, COLOR NO. 36440).

MECHANICAL COUPLERS: CONTRACTOR TO VERIFY ALL BAR LENGTHS SPLICED WITH AX BARS TO ENSURE ALL MINIMUM CLEARANCES ARE MAINTAINED. MECHANICAL COUPLER SIZE NOT KNOWN AT THE TIME OF DESIGN.

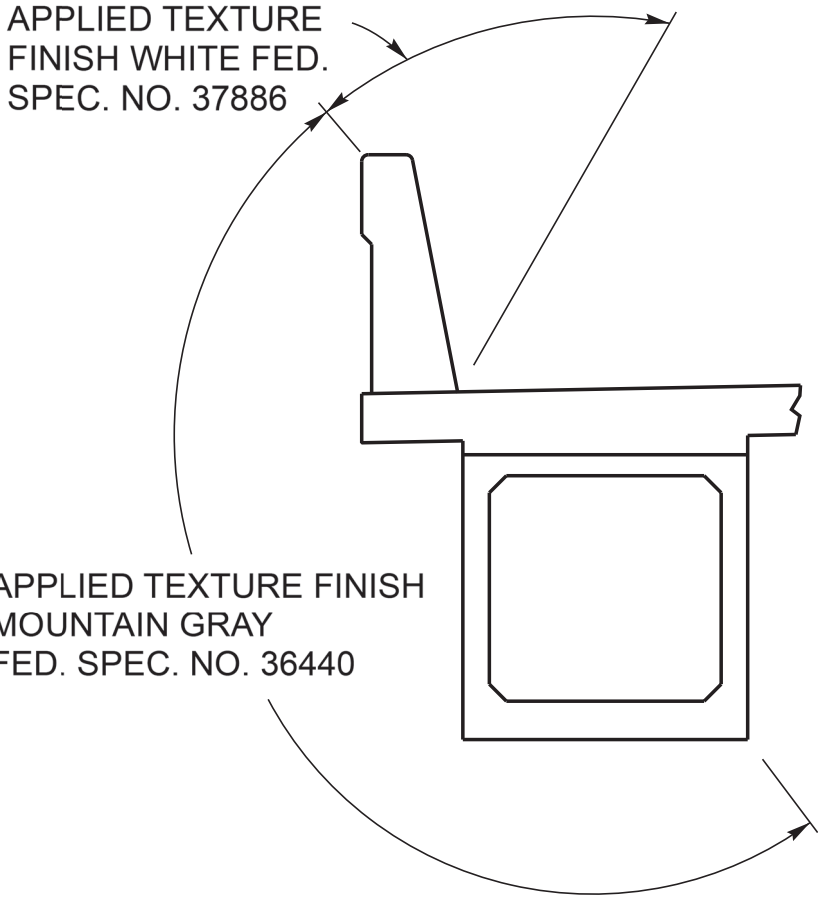
RIP-RAP: RIP-RAP TO EXTEND TO ROCK IN ALL LOCATIONS UNLESS NOTATED OTHERWISE. IF ROCK IS ENCOUNTERED HIGHER THAN EXPECTED, THE ABUTMENT BERM ELEVATION CAN BE INCREASED TO MAINTAIN THE MINIMUM RIP-RAP THICKNESS WITH THE APPROVAL OF THE STRUCTURAL ENGINEER.

END-BEARING STEEL PILES AT ABUTMENTS: FOUNDATIONS FOR ABUTMENTS SHALL BE EXCAVATED TO THE BOTTOM OF ABUTMENT BEAM OR WING BEAM ELEVATIONS SHOWN. ROD SOUNDINGS SHALL THEN BE MADE AS DIRECTED BY THE ENGINEER. FROM THE RESULTS OBTAINED, THE ENGINEER OF STUCTURES WILL DECIDE IF PILES WILL BE USED OR THE ABUTMENT AND WING BEAMS WILL BE LOWERED TO ROCK. COST OF ROD SOUNDINGS TO BE INCLUDED IN THE UNIT PRICE BID FOR OTHER ITEMS. NO REINFORCING STEEL FOR ABUTMENT BEAMS OR WING BEAMS SHALL BE ORDERED UNTIL FINAL FOOTING ELEVATIONS HAVE BEEN DETERMINED.

ESTIMATED QUANTITIES NOTES

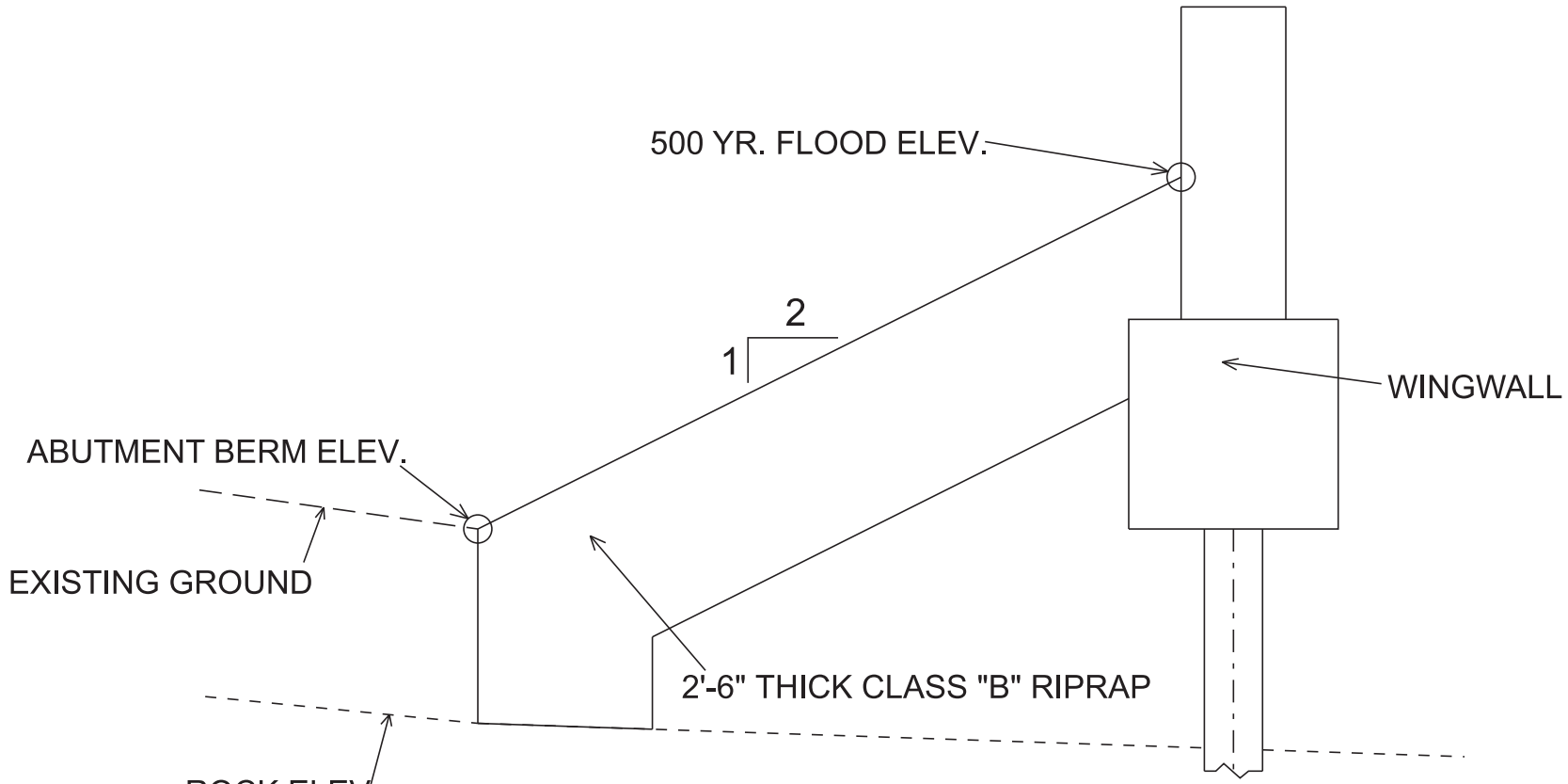
- (1) **NOTE:** PRIOR TO CONSTRUCTION OF THE PAVEMENT AT BRIDGE ENDS, THE CONTRACTOR SHALL SUBMIT A PROPOSED BILL OF STEEL TO THE ENGINEER FOR APPROVAL..
- (2) **NOTE:** LUMP SUM EXISTING CULVERT NO. 37SR0310001 TO BE REMOVED. CONSIST OF THREE 12' X 7' BOXES WITH AN ASPHALT OVERLAY. TOTAL LENGTH = 39'-0" OUT-TO-OUT = 35'-4"
- (3) **NOTE:** SEE PROJECT COMMITMENTS AND SPECIAL PROVISION 202ACM.
- (4) **NOTE:** EXCAVATION BASED ON FINAL PROFILE AT ABUTMENTS.
- (5) **NOTE:** THE COST OF WATER STOPS, BITUMINOUS-FIBERBOARD, ETC. AND ALL MISCELLANEOUS JOINT MATERIAL TO BE INCLUDED IN THE UNIT PRICE BID FOR OTHER ITEMS.
- (6) **NOTE:** COST OF ELASTOMERIC PADS AND RUBBER BONDING CEMENT TO BE INCLUDED IN THE UNIT PRICE BID FOR THE PRESTRESSED BEAM.
- (7) **NOTE:** COST OF POLYETHYLENE SHEETING AND ALL MISCELLANEOUS ITEMS NECESSARY FOR INSTALLATION TO BE INCLUDED IN THE UNIT PRICE BID FOR PERFORATED PIPE.
- (8) **NOTE:** MECHANICAL BAR SPLICERS MUST BE ON THE TDOT QUALIFIED PRODUCTS LIST 27. THE BAR SPLICERS SHALL MEET AASHTO LRFD SPECIFICATIONS FOR MECHANICAL CONNECTION. WHEN EPOXY COATING IS REQUIRED, THE EXPOSED THREADS SHALL BE REPAIRED AFTER SPLICING ACCORDING TO SECTION 907 OF THE STANDARD SPECIFICATIONS. THE COST OF FURNISHING THE BAR SPLICERS, (AND EPOXY COATING WHEN REQUIRED) INCLUDING ALL LABOR AND MATERIALS NECESSARY FOR COMPLETE INSTALLATION, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM NO. 604-02.03 AND ITEM NO. 604-03.02.
- (9) **NOTE:** GRANULAR BACKFILL SHALL BE TYPE "A" GRADING "D" MATERIAL. SEE STANDARD DRAWING STD-10-1
- (10) **NOTE:** INCLUDES ALL COSTS FOR INSTALLING THE BRIDGE DECK CRACK SEALER (HMWM) INCLUDING CRACK PREPARATION, CLEANING, LABOR, AND ALL MISCELLANEOUS MATERIALS REQUIRED TO SEAL THE LONGITUDINAL CONSTRUCTION JOINT ACCORDING TO SPECIAL PROVISION 604CR AND MANUFACTURERS' SPECIFICATIONS. CRACK SEALING SHALL BE DONE AT THE END OF CONSTRUCTION TO ALLOW SHRINKAGE OF DECK CONCRETE CAUSING THE CRACK TO OCCUR.
- (11) **NOTE:** TEMPORARY SHORING IS ANTICIPATED AND TO BE REQUIRED IN ORDER TO MAINTAIN TRAFFIC SHOWN IN THE TRAFFIC CONTROL PLANS AND FOR SUPPORT OF EXCAVATION ADJACENT TO EXISTING STRUCTURES, ROADWAYS OR UTILITIES. THIS ITEM SHALL INCLUDE ALL COSTS ASSOCIATED WITH ANY TEMPORARY SHORING NEEDED FOR PROJECT CONSTRUCTION INCLUDING DESIGN, SUBMITTAL, CONSTRUCTION AND REMOVAL IF NECESSARY. THE TYPE AND EXTENT OF TEMPORARY SHORING WILL BE DETERMINED BASED ON THE CONTRACTORS DESIRED MEANS AND METHODS AND SHALL CONSIDER AVAILABLE GEOTECHNICAL DATA (ROCK ELEVATIONS, WATER TABLE, ETC.), EXISTING AND PROPOSED STRUCTURES, UTILITIES, AND OTHER CONSTRAINTS AS NEEDED. NO CHANGE TO THE BID PRICE FOR THIS ITEM WILL BE MADE BASED UPON CONDITIONS THAT ARE READILY AVAILABLE FOR REVIEW DURING THE BIDDING PHASE.

PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	6/23/26	JAL	REVISED NOTES AND EQ



APPLIED TEXTURE FINISH SKETCH

NOTE: IN ADDITION TO THE SURFACES SHOWN IN THE APPLIED TEXTURE FINISH SKETCH ALL EXPOSED SURFACES OF THE WINGWALLS, ABUTMENT BEAMS, EXTERIOR PORTIONS OF ENDWALLS AND PIERS ARE TO RECEIVE AN APPLIED TEXTURE FINISH MOUNTAIN GRAY, FED. SPEC. NO. 36440



WINGWALL RIP-RAP DETAIL

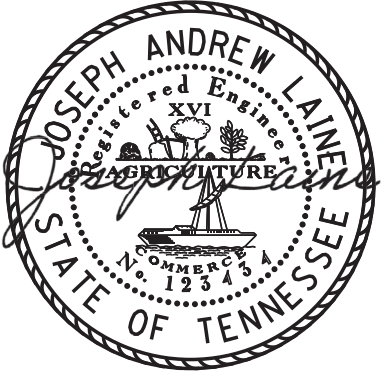
NOTE: RIPRAP TO BE KEYED TO ROCK ONCE HITTING THE BERM ELEVATION.

PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 09/24
DRAWN BY: TRENT JOHNSTON DATE: 04/25
SUPERVISED BY: EASTERLY/SHOULDERS DATE: 04/25
CHECKED BY: A. DAHIR DATE: 03/25

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	TOTAL	SUPERSTRUCTURE	ABUT. NO. 1	ABUT. NO. 2
(3) 202-01.02	REMOVAL OF ASBESTOS	L.S.	0.5			
(2) 202-04.01	REMOVAL OF STRUCTURES (EXISTING BRIDGE NO. 37SR031000	L.S.	1			
(4) 204-02.01	DRY EXCAVATION (BRIDGES)	C.Y.	711		66	645
204-14	CORE DRILLING FOR PILES (ROCK)	L.F.	165		57	108
204-15	CORE DRILLING FOR PILES (SOIL)	L.F.	40		35	5
✓ (9) 303-01.02	GRANULAR BACKFILL (BRIDGES)	TONS	105		48	57
✓ (8) 604-02.03	EPOXY COATED REINFORCING STEEL	LB.	25,090	21,016	1,966	2,108
604-03.01	CLASS "A" CONCRETE (BRIDGES)	C.Y.	82		35	47
✓ (8) 604-03.02	STEEL BAR REINFORCEMENT (BRIDGES)	LB.	12,190		5,426	6,764
(1) 604-03.04	PAVEMENT @ BRIDGE ENDS	S.Y.	299			
604-03.09	CLASS "D" CONCRETE (BRIDGE DECK)	C.Y.	120			
604-04.01	APPLIED TEXTURE FINISH (NEW STRUCTURES)	S.Y.	349	263	34	52
604-05.31	BRIDGE DECK GROOVING (MECHANICAL)	S.Y.	768			
606-02.03	STEEL PILES (10 INCH)	L.F.	232		104	128
✓ (6) 615-02.05	PRESTRESSED CONCRETE BOX BEAM (33" X 36")	L.F.	616			
✓ (10) 617-02	BRIDGE DECK CRACK SEALING	L.F.	80	80		
617-05	SEALANT (HMWM)	GAL	1			
620-06	CONCRETE RAILING	L.F.	234			
✓ (11) 621-05.02	TEMPORARY SHORING	L.S.	1			
✓ (7) 710-09.01	6" PERFORATED PIPE WITH VERTICAL DRAIN SYSTEM	L.F.	181		77	104
710-09.02	6" PIPE UNDERDRAIN	L.F.	52		26	26

SEALED BY

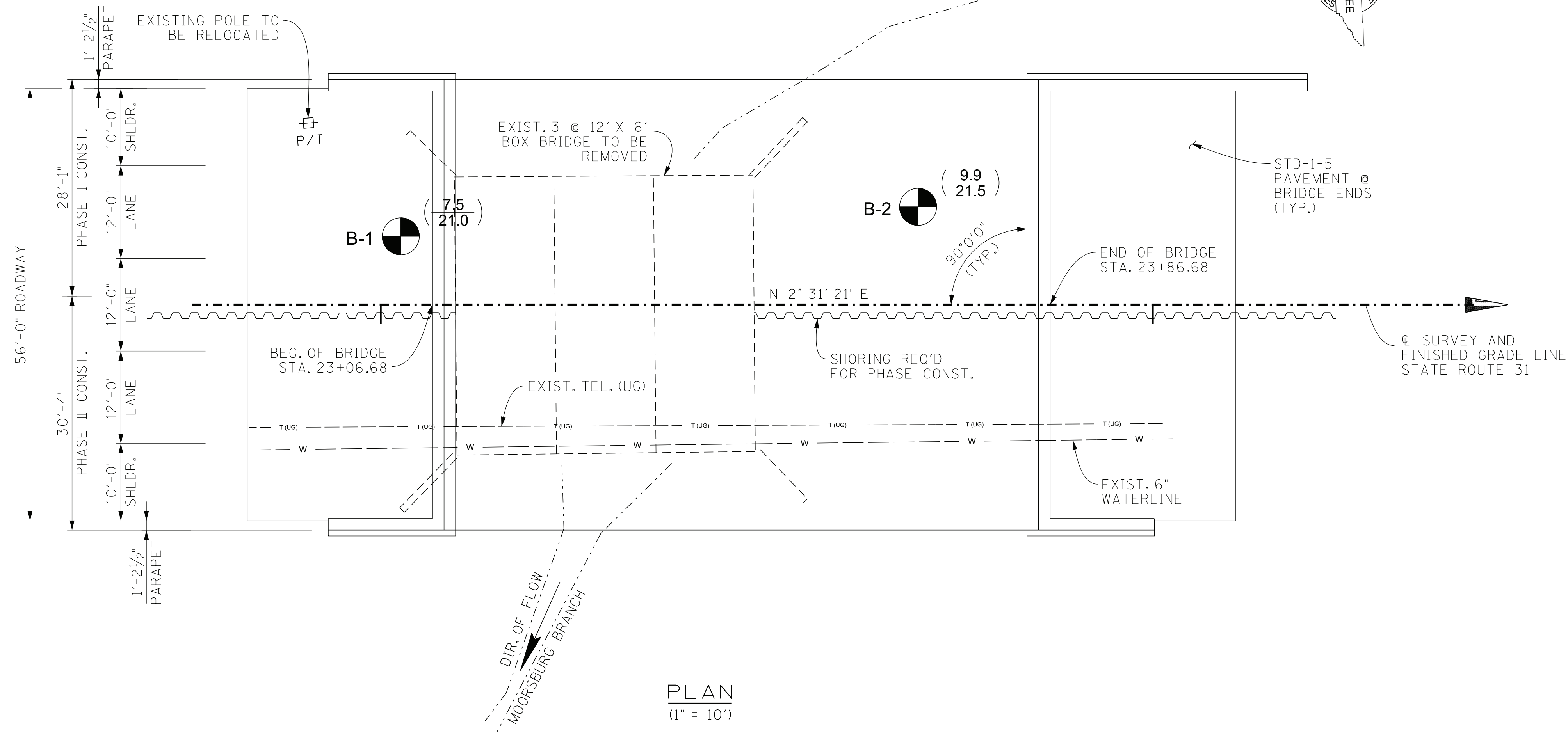
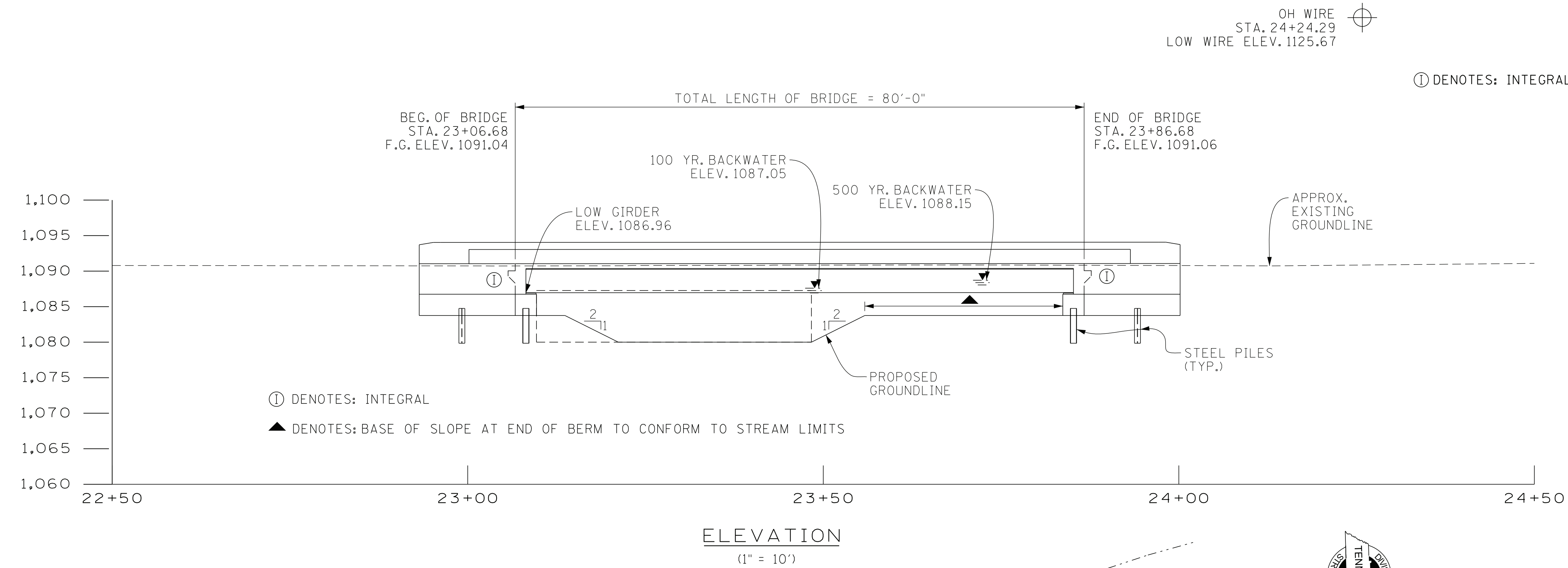


BRIDGE NO. 1
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
GENERAL NOTES AND
ESTIMATED QUANTITIES
STATE ROUTE 31
OVER
MOORSBURG BRANCH
BRIDGE ID. NO. 37SR0310001
LOG MILE 0.24
STATION 23+46.68
HAWKINS COUNTY

U-101-2

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PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 09/24
DRAWN BY: P. MOSHER DATE: 05/25
SUPERVISED BY: EASTERLY/SHOULDERS DATE: 04/25
CHECKED BY: A. DAHIR DATE: 03/25

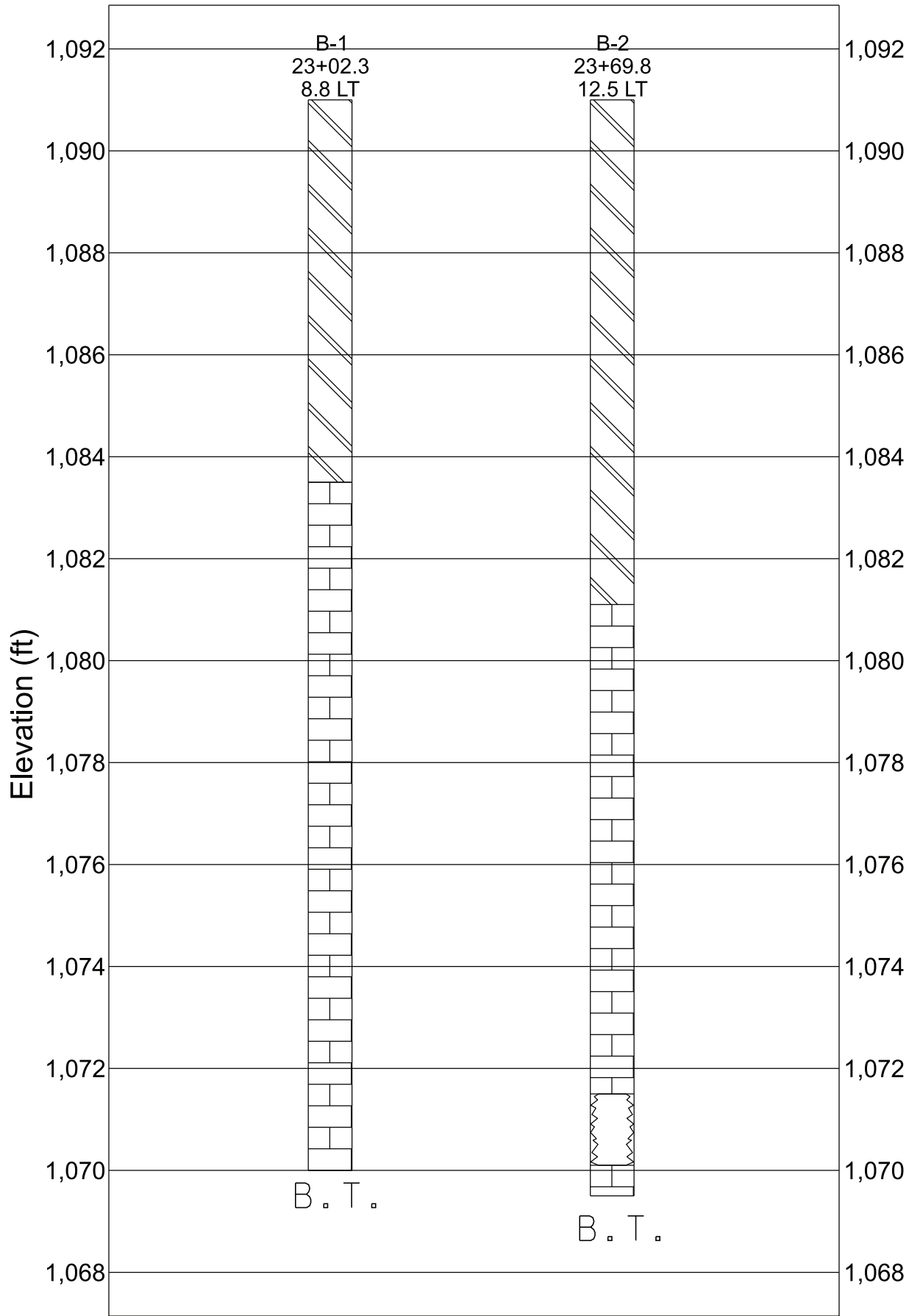


PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
	- -		
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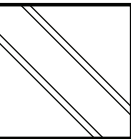
NOTE: THIS DRAWING IS FOR FOUNDATION DATA ONLY AND IS NOT TO BE USED AS A LAYOUT.

BRIDGE NO. 1
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
FOUNDATION DATA
STATE ROUTE 31
OVER
MOORSBURG BRANCH
BRIDGE ID. NO. 37SR0310001
LOG MILE 0.24
STATION 23+46.68
HAWKINS COUNTY

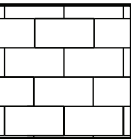
PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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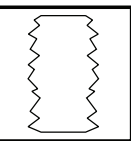
LEGEND



CLAY



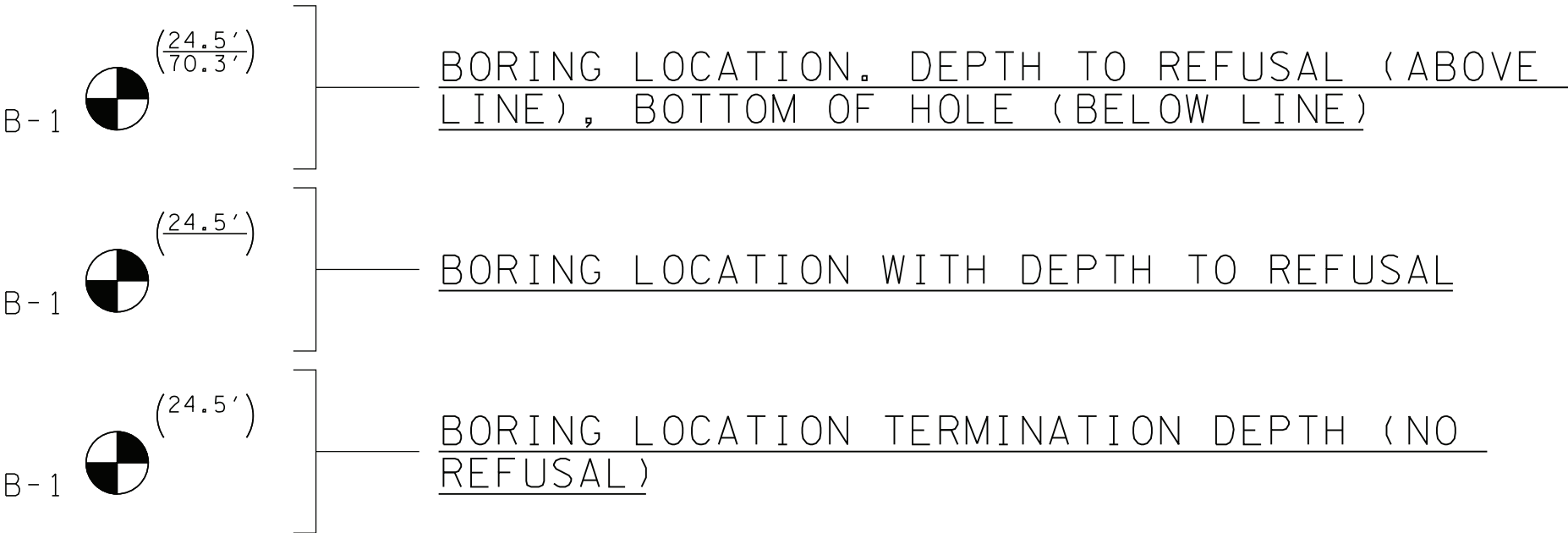
LIMESTONE



VOID

TYPE MATERIAL-SEE
DEFINITION OF EARTHWORK
TERMS ON NOTES AND
GEOTECHNICAL EST. QTYS.
SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

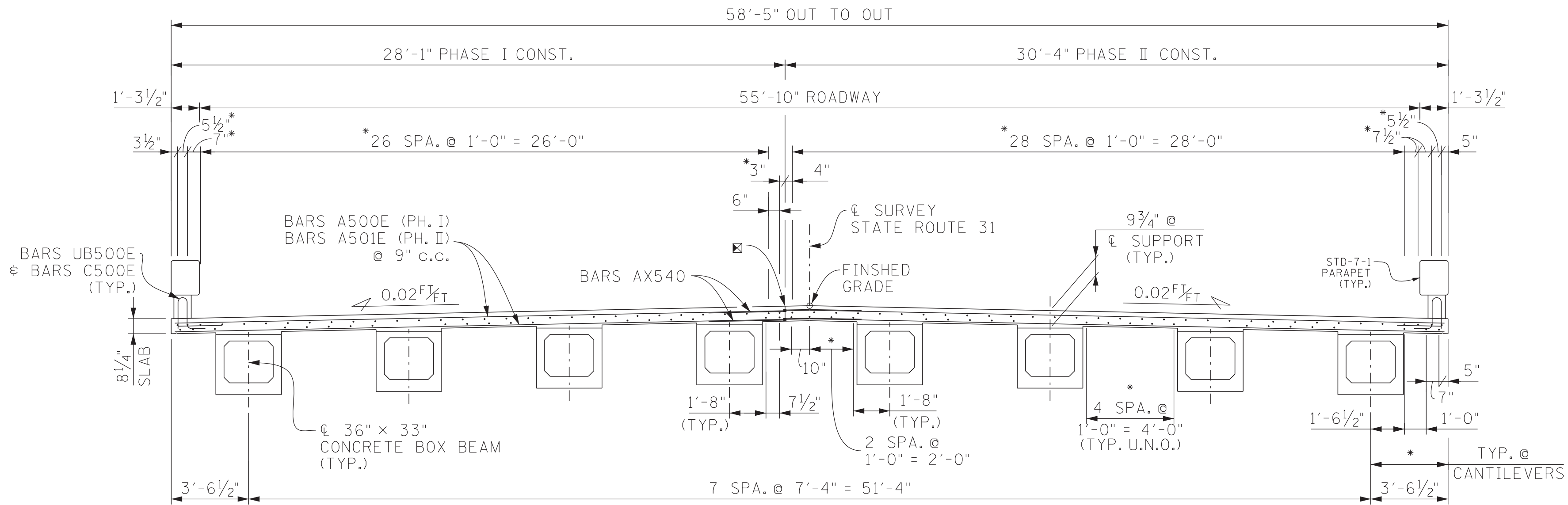
LEGEND



PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 09/24
DRAWN BY: P. MOSHER DATE: 05/25
SUPERVISED BY: EASTERLY/SHOULDERS DATE: 04/25
CHECKED BY: A. DAHIR DATE: 03/25

BRIDGE NO. 1
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
FOUNDATION DATA
STATE ROUTE 31
OVER
MOORSBURG BRANCH
BRIDGE ID. NO. 37SR0310001
LOG MILE 0.24
STATION 23+46.68
HAWKINS COUNTY

PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	6/23/26	JAL	REVISED PARAPET



TYPICAL CROSS-SECTION
(LOOKING FORWARD ON SURVEY)

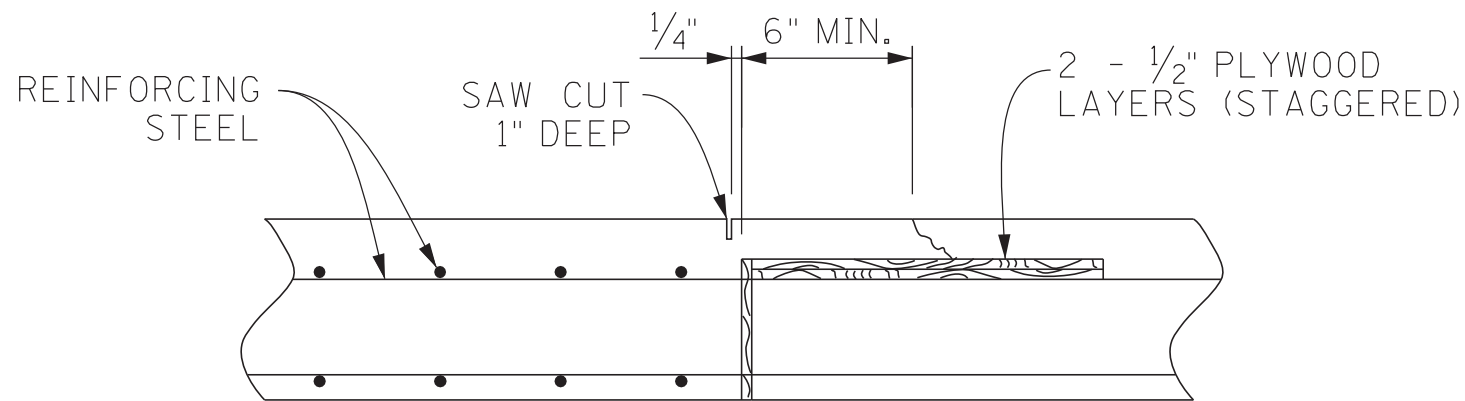
- * DENOTES: BARS A400E & BARS A401E
- ☒ DENOTES: PHASE CONST. JOINT AND LOCATION OF MECHANICAL COUPLERS.

NOTES

NOTE: NO PORTION OF THE (CURBS, PARAPETS, OR MEDIAN BARRIER RAIL) SHALL BE POURED UNTIL THE ENTIRE DECK SLAB IS IN PLACE (UNLESS REQUIRED FOR PHASE CONSTRUCTION).

NOTE: WHEN POURING SLAB, PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR PARAPET. THE PARAPET SHALL NOT BE POURED UNTIL THE SLAB IS POURED AND CURED. ALSO SEE STD. DWG. NO. STD-1-1SS.

NOTE: THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SUPPORTING THE BEAMS TO PREVENT DAMAGE DUE TO TWISTING OR OVERTURNING DURING ALL PHASES OF CONSTRUCTION. WHILE IT IS STRONGLY RECOMMENDED THAT THE TEMPORARY ERECTION DIAPHRAGMS BE INSTALLED PRIOR TO PLACING ANY LOADS ON THE BEAMS, IT IS REQUIRED THAT ALL TEMPORARY ERECTION DIAPHRAGMS BE FULLY INSTALLED PRIOR TO POURING ANY PORTION OF THE SLAB.

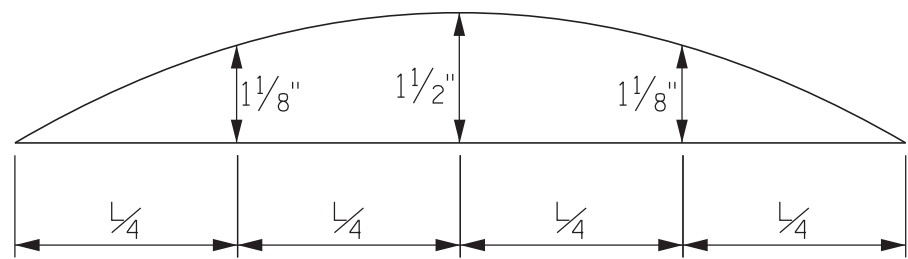


SLAB CONSTRUCTION JOINT DETAIL

DECK CONCRETE POURING SEQUENCE: SLAB CONSTRUCTION JOINTS MAY BE LOCATED AT THE CONTRACTOR'S OPTION SUBJECT TO THE FOLLOWING:

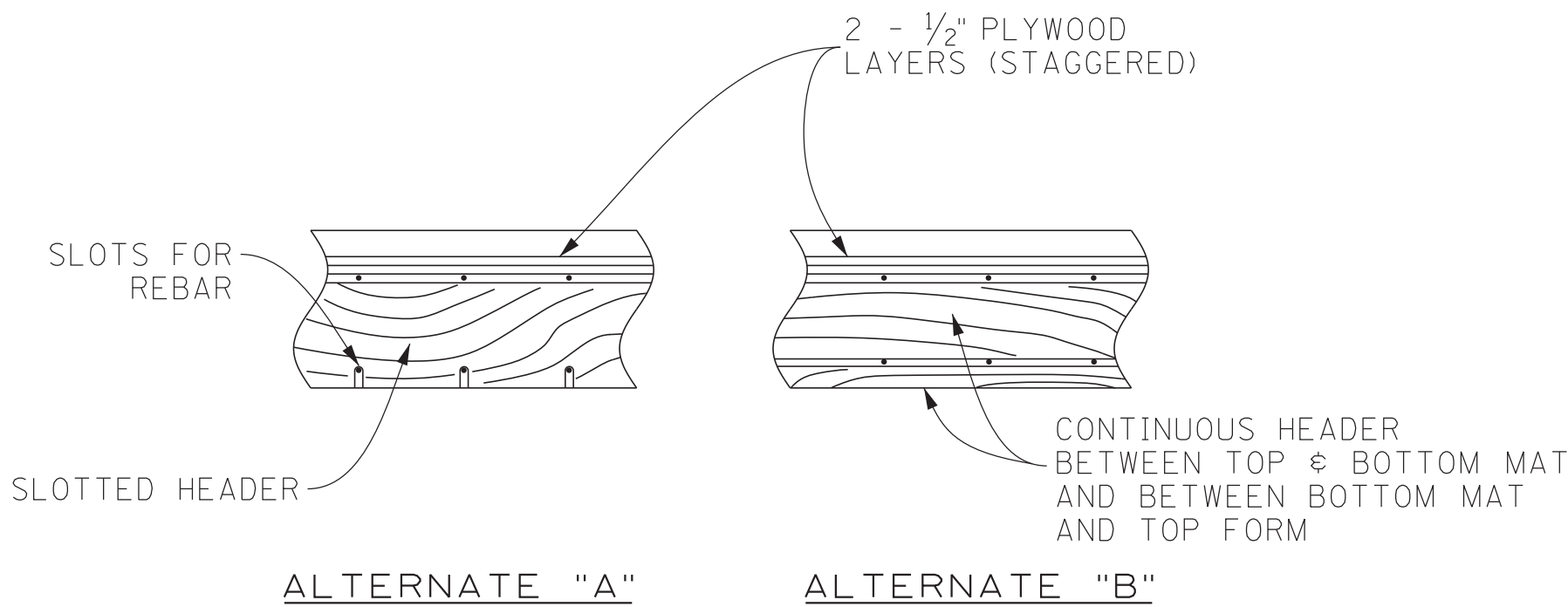
1. NO CONSTRUCTION JOINT MAY BE LOCATED CLOSER THAN 10 FEET OR FURTHER THAN 15 FEET FROM AN INTERIOR SUPPORT.
2. THE SLAB IN THE MIDDLE SECTION OF BOTH ADJACENT SPANS MUST BE POURED TO WITHIN AT LEAST 15 FEET OF THE SUPPORTS EITHER PRIOR TO OR CONCURRENTLY WITH THE SLAB OVER AN INTERIOR SUPPORT.

NOTE: ALL SLAB CONSTRUCTION JOINTS SHALL BE IN ACCORDANCE WITH THE SLAB CONSTRUCTION JOINT DETAIL SHOWN ABOVE.

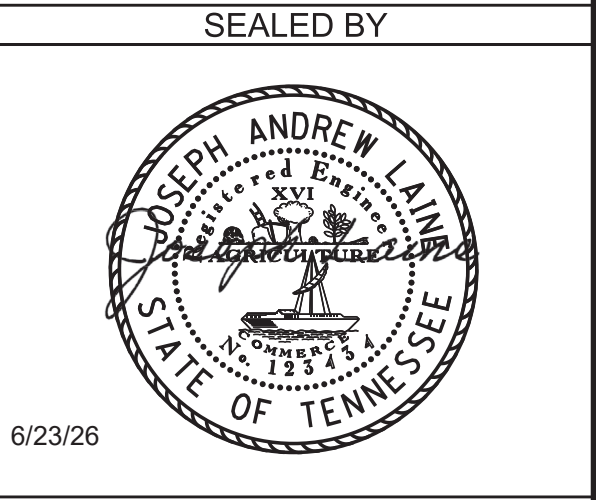


DEAD LOAD CORRECTION CURVE

DEAD LOAD CORRECTION CURVE: THIS CURVE IS FOR DEAD LOAD SLAB AND ALL DEAD LOADS THAT ARE APPLIED AFTER SLABS ARE IN PLACE AND SHOULD BE CORRECTED TO COMPENSATE FOR THE EFFECTS DUE TO VERTICAL CURVE.



ALTERNATE HEADER DETAILS

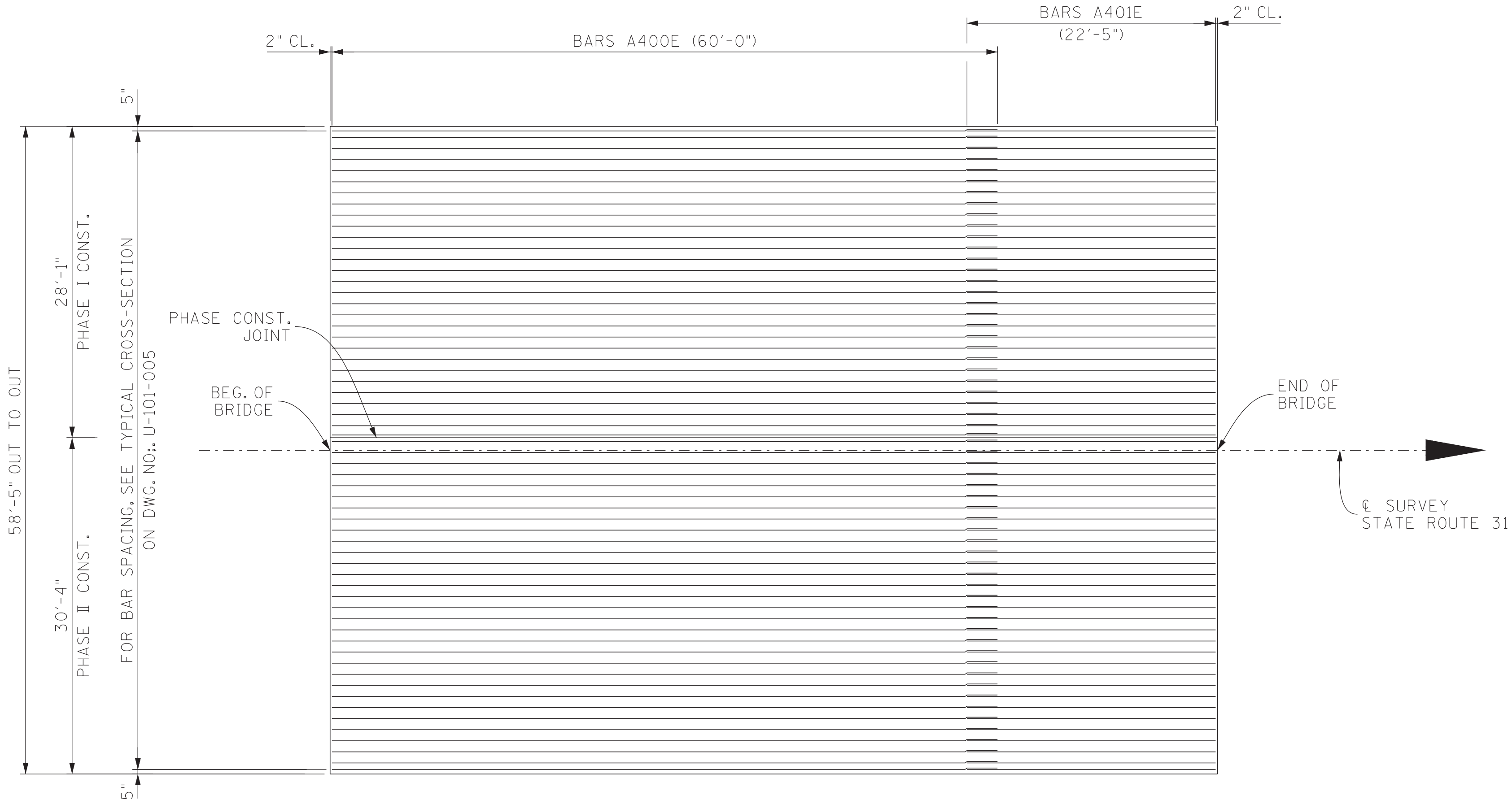


BRIDGE NO. 1
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

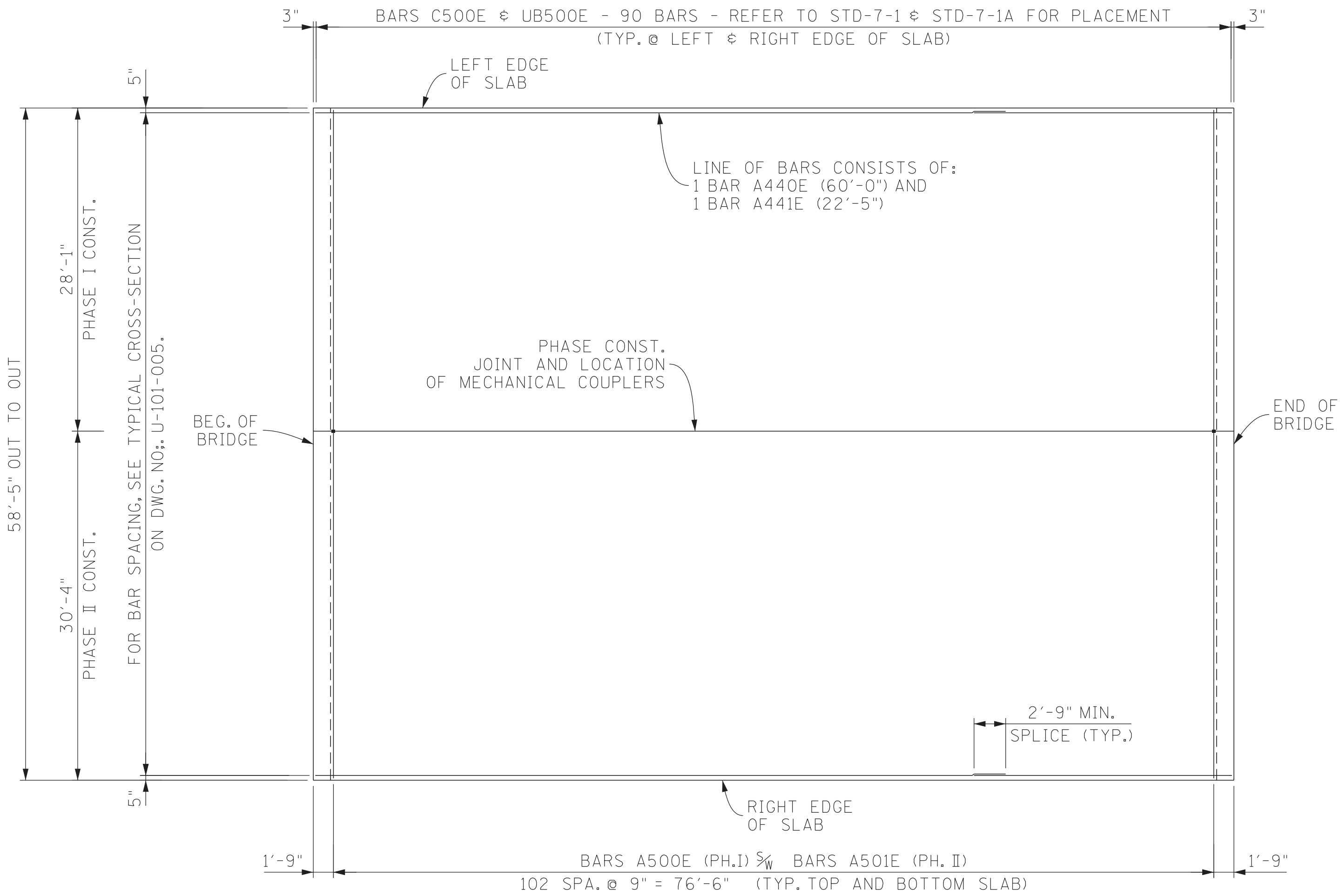
SUPERSTRUCTURE
STATE ROUTE 31
OVER
MOORSBURG BRANCH
BRIDGE ID. NO. 37SR0310001
LOG MILE 0.24
STATION 23+46.68
HAWKINS COUNTY

6/23/2026 2:00:05 PM C:\USERS\JJ07491\DOCUMENTS\UOE\BRIDGES\HAWKINS\101394.00\LATEST DRAFTING\37SR0310001\BORDER1.DGN

PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 09/24
DRAWN BY: P. MOSHER DATE: 03/25
SUPERVISED BY: EASTERLY/SOULDER DATE: 03/25
CHECKED BY: A. DAHIR DATE: 03/25



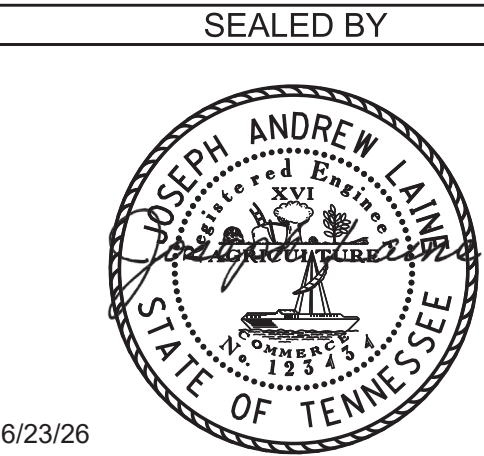
PLAN OF MAIN REINFORCEMENT



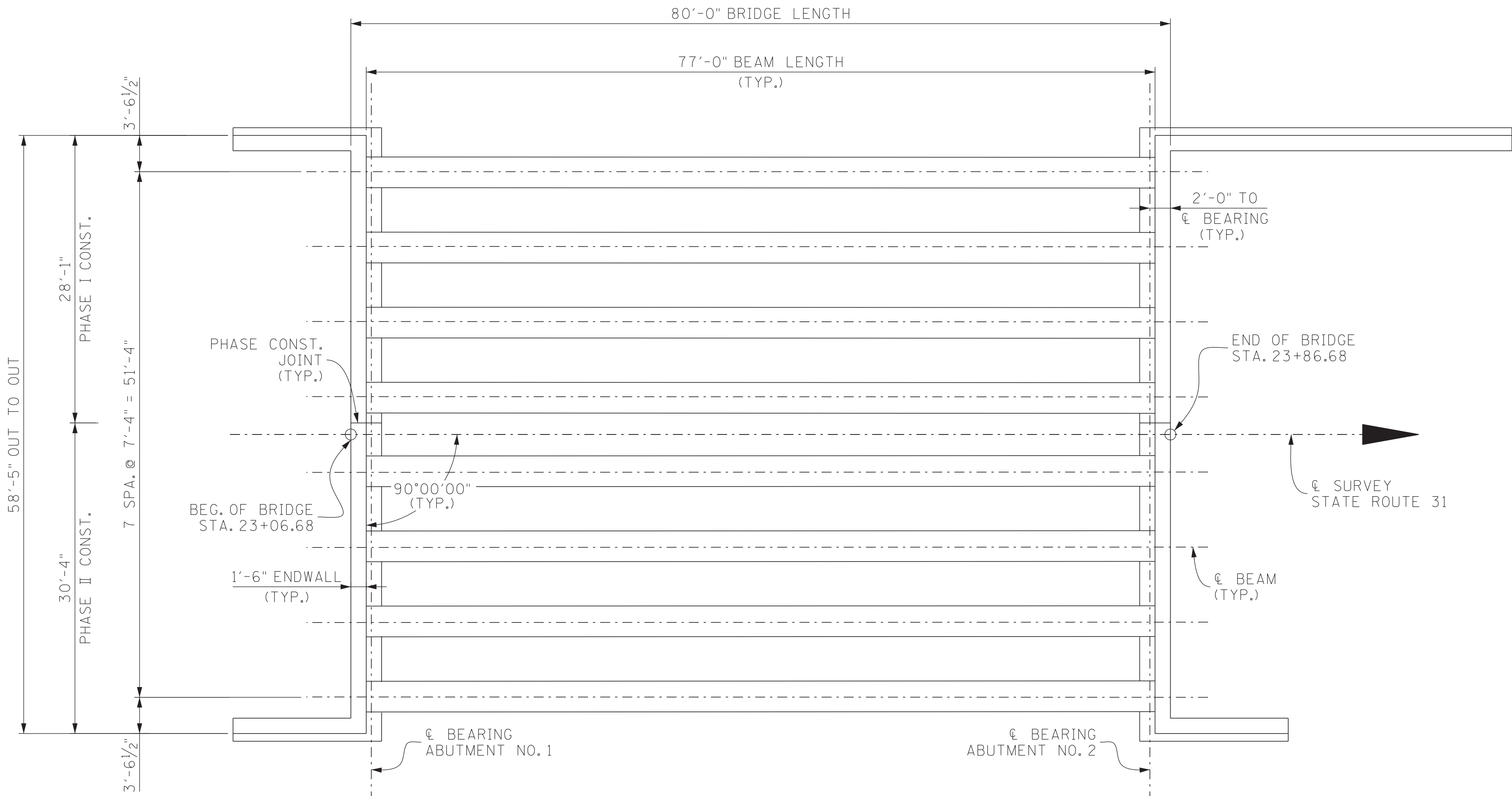
SLAB PLAN

PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	6/23/26	JAL	REVISED PARAPET STEEL

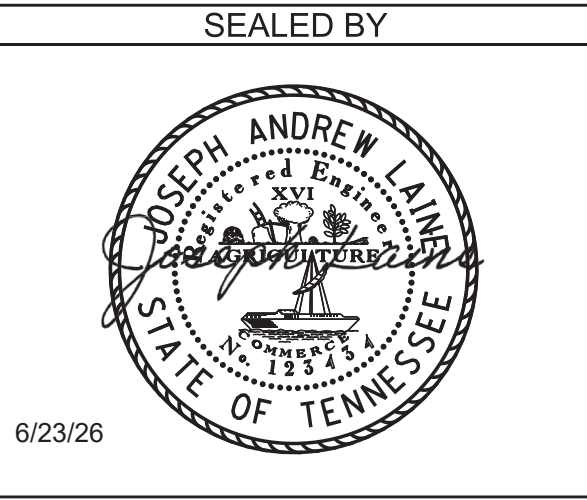
BRIDGE NO. 1
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE DETAILS
STATE ROUTE 31
OVER
MOORSBURG BRANCH
BRIDGE ID. NO. 37SR0310001
LOG MILE 0.24
STATION 23+46.68
HAWKINS COUNTY



PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



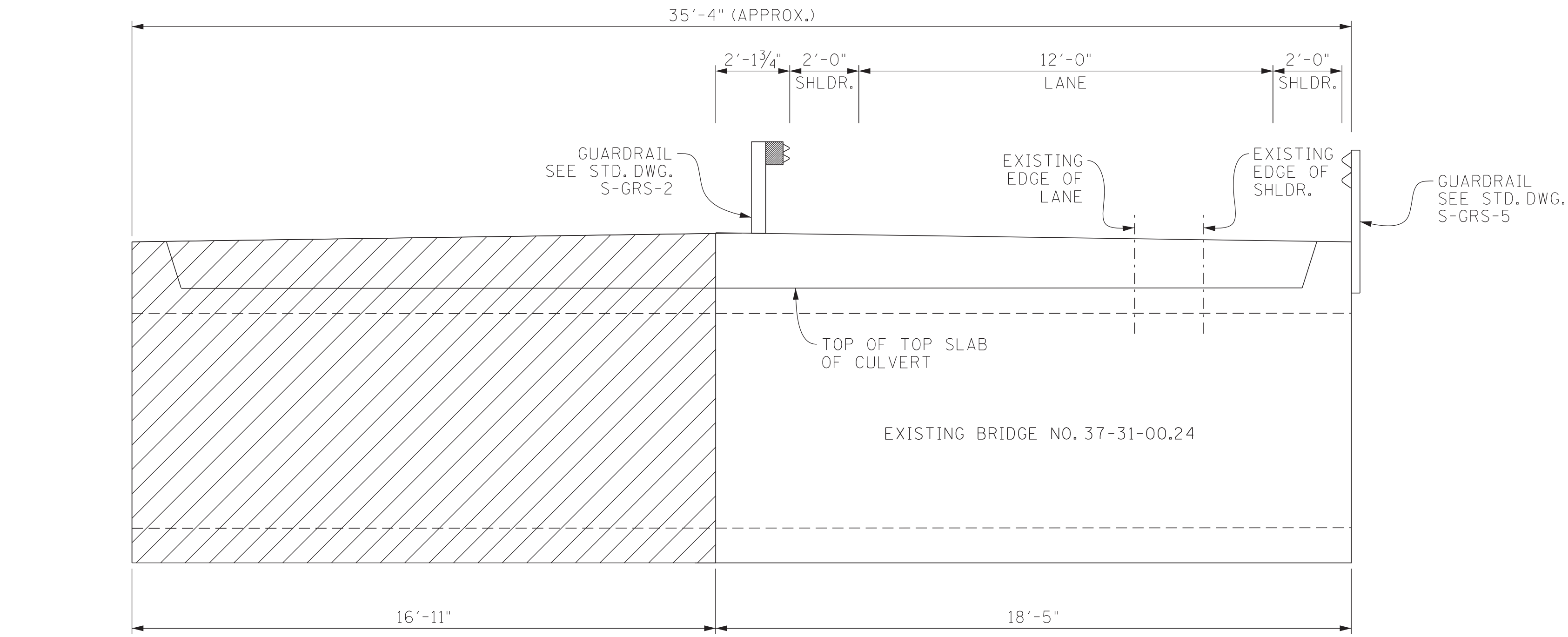
FRAMING PLAN

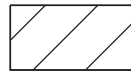


BRIDGE NO. 1
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE DETAILS
STATE ROUTE 31
OVER
MOORSBURG BRANCH
BRIDGE ID. NO. 37SR0310001
LOG MILE 0.24
STATION 23+46.68
HAWKINS COUNTY

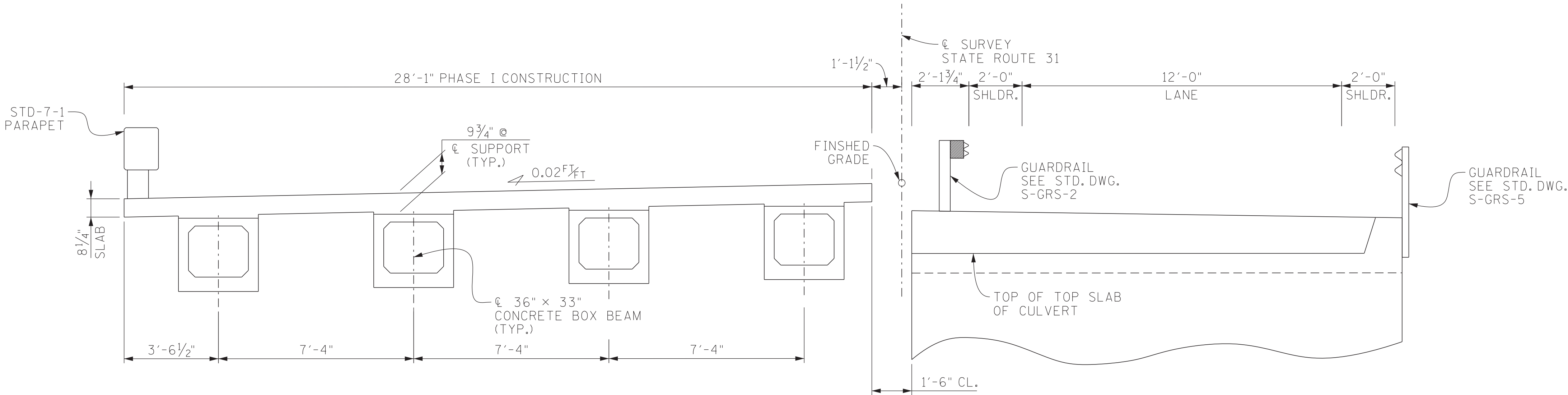
PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 09/24
DRAWN BY: P. MOSHER DATE: 03/25
SUPERVISED BY: EASTERLY/SHOULDERS DATE: 03/25
CHECKED BY: A. DAHIR DATE: 03/25

PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	6/23/26	JAL	REVISED PARAPET

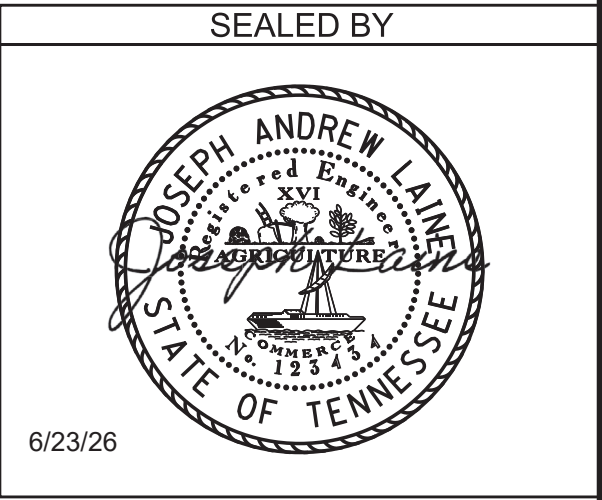


 DENOTES: DEMOLITION LIMITS OF CULVERT

PHASE I DEMOLITION
(LOOKING FORWARD ON SURVEY)



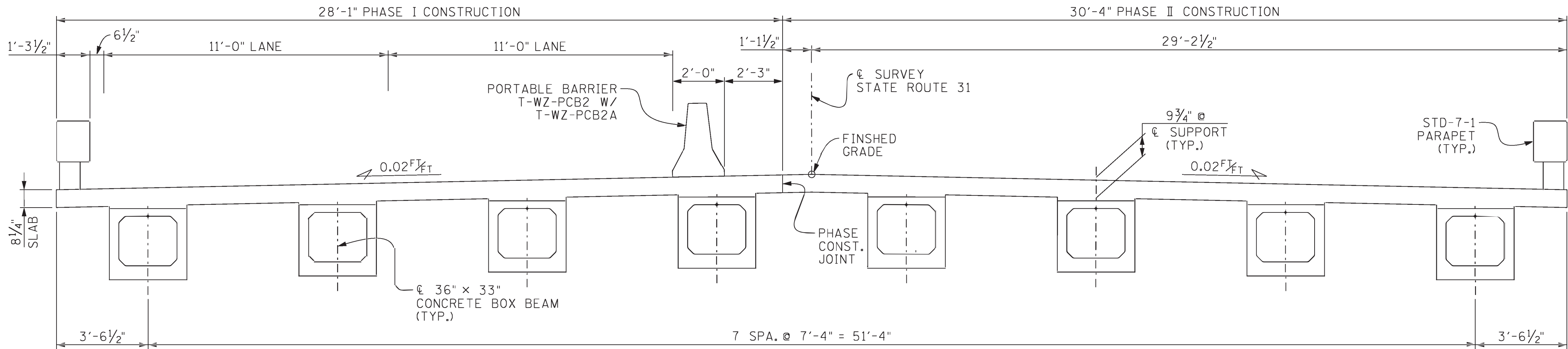
PHASE I CONSTRUCTION
(LOOKING FORWARD ON SURVEY)



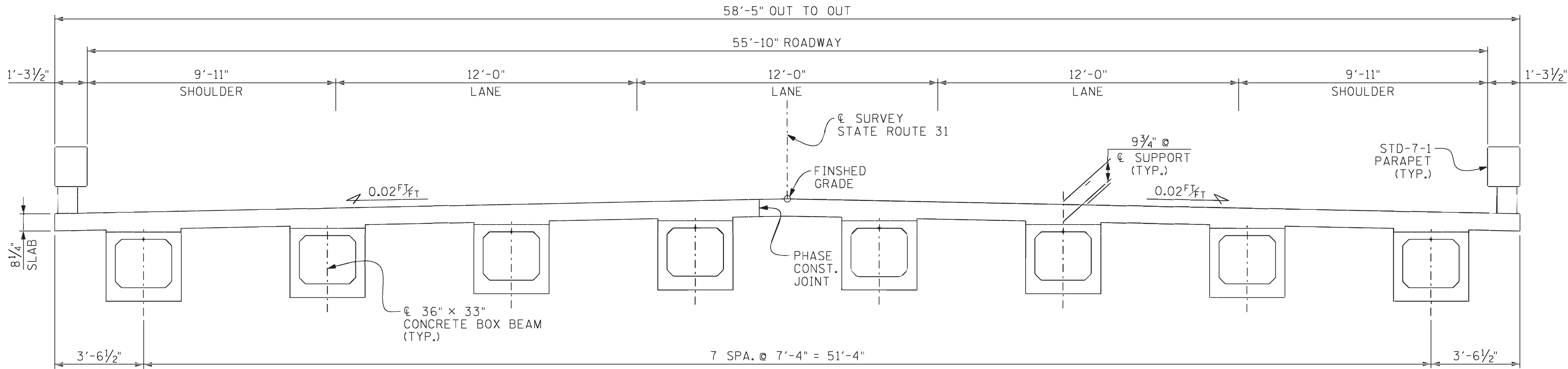
BRIDGE NO. 1
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
PHASE CONSTRUCTION DETAILS
STATE ROUTE 31
OVER
MOORSBURG BRANCH
BRIDGE ID. NO. 37SR0310001
LOG MILE 0.24
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DRAWN BY: P. MOSHER DATE: 03/25
SUPERVISED BY: EASTERLY/SOULDER DATE: 03/25
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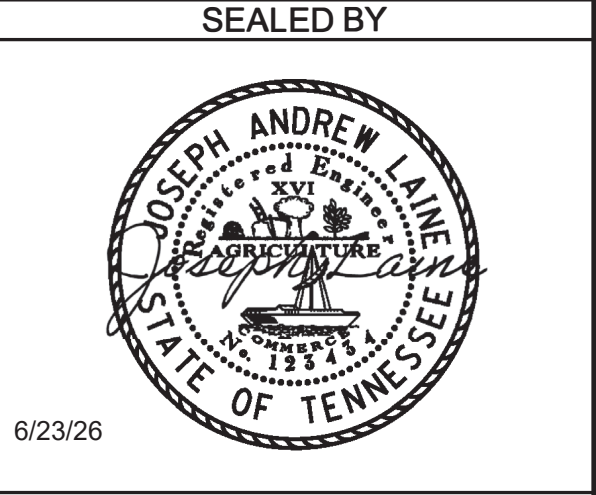
PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	6/23/26	JAL	REVISED PARAPET



PHASE II CONSTRUCTION
(LOOKING FORWARD ON SURVEY)



TYPICAL CROSS-SECTION
(LOOKING FORWARD ON SURVEY)

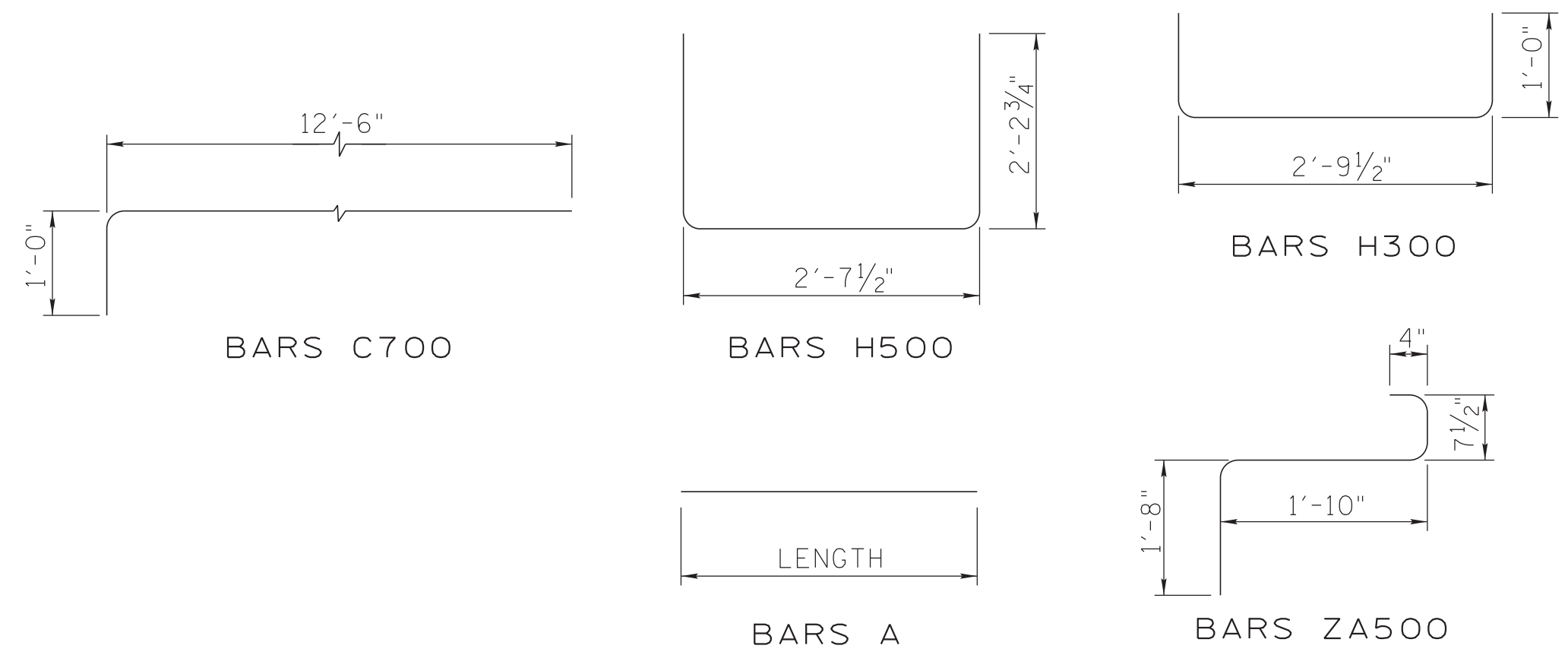


BRIDGE NO. 1
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
PHASE CONSTRUCTION DETAILS
STATE ROUTE 31
OVER
MOORSBURG BRANCH
BRIDGE ID. NO. 37SR0310001
LOG MILE 0.24
STATION 23+46.68
HAWKINS COUNTY

PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 09/24
DRAWN BY: P. MOSHER DATE: 03/25
SUPERVISED BY: EASTERLY/SHOULDERS DATE: 03/25
CHECKED BY: A. DAHIR DATE: 03/25

NOTE: THE PRESTRESSING BEAMS SHALL ATTAIN AN AGE OF AT LEAST 90 DAYS PRIOR TO POURING THE SUPPORT DIAPHRAGMS (EXCLUDING BOTTOM 15 INCHES) AND DECK SLAB.

COMPOSITE SLAB DESIGN STRENGTH: $F'_{C'} = 4000$ PSI



BAR	SIZE	NO. REQ'D.	LENGTH
A300	3	4	39'-4"
A500	5	12	5'-6"
A501	5	8	2'-8"
A502	5	8	2'-5"
A700	7	4	60'-0"
C700	7	8	12'-6"
H300	3	10	3'-10"
H500	5	90	7'-6"
ZA500	5	156	3'-10"

NO. BEAMS REQ'D.	CLASS "P" CONCRETE	STEEL BAR REINFORCING	PRESTRESSING STRANDS (LOW RELAXATION)
	C.Y.	LB.	LB.
8	13	2,207	1,592

U-101-10



☐ BOND BREAKS 3' FROM END OF BEAM

PIN NO.: 101394.00

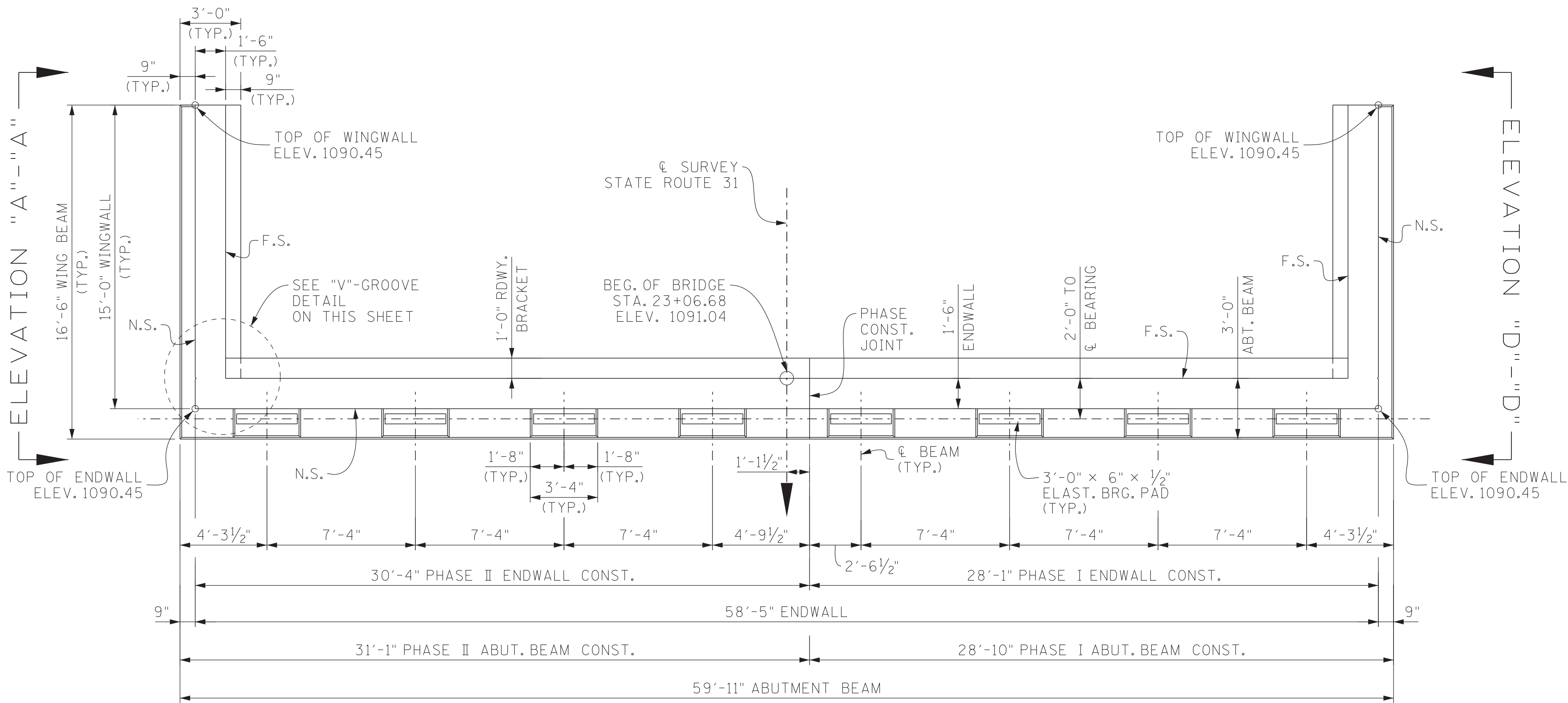
DESIGN BY: J. LAINE DATE: 09/24

DRAWN BY: P. MOSHER DATE: 03/25

SUPERVISED BY: EASTERLY/SHOULDERS DATE: 03/25

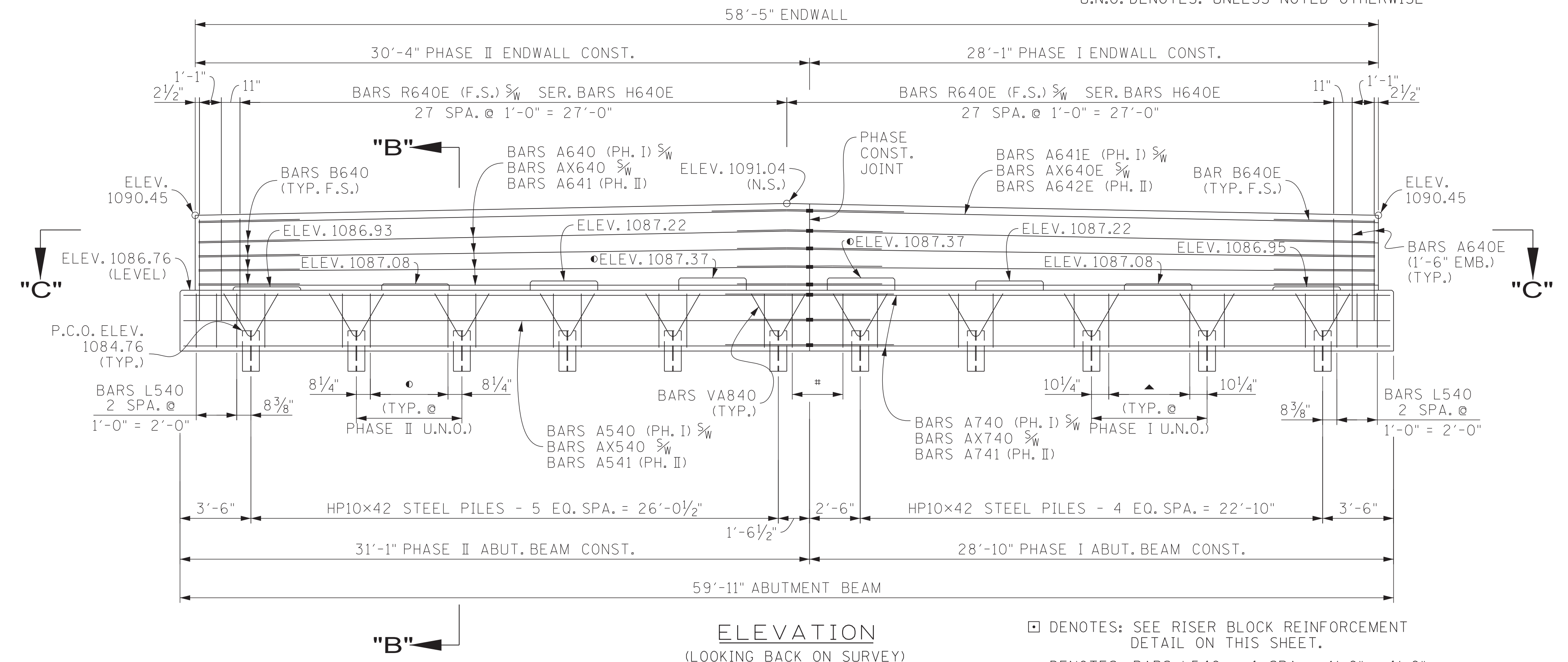
CHECKED BY: A. DAHIR DATE: 03/25

PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	6/23/26	JAL	REVISED PARAPET NOTE



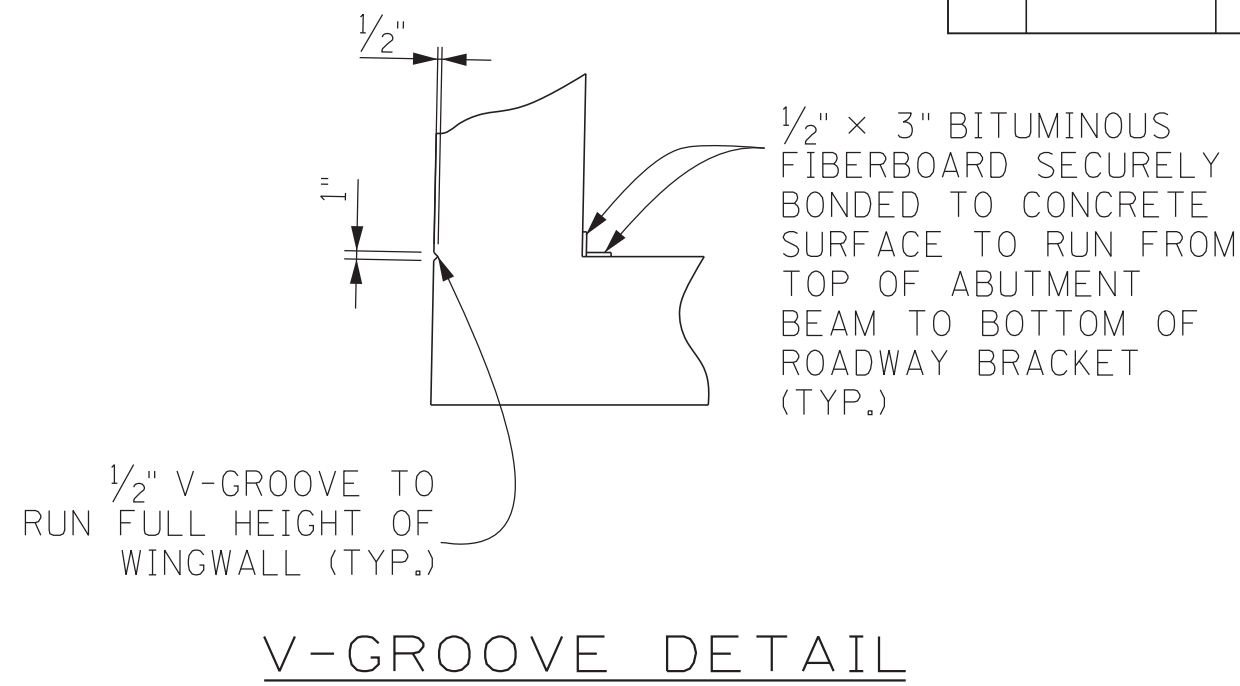
PLAN

F.S. DENOTES: FAR SIDE
N.S. DENOTES: NEAR SIDE
P.C.O. DENOTES: PILE CUT-OFF
U.N.O. DENOTES: UNLESS NOTED OTHERWISE



ELEVATION
(LOOKING BACK ON SURVEY)

- DENOTES: SEE RISER BLOCK REINFORCEMENT DETAIL ON THIS SHEET.
- ▲ DENOTES: BARS L540 - 4 SPA. @ 1'-0" = 4'-0" (TYP. BETWEEN PILES, PHASE I)
- DENOTES: BARS L540 - 4 SPA. @ 11 1/2" = 3'-10" (TYP. BETWEEN PILES, PHASE II)
- # DENOTES: BARS L540 - 3 SPA. @ 10" = 2'-6"



V-GROOVE DETAIL

ABUTMENT NOTES

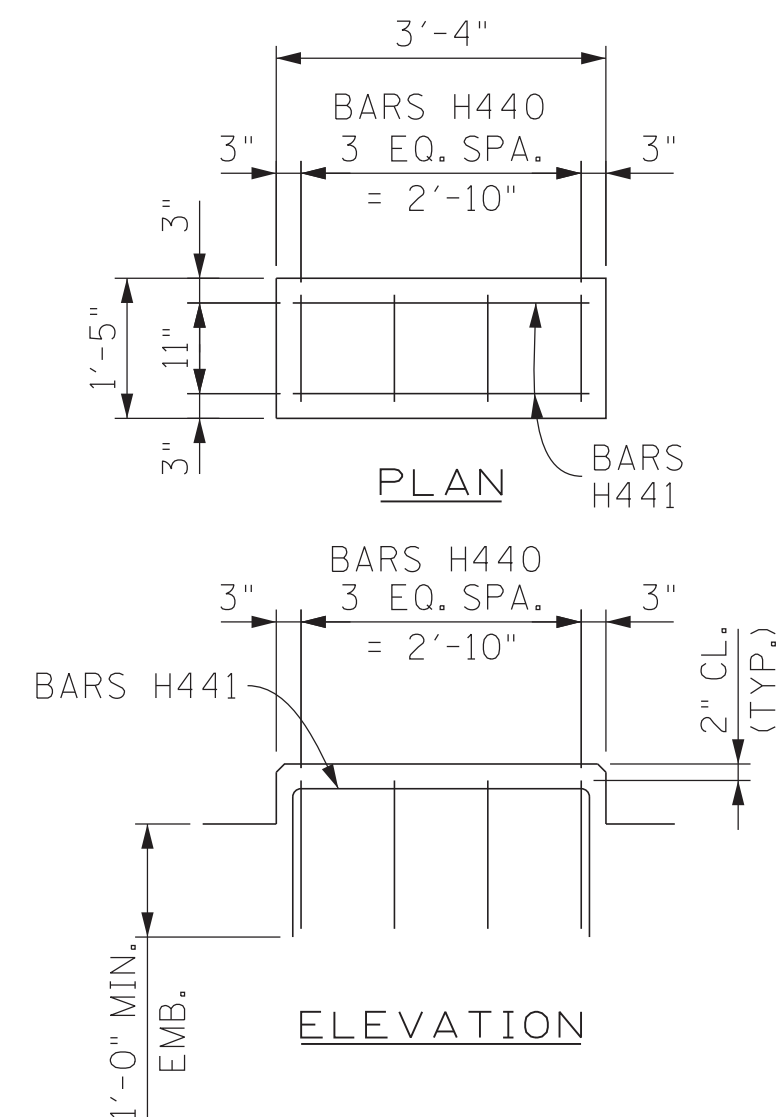
NOTE: RISER BLOCKS SHALL BE POURED MONOLITHICALLY WITH THE ABUTMENT BEAM.

NOTE: ELASTOMERIC PADS SHALL BE IN PLACE A MINIMUM OF ONE DAY BEFORE BEING DISTURBED BY SETTING BEAMS. PLACE RUBBER BONDING CEMENT IN SUCH A WAY THAT VISIBLE CONCRETE SURFACES WILL NOT BE STAINED.

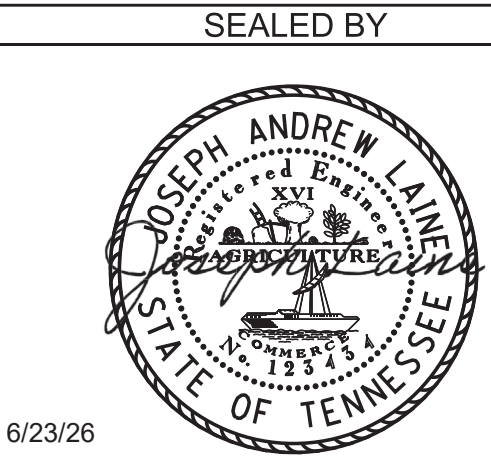
NOTE: WHEN POURING WINGWALLS, PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR WINGPOSTS AND PARAPETS. FOR DETAILS OF WINGPOSTS AND PARAPETS, SEE STD. DWG. NO. STD-7-1 AND STD-7-1A.

NOTE: NOT LESS THAN HALF OF THE SLAB SHALL BE POURED PRIOR TO, OR CONCURRENTLY WITH, PLACEMENT OF ANY PART OF THE ABUTMENT ENDWALLS. ONE ABUTMENT ENDWALL SHALL BE POURED FULL HEIGHT CONCURRENTLY WITH THE END OF SLAB. AT LEAST THE TOP 12 INCHES OF THE OTHER ENDWALL SHALL BE POURED CONCURRENTLY WITH THE END OF SLAB.

NOTE: COST OF PARAPET AND POST IS TO BE INCLUDED IN THE UNIT PRICE BID FOR THE PARAPET SYSTEM.



RISER BLOCK
REINFORCEMENT DETAIL



BRIDGE NO. 1
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

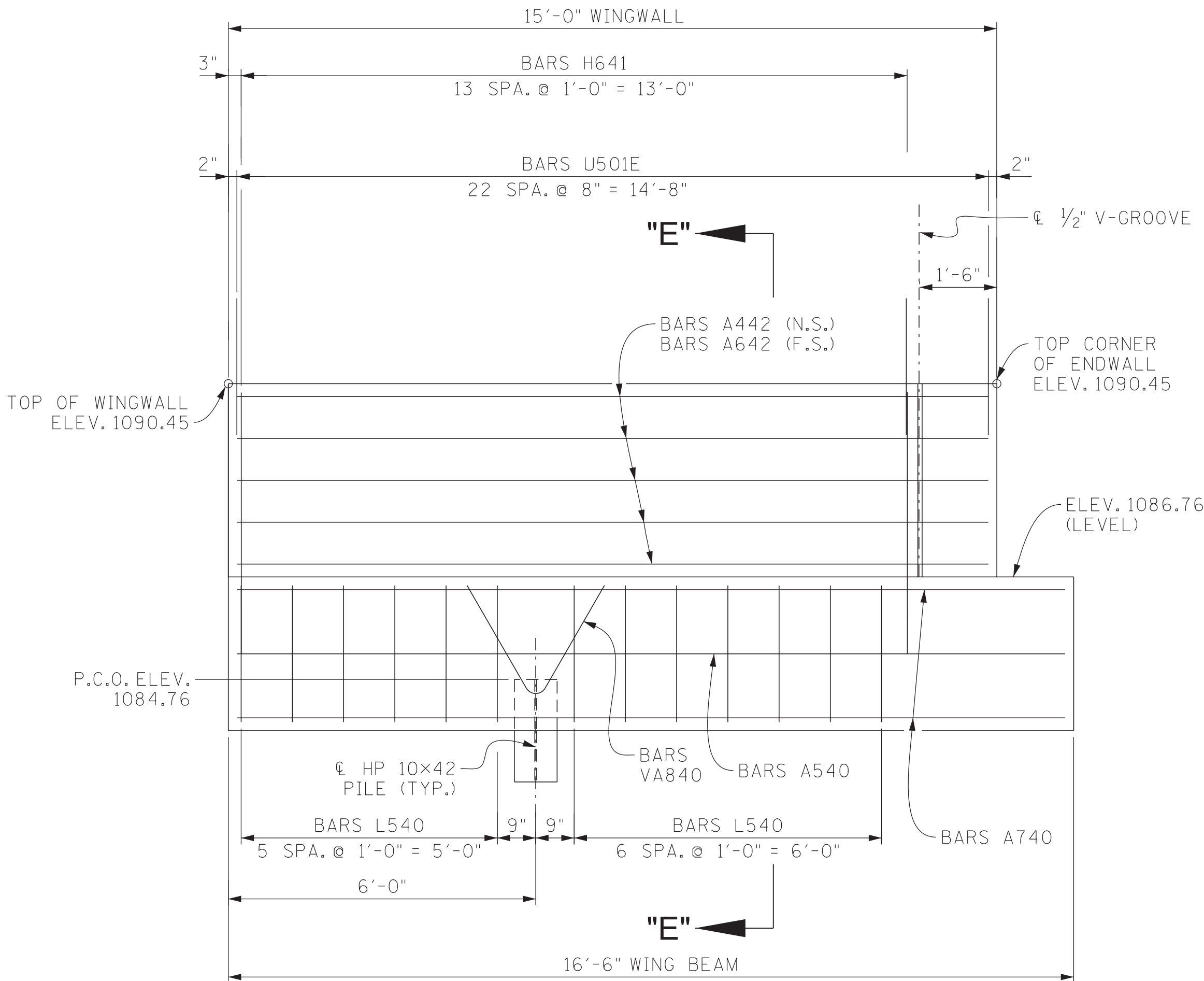
ABUTMENT NO. 1
STATE ROUTE 31
OVER
MOORSBURG BRANCH
BRIDGE ID. NO. 37SR0310001
LOG MILE 0.24
STATION 23+46.68
HAWKINS COUNTY

U-101-11

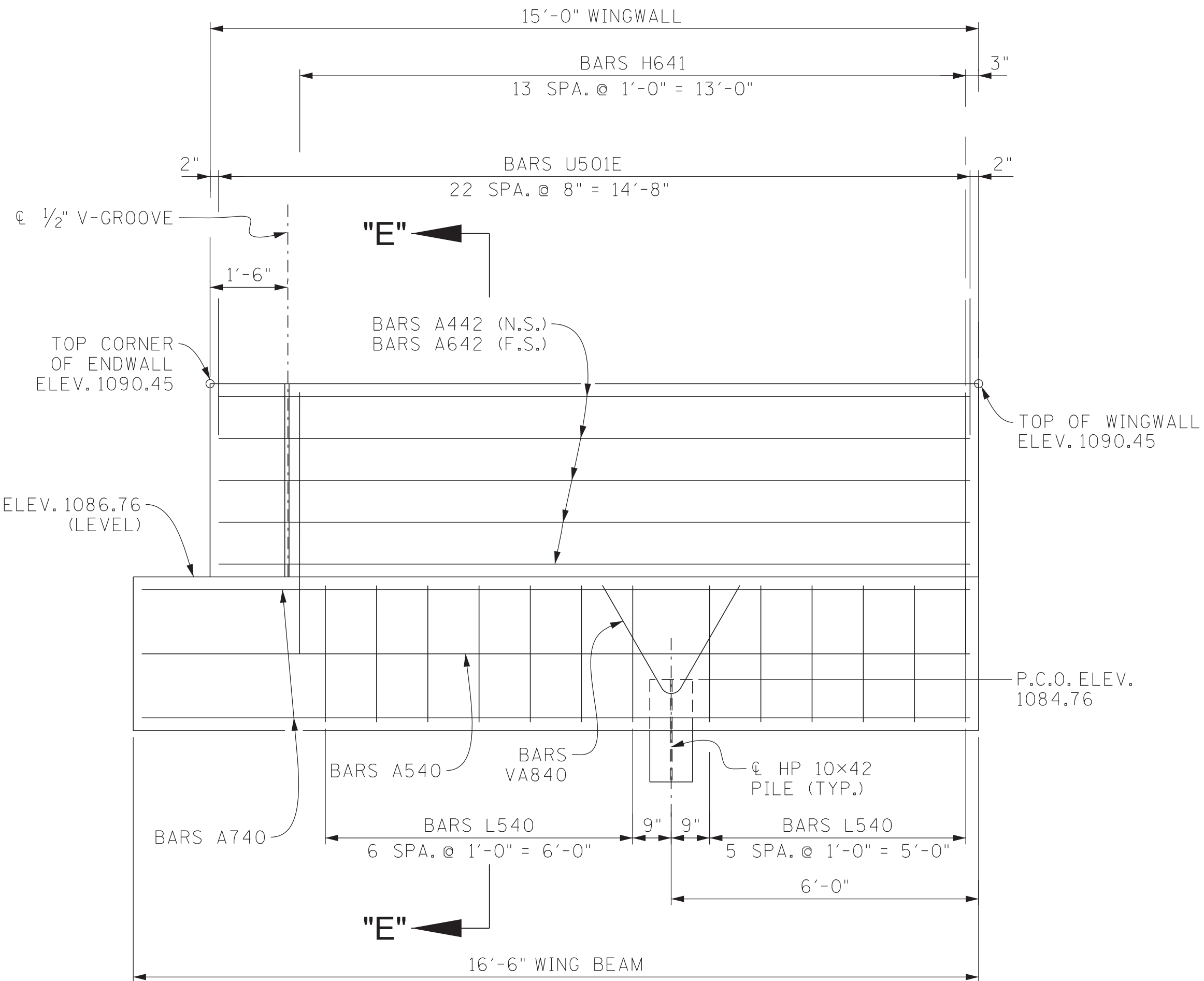
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DESIGN BY: J. LAINE DATE: 09/24
DRAWN BY: P. MOSHER DATE: 04/25
SUPERVISED BY: EASTERLY/SHOULDERS DATE: /
CHECKED BY: A. DAHIR DATE: 03/25

PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	6/23/26	JAL	REVISED PARAPET STEEL

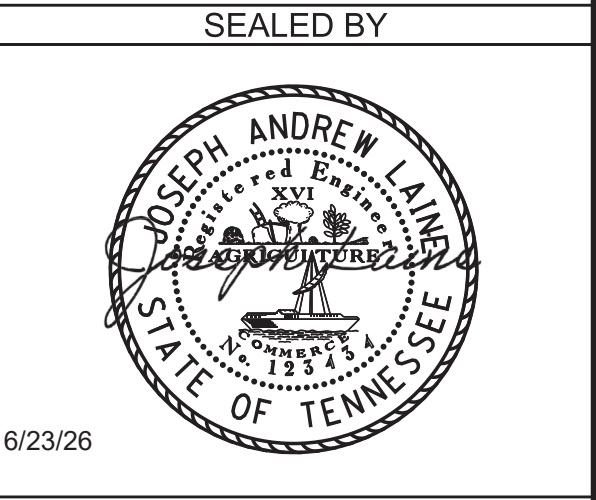
F.S. DENOTES: FAR SIDE
N.S. DENOTES: NEAR SIDE
P.C.O. DENOTES: PILE CUT-OFF



ELEVATION "A" - "A"



ELEVATION "D" - "D"



BRIDGE NO. 1
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ABUTMENT NO. 1 DETAILS
STATE ROUTE 31
OVER
MOORSBURG BRANCH
BRIDGE ID. NO. 37SR0310001
LOG MILE 0.24
STATION 23+46.68
HAWKINS COUNTY

U-101-13

PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 09/24
DRAWN BY: P. MOSHER DATE: 04/25
SUPERVISED BY: EASTERLY/SOULERS DATE: /
CHECKED BY: A. DAHIR DATE: 03/25

ABUTMENT NOTES

NOTE: COST OF PARAPET AND POST IS TO BE INCLUDED IN THE UNIT PRICE BID FOR THE PARAPET SYSTEM.



U-101-14



F.S. DENOTES: FAR SIDE
N.S. DENOTES: NEAR SIDE
P.C.O. DENOTES: PILE CUT-OFF
U.N.O. DENOTES: UNLESS NOTED OTHERWISE



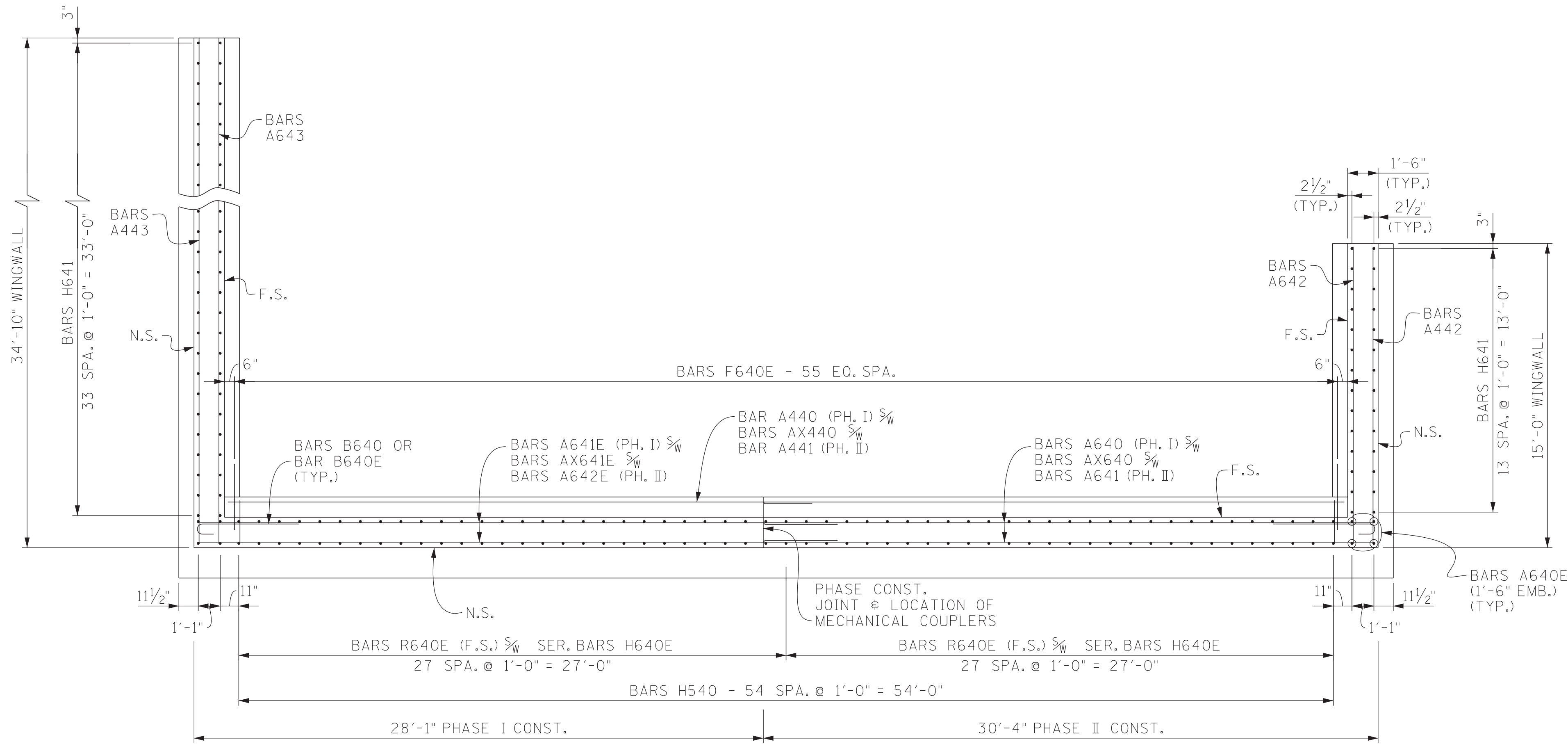
(LOOKING FORWARD ON SURVEY)

DENOTES: BARS L540 - 3 SPA. @ 10" = 2'-6"

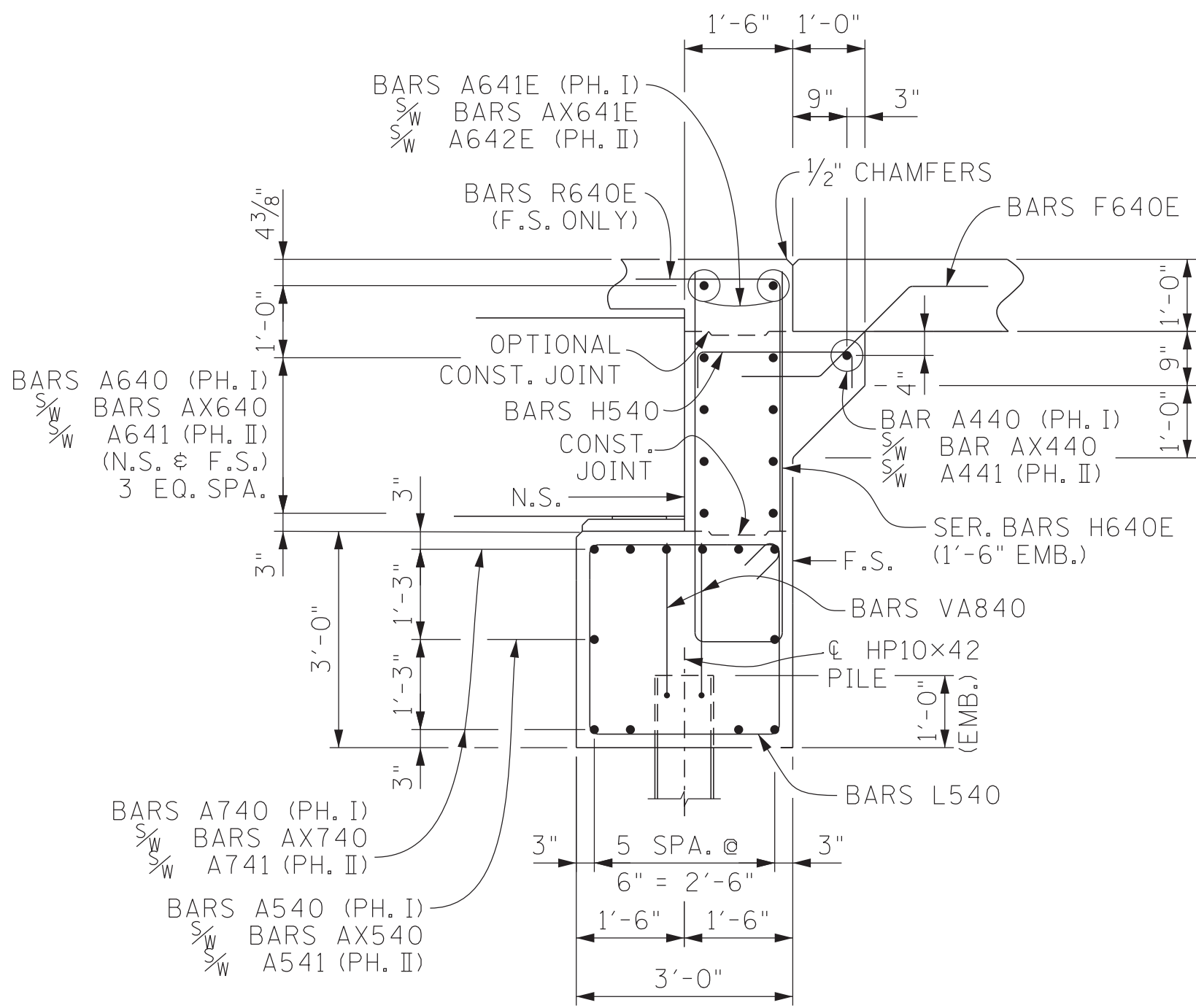
DATE: _____ / _____ / _____

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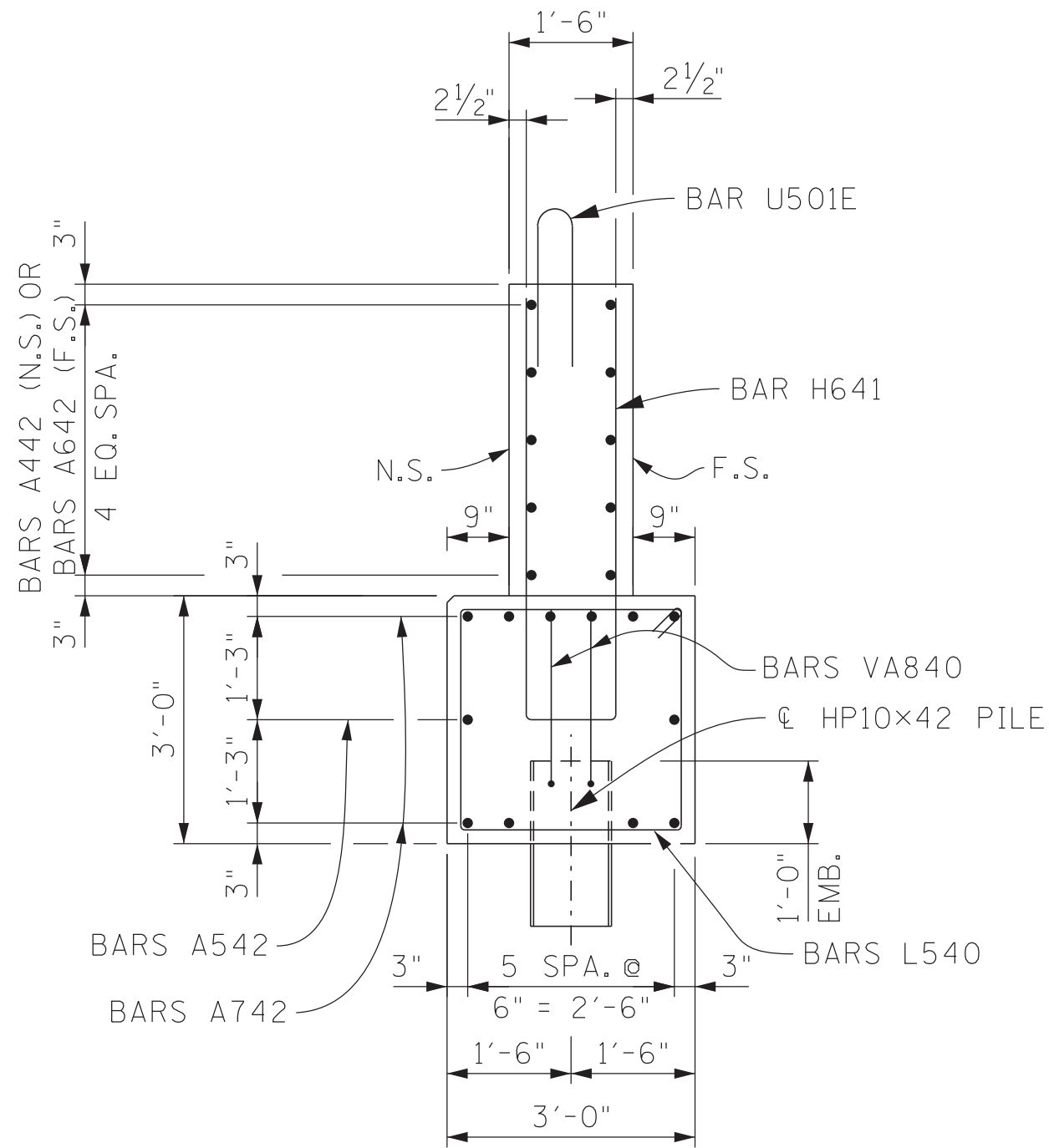
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DESIGN BY: J. LAINE DATE: 09/24
DRAWN BY: P. MOSHER DATE: 04/25
SUPERVISED BY: EASTERLY/SHOULDERS DATE: /
CHECKED BY: A. DAHIR DATE: 03/25



SECTION "C"-"C"

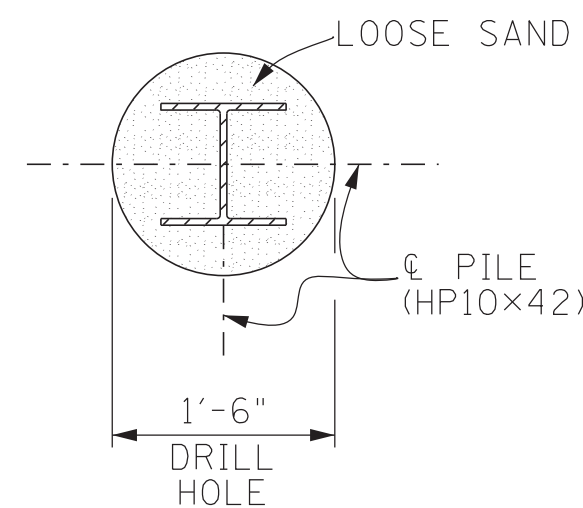


SECTION "B"-"B"



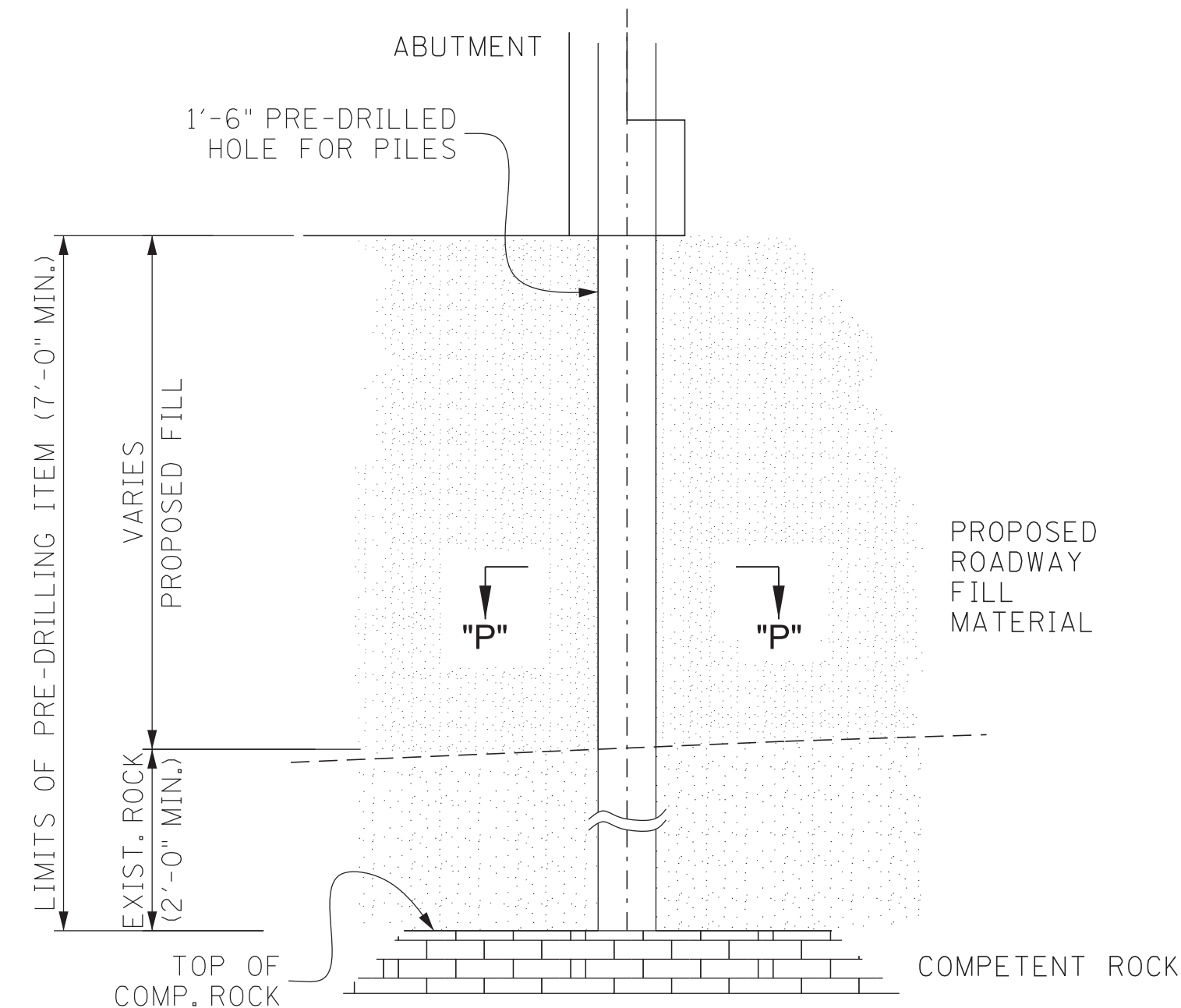
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F.S. DENOTES: FAR SIDE
N.S. DENOTES: NEAR SIDE



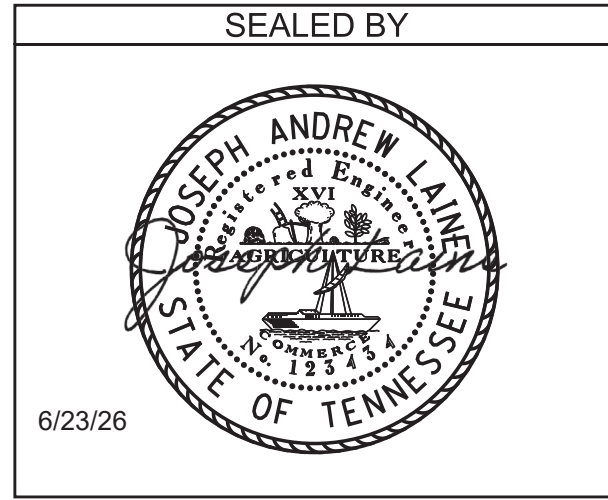
DETAIL "P"-"P"

PREDRILLING AND INSTALLATION FOR STEEL PILES:
1'-6" DIAMETER HOLES SHALL BE DRILLED AT THE PROPOSED PILE LOCATIONS. THE HOLES SHALL TERMINATE AT THE TOP OF SOUND ROCK. ONCE THE DRILLING IS COMPLETE, THE HOLE SHALL BE BACKFILLED WITH LOOSE SAND. WHEN THE SAND IS IN PLACE, THE STEEL H-PILE (WITH PILE TIP ATTACHED) SHALL BE DRIVEN BY HAMMER TO THE TOP OF SOUND ROCK TO SEAT THE PILE. THE COST OF THE LOOSE SAND SHALL BE INCLUDED IN THE UNIT PRICE BID OF THE CORE DRILLING FOR PILE ITEMS (204-14 AND 204-15).



PRE-DRILLED ITEM DETAIL

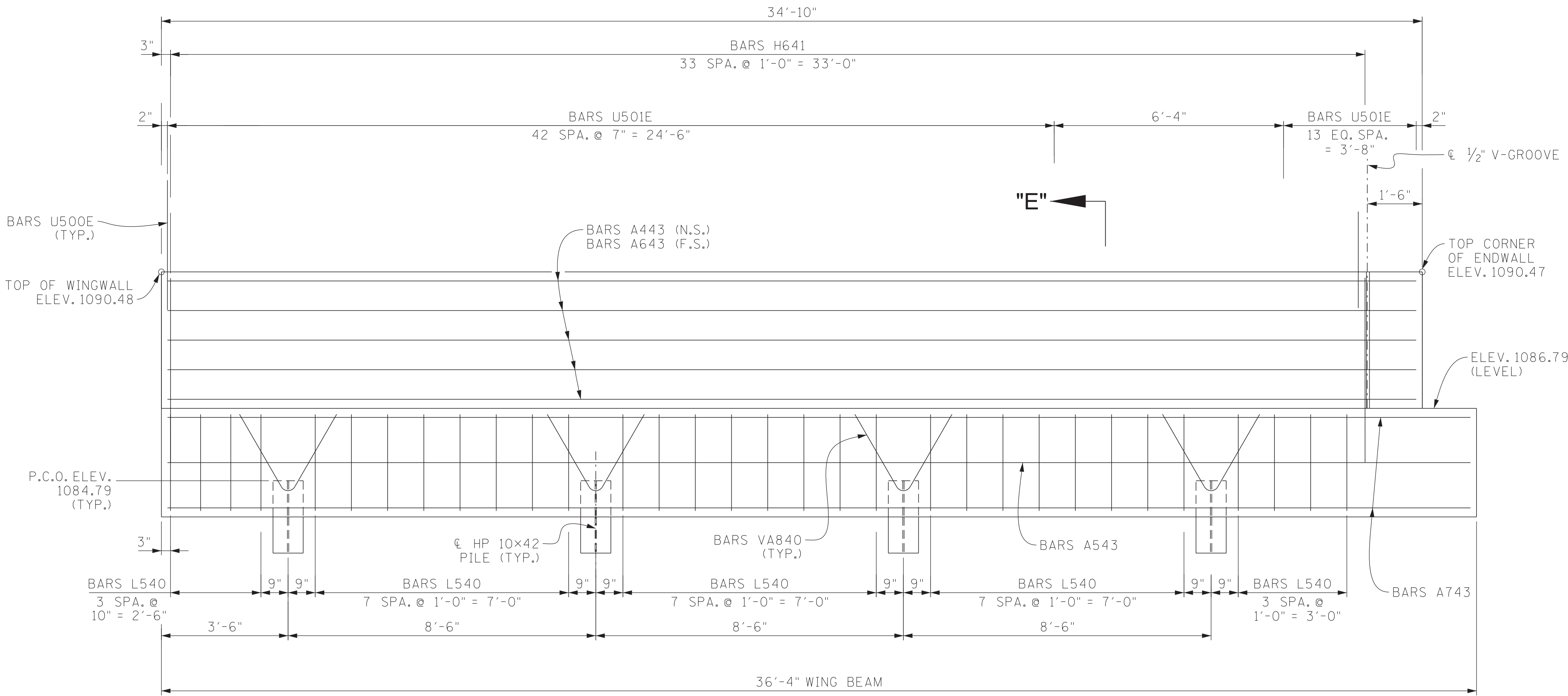
(TYP. @ PER ABUTMENT)



BRIDGE NO. 1
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ABUTMENT NO. 2 DETAILS
STATE ROUTE 31
OVER
MOORSBURG BRANCH
BRIDGE ID. NO. 37SR0310001
LOG MILE 0.24
STATION 23+46.68
HAWKINS COUNTY

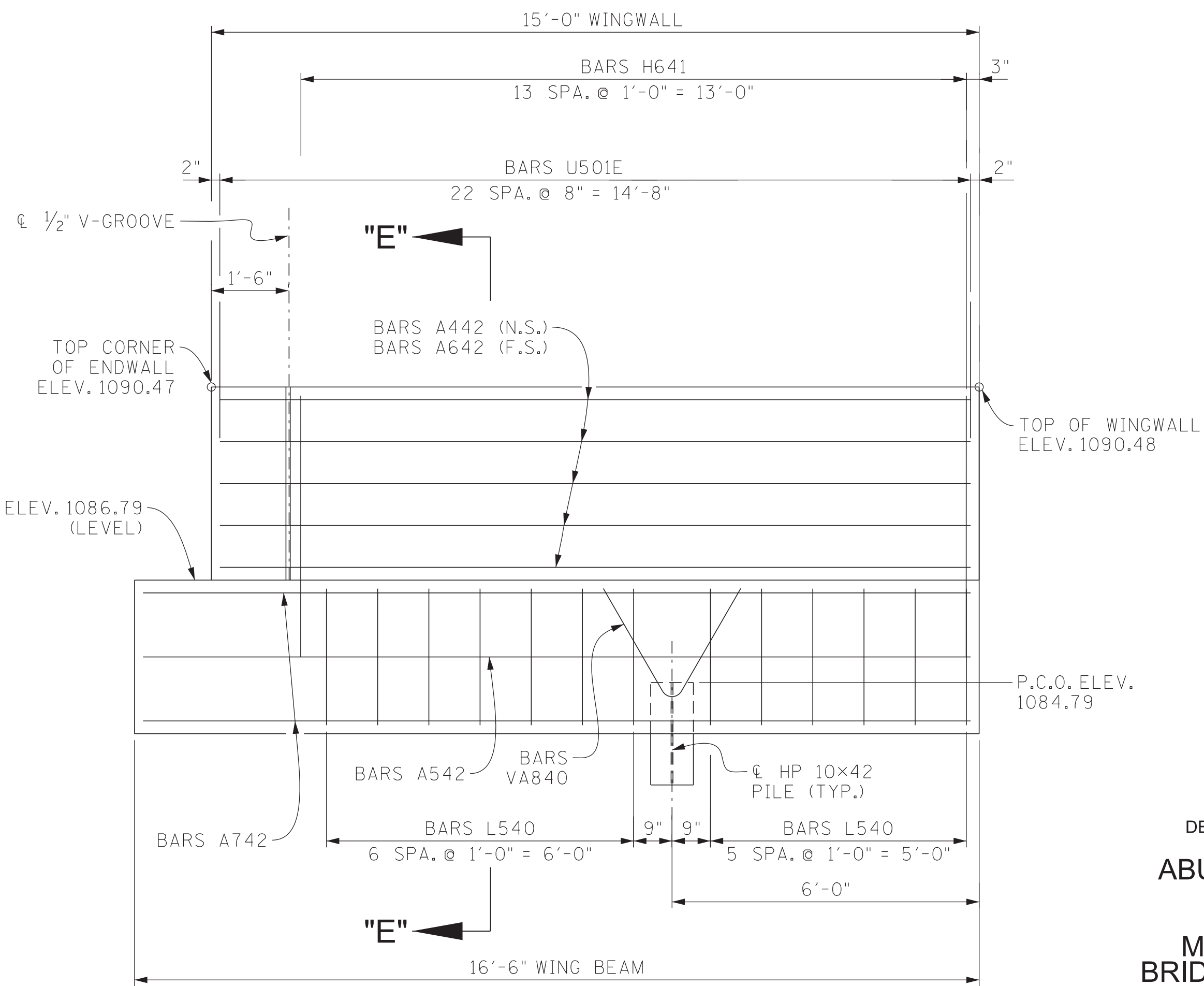
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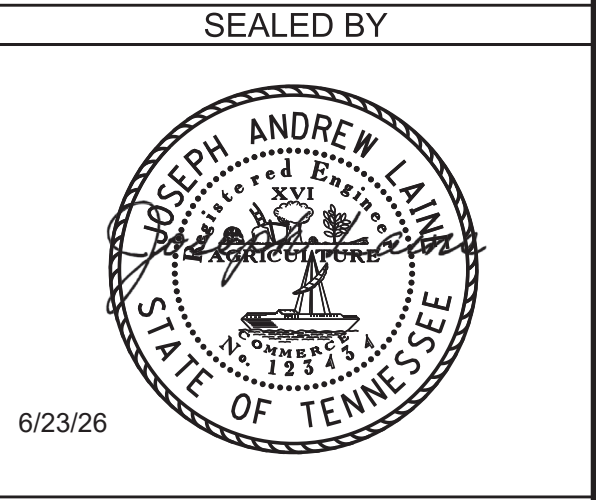
ELEVATION "A"-"A"

F.S. DENOTES: FAR SIDE
N.S. DENOTES: NEAR SIDE
P.C.O. DENOTES: PILE CUT-OFF



ELEVATION "D"-"D"

PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	6/23/26	JAL	REVISED PARAPET STEEL



BRIDGE NO. 1
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ABUTMENT NO. 2 DETAILS
STATE ROUTE 31
OVER
MOORSBURG BRANCH
BRIDGE ID. NO. 37SR0310001
LOG MILE 0.24
STATION 23+46.68
HAWKINS COUNTY

PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 09/24
DRAWN BY: P. MOSHER DATE: 04/25
SUPERVISED BY: EASTERLY/SOULDER DATE: /
CHECKED BY: A. DAHIR DATE: 03/25

	SEALED BY

[illegible]

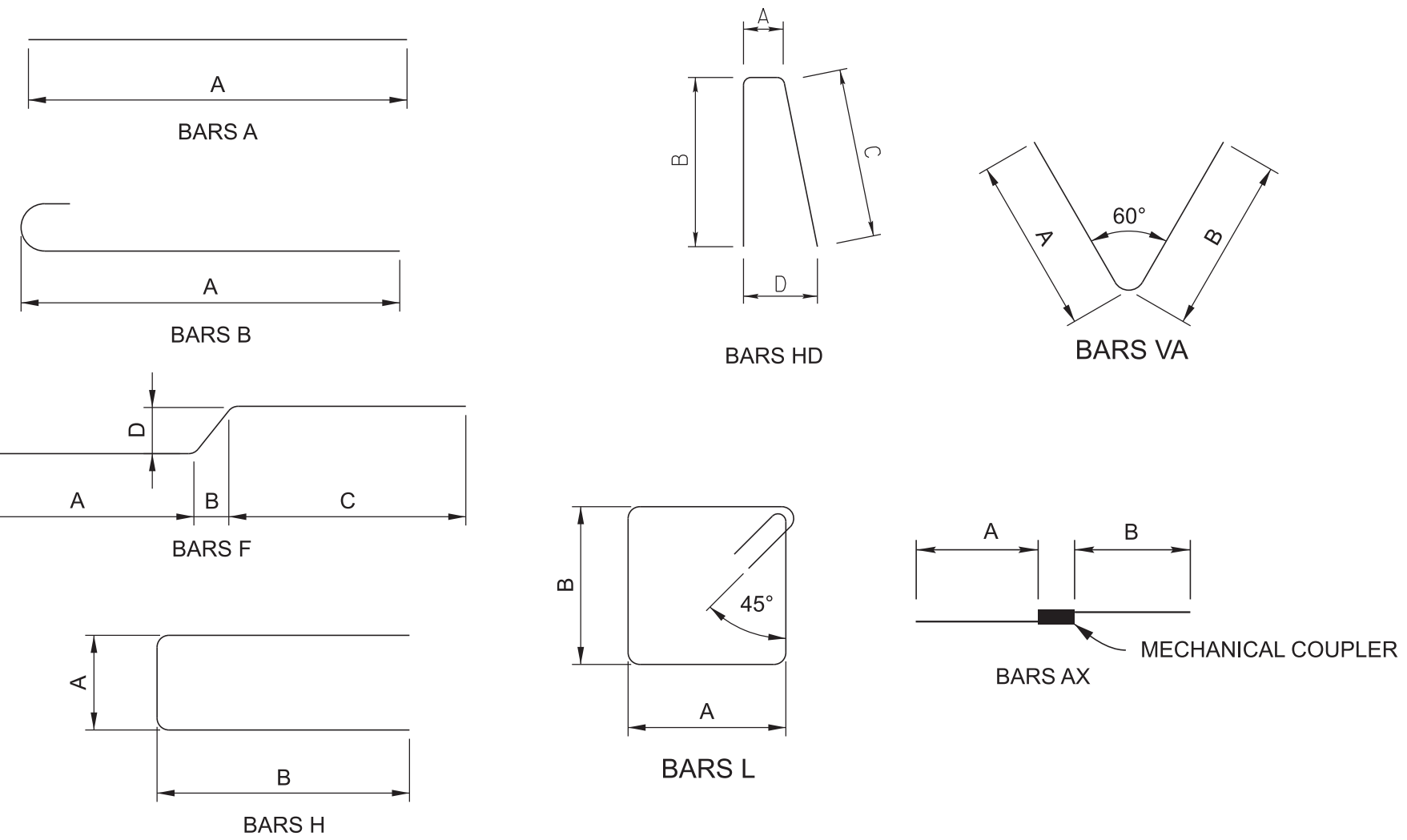
BRIDGE NO. 1
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
FINAL FOUNDATION DATA
STATE ROUTE 31
OVER
MOORSBURG BRANCH
BRIDGE ID. NO. 37SR0310001
LOG MILE 0.24
STATION 23+46.68
HAWKINS COUNTY

SUPERSTRUCTURE (EPOXY)							
BARS	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS			LENGTH (FEET)
A400E	SLAB	4	103	A	B	C	60'-0"
A401E	SLAB	4	103				22'-5"
A500E	SLAB	5	206				27'-9"
A501E	SLAB	5	206				30'-4"
AX500E	SLAB	5	206	3'-6"	3'-6"		7'-0"
C500E	SLAB/PARAPET	5	180	2'-5"			3'-3"
UB500E	SLAB/PARAPET	5	180	1'-5"			4'-0"
ABUTMENT NO. 1 EPOXY							
BARS	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS			LENGTH (FEET)
A640E	ENDWALL	6	8	A	B	C	5'-0"
A641E	ENDWALL (PH. I)	6	2				32'-9"
A642E	ENDWALL (PH. II)	6	2				30'-2"
AX641E	ENDWALL	6	2	4'-10"	4'-10"		9'-8"
F640E	ENDWALL/P.A.B.E.	6	56	1'-1"	1'-3"	1'-1"	4'-0"
U500E	WINGWALL/PARAPET	5	46	1'-10 1/4"	5"		4'-2"
SER H640E	ENDWALL	6	2	1'-8"	*		232'-2"
				DIM. B VARIES FROM 5'-7 3/8" TO 5'-0 3/8" IN INC. OF 1/4" (18 BARS)			
R640E	ENDWALL/SLAB	6	55	2'-0"	3'-6"		5'-6"

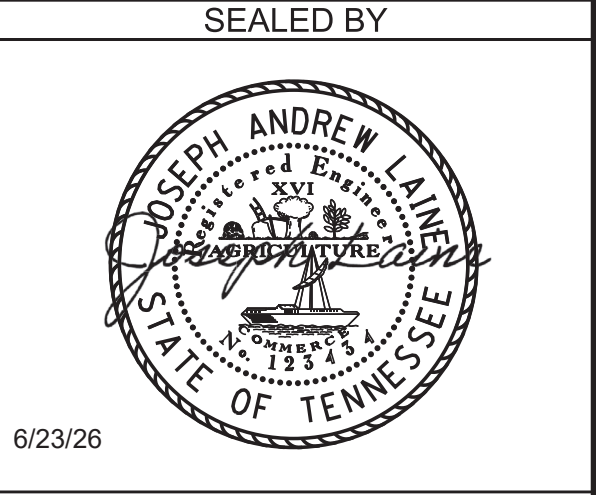
ABUTMENT NO. 1 REGULAR							
BARS	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS			LENGTH (FEET)
A440	ROADWAY BRKT. (PH. I)	4	1	A	B	C	28'-3"
A441	ROADWAY BRKT. (PH. II)	4	1				28'-8"
A442	WINGWALL	4	10				14'-8"
AX440	ROADWAY BRKT.	4	1	2'-5"	2'-5"		4'-10"
A540	ABUT. BEAM (PH. I)	5	2				27'-9"
A541	ABUT. BEAM (PH. II)	5	2				30'-4"
A542	WING BEAM	5	4				18'-2"
AX540	ABUT. BEAM	5	2	3'-0"	3'-0"		6'-0"
A640	ENDWALL (PH. I)	6	8				27'-9"
A641	ENDWALL (PH. II)	6	8				30'-4"
A642	WINGWALL	6	10				14'-8"
AX640	ENDWALL	6	8	3'-7"	3'-7"		7'-2"
A740	ABUT. BEAM (PH. I)	7	10				28'-6"
A741	ABUT. BEAM (PH. II)	7	10				30'-4"
A742	WING BEAM	7	20				18'-2"
AX740	ABUT. BEAM	7	10	4'-2"	4'-2"		8'-4"
B640	ENDWALL	6	8	5'-0"			5'-8"
H440	RISER	4	8	3'-0"	1'-6"		6'-0"
H441	RISER	4	4	1'-1"	1'-6"		4'-1"
H540	RDWY. BRKT./PABE	5	55	3'-8"	6"		3'-2"
H642	WING BEAMS	6	24	1'-2"	5'-0"		11'-2"
L540	ABUTMENT BEAM/WING BEAM	5	80	2'-8"	2'-8"		11'-6"
VA850	PILES	8	26	2'-6"	2'-6"		5'-0"
ABUTMENT NO. 2 EPOXY							
BARS	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS			LENGTH (FEET)
A640E	ENDWALL	6	8	A	B	C	5'-0"
A641E	ENDWALL (PH. I)	6	2				27'-9"
A642E	ENDWALL (PH. II)	6	2				30'-4"
AX641E	ENDWALL	6	2	4'-10"	4'-10"		9'-8"
F640E	ENDWALL/P.A.B.E.	6	56	1'-1"	1'-3"	1'-1"	4'-0"
U500E	WINGWALL/PARAPET	4	80	1'-10 1/4"	5"		4'-2"
SER H640E	ENDWALL	6	2	1'-8"	*		232'-2"
				DIM. B VARIES FROM 5'-7 3/16" TO 5'-0 3/4" IN INC. OF 3/8" (18 BARS)			
R640E	ENDWALL/SLAB	6	56	2'-0"	3'-6"		5'-6"

ABUTMENT NO. 2 REGULAR							
BARS	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS			LENGTH (FEET)
A440	ROADWAY BRKT. (PH. I)	4	1	A	B	C	26'-3"
A441	ROADWAY BRKT. (PH. II)	4	1				28'-10"
A442	WINGWALL (PH. II)	4	5				14'-8"
A443	WINGWALL (PH. I)	4	5				34'-6"
AX440	ROADWAY BRKT.	4	1	2'-5"	2'-5"		4'-10"
A540	ABUT. BEAM (PH. I)	5	2				27'-9"
A541	ABUT. BEAM (PH. II)	5	2				30'-4"
A542	WING BEAM (PH. II)	5	4				16'-2"
A543	WING BEAM (PH. I)	5	2				36'-0"
AX540	ABUT. BEAM	5	2	3'-0"	3'-0"		6'-0"
A640	ENDWALL (PH. I)	6	8				27'-9"
A641	ENDWALL (PH. II)	6	8				30'-4"
A642	WINGWALL (PH. II)	6	5				14'-8"
A643	WINGWALL (PH. I)	6	5				34'-6"
AX640	ENDWALL	6	8	3'-7"	3'-7"		7'-2"
A740	ABUT. BEAM (PH. I)	7	10				28'-6"
A741	ABUT. BEAM (PH. II)	7	10				30'-4"
A742	WING BEAM (PH. II)	7	10				16'-2"
A743	WING BEAM (PH. I)	7	10				36'-0"
AX740	ABUT. BEAM	7	10	4'-2"	4'-2"		8'-4"
B640	ENDWALL	6	8	5'-0"			5'-8"
H440	RISER	4	8	3'-0"	1'-6"		6'-0"
H441	RISER	4	4	1'-1"	1'-6"		4'-1"
H540	RDWY. BRKT./PABE	5	56	2'-2"	6"		3'-2"
H641	WING BEAMS	6	48	1'-2"	5'-0"		11'-2"
L540	ABUTMENT BEAM/WING BEAM	5	97	2'-8"	2'-8"		11'-6"
VA850	PILES	8	32	2'-6"	2'-6"		5'-0"

PROJECT NO.		YEAR		SHEET NO.	
STP/HPP-31(12)		2026			
REVISIONS					
NO.	DATE	BY	BRIEF DESCRIPTION		
1	6/23/26	JAL	REVISED PARAPET STEEL		



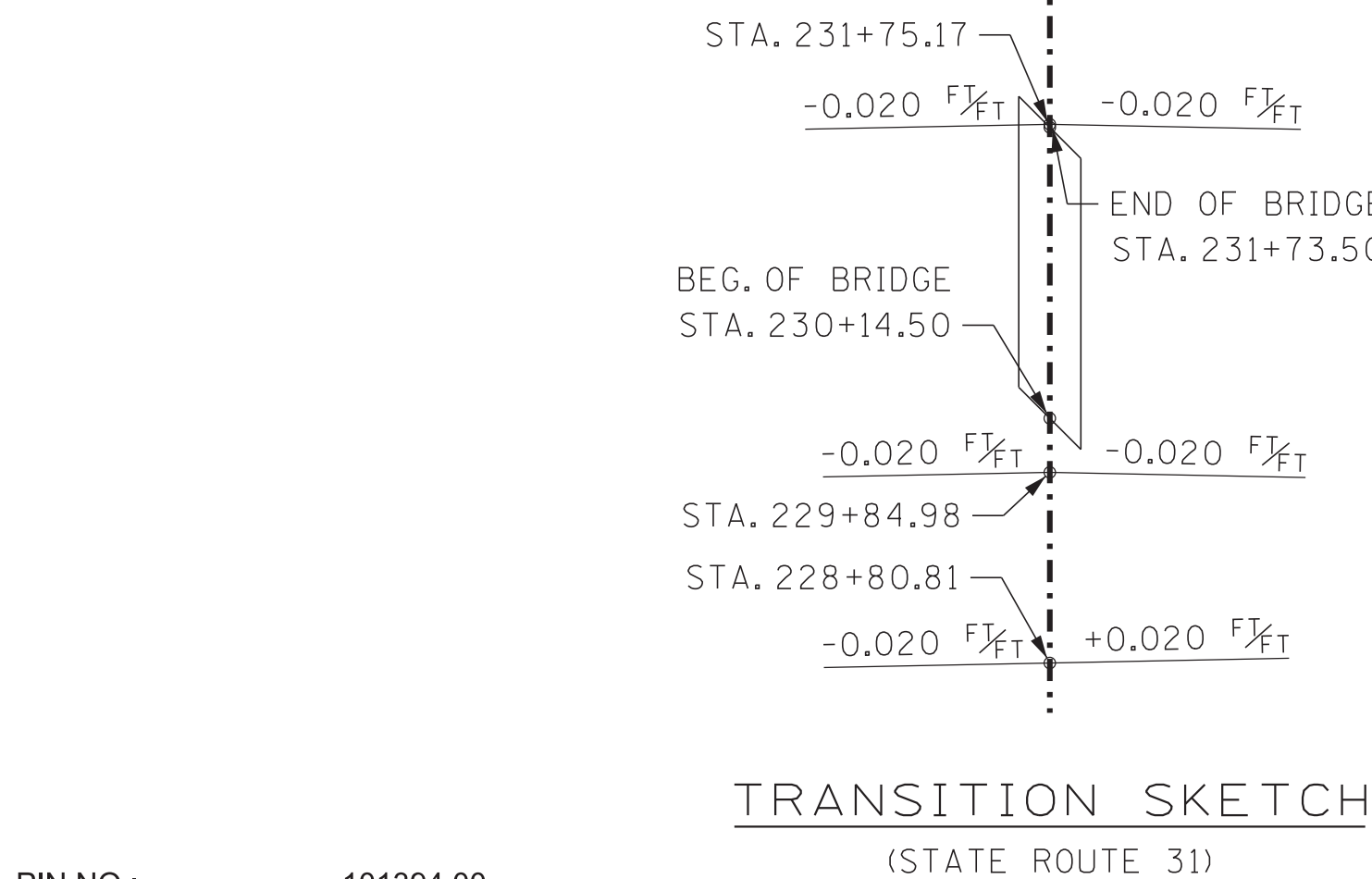
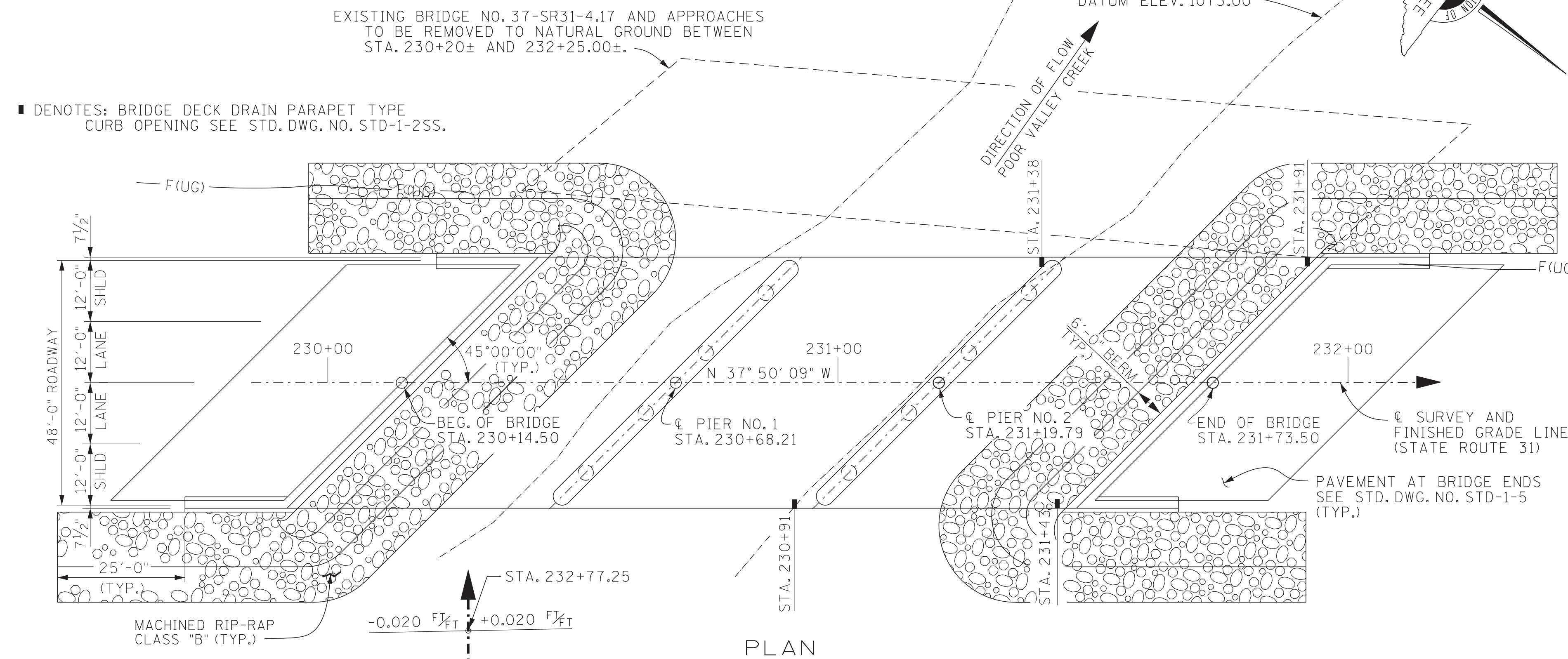
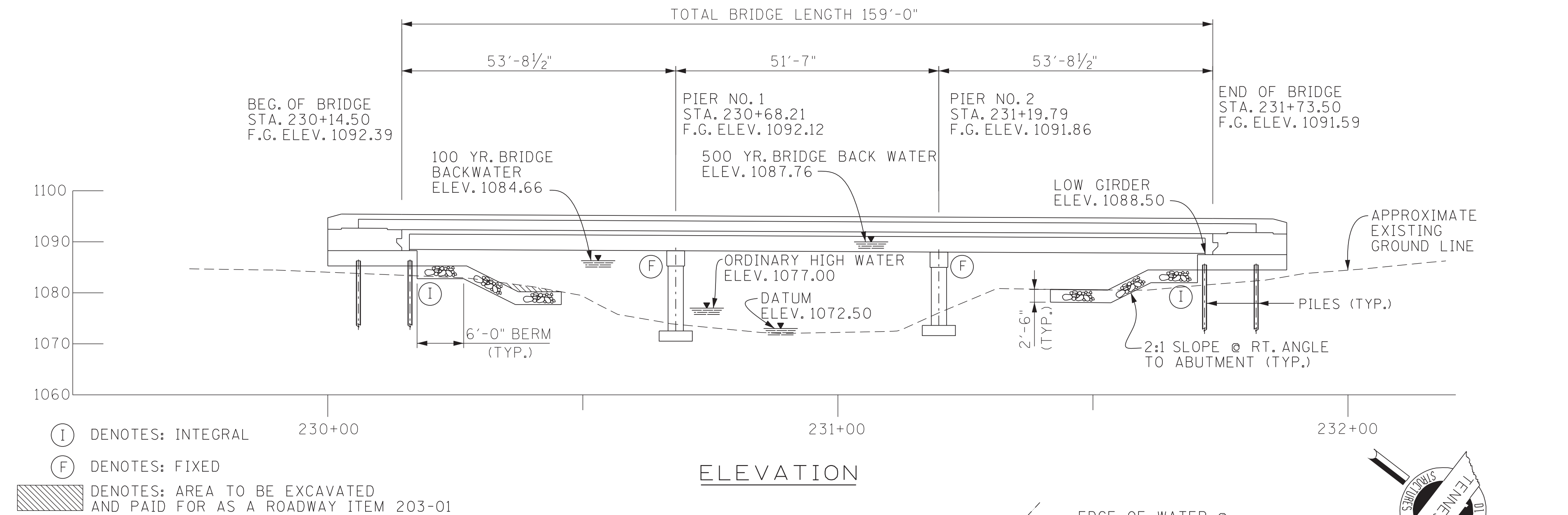
PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 09/24
DRAWN BY: D. EASTERLY DATE: 07/25
SUPERVISED BY: EASTERLY/SHOULDERS DATE: 07/25
CHECKED BY: A. DAHIR DATE: 03/25



BRIDGE NO. 1
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BILL OF STEEL
STATE ROUTE 31
OVER
MOORSBURG BRANCH
BRIDGE ID. NO. 37SR0310001
LOG MILE 0.24
STATION 23+46.68
HAWKINS COUNTY

8:50:51 AM

2/4/2026



PIN NO.: 101394.00

DESIGN BY: J. LAINE

DRAWN BY: B. ERVIN

SUPERVISED BY: STEELE/J. SHOULDER

CHECKED BY: A. DAHIR

DATE: 2-25

DATE: 3-25

DATE: 2-25

DATE: 3-25

NOTE: ANY EXCAVATION OF THE STREAM CHANNEL AREA SHALL BE SEPARATED FROM FLOWING WATER OR EXPECTED FLOW PATH AND PERFORMED DURING LOW FLOW CONDITIONS. THIS SHALL BE ACCOMPLISHED BY THE USE OF SHEET PILES, FLUMES, DIVERSION PIPE WITH SAND BAG DAM AT PIPE INLET, LINED DIVERSION CHANNEL WITH SAND BAG BERM, JERSEY BARRIERS, ETC. ANY EXCAVATION NOT DESIGNATED AS BRIDGE EXCAVATION 204-11 IS TO BE PAID FOR AS ROADWAY ITEM NUMBER 203-01 ROAD AND DRAINAGE EXCAVATION (UNCLASSIFIED) AND FOOTNOTED "UNSUITABLE FOR ROADWAY FILL MATERIAL." OTHER ITEMS FOR EROSION CONTROL AND DIVERSION LIKE BUT NOT LIMITED TO THE ITEMS LISTED ABOVE ARE TO BE PAID AS A LUMP SUM FOR SEQUENCING FOR CONSTRUCTION IN THE DRY UNDER ITEM NUMBER 209-65.23.

HYDRAULIC DATA

DRAINAGE AREA 30.49 SQ. MI.

DESIGN DISCHARGE (100YR) 4510 CFS

WATER AREA PROVIDED 510.47

BELOW ELEV. 1083.50 1.22 FT @ ELEV. 1084.62

100 YR BRIDGE BACKWATER 8.74 FPS

100 YR VELOCITY 1090.6

ROADWAY OVERTOPPING ELEV. 1090.6

500 YR DISCHARGE 6080 CFS @ ELEV. 1086.57

LIST OF DRAWINGS

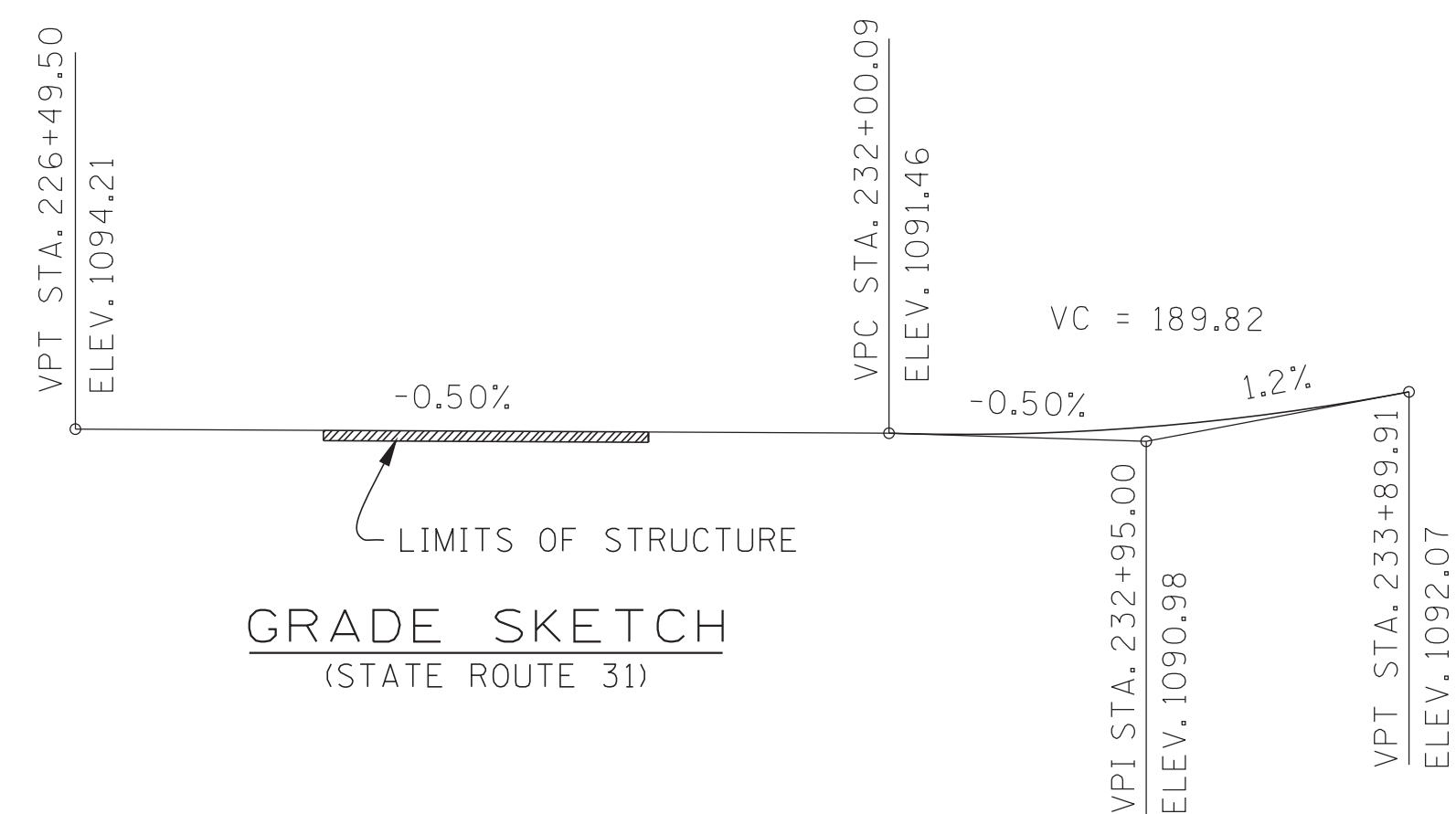
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LAYOUT OF BRIDGE	U-101-019
GENERAL NOTES	U-101-020
ESTIMATED QUANTITIES	U-101-021
FOUNDATION DATA	U-101-022
FOUNDATION DATA	U-101-023
SUPERSTRUCTURE	U-101-024
SUPERSTRUCTURE DETAILS	U-101-025
SUPERSTRUCTURE DETAILS	U-101-026
SUPERSTRUCTURE DETAILS	U-101-027
PHASE CONSTRUCTION DETAILS	U-101-028
PRESTRESSED I-BEAM DETAILS SPAN NO. 1	U-101-029
PRESTRESSED I-BEAM DETAILS SPAN NO. 2	U-101-030
PRESTRESSED I-BEAM DETAILS SPAN NO. 3	U-101-031
ABUTMENT NO. 1	U-101-032
ABUTMENT NO. 1 DETAILS	U-101-033
ABUTMENT NO. 1 DETAILS	U-101-034
ABUTMENT NO. 2	U-101-035
ABUTMENT NO. 2 DETAILS	U-101-036
ABUTMENT NO. 2 DETAILS	U-101-037
PIER NO. 1	U-101-038
PIER NO. 2	U-101-039
PIER NO. 1 AND NO. 2 DETAILS	U-101-040
FINAL FOUNDATION DATA	U-101-041
BILL OF STEEL	U-101-042

LIST OF STANDARD DRAWINGS

DWG. NO.	LAST REV. DATE
BRIDGE RAILING SINGLE SLOPE CONCRETE PARAPET	STD-1-1SS 07-09-25
STEEL SLIDER PLATE ASSEMBLIES FOR SINGLE SLOPE CONCRETE PARAPET AND BRIDGE DECK DRAIN DETAILS	STD-1-2SS 05-31-24
REINFORCED CONCRETE PAVEMENT AT BRIDGE ENDS	STD-1-5 06-05-23
BRIDGE MOUNTED INTERCONNECTED PORTABLE BARRIER RAIL	STD-2-1 08-26-25
BRIDGE MOUNTED INTERCONNECTED PORTABLE BARRIER RAIL ALTERNATE CONNECTION DETAIL	STD-2-3 08-26-25
STANDARD PRECAST PRESTRESSED BRIDGE DECK PANELS GENERAL DETAILS	STD-4-1 04-08-05
STANDARD PRECAST PRESTRESSED BRIDGE DECK PANELS DESIGN CRITERIA	STD-4-2 04-08-05
STANDARD PRECAST PRESTRESSED BRIDGE DECK PANELS GENERAL DETAILS	STD-4-3 03-02-02
STANDARD PRECAST PRESTRESSED BRIDGE DECK PANELS CONSTRUCTION DETAILS	STD-4-4 06-10-96
STANDARD PILE DETAILS	STD-5-1
STANDARD SEISMIC DETAILS	STD-6-1 12-08-23
STANDARD REINFORCING BAR SUPPORT DETAILS FOR CONCRETE SLABS	STD-9-1 10-07-08
MISCELLANEOUS ABUTMENT AND DRAINAGE DETAILS	STD-10-1 06-05-23
MISCELLANEOUS ABUTMENT & PAVEMENT AT BRIDGE ENDS BACKFILL DETAILS	STD-10-2 06-05-23
STANDARD DETAILS AND INTERMEDIATE DIAPHRAGM DETAILS FOR I-BEAMS	STD-14-2 03-06-24

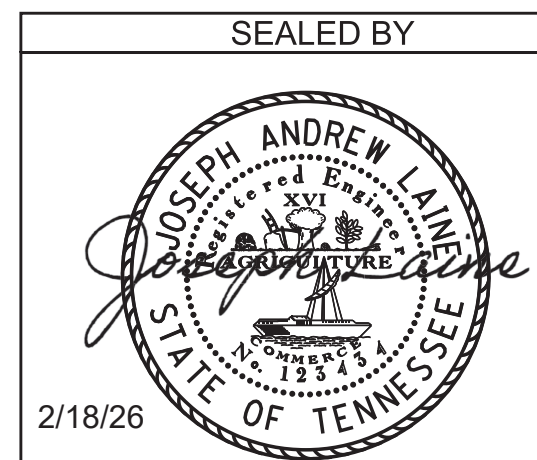
LIST OF SPECIAL PROVISIONS

PROV. NO.	LAST REV. DATE
REMOVAL OF ASBESTOS CONTAINING MATERIALS (ACM)	202ACM 07-07-14
REPAIR OF BRIDGE CRACKS	604CR 02-08-21



CORRECT

ENGINEER OF STRUCTURES



BRIDGE NO. 2
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
LAYOUT OF BRIDGE
STATE ROUTE 31
OVER
POOR VALLEY CREEK
BRIDGE ID. NO. 37SR0310007
STATION 230+94.00
LOG MILE 4.17
HAWKINS COUNTY

U-101-19

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: TENNESSEE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (JANUARY 1, 2021 EDITION).

DESIGN SPECIFICATIONS: 9TH EDITION (2020) AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND THE 2ND EDITION (2011) AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN WITH INTERIMS.

- LOADING:**
- A. HL-93 LIVE LOADING
 - B. SEISMIC DESIGN CATEGORY A WITH A_S= 0.137, S_{DS}=0.303, S_{D1}=0.111, (1000 YEAR RETURN PERIOD).
 - C. DEAD LOAD INCLUDES 35 LB/SQ. FT. FOR FUTURE WEARING SURFACE.

CONCRETE: TO BE CLASS A (CAST-IN-PLACE) F'C = 3000 PSI EXCEPT AS NOTED OTHERWISE.

BRIDGE DECKS: CLASS D CONCRETE FOR BRIDGE DECKS SHALL BE IN ACCORDANCE WITH SECTION 604 OF THE STANDARD SPECIFICATIONS.

BRIDGE DECK SURFACE FINISH: TO BE IN ACCORDANCE WITH METHOD 3 IN ARTICLE 604.22 OF THE STANDARD SPECIFICATIONS.

BRIDGE DECK FORMS: BRIDGE DECK FORMS FOR CONCRETE DECKS SHALL BE CONSTRUCTED USING EITHER REMOVABLE FORMS OR PERMANENT FORMS. PERMANENT FORMS SHALL BE REMAIN-IN-PLACE STEEL. FORMS SHALL BE ATTACHED BY MEANS OTHER THAN WELDING TO MAIN STRUCTURAL MEMBERS OR REINFORCING STEEL. TEMPORARY ERECTION DIAPHRAGMS MUST BE USED AT THE ENDS OF PRECAST CONCRETE GIRDERS WHERE END DIAPHRAGMS, SUPPORT DIAPHRAGMS, OR ABUTMENT ENDWALLS ARE TO BE POURED CONCURRENTLY WITH THE DECK AND SHALL BE PROVIDED ELSEWHERE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS TO PREVENT GIRDER ROTATION. SEE STANDARD DRAWING STD-14-2 AND ARTICLE 604.05 OF THE STANDARD SPECIFICATIONS.

REINFORCING STEEL: SHALL BE ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE. SEE SECTIONS 604 AND 907 OF THE STANDARD SPECIFICATIONS.

FOUNDATION PREPARATION: SEE SECTION 204 OF THE STANDARD SPECIFICATIONS. IF IT IS DETERMINED THAT COFFERDAMS ARE REQUIRED, THEY SHALL BE IN ACCORDANCE WITH SECTION 204.09 OF THE STANDARD SPECIFICATIONS.

SPREAD FOOTINGS FOR BENTS: FOOTINGS SHALL BE EMBEDDED 6 INCHES INTO SOUND ROCK. AS AN ALTERNATE, FOOTINGS MAY BE PLACED DIRECTLY ON CLEAN, SOUND ROCK WITH #8 BARS (1'-0" EMB., 1'-0" PROJ.) SPACED AT 2'-0" MAXIMUM GRID WITH A MAXIMUM EDGE DISTANCE TO THE OUTER BARS OF 1'-6" ALONG BOTH THE LENGTH AND WIDTH OF THE FOOTINGS. AFTER EXCAVATION TO ROCK FOR FOOTING HAS BEEN COMPLETED, HOLES 6' DEEP SHALL BE DRILLED AT POINTS DESIGNATED BY THE ENGINEER. FROM THE RESULTS OBTAINED, THE ENGINEER OF STRUCTURES SHALL DETERMINE THE FINAL FOOTING ELEVATIONS. NO REINFORCING STEEL FOR BENT COLUMNS OR FOOTINGS SHALL BE ORDERED UNTIL FINAL FOOTING ELEVATIONS HAVE BEEN DETERMINED.

ABUTMENTS ON FILL: THE FILLS AT THE ENDS OF THE BRIDGE SHALL BE IN PLACE AND THOROUGHLY COMPACTED BEFORE ANY ABUTMENT PILES ARE DRIVEN.

END-BEARING STEEL PILES: TO BE HP10X42 DRIVEN TO REFUSAL ON ROCK OR A MINIMUM BEARING OF 85 TONS FOR THE ABUTMENTS. ALL PILES SHALL BE ASTM A709 GRADE 50 STEEL.

PILE TIPS: PILES SHALL BE EQUIPPED WITH CAST STEEL POINTS. ALSO, SEE STANDARD DRAWING STD-5-1 FOR ADDITIONAL NOTES.

STREAM CHANNEL: ANY WORK WITHIN THE STREAM CHANNEL AREA (E.G. PIER/BENT FOOTING, RIP-RAP PLACEMENT, ETC.) SHALL BE SEPARATED FROM FLOWING WATER OR EXPECTED FLOW PATH AND PERFORMED DURING LOW FLOW CONDITIONS. ALL ITEMS USED WITHIN THE STREAM CHANNEL AREA FOR DIVERSION OF FLOW (OR EXPECTED FLOW), UNLESS SPECIFIED IN THE PLANS, SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE INCLUDED IN THE COST OF OTHER ITEMS. THIS NOTE EXCLUDES ANY ITEMS SPECIFIED IN THE PLANS FOR TEMPORARY DIVERSION CHANNELS (EC-STR-31).

UTILITIES: IT IS INTENDED THAT THE COST OF MATERIALS AND LABOR NECESSARY FOR THE COMPLETE INSTALLATION OF UTILITIES SHALL BE BORNE BY OTHERS AND SHALL NOT BE PAID FOR AS A PART OF THIS CONTRACT. THE CONTRACTOR SHALL COOPERATE WITH OTHERS IN THE INSTALLATION OF UTILITIES WITH NO ADDITIONAL COMPENSATION ALLOWED THE CONTRACTOR AS A RESULT.

SHOP DRAWINGS: SEE SECTION 105.02 OF THE STANDARD SPECIFICATIONS.

PARAPET SYSTEM: BUILD PARAPETS ACCORDING TO STANDARD DRAWING STD-1-1SS. THE PARAPETS SHALL BE FORMED AND CAST PLUMB, NOT PERPENDICULAR TO THE SLAB. THE DIMENSIONS AT THE TRAFFIC FACE SHALL BE KEPT CONSTANT, WITH VARIATION DUE TO CROSS-SLOPE ACCOMMODATED AT THE REAR FACE.

RIP-RAP: MACHINED RIP-RAP SHALL BE CLASS 'B' AND SHALL BE 3" TO 2'-3" IN SIZE, UNIFORMLY GRADED, IN ACCORDANCE WITH SECTION 709 OF THE STANDARD SPECIFICATIONS AND SHALL BE MEASURED AND PAID FOR UNDER ROADWAY ITEM NO. 709-05.08.

VALUE ENGINEERING ALTERNATE BRIDGE DESIGN CRITERIA: ALTERNATE BRIDGE DESIGN PROPOSALS MAY NOT DIMINISH THE FUNCTIONAL OR STRUCTURAL EQUIVALENCY OF THE BRIDGE AND MUST MEET OR EXCEED THE CAPACITIES OF THE CONTRACT PLANS STRUCTURE AT ALL LIMIT STATES IN AASHTO TABLE 3.4.1-1. ADDITIONALLY, THE WATERWAY OPENING AND FLOOD CLEARANCES MAY NOT BE REDUCED. FOR GRADE SEPARATIONS, THE HORIZONTAL CLEARANCES MAY NOT BE REDUCED, NOR MAY THE VERTICAL CLEARANCES BE LESS THAN THE MINIMUM ACCEPTABLE FOR THE TYPE FACILITY CROSSED.

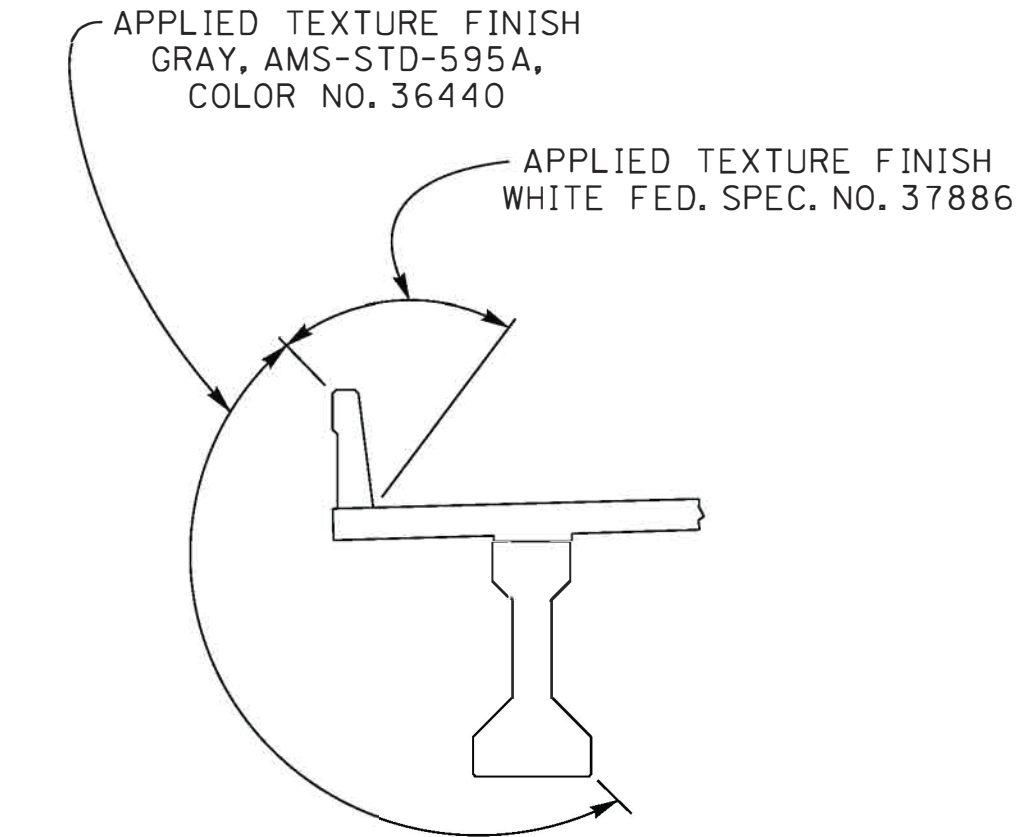
REQUIREMENTS AND RESTRICTIONS FOR PHASE CONSTRUCTION

- A. THE PHASE CONSTRUCTION SEQUENCE MAY PROHIBIT THE EXTRACTION OF SOME SHEET PILING. ALL COSTS ASSOCIATED WITH SHEET PILING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OTHER ITEMS.
- B. THE LOCATION OF LONGITUDINAL CONSTRUCTION JOINTS SHALL NOT BE CHANGED TO ACCOMMODATE STAY-IN-PLACE DECK FORMS.
- C. NO SHEET PILES OR BEARING PILES MAY BE DRIVEN FROM THE EXISTING OR PROPOSED STRUCTURE.
- D. TWO 12'-0" TRAFFIC LANES SHALL BE MAINTAINED AT ALL TIMES.

FINISHING CONCRETE SURFACES: CONCRETE FINISHING SHALL BE IN ACCORDANCE WITH SECTION 604.21 OF THE STANDARD SPECIFICATIONS. A CLASS I FINISH FOLLOWED BY AN APPLIED TEXTURE FINISH SHALL BE USED IN LIEU OF A CLASS II FINISH. NO TEXTURE FINISH SHALL BE APPLIED PRIOR TO COMPLETION OF PAVING AND HAULING OPERATIONS AT THE BRIDGE SITE. THE APPLIED TEXTURE FINISH SHALL BE MEASURED AND PAID FOR UNDER ITEM NO. 604-04.01.

CONSTRUCTION JOINTS: CONSTRUCTION JOINT SURFACE SHALL BE INTENTIONALLY ROUGHENED TO FULL AMPLITUDE OF 0.25 INCHES TO ENHANCE SHEAR TRANSFER. THE SURFACE SHOULD BE CLEAN AND FREE OF LAITANCE, WITH EXPOSED AGGREGATE BEFORE THE NEXT POUR.

PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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TYPICAL AT CANTILEVER

APPLIED TEXTURE FINISH SKETCH

NOTE: IN ADDITION TO THE SURFACES SHOWN IN THE APPLIED TEXTURE FINISH SKETCH ALL EXPOSED SURFACES OF THE WINGWALLS, ABUTMENTS, PIERS AND EXTERIOR PORTIONS OF ENDWALLS SHALL RECEIVE AN APPLIED TEXTURE FINISH (GRAY, AMS-STD-595A, COLOR NO. 36440).

PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 2-25
DRAWN BY: B. ERVIN DATE: 7-25
SUPERVISED BY: STEELE, J. SHOULDER DATE: 2-25
CHECKED BY: A. DAHIR DATE: 3-25

BRIDGE NO. 2
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
GENERAL NOTES
STATE ROUTE 31
OVER
POOR VALLEY CREEK
BRIDGE ID. NO. 37SR0310007
STATION 230+94.00
LOG MILE 4.17
HAWKINS COUNTY

PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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ESTIMATED QUANTITIES

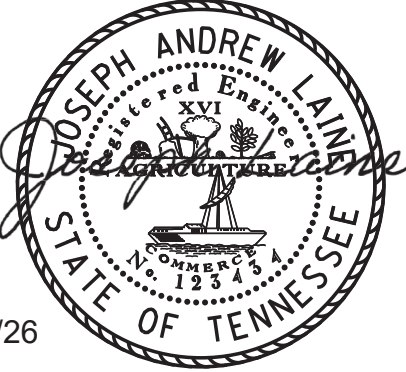
	ITEM NO.	DESCRIPTION	UNIT	TOTAL	SUPERSTRUCTURE	ABUT. NO. 1	PIER. NO. 1	PIER. NO. 2	ABUT. NO. 2
③	202-01.02	REMOVAL OF ASBESTOS	L.S.	0.5					
②	202-04.02	REMOVAL OF STRUCTURES (EXISTING BRIDGE NO. 37-SR031-00.07)	L.S.	1					
④	204-02.01	DRY EXCAVATION (BRIDGES)	C.Y.	361		115	18	113	115
④	204-03.01	WET EXCAVATION (BRIDGES)	C.Y.	98			49	49	
④	204-04.01	ROCK EXCAVATION (BRIDGES)	C.Y.	130			65	65	
	204-05	ROCK DRILLING (BRIDGES)	L.F.	120			60	60	
	204-10.02	FOUNDATION PREPARATION(BRIDGE NO. 2, PIER NO. 1, STA 230+68.21)	LS	1			1		
	204-10.03	FOUNDATION PREPARATION(BRIDGE NO. 2, PIER NO. 2, STA 231+19.79)	LS	1				1	
⑩	303-01.02	GRANULAR BACKFILL (BRIDGES)	TON	42		21			21
⑨	604-02.03	EPOXY COATED REINFORCING STEEL	LB.	75,434	70,382	2,526			2,526
⑬	⑧	604-03.01	CLASS A CONCRETE (BRIDGES)	C.Y.	351	66	110	109	66
⑨	604-03.02	STEEL BAR REINFORCEMENT (BRIDGES)	LB.	52,533	2,254	7,529	17,598	17,522	7,630
①	604-03.04	PAVEMENT @ BRIDGE ENDS	S.Y.	248		124			124
	604-03.09	CLASS D CONCRETE (BRIDGE DECK)	C.Y.	219	219				
	604-04.01	APPLIED TEXTURE FINISH (NEW STRUCTURES)	S.Y.	1,024	565	75	155	154	75
	604-05.31	BRIDGE DECK GROOVING (MECHANICAL)	S.Y.	827	827				
⑫	606-02.03	STEEL PILES (10 INCH)	L.F.	341		176			165
⑭	606-02.06	PILE TIPS (STEEL PILES, 10 INCH)	EA.	22		11			11
⑥	615-01.02	PRESTRESSED CONCRETE I-BEAM (TYPE II)	L.F.	902					
	617-02	BRIDGE DECK CRACK SEALING	L.F.	159					
⑪	617-05	SEALANT (HMWM)	GAL.	1					
⑤	620-05.01	CONC PARAPET SINGLE SLOPE (STD-1-1SS)	L.F.	376					
⑦	710-09.01	6" PERFORATED PIPE WITH VERTICAL DRAIN SYSTEM	L.F.	166		83			83
	710-09.02	6" PIPE UNDERDRAIN	L.F.	34		17			17

- ① **NOTE:** PRIOR TO CONSTRUCTION OF THE PAVEMENT AT BRIDGE ENDS, THE CONTRACTOR SHALL SUBMIT A PROPOSED BILL OF STEEL TO THE ENGINEER FOR APPROVAL.
- ② **NOTE:** LUMP SUM EXISTING BRIDGE NO. 37SR0310007 TO BE REMOVED CONSIST OF 5 SPANS CONCRETE DECK GIRDERS WITH A CONCRETE DECK AND SUBSTRUCTURE. TOTAL BRIDGE LENGTH = 157'-0" OUT-TO-OUT = 28'-6"
- ③ **NOTE:** SEE PROJECT COMMITMENTS AND SPECIAL PROVISION 202ACM.
- ④ **NOTE:** EXCAVATION BASED ON FINAL PROFILE AT ABUTMENTS AND EXISTING GROUND AT PIERS.
- ⑤ **NOTE:** COST OF 4 BRIDGE PARAPET DRAINS TO BE INCLUDED IN THE UNIT PRICE BID FOR THE PARAPET.
- ⑥ **NOTE:** COST OF ELASTOMERIC PADS AND RUBBER BONDING CEMENT TO BE INCLUDED IN THE UNIT PRICE BID FOR THE PRESTRESSED BEAM.

- ⑦ **NOTE:** COST OF POLYETHYLENE SHEETING AND ALL MISCELLANEOUS ITEMS NECESSARY FOR INSTALLATION TO BE INCLUDED IN THE UNIT PRICE BID FOR PERFORATED PIPE.
- ⑧ **NOTE:** THE COST OF ALL MATERIALS AND LABOR NECESSARY FOR THE INSTALLATION OF 6 ANCHOR BOLT ASSEMBLIES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CLASS A CONCRETE (BRIDGES), ITEM NO. 604-03.01.
- ⑨ **NOTE:** MECHANICAL BAR SPLICERS MUST BE ON THE TDOT QUALIFIED PRODUCTS LIST 27. THE BAR SPLICERS SHALL MEET AASHTO LRFD SPECIFICATIONS FOR MECHANICAL CONNECTION. WHEN EPOXY COATING IS REQUIRED, THE EXPOSED THREADS SHALL BE REPAIRED AFTER SPLICING ACCORDING TO SECTION 907 OF THE STANDARD SPECIFICATIONS. THE COST OF FURNISHING THE BAR SPLICERS, (AND EPOXY COATING WHEN REQUIRED) INCLUDING ALL LABOR AND MATERIALS NECESSARY FOR COMPLETE INSTALLATION, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM NO. 604-02.03 AND ITEM NO. 604-03.02.
- ⑩ **NOTE:** GRANULAR BACKFILL SHALL BE TYPE "A" GRADING "D" MATERIAL. SEE STANDARD DRAWING STD-10-1.

- ⑪ **NOTE:** INCLUDES ALL COSTS FOR INSTALLING THE BRIDGE DECK CRACK SEALER (HMWM) INCLUDING CRACK PREPARATION, CLEANING, LABOR, AND ALL MISCELLANEOUS MATERIALS REQUIRED TO SEAL THE LONGITUDINAL CONSTRUCTION JOINT ACCORDING TO SPECIAL PROVISION 604CR AND MANUFACTURERS' SPECIFICATIONS. CRACK SEALING SHALL BE DONE AT THE END OF CONSTRUCTION TO ALLOW SHRINKAGE OF DECK CONCRETE CAUSING THE CRACK TO OCCUR.
- ⑫ **NOTE:** THE COST OF CORRUGATED PIPE TO PROTECT THE PILES DURING GSR FILL INSTALLATION AT ABUTMENT 1 SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE PILES. SEE BRIDGE FOUNDATION REPORT FOR MORE INFORMATION.
- ⑬ **NOTE:** THE COST OF CONSTRUCTION JOINT ROUGHENING TO BE INCLUDED IN THE COST FOR CLASS "A" CONCRETE. SEE GENERAL NOTES FOR MORE INFORMATION.
- ⑭ **NOTE:** THE UNIT PRICE BID FOR THE CAST STEEL POINTS SHALL INCLUDE FURNISHING AND INSTALLATION TO THE PILES.

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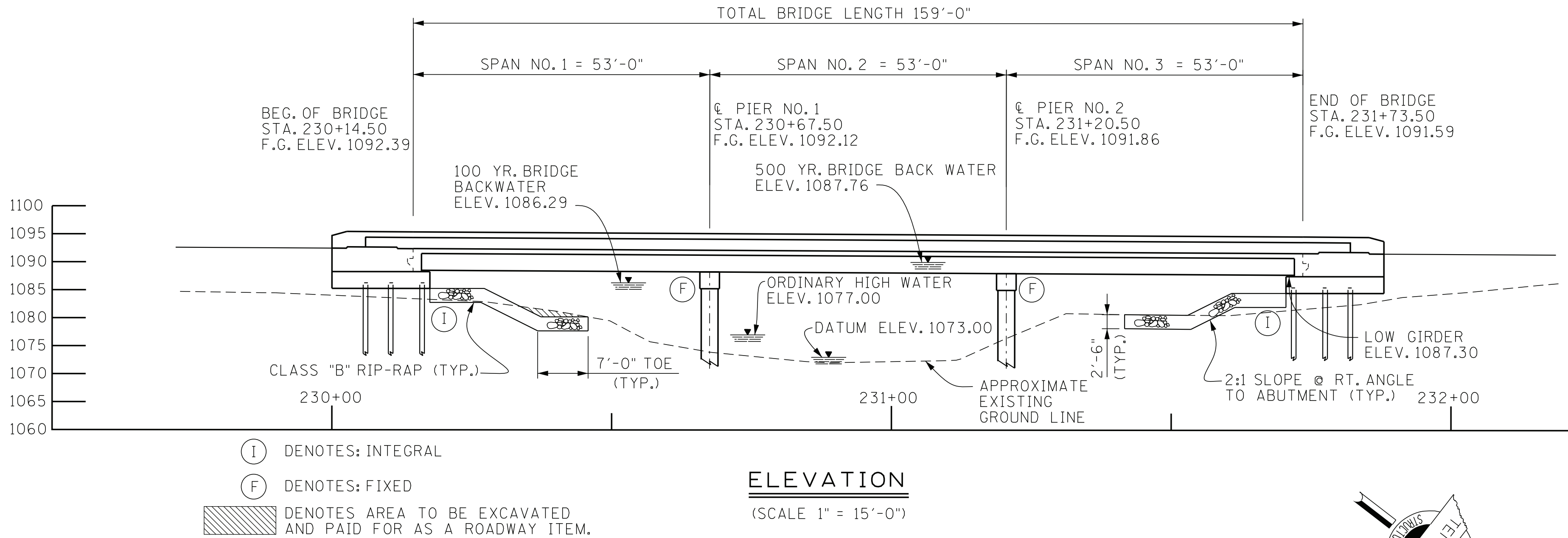


6/23/26

BRIDGE NO. 2
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ESTIMATED QUANTITIES
STATE ROUTE 31
OVER
POOR VALLEY CREEK
BRIDGE ID. NO. 37SR0310007
STATION 230+94.00
LOG MILE 4.17
HAWKINS COUNTY

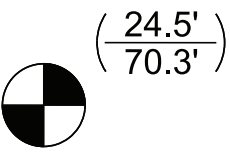
PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 2-25
DRAWN BY: B. ERVIN DATE: 3-25
SUPERVISED BY: STEELE/J. SHOULDER DATE: 2-25
CHECKED BY: A. DAHIR DATE: 3-25

PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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Boring No.	Station	Offset	Ground Elevation (ft)	Refusal Elevation (ft)	Total Depth (ft)
1	230+15.4	13.5' RT	1082.6	1072.5	31.0
2	230+26.9	15.6' LT	1084.1	1072.2	31.3
3	231+60.4	19.5' LT	1079.4	1070.7	25.5
4	231+47.7	7.8' LT	1080.1	1071.4	26.3
5	231+30.9	7.7' RT	1081.0	1071.9	31.6

LEGEND



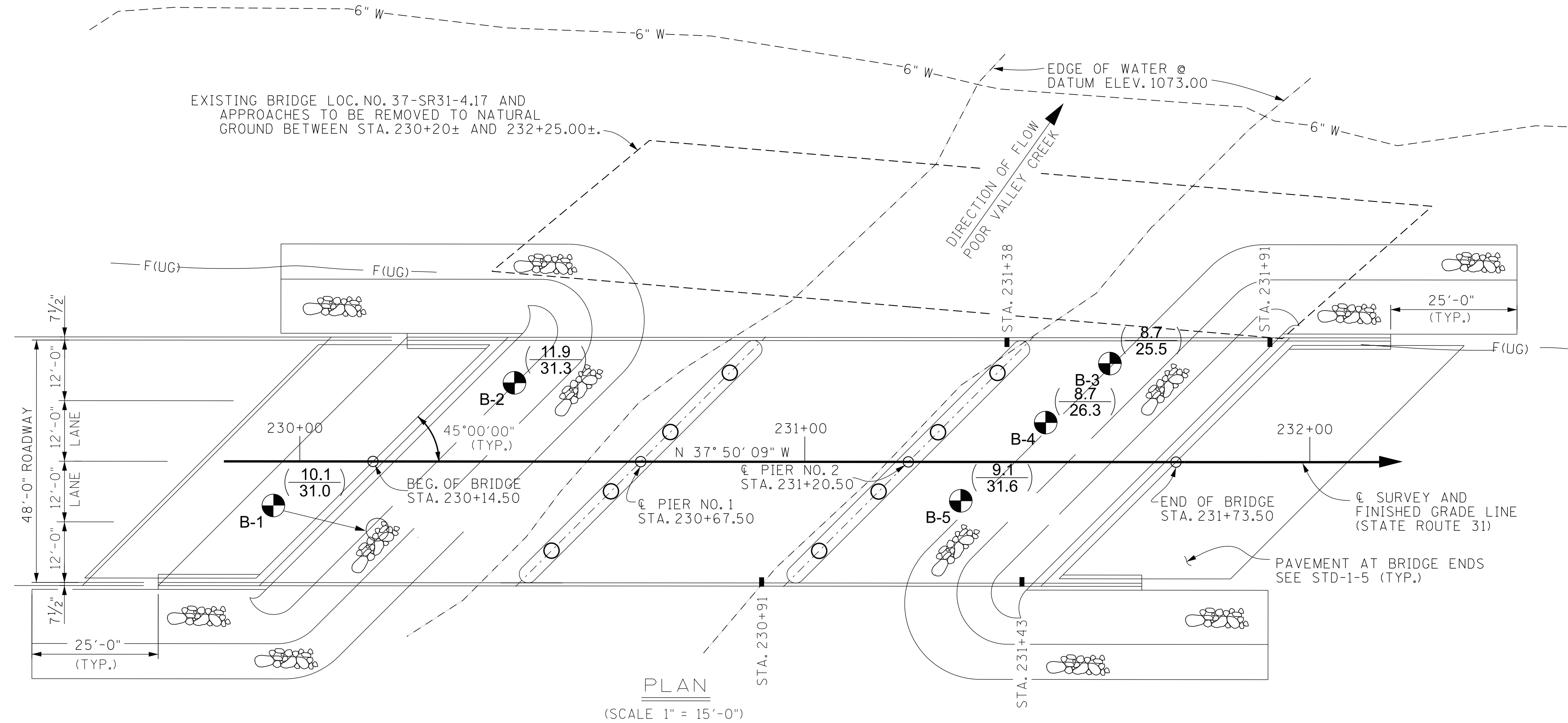
**BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE),
BOTTOM OF HOLE (BELOW LINE)**

NOTES:

NOTE: A PORTION OF EXISTING STRUCTURE SHALL BE REMOVED AND TRAFFIC SHALL BE MAINTAINED ON EXISTING BRIDGE STRUCTURE DURING CONSTRUCTION OF NEW BRIDGE. TEMPORARY SHORING MIGHT BE REQUIRED AT END OF BRIDGE ABUTMENT.

DESIGN SPECIFICATIONS: 9TH EDITION (2020) AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND 2ND EDITION (2011) AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN WITH INTERIMS. SEISMIC CATEGORY "A" WITH AS = 0.162, SDS = 0.301, SD1 = 0.111, (1000 YEAR RETURN PERIOD).

THIS DRAWING IS FOR
FOUNDATION DATA ONLY AND IS
NOT TO BE USED AS A LAYOUT.

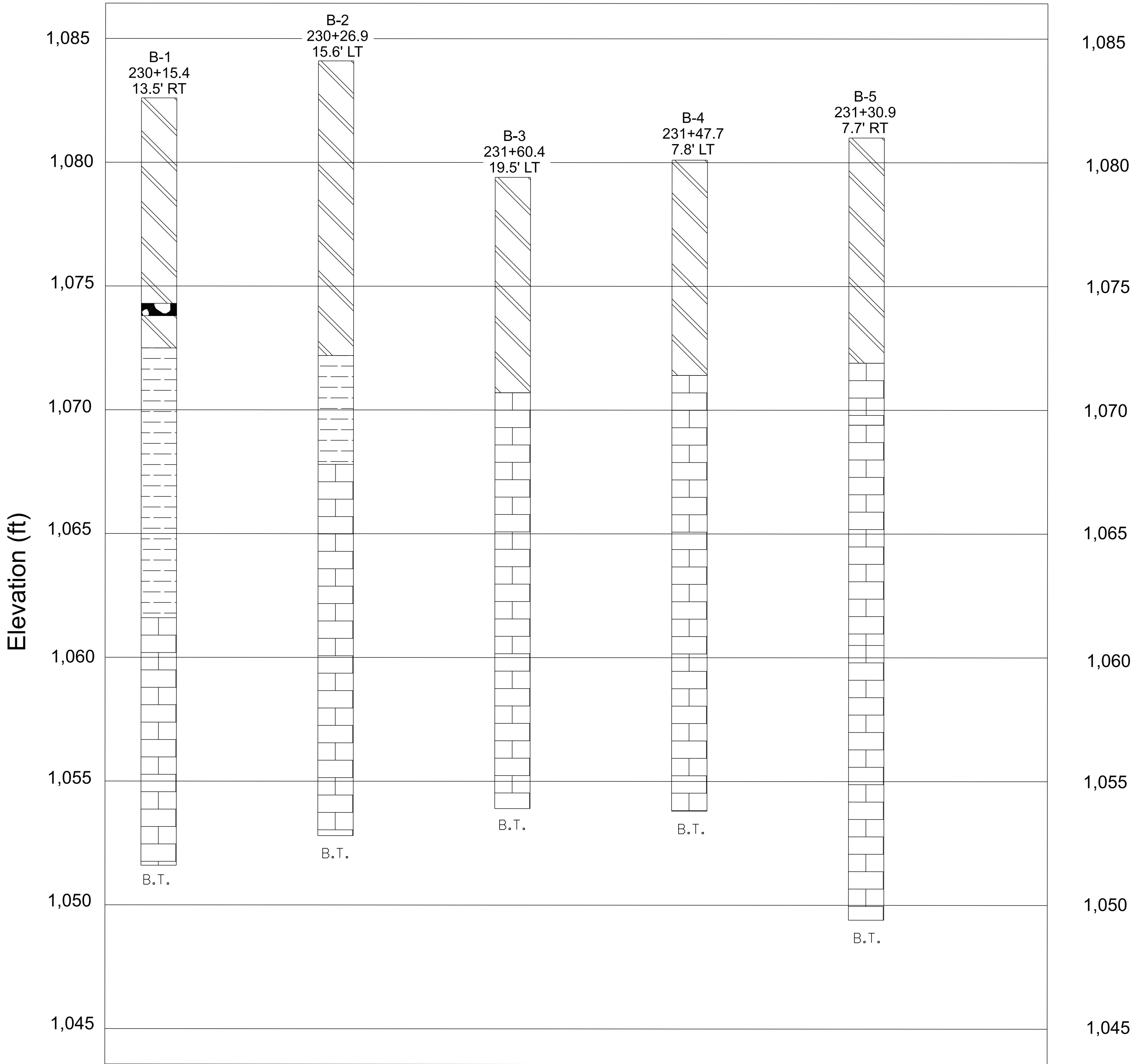


PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 2-25
DRAWN BY: JERRY W. SIMPSON DATE: 3-24
SUPERVISED BY: STEELE/J. SHOULDER DATE: 2-25
CHECKED BY: A. DAHIR DATE: 3-25

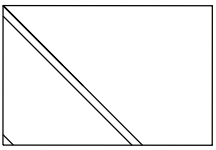
CORRECT *Jed A. Krueger*
ENGINEER OF STRUCTURES

BRIDGE NO. 2
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
FOUNDATION DATA
STATE ROUTE 31
OVER
POOR VALLEY CREEK
BRIDGE ID. NO. 37SR0310007
STATION 230+94.00
LOG MILE 4.17
HAWKINS COUNTY

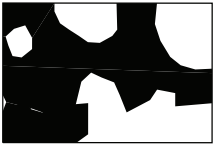
PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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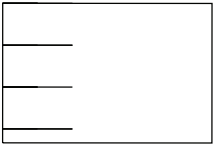
LEGEND



CLAY



BOULDERS AND COBBLES



SHALE



LIMESTONE

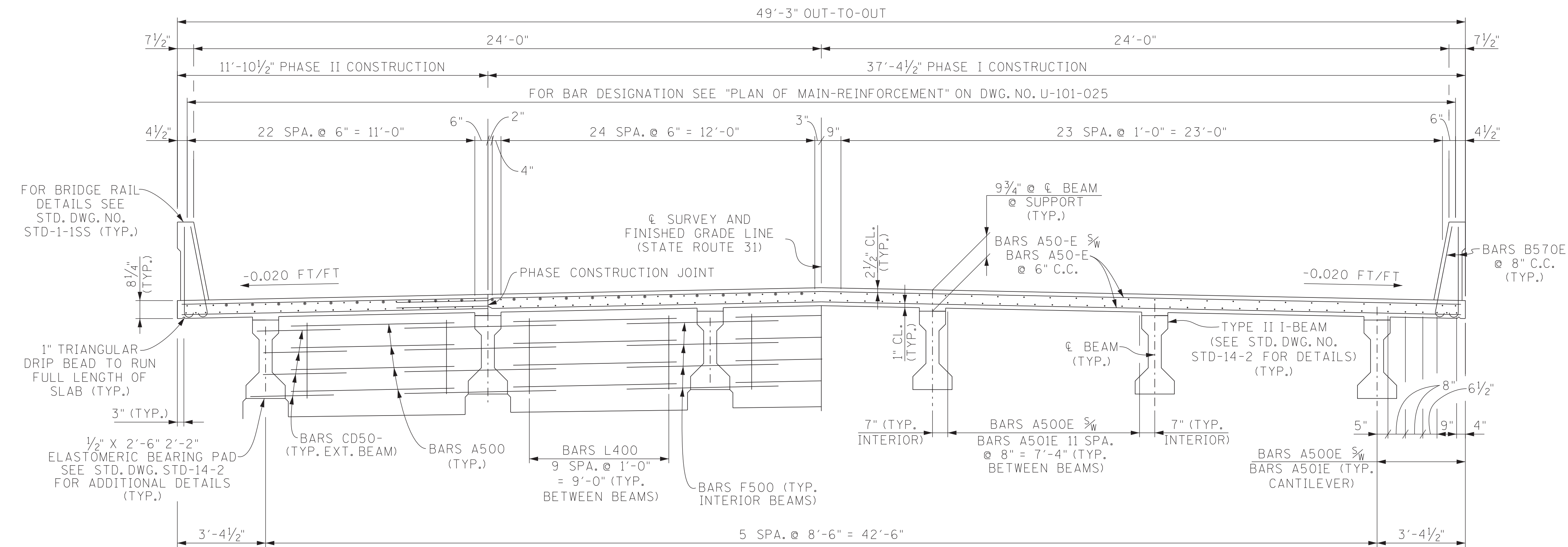
TYPE MATERIAL-SEE
DEFINITION OF EARTHWORK
TERMS ON NOTES AND
GEOTECHNICAL EST. QTYS.
SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 2-25
DRAWN BY: JERRY W. SIMPSON DATE: 3-24
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BRIDGE NO. 2
STATE OF TENNESSEE
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FOUNDATION DATA
STATE ROUTE 31
OVER
POOR VALLEY CREEK
BRIDGE ID. NO. 37SR0310007
STATION 230+94.00
LOG MILE 4.17
HAWKINS COUNTY

CORRECT
ENGINEER OF STRUCTURES

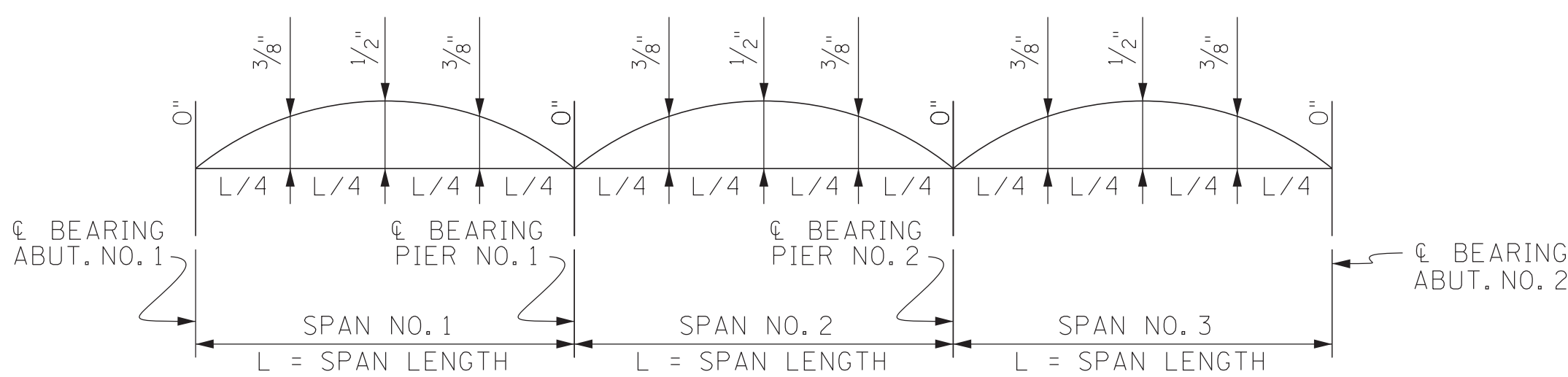
PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
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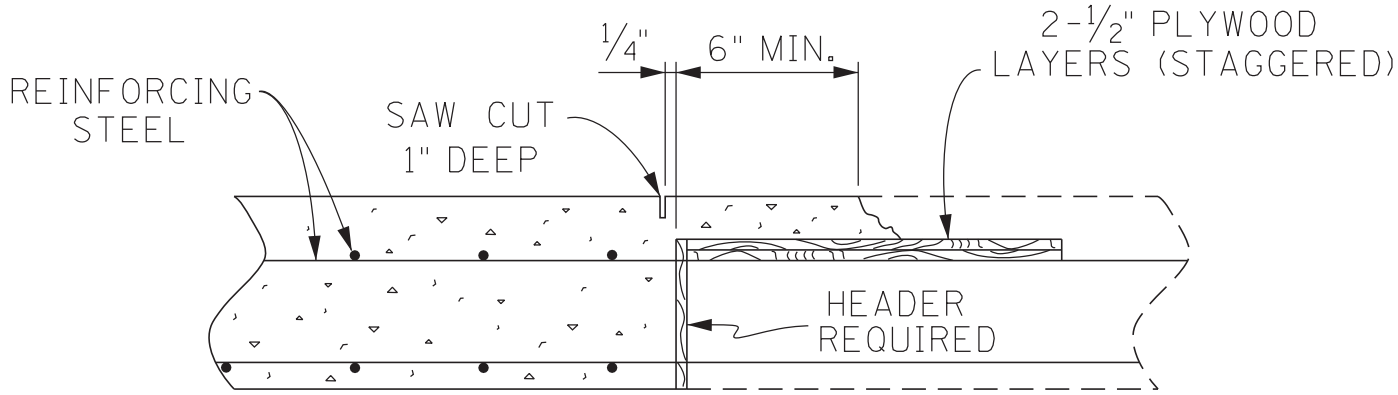
TYPICAL AT SUPPORT

TYPICAL AT MID-SPAN

TYPICAL CROSS-SECTION



DEAD LOAD CORRECTION CURVE



SLAB CONSTRUCTION JOINT DETAIL

DECK CONCRETE POURING SEQUENCE: SLAB CONSTRUCTION JOINTS MAY BE LOCATED AT THE CONTRACTOR'S OPTION SUBJECT TO THE FOLLOWING:

1. NO CONSTRUCTION JOINT MAY BE LOCATED CLOSER THAN 10 FEET OR FURTHER THAN 15 FEET FROM AN INTERIOR SUPPORT.
2. THE SLAB IN THE MIDDLE SECTION OF BOTH ADJACENT SPANS MUST BE POURED TO WITHIN AT LEAST 15 FEET OF THE SUPPORTS EITHER PRIOR TO OR CONCURRENTLY WITH THE SLAB OVER AN INTERIOR SUPPORT.
3. ALL SLAB CONSTRUCTION JOINTS SHALL BE IN ACCORDANCE WITH THE SLAB CONSTRUCTION JOINT DETAILS SHOWN ON THIS SHEET.

NOTE: NO PORTION OF THE PARAPETS SHALL BE POURED UNTIL THE ENTIRE DECK SLAB IS IN PLACE UNLESS REQUIRED FOR PHASE CONSTRUCTION.

NOTE: THE OUTSIDE EDGE OF SLAB AND PARAPET TO CONFORM TO HORIZONTAL CURVE.

NOTE: WHEN POURING SLAB, PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR PARAPET. THE PARAPET SHALL NOT BE POURED UNTIL THE SLAB IS POURED AND CURED. ALSO SEE STD. DWG. NO. STD-1-1SS.

NOTE: THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SUPPORTING THE BEAMS TO PREVENT DAMAGE DUE TO TWISTING OR OVERTURNING DURING ALL PHASES OF CONSTRUCTION. WHILE IT IS STRONGLY RECOMMENDED THAT THE TEMPORARY ERECTION DIAPHRAGMS BE INSTALLED PRIOR TO PLACING ANY LOADS ON THE BEAMS, IT IS REQUIRED THAT ALL TEMPORARY ERECTION DIAPHRAGMS IN A SPAN BE FULLY INSTALLED PRIOR TO POURING ANY PORTION OF THE SLAB IN THAT SPAN.

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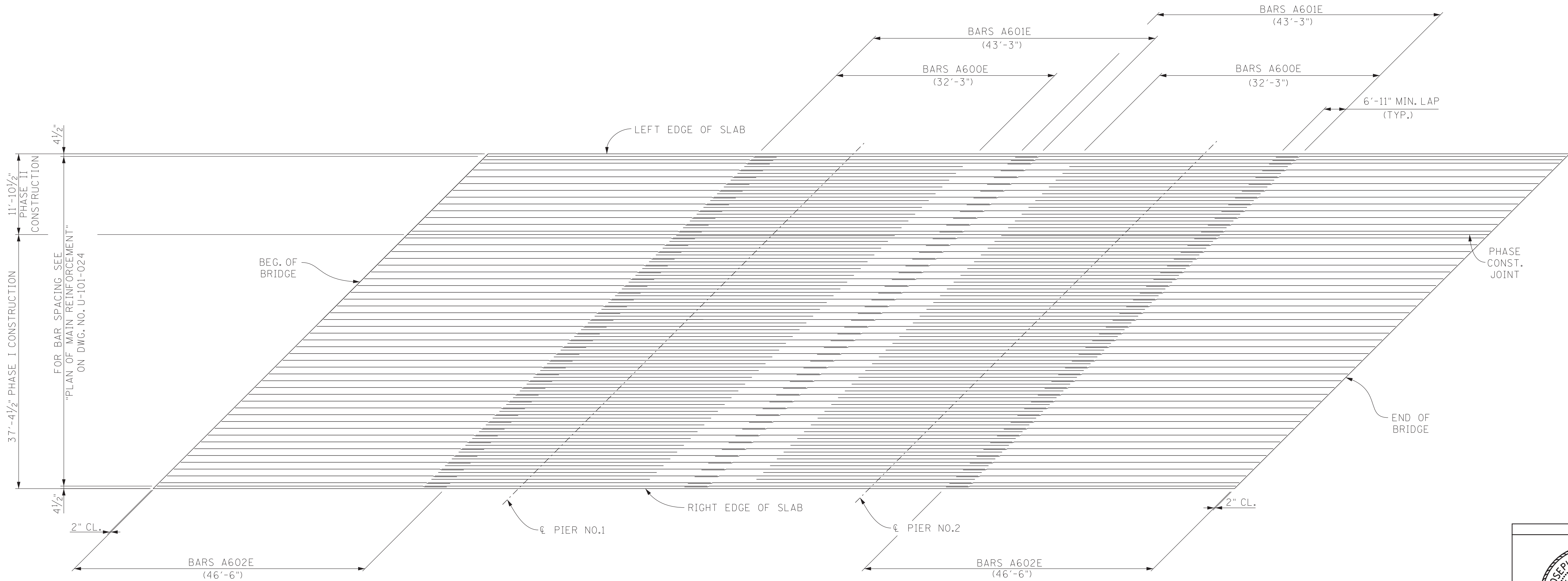


BRIDGE NO. 2
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE
STATE ROUTE 31
OVER
POOR VALLEY CREEK
BRIDGE ID. NO. 37SR0310007
STATION 230+94.00
LOG MILE 4.17
HAWKINS COUNTY

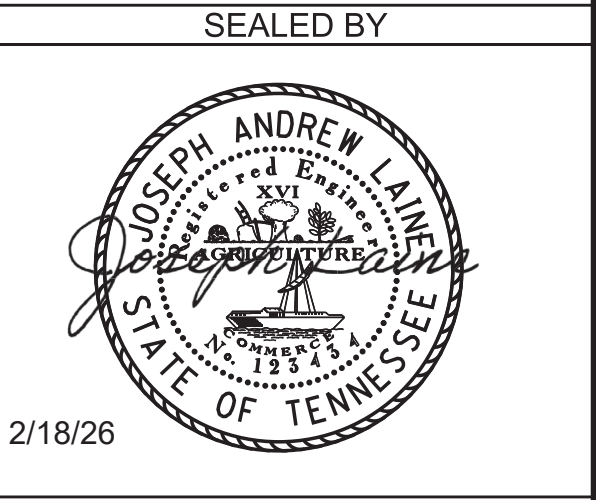
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PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 2-25
DRAWN BY: C. STAPLER DATE: 3-25
SUPERVISED BY: STEELE/J. SHOULDER DATE: 2-25
CHECKED BY: A. DAHIR DATE: 3-25

PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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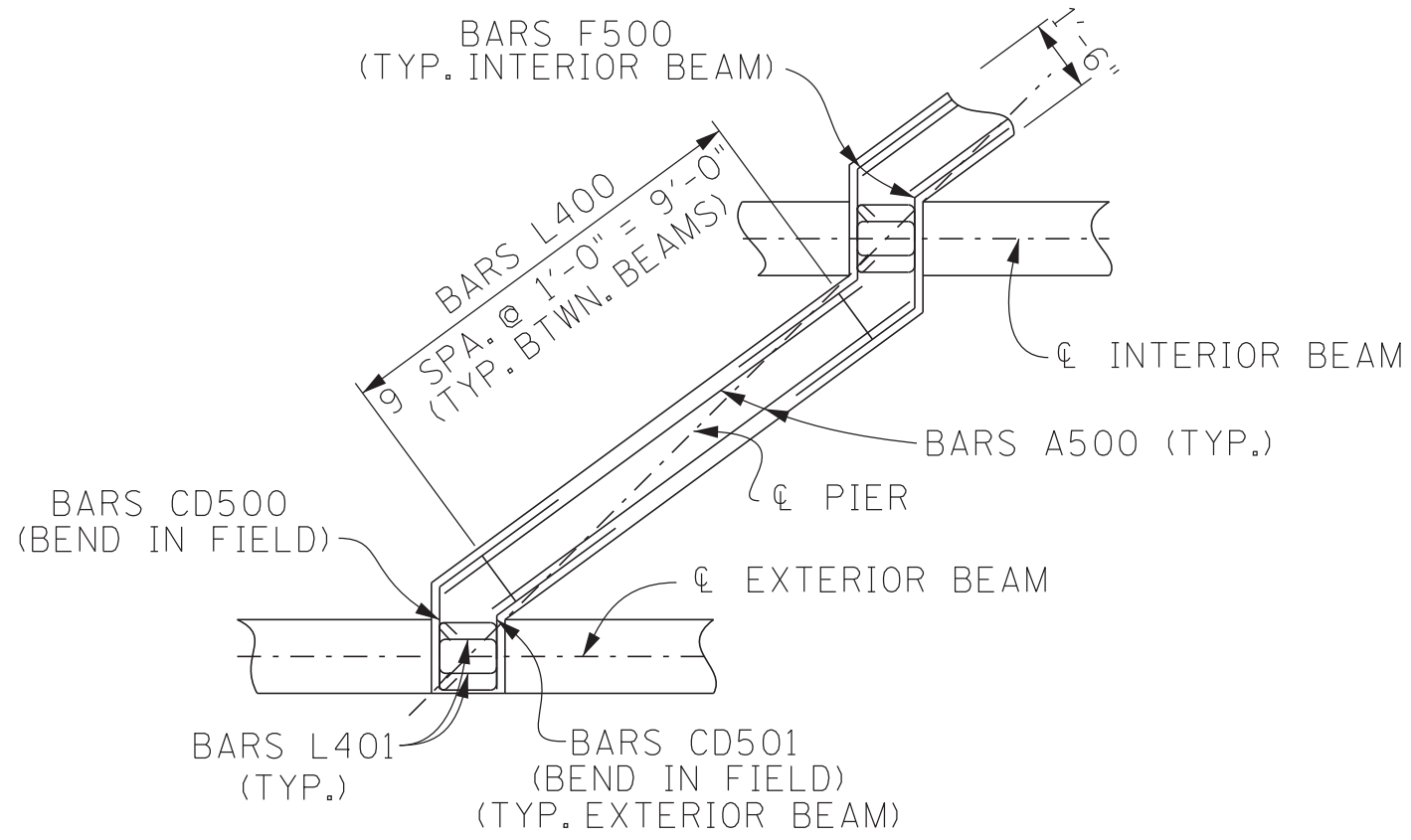
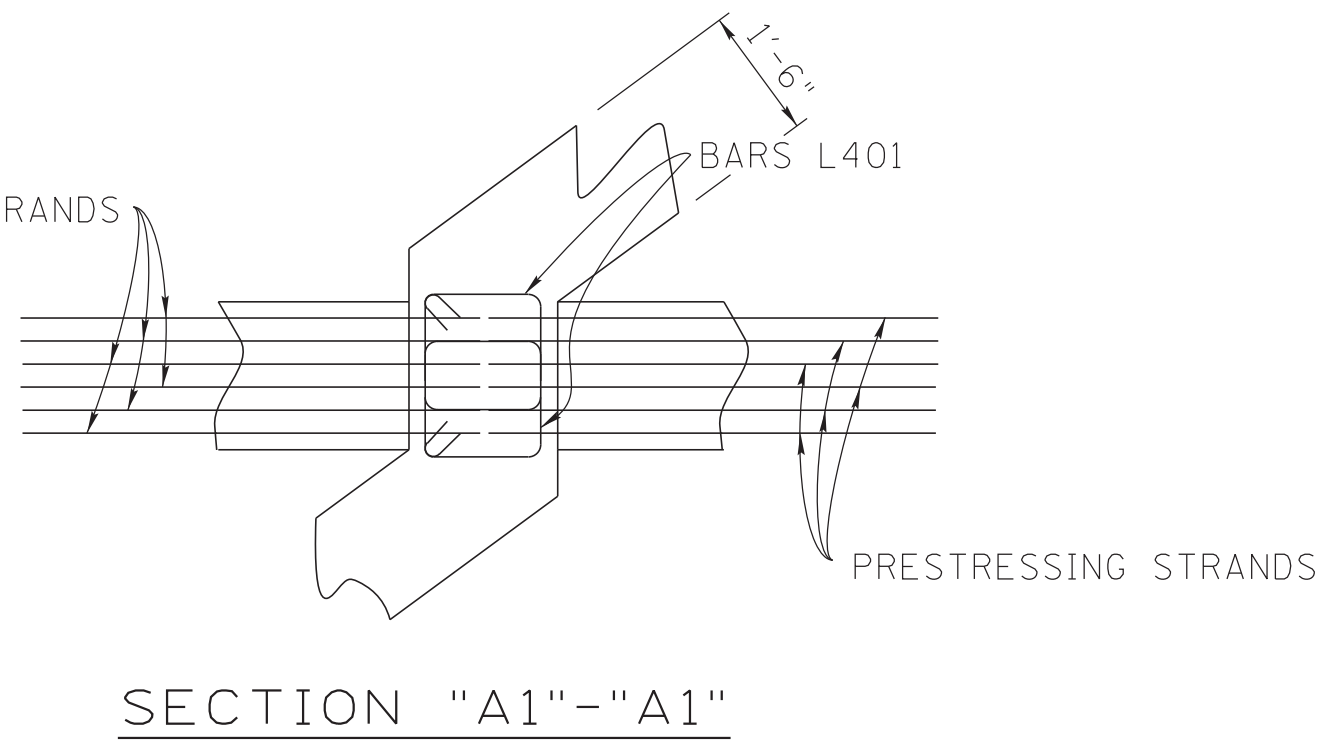
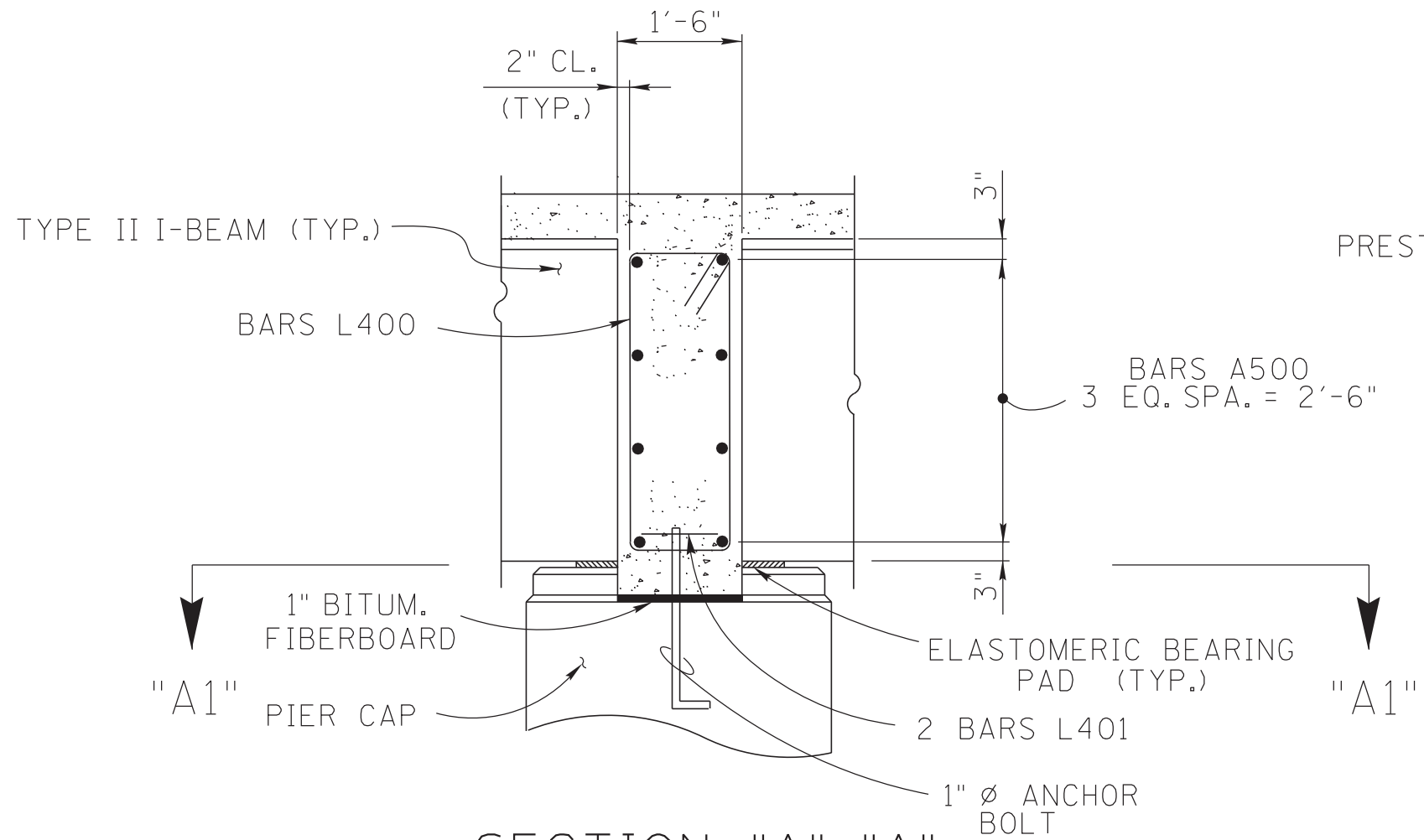


PLAN OF MAIN REINFORCEMENT



BRIDGE NO. 2
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE DETAILS
STATE ROUTE 31
OVER
POOR VALLEY CREEK
BRIDGE ID. NO. 37SR0310007
STATION 230+94.00
LOG MILE 4.17
HAWKINS COUNTY

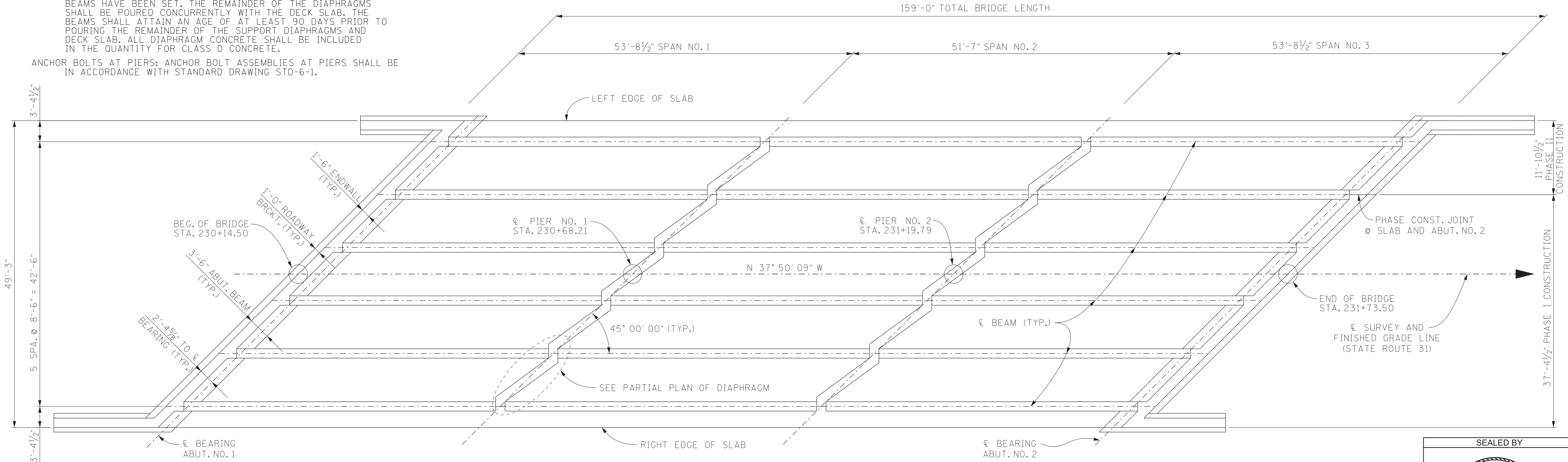
PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 2-25
DRAWN BY: C. STAPLER DATE: 3-25
SUPERVISED BY: STEELE/J. SHOULDER DATE: 2-25
CHECKED BY: A. DAHIR DATE: 3-25



PROJECT NO.		YEAR	SHEET NO.
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REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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NOTE: THE SUPPORT DIAPHRAGMS AT THE PIERS SHALL BE FORMED AND THE BOTTOM 15" POURED AS SOON AS POSSIBLE AFTER THE BEAMS HAVE BEEN SET. THE REMAINDER OF THE DIAPHRAGMS SHALL BE POURED CONCURRENTLY WITH THE DECK SLAB. THE BEAMS SHALL ATTAIN AN AGE OF AT LEAST 90 DAYS PRIOR TO POURING THE REMAINDER OF THE SUPPORT DIAPHRAGMS AND DECK SLAB. ALL DIAPHRAGM CONCRETE SHALL BE INCLUDED IN THE QUANTITY FOR CLASS D CONCRETE.

ANCHOR BOLTS AT PIERS; ANCHOR BOLT ASSEMBLIES AT PIERS SHALL BE IN ACCORDANCE WITH STANDARD DRAWING STD-6-1.

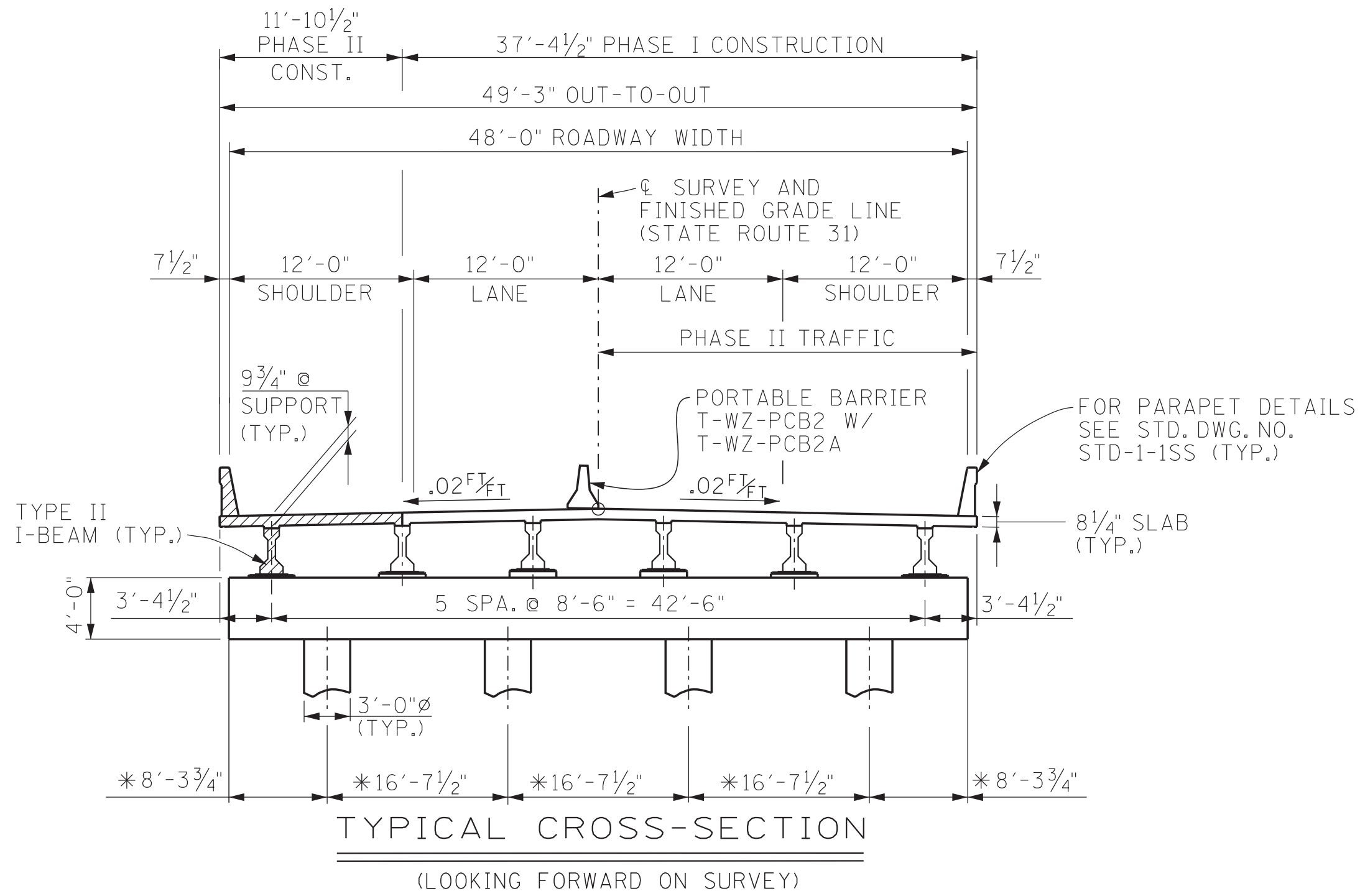


FRAMING PLAN

PIN NO.:	101394.00	
DESIGN BY:	J. LAINE	DATE: 2-25
DRAWN BY:	C. STAPLER	DATE: 3-25
SUPERVISED BY:	STEELE/J. SHOULDER	DATE: 2-25
CHECKED BY:	A. DAHIR	DATE: 3-25

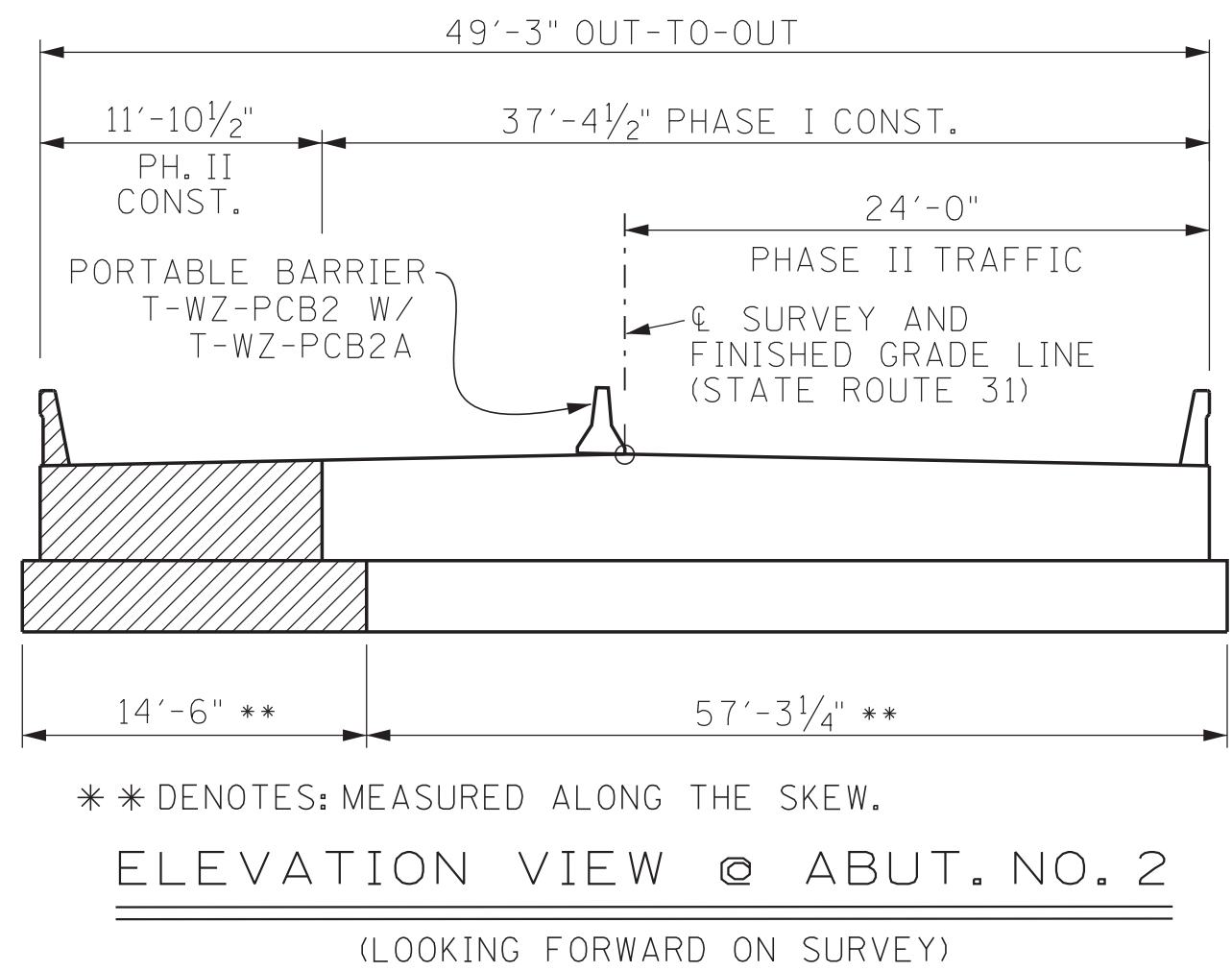
BRIDGE NO. 2
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE DETAILS
STATE ROUTE 31
OVER
POOR VALLEY CREEK
BRIDGE ID. NO. 37SR0310007
STATION 230+94.00
LOG MILE 4.17
HAWKINS COUNTY

PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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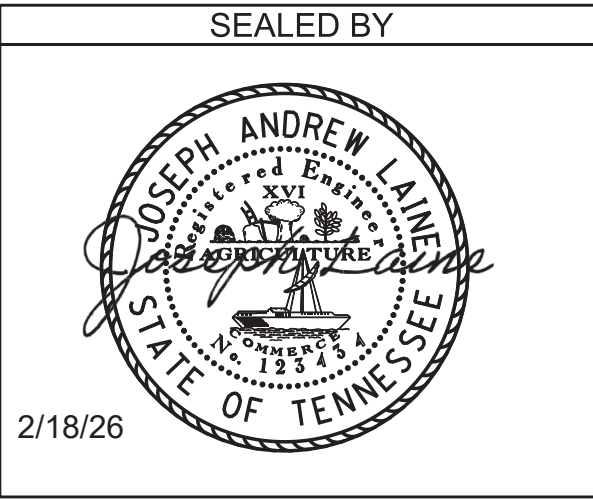
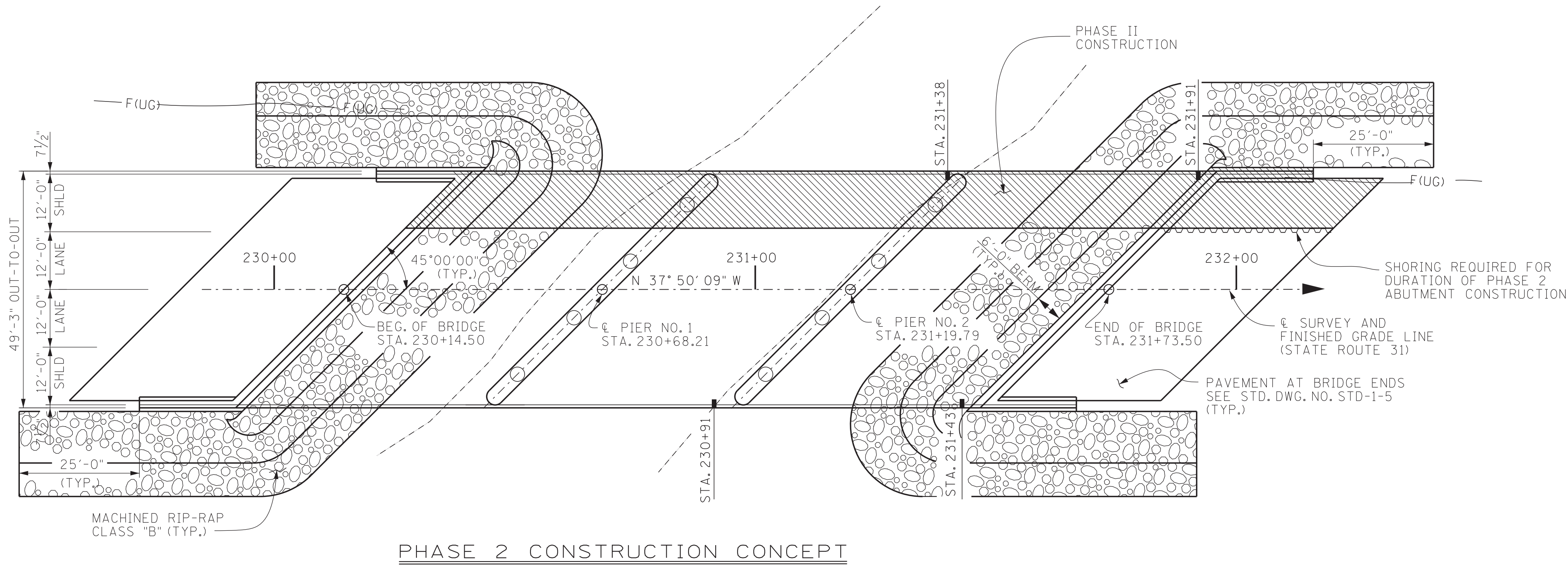


* DENOTES: MEASURED ALONG € PIER.

■ DENOTES: PHASE II CONSTRUCTION



** DENOTES: MEASURED ALONG THE SKEW.

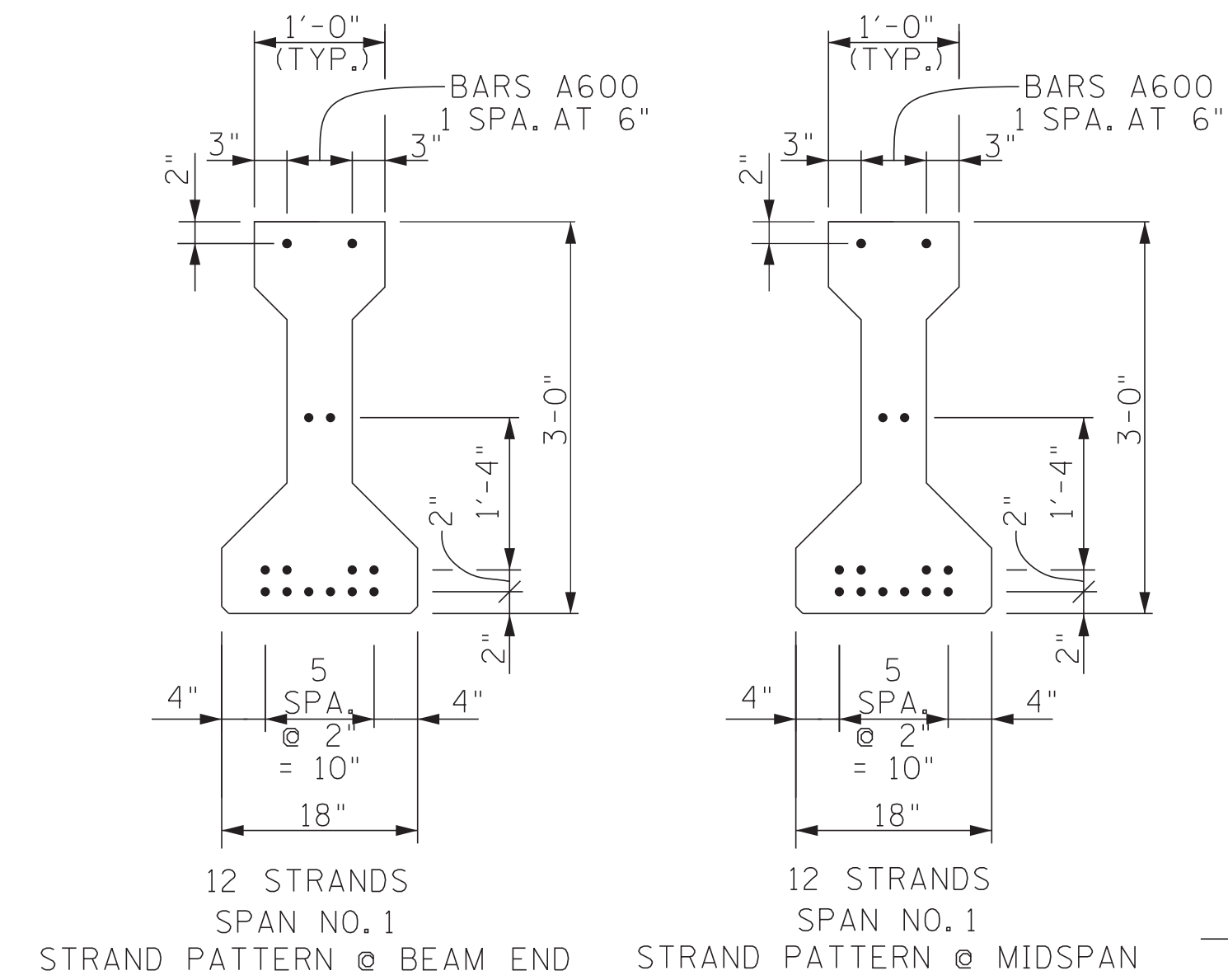
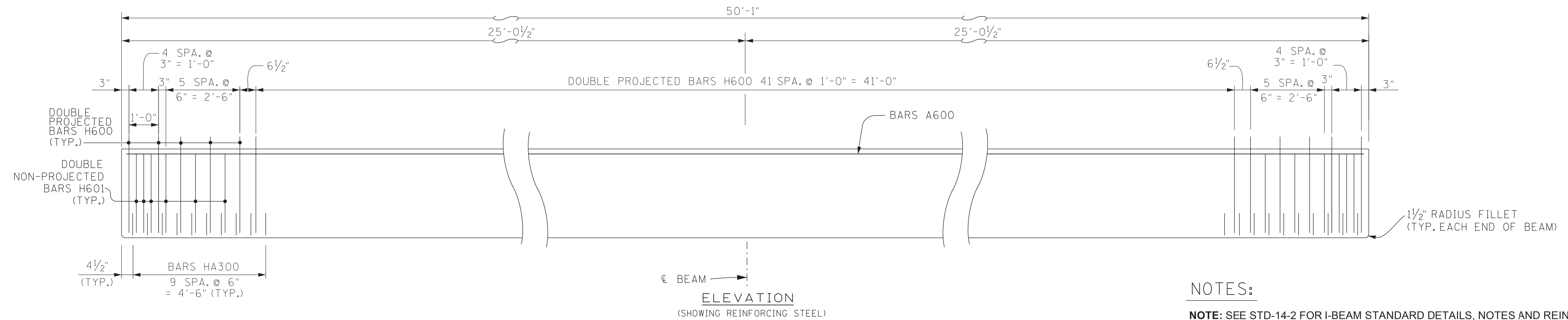
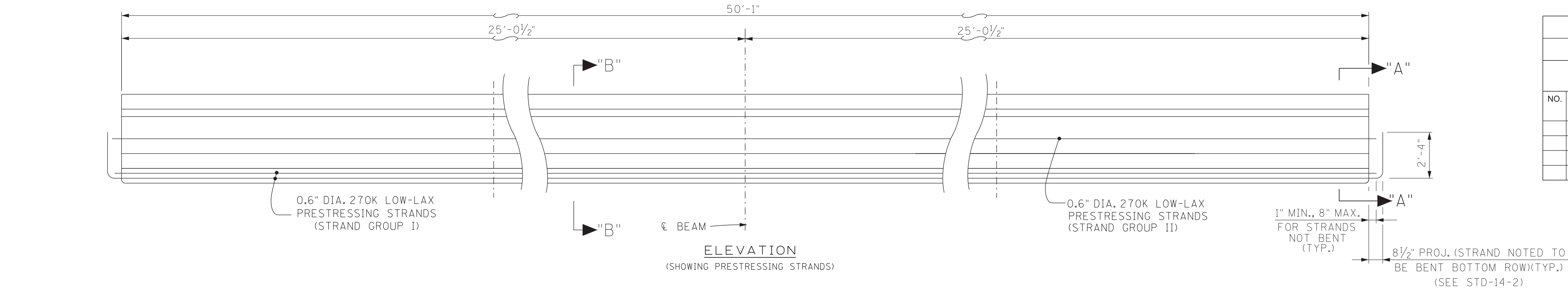


BRIDGE NO. 2
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
PHASE CONSTRUCTION DETAILS
STATE ROUTE 31
OVER
POOR VALLEY CREEK
BRIDGE ID. NO. 37SR0310007
STATION 230+94.00
LOG MILE 4.17
HAWKINS COUNTY

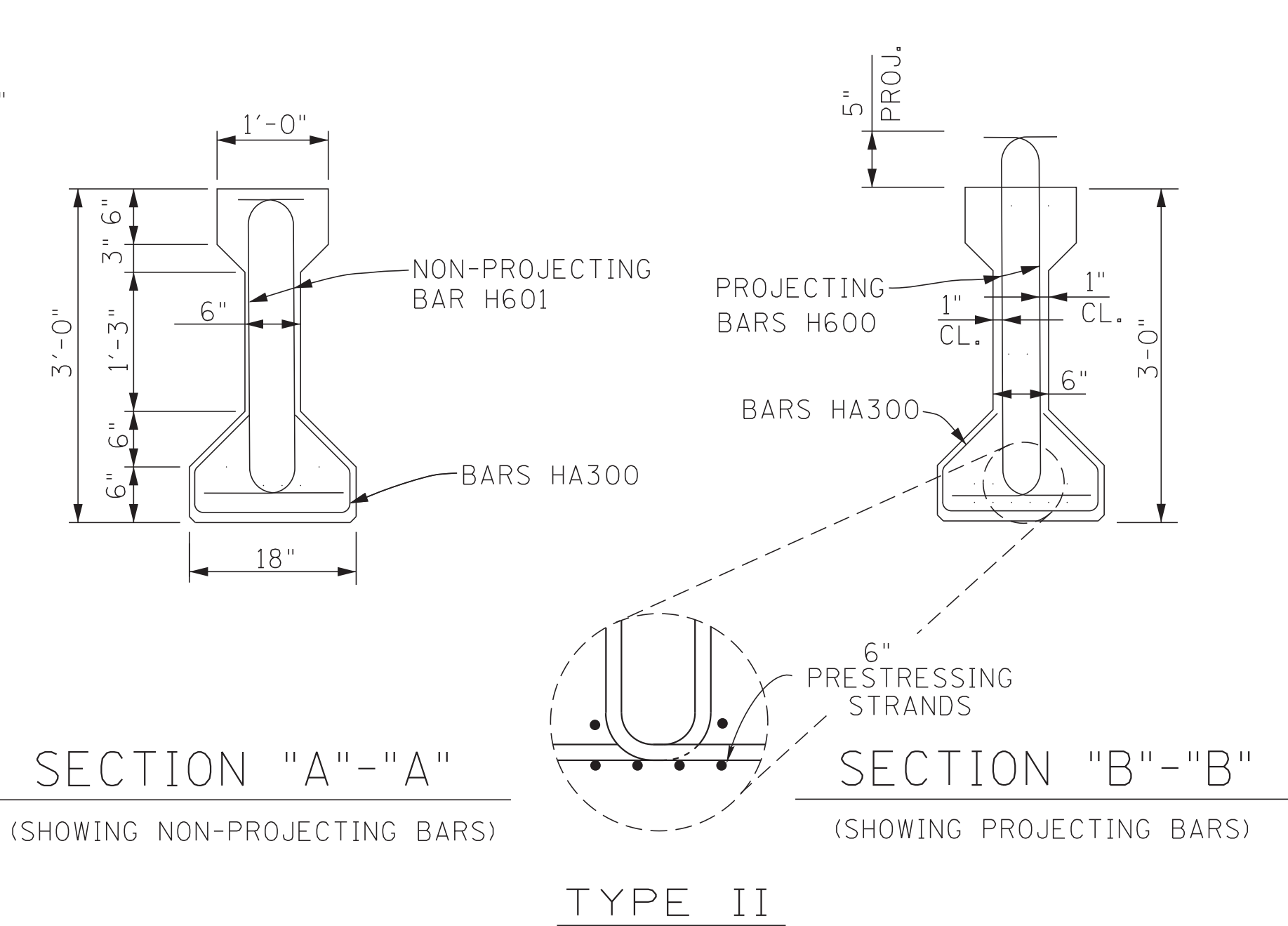
PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 2-25
DRAWN BY: C. STAPLER DATE: 3-25
SUPERVISED BY: STEELE/J. SHOULDER DATE: 2-25
CHECKED BY: A. DAHIR DATE: 3-25

10/24/2025 8:12:30 AM P:\STRUCTURES\CADD_REGION_1\37-HAWKINS\37SR0310007\BRIDGE_DRAWINGS\37SR0310007\BORDERADGN

PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 2-25
DRAWN BY: JERRY W. SIMPSON DATE: 2-25
SUPERVISED BY: STEELE/J. SHOULDER DATE: 2-25
CHECKED BY: A. DAHIR DATE: 3-25



STRAND PATTERN @ BEAM END
STRAND PATTERN @ MIDSPAN

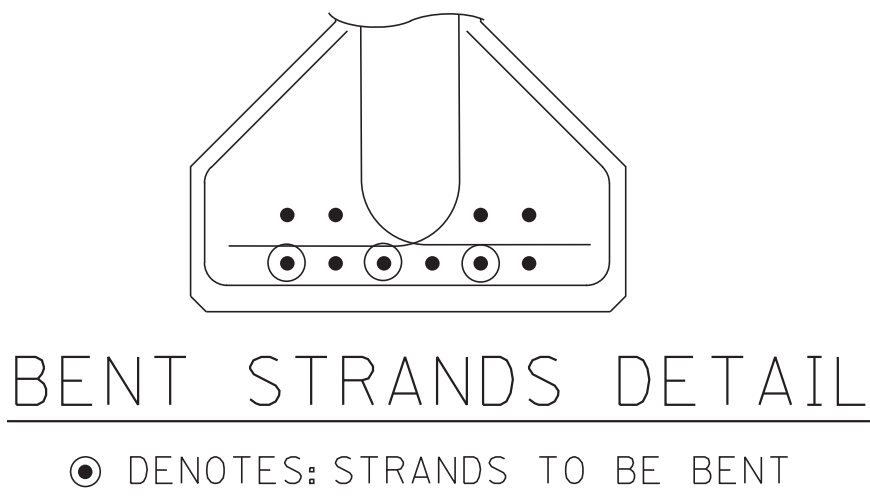


SECTION "A-A" (SHOWING NON-PROJECTING BARS)
SECTION "B-B" (SHOWING PROJECTING BARS)

TYPE II

ESTIMATED QUANTITIES - PER BEAM			
NO. OF BEAMS	PRESTRESSING STRANDS (LOW RELAXATION) LB.	CLASS "A" CONCRETE C.Y.	REINFORCING STEEL LB.
6	467	4.8	1,019

PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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-	-		
-	-		
-	-		
-	-		



BILL OF STEEL			
BAR	SIZE	NO. REQ'D.	LENGTH
A500	5	6	5'-6"
A600	6	2	49'-9"
H600	6	104	4'-4"
H601	6	24	3'-8"
HA300	3	20	3'-5"

NOTES:

NOTE: SEE STD-14-2 FOR I-BEAM STANDARD DETAILS, NOTES AND REINFORCING.

NOTE: ALL BEAMS ARE AASHTO - PCI STANDARD TYPE II.

NOTE: THE PRESTRESSED BEAMS SHALL ATTAIN AN AGE OF AT LEAST 90 DAYS PRIOR TO POURING THE SUPPORT DIAPHRAGMS (EXCLUDING BOTTOM 15") AND DECK SLAB.

NOTE: THE CONCRETE FOR THIS CONSTRUCTION SHALL BE OF SUCH PROPERTIES AS TO ATTAIN A COMPRESSIVE STRENGTH OF NOT LESS THAN 8,000 PSI AT THE AGE OF 28 DAYS AND STRESS TRANSFER SHALL NOT BE MADE TO THE BRIDGE MEMBER UNTIL THE TEST SPECIMENS INDICATE THAT THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF AT LEAST 6,000 PSI. SEE GENERAL NOTES FOR CONCRETE FINISHING NOTE.

NOTE: DOWNWARD DEFLECTION UNDER TOTAL DL IS NOT ALLOWED.

PRESTRESSING STRANDS: ALL STRANDS SHALL BE 6/10" DIAMETER, UNCOATED 7- WIRE STRANDS, ASTM A416 GRADE 270, LOW-LAX, A = 0.217 SQ. IN. PULLED TO 43,943 LBS. PER STRAND UNLESS OTHERWISE NOTED.

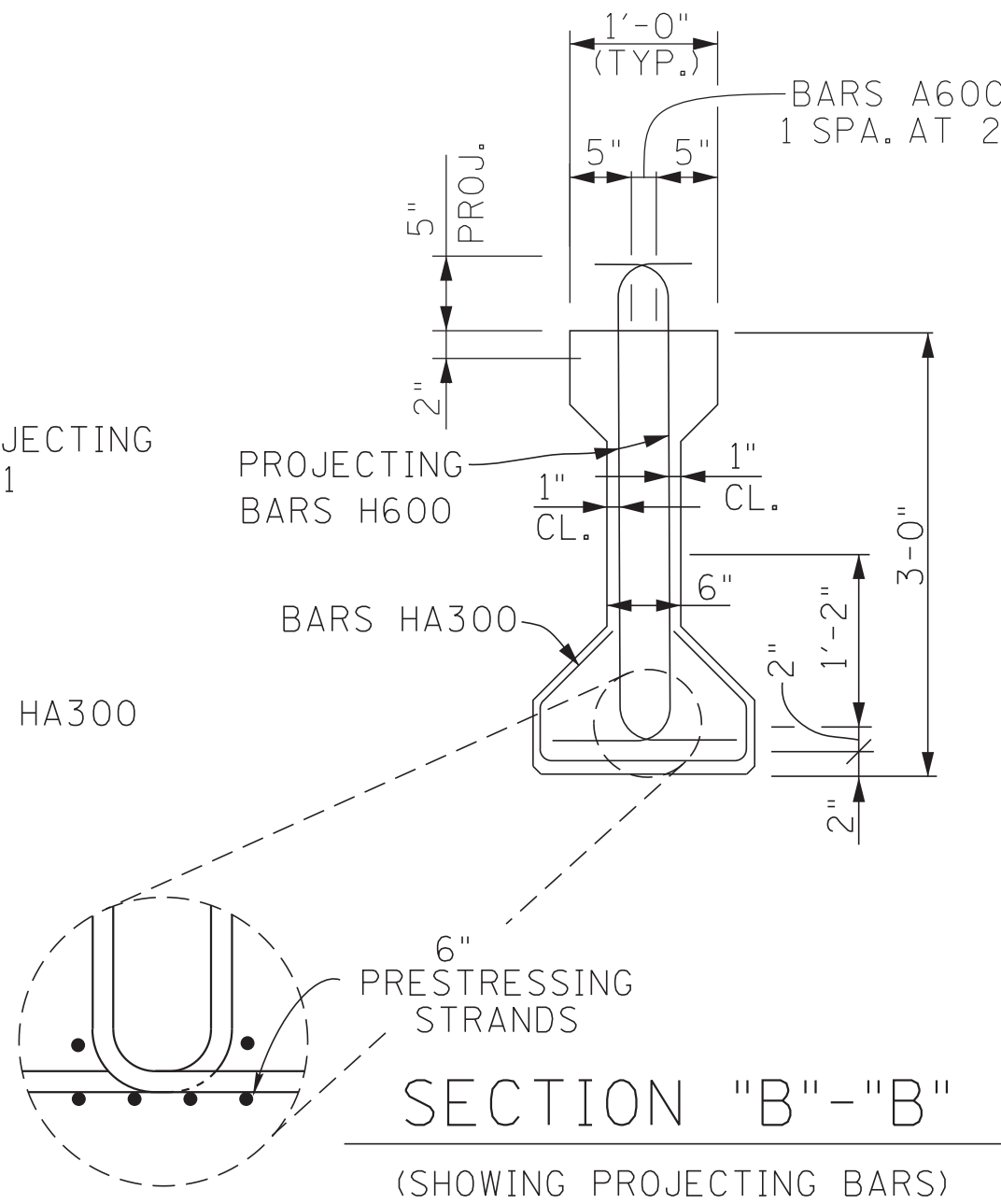
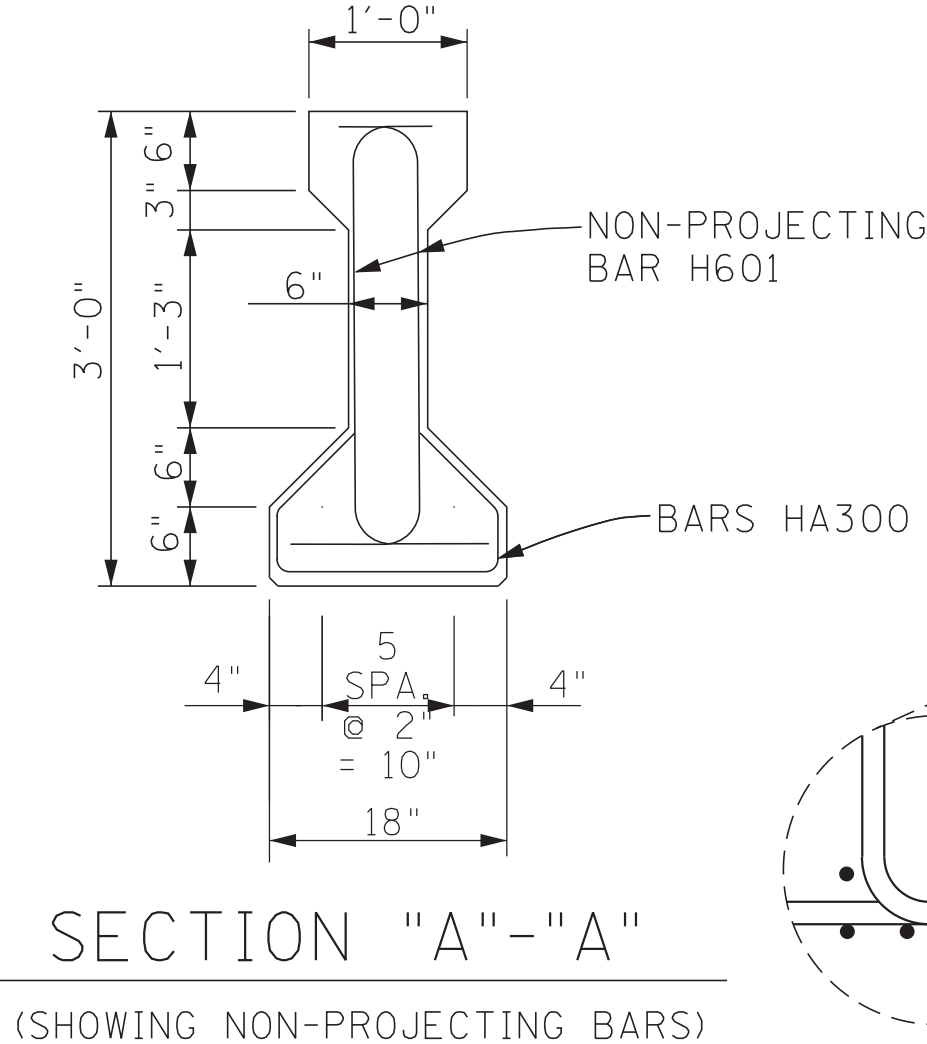
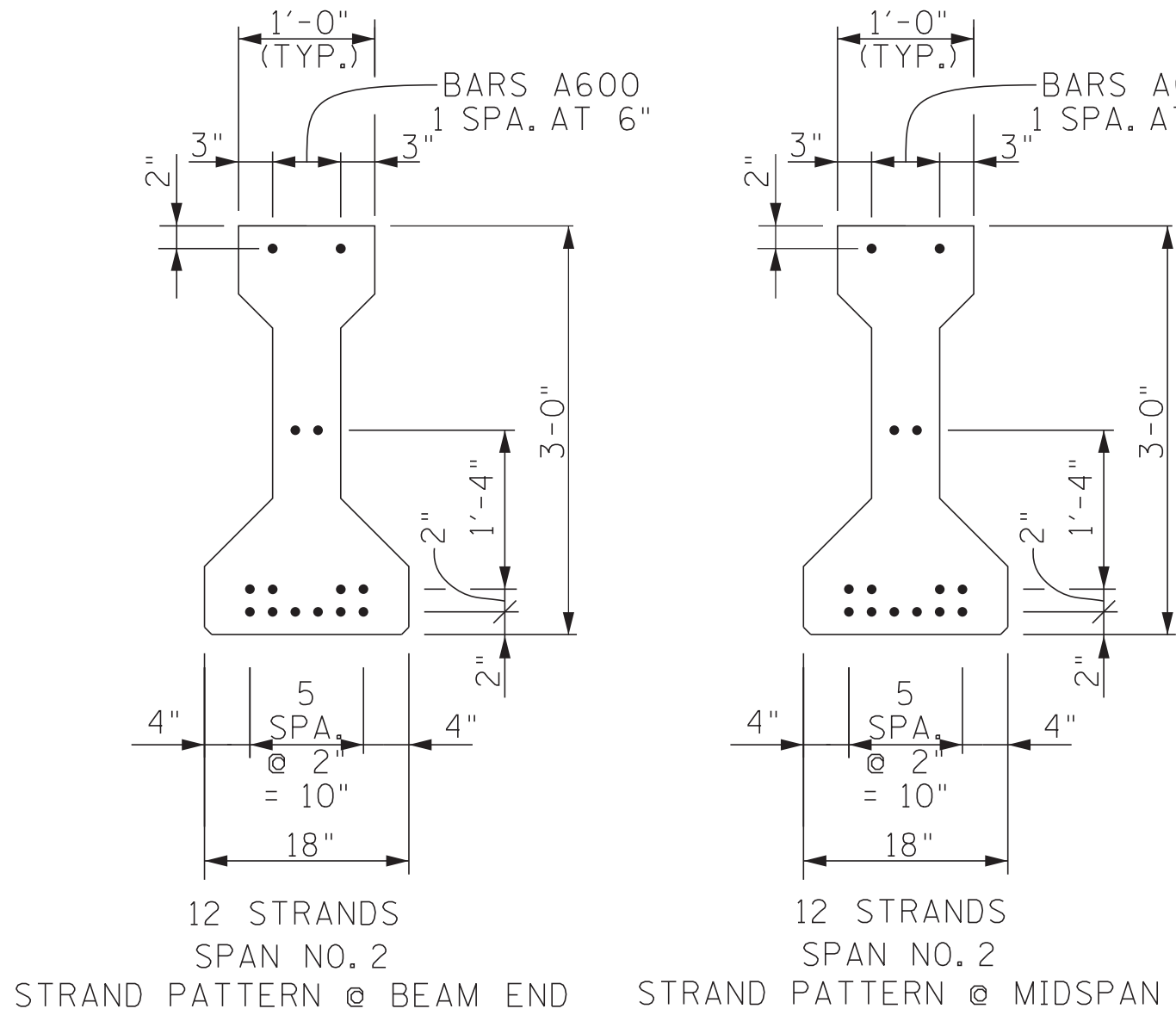
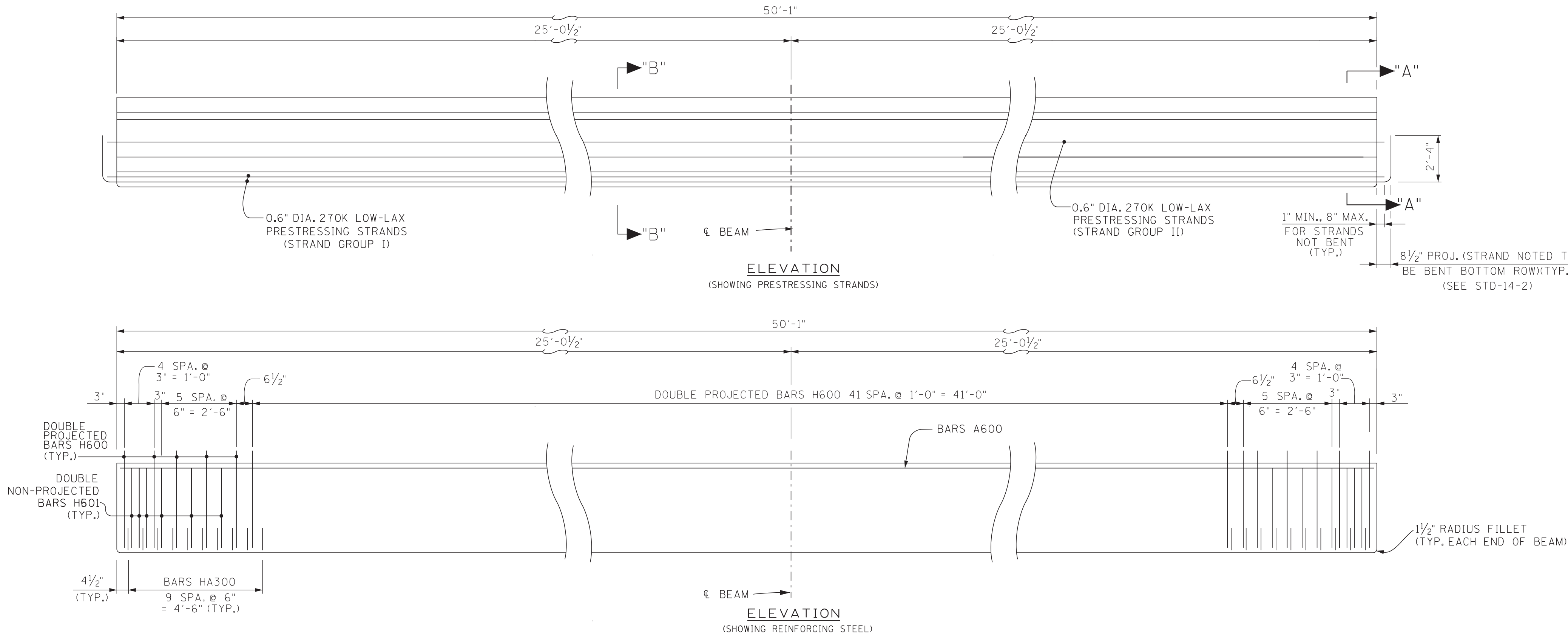
PRESTRESSED BEAM DESIGN DATA (PER BEAM):
LIVE LOAD DISTRIBUTION FACTOR: MOMENT = 0.80 LANES
SHEAR = 1.03 LANES
COMPOSITE DEAD LOAD: DC = 130 LB/FT
DW = 274 LB/FT
COMPOSITE SLAB DESIGN STRENGTH: F 'C = 4,000 PSI

BRIDGE NO. 2
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
PRESTRESSED I-BEAM DETAILS
SPAN NO. 1
STATE ROUTE 31
OVER
POOR VALLEY CREEK
BRIDGE ID. NO. 37SR0310007
STATION 230+94.00
LOG MILE 4.17
HAWKINS COUNTY

U-101-29

10/24/2025 2:10:09 PM P:\STRUCTURES\CADD_REGION_1\37-HAWKINS\37SR03\10007\BRIDGE_DRAWINGS\37SR03\10007\BORDERA.DGN

PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 2-25
DRAWN BY: JERRY W. SIMPSON DATE: 2-25
SUPERVISED BY: STEELE/J. SHOULDER DATE: 2-25
CHECKED BY: A. DAHIR DATE: 3-25



TYPE II

NOTES:

NOTE: SEE STD-14-2 FOR I-BEAM STANDARD DETAILS, NOTES AND REINFORCING.

NOTE: ALL BEAMS ARE AASHTO - PCI STANDARD TYPE II.

NOTE: THE PRESTRESSED BEAMS SHALL ATTAIN AN AGE OF AT LEAST 90 DAYS PRIOR TO POURING THE SUPPORT DIAPHRAGMS (EXCLUDING BOTTOM 15") AND DECK SLAB.

NOTE: THE CONCRETE FOR THIS CONSTRUCTION SHALL BE OF SUCH PROPERTIES AS TO ATTAIN A COMPRESSIVE STRENGTH OF NOT LESS THAN 8,000 PSI AT THE AGE OF 28 DAYS AND STRESS TRANSFER SHALL NOT BE MADE TO THE BRIDGE MEMBER UNTIL THE TEST SPECIMENS INDICATE THAT THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF AT LEAST 6,000 PSI. SEE GENERAL NOTES FOR CONCRETE FINISHING NOTE.

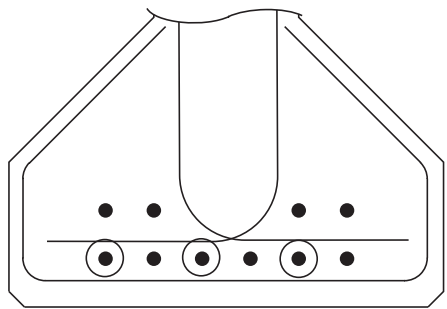
NOTE: DOWNWARD DEFLECTION UNDER TOTAL DL IS NOT ALLOWED.

PRESTRESSING STRANDS: ALL STRANDS SHALL BE 6/10" DIAMETER, UNCOATED 7- WIRE STRANDS, ASTM A416 GRADE 270, LOW-LAX, A = 0.217 SQ. IN. PULLED TO 43,943 LBS. PER STRAND UNLESS OTHERWISE NOTED.

PRESTRESSED BEAM DESIGN DATA (PER BEAM):
LIVE LOAD DISTRIBUTION FACTOR: MOMENT = 0.80 LANES
SHEAR = 1.03 LANES
COMPOSITE DEAD LOAD: DC = 130 LB/FT
DW = 274 LB/FT
COMPOSITE SLAB DESIGN STRENGTH: F 'C = 4,000 PSI

ESTIMATED QUANTITIES - PER BEAM			
NO. OF BEAMS	PRESTRESSING STRANDS (LOW RELAXATION) LB.	CLASS "P" CONCRETE C.Y.	REINFORCING STEEL LB.
6	467	4.8	1019

PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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- -			
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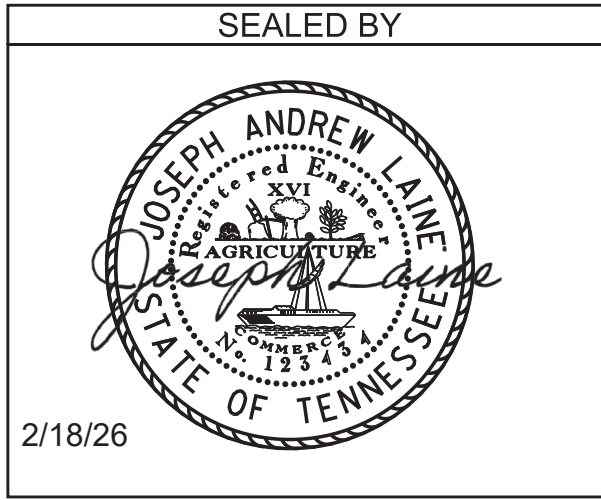


BENT STRANDS DETAIL

● DENOTES: STRANDS TO BE BENT

BILL OF STEEL

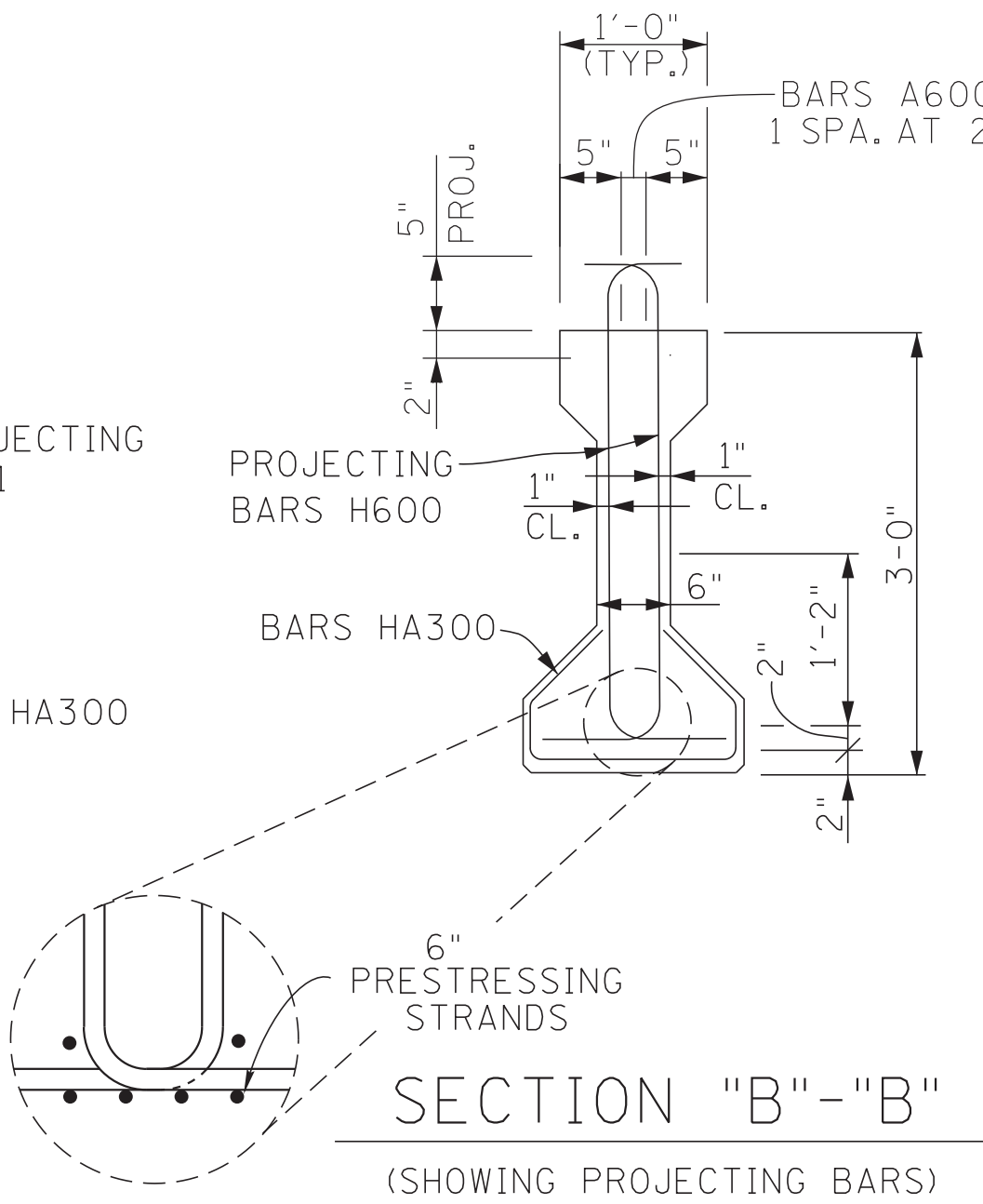
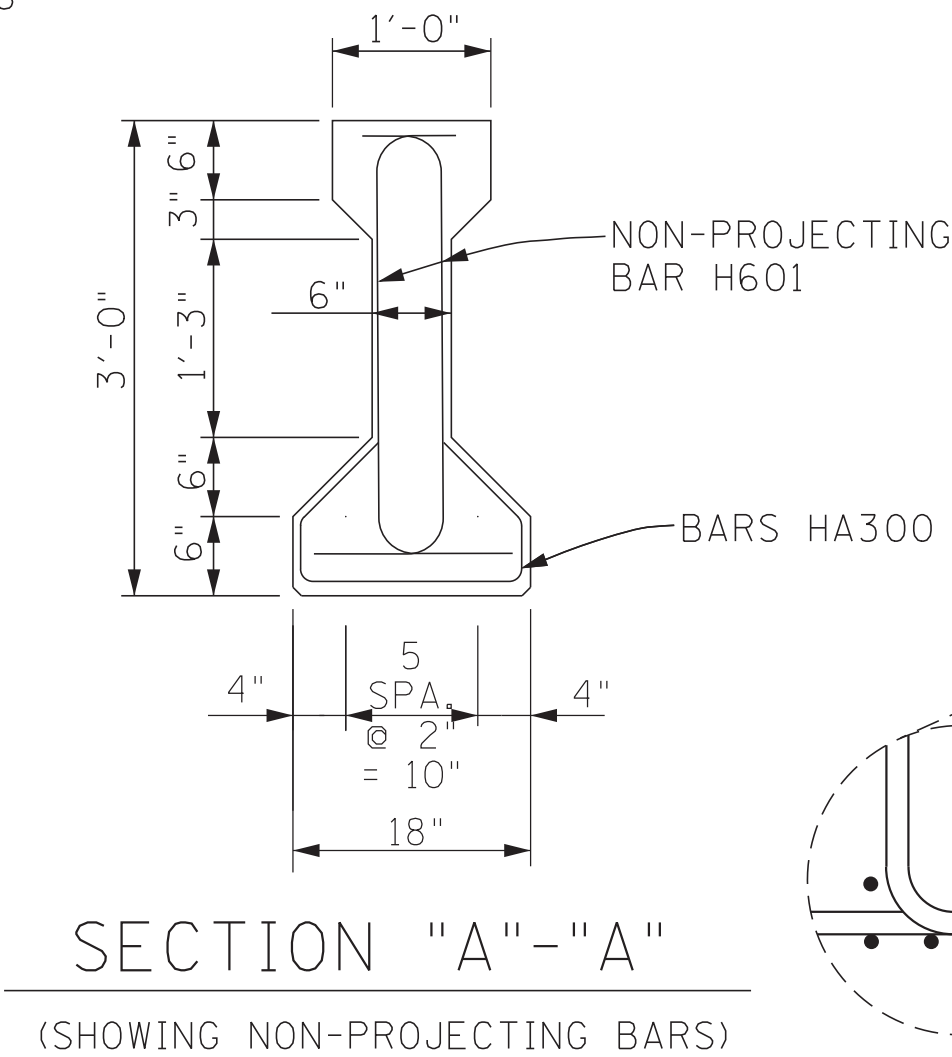
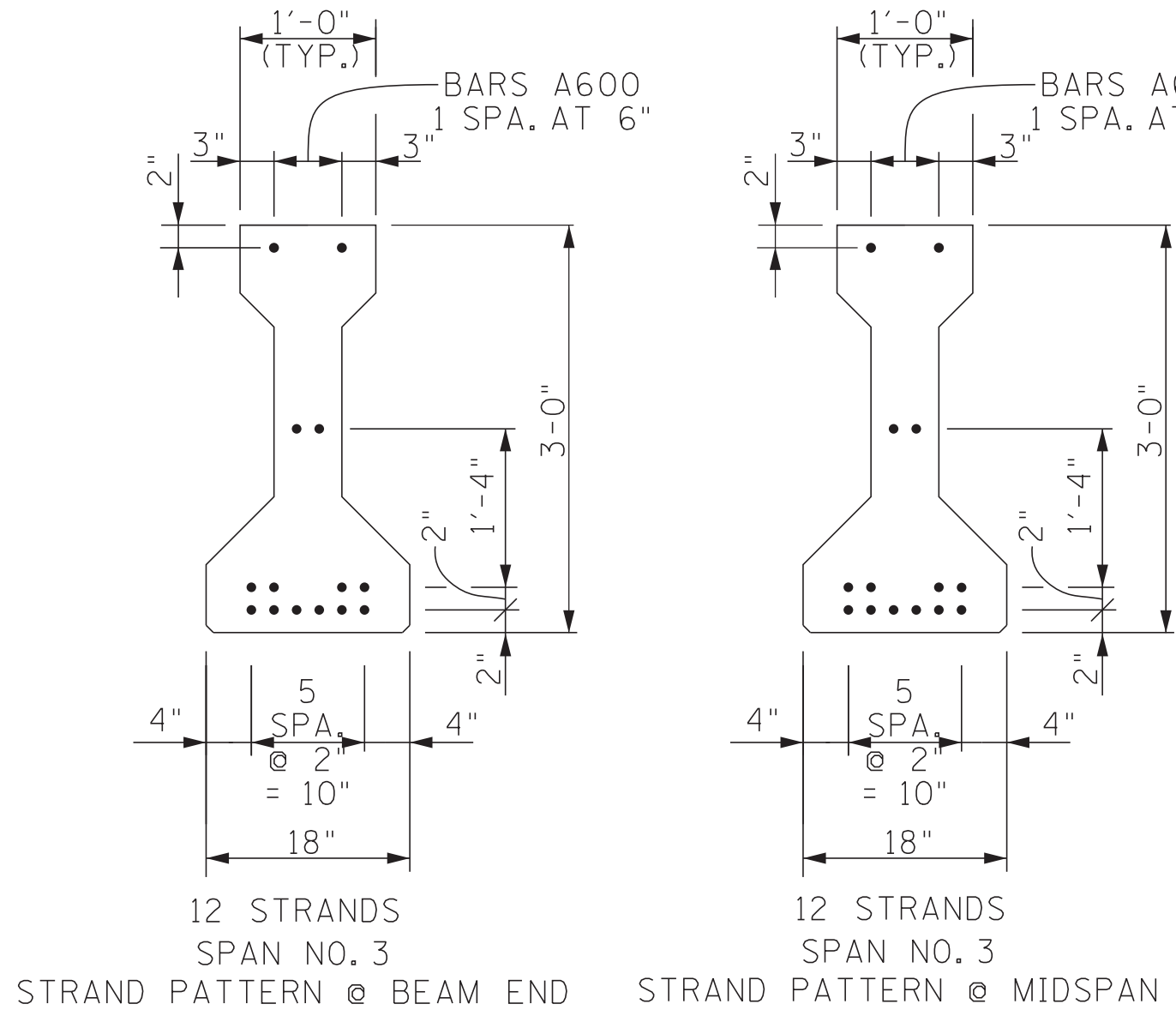
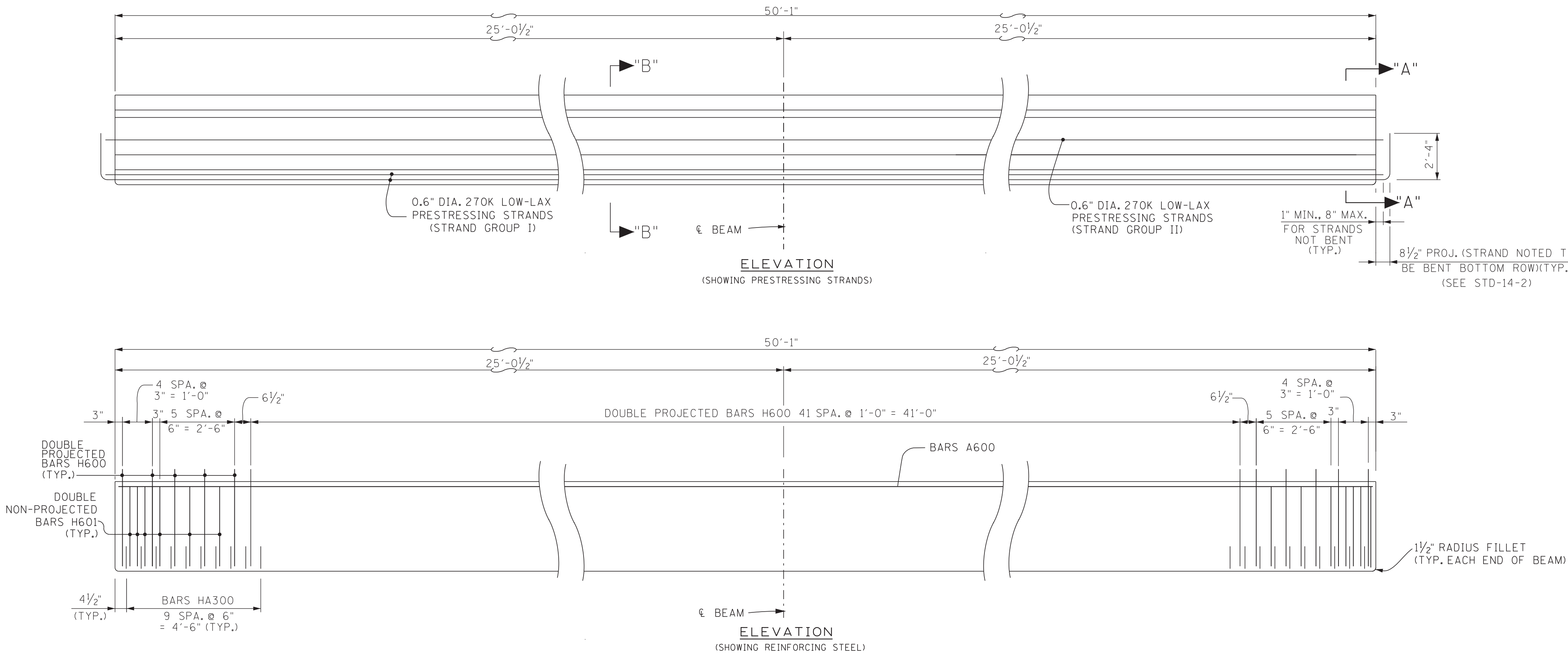
BAR	SIZE	NO. REQ'D.	LENGTH
A500	5	6	5'-6"
A600	6	2	49'-9"
H600	6	104	4'-4"
H601	6	24	3'-8"
HA300	3	20	3'-5"



BRIDGE NO. 2
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
PRESTRESSED I-BEAM DETAILS
SPAN NO. 2
STATE ROUTE 31
OVER
POOR VALLEY CREEK
BRIDGE ID. NO. 37SR0310007
STATION 230+94.00
LOG MILE 4.17
HAWKINS COUNTY

10/24/2025 3:00:14 PM P:\STRUCTURES\CADD_REGION_1\37-HAWKINS\37SR03\1007\BRIDGE_DRAWINGS\37SR03\1007\BORDERA.DGN

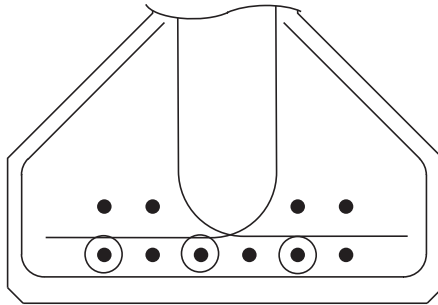
PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 2-25
DRAWN BY: JERRY W. SIMPSON DATE: 2-25
SUPERVISED BY: STEELE/J. SHOULDER DATE: 2-25
CHECKED BY: A. DAHIR DATE: 3-25



TYPE II

ESTIMATED QUANTITIES - PER BEAM			
NO. OF BEAMS	PRESTRESSING STRANDS (LOW RELAXATION) LB.	CLASS "A" CONCRETE C.Y.	REINFORCING STEEL LB.
6	467	4.8	1019

PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
- -			
- -			
- -			
- -			



BENT STRANDS DETAIL

● DENOTES: STRANDS TO BE BENT

BILL OF STEEL			
BAR	SIZE	NO. REQ'D.	LENGTH
A500	5	6	5'-6"
A600	6	2	49'-9"
H600	6	104	4'-4"
H601	6	24	3'-8"
HA300	3	20	3'-5"

NOTES:

NOTE: SEE STD-14-2 FOR I-BEAM STANDARD DETAILS, NOTES AND REINFORCING.

NOTE: ALL BEAMS ARE AASHTO - PCI STANDARD TYPE II.

NOTE: THE PRESTRESSED BEAMS SHALL ATTAIN AN AGE OF AT LEAST 90 DAYS PRIOR TO POURING THE SUPPORT DIAPHRAGMS (EXCLUDING BOTTOM 15") AND DECK SLAB.

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PRESTRESSED BEAM DESIGN DATA (PER BEAM):

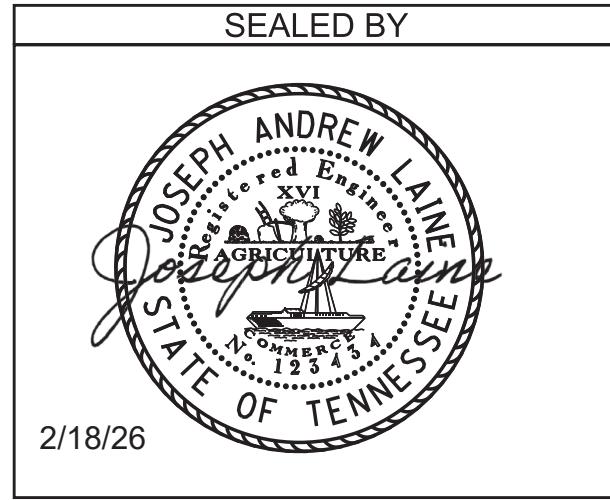
LIVE LOAD DISTRIBUTION FACTOR: MOMENT = 0.80 LANES

SHEAR = 1.03 LANES

COMPOSITE DEAD LOAD: DC = 130 LB/FT

DW = 274 LB/FT

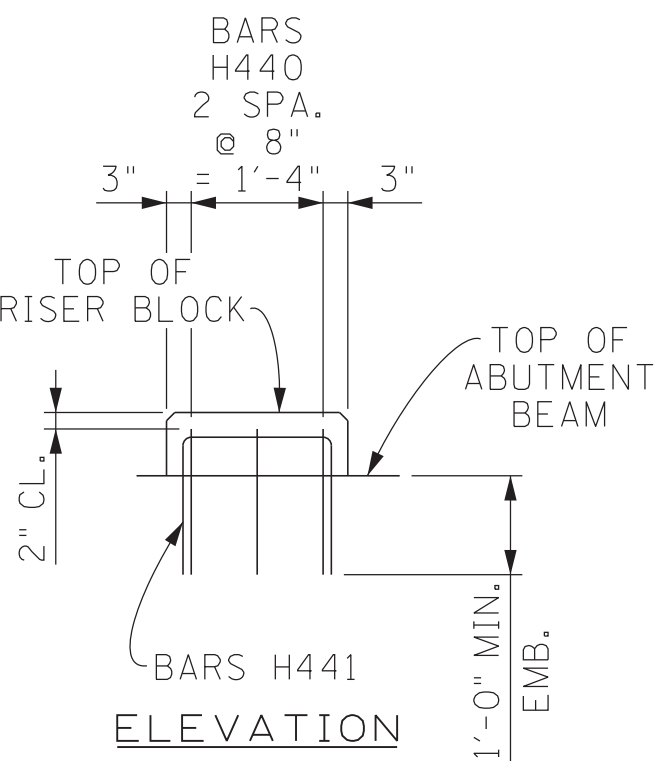
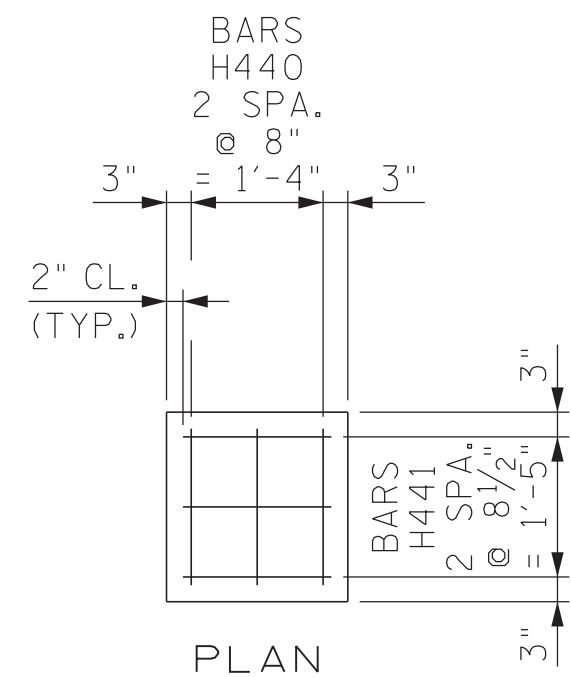
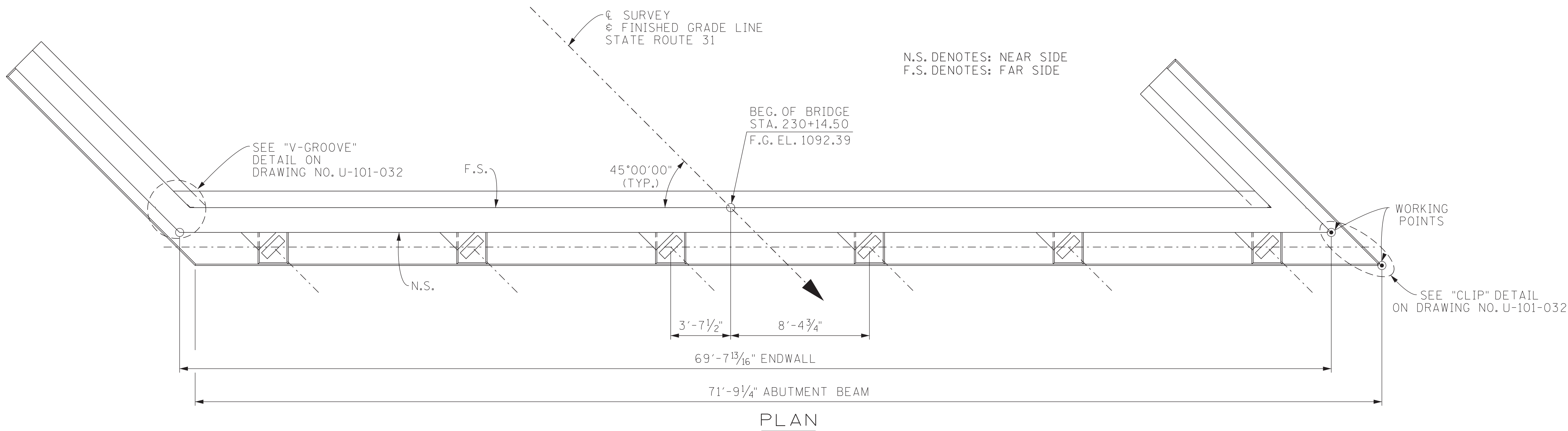
COMPOSITE SLAB DESIGN STRENGTH: F 'C = 4,000 PSI



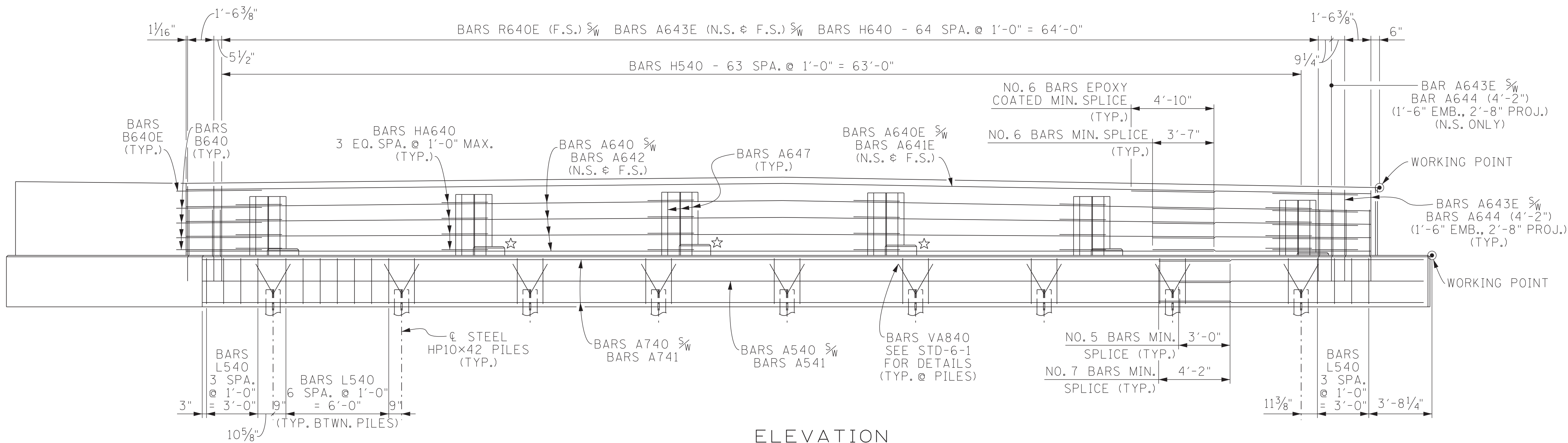
BRIDGE NO. 2
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
PRESTRESSED I-BEAM DETAILS
SPAN NO. 3
STATE ROUTE 31
OVER
POOR VALLEY CREEK
BRIDGE ID. NO. 37SR0310007
STATION 230+94.00
LOG MILE 4.17
HAWKINS COUNTY

U-101-31

PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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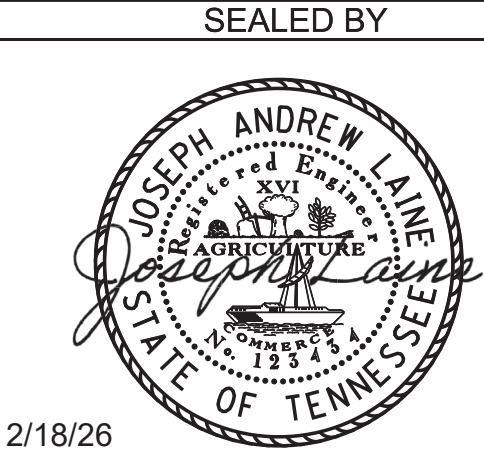


RISER BLOCK REINFORCEMENT DETAILS



ELEVATION
(LOOKING BACK ON SURVEY)
(SHOWING STEEL ONLY)

☆ DENOTES: RISER BLOCKS TO BE REINFORCED.
FOR DETAILS SEE RISER BLOCK REINFORCEMENT
DETAILS ON THIS DRAWING.

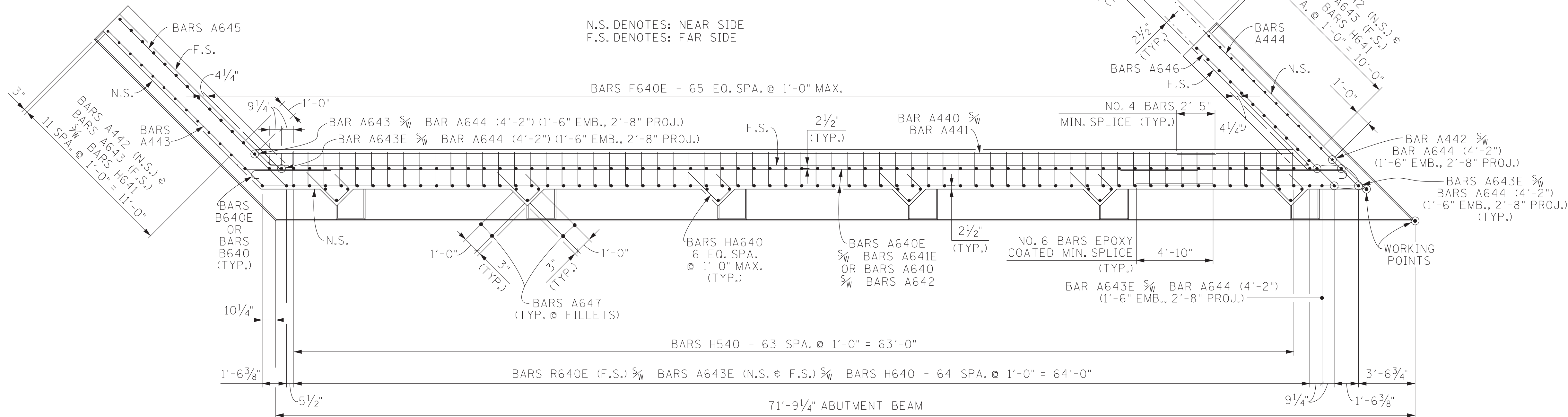


BRIDGE NO. 2
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ABUTMENT NO. 1 DETAILS
STATE ROUTE 31
OVER
POOR VALLEY CREEK
BRIDGE ID. NO. 37SR0310007
STATION 230+94.00
LOG MILE 4.17
HAWKINS COUNTY

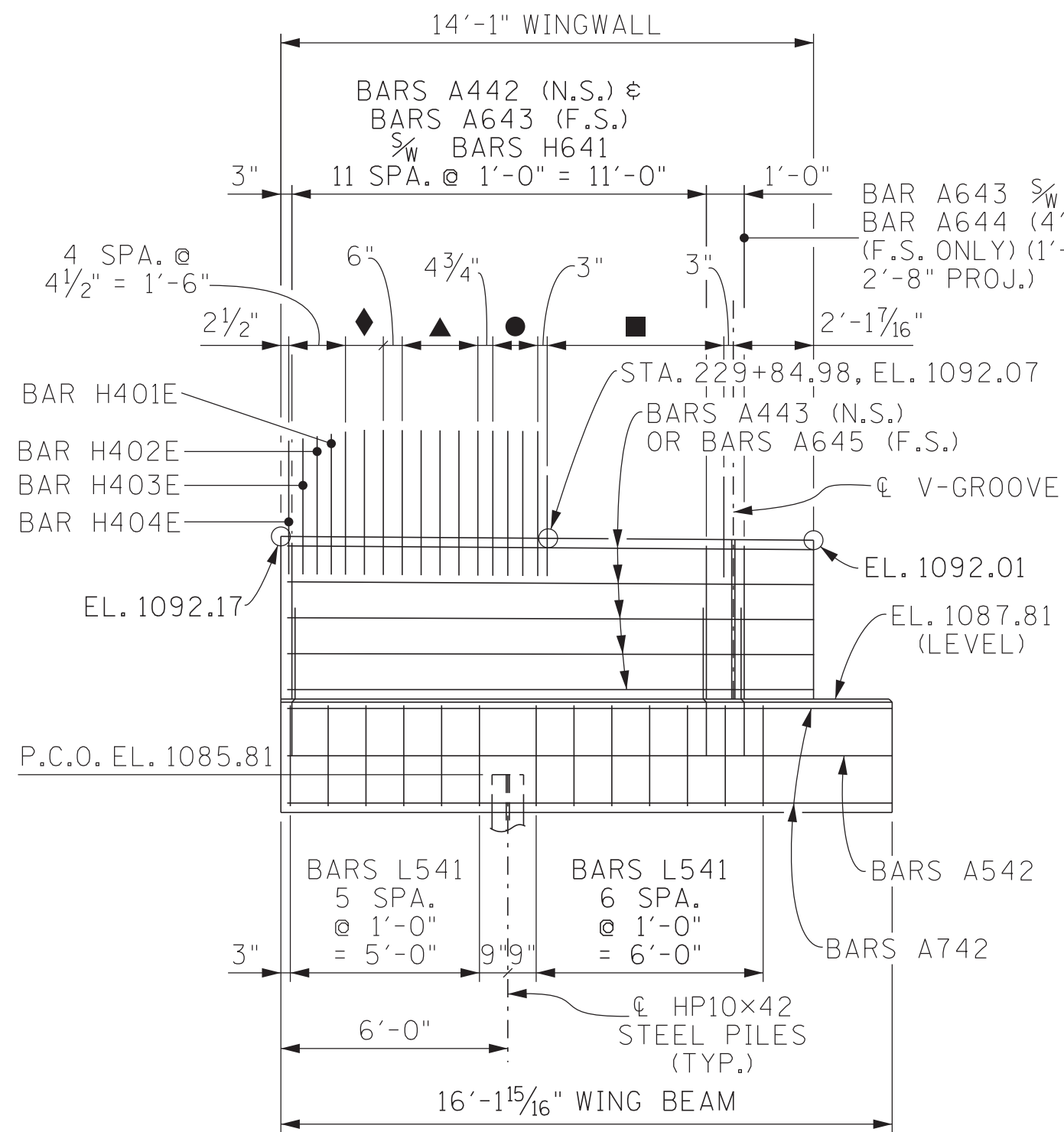
PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 2-25
DRAWN BY: T. WISEMAN DATE: 2-25
SUPERVISED BY: STEELE/J. SHOULDER DATE: 2-25
CHECKED BY: A. DAHIR DATE: 3-25

8:32:54 AM

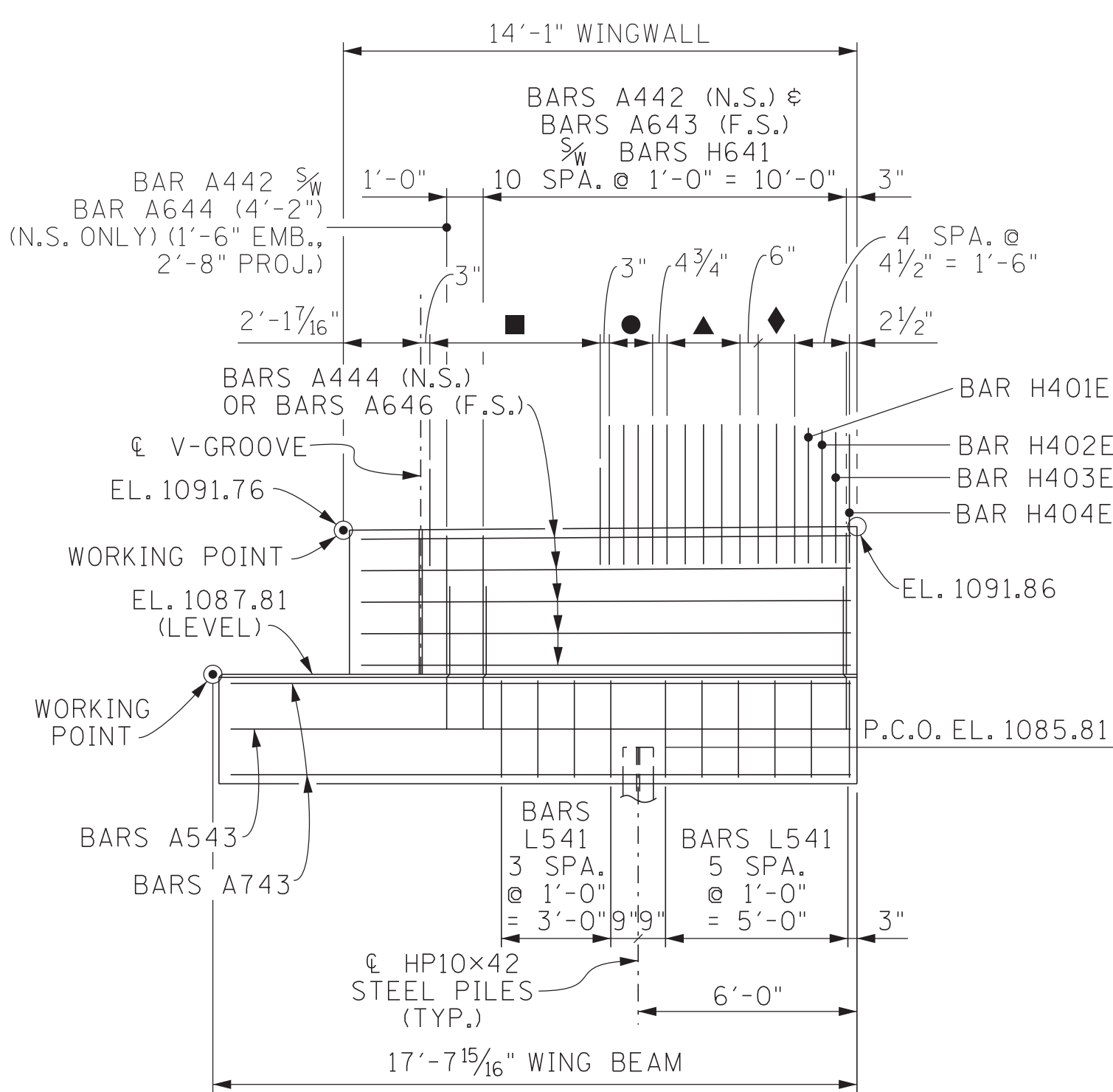
11/17/2025



SECTION "C"-"C"



ELEVATION "A"-"A"

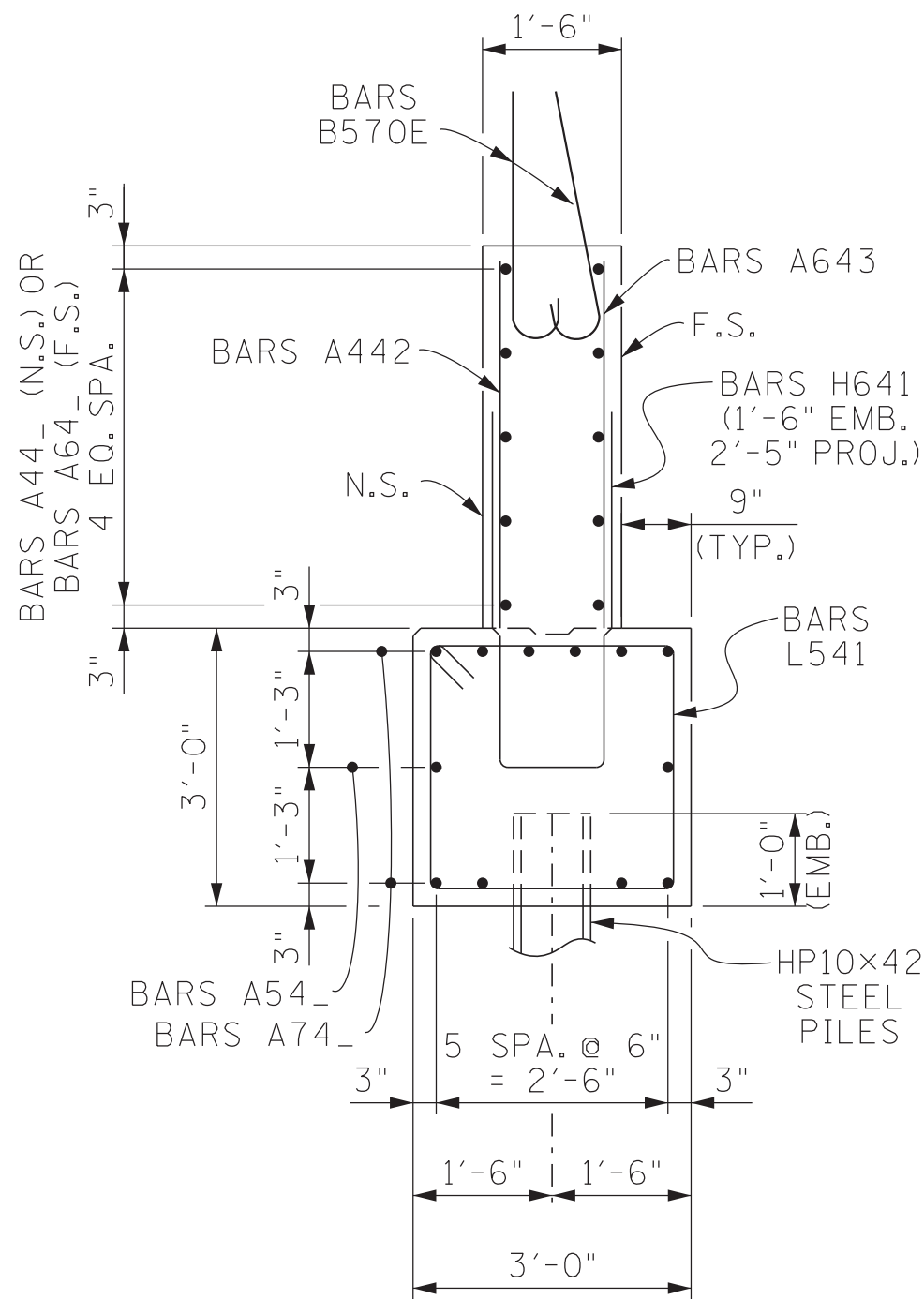


ELEVATION "B"-"B"

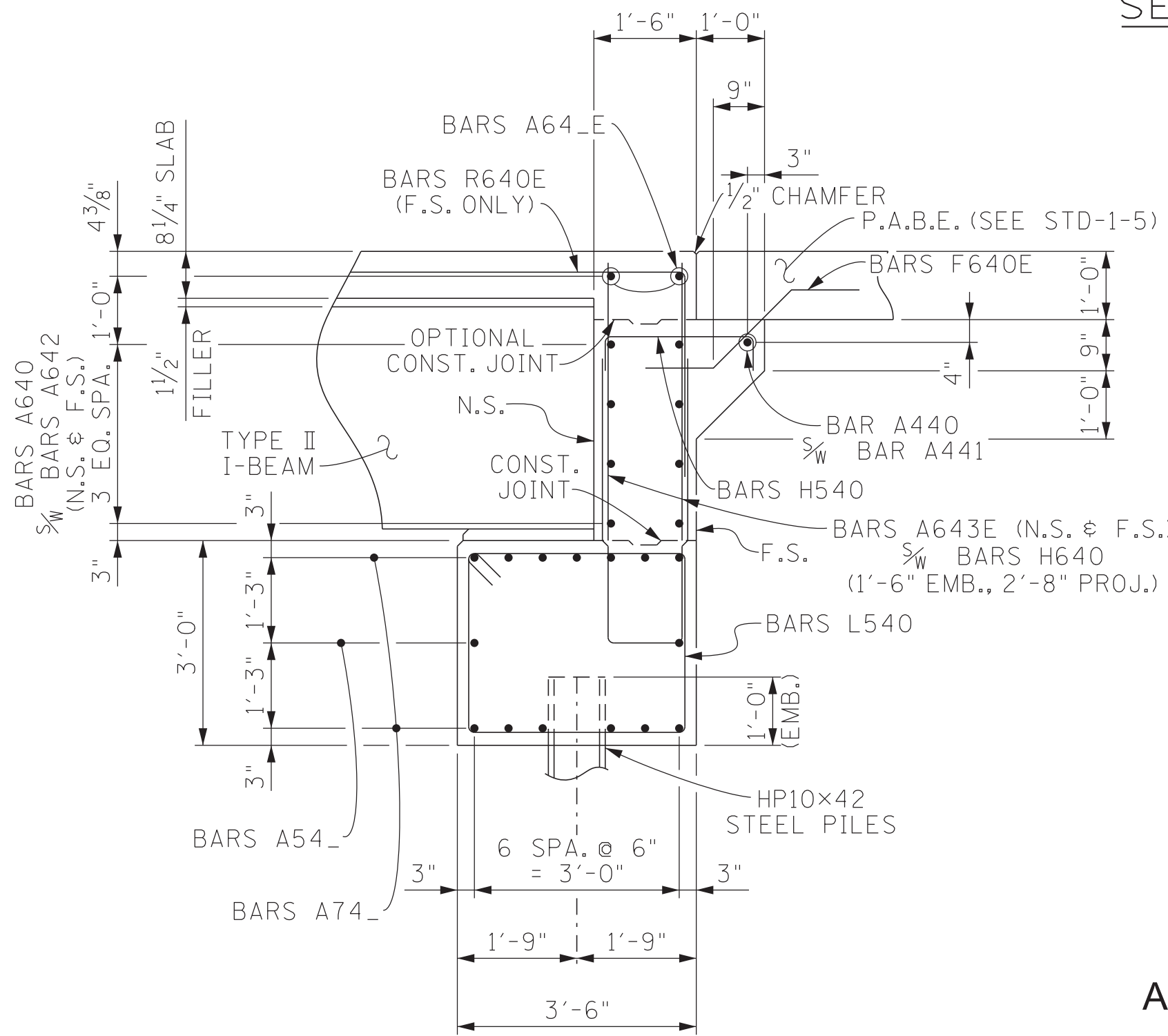
- ◆ DENOTES: BARS H400E - 2 SPA. @ 6" = 1'-0"
▲ DENOTES: SERIES BARS HD401E - 4 SPA. @ 6" = 2'-0"
● DENOTES: SERIES BARS HD400E - 3 SPA. @ 4 3/4" = 1'-2 1/4"
■ DENOTES: DOUBLE BARS B570E - 8 SPA. @ 8" MAX. = 4'-8 1/16"
P.C.O. EL. DENOTES: PILE CUT-OFF ELEVATION

PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 2-25
DRAWN BY: T. WISEMAN DATE: 2-25
SUPERVISED BY: STEELE/J. SHOULDER DATE: 2-25
CHECKED BY: A. DAHIR DATE: 3-25

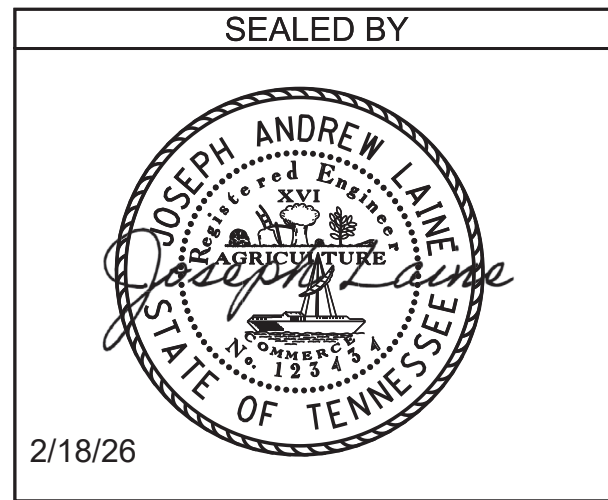
PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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SECTION "A"-"A"



SECTION "B"-"B"



BRIDGE NO. 2
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ABUTMENT NO. 1 DETAILS
STATE ROUTE 31
OVER
POOR VALLEY CREEK
BRIDGE ID. NO. 37SR0310007
STATION 230+94.00
LOG MILE 4.17
HAWKINS COUNTY

PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
- -			
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NOTE: RISER BLOCKS SHALL BE POURED MONOLITHICALLY WITH THE ABUTMENT BEAM.

NOTE: ELASTOMERIC PADS SHALL BE IN PLACE A MINIMUM OF ONE DAY BEFORE BEING DISTURBED BY SETTING BEAMS. PLACE RUBBER BONDING CEMENT IN SUCH A WAY THAT VISIBLE CONCRETE SURFACES WILL NOT BE STAINED.

NOTE: WHEN POURING WINGWALLS, PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR WINGPOSTS AND PARAPETS. FOR DETAILS OF WINGPOSTS AND PARAPETS, SEE STD. DWG. NO. STD-1-1SS.

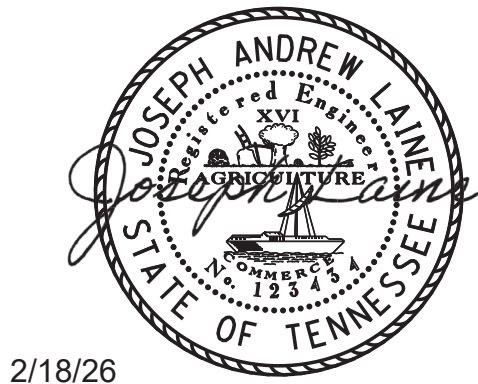
NOTE: NOT LESS THAN HALF OF THE SLAB IN THE END SPANS SHALL BE POURED PRIOR TO, OR CONCURRENTLY WITH, PLACEMENT OF ANY PART OF THE ABUTMENT ENDWALLS. AT LEAST THE TOP 12 INCHES OF THE ENDWALLS SHALL BE POURED CONCURRENTLY WITH THE END OF SLAB.

NOTE: COST OF PARAPET AND POST IS TO BE INCLUDED IN THE UNIT PRICE BID FOR THE PARAPET SYSTEM.

NOTE: SEE STANDARD DRAWING STD-6-1 FOR PILE SEISMIC ATTACHMENT DETAILS AND NOTES.

NOTE: WINGBEAM PILES SHALL BE DRIVEN TO THE PLANS TIP ELEVATION OR REFUSAL. SEISMIC ATTACHMENT IS NOT REQUIRED FOR WINGBEAM PILES.

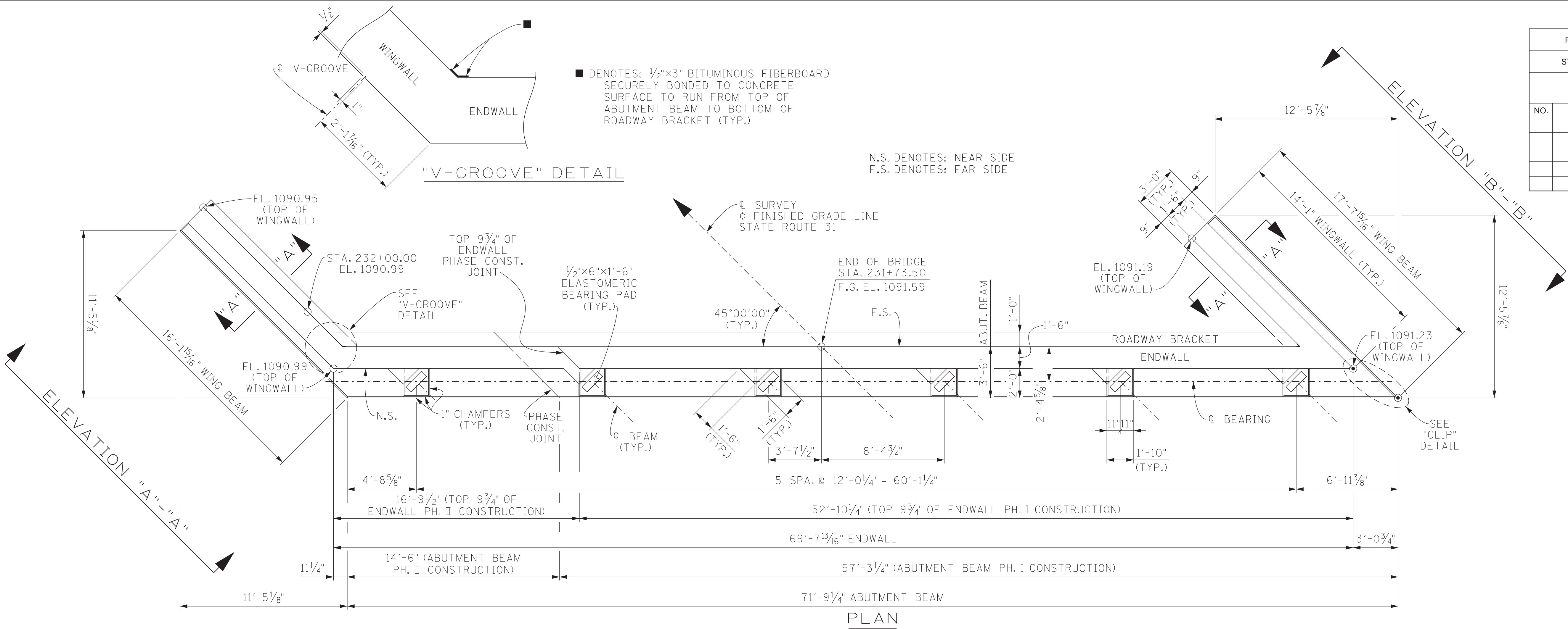
SEALED BY



2/18/26

BRIDGE NO. 2
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ABUTMENT NO. 2
STATE ROUTE 31
OVER
POOR VALLEY CREEK
BRIDGE ID. NO. 37SR0310007
STATION 230+94.00
LOG MILE 4.17
HAWKINS COUNTY

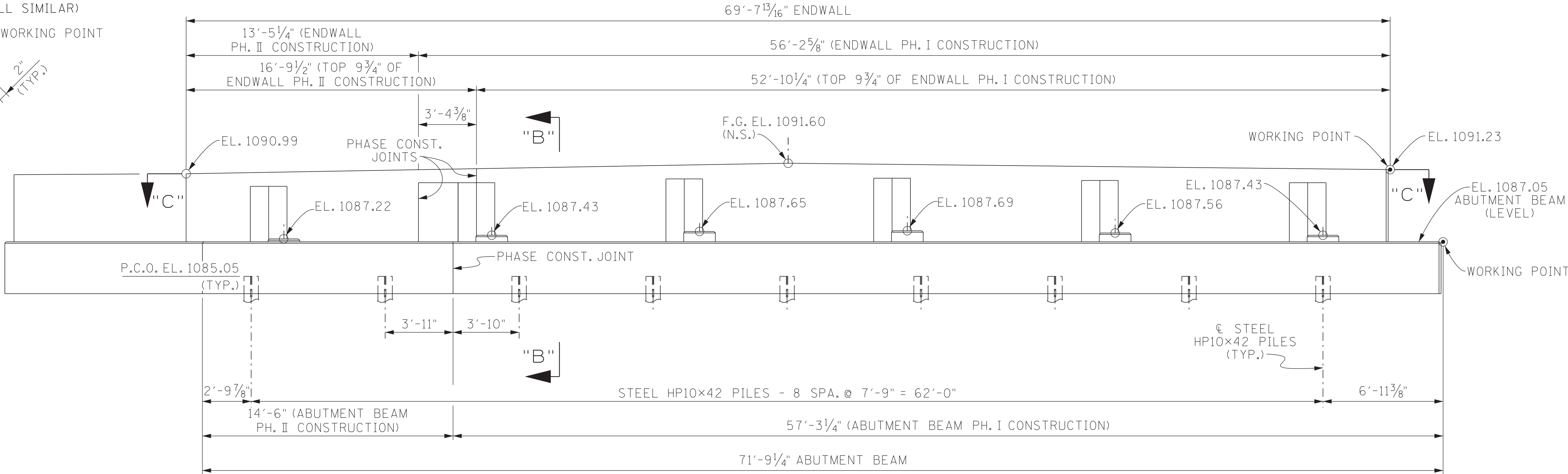
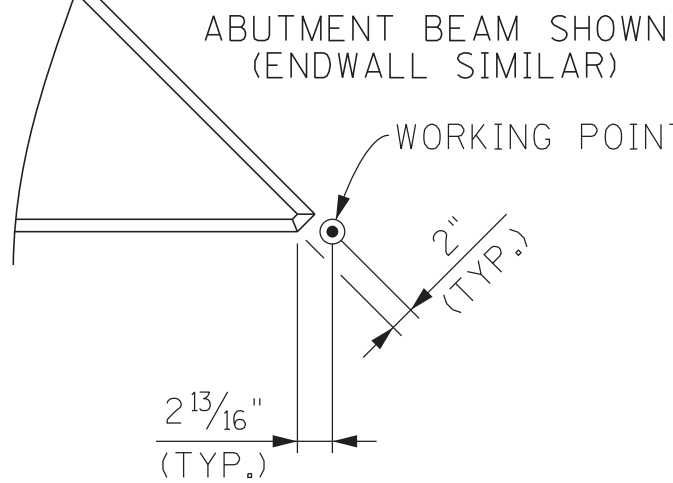
U-101-35



PLAN

NOTE: FOR ELEVATION "A"- "A", ELEVATION "B"- "B", SECTION "A"- "A", SECTION "B"- "B", AND SECTION "C"- "C" SEE DRAWING NO. U-101-037.

"CLIP" DETAIL



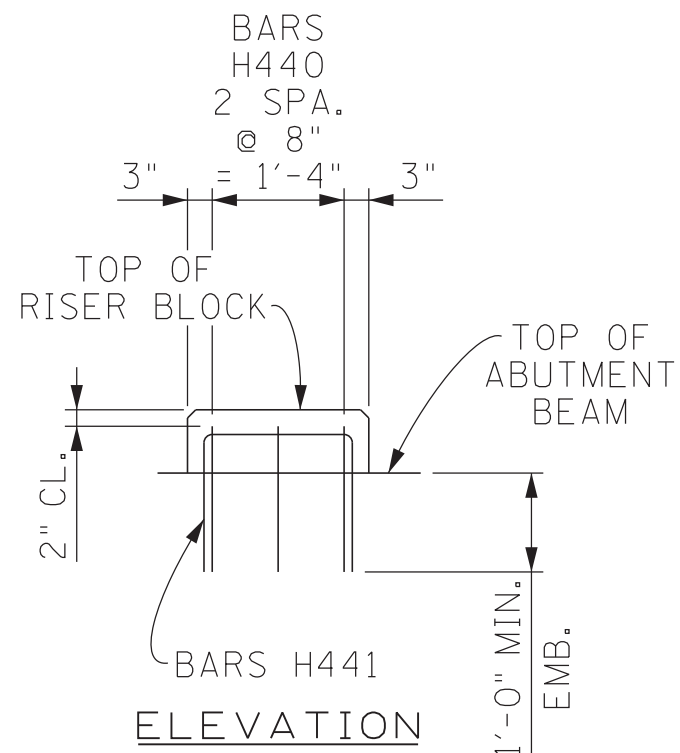
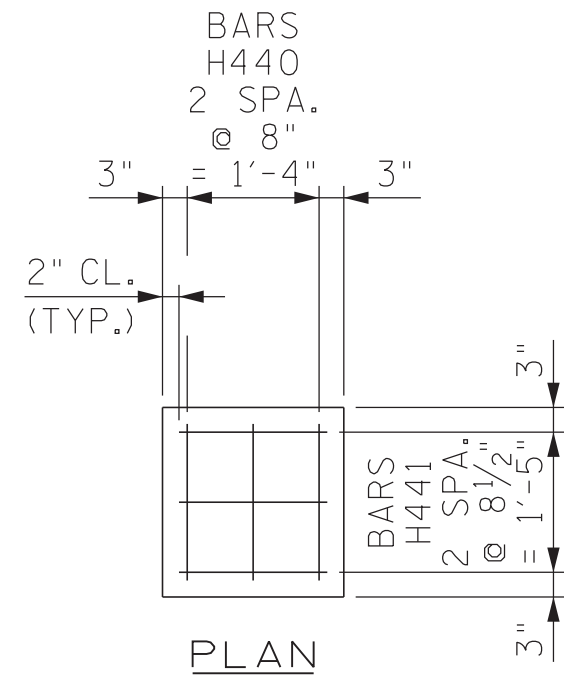
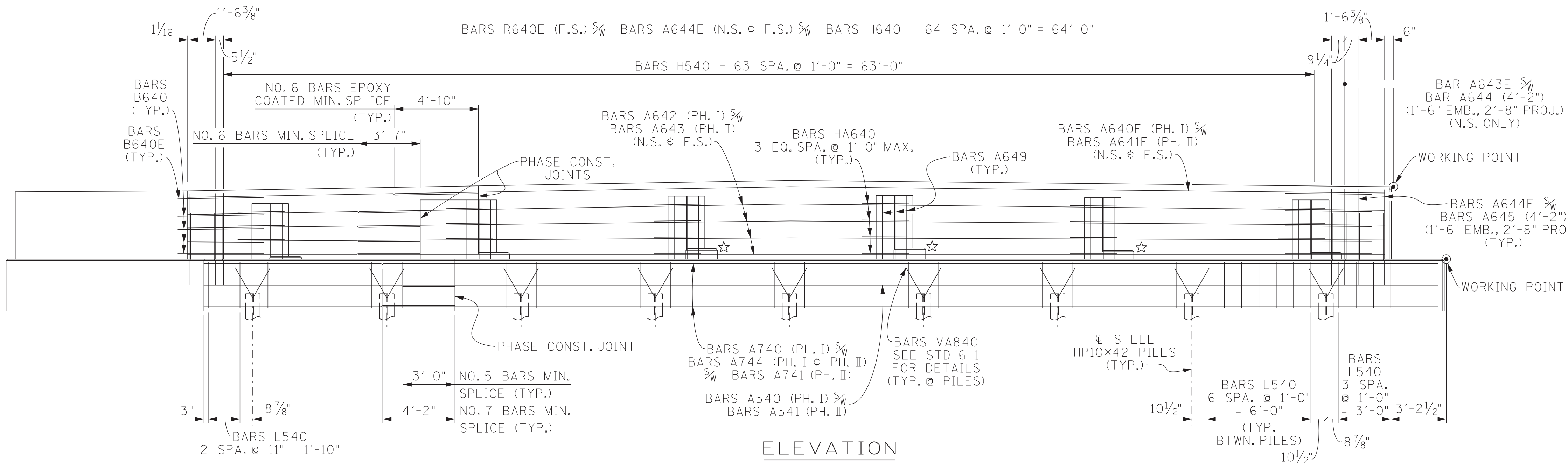
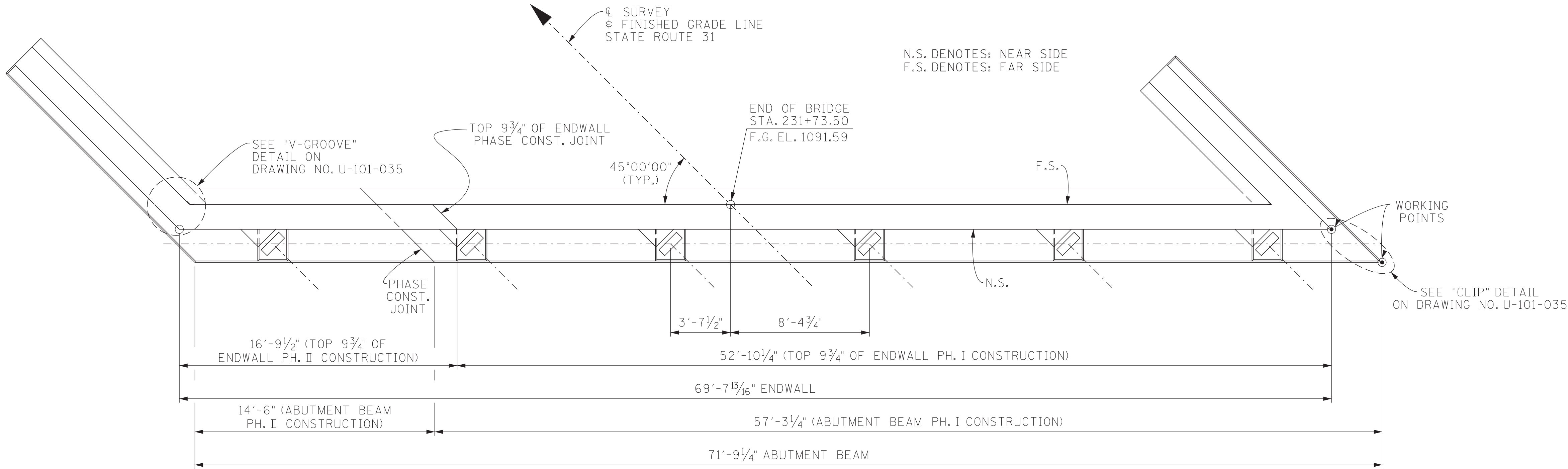
ELEVATION

(LOOKING FORWARD ON SURVEY)

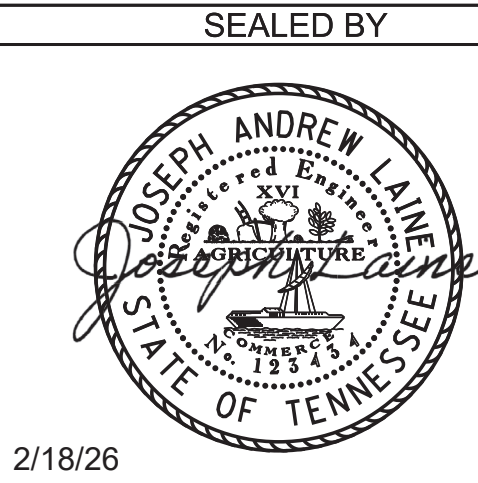
PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 2-25
DRAWN BY: T. WISEMAN DATE: 2-25
SUPERVISED BY: STEELE/J. SHOULDER DATE: 2-25
CHECKED BY: A. DAHIR DATE: 3-25

8:15:45 AM
11/17/2025

PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
- -			
- -			
- -			
- -			
- -			



RISER BLOCK
REINFORCEMENT DETAILS

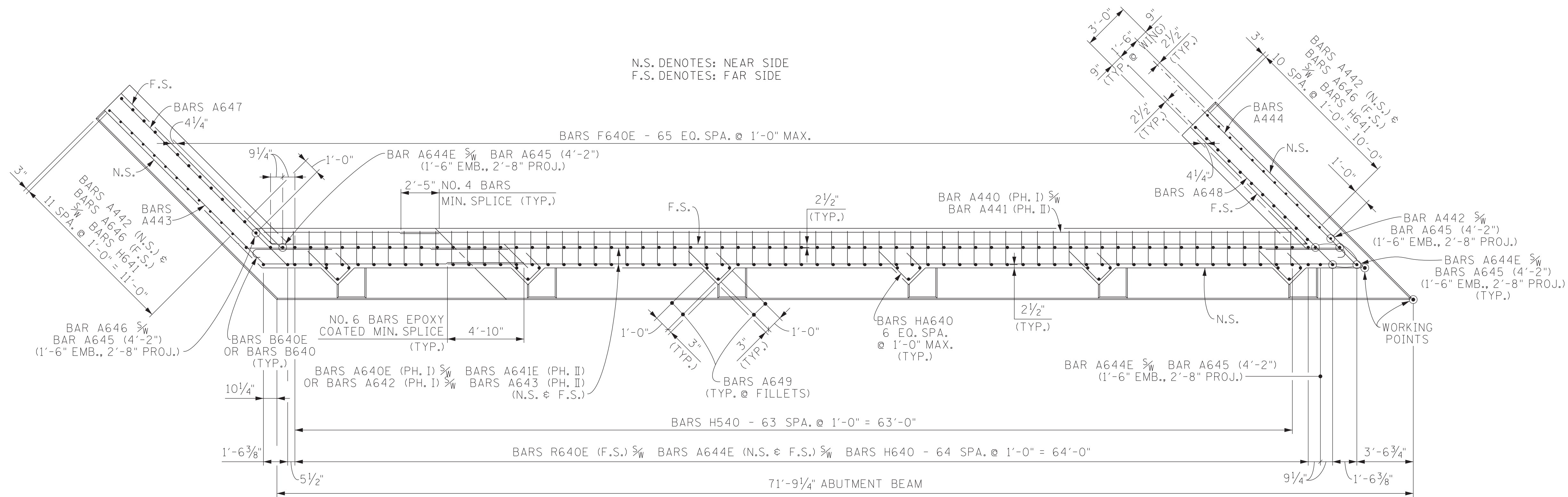


BRIDGE NO. 2
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ABUTMENT NO. 2 DETAILS
STATE ROUTE 31
OVER
POOR VALLEY CREEK
BRIDGE ID. NO. 37SR0310007
STATION 230+94.00
LOG MILE 4.17
HAWKINS COUNTY

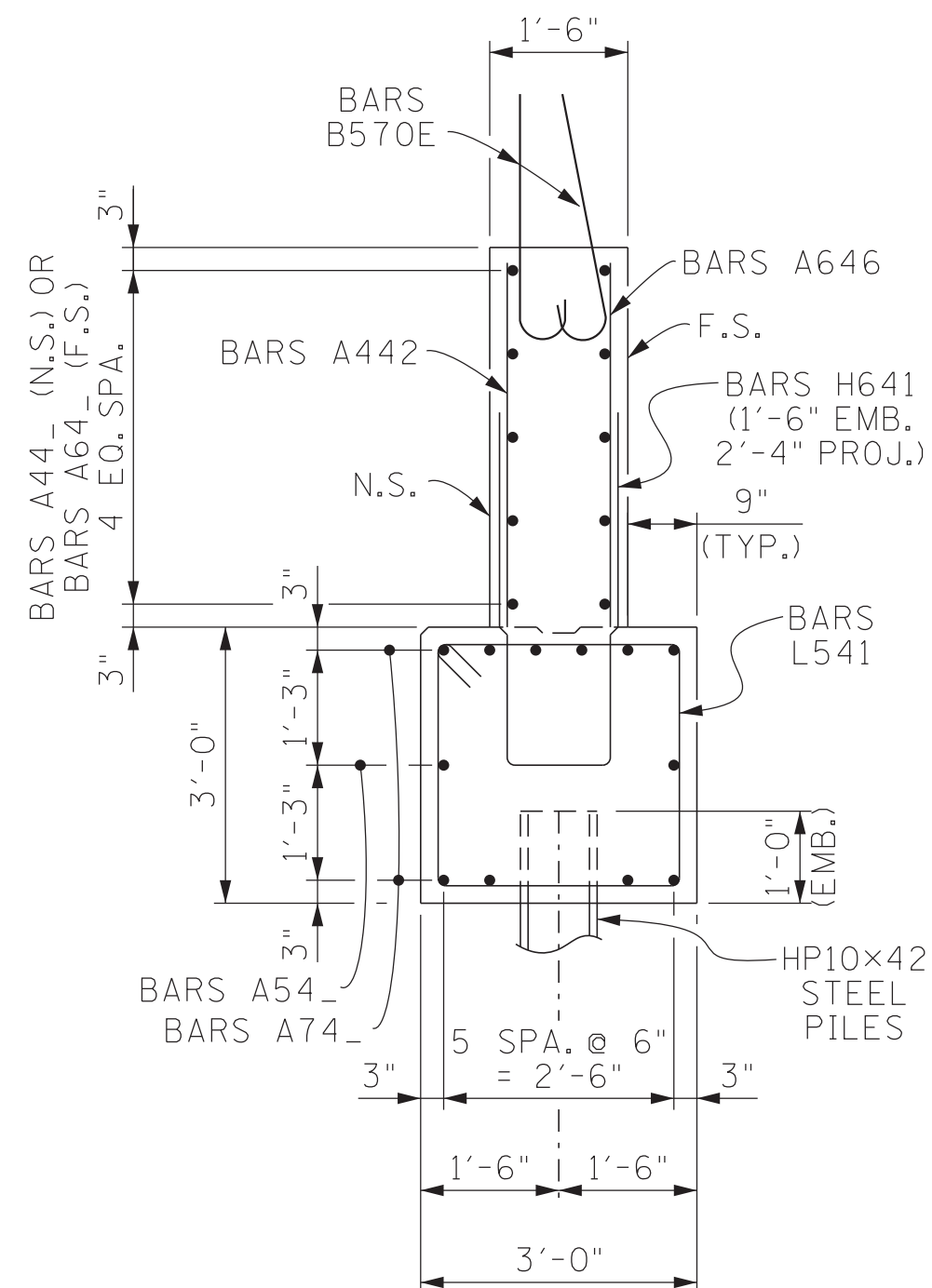
☆ DENOTES: RISER BLOCKS TO BE REINFORCED.
FOR DETAILS SEE RISER BLOCK REINFORCEMENT
DETAILS ON THIS DRAWING.

PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 2-25
DRAWN BY: T. WISEMAN DATE: 2-25
SUPERVISED BY: STEELE/J. SHOULDER DATE: 2-25
CHECKED BY: A. DAHIR DATE: 3-25

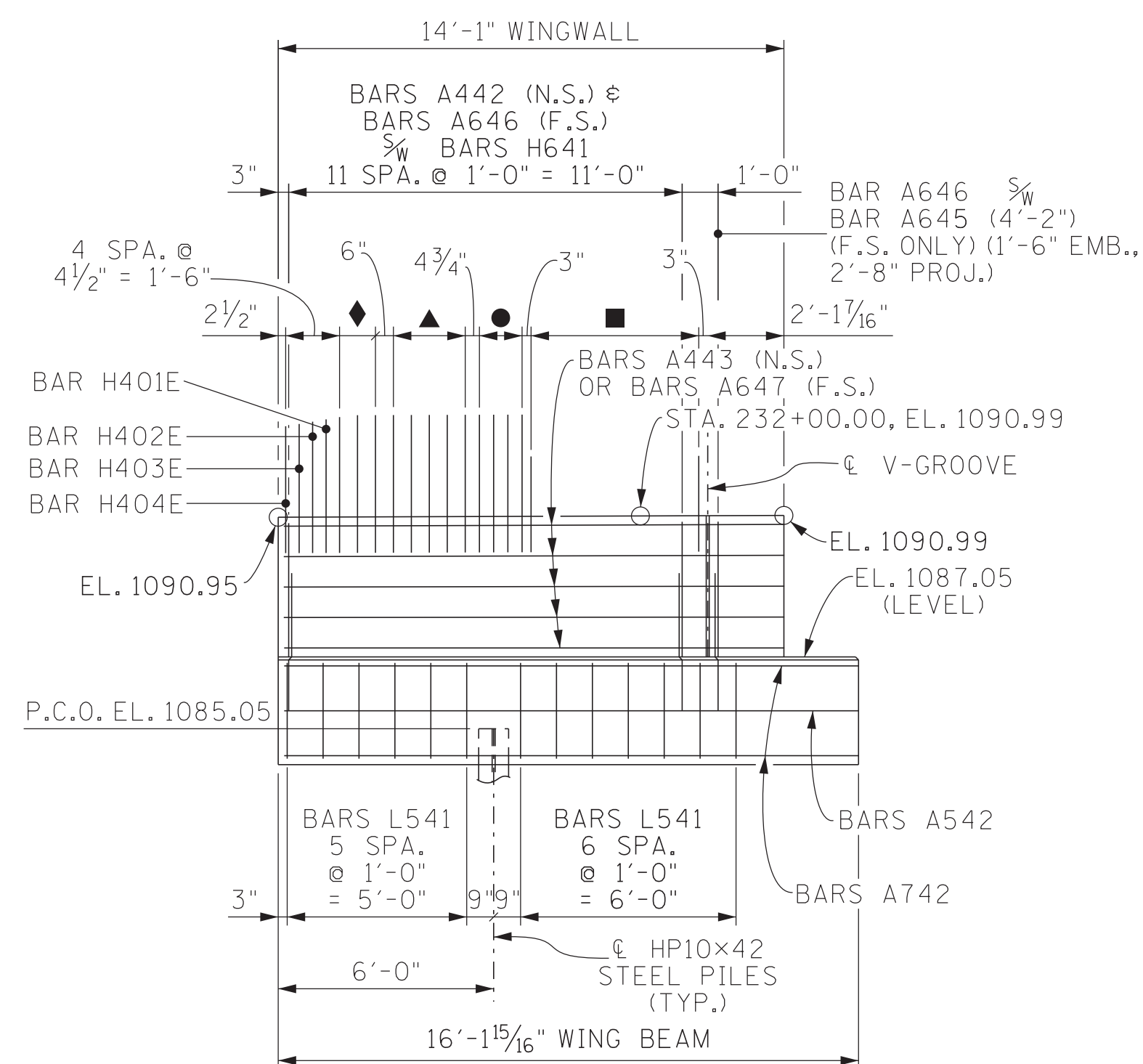
PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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	- -		
	- -		
	- -		
	- -		



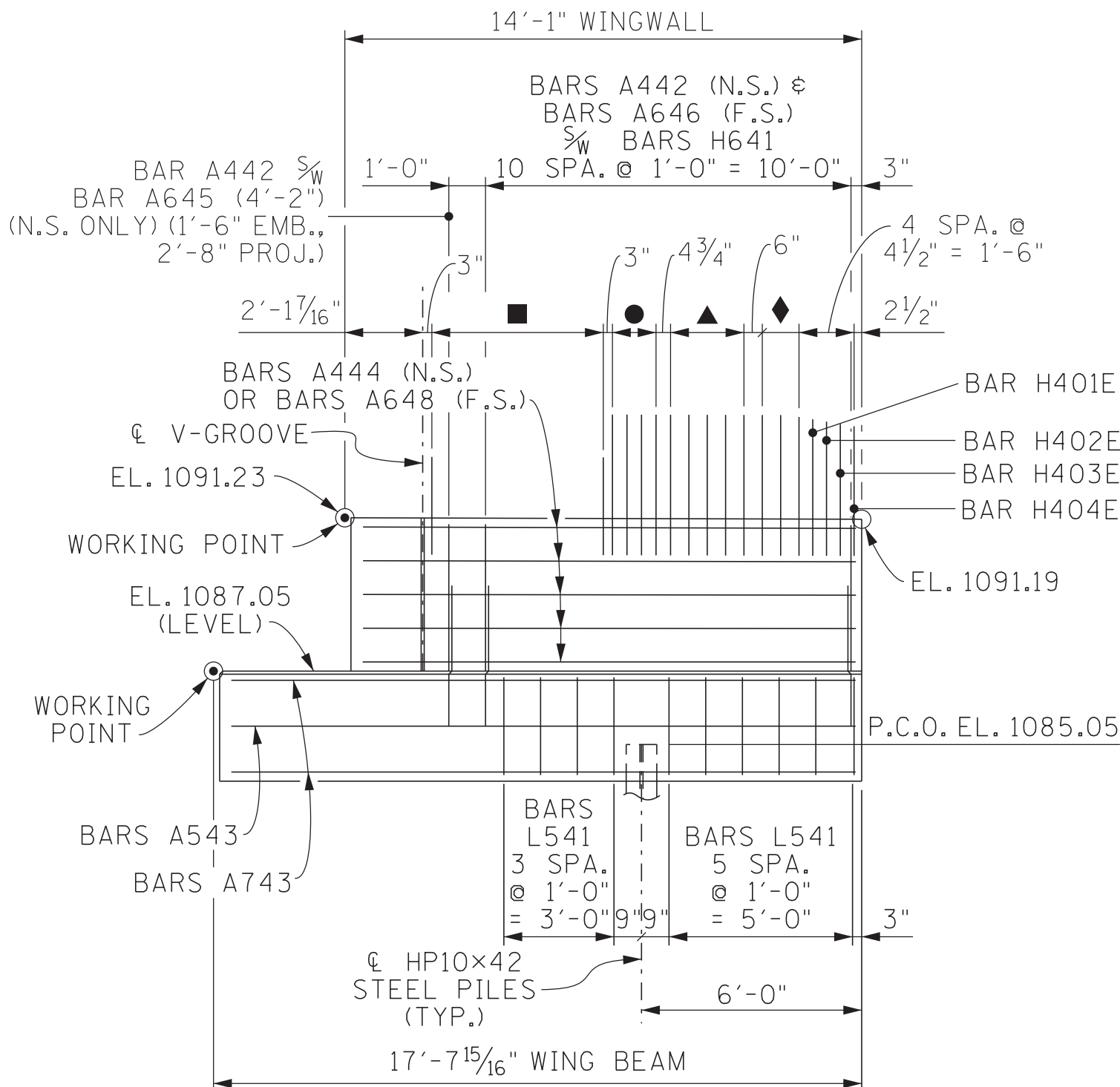
SECTION "C"-"C"



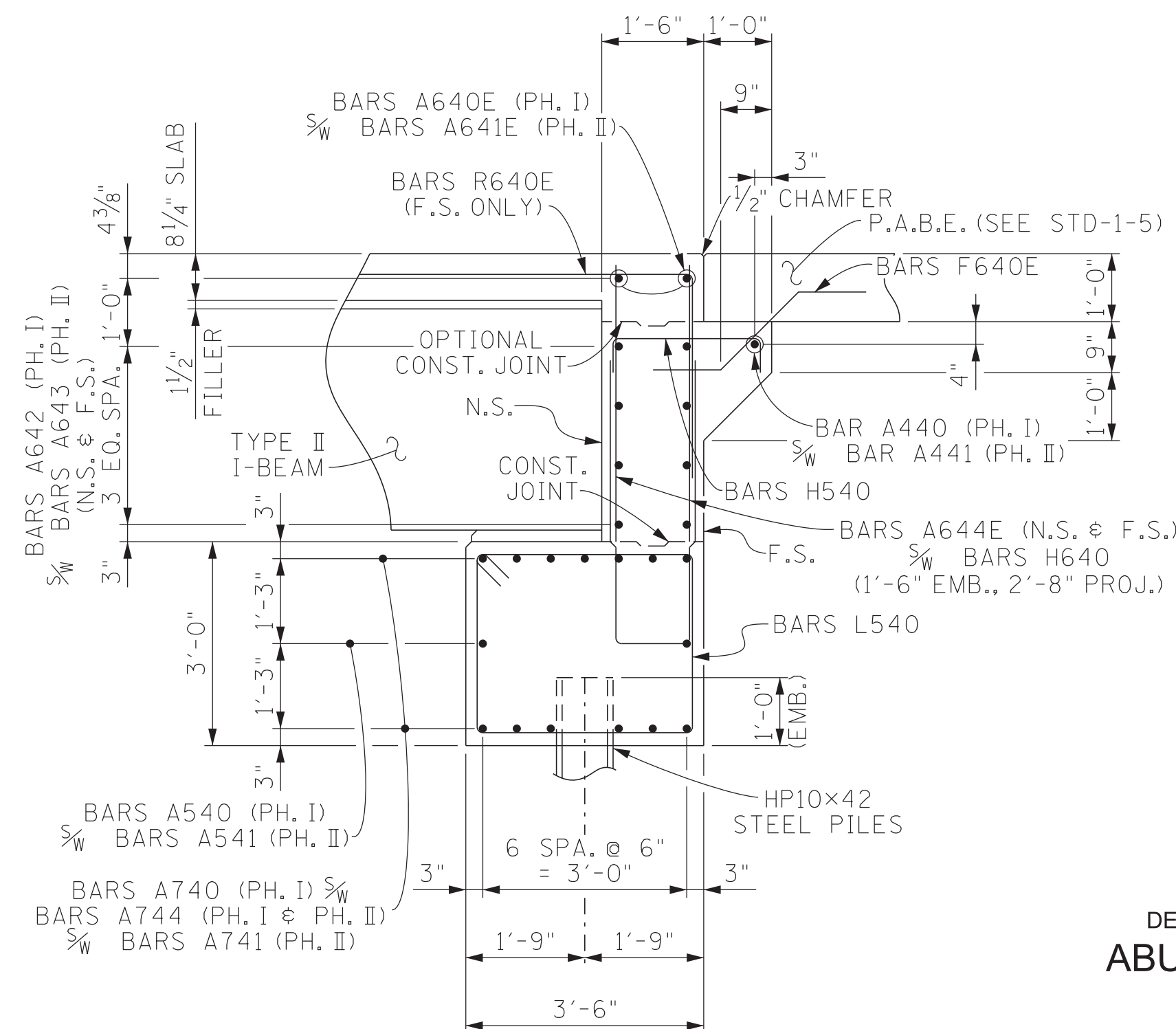
SECTION "A"-"A"



ELEVATION "A"-"A"

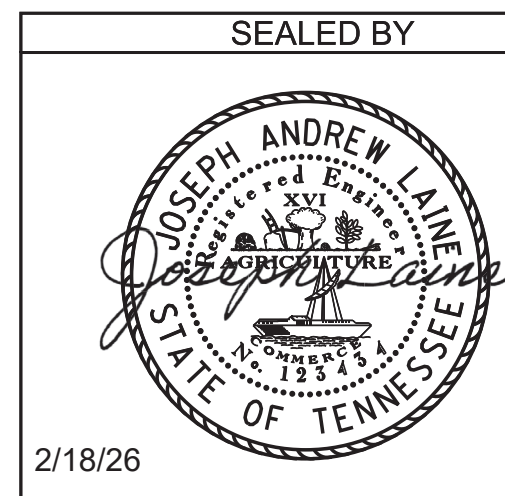


ELEVATION "B"-"B"



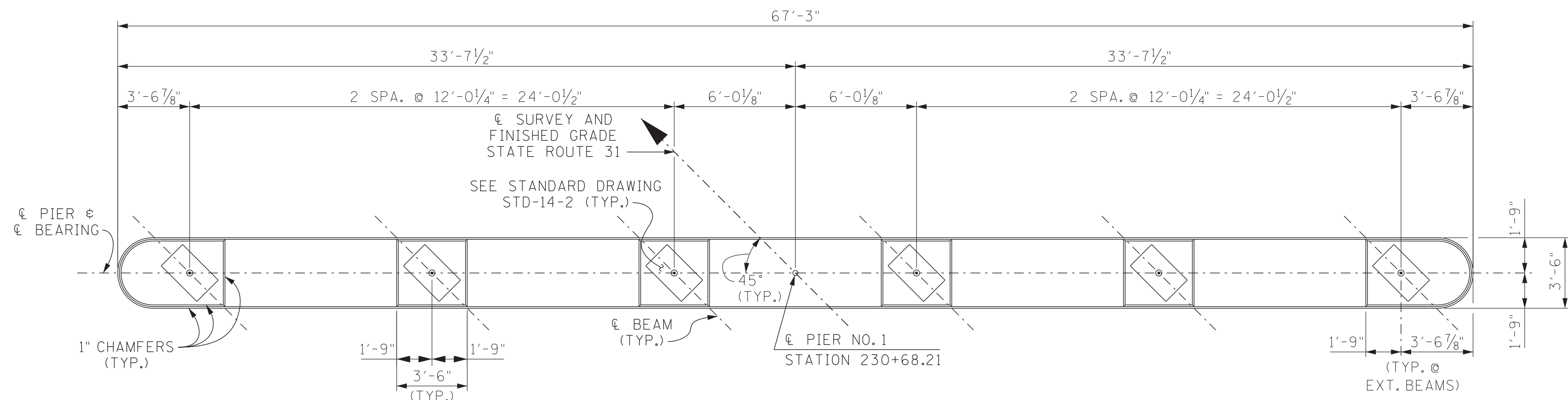
SECTION "B"-"B"

◆ DENOTES: BARS H400E - 2 SPA. @ 6" = 1'-0"
 ▲ DENOTES: SERIES BARS HD401E - 4 SPA. @ 6" = 2'-0"
 ● DENOTES: SERIES BARS HD400E - 3 SPA. @ 4¾" = 1'-2¼"
 ■ DENOTES: DOUBLE BARS B570E - 8 SPA. @ 8" MAX. = 4'-8⅛"
 P.C.O. EL. DENOTES: PILE CUT-OFF ELEVATION

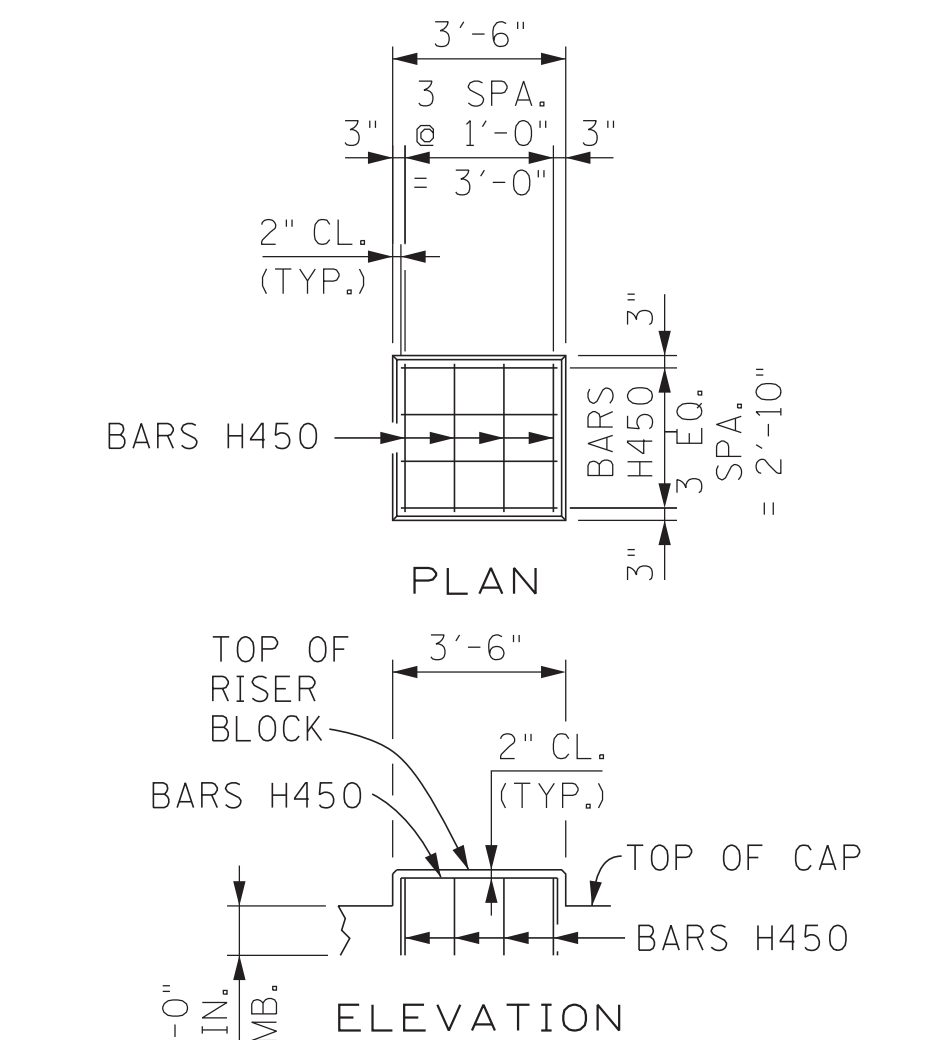
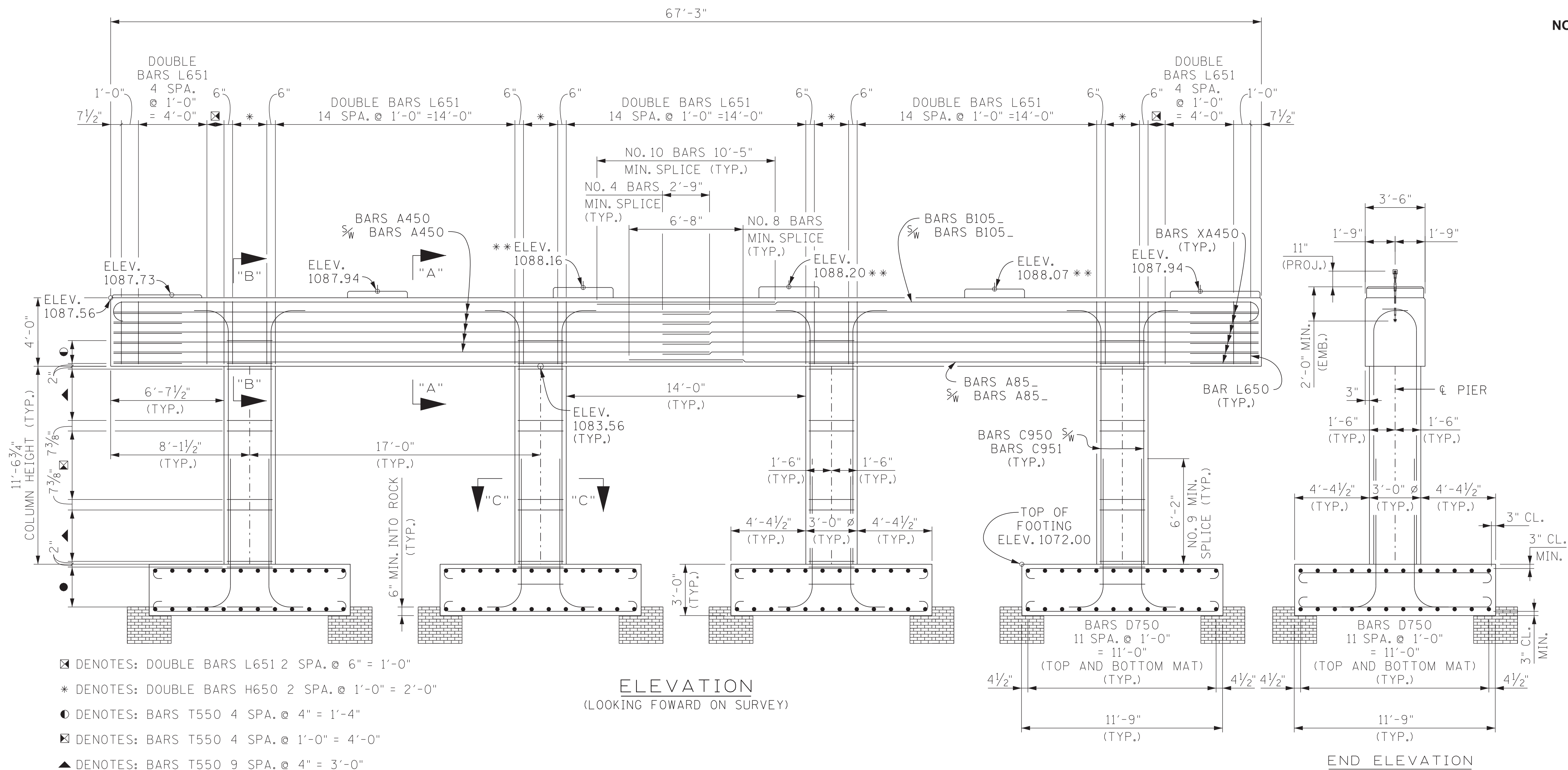


BRIDGE NO. 2
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ABUTMENT NO. 2 DETAILS
STATE ROUTE 31
OVER
POOR VALLEY CREEK
BRIDGE ID. NO. 37SR0310007
STATION 230+94.00
LOG MILE 4.17
HAWKINS COUNTY

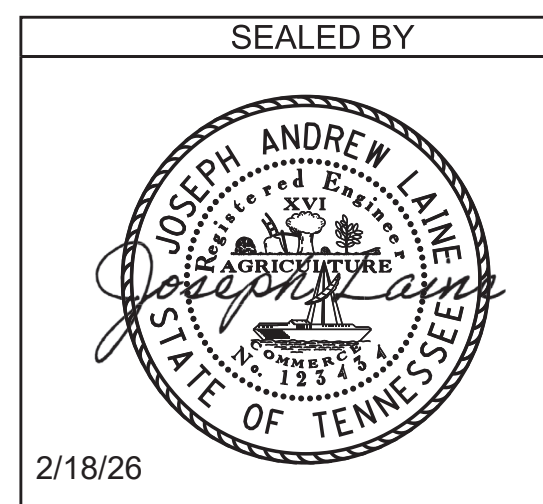
PROJECT NO.		YEAR		SHEET NO.	
STP/HPP-31(12)		2026			
REVISIONS					
NO.	DATE	BY	BRIEF DESCRIPTION		
	- -				
	- -				
	- -				
	- -				
	- -				



PLAN



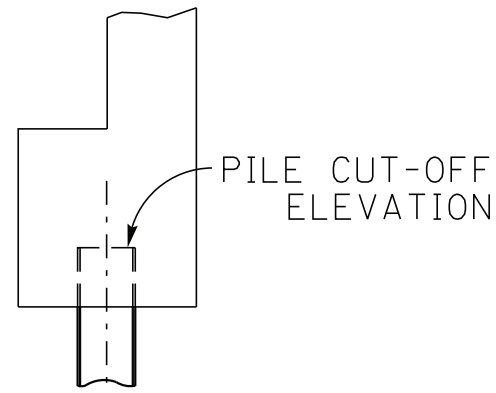
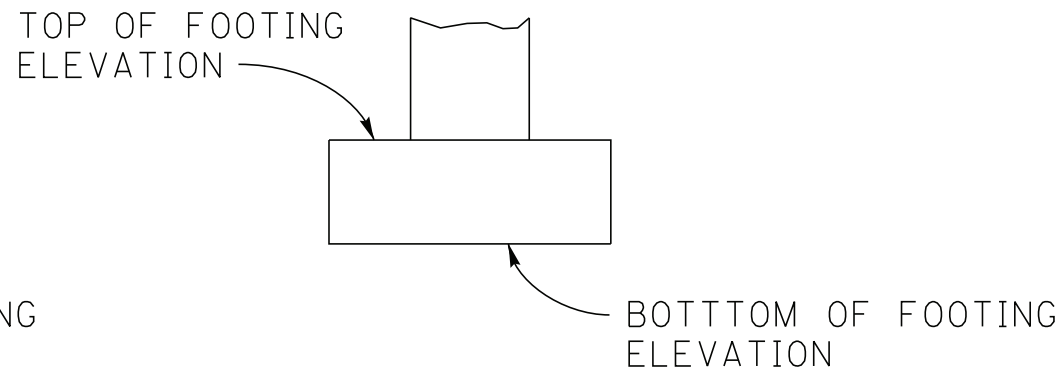
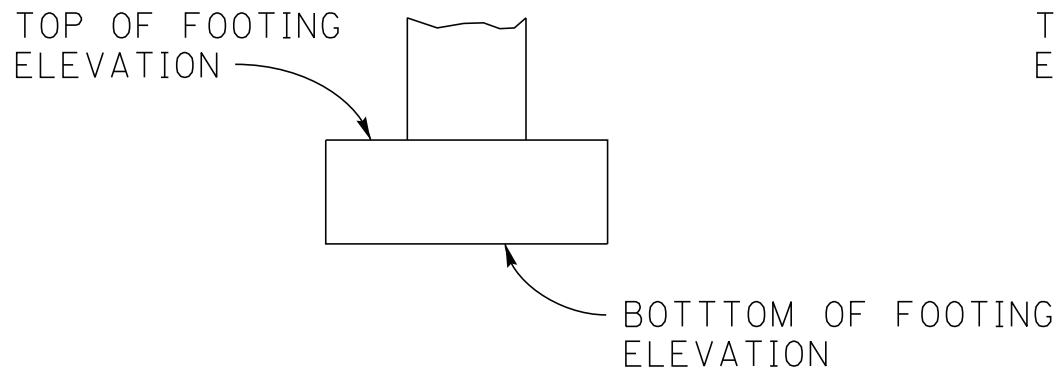
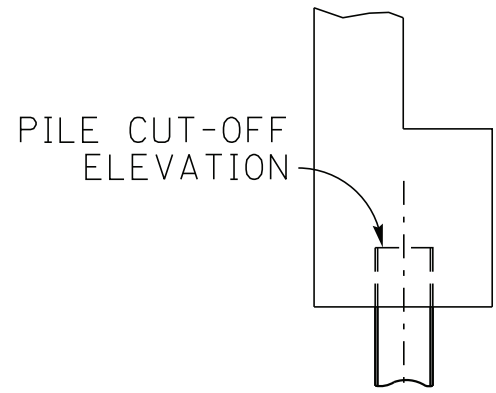
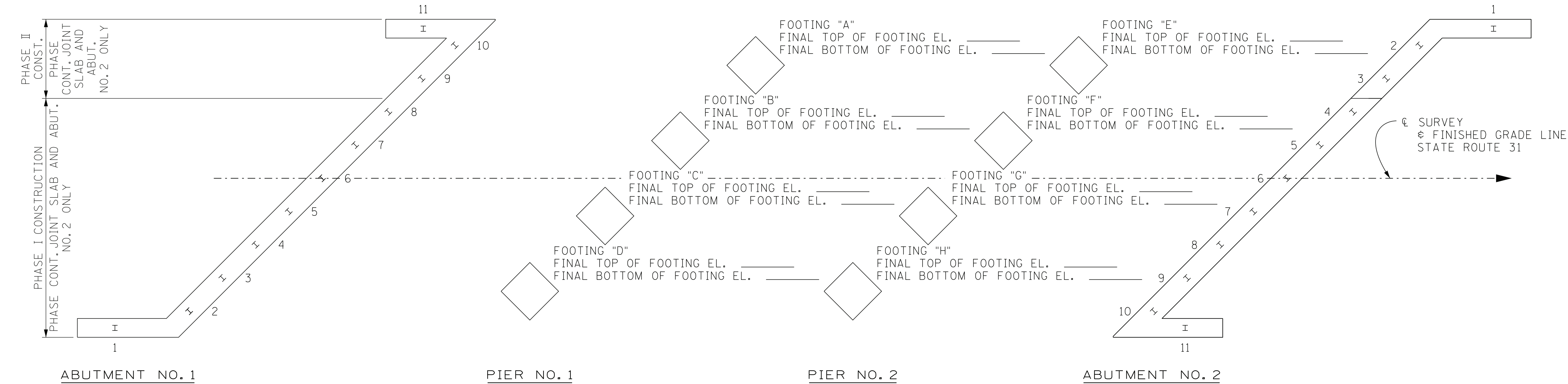
RISER BLOCK REINFORCEMENT DETAILS



BRIDGE NO. 2
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
PIER NO. 1
STATE ROUTE 31
OVER
POOR VALLEY CREEK
BRIDGE ID. NO. 37SR0310007
STATION 230+94.00
LOG MILE 4.17
HAWKINS COUNTY

U-101-38

PROJECT NO.		YEAR	SHEET NO.
STP/HPP-31(12)		2026	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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PLAN

TABLE OF PILE DATA

		1	2	3	4	5	6	7	8	9	10	11
ABUTMENT NO. 1	PILE CUT-OFF ELEVATION											
	PILE TIP ELEVATION											
	IN PLACE PILE LENGTH											
ABUTMENT NO. 2	PILE CUT-OFF ELEVATION											
	PILE TIP ELEVATION											
	IN PLACE PILE LENGTH											

NOTE TO CONTRACTOR AND CONSTRUCTION OFFICE:
THE BLANKS ON THIS SHEET ARE TO BE FILLED IN BY THE CONSTRUCTION OFFICE AND/OR FIELD ENGINEER GIVING AS BUILT CONDITIONS. AFTER COMPLETION IT IS TO BE SENT TO THE DIVISION OF STRUCTURES TO BECOME PART OF FINAL BRIDGE DOCUMENTS.

SEALED BY

BRIDGE NO. 2
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
FINAL FOUNDATION DATA
STATE ROUTE 31
OVER
POOR VALLEY CREEK
BRIDGE ID. NO. 37SR0310007
STATION 230+94.00
LOG MILE 4.17
HAWKINS COUNTY

PIN NO.: 101394.00
DESIGN BY: J. LAINE DATE: 2-25
DRAWN BY: B. ERVIN DATE: 3-25
SUPERVISED BY: STEELE/J. SHOULDER DATE: 2-25
CHECKED BY: A. DAHIR DATE: 3-25

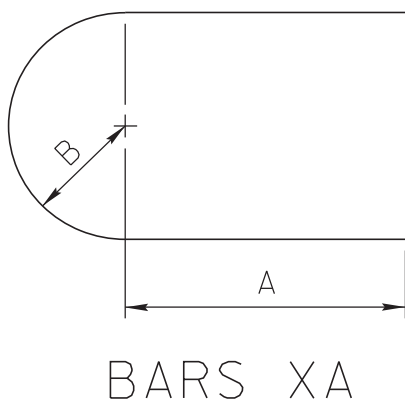
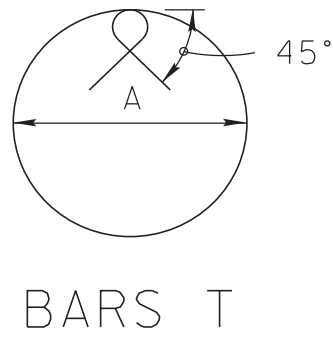
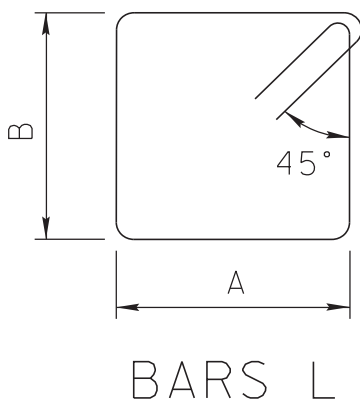
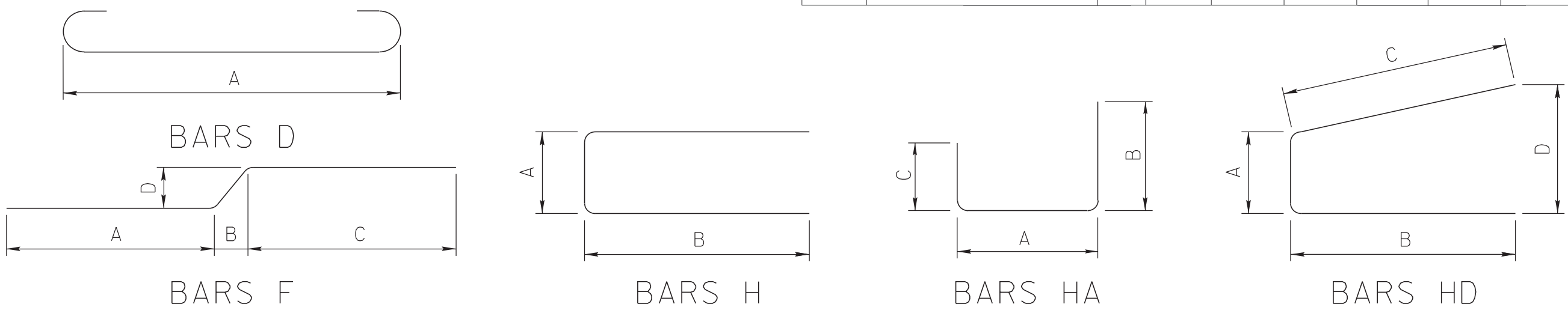
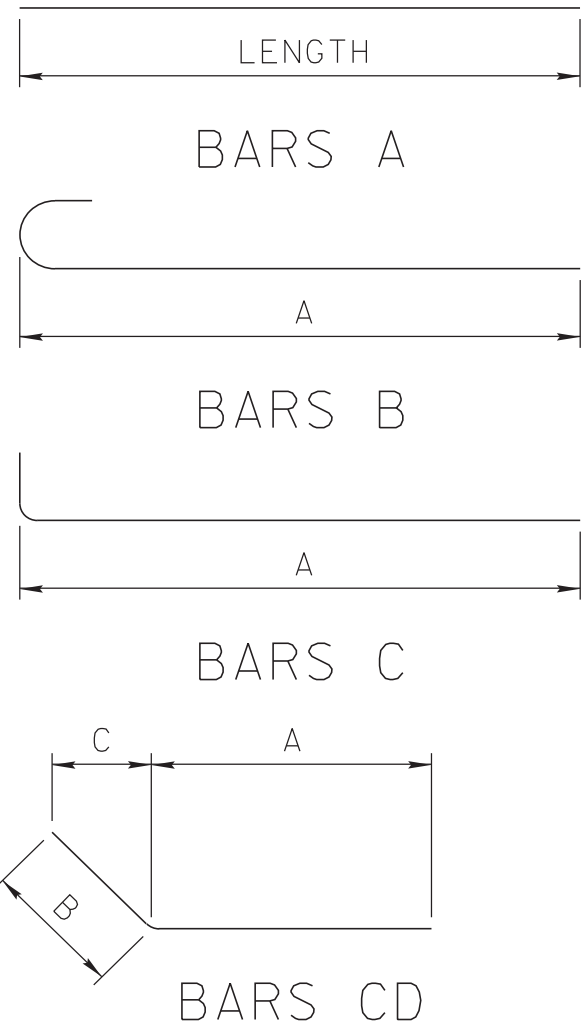
SUPERSTRUCTURE (EPOXY)								
BARS	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS				LENGTH (FEET)
				A	B	C	D	
A500E	SLAB	5	144					60'-0"
A501E	SLAB	5	72					50'-0"
A502E	SLAB	5	460					42'-11"
A503E	SLAB	5	590					11'-9"
SERIES								
A504E	SLAB	5	2	LENGTH VARIES FROM 11'-6 3/16" TO 6'-6 3/16" IN INC. OF 6" (11 BARS)				99'-2"
SERIES								
A505E	SLAB	5	2					1715'-2"
				LENGTH VARIES FROM 42'-8 11/16" TO 11'-8 11/16" IN INC. OF 6" (63 BARS)				
SERIES								
A506E	SLAB	5	2					98'-0"
				LENGTH VARIES FROM 11'-8 11/16" TO 6'-2 11/16" IN INC. OF 6" (18 BARS)				
SERIES								
A507E	SLAB	5	2					1854'-4"
				LENGTH VARIES FROM 43'-2 11/16" TO 6'-2 11/16" IN INC. OF 6" (75 BARS)				
A600E	SLAB	6	94					32'-3"
A601E	SLAB	6	102					43'-3"
A602E	SLAB	6	102					46'-6"
B570E	PARAPET	5	956	2'-8"				3'-3"
SERIES								
C500E	SLAB/ENDWALL	5	4	*				38'-6"
				*DIM. A VARIES FROM 2'-2 11/16" TO 5'-8 11/16" IN INC. OF 6" (8 BARS)				
SERIES								
C501E	SLAB/ENDWALL	5	2	*				111'-7"
				*DIM. A VARIES FROM 11'-8 11/16" TO 6'-2 11/16" IN INC. OF 6" (11 BARS)				
SUPERSTRUCTURE								
BARS	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS				LENGTH (FEET)
				A	B	C	D	
A500	DIAPHRAGM	5	80					10'-9"
CD500	DIAPHRAGM	5	16	3'-0"	1'-7 1/8"	2'-7 1/8"		4'-7"
CD501	DIAPHRAGM	5	16	3'-0"	1'-5 1/4"	2'-4"		4'-5"
F500	DIAPHRAGM	5	64	3'-0"	1'-4"	3'-0"	1'-9 3/4"	8'-3"
L400	DIAPHRAGM	4	100	1'-2"	2'-8"			8'-6"
L401	DIAPHRAGM	4	24	1'-2"	1'-2"			5'-6"

ABUTMENT NO. 1								
BARS	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS				LENGTH (FEET)
				A	B	C	D	
A440	ROADWAY BRACKET	4	1					60'-0"
A441	ROADWAY BRACKET	4	1					7'-5"
A442	WINGWALLS	4	24					3'-9"
A443	WINGWALL	4	5					13'-11"
A444	WINGWALL	4	5					13'-5"
A540	ABUTMENT BEAM	5	2					60'-0"
A541	ABUTMENT BEAM	5	2					14'-3"
A542	WING BEAM	5	2					16'-0"
A543	WING BEAM	5	2					14'-6"
A640	ENDWALL	6	8					60'-0"
A642	ENDWALL	6	8					12'-8"
A643	WINGWALLS	6	24					3'-9"
A644	ENDWALL/ABUTMENT BEAM	6	12					4'-2"
A645	WINGWALL	6	5					14'-11"
A646	WINGWALL	6	5					12'-5"
A647	FILLETS	6	18					3'-0"
A740	ABUTMENT BEAM	7	13					60'-0"
A741	ABUTMENT BEAM	7	13					15'-5"
A742	WING BEAM	7	10					16'-0"
A743	WING BEAM	7	10					14'-6"
B640	ENDWALL	6	8	5'-0"				5'-8"
H440	RISERS	4	9	1'-7"	1'-6"			4'-7"
H441	RISERS	4	9	1'-6"	1'-6"			4'-6"
H540	ENDWALL/ROADWAY BRACKET	5	64	2'-2"	6"			3'-2"
H640	ENDWALL/ABUTMENT BEAM	6	65	1'-2"	4'-2"			9'-6"
H641	WINGWALLS/WING BEAMS	6	23	1'-2"	3'-11"			9'-0"
HA640	FILLETS	6	24	1'-2"	2'-8"	1'-4"		5'-2"
L540	ABUTMENT BEAM	5	64	3'-2"	2'-8"			12'-7"
L541	WING BEAMS	5	23	2'-8"	2'-8"			11'-7"
VA840	PILES	8	18	2'-6"	2'-6"			5'-0"
ABUTMENT NO. 1 (EPOXY)								
BARS	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS				LENGTH (FEET)
				A	B	C	D	
A640E	ENDWALL	6	2					60'-0"
A641E	ENDWALL	6	2					14'-0"
A643E	ENDWALL	6	140					3'-9"
B570E	PARAPET/WINGWALLS	5	36	2'-8"				3'-3"
B640E	ENDWALL	6	2	5'-0"				5'-8"
F640E	P.A.B.E.	6	66	1'-1"	1'-3"	1'-1"	1'-3"	4'-0"
H400E	PARAPET	4	6	11"	3'-11"			8'-9"
H401E	PARAPET	4	2	11"	3'-10"			8'-7"
H402E	PARAPET	4	2	10"	3'-9"			8'-4"
H403E	PARAPET	4	2	8"	3'-8"			8'-0"
H404E	PARAPET	4	2	5"	3'-7"			7'-7"
SERIES								
HD400E	PARAPET	4	2	*	3'-11"	4'-0"	9"	33'-4"
				*DIM. A VARIES FROM 4 3/8" TO 5 1/4" IN INC. OF 5/16" (4 BARS)				
SERIES								
H401E	PARAPET	4	2	*	3'-11"	4'-0"	9"	42'-2"
				*DIM. A VARIES FROM 5 1/2" TO 6 7/8" IN INC. OF 5/16" (5 BARS)				
R640E	SLAB/ENDWALL	6	65	5'-2"	3'-0"			8'-2"

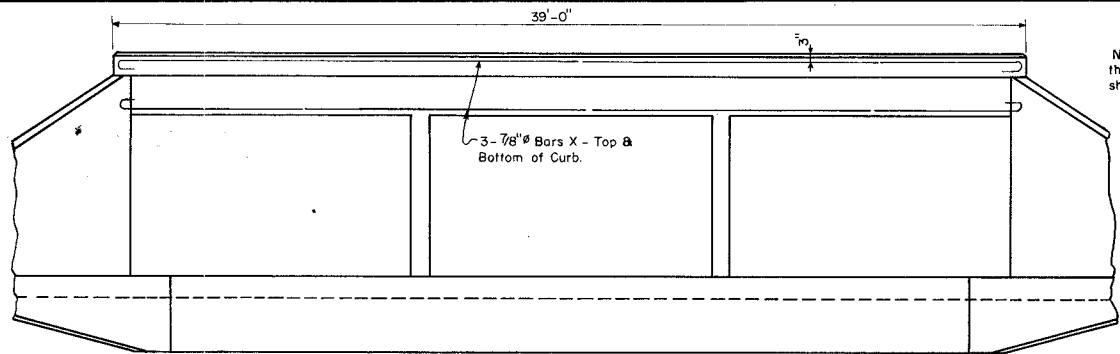
ABUTMENT NO. 2								
BARS	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS				LENGTH (FEET)
				A	B	C	D	
A440	ROADWAY BRACKET	4	1					56'-3"
A441	ROADWAY BRACKET	4	1					11'-1"
A442	WINGWALLS	4	24					3'-8"
A443	WINGWALL	4	5					13'-11"
A444	WINGWALL	4	5					13'-5"
A540	ABUTMENT BEAM	5	2					60'-0"
A541	ABUTMENT BEAM	5	2					14'-3"
A542	WING BEAM	5	2					16'-0"
A543	WING BEAM	5	2					14'-6"
A642	ENDWALL	3	8					59'-6"
A643	ENDWALL	3	8					13'-2"
A645	ABUTMENT BEAM/ENDWALL	3	12					4'-2"
A646	WINGWALLS	3	24					3'-8"
A647	WINGWALL	3	5					14'-11"
A648	WINGWALL	3	5					12'-5"
A649	FILLETS	3	18					3'-0"
A740	ABUTMENT BEAM	7	13					57'-0"
A741	ABUTMENT BEAM	7	13					14'-3"
A742	WING BEAM	7	10					16'-0"
A743	WING BEAM	7	10					14'-6"
A744	ABUTMENT BEAM	7	13					8'-4"
B640	ENDWALL	3	8	5'-0"				5'-8"
H440	RISERS	4	9	1'-7"	1'-6"			4'-7"
H441	RISERS	4	9	1'-6"	1'-6"			4'-6"
H540	ENDWALL/ROADWAY BRACKET	5	64	2'-2"	6"			3'-2"
H640	ENDWALL/ABUTMENT BEAM	3	65	1'-2"	4'-2"			9'-6"
H641	WINGWALLS/WING BEAMS	3	23	1'-2"	3'-10"			8'-10"
HA640	FILLETS	3	24	1'-2"	2'-8"	1'-4"		5'-2"
L540	ABUTMENT BEAM	5	64	3'-2"	2'-8"			12'-7"
L541	WING BEAMS	5	23	2'-8"	2'-8"			11'-7"
VA840	PILES	3	18	2'-6"	2'-6"			5'-0"
ABUTMENT NO. 2 (EPOXY)								
BARS	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS				LENGTH (FEET)
				A	B	C	D	
A640E	ENDWALL	6	2					57'-5"
A641E	ENDWALL	6	2					16'-7"
A644E	ENDWALL	6	140					3'-9"
B570E	PARAPET/WINGWALLS	5	36	2'-8"				3'-3"
B640E	ENDWALL	6	2	5'-0"				5'-8"
F640E	P. A. B. E.	6	66	1'-1"	1'-3"	1'-1"	1'-3"	4'-0"
H400E	PARAPET	4	6	11"	3'-11"			8'-9"
H401E	PARAPET	4	2	11"	3'-10"			6'-7"
H402E	PARAPET	4	2	10"	3'-9"			6'-4"
H403E	PARAPET	4	2	8"	3'-8"			8'-0"
H404E	PARAPET	4	2	5"	3'-7"			7'-7"
SERIES								
HD400E	PARAPET	4	2	*	3'-11"	4'-0"	9"	33'-4"
				*DIM. A VARIES FROM 4 3/8" TO 5 1/4" IN INC. OF 5/16" (4 BARS)				
SERIES								
HD401E	PARAPET	4	2	*	3'-11"	4'-0"	9"	42'-2"
				*DIM. A VARIES FROM 5 1/2" TO 6 7/8" IN INC. OF 5/16" (5 BARS)				
R640E	SLAB/ENDWALL	6	65	5'-2"	3'-0"			8'-2"

PIER NO. 1								
BARS	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS				LENGTH (FEET)
				A	B	C	D	
A450	CAP	4	20					34'-9"
A850	CAP	8	4					40'-1"
A851	CAP	8	4					39'-1'-0"
A852	CAP	8	4					39'-1"
B1050	CAP	10	4					46'-3"
B1051	CAP	10	4					46'-5"
B1052	CAP	10	4					45'-3"
C950	CAP/COLUMNS	9	44	14'-10"				16'-5"
C951	COLUMNS/FOOTINGS	9	44	8'-10"				10'-5"
D750	FOOTINGS	7	192	11'-0"				12'-1'-1"
H450	RISERS	4	16	3'-2"	1'-8"			6'-6"
H650	CAP	6	24	2'-6"	3'-8"			9'-10"
L650	CAP	6	2	1'-11"	3'-8"			12'-3"
L651	CAP	6	118	2'-6"	3'-8"			13'-3"
T550	COLUMNS	5	152	2'-8"				9'-5"
XA450	CAP	4	12	1'-7"	2'-9"			10'-3"

PIER NO. 2								
BARS	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS				LENGTH (FEET)
				A	B	C	D	
A450	CAP	4	20					34'-9"
A850	CAP	8	4					40'-1"
A851	CAP	8	4					39'-1'-0"
A852	CAP	8	4					39'-1"
B1050	CAP	10	4					46'-3"
B1051	CAP	10	4					46'-5"
B1052	CAP	10	4					45'-3"
C950	CAP/COLUMNS	9	44	14'-7"				16'-2"
C951	COLUMNS/FOOTINGS	9	44	8'-10"				10'-5"
D750	FOOTINGS	7	192	11'-0"				12'-1'-1"
H450	RISERS	4	16	3'-2"	1'-8"			6'-6"
H650	CAP	6	24	2'-6"	3'-8"			9'-10"
L650	CAP	6	2	1'-10"	3'-8"			12'-3"
L651	CAP	6	118	2'-6"	3'-8"			13'-3"
T550	COLUMNS	5	148	2'-8"				9'-5"
XA450	CAP	4	12	1'-7"	2'-9"			10'-3"

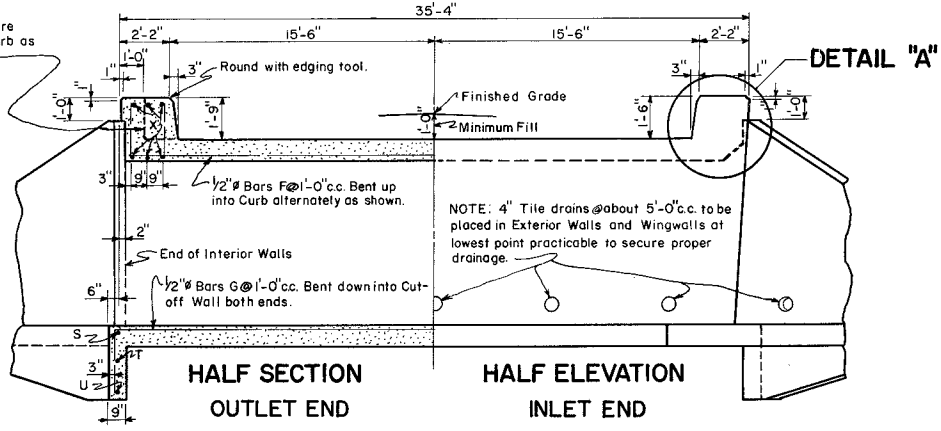


BRIDGE NO. 2
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BILL OF STEEL
STATE ROUTE 31
OVER
POOR VALLEY CREEK
BRIDGE ID. NO. 37SR031



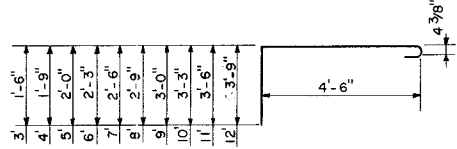
TYPICAL END ELEVATION

NOTE: When Bridge is in more than a minimum fill, make Curb as shown by dotted line.

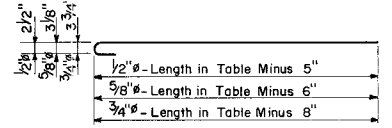


HALF SECTION OUTLET END HALF ELEVATION INLET END

AT RIGHT ANGLE TO ROADWAY



BARS C1

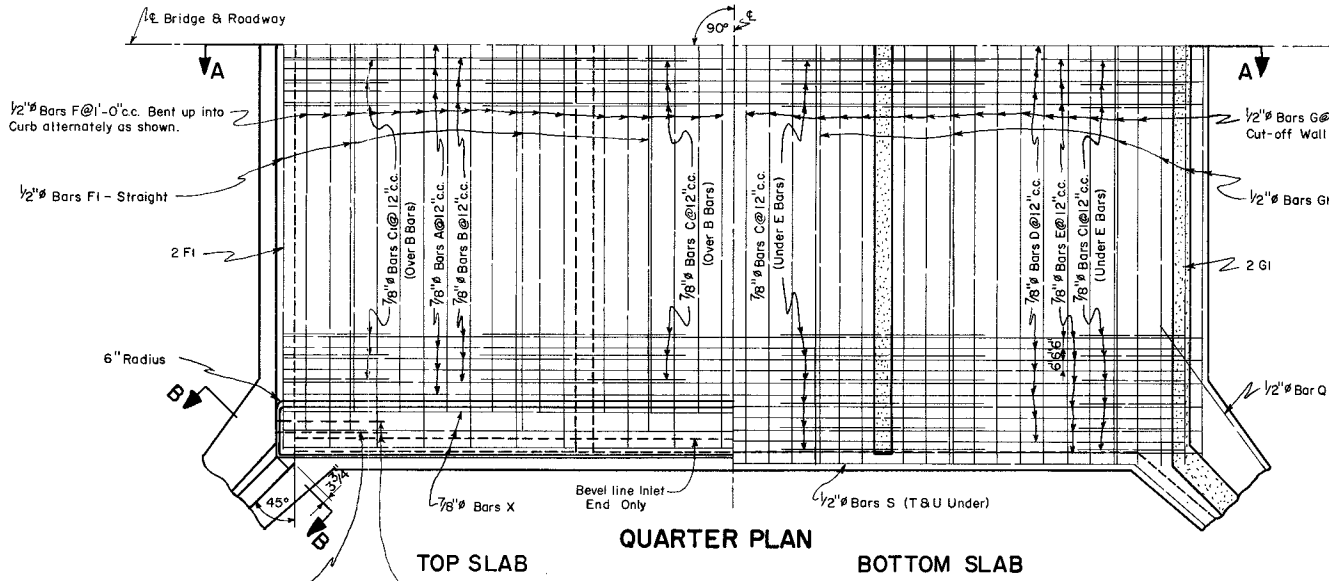


BARS H

BARS H* EXTERIOR WALL REINFORCEMENT

HEIGHT	SPACING
3'-0"	1/2" @ 12" c.c.
4'-0"	1/2" @ 12" c.c.
5'-0"	1/2" @ 12" c.c.
6'-0"	1/2" @ 12" c.c.
7'-0"	1/2" @ 10" c.c.
8'-0"	1/2" @ 7" c.c.
9'-0"	1/2" @ 5 1/2" c.c.
10'-0"	3/8" @ 6 1/2" c.c.
11'-0"	3/8" @ 5 1/2" c.c.
12'-0"	3/4" @ 6 1/2" c.c.

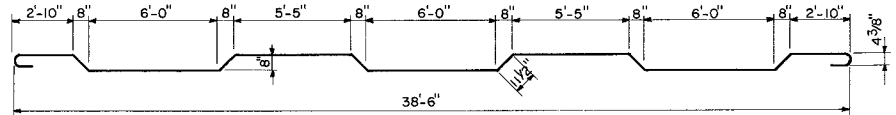
* NOTE: Interior Walls shall have the same size bars as exterior walls, but spaced 1'-0" c.c. regardless of height.



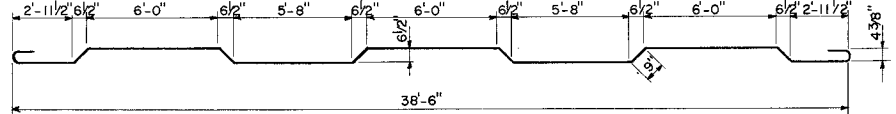
QUARTER PLAN TOP SLAB BOTTOM SLAB

NOTE: When Bridge is in more than a minimum fill, make Outlet End Curb as shown by dotted line.

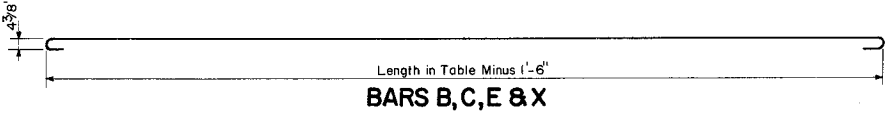
NOTE: When Bridge is in more than a minimum fill make Inlet End Curb as shown by dotted lines.



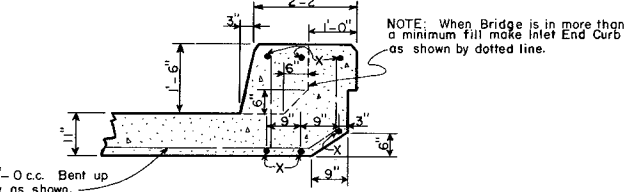
BARS A



BARS D



BARS B, C, E & X



DETAIL "A"

Showing Bevel in Top Slab Inlet End only.

#4 Bars F @ 1'-0" c.c. Bent up into Curb alternately as shown.

TABLE OF DIMENSIONS & ESTIMATED QUANTITIES (BASED ON LENGTH 35'-4")

WATERWAY			BOX AND CURBS																				WINGWALLS				CUT-OFF WALLS						TOTAL QUANTITIES																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
SPANS	CLEAR HEIGHT	AREA	Bars A, B, C, D, E and X are 7/8"										Bars F, G, H, I and J are 1/2"										Reinforcing Steel		Concrete Class "A"		Reinforcing Steel - 1/2"				Conc. Cl. "A" Cu. Yds.	Reinforcing Steel Lbs.	Concrete Class "A" Cu. Yds.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
			Bars A		Bars B		Bars C		Bars D		Bars E		Bars F		Bars G		Bars H		Bars I		Bars J		Bars X		Lbs.		Cu. Yds.		Reinforcing Steel - Lbs.					Concrete Cl. "A" - Cu. Yds.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
			No.	Lgth.	No.	Lgth.	No.	Lgth.	No.	Lgth.	No.	Lgth.	No.	Lgth.	No.	Lgth.	No.	Lgth.	No.	Lgth.	No.	Lgth.	No.	Lgth.	Per Ft.	Total	Per Ft.	Total	Inlet	Outlet				Inlet	Outlet	No.	Lgth.	No.	Lgth.	No.	Lgth.	Inlet + Outlet	Lbs.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
3 @ 12'-0"	3'-0"	108																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										

NOTE: When Bridge is in more than a minimum fill, deduct 6.4 cu. yds. of concrete from Box & Curbs. Same dimensions and quantities given for Inlet End apply also to Outlet End.

WINGWALLS

CLEAR HEIGHTS	DRAWING NOS.
3'-0"	K-15-128
4'-0"	
5'-0"	
6'-0"	
7'-0"	K-15-129
8'-0"	
9'-0"	K-15-130
10'-0"	
11'-0"	
12'-0"	

SPAN: 3@12'-0" CLEAR HEIGHTS: 3'-0" to 12'-0" ROADWAY: 31'-0" MAXIMUM FILL: 12'-0"

90° SKEW

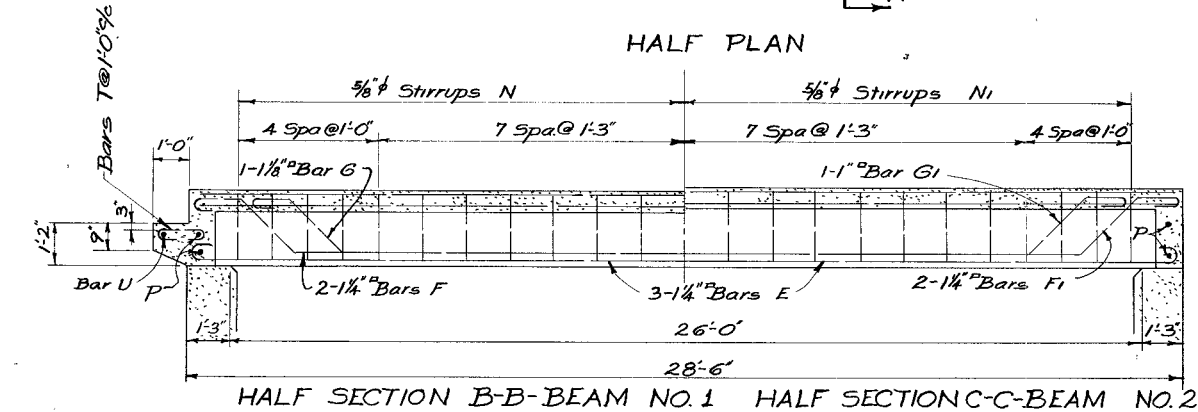
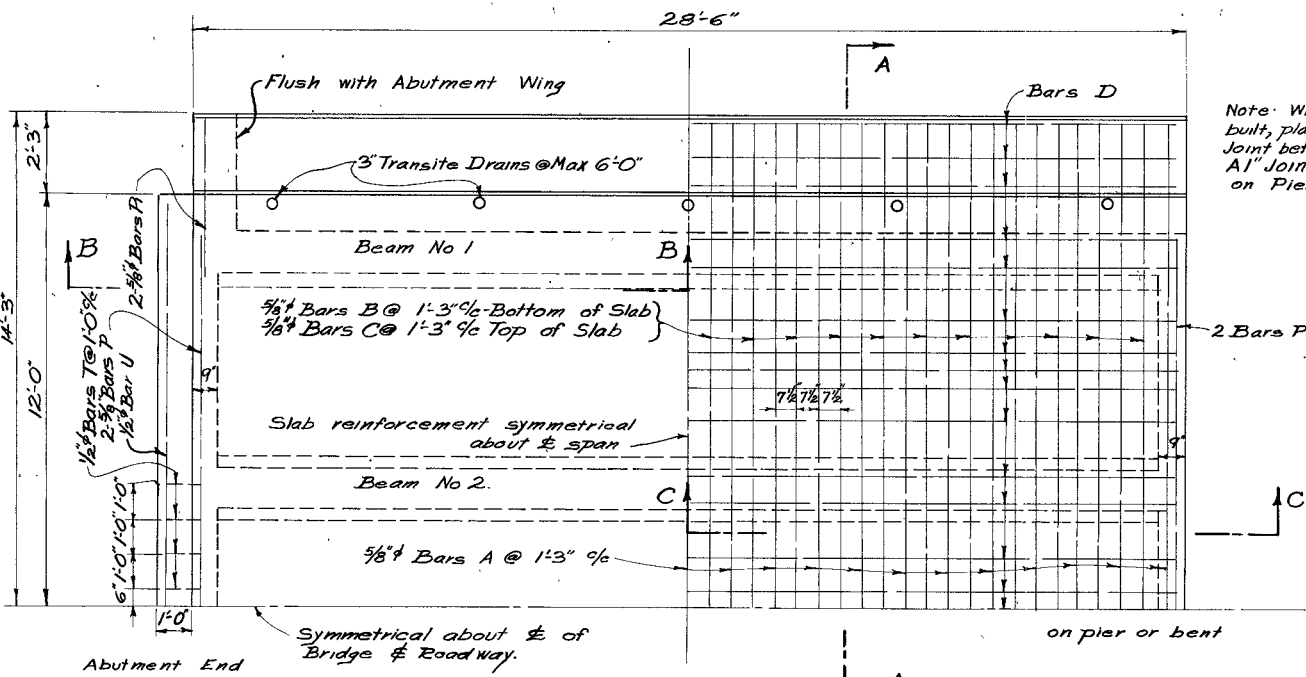
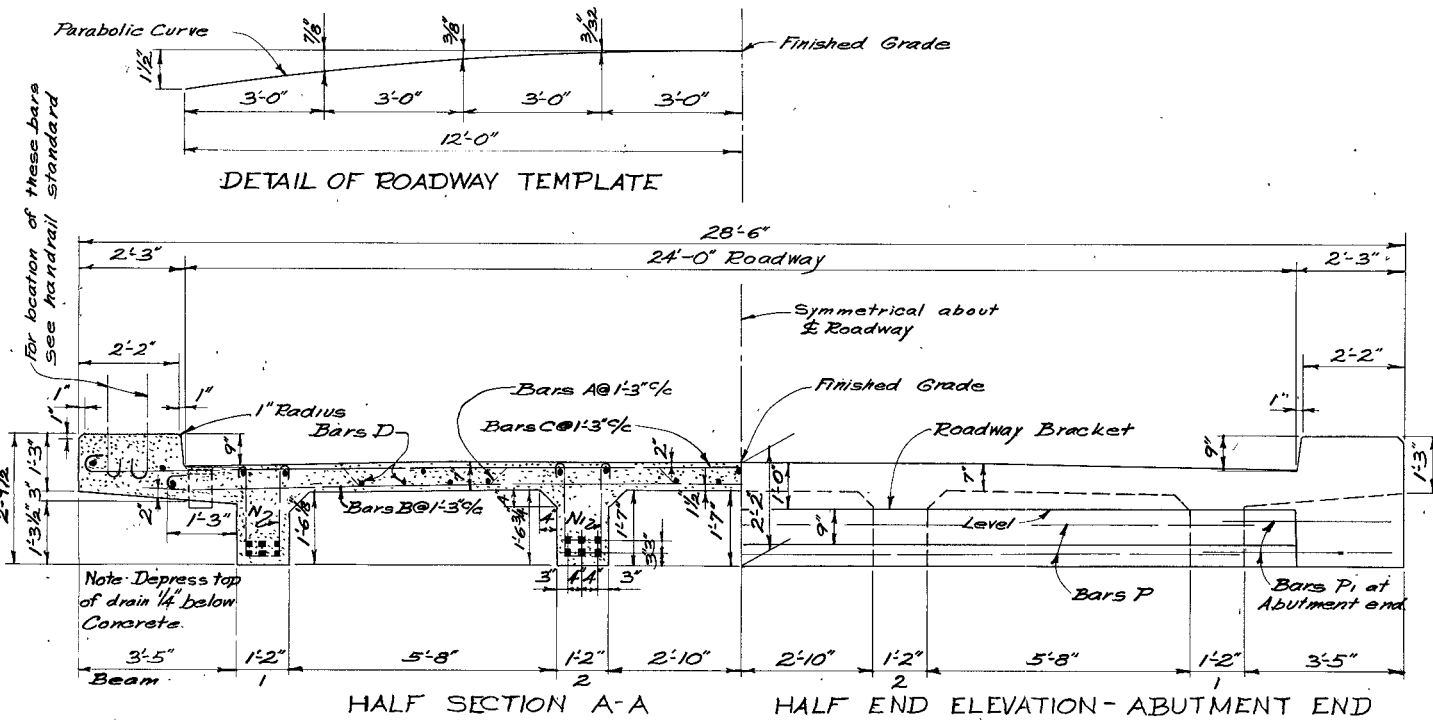
1964

DESIGNED BY: R. Reagan DATE: 2-13-64
DRAWN BY: Albert Lanier DATE: 2-19-64
CHECKED BY: W. Graves DATE: 7-2-65

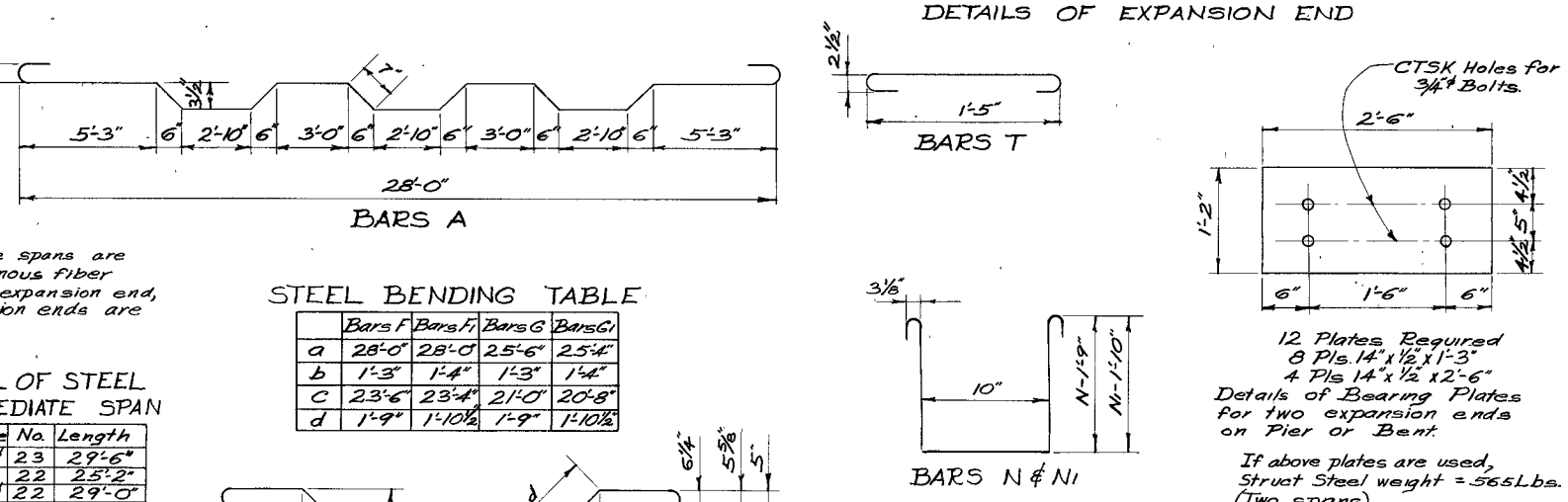
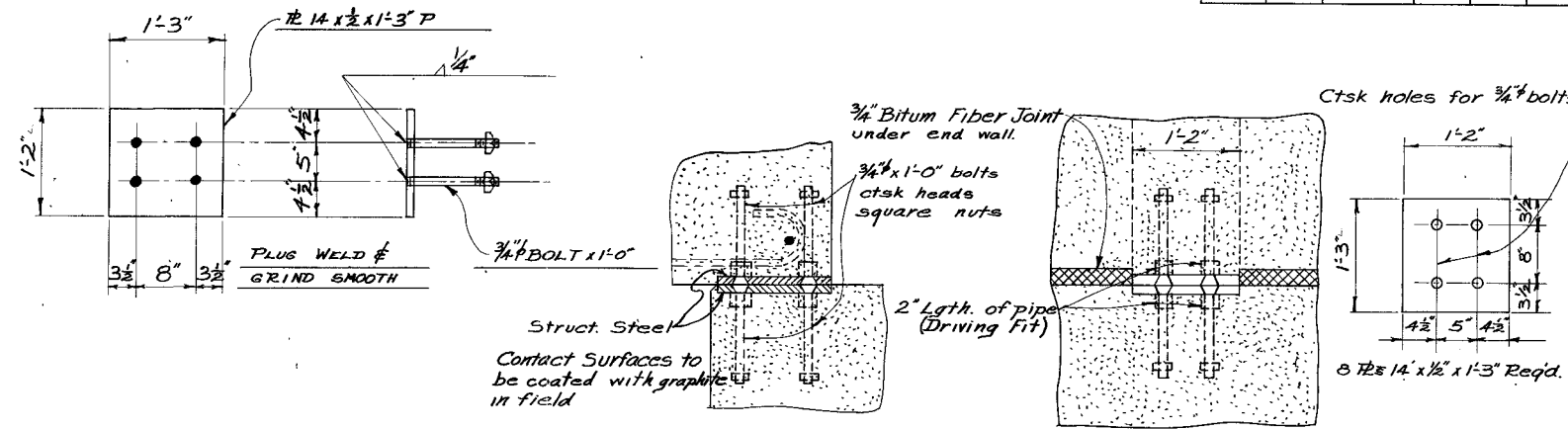
Note: For details of standard Reinforcing Bar support see Lwy K-80-14.

CORRECT: Fred Green
APPROVED: J. B. Doolittle
STATE HIGHWAY ENGINEER

K-38-18

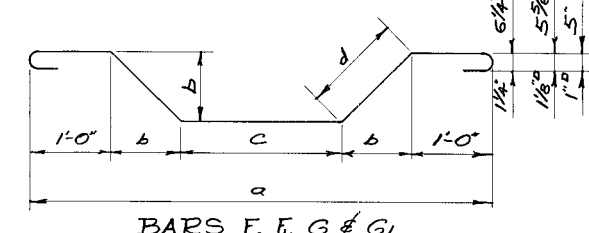


DESIGNED BY: PVL DATE: 12/27/50
 DRAWN BY: Charles Walworth DATE: 8/18/54
 CHECKED BY: DATE:

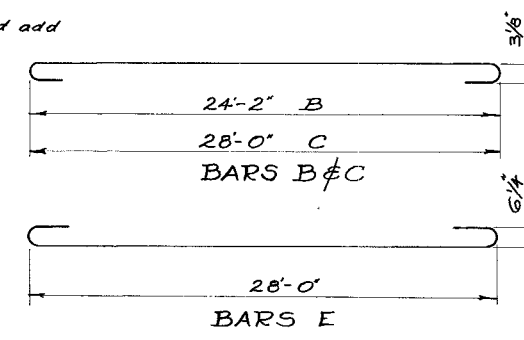


STEEL BENDING TABLE

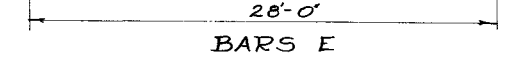
	Bars F	Bars G	Bars H	Bars I
a	28'-0"	28'-0"	25'-6"	25'-4"
b	1'-3"	1'-4"	1'-3"	1'-4"
c	23'-6"	23'-4"	21'-0"	20'-8"
d	1'-9"	1'-10"	1'-9"	1'-10"



BARs F, G & H



BARs B & C



BARs E

ESTIMATED QUANTITIES

	Concrete Class A Cu Yds	Steel Lbs Reinforc.	Steel Lbs Struct.
End Span	32.0	6835	297
Interm. Span	30.6	6761	297

Note: Cost of 3" Transite drains and joint material to be included in the unit price bid for Class A concrete.

GENERAL NOTES

SPECIFICATIONS: Standard Road and Bridge Specifications of The Tennessee Department of Highways and Public Works. Loading H 15-44. Concrete: To be Class A. Reinforcing Steel: See Specifications. Forms and Finish: See Specifications.

STATE OF TENNESSEE
 DEPARTMENT OF HIGHWAYS
 AND PUBLIC WORKS
 NASHVILLE

STANDARD
 CONCRETE BRIDGE
 DECK GIRDER TYPE

26'-0" CLEAR SPAN 24'-0" ROADWAY

1954

CORRECT: L. H. Erickson
 BRIDGE ENGINEER
 APPROVED: Charles M. Bates
 STATE HIGHWAY ENGINEER

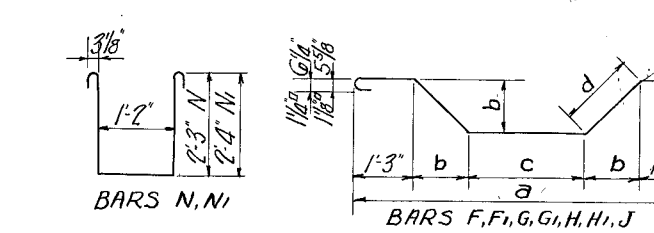
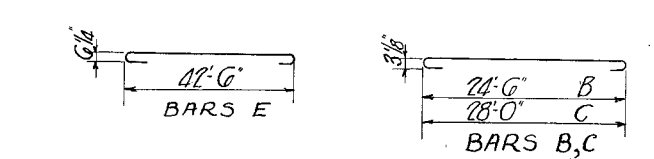
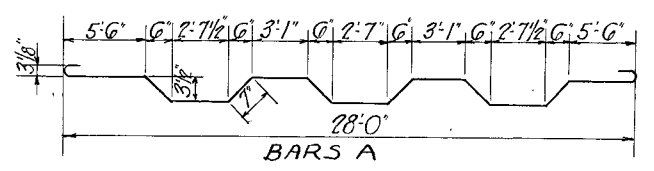
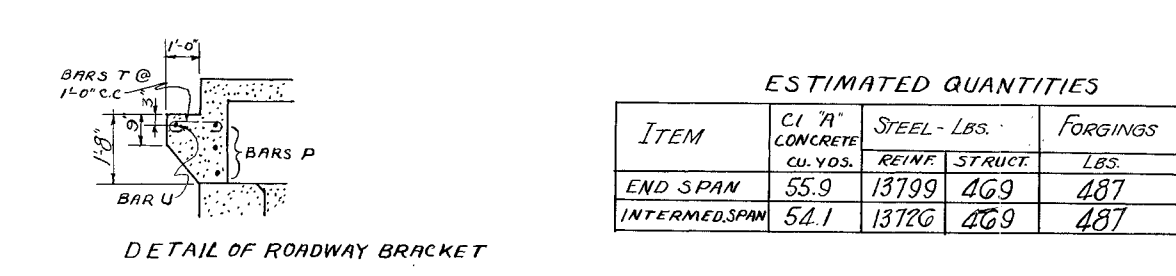
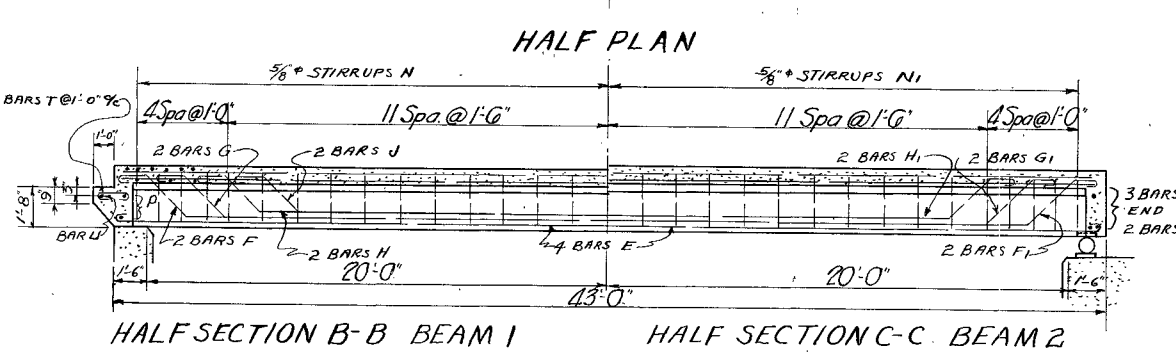
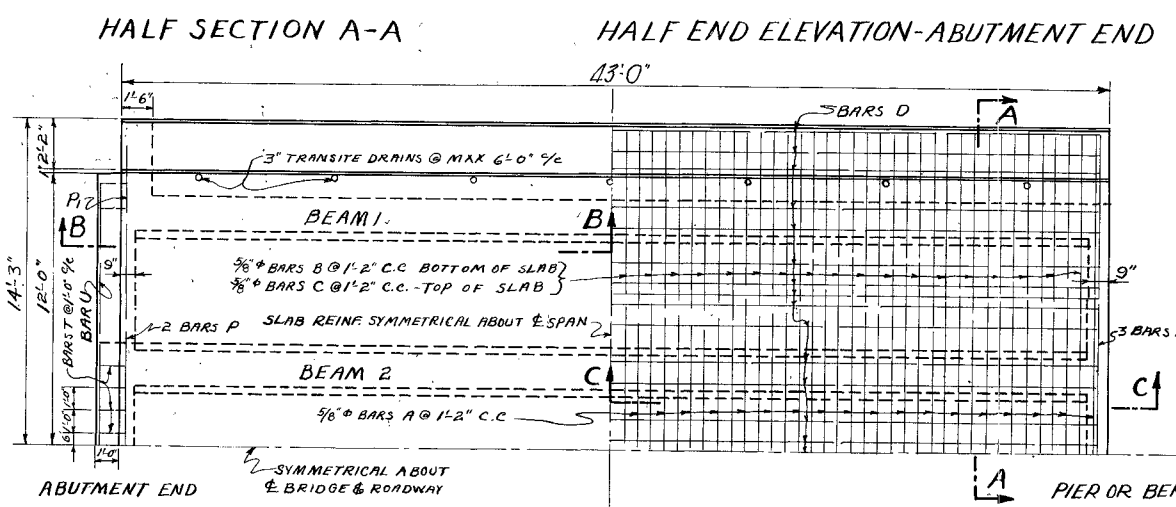
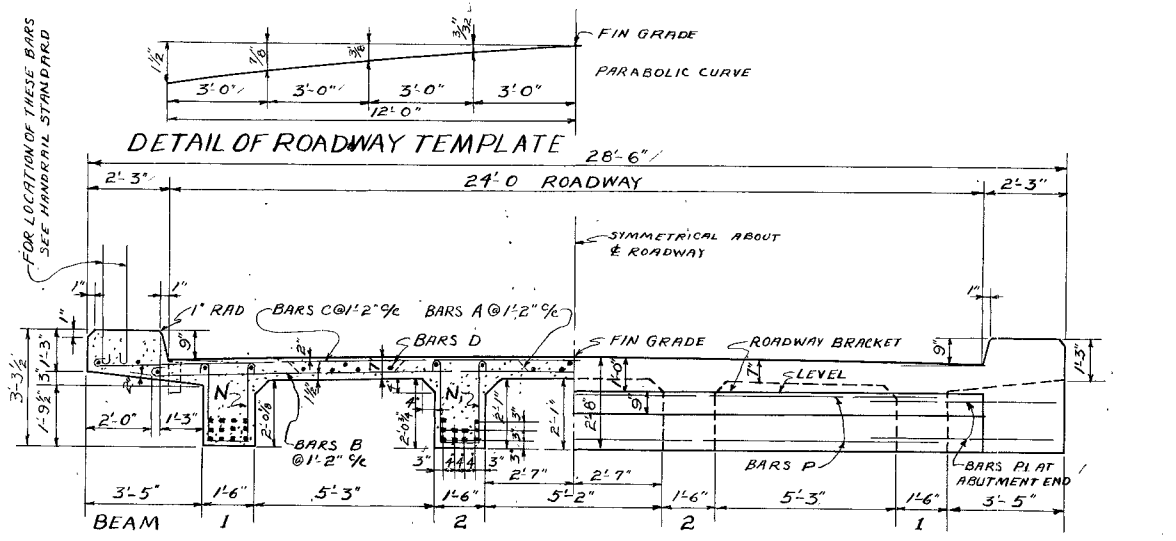
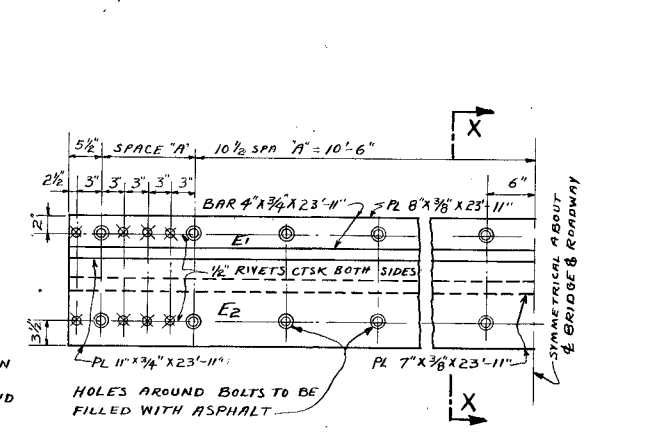


TABLE OF DIMENSIONS

BARS	a	b	c	d
F	47'-6"	1'-0"	30'-6"	2'-5 1/2"
F1	47'-6"	1'-0"	30'-6"	2'-7"
G	39'-0"	1'-0"	33'-0"	2'-5 1/2"
G1	39'-0"	1'-0"	33'-0"	2'-7"
H	35'-2"	1'-7"	30'-0"	2'-1 1/2"
H1	35'-2"	1'-7"	30'-0"	2'-3"
J	37'-6"	1'-0"	27'-0"	2'-1 1/2"

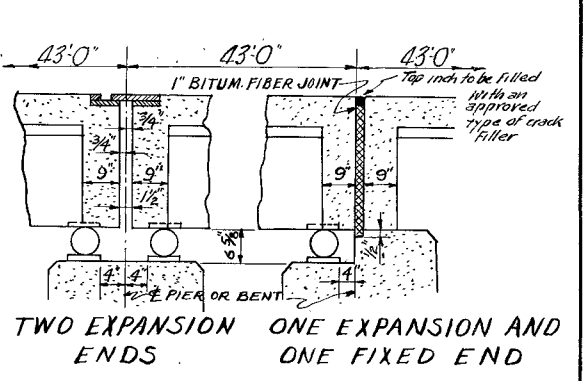
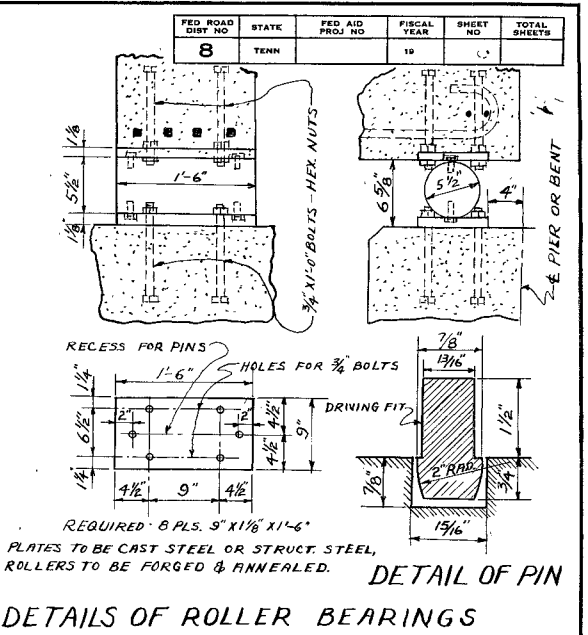
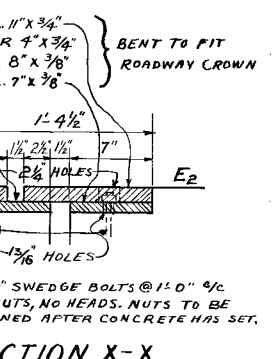


WEIGHT = 1388 LBS. STRUCTURAL STEEL

BILL OF STEEL FOR INTERMED. SPAN

BAR	NO	SIZE	LENGTH
A	37	5/8"	29'-6"
B	30	5/8"	25'-6"
C	30	5/8"	29'-0"
D	29	1/2"	47'-6"
E	10	1/4"	44'-6"
F	4	1 1/4"	45'-11"
F1	4	1 1/4"	46'-0"
G	4	1 1/4"	47'-5"
G1	4	1 1/4"	47'-4"
H	4	1"	38'-5"
H1	4	7/8"	38'-0"
J	4	1"	35'-5"
N	62	5/8"	6'-8"
N1	62	5/8"	6'-10"
P	5	5/8"	21'-3"

NOTE: FOR EACH ABUTMENT END ADD
 4 - 5/8" X 5'-0" BARS P1,
 24 - 1/2" X 2'-3" BARS T,
 1 - 1/2" X 23'-6" BAR U



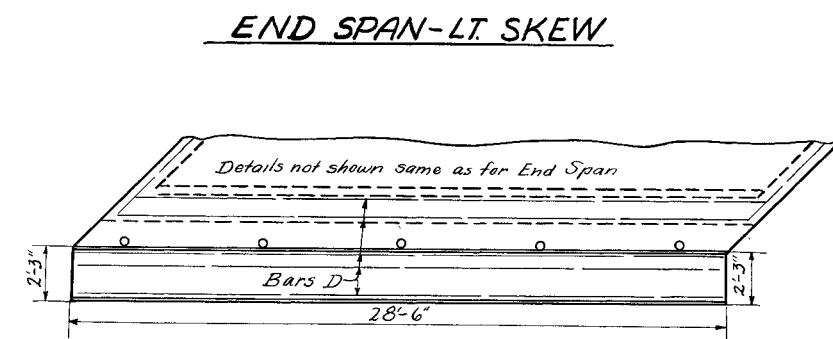
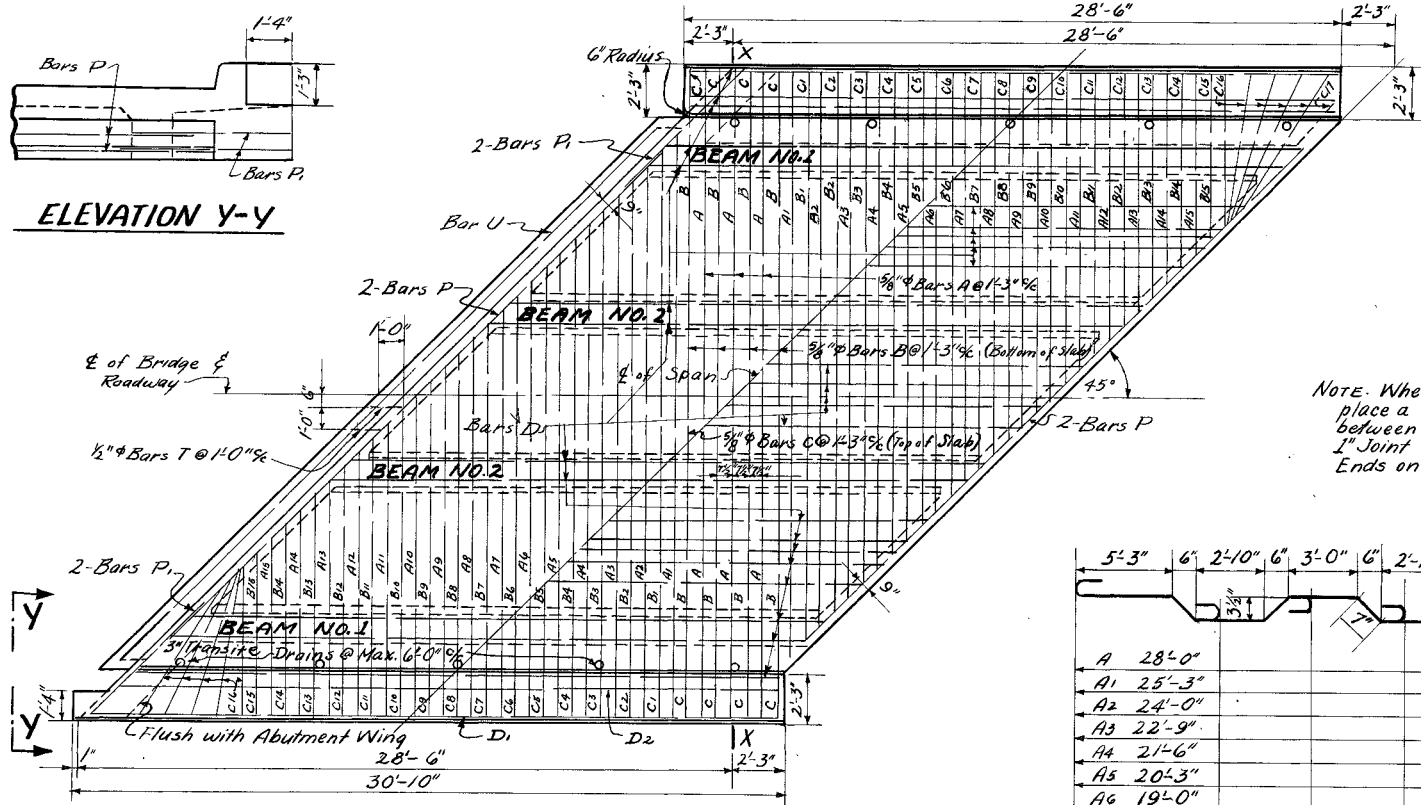
GENERAL NOTES:
 SPECIFICATIONS: STANDARD ROAD AND BRIDGE
 SPECIFICATIONS OF THE TENNESSEE DEPARTMENT
 OF HIGHWAYS AND PUBLIC WORKS.
 H-15-44 LOADING
 CONCRETE: TO BE CLASS "A"
 REINFORCING STEEL: SEE SPECIFICATIONS
 FORMS & FINISH: SEE SPECIFICATIONS.

STATE OF TENNESSEE
 DEPARTMENT OF HIGHWAYS
 AND PUBLIC WORKS
 NASHVILLE
 STANDARD
CONCRETE BRIDGES
 DECK GIRDER TYPE
 SPAN 40'-0" 24'-0" ROADWAY

1954
 CORRECTED BY *L. H. Erickson*
 BRIDGE ENGINEER
 APPROVED BY *W. B. M. Bates*
 STATE HIGHWAY ENGINEER
 F-2-44

DESIGNED BY _____ DATE _____
 DRAWN BY *J.C.B.* DATE *8-20-54*
 CHECKED BY _____ DATE _____

MICROFILMED



BARS A-A15

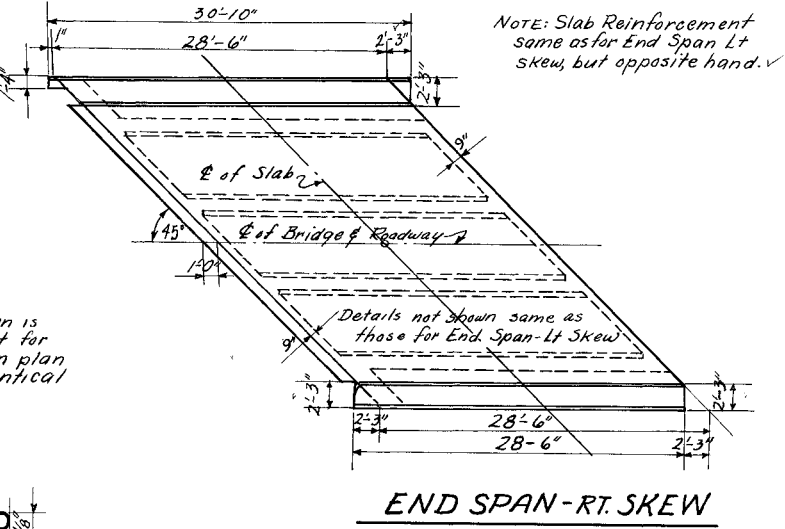
A	28'-0"
A1	25'-3"
A2	24'-0"
A3	22'-9"
A4	21'-6"
A5	20'-3"
A6	19'-0"
A7	17'-9"
A8	16'-6"
A9	15'-3"
A10	14'-0"
A11	12'-9"
A12	11'-6"
A13	10'-3"
A14	9'-0"
A15	7'-9"

BARS B-B15 & C

Length in Table minus 1'-0"

BARS C-C17

Length in Table minus 1'-0"



BILL of STEEL

CONSTANT FOR END & INTERMEDIATE SPANS

BAR NO.	SIZE	LENGTH	BAR NO.	SIZE	LENGTH	BAR NO.	SIZE	LENGTH
A	3	29'-6"	B10	2	12'-6"	F	4	14'-0"
A1	2	26'-9"	B11	2	11'-3"	F1	4	14'-0"
A2	2	25'-6"	B12	2	10'-0"	G	2	18'-4"
A3	2	24'-2"	B13	2	8'-9"	G1	2	18'-4"
A4	2	22'-11"	B14	2	7'-6"	G2	2	18'-4"
A5	2	21'-7"	B15	2	6'-3"	N	46	5'-4"
A6	2	20'-4"	C	4	29'-0"	N1	46	5'-4"
A7	2	19'-1"	C1	2	25'-8"	P	4	30'-0"
A8	2	17'-9"	C2	2	24'-5"			
A9	2	16'-6"	C3	2	23'-2"			
A10	2	15'-3"	C4	2	21'-11"			
A11	2	13'-11"	C5	2	20'-8"			
A12	2	12'-8"	C6	2	19'-5"			
A13	2	11'-5"	C7	2	18'-2"			
A14	2	10'-2"	C8	2	16'-11"			
A15	2	8'-10"	C9	2	15'-8"			
			C10	2	14'-5"			
			C11	2	13'-2"			
			C12	2	11'-11"			
			C13	2	10'-8"			
			C14	2	9'-5"			
			C15	2	8'-2"			
			C16	10	7'-6"			
			C17	1	5'-6"			
			D	27	28'-0"			
			D1	1	30'-6"			
			D2	1	28'-6"			
			P1	4	7'-0"			
			T	24	2'-3"			
			U	1	33'-3"			

ADDITIONAL BILL of STEEL

END SPAN

BAR NO.	SIZE	LENGTH
C17	1	5'-6"
D	27	28'-0"
D1	1	30'-6"
D2	1	28'-6"
P1	4	7'-0"
T	24	2'-3"
U	1	33'-3"

INTERMEDIATE SPAN

BAR NO.	SIZE	LENGTH
C17	2	5'-6"
D	29	28'-0"

NOTE: Details shown on this sheet supersede those shown on Std. Dwg. F-2-43. Details not shown, same as those on Std. Dwg. F-2-43.

GENERAL NOTES:

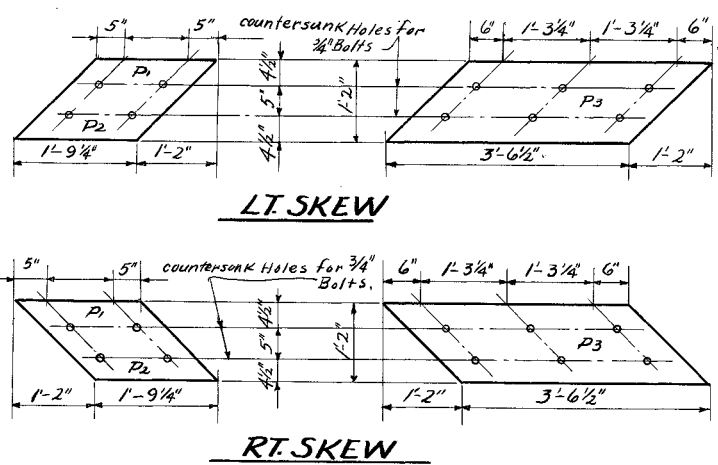
SPECIFICATIONS: Standard Road and Bridge Specifications of the Tennessee Department of Highway and Public Works
LOADING: H-15-44
CONCRETE: To be Class "A"
REINFORCING STEEL: See Specifications.
FORMS AND FINISH: See Specifications.

NOTE: If Plates P3 are used, structural steel weight = 764 Lbs. (Two Spans).

ESTIMATED QUANTITIES

ITEM	CONCRETE CLASS "A" CU. YDS.	STEEL - LBS.	
		REINFORCING	STRUCT.
END SPAN	32.8	6,893	397
INTERMEDIATE SPAN	31.0	6,809	397

NOTE: Weight of Structural Steel is based on a single Expansion on Pier or Bent with 1'-3" Bridge Seat



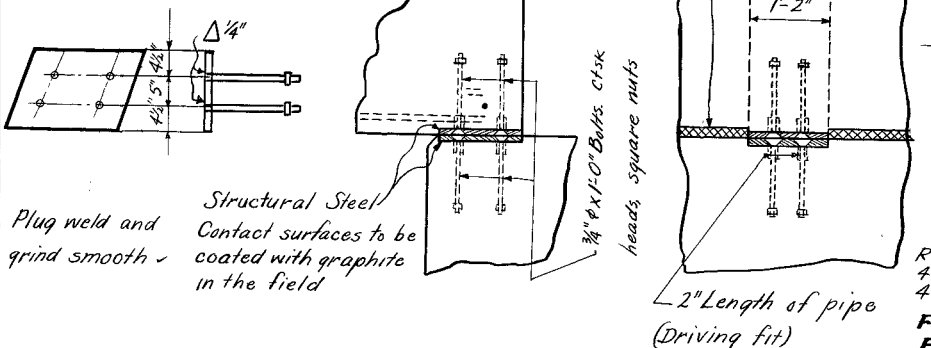
REQUIRED BRs 1/2" Thick
A-P1-Countersunk F.S.
A-P2-Countersunk N.S.
FOR ONE EXPANSION END ON PIER OR BENT.

REQUIRED: 12 BRs 1/2" Thick
8-P1-Countersunk F.S.
4-P3-Countersunk N.S.
FOR TWO EXPANSION ENDS ON PIER OR BENT.

DETAILS OF BEARING PLATES

NOTE: Bottom of top plates to be flush with bottom of beam.
Top of bottom plates to be flush with bridge seat.
Fabricator may use either pipe sleeves or weld.

DETAILS OF EXPANSION END



DESIGNED BY: VERNON
DRAWN BY: KELLEY
CHECKED BY: DATE: 10-2-53
DATE: 8-31-54

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE

STANDARD

SLAB DETAILS

26'-0" CLEAR SPAN 45° SKEW RT. & LT.

24'-0" ROADWAY

1954

CORRECT: L. N. Erickson
BRIDGE ENGINEER

APPROVED: H. B. Bales
STATE HIGHWAY ENGINEER

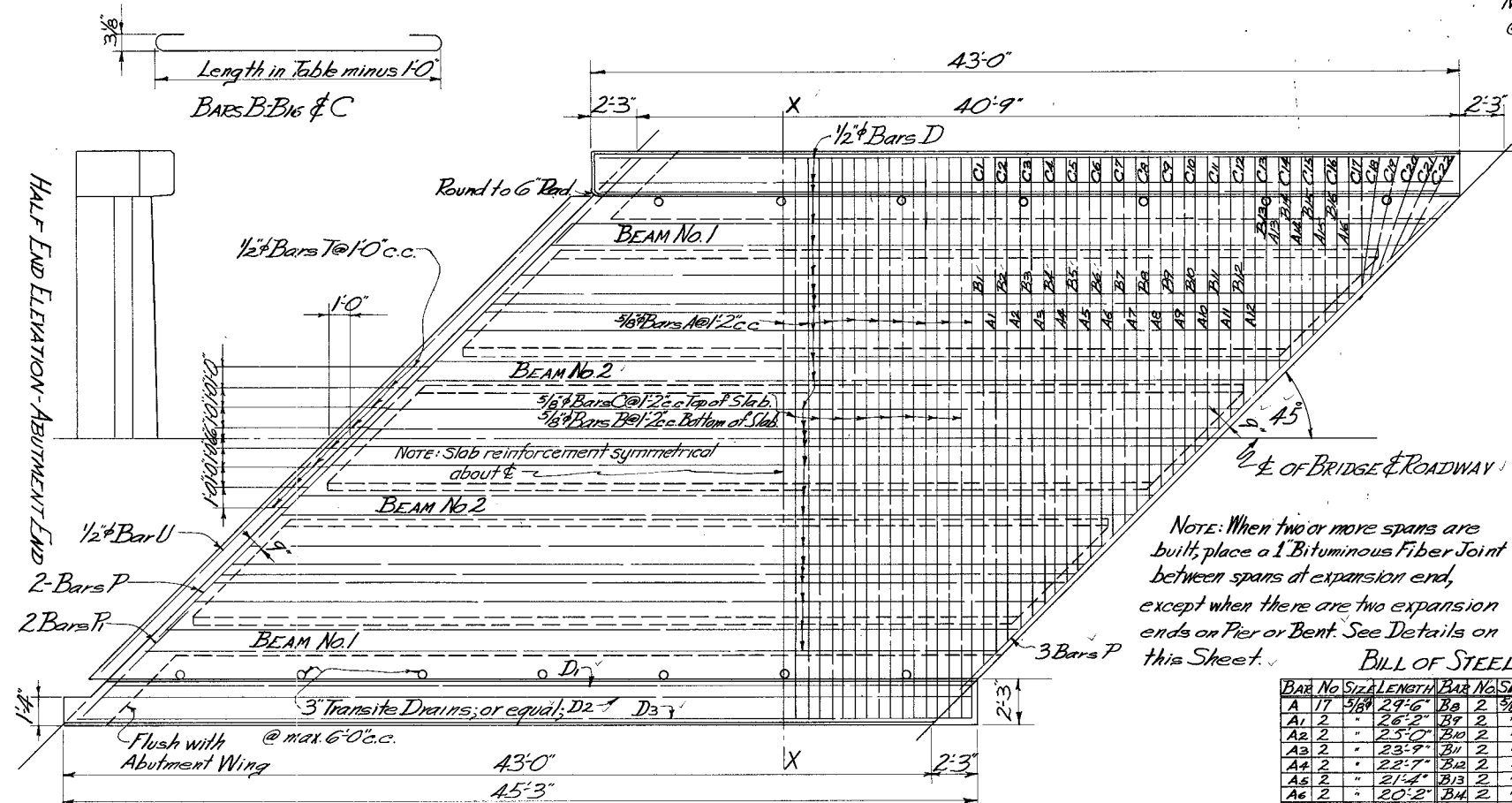
WITH DWG. F-2-43

F-2-48

MICROFILMED

TRACING CHECKED P.Y.L. 9-2-54

Note: A, B & C Bars to be spaced @ 14" c.c. Bars C18-C22 Flared



Reinforcing Steel same as for Left Skew but opposite hand.

Length in Table minus 1'0"

BEAMS A-28'0"

BEAMS A1-24'8"

BEAMS A2-23'6"

BEAMS A3-22'4"

BEAMS A4-21'2"

BEAMS A5-20'0"

BEAMS A6-18'10"

BEAMS A7-17'8"

BEAMS A8-16'6"

BEAMS A9-15'4"

BEAMS A10-14'2"

BEAMS A11-13'0"

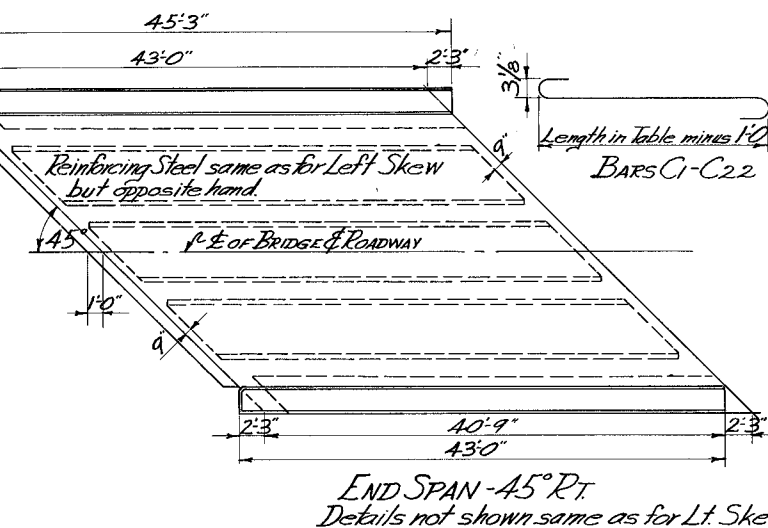
BEAMS A12-11'10"

BEAMS A13-10'8"

BEAMS A14-9'6"

BEAMS A15-8'4"

BEAMS A16-7'2"



Note: When two or more spans are built, place a 1" Bituminous Fiber Joint between spans at expansion end, except when there are two expansion ends on Pier or Bent. See Details on this Sheet.

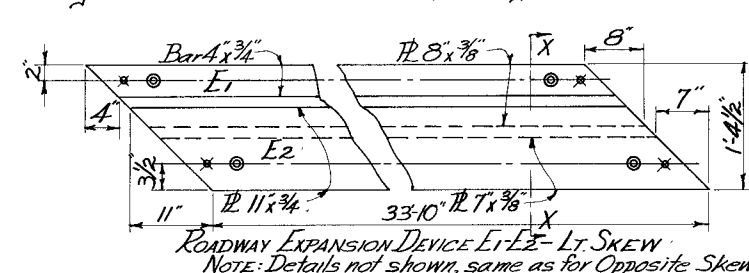
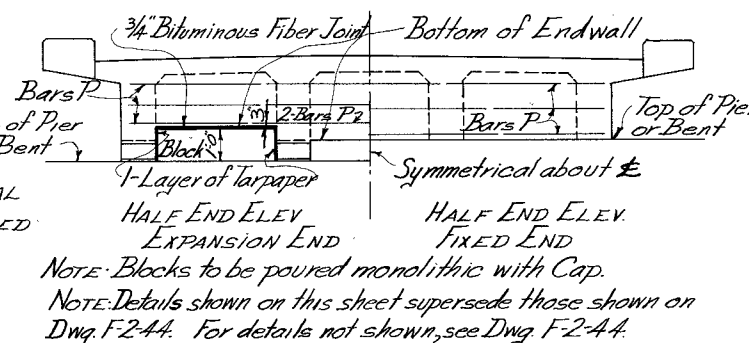
BILL OF STEEL - INTERMEDIATE SPAN

BAR NO.	SIZE	LENGTH	BAR NO.	SIZE	LENGTH	BAR NO.	SIZE	LENGTH
A17	5/8"	29'6"	B8	2	16'4"	C16	2	8'9"
A18	2	26'2"	B9	2	15'2"	C17	2	7'7"
A19	2	25'0"	B10	2	14'0"	C18	2	7'6"
A20	2	23'9"	B11	2	12'10"	C19	2	7'3"
A21	2	22'7"	B12	2	11'8"	C20	2	7'0"
A22	2	21'4"	B13	2	10'6"	C21	2	6'6"
A23	2	20'2"	B14	2	9'4"	C22	2	6'0"
A24	2	19'0"	B15	2	8'2"			
A25	2	17'9"	B16	2	7'0"	D1	2	42'6"
A26	2	16'7"				D2	1	42'9"
A27	2	15'5"	C1	16	29'0"	E1	16	44'6"
A28	2	14'3"	C2	2	26'3"	F1	4	45'11"
A29	2	13'0"	C3	2	23'11"	F2	4	46'0"
A30	2	11'10"	C4	2	22'9"	G1	4	42'5"
A31	2	10'5"	C5	2	21'7"	G2	4	42'4"
A32	2	9'3"	C6	2	20'5"	H1	4	38'5"
A33	2	8'3"	C7	2	19'3"	H2	4	38'0"
B1	2	25'6"	C8	2	18'1"	I1	4	35'5"
B2	2	24'6"	C9	2	16'11"	I2	4	35'5"
B3	2	23'4"	C10	2	15'9"	J1	4	33'5"
B4	2	22'2"	C11	2	14'7"	J2	4	33'5"
B5	2	21'0"	C12	2	13'5"	N1	62	6'8"
B6	2	19'10"	C13	2	12'3"	N2	62	6'10"
B7	2	18'8"	C14	2	11'1"	P	5	30'0"
B8	2	17'6"	C15	2	9'11"			

BILL OF STEEL - END SPAN

END SPAN - ADDITIONAL BARS & CHANGES REQUIRED

BAR NO.	SIZE	LENGTH
D1	1"	42'9"
D2	1"	43'3"
D3	1"	44'6"
P1	1/2"	7'0"
T	2"	2'3"
U	1"	33'3"



GENERAL NOTES:

Specifications: Standard Road & Bridge Specifications of the Tennessee Department of Highways & Public Works.

LOADING: H15-44

Concrete to be Class "A"

Reinforcing Steel: See Specifications.

Forms & Finish: See Specifications.

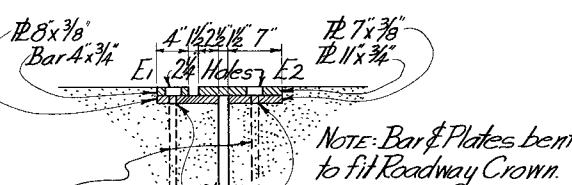
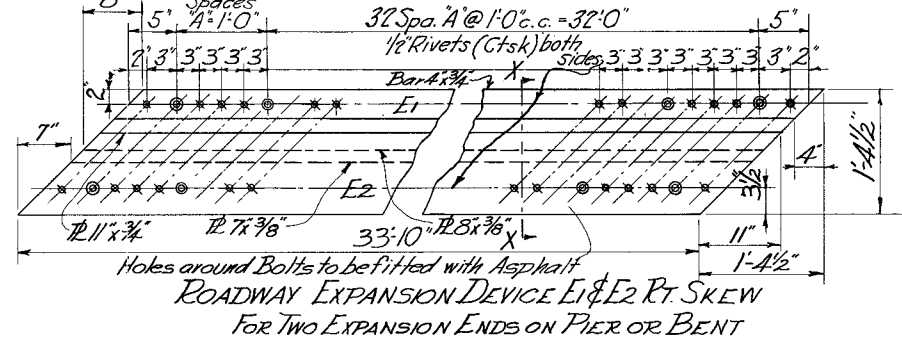
ESTIMATED QUANTITIES

ITEM	CONCRETE CLASS "A" CU. YDS.	STEEL - POUNDS		FORGINGS LBS.
		REINFORCING	STRUCTURAL	
END SPAN	58.8	13870	4650	485
INTERMEDIATE SPAN	56.4	13790	4650	485

NOTE: Weight of Expansion Devices E1 & E2, not included in Structural Steel Quantities

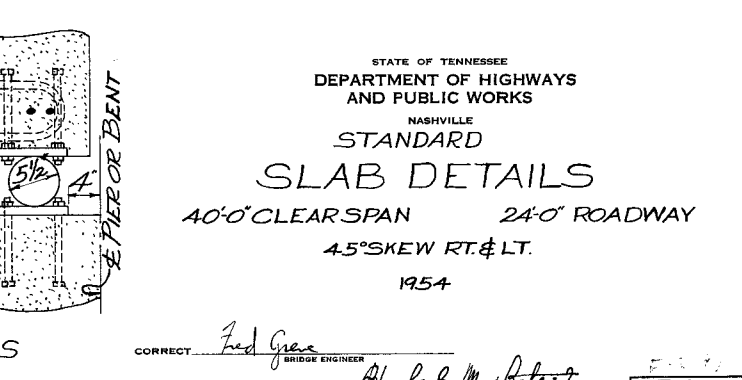
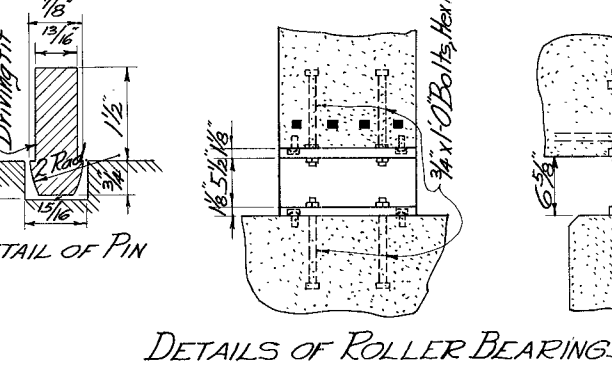
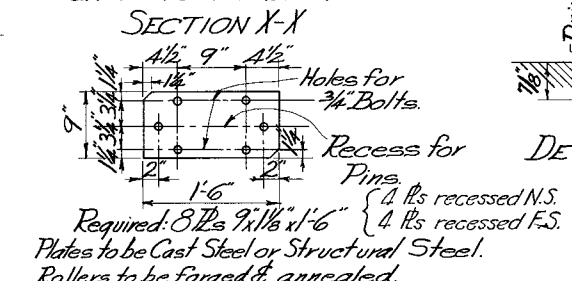
PART INTERMEDIATE SPAN - LEFT SKEW

Note: Details not shown same as for End Span



NOTE: Bar & Plates bent to fit Roadway Crown.

3/4" x 9" Sledge bolts @ 1'0" c.c. HEX. Nuts, No Heads. Nuts to be tightened after Concrete has set.



DESIGNED BY: W. J. Givens
 DRAWN BY: W. J. Givens
 TRACED BY: Charles Walworth
 CHECKED BY: Charles Walworth

DATE: 9-9-54
 DATE: 9-16-54
 DATE:

WEIGHT OF EXPANSION DEVICES E1 & E2 = 1979 LBS OF STRUCTURAL STEEL

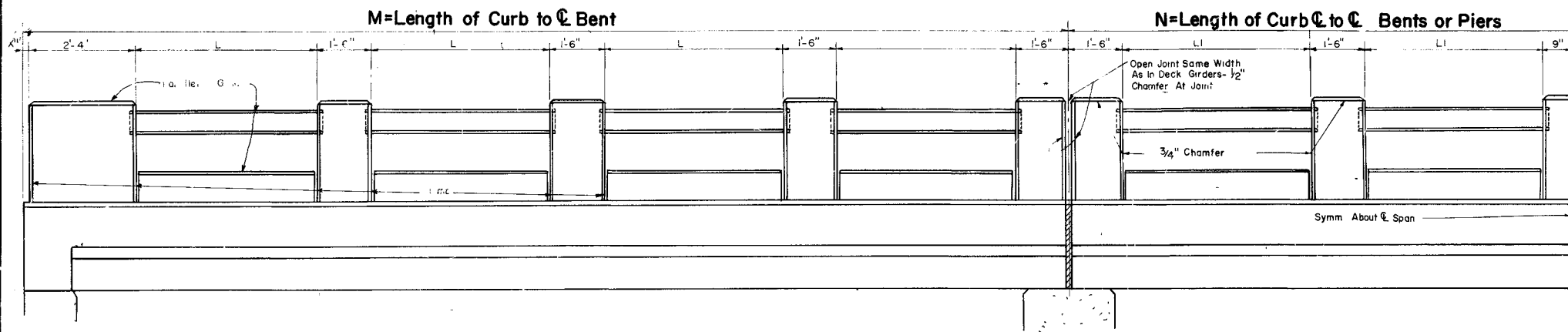
Required: 8 lbs 9" x 1/8" x 1'6" { 4 lbs recessed N.S. Plates to be Cast Steel or Structural Steel. Rollers to be forged & annealed.

DETAILS OF ROLLER BEARINGS

CORRECT: Fred Green
 APPROVED: Charles Walworth
 STATE HIGHWAY ENGINEER

F-2-90

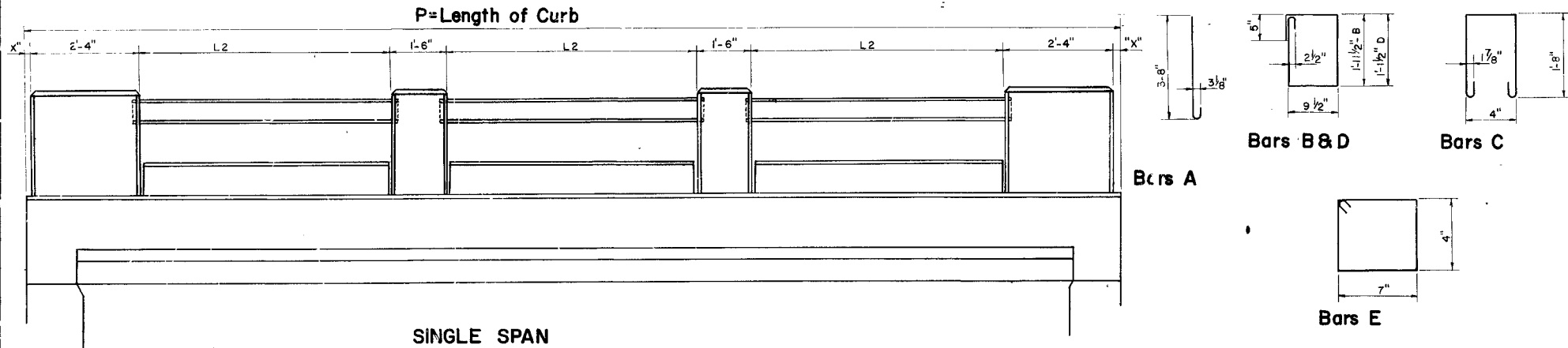
WITH DWG. F-2-44



END SPAN

INTERMEDIATE SPAN

END SPAN															
Clear Span Feet	Dimensions			Reinforcing Steel										Quantities	
	M	X	L	Bars A	Bars B	Bars C	Bars D	Bars E	Bars F	Bars G		Concrete Class "A"	Reinf Steel		
				3/8" x 4'-2"	1/2" x 5'-4"	3/8" x 4'-4"	1/2" x 4'-8"	3/8" x 2'-6"	1/2" x 6"	1/2" x 8"	Length	Length	Cu Yds	Lbs	
16	18'-6"	2"	2 @ 6'-6"	28	NO	NO	NO	NO	NO	8 6'-2"	16 6'-8"	19	362		
18	20'-6"	2"	3 @ 4'-6"	36	6	30	18	30	12	4'-2"	24 4'-8"	23	424		
20	22'-6"	2"	3 @ 5'-2"	36	6	36	18	36	12	4'-10"	24 5'-4"	24	456		
22	24'-6"	2"	3 @ 5'-10"	36	6	36	18	36	12	5'-6"	24 6'-0"	25	472		
24	26'-6"	2"	3 @ 6'-6"	36	6	42	18	42	12	6'-2"	24 6'-8"	26	504		
26	28'-6"	2"	4 @ 5'-0"	44	6	40	24	40	16	4'-8"	32 5'-2"	30	556		
28	31'-0"	2"	4 @ 5'-7 1/2"	44	6	48	24	48	16	5'-3"	32 5'-10"	31	597		
30	33'-0"	2"	4 @ 6'-1 1/2"	44	6	56	24	56	16	5'-9"	32 6'-4"	33	634		
32	35'-0"	2"	4 @ 6'-7 1/2"	44	6	56	24	56	16	6'-3"	32 6'-10"	34	650		
34	37'-0"	2 1/4"	5 @ 5'-4 3/4"	52	6	60	30	60	20	5'-1"	40 5'-7"	37	718		
36	39'-0"	2 1/2"	5 @ 5'-9 1/2"	52	6	60	30	60	20	5'-5"	40 6'-0"	38	734		
38	41'-0"	2 3/4"	5 @ 6'-2 1/4"	52	6	70	30	70	20	5'-10"	40 6'-5"	40	777		
40	43'-0"	2"	6 @ 5'-3"	60	6	72	36	72	24	4'-11"	48 5'-5"	43	838		
50	53'-0"	2"	6 @ 6'-11"	60	6	84	36	84	24	6'-7"	48 7'-1"	49	950		
60	63'-0"	2"	8 @ 6'-0 3/4"	76	6	96	48	96	32	5'-9"	64 6'-3"	60	1145		



SINGLE SPAN

INTERMEDIATE SPAN													
Clear Span Feet	Dimensions		Reinforcing Steel								Quantities		
	N	L1	Bars A	Bars B	Bars C	Bars D	Bars E	Bars F	Bars G	Concrete Class "A"	Reinf Steel		
			$\frac{3}{8} \times 4'-2"$	$\frac{3}{8} \times 6'-4"$	$\frac{3}{8} \times 4'-4"$	$\frac{1}{2} \times 4'-8"$	$\frac{3}{8} \times 4'-6"$	$\frac{1}{2}$	$\frac{1}{2}$				
			NO	NO	NO	NO	NO	NO	Length			Length	
16	18'-6"	2 @ 7'-0"	24	—	28	18	28	8	6'-8"	16	7'-2"	18	346
18	20'-6"	3 @ 4'-10"	32	—	30	24	30	12	4'-6"	24	5'-0"	22	408
20	22'-6"	3 @ 5'-6"	32	—	36	24	36	12	5'-2"	24	5'-8"	23	440
22	24'-6"	3 @ 6'-2"	32	—	42	24	42	12	5'-10"	24	6'-4"	24	472
24	26'-6"	3 @ 6'-10"	32	—	42	24	42	12	6'-6"	24	7'-0"	25	488
26	28'-6"	4 @ 5'-3"	40	—	48	30	48	16	4'-11"	32	5'-5"	29	561
28	31'-0"	4 @ 5'-10 1/2"	40	—	48	30	48	16	5'-6"	32	6'-1"	30	581
30	33'-0"	4 @ 6'-4 1/2"	40	—	56	30	56	16	6'-0"	32	6'-7"	32	618
32	35'-0"	4 @ 6'-10 1/2"	40	—	56	30	56	16	6'-6"	32	7'-1"	33	634
34	37'-0"	4 @ 5'-7 1/4" 1 @ 5'-7"	48	—	60	36	60	20	5'-3"	40	5'-9"	36	701
36	39'-0"	5 @ 6'-0"	48	—	60	36	60	20	5'-8"	40	6'-2"	37	718
38	41'-0"	4 @ 6'-4 3/4" 1 @ 6'-5"	48	—	70	36	70	20	6'-1"	40	6'-7"	39	760
40	43'-0"	6 @ 5'-5"	56	—	72	42	72	24	5'-11"	48	5'-7"	42	822
50	53'-0"	6 @ 7'-1"	56	—	84	42	84	24	6'-9"	48	7'-3"	48	924
60	63'-0"	8 @ 6'-2 1/4"	72	—	96	54	96	32	5'-10"	64	6'-4"	59	1127

SINGLE SPAN

SINGLE SPAN														
Clear Span Feet	Dimensions			Reinforcing Steel								Quantities		
	P	X	L2	Bars A	Bars B	Bars C	Bars D	Bars E	Bars F	Bars G	Concrete Class "A"	Reinf Steel		
				3/8" 6'-0"	1/2" 6'-4"	3/8" 4'-4"	1/2" 4'-4"	3/8" 6'-0"	1/2" 6'-0"	1/2" 6'-0"			1/2" 6'-0"	1/2" 6'-0"
16	18'-6"	2"	2 @ 6'-0"	32	12	24	6	24	8	5'-8"	16	6'-2"	20	367
18	20'-6"	2"	3 @ 4'-2"	40	12	30	12	30	12	3'-10"	24	4'-4"	24	440
20	22'-6"	2"	3 @ 4'-10"	40	12	30	12	30	12	4'-6"	24	5'-0"	25	456
22	24'-6"	2"	3 @ 5'-6"	40	12	36	12	36	12	5'-2"	24	5'-8"	26	488
24	26'-6"	2"	3 @ 6'-2"	40	12	42	12	42	12	5'-10"	24	6'-4"	27	520
26	28'-6"	2"	3 @ 6'-10"	40	12	42	12	42	12	6'-6"	24	7'-0"	29	534
28	31'-0"	2"	4 @ 5'-4 1/2"	48	12	48	18	48	16	5'-0"	32	5'-7"	32	613
30	33'-0"	2"	4 @ 6'-10 1/2"	48	12	48	18	48	16	5'-6"	32	6'-1"	34	629
32	35'-0"	2"	4 @ 6'-4 1/2"	48	12	56	18	56	16	6'-0"	32	6'-7"	35	666
34	37'-0"	2"	4 @ 6'-10 1/2"	48	12	56	18	56	16	6'-6"	32	7'-1"	36	682
36	39'-0"	2 1/2"	5 @ 5'-7"	56	12	60	24	60	20	5'-3"	40	5'-9"	40	719
38	41'-0"	2"	5 @ 6'-0"	56	12	60	24	60	20	5'-8"	40	6'-2"	41	766
40	43'-0"	2"	6 @ 5'-1"	64	12	60	30	60	24	4'-9"	48	5'-3"	44	823
50	53'-0"	2"	6 @ 6'-9"	64	12	84	30	84	24	6'-5"	48	6'-11"	50	966
60	63'-0"	2"	8 @ 5'-11 1/4"	80	12	96	42	96	32	5'-7"	64	6'-1"	61	1158

GENERAL NOTES:

Specifications Standard Road & Bridge Specifications of the Tennessee Department of Highways
Concrete To be Class "A"
Reinforcing Steel See Specification
Forms & Finish See Specifications

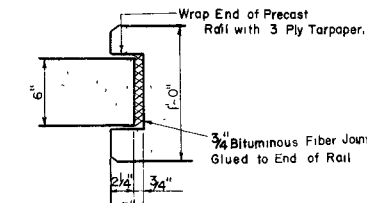
END POST on SKEWED DECK GIRDER
With Safety Curbs

DECK GIRDER with SIDEWALK

NOTE: When Curb Thickness is Shown 7", Bend Bars A & C into Curb

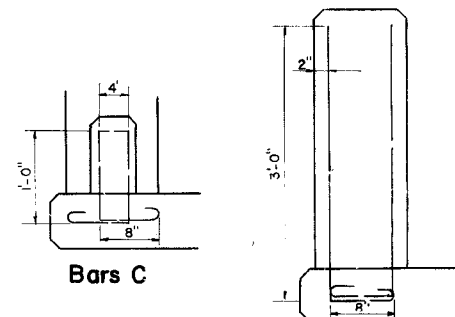
Section B-B

Section A-A



Detail At "E"

NOTE: Chamfer all Handrail Edges 1/2"
Except as Shown at Split Rail Post



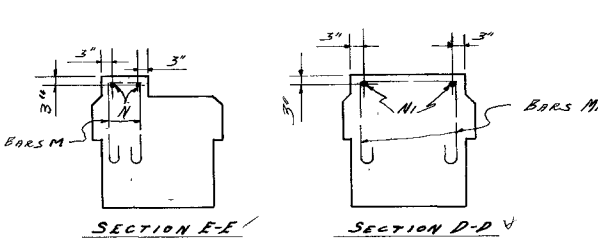
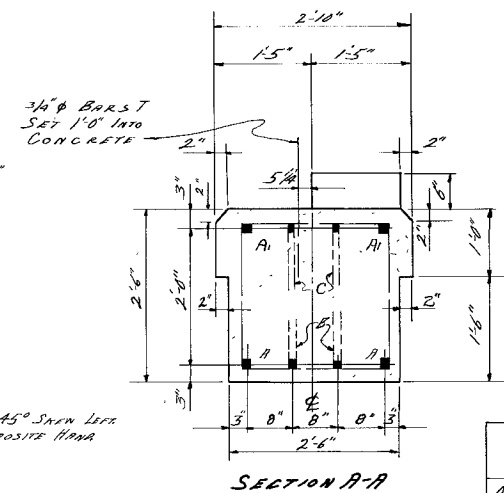
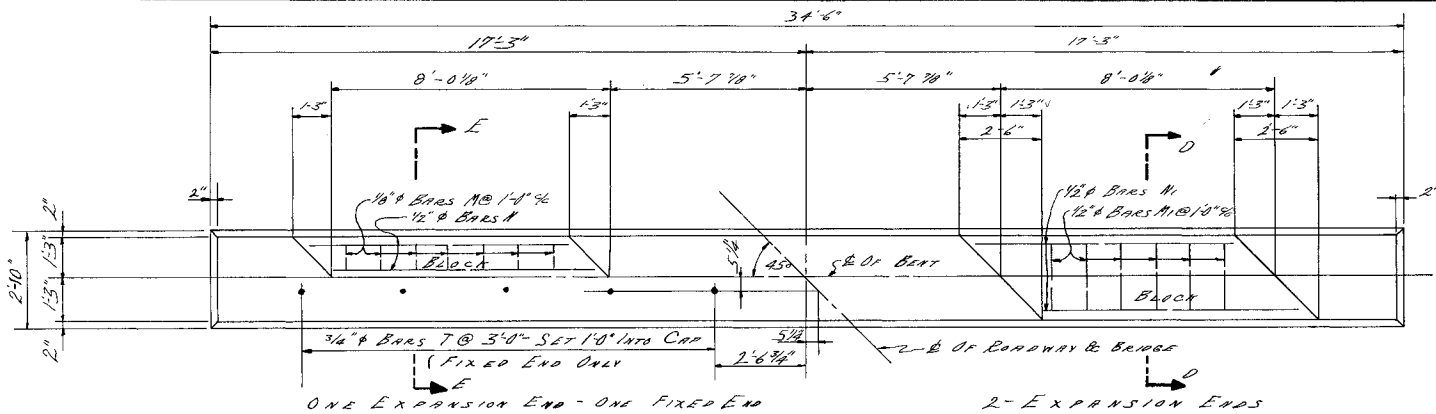
BAR DETAIL for "7" CURB

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE
STANDARD
CONCRETE HANDRAIL
RAIL TYPE
1953

CORRECT *Red Green*
APPROVED *ced Lang*
STATE HIGHWAY ENGINEER

4 Revised 7-20-62
2 Revised 3-27-61 Bend Details for Bars A & C
2 Revised for Chamfer 8-27-59
Rev for Removal of Groove in Rail Post
1 Revised 10-8-58

DESIGNED BY W W
DRAWN BY W W
CHECKED BY Kelley B. Shoggs
DATE 5-10-49
DATE 3-7-62
DATE



BILL OF STEEL - FOR BLOCKS

ONE EXPANSION END			TWO EXPANSION ENDS		
BAR	SIZE	NO. LENGTH	BAR	SIZE	NO. LENGTH
N	1/2"	4 7'-6"	N	1/2"	4 7'-6"
M	1/2"	14 5'-1"	M	1/2"	12 6'-4"

ESTIMATED QUANTITIES - FOR BLOCKS

	CONCRETE CLASS "A" CU. YDS.	REINFORC. STEEL LBS.
ONE EXPANSION END	0.4	68
TWO EXPANSION ENDS	0.7	71

BILL OF STEEL

CONSTANT FOR ALL HEIGHTS

TYPE "A" FOOTING			TYPE "B" FOOTING		
BAR	SIZE	NO. LENGTH	BAR	SIZE	NO. LENGTH
A	1 1/4"	2 35'-8"	A	1 1/4"	2 35'-8"
A1	1 1/4"	2 36'-0"	A1	1 1/4"	2 36'-0"
B	1 1/4"	2 22'-2"	B	1 1/4"	2 27'-2"
C	1 1/8"	4 15'-5"	C	1 1/8"	4 15'-5"
D	3/8"	21 9'-8"	D	3/8"	21 9'-8"
E	3/4"	12 8'-9"	E	3/4"	12 8'-9"
F	1 1/8"	8 6'-11"	F	1 1/8"	8 6'-11"
H	5/8"	22 8'-0"	H	5/8"	40 5'-6"
J	3/8"	16 6'-0"			

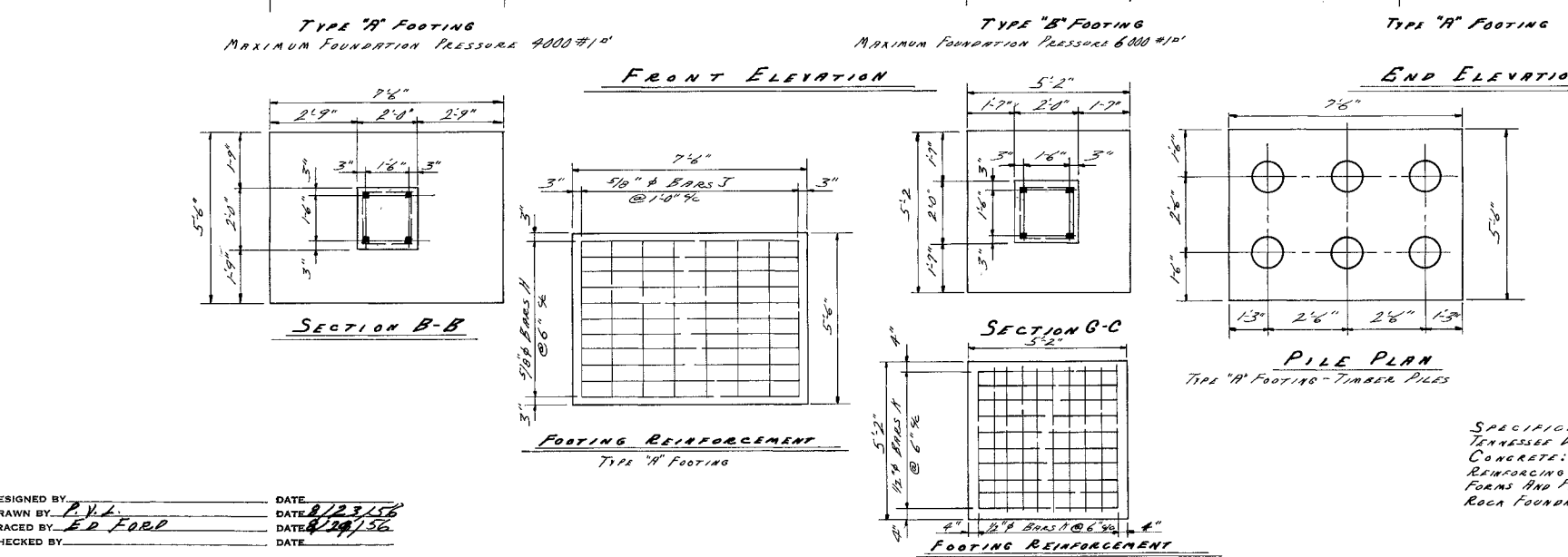
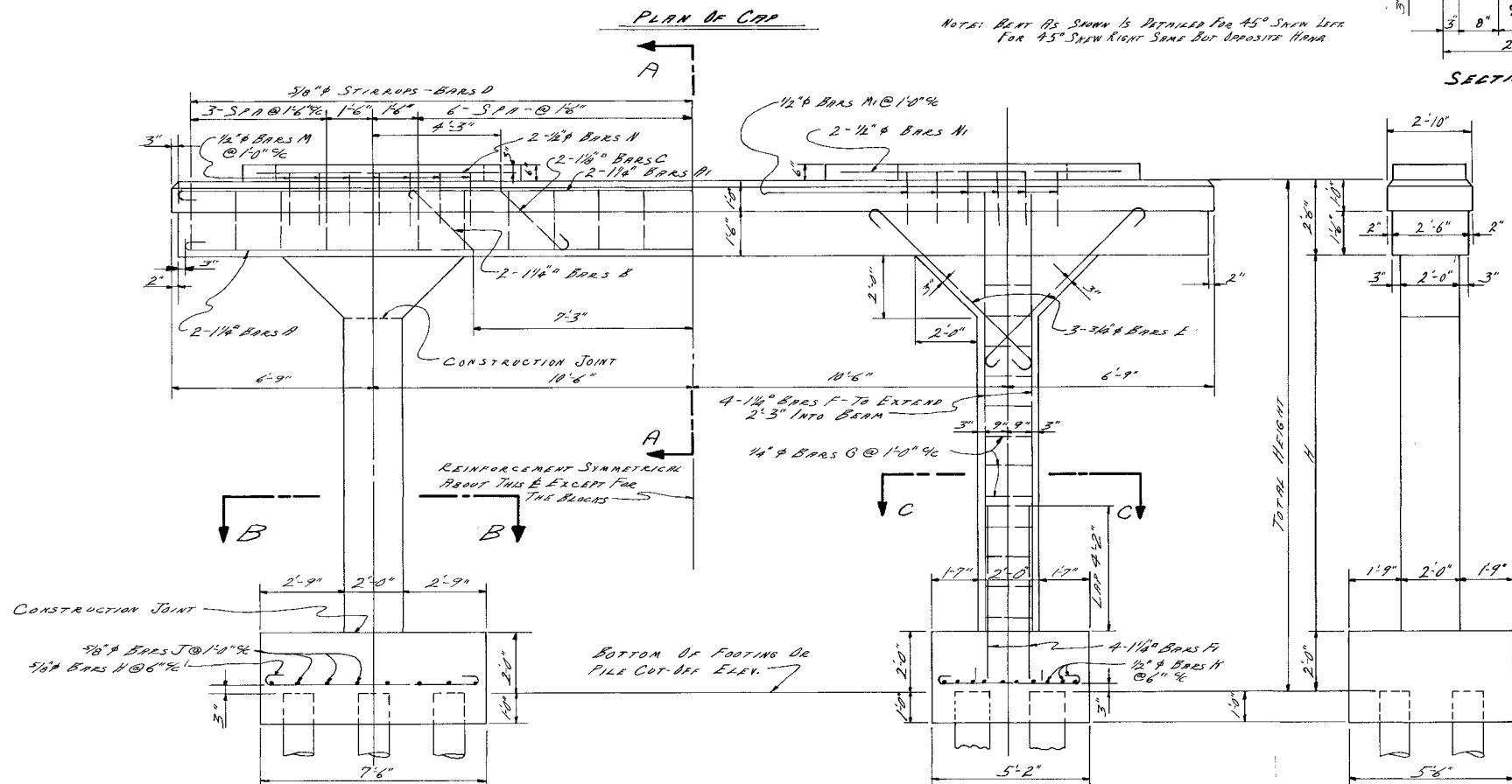
NOTE: THE WEIGHT OF THE BARS LISTED ABOVE IS INCLUDING IN THE TABLE OF DIMENSIONS AND ESTIMATED QUANTITIES.

TABLE OF DIMENSIONS AND ESTIMATED QUANTITIES

TOTAL HEIGHTS	H	REINFORCEMENT TYPE "A" FOOTING		REINFORCEMENT TYPE "B" FOOTING	
		CONC. CLASS "A" CU. YDS.	REINFORC. STEEL LBS.	CONC. CLASS "A" CU. YDS.	REINFORC. STEEL LBS.
10'-0"	5'-6"	2.9	10	2548	185
11'-0"	6'-6"	3.9	12	2593	198
12'-0"	7'-6"	4.9	14	2639	211
13'-0"	8'-6"	5.9	16	2683	224
14'-0"	9'-6"	6.9	18	2728	237
15'-0"	10'-6"	7.9	20	2772	250
16'-0"	11'-6"	8.9	22	2817	263
17'-0"	12'-6"	9.9	24	2862	276
18'-0"	13'-6"	10.9	26	2907	289
19'-0"	14'-6"	11.9	28	2952	302
20'-0"	15'-6"	12.9	30	2997	315
21'-0"	16'-6"	13.9	32	3042	328
22'-0"	17'-6"	14.9	34	3087	341
23'-0"	18'-6"	15.9	36	3132	354
24'-0"	19'-6"	16.9	38	3177	367
25'-0"	20'-6"	17.9	40	3222	380
26'-0"	21'-6"	18.9	42	3267	393
27'-0"	22'-6"	19.9	44	3312	406
28'-0"	23'-6"	20.9	46	3357	419
29'-0"	24'-6"	21.9	48	3402	432
30'-0"	25'-6"	22.9	50	3447	445
31'-0"	26'-6"	23.9	52	3492	458
32'-0"	27'-6"	24.9	54	3537	471
33'-0"	28'-6"	25.9	56	3582	484
34'-0"	29'-6"	26.9	58	3627	497
35'-0"	30'-6"	27.9	60	3672	510
36'-0"	31'-6"	28.9	62	3717	523
37'-0"	32'-6"	29.9	64	3762	536
38'-0"	33'-6"	30.9	66	3807	549
39'-0"	34'-6"	31.9	68	3852	562
40'-0"	35'-6"	32.9	70	3897	575
41'-0"	36'-6"	33.9	72	3942	588
42'-0"	37'-6"	34.9	74	3987	601
43'-0"	38'-6"	35.9	76	4032	614
44'-0"	39'-6"	36.9	78	4077	627

NOTE: FOR EACH FIXED END ADD 11-3/4" BARS T 2'-0" LONG TO THE REINFORCING STEEL WEIGHT = 35 LBS. WHEN TIMBER PILES ARE USED ADD 2.7 CU. YDS. OF CLASS "A" CONCRETE TO THE QUANTITIES SHOWN ABOVE. FOR TYPE "A" FOOTING WHEN CONCRETE PILES ARE USED, ADD 1.6 CU. YDS. OF CLASS "A" CONCRETE TO THE QUANTITIES SHOWN ABOVE FOR TYPE "B" FOOTING.

NOTE: BLOCKS ARE NOT INCLUDED IN THE ABOVE QUANTITIES SEE TABLE ABOVE ON THIS SHEET - ESTIMATED QUANTITIES FOR BLOCKS.



GENERAL NOTES

SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS.

CONCRETE: TO BE CLASS "A"

REINFORCING STEEL: SEE SPECIFICATIONS.

FORMS AND FINISH: SEE SPECIFICATIONS.

ROCK FOUNDATIONS: SEE SPECIFICATIONS.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE
STANDARD

CONCRETE BENTS

TOTAL HEIGHT 10'-44" 24'-8" ROADWAY
FOR 26'-0" CLEAR SPAN SKEW 45° RT & LT

1956

CORRECT: *Fred Greve*
APPROVED: *Harold M. Bates*
STATE HIGHWAY ENGINEER

F-10-10

DESIGNED BY: *P.V.L.*
DRAWN BY: *ED FORD*
CHECKED BY: *ED FORD*

DATE: 8/23/56
DATE: 8/23/56
DATE: 8/23/56

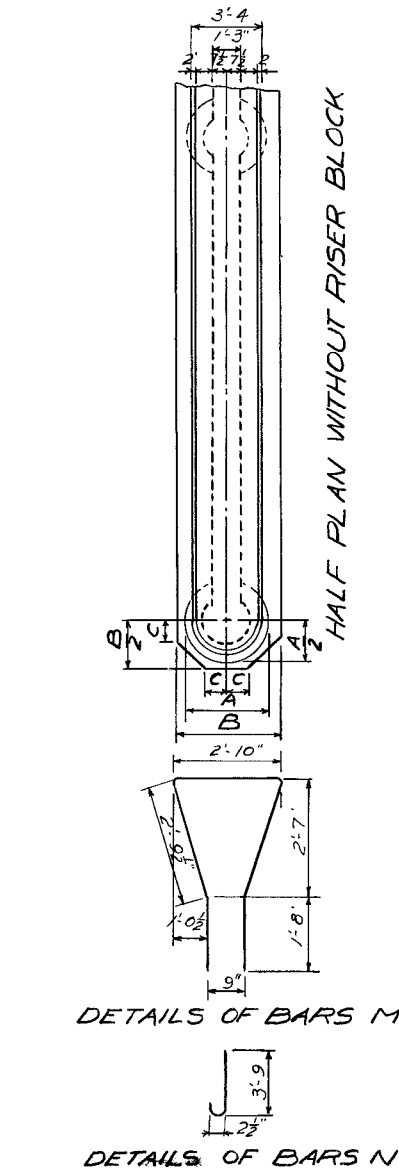
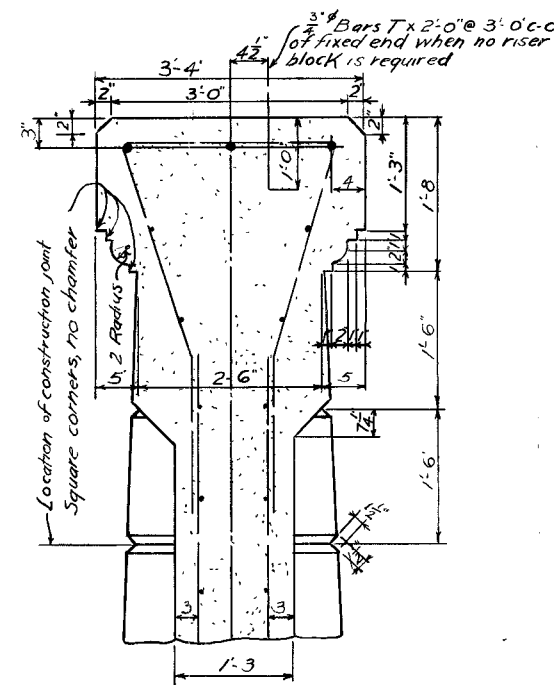
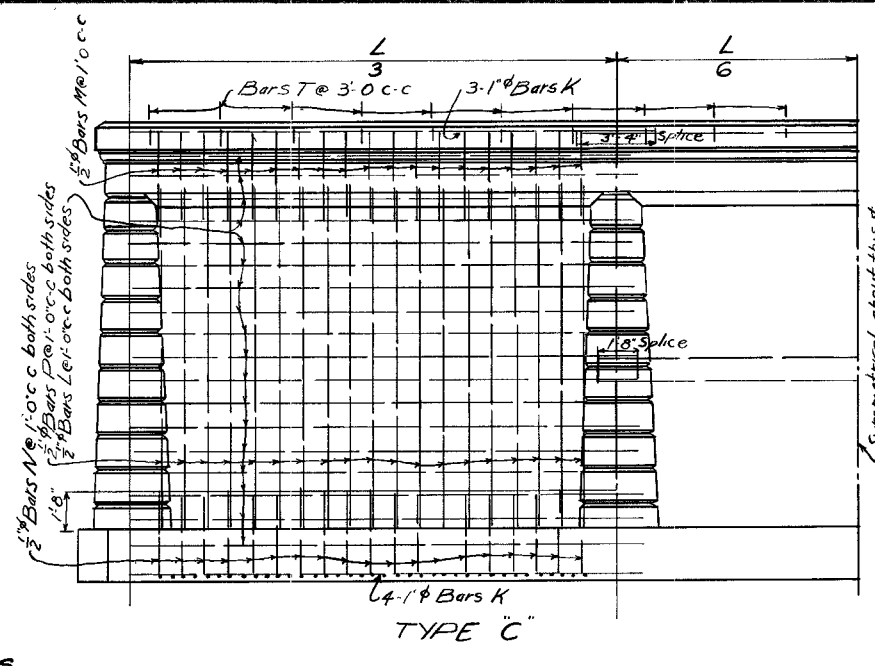
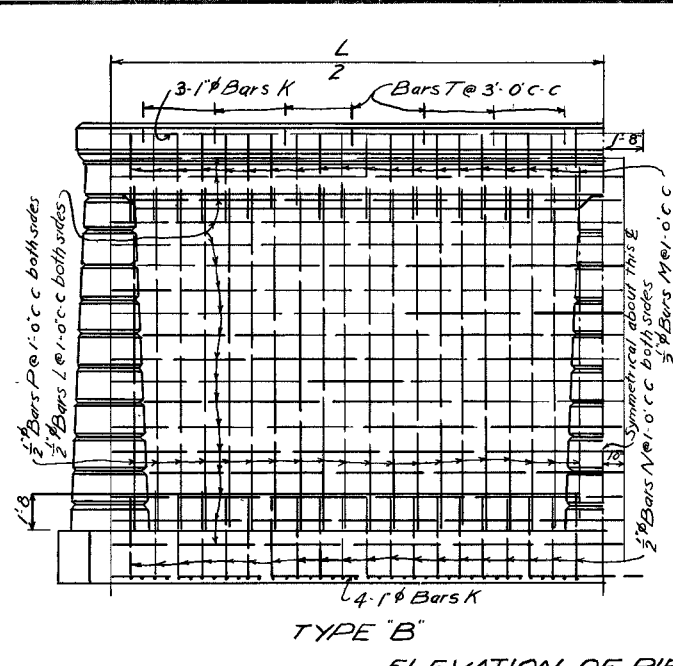
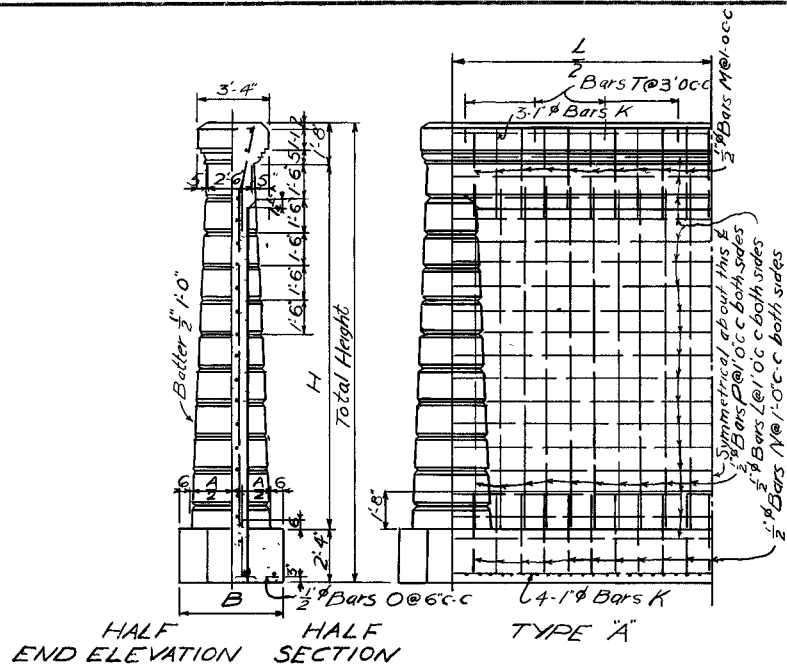


TABLE OF DIMENSIONS AND ESTIMATED QUANTITIES																																					
TOTAL HEIGHT	TYPE 'A' BASED ON L=22'-0"										TYPE 'B' BASED ON L=42'-0"										TYPE 'C' BASED ON L=60'-0"										QUANTITIES PER FT L6TH SAME FOR ALL TYPES		TOTAL HEIGHT				
	DIMENSIONS					STEEL REINFORCEMENT BARSK: 1" BARS L.M.N.O.P. 2" 3"					TOTAL QUANTITIES					STEEL REINFORCEMENT BARSK: 1" BARS L.M.N.O.P. 2" 3"					TOTAL QUANTITIES					STEEL REINFORCEMENT BARSK: 1" BARS L.M.N.O.P. 2" 3"								TOTAL QUANTITIES			
	H	A	B	C		BARSK	BARSK	BARSK	BARSK	REINFC	CONC	BARSK	BARSK	BARSK	BARSK	REINFC	CONC	BARSK	BARSK	BARSK	BARSK	REINFC	CONC	BARSK	BARSK	BARSK	BARSK	REINFC	CONC	BARSK	BARSK	BARSK		BARSK	REINFC	CONC	
	K.M.N					L	L	L	L	LBS	CUYDS	K.M.N					L	L	L	L	LBS	CUYDS	K.M.N					L	L	L	L	LBS		CUYDS	LBS	CUYDS	
10'	6'	3'-0"	4'-0"	0'-0"		16	22'-0"	41	3'-6"	42	5'-0"	1185	23	44		32	22'-0"	78	3'-6"	80	5'-0"	2347	42	08		48	21'-3"	111	3'-6"	114	5'-0"	3392	58	91	551	909	10'
11'	7'	3'-1"	4'-1"	0'-0"		18	22'-0"	41	3'-6"	42	6'-0"	1243	25	06		36	22'-0"	78	3'-6"	80	6'-0"	2461	44	90		54	21'-3"	111	3'-6"	114	6'-0"	3556	62	83	578	962	11'
12'	8'	3'-2"	4'-2"	0'-0"		20	22'-0"	41	3'-6"	42	7'-0"	1302	26	70		40	22'-0"	78	3'-6"	80	7'-0"	2576	47	76		60	21'-3"	111	3'-6"	114	7'-0"	3720	66	79	606	1016	12'
13'	9'	3'-3"	4'-3"	0'-0"		22	22'-0"	41	3'-6"	42	8'-0"	1367	28	41		44	22'-0"	78	3'-6"	80	8'-0"	2703	50	69		66	21'-3"	111	3'-6"	114	8'-0"	3903	70	67	636	1069	13'
14'	10'	3'-4"	4'-4"	0'-0"		24	22'-0"	41	3'-9"	42	9'-0"	1426	30	11		48	22'-0"	78	3'-9"	80	9'-0"	2817	53	64		72	21'-3"	111	3'-9"	114	9'-0"	4068	74	91	663	1123	14'
15'	11'	3'-5"	4'-5"	0'-0"		26	22'-0"	41	3'-9"	42	10'-0"	1484	31	85		52	22'-0"	78	3'-9"	80	10'-0"	2932	56	62		78	21'-3"	111	3'-9"	114	10'-0"	4232	79	03	691	1176	15'
16'	12'	3'-6"	4'-6"	0'-0"		28	22'-0"	41	4'-0"	42	11'-0"	1550	33	61		56	22'-0"	78	4'-0"	80	11'-0"	3059	59	64		84	21'-3"	111	4'-0"	114	11'-0"	4415	83	21	721	1230	16'
17'	13'	3'-7"	4'-7"	0'-0"		30	22'-0"	41	4'-0"	42	12'-0"	1608	35	40		60	22'-0"	78	4'-0"	80	12'-0"	3173	62	70		90	21'-3"	111	4'-0"	114	12'-0"	4579	87	44	748	1283	17'
18'	14'	3'-8"	4'-8"	0'-0"		32	22'-0"	41	4'-0"	42	13'-0"	1666	37	26		64	22'-0"	78	4'-0"	80	13'-0"	3288	65	86		96	21'-3"	111	4'-0"	114	13'-0"	4743	91	78	776	1337	18'
19'	15'	3'-9"	4'-9"	0'-0"		34	22'-0"	41	4'-3"	42	14'-0"	1732	39	12		68	22'-0"	78	4'-3"	80	14'-0"	3415	69	01		102	21'-3"	111	4'-3"	114	14'-0"	4926	96	13	806	1390	19'
20'	16'	3'-10"	4'-10"	0'-0"		36	22'-0"	41	4'-3"	42	15'-0"	1790	41	01		72	22'-0"	78	4'-3"	80	15'-0"	3529	72	22		108	21'-3"	111	4'-3"	114	15'-0"	5091	100	54	833	1444	20'
21'	17'	3'-11"	4'-11"	0'-0"		38	22'-0"	41	4'-3"	42	16'-0"	1849	42	93		76	22'-0"	78	4'-3"	80	16'-0"	3644	75	47		114	21'-3"	111	4'-3"	114	16'-0"	5255	105	02	861	1497	21'
22'	18'	4'-0"	5'-0"	0'-0"		40	22'-0"	41	4'-6"	42	17'-0"	1914	44	89		80	22'-0"	78	4'-6"	80	17'-0"	3771	78	78		120	21'-3"	111	4'-6"	114	17'-0"	5438	109	56	891	1551	22'
23'	19'	4'-1"	5'-1"	0'-0"		42	22'-0"	41	4'-6"	42	18'-0"	1973	46	93		84	22'-0"	78	4'-6"	80	18'-0"	3885	82	17		126	21'-3"	111	4'-6"	114	18'-0"	5602	114	21	918	1604	23'
24'	20'	4'-2"	5'-2"	0'-0"		44	22'-0"	41	4'-6"	42	19'-0"	2031	48	96		88	22'-0"	78	4'-6"	80	19'-0"	4000	85	58		132	21'-3"	111	4'-6"	114	19'-0"	5766	118	69	946	1658	24'
25'	21'	4'-3"	5'-3"	0'-0"		46	22'-0"	41	4'-9"	42	20'-0"	2091	51	03		92	22'-0"	78	4'-9"	80	20'-0"	4127	89	05		138	21'-3"	111	4'-9"	114	20'-0"	5950	123	64	976	1711	25'
26'	22'	4'-4"	5'-4"	0'-0"		48	22'-0"	41	4'-9"	42	21'-0"	2153	53	13		96	22'-0"	78	4'-9"	80	21'-0"	4241	92	56		144	21'-3"	111	4'-9"	114	21'-0"	6114	128	46	1003	1765	26'
27'	23'	4'-5"	5'-5"	0'-0"		50	22'-0"	41	4'-9"	42	22'-0"	2214	55	28		100	22'-0"	78	4'-9"	80	22'-0"	4355	96	13		150	21'-3"	111	4'-9"	114	22'-0"	6278	133	35	1031	1818	27'
28'	24'	4'-6"	5'-6"	0'-0"		52	22'-0"	41	5'-0"	42	23'-0"	2279	57	51		104	22'-0"	78	5'-0"	80	23'-0"	4483	99	81		156	21'-3"	111	5'-0"	114	23'-0"	6461	138	36	1061	1872	28'
29'	25'	4'-7"	5'-7"	0'-0"		54	22'-0"	41	5'-0"	42	24'-0"	2338	59	74		108	22'-0"	78	5'-0"	80	24'-0"	4597	103	50		162	21'-3"	111	5'-0"	114	24'-0"	6625	143	41	1088	1925	29'
30'	26'	4'-8"	5'-8"	0'-0"		56	22'-0"	41	5'-0"	42	25'-0"	2396	62	01		112	22'-0"	78	5'-0"	80	25'-0"	4711	107	25		168	21'-3"	111	5'-0"	114	25'-0"	6789	148	53	1116	1979	30'
31'	27'	4'-9"	5'-9"	0'-0"		58	22'-0"	41	5'-3"	42	26'-0"	2462	64	31		116	22'-0"	78	5'-3"	80	26'-0"	4839	111	05		174	21'-3"	111	5'-3"	114	26'-0"	6973	153	73	1146	2032	31'
32'	28'	4'-10"	5'-10"	0'-0"		60	22'-0"	41	5'-3"	42	27'-0"	2520	66	67		120	22'-0"	78	5'-3"	80	27'-0"	4963	114	92		180	21'-3"	111	5'-3"	114	27'-0"	7157	159	01	1173	2086	32'
33'	29'	4'-11"	5'-11"	0'-0"		62	22'-0"	41	5'-6"	42	28'-0"	2579	69	11		124	22'-0"	78	5'-6"	80	28'-0"	5067	118	91		186	21'-3"	111	5'-6"	114	28'-0"	7301	164	43	1201	2139	33'
34'	30'	5'-0"	6'-0"	0'-0"		64	22'-0"	41	5'-6"	42	29'-0"	2644	71	55		128	22'-0"	78	5'-6"	80	29'-0"	5195	122	91		192	21'-3"	111	5'-6"	114	29'-0"	7484	169	88	1231	2193	34'
35'	31'	5'-1"	6'-1"	0'-0"		66	22'-0"	41	5'-6"	42	30'-0"	2702	74	04		132	22'-0"	78	5'-6"	80	30'-0"	5309	126	97		198	21'-3"	111	5'-6"	114	30'-0"	7648	175	41	1258	2246	35'
36'	32'	5'-2"	6'-2"	0'-0"		68	22'-0"	41	5'-6"	42	31'-0"	2761	76	57		136	22'-0"	78	5'-6"	80	31'-0"	5423	131	10		204	21'-3"	111	5'-6"	114	31'-0"	7813	181	03	1286	2300	36'
37'	33'	5'-3"	6'-3"	0'-0"		70	22'-0"	41	5'-9"	42	32'-0"	2826	79	15		140	22'-0"	78	5'-9"	80	32'-0"	5551	135	30		210	21'-3"	111	5'-9"	114	32'-0"	7996	186	78	1316	2353	37'
38'	34'	5'-4"	6'-4"	0'-0"		72	22'-0"	41	5'-9"	42	33'-0"	2885	81	83		144	22'-0"	78	5'-9"	80	33'-0"	5665	139	62		216	21'-3"	111	5'-9"	114	33'-0"	8160	192	60	1343	2407	38'
39'	35'	5'-5"	6'-5"	0'-0"		74	22'-0"	41	5'-9"	42	34'-0"	2943	84	37		148	22'-0"	78	5'-9"	80	34'-0"	5779	143	96		222	21'-3"	111	5'-9"	114	34'-0"	8324	198	50	1371	2460	39'
40'	36'	5'-6"	6'-6"	0'-0"		76	22'-0"	41	6'-0"	42	35'-0"	3009	87	23		152	22'-0"	78	6'-0"	80	35'-0"	5907	148	38		228	21'-3"	111	6'-0"	114	35'-0"	8507	204	49	1401	2514	40'

For number of Bars T see Table below

TABLE FOR BARST FOR ONE FIXED END

LENGTH L	NO
22'-0" TO 24'-0"	8
24'-0" TO 27'-0"	9
27'-0" TO 30'-0"	10
30'-0" TO 33'-0"	11
33'-0" TO 36'-0"	12
36'-0" TO 39'-0"	13
39'-0" TO 42'-0"	14
42'-0" TO 45'-0"	15
45'-0" TO 48'-0"	16
48'-0" TO 51'-0"	17
51'-0" TO 54'-0"	18
54'-0" TO 57'-0"	19
57'-0" TO 60'-0"	20

General Notes
Specifications Standard Road and Bridge Specifications
of the Tennessee Department of Highways and Public Works
Concrete shall be A
Reinforcing Steel shall be Specifications
Forms and Finish See Specifications
Rock Foundation: See Specifications

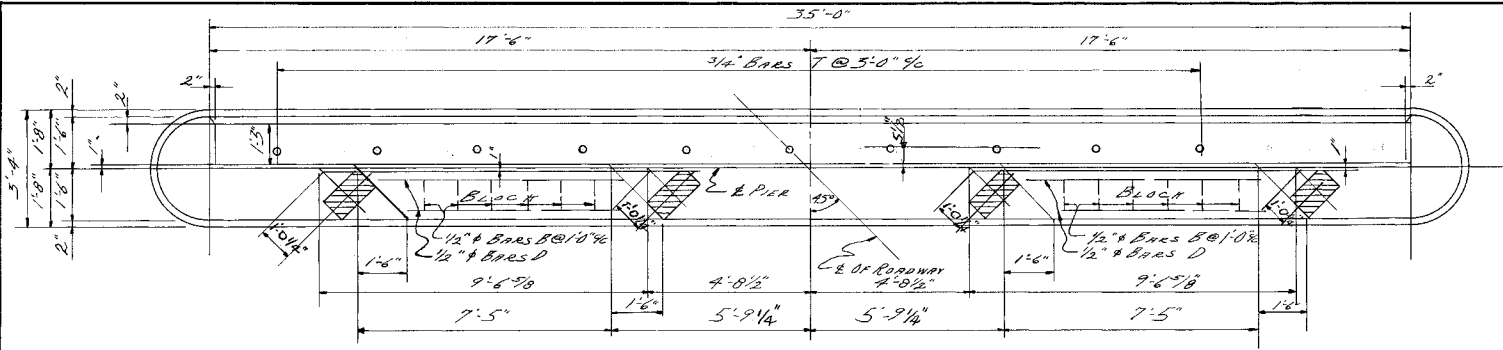
SPECIAL NOTES
Belt courses shall be spaced as shown. They shall be formed by haling triangular strips inside the forms. The pouring of the concrete shall be so arranged that the construction joints between the successive lifts will be made on the apex of the head as shown. The belt course shall be so located that the distance between the ground line or the LW elevation shall not exceed the spacing of the belt courses shown on the plan.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE

STANDARD
CONCRETE PIERS
DUMBELL TYPE
HEIGHTS 10' TO 40'
1937

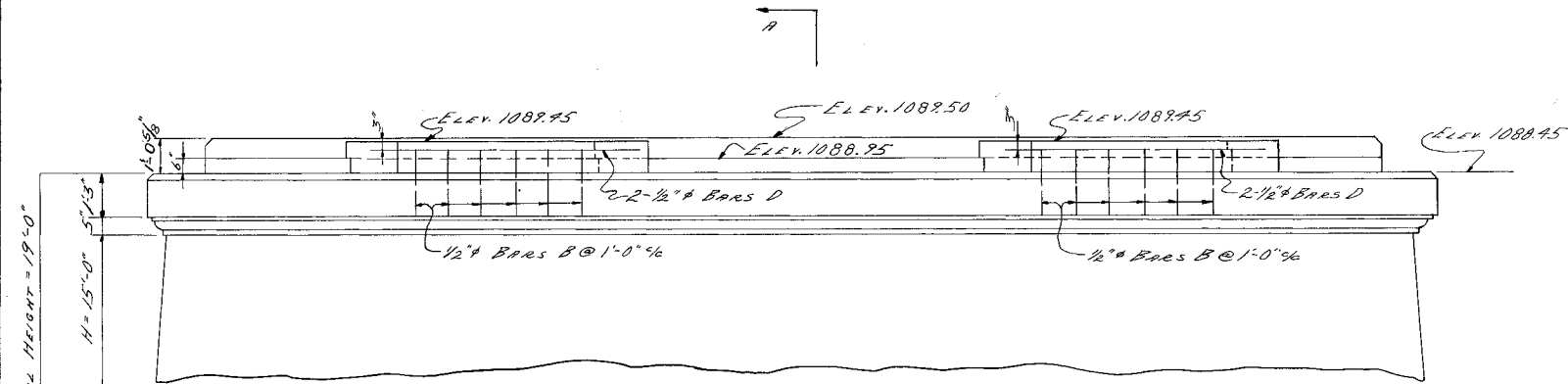
L. H. Foundation

A-0-12

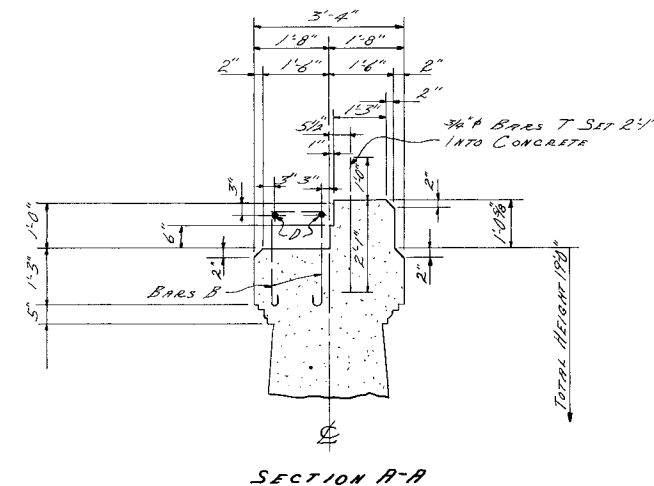


NOTE: WHEN POURING CAP PROVISION SHALL BE MADE FOR SETTING BOLTS FOR THE BEARING PLATES.

PLAN OF CAP



PART ELEVATION
LOOKING BACK ON SURVEY



SECTION A-A

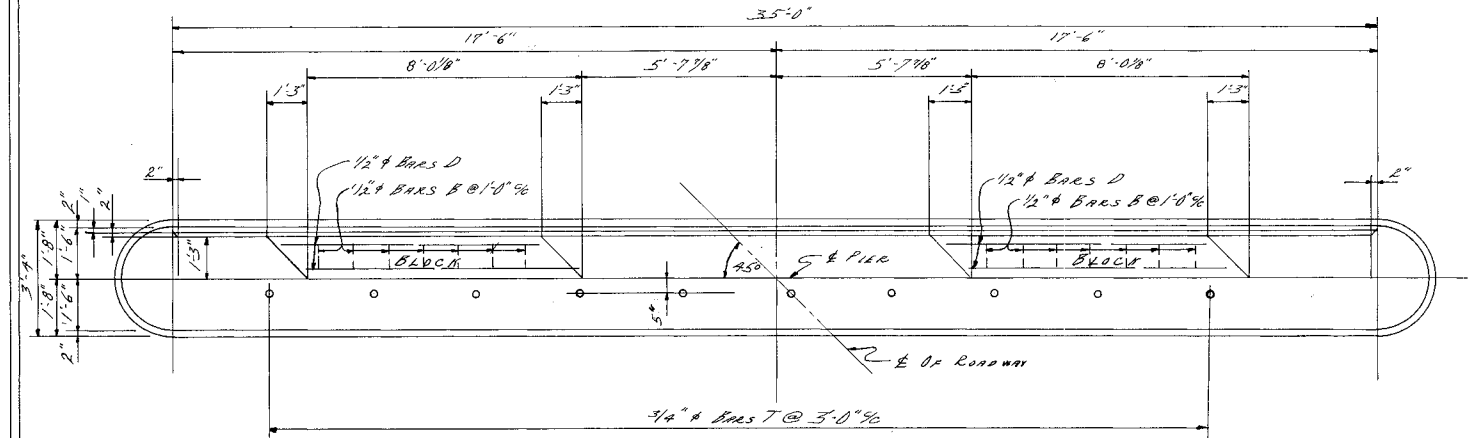
BAR SIZE	NO.	LENGTH	BAR SIZE	NO.	LENGTH
B	12	5'-11"	M	12	11'-9"
D	4	6'-9"	N	6	4'-3"
			O	6	4'-3"
H	7	35'-0"	P	6	14'-0"
L	3	35'-0"	T	10	3'-1"

NOTE: THIS BILL OF STEEL SUPERSEDES THE ONE SHOWN ON DWG. A-0-12.

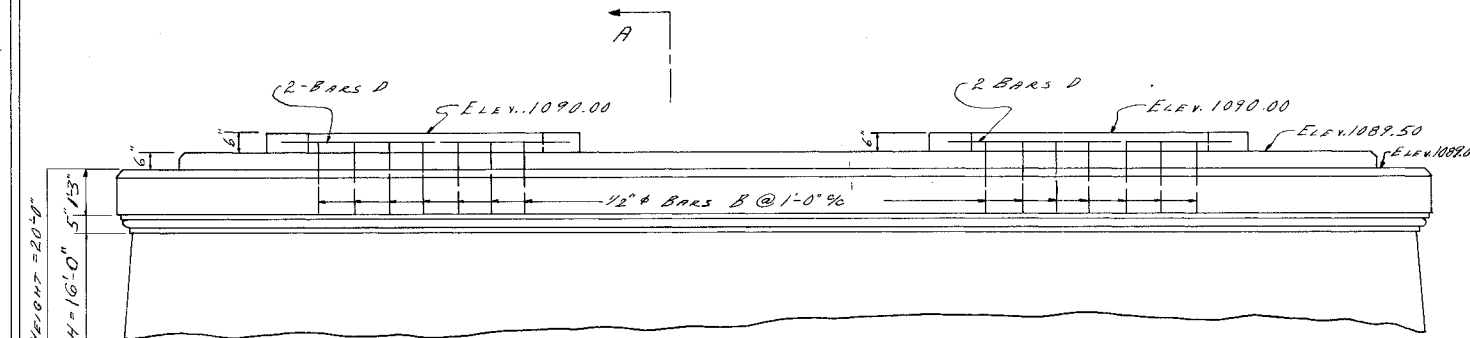
PART DETAILS OF PIER No.1

FOR DETAILS NOT SHOWN SEE DRAWING NO. A-0-12
TYPE "B", L=35'-0", TOTAL HEIGHT=19'-0"

ESTIMATED QUANTITIES		
CONCRETE CLASS "A"	62.1	Cu. Yds.
REINFORCING STEEL	2774	Lbs.



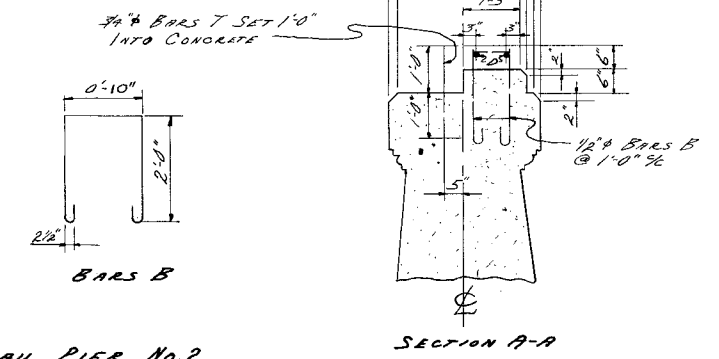
CAP PLAN



PART ELEVATION
LOOKING FORWARD ON SURVEY

BAR SIZE	NO.	LENGTH	BAR SIZE	NO.	LENGTH
B	12	5'-8"	M	32	11'-9"
D	4	7'-6"	N	6	4'-3"
			O	6	4'-3"
H	7	35'-0"	P	6	15'-0"
L	3	35'-0"	T	10	2'-0"

NOTE: THIS BILL OF STEEL SUPERSEDES THE ONE SHOWN ON DWG. A-0-12.



SECTION A-A

PART DETAIL PIER No.2

FOR DETAILS NOT SHOWN SEE DWG. A-0-12
TYPE "B", L=35'-0", TOTAL HEIGHT=20'-0"

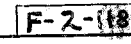
ESTIMATED QUANTITIES		
CONCRETE CLASS "A"	63.4	Cu. Yds.
REINFORCING STEEL	2855	Lbs.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE
PIERS No. 1 & No. 2
BRIDGE AT STA. 209+89.00
OVER POOR VALLEY CREEK
HAWKINS COUNTY
1956

CORRECT: *Fred G. Gause*
BRIDGE ENGINEER
APPROVED: *Harold M. Baker*
STATE HIGHWAY ENGINEER

DESIGNED BY: *P.V.L.*
DATE: *8/21/56*
TRACED BY: *E.O. FARR*
DATE: *8/21/56*
CHECKED BY:
DATE:

RECEIVED
CHECKED R.V.L. 10-1-56



REVISED 7-7-59
Revised 5-4-59: For Splice Plates
Revised 7-3-58
Revised 10-17-57
Revised 7-30-56