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PALMER ENGINEERING CO.
2817 ERICA PLACE
NASHVILLE, TN 37204
LOGAN COLBERT, P.E. NO.117913

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
TITLE SHEET	1
INDEX AND STANDARD DRAWINGS	1A
PROJECT COMMITMENTS	1B
ESTIMATED ROADWAY QUANTITIES AND GENERAL NOTES	2
ENVIRONMENTAL NOTES.....	2E
EPSC PLAN AND NOTES	2E1-2E3
UTILITY NOTES AND UTILITY OWNERS.....	3
TRAFFIC CONTROL PLANS AND NOTES	T1-T4
LAYOUT OF BRIDGE TO BE REPAIRED	BR-132-761
ESTIMATED BRIDGE QUANTITIES AND NOTES	BR-132-762
ESTIMATED BRIDGE QUANTITIES AND NOTES	BR-132-763
SUPERSTRUCTURE REPAIR DETAILS.....	BR-132-764
JOINT REPAIR DETAILS	BR-132-765
JOINT REPAIR DETAILS	BR-132-766
MISCELLANEOUS REPAIR DETAILS.....	BR-132-767
SCOUR REPAIR – PIER 1	BR-132-768
SCOUR REPAIR – PIER 2	BR-132-769
SUBSTRUCTURE REPAIRS.....	BR-132-770
SUBSTRUCTURE REPAIRS.....	BR-132-771
CONCRETE REPAIR DETAILS	BR-132-772

YEAR	PROJECT NO.	SHEET NO.
2026	73455-3512-04	STRUCTURE-SIGN1

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SIGNATURE
SHEET



THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY:

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PALMER ENGINEERING CO.
2817 ERICA PLACE
NASHVILLE, TN 37204
LOGAN COLBERT, P.E. NO.117913

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SHEET NAME	SHEET NO.
SIGNATURE SHEET	STRUCTURE-SIGN2
INDEX AND STANDARD DRAWINGS	1A
LAYOUT OF BRIDGE TO BE REPAIRED	BR-132-761
ESTIMATED BRIDGE QUANTITIES AND NOTES	BR-132-762
SCOUR REPAIR – PIER 1	BR-132-768
SCOUR REPAIR – PIER 2	BR-132-769

YEAR	PROJECT NO.	SHEET NO.
2026	73455-3512-04	STRUCTURE-SIGN2

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SIGNATURE
SHEET



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PALMER ENGINEERING CO.
2817 ERICA PLACE
NASHVILLE, TN 37204
LOGAN COLBERT, P.E. NO.117913

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SHEET NAME	SHEET NO.
SIGNATURE SHEET	STRUCTURE-SIGN3
TITLE SHEET	1
ROADWAY INDEX AND STANDARD DRAWINGS	1A
PROJECT COMMITMENTS	1B
ESTIMATED ROADWAY QUANTITIES AND GENERAL NOTES	2
ESPC PLAN AND NOTES	2E3
BRIDGE INDEX & LAYOUT OF BRIDGE TO BE REPAIRED	B1 (BR-132-761)
ESTIMATED BRIDGE QUANTITIES AND NOTES	B2 (BR-132-762)
ESTIMATED BRIDGE QUANTITIES AND NOTES	B3 (BR-132-763)
SUPERSTRUCTURE REPAIR DETAILS	B4 (BR-132-764)
JOINT REPAIR DETAILS	B5 (BR-132-765)
JOINT REPAIR DETAILS	B6 (BR-132-766)
MISCELLANEOUS REPAIR DETAILS	B7 (BR-132-767)
SCOUR REPAIR – PIER 1	B8 (BR-132-768)
SCOUR REPAIR – PIER 2	B9 (BR-132-769)
SUBSTRUCTURE REPAIRS	B10 (BR-132-770)
SUBSTRUCTURE REPAIRS	B11 (BR-132-771)
CONCRETE REPAIR DETAILS	B12 (BR-132-772)

YEAR	PROJECT NO.	SHEET NO.
2026	73455-3512-04	STRUCTURE-SIGN3

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SIGNATURE
SHEET

Index Of Sheets
SEE SHEET 1A

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

REV. 1 04-07-2026 MEL UPDATED SPECIAL NOTES

TENN.	YEAR 2026	SHEET NO. 1
FED. AID PROJ. NO.		
STATE PROJ. NO.	73455-3512-04	
FED. BRIDGE ID NO.	73S24010001	

ROANE COUNTY

PANSY HILL DRIVE, BRIDGE OVER EMORY RIVER,
LM 0.28 IN HARRIMAN (IA)

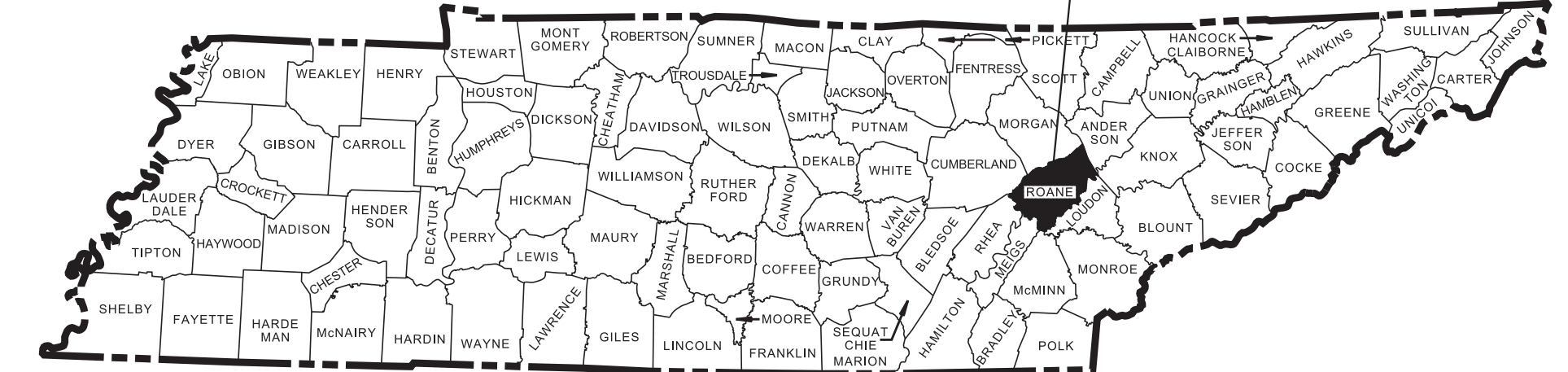
PS&E

BRIDGE REPAIR

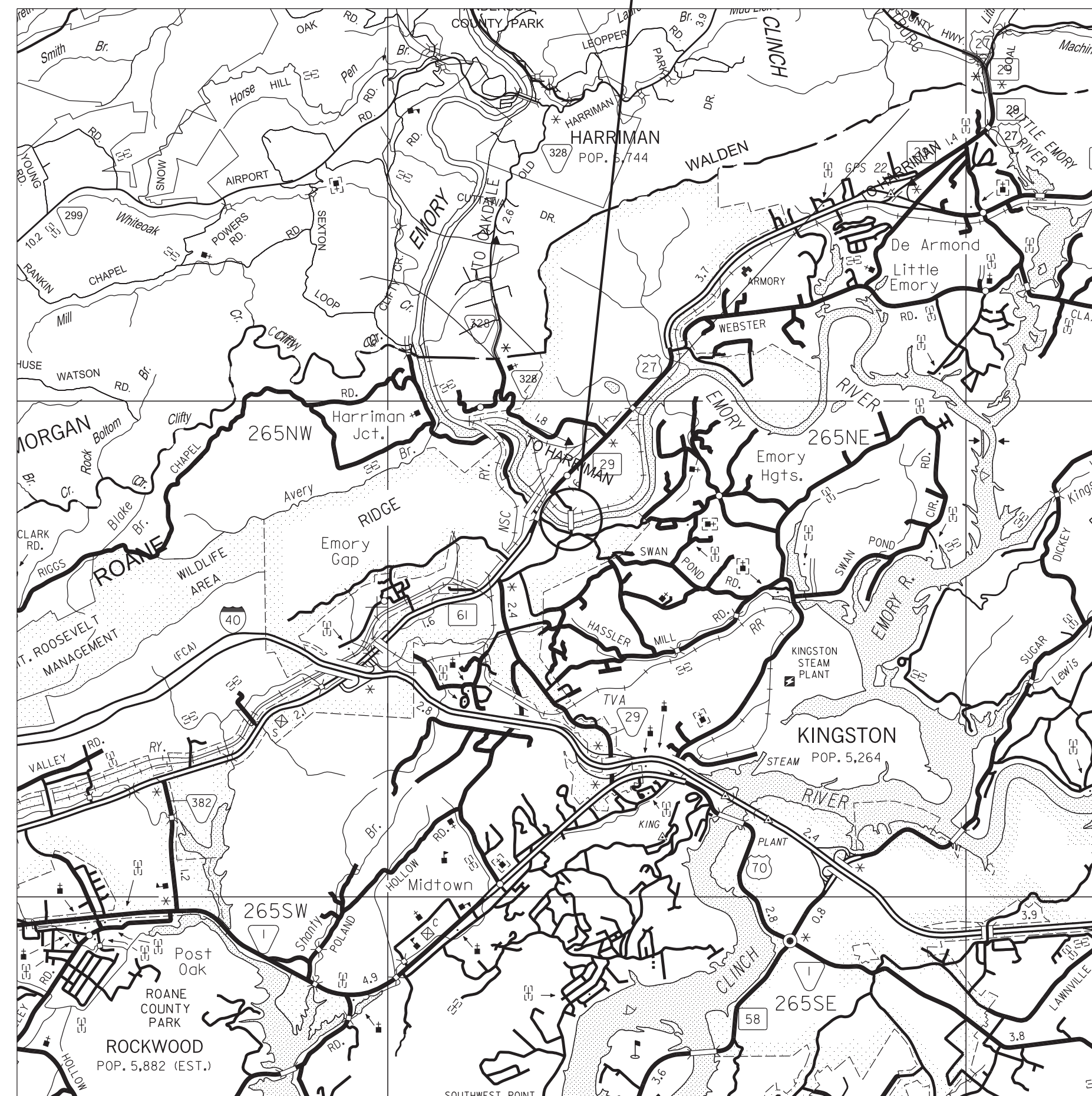
PANSY HILL DRIVE

PROJECT LOCATION

BRIDGE ID. # 73S24010001



BRIDGE NO: 73-1226-0.28



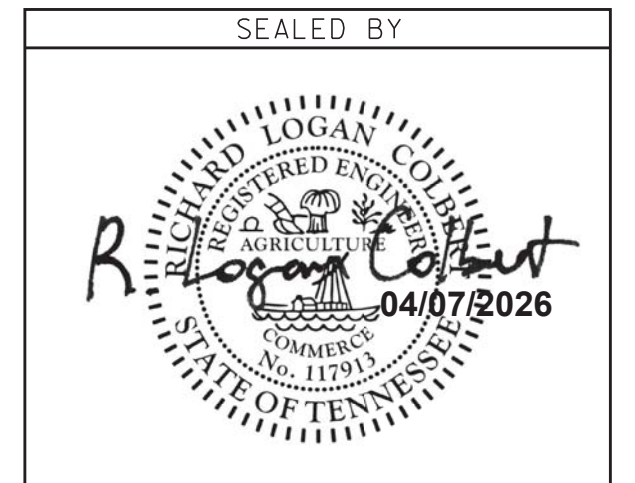
SCALE: 1" = 1 MILE

PANSY HILL DR.	
AADT (2023)	4,933
POSTED SPEED	25 MPH

TOTAL DISTURBED AREA < 1.0 ACRE

PS&E
PLANS

SEALED BY



APPROVED:

SHANE HESTER, CHIEF ENGINEER

DATE:

APPROVED:

WILL REID, COMMISSIONER

SPECIAL NOTES



PROPOSALS MAY BE REJECTED BY THE COMMISSIONER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED APRIL 1, 2026 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

TDOT REPAIR OFFICE PROJECT MANAGER : STEPHEN WILSON

DESIGNED BY : PALMER ENGINEERING COMPANY

DESIGNER : LOGAN COLBERT, P.E.

CHECKED BY : SCOTT WILSON, P.E.

P.E. NO. 73455-1512-04

PIN NO. 124518.00

ROADWAY INDEX

SHEET NAME	SHEET NO.
SIGNATURE SHEET	STRUCTURE-SIGN1
SIGNATURE SHEET	STRUCTURE-SIGN2
SIGNATURE SHEET	STRUCTURE-SIGN3
TITLE SHEET	1
ROADWAY INDEX AND STANDARD DRAWINGS	1A
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ESTIMATED ROADWAY QUANTITIES AND GENERAL NOTES	2
ENVIRONMENTAL NOTES	2E
EPSC PLAN AND NOTES	2E1-2E3
UTILITY NOTES AND UTILITY OWNERS	3
TRAFFIC CONTROL PLANS AND NOTES	T1-T4
BRIDGE PLANS	B1-B12

NO UTILITY SHEETS ARE INCLUDED IN THIS PLAN SET

STANDARD ROADWAY DRAWINGS

STANDARD ROADWAY TITLE SHEET, ABBREVIATIONS, AND LEGENDS

DWG.	REV.	DESCRIPTION
RD-A-1	02-20-20	STANDARD ABBREVIATIONS A THROUGH L
RD-A-2		STANDARD ABBREVIATIONS M THROUGH Z
RD-L-1	02-20-20	STANDARD LEGEND
RD-L-1A		STANDARD LEGEND
RD-L-5	07-30-24	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL

SAFETY DESIGN AND GUARDRAILS

S-GR28-7M	06-28-19	GUARDRAIL ATTACHMENT TO BRIDGE END DETAILS
S-GR31-1	10-31-25	GUARDRAIL DETAILS
S-GR31-1A	06-28-19	GUARDRAIL AND BLOCK-OUT DETAILS
S-GR31-1B		GUARDRAIL FASTENING HARDWARE
S-GR31-1C	07-07-23	GUARDRAIL GENERAL NOTES AND POST DETAILS
S-GRS-4	05-04-22	SPECIAL CASE GUADRAIL HEIGHT TRANSITION DETAIL
S-GRT-2R	06-28-19	EARTH PAD FOR TYPE 38 AND TYPE 21 TERMINALS (RETROFIT)
S-GRT-3	06-28-19	TYPE 21 GUARDRAIL END TERMINAL
S-PL-6	07-30-24	SAFETY PLAN SAFETY HARDWARE PLACEMENT ON OUTSIDE EDGE

EROSION PREVENTION AND SEDIMENT CONTROL

EC-STR-3C	03-01-23	SILT FENCE WITH WIRE BACKING
EC-STR-3E	04-01-08	SILT FENCE FABRIC JOINING DETAILS

STANDARD STRUCTURE DRAWINGS

BRIDGE REPAIRS

DWG.	REV.	DESCRIPTION
SBR-2-115	06-15-16	GENERAL NOTES AND DETAILS FOR EXPANSION JOINT REPLACEMENT CONSTRUCTION TYPES "A" THRU "J" - 1991
SBR-2-116	01-04-96	GENERAL DETAILS FOR STRIPSEAL EXPANSION JOINT REPLACEMENT CONSTRUCTION TYPES "A" THRU "J" - 1991
SBR-2-117	05-30-96	STRIPSEAL EXPANSION JOINTS – REPLACEMENT CONSTRUCTION DETAILS TYPE "A" AND TYPE "B" – 1991
SBR-2-120	05-30-96	STRIPSEAL EXPANSION JOINTS – REPLACEMENT CONSTRUCTION DETAILS TYPE "G" AND TYPE "H" - 1991

REV. 1	01-29-2026	MEL	UPDATED ROADWAY INDEX & LAST REV. DATES
REV. 2	04-07-2026	MEL	UPDATED ROADWAY INDEX, STANDARD DRAWINGS, AND REMOVED BRIDGE INDEX

TYPE	YEAR	CONST. NO.	SHEET NO.
PS&E	2026	73455-3512-04	1A

STANDARD TRAFFIC DESIGN DRAWINGS

DWG. REV. DESCRIPTION

SIGNS

T-S-10	07-30-25	STANDARD MOUNTING DETAILS FLAT SHEET SIGNS ALUMINUM-STEEL DESIGN
T-S-19	07-30-25	STANDARD STEEL SIGN SUPPORTS
T-S-20	07-30-25	SIGN DETAILS

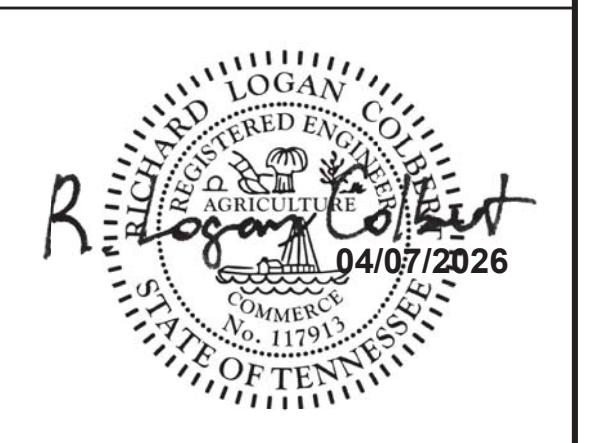
SIGNALS

T-SG-1	12-18-25	WOOD POLE DETAILS FOR SPAN MOUNTED SIGNALS
T-SG-2	12-18-25	LOOP LEAD-INS, CONDUIT AND PULL BOXES
T-SG-3	12-18-25	STANDARD NOTES AND DETAILS OF INDUCTIVE LOOPS
T-SG-3A	12-18-25	ALTERNATE DETECTION DETAILS
T-SG-4	12-18-25	SPAN WIRE AND MESSENGER CABLE DETAILS
T-SG-5	12-18-25	CONTROLLER CABINET DETAILS
T-SG-6	12-18-25	PEDESTRIAN SIGNAL DETAILS
T-SG-7	12-18-25	SIGNAL HEAD ASSEMBLIES

DESIGN - TRAFFIC CONTROL

T-M-1	01-24-25	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS AND MARKING ABBREVIATIONS
T-M-2	01-24-25	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS
T-WZ-32	03-26-25	TRAFFIC CONTROL PLAN SIGNAL LAYOUT FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
T-WZ-33	03-26-25	TRAFFIC CONTROL PLAN FOR CLOSE INTERSECTION CONDITIONS USING TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
T-WZ-34	03-26-25	TRAFFIC CONTROL PLAN GENERAL NOTES FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
T-WZ-35	03-26-25	TRAFFIC CONTROL PLAN PAY ITEM AND SIGN DETAILS FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
T-WZ-PBR2	03-26-25	DETAILS FOR WORK ZONE CHANNELIZATION DEVICES
T-WZ-PCB2	03-26-25	20 FOOT PORTABLE CONCRETE BARRIER RAIL
T-WZ-PCB2A	03-26-25	20 FOOT PORTABLE CONCRETE BARRIER RAIL STIFFENER TUBE
T-WZ-PCB3	03-26-25	PORTABLE CONCRETE BARRIER RAIL DETAILS
T-WZ-PCB4	07-22-25	PORTABLE CONCRETE BARRIER RAIL ANCHOR PIN DETAILS


SEALED BY



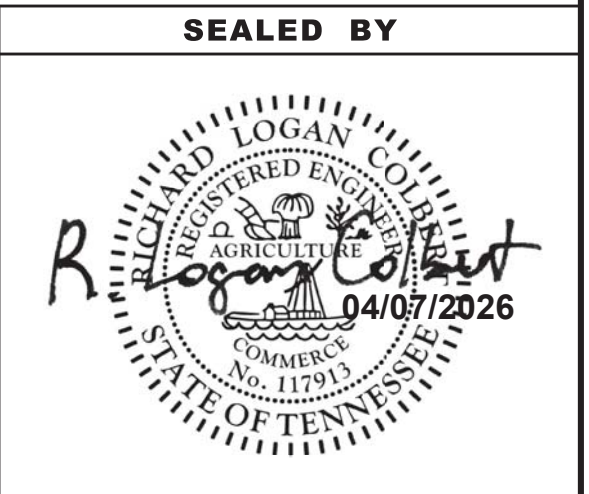
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ROADWAY INDEX AND
STANDARD DRAWINGS

TYPE	YEAR	CONST. NO.	SHEET NO.
PS&E	2026	73455-3512-04	1B

PROJECT COMMITMENTS			
COMMITMENT ID	SOURCE DIVISION	DESCRIPTION	STA./LOCATION
 EDHZ001	ENVIRONMENTAL DIVISION, HAZARDOUS MATERIAL	AN ASBESTOS CONTAINING MATERIAL (ACM) SURVEY WAS COMPLETED ON BRIDGE NO. 73S24010001 PANSY HILL DRIVE OVER EMORY RIVER LM 0.28 (73-01226-00.28). NO ACM WAS DETECTED. PLEASE SEE THE REPORT FOR FURTHER DETAILS AND PHOTOGRAPHS. NO SPECIAL ACCOMMODATIONS FOR DEMOLITION AND WASTE DISPOSAL ARE ANTICIPATED FOR THESE STRUCTURES AND THE MATERIAL CAN BE DEPOSITED IN A C&D LANDFILL. PRIOR TO THE DEMOLITION OR REHABILITATION OF ANY STRUCTURE (BRIDGE OR BUILDING), THE CONTRACTOR IS REQUIRED TO SUBMIT THE NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS STANDARD 10-DAY NOTICE OF DEMOLITION TO THE TDEC DIVISION OF AIR POLLUTION CONTROL (PER TDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (APRIL 1, 2026) SECTIONS 107.08 D AND 202.03).	PORTIONS OF BRIDGE AS NOTED
EDEC001	ENVIRONMENTAL DIVISION, ECOLOGY	DURING THE PROJECT FIELD INVESTIGATION, CLIFF SWALLOW NESTS WERE DISCOVERED UNDER THE BRIDGE SPAN. THEREFORE, IN ACCORDANCE WITH THE MOA BETWEEN USFWS, FHWA, AND TDOT ADDRESSING CLIFF SWALLOW AND BARN SWALLOW NESTING SITES, 9/30/2015, CLIFF SWALLOW AND BARN SWALLOW NESTS, EGGS, OR BIRDS (YOUNG AND ADULT) WILL NOT BE DISTURBED BETWEEN APRIL 15 AND JULY 31. FROM AUGUST 1 TO APRIL 14, NESTS CAN BE REMOVED OR DESTROYED, AND MEASURES IMPLEMENTED TO PREVENT FUTURE NEST BUILDING AT THE SITE.	ENTIRE BRIDGE

4/8/2026 3:02:26 PM J:\Structures\11685-10_Roane_Co_Pansy_Hill_Dr_over_Emory_River\Drawings\Final_dgn\11685-10_RD_Proj_Comm.dgn



**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION**

PROJECT
COMMITMENTS

GENERAL NOTES

GRADING

- ANY AREA THAT IS DISTURBED OUTSIDE LIMITS OF CONSTRUCTION DURING THE LIFE OF THIS PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.
- THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIAL EITHER ON OR OFF STATE-OWNED R.O.W. IN A REGULATORY FLOOD WAY AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) WITHOUT APPROVAL BY FEMA. ALL MATERIAL SHALL BE DISPOSED OF IN UPLAND (NON-WETLAND) AREAS AND ABOVE ORDINARY HIGH WATER OF ANY ADJACENT WATERCOURSE. THIS DOES NOT ELIMINATE THE NEED TO OBTAIN ANY OTHER LICENSES OR PERMITS THAT MAY BE REQUIRED BY ANY OTHER FEDERAL, STATE OR LOCAL AGENCY.

GUARDRAIL

- THE CONTRACTOR SHALL NOT REMOVE ANY SECTIONS OF EXISTING GUARDRAIL TO REWORK SHOULDERS OR FLATTEN SLOPES UNTIL THE ENGINEER CONCURS IN THE NECESSITY OF REMOVAL DUE TO CONSTRUCTION REQUIREMENTS AND THE APPROPRIATE WARNING DEVICES ARE INSTALLED. THE PROPOSED GUARDRAIL, INCLUDING ANY ANCHOR SYSTEM, SHALL BE INSTALLED QUICKLY TO MINIMIZE TRAFFIC EXPOSURE TO ANY HAZARD. NO PAYMENT WILL BE MADE FOR A SECTION OF PROPOSED GUARDRAIL, INCLUDING ANCHORS, UNTIL IT IS COMPLETE IN PLACE.

MISCELLANEOUS

- NOTHING IN THE GENERAL NOTES OR SPECIAL PROVISIONS SHALL RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITIES TOWARD THE SAFETY AND CONVENIENCE OF THE GENERAL PUBLIC AND THE RESIDENTS ALONG THE PROPOSED CONSTRUCTION AREA.

ROAD CLOSURE

- NO LESS THAN SEVEN (7) DAYS PRIOR TO THE CLOSURE OF THE ROAD, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING INDIVIDUALS OR AGENCIES COMPLETELY DESCRIBING THE AFFECTED ROADS AND THE APPROXIMATE DURATION OF THE CONSTRUCTION: THESE PARTIES INCLUDE, BUT ARE NOT LIMITED TO: (1) LOCAL LAW ENFORCEMENT OFFICE, (2) LOCAL FIRE DEPARTMENT, (3) AMBULANCE SERVICE, (4) LOCAL SCHOOL SUPERINTENDENT, (5) UNITED STATES POSTAL SERVICE, AND (6) LOCAL ROAD SUPERINTENDENT.

PAVEMENT MARKINGS

FINAL PAVEMENT MARKING

- PERMANENT PAVEMENT LINE MARKINGS SHALL BE 6" SPRAY THERMOPLASTIC (60 mil) INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK. SHORT UNMARKED SECTIONS SHALL NOT BE ALLOWED. PAVEMENT MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-13.02, SPRAY THERMO PVMT MRKNG (60 mil) (6IN LINE), L.M. THE CONTRACTOR SHALL HAVE THE OPTION OF USING REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK AND THEN INSTALLING THE PERMANENT MARKINGS AFTER THE PAVING OPERATION IS COMPLETED. THE TEMPORARY MARKINGS FOR THE FINAL SURFACE WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COSTS ARE TO BE INCLUDED IN THE PRICE BID FOR THE PERMANENT MARKINGS.

DETOURS, LANE SHIFTS AND MEDIAN CROSS-OVERS

- BEFORE OPENING THE LANE SHIFTS TO TRAFFIC, THE TRANSITIONAL MARKINGS ON THE EXISTING ROADWAY MUST BE IN PLACE. THESE MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEMS NO. 712-09.02 REMOVABLE PAVEMENT MARKING (8" BARRIER LINE) PER L.F AND NO. 712-09.08 REMOVABLE PAVEMENT MARKING (6" LINE) PER L.F. ALL EXISTING MARKINGS IN THE AREA OF THESE TRANSITIONAL MARKINGS SHALL BE OBLITERATED AND ALL EXISTING RAISED PAVEMENT MARKERS SHALL BE REMOVED TO ELIMINATE CONFLICTING MARKINGS. REMOVAL OF THE EXISTING CONFLICTING MARKINGS AND RAISED PAVEMENT MARKERS WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN ITEM NO. 712-01, TRAFFIC CONTROL, LUMP SUM.

PAVEMENT

PAVING

- THE CONTRACTOR SHALL BE REQUIRED TO COLD PLANE AND PAVE IN THE DIRECTION OF TRAFFIC.

CONSTRUCTION WORK ZONE & TRAFFIC CONTROL

- ADVANCED WARNING SIGNS SHALL NOT BE DISPLAYED MORE THAN FORTY-EIGHT (48) HOURS BEFORE PHYSICAL CONSTRUCTION BEGINS. SIGNS MAY BE ERECTED UP TO ONE WEEK BEFORE NEEDED, IF THE SIGN FACE IS FULLY COVERED.
- IF THE CONTRACTOR MOVES OFF THE PROJECT, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AS DIRECTED BY THE ENGINEER. COSTS OF REMOVAL, COVERING, AND REINSTALLING SIGNS SHALL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT ALL COSTS SHALL BE INCLUDED IN THE ORIGINAL UNIT PRICE BID FOR ITEM NO. 712-06, SIGNS (CONSTRUCTION) PER SQUARE FOOT.
- A LONG TERM BUT SPORADIC USE WARNING SIGN, SUCH AS A FLAGGER SIGN, MAY REMAIN IN PLACE WHEN NOT REQUIRED PROVIDED THE SIGN FACE IS FULLY COVERED.
- TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR ERECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING.
- USE OF BARRICADES, PORTABLE BARRIER RAILS, AND DRUMS SHALL BE LIMITED TO THE IMMEDIATE AREAS OF CONSTRUCTION WHERE A HAZARD IS PRESENT. THESE DEVICES SHALL NOT BE STORED ALONG THE ROADWAY WITHIN THIRTY (30) FEET OF THE EDGE OF THE TRAVELED WAY BEFORE OR AFTER USE UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL INCREASE TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. THESE DEVICES SHALL BE REMOVED FROM THE CONSTRUCTION WORK ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS REQUIRED SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.
- THE CONTRACTOR SHALL NOT BE PERMITTED TO PARK ANY VEHICLES OR CONSTRUCTION EQUIPMENT DURING PERIODS OF INACTIVITY, WITHIN THIRTY (30) FEET OF THE EDGE OF PAVEMENT WHEN THE LANE IS OPEN TO TRAFFIC UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL BE INCREASED TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. PRIVATELY OWNED VEHICLES SHALL NOT BE ALLOWED TO PARK WITHIN THIRTY (30) FEET OF AN OPEN TRAFFIC LANE AT ANY TIME UNLESS PROTECTED AS DESCRIBED ABOVE FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL BE INCREASED TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS REQUIRED SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.
- ALL DETOUR AND CONSTRUCTION SIGNING SHALL BE IN STRICT ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR STAKING CONSTRUCTION SIGNS. THE COST OF THIS WORK SHALL BE INCLUDED IN ITEM NO. 712-06, SIGNS (CONSTRUCTION), S.F.

ESTIMATED ROADWAY QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	TOTAL
① 209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	300
403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	0.2
411-01.10	ACS MIX(PG64-22) GRADING D	TON	16
415-01.02	COLD PLANING BITUMINOUS PAVEMENT	S.Y.	240
② 705-01.01	GUARDRAIL AT BRIDGE ENDS	L.F.	27
705-02.10	GUARDRAIL TRANSITION 27IN TO 31IN	EACH	1
705-04.10	EARTH PAD FOR GUARD RAIL END TREATMENT	EACH	2
705-06.01	W BEAM GR (TYPE 2) MASH TL-3	L.F.	69
705-06.30	GR TERMINAL (ENERGY ABSORBING) MASH TL-2	EACH	2
③ 706-01	GUARDRAIL REMOVED	L.F.	154
④ 712-01	TRAFFIC CONTROL	LS	1
712-01.05	FLAGMAN	HOURL	224
⑤ 712-02.12	PORTABLE BARRIER RAIL, REDUCED DEFLECTION (MASH TL-3)	L.F.	940
⑥ 712-02.60	TEMPORARY CRASH CUSHION (MASH TL-3)	EACH	2
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	44
712-04.50	BARRIER RAIL DELINEATOR	EACH	47
⑦ 712-06	SIGNS (CONSTRUCTION)	S.F.	628
712-09.02	REMOVABLE PAVEMENT MARKING (8" BARRIER LINE)	L.F.	3600
712-09.04	REMOVABLE PAVEMENT MARKING (STOP LINE)	L.F.	48
712-09.08	REMOVABLE PAVEMENT MARKING (6" LINE)	L.F.	6000
713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	3
716-13.02	SPRAY THERMO PVMT MRKNG (60 MIL) (6IN LINE)	L.M.	1
717-01	MOBILIZATION	LS	1
⑧ 730-40.02	TEMPORARY TRAFFIC SIGNAL SYSTEM	LS	1
740-10.05	GEOTEXTILE - TYPE V (RAILROAD PROTECTION)	S.Y.	44

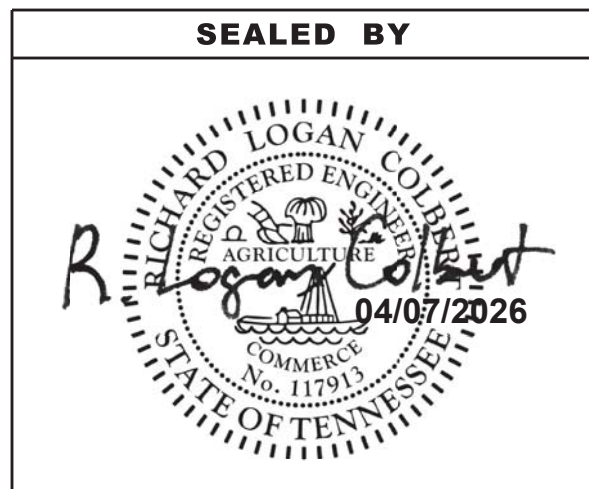
- SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATIONS FOR MAINTENANCE REPLACEMENT. INCLUDES COST OF SEDIMENT REMOVAL.
- ITEM IS TO BE SHOP-FORMED TO ACCOMMODATE RADIUS AND LOCATION OF EXISTING CONCRETE PARAPET END POST. EXISTING ANCHOR BOLT INSERTS TO BE REUSED FOR ATTACHMENT. ITEM INCLUDES COST OF ANY REMOVAL MEASURES REQUIRED TO ATTACH THE LOWER RUB RAIL.
- THE REMOVED GUARDRAIL SHALL BECOME THE PROPERTY OF THE CONTRACTOR. ITEM INCLUDES ALL COSTS ASSOCIATED WITH REMOVAL OF EXISTING CABLES ALONG RIGGS CHAPEL ROAD FOR THE LIMITS OF THE NEW GUARDRAIL TO BE PLACED.
- ALL COSTS ASSOCIATED WITH INSTALLING, STORING, AND RE-INSTALLING ALL TRAFFIC CONTROL DEVICES DURING AND BETWEEN THE DIFFERENT TRAFFIC CONTROL PHASES SHALL BE INCLUDED IN THE PRICE BID FOR EACH ITEM. DURING THE TIME BETWEEN DIFFERENT TRAFFIC CONTROL PHASES, THE CONTRACTOR SHALL STORE ALL TRAFFIC CONTROL DEVICES IN A PROPER LOCATION THAT WILL NOT INTERFERE WITH THE TRAFFIC FLOW. ALL WORK MUST MEET THE FULL APPROVAL OF THE TDOT ENGINEER.
- ITEM INCLUDES COST OF INSTALLING AND RELOCATING PORTABLE BARRIER RAIL.
- THIS ITEM SHALL BE A PORTABLE ENERGY ABSORBING TERMINAL MEETING THE REQUIREMENTS OF AASHTO MASH FOR TEST LEVEL 3. THE PAY ITEM WILL INCLUDE FURNISHING AND INSTALLING ALL COMPONENTS AS SHOWN ON THE MANUFACTURER'S DRAWING.
- ANY LOSS OR DAMAGE TO THE SIGNS SHALL BE PAID FOR BY THE CONTRACTOR.
- LUMP SUM ITEM REQUESTED BY TDOT DISTRICT 19 OPERATIONS MANAGER.

SPECIAL NOTES

DEMOLITION, REPAIR, OR REHABILITATION OF BRIDGES

- THE CONTRACTOR SHALL VERIFY THAT AN ASBESTOS SURVEY HAS BEEN COMPLETED PRIOR TO ANY DEMOLITION, REPAIR OR REHABILITATIONS ACTIVITIES (NOT INCLUDING ASPHALT MILLING OR OVERLAY).
- ASBESTOS-CONTAINING MATERIALS (ACM) ABATEMENT IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE COMPLETED PRIOR TO ANY DEMOLITION, REPAIR OR REHABILITATION OF BRIDGE(S). ABATEMENT SHOULD BE ACCOMPLISHED PER SP202ACM SPECIAL PROVISION REGARDING REMOVAL OF ASBESTOS-CONTAINING MATERIALS. STATE OF TENNESSEE ASBESTOS ACCREDITATION REQUIREMENTS (TCA 1200-01-20) MANDATE THAT ACM ABATEMENT WORK BE PERFORMED BY AN ACCREDITED FIRM (CONTRACTOR) USING ACCREDITED ABATEMENT WORKERS AND SUPERVISORS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING A NOTICE TO THE TDEC, DIVISION OF AIR POLLUTION CONTROL TEN (10) DAYS IN ADVANCE OF ANY ACM ABATEMENT, DEMOLITION, OR MAJOR REPAIR INVOLVING THE REMOVAL/REPLACEMENT OF A STRUCTURAL COMPONENT.

TYPE	YEAR	CONST. NO.	SHEET NO.
PS&E	2026	73455-3512-04	2



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED ROADWAY
QUANTITIES AND
GENERAL NOTES

ENVIRONMENTAL NOTES

ENVIRONMENTAL GENERAL NOTES

NATURAL RESOURCES

- (1) SOIL MATERIALS MUST BE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. EPSC MEASURES TO PROTECT NATURAL RESOURCES AND WATER QUALITY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. APPROPRIATE EPSC MEASURES MUST BE INSTALLED ALONG THE BASE OF ALL FILLS AND CUTS, ON THE DOWNHILL SIDE OF STOCKPILED SOIL, AND ALONG NATURAL RESOURCES IN CLEARED AREAS TO PREVENT SEDIMENT MIGRATION INTO STREAMS, WETLANDS OR OTHER NATURAL FEATURES IN ACCORDANCE WITH TDOT STANDARDS. EPSC MEASURES SHALL BE INSTALLED ON THE CONTOUR, ENTRENCHED AND STAKED, AND EXTEND THE WIDTH OF THE AREA TO BE CLEARED.
- (2) NEW CHANNEL CONSTRUCTION SHALL BE COMPLETED IN THE DRY AND STABILIZED FOR AT LEAST 72 HOURS PRIOR TO DIVERTING WATER FROM THE EXISTING AND/OR TEMPORARY CHANNEL.
- (3) INSTREAM EPSC DEVICES REQUIRE THE TDOT ENVIRONMENTAL DIVISION, PERMITS SECTION REVIEW AND MUST BE PROCESSED BY THE PERMITS SECTION TO OBTAIN WATER QUALITY PERMITS.
- (4) THE OPERATION OF EQUIPMENT IN WATERS OF THE STATE/U.S., INCLUDING WETLANDS AND EPHEMERAL, INTERMITTENT, AND PERENNIAL STREAMS, IS NOT ALLOWED.
- (5) THE WIDTH OF THE FILL ASSOCIATED WITH TEMPORARY CROSSINGS SHALL BE LIMITED TO THE MINIMUM NECESSARY FOR THE ACTUAL CROSSING, NOT TO EXCEED THE WIDTH SPECIFIED IN THE STANDARD DRAWING.
- (6) STREAM BEDS SHALL NOT BE USED AS TRANSPORTATION ROUTES FOR CONSTRUCTION EQUIPMENT. TEMPORARY CULVERT CROSSINGS SHALL BE LIMITED TO ONE POINT PER STREAM AND EPSC MEASURES SHALL BE USED WHERE THE STREAM BANKS ARE DISTURBED. WHERE THE STREAMBED IS NOT COMPOSED OF BEDROCK, A PAD OF CLEAN ROCK SHALL BE USED AT THE CROSSING POINT AND CULVERTED TO PREVENT THE IMPOUNDMENT OF WATER FLOW. CLEAN ROCK IS ROCK OF VARIOUS TYPE AND SIZE, DEPENDING UPON APPLICATION, WHICH CONTAINS NO FINES, SOILS, OR OTHER WASTES OR CONTAMINANTS. OTHER MATERIALS USED FOR ALL TEMPORARY FILLS SHALL BE COMPLETELY REMOVED IN THEIR ENTIRETY AFTER THE WORK IS COMPLETED AND THE AFFECTED AREAS RETURNED TO PREEXISTING ELEVATIONS. ALL TEMPORARY CROSSINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. DWG. EC-STR-25 UNLESS SPECIFICALLY ADDRESSED IN THE EPSC PLANS. ALTERNATIVELY, PLACING A TEMPORARY BRIDGE (E.G. BAILEY BRIDGE OR EQUIVALENT, TIMBERS, ETC.) FROM TOP OF BANK TO TOP OF BANK OR THE APPROPRIATE USE OF BARGES AT THE CROSSING TO AVOID DISTURBANCE OF THE STREAMBED IS AN ACCEPTABLE OPTION.
- (7) HEAVY EQUIPMENT WORKING IN WETLANDS WITH PERMITTED TEMPORARY IMPACTS SHALL BE PLACED ON MATS, OR OTHER MEASURES MUST BE TAKEN TO MINIMIZE SOIL DISTURBANCE AND COMPACTION UNLESS SPECIFICALLY ADDRESSED IN THE CONSTRUCTION PLANS. ANY MATS AND OTHER MEASURES USED FOR HEAVY EQUIPMENT SHALL BE REMOVED IN THEIR ENTIRETY AFTER THE WORK IS COMPLETED. ALL AFFECTED AREAS SHOULD BE RETURNED TO PRE-EXISTING CONDITIONS.
- (8) WETLANDS SHALL NOT BE USED AS EQUIPMENT STORAGE, STAGING, OR TRANSPORTATION AREAS, UNLESS SPECIFICALLY PROVIDED FOR IN THE CONSTRUCTION PLANS AND PERMITS.
- (9) THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS PRIOR TO ANY CONSTRUCTION AND MAINTENANCE ACTIVITIES TO ENSURE THAT ENVIRONMENTAL FEATURES (E.G., STREAMS, WETLANDS, SPRINGS, ETC.) ARE NOT IMPACTED BEYOND PERMITTED LOCATIONS. IF THE CONTRACTOR OR TDOT INSPECTOR IS UNSURE OF THE IDENTITY OF AN ENVIRONMENTAL FEATURE, THE INSPECTOR SHALL CONTACT THE TDOT REGION ENVIRONMENTAL TECH GROUP IMMEDIATELY.

SPECIES

- (10) NO ACTIVITY MAY SUBSTANTIALLY DISRUPT THE MOVEMENT OF THOSE SPECIES OF AQUATIC LIFE INDIGENOUS TO THE WATER BODY, INCLUDING THOSE SPECIES THAT NORMALLY MIGRATE THROUGH THE AREA.

- (11) SHOULD CLIFF SWALLOW OR BARN SWALLOW NESTS, EGGS, OR BIRDS (YOUNG AND ADULTS) BE PRESENT, THE CONTRACTOR SHALL CONTACT THE REGIONAL ECOLOGY OFFICE TO DETERMINE IF SEASONAL RESTRICTIONS WILL BE NECESSARY. GENERALLY, BIRDS, NESTS, AND EGGS MAY NOT BE DISTURBED BETWEEN APRIL 15 AND JULY 31. FROM AUGUST 1 TO APRIL 14, NESTS CAN BE REMOVED OR DESTROYED SO LONG AS BIRDS OR EGGS ARE NOT PRESENT, AND MEASURES IMPLEMENTED TO PREVENT FUTURE NEST BUILDING AT THE SITE (I.E., CLOSING OFF AREA USING NETTING).
- (12) IF THE REMOVAL OF ANY TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) GREATER THAN 3 INCHES IS DEEMED NECESSARY THE TDOT SUPERVISOR SHALL CONTACT THE TDOT ENVIRONMENTAL DIVISION, ECOLOGY SECTION IMMEDIATELY.

PERMITS, PLANS & RECORDS

- (13) THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND OBTAIN ANY NECESSARY ENVIRONMENTAL PERMITS OR APPROVALS, INCLUDING BUT NOT LIMITED TO ARCHAEOLOGY, ECOLOGY, HISTORICAL, HAZARDOUS MATERIALS, AIR AND NOISE, TDEC ARAP/401, USACE SECTION 404, TVA SECTION 26A, AND TDEC NPDES PERMITS, FROM FEDERAL, STATE AND/OR LOCAL AGENCIES REGARDING ANY MATERIAL AND STAGING AREAS AND THE OPERATION OF ANY PROJECT-DEDICATED ASPHALT AND/OR CONCRETE PLANTS TO BE USED. ANY SUCH PERMITS SHALL BE SUPPLIED TO THE TDOT PROJECT RESPONSIBLE PARTY PRIOR TO THE USE OF THE PERMITTED AREA(S).
- (14) ANY DISAGREEMENT BETWEEN THE CONSTRUCTION PLANS, THE PROJECT AS CONSTRUCTED, AND THE PERMIT(S) ISSUED FOR THE PROJECT, SHALL BE BROUGHT TO THE ATTENTION OF THE TDOT PROJECT RESPONSIBLE PARTY. THE ENVIRONMENTAL DIVISION, DESIGN DIVISION, AND HEADQUARTERS CONSTRUCTION OFFICE SHALL BE CONTACTED IN THESE INSTANCES AND DECIDE WHICH HAS PRECEDENCE AND WHETHER PERMIT OR PLANS REVISIONS ARE NEEDED. IN GENERAL, PERMIT CONDITIONS WILL PREVAIL.
- (15) IF A CHANGE IN PROJECT SCOPE OCCURS DURING CONSTRUCTION, INCLUDING VALUE ENGINEERING, THE TDOT PERMIT SECTION SHALL BE CONTACTED TO DETERMINE WHETHER PERMIT REVISIONS ARE NEEDED. THE ROADWAY DESIGN DIVISION SHALL BE CONTACTED TO DETERMINE IF ANY PLAN REVISIONS ARE NEEDED.
- (16) THE CONTRACTOR SHALL REVIEW ALL EXISTING PERMITS TO ENSURE THAT WORK AT PERMITTED SITES DOES NOT EXCEED EXPIRATION DATE. IF WORK IS GOING TO BE CONTINUED AFTER EXPIRATION DATES, THE CONTRACTOR SHALL CONTACT THE TDOT PROJECT RESPONSIBLE PARTY TO COMMENCE PERMIT RENEWAL PROCESS.
- (17) ALL WATER QUALITY PERMITS SHALL BE POSTED NEAR THE MAIN ENTRANCE OF THE CONSTRUCTION SITE ACCESSIBLE TO THE PUBLIC. THE NAME, COMPANY NAME, EMAIL ADDRESS, TELEPHONE NUMBER AND ADDRESS OF THE PROJECT SITE OWNER, OPERATOR, OR A LOCAL CONTACT PERSON WITH A BRIEF DESCRIPTION OF THE PROJECT SHALL ALSO BE POSTED. IF POSTING THIS INFORMATION NEAR A MAIN ENTRANCE IS INFEASIBLE, THE INFORMATION SHALL BE PLACED IN A PUBLICLY ACCESSIBLE LOCATION NEAR WHERE THE CONSTRUCTION IS ACTIVELY UNDERWAY AND MOVED AS NECESSARY. THIS LOCATION SHALL BE POSTED AT THE CONSTRUCTION SITE. ALL POSTINGS SHALL BE MAINTAINED IN LEGIBLE CONDITION.

SUPPORT ACTIVITIES

- (18) MATERIALS AND STAGING AREAS SHALL NOT AFFECT ANY WATERS OF THE STATE/U.S. UNLESS THESE AREAS ARE SPECIFICALLY COVERED BY ENVIRONMENTAL PERMITS, OBTAINED SOLELY BY THE CONTRACTOR. THE CONTRACTOR SHALL REVIEW ALL EXISTING PERMITS TO ENSURE THAT WORK AT PERMITTED SITES DOES NOT EXCEED EXPIRATION DATES. IF WORK IS GOING TO BE CONTINUED AFTER EXPIRATION DATES, THE CONTRACTOR SHALL CONTACT THE TDOT PROJECT RESPONSIBLE PARTY TO COMMENCE PERMIT RENEWAL PROCESS.

ENVIRONMENTAL SPECIAL NOTES

ENVIRONMENTAL

- (1) STAFF FROM THE TDOT ENVIRONMENTAL DIVISION COMPLIANCE AND FIELD SERVICES OFFICE SHALL BE INVITED TO ALL PRE-CONSTRUCTION MEETINGS.

ECOLOGY

- (2) STAFF FROM THE TDOT ENVIRONMENTAL DIVISION OR A DESIGNEE SHALL ADVISE THE CONTRACTOR DURING THE PRE-CONSTRUCTION MEETING WHEN ENVIRONMENTAL DIVISION PERSONNEL OR A DESIGNATED CONSULTANT WILL NEED TO BE ONSITE FOR WORK BEING DONE WHICH COULD AFFECT WATERS OF THE STATE/U.S. OR SPECIES.
- (3) STAFF FROM THE TDOT ENVIRONMENTAL DIVISION OR A DESIGNEE SHALL ATTEND THE PRE-CONSTRUCTION MEETING FOR ALL PROJECTS WHICH HAVE THREATENED OR ENDANGERED SPECIES OR CRITICAL HABITAT PROXIMAL TO SCHEDULED WORK. THIS WILL PROVIDE THE OPPORTUNITY TO ENSURE THAT PERSONNEL INCLUDING THE CONTRACTOR'S PERSONNEL AND SUBCONTRACTORS ARE MADE AWARE OF THE NECESSARY PRECAUTIONS THAT MUST BE FOLLOWED.
- (4) ALL PROJECTS WITH LEGALLY PROTECTED SPECIES OR CRITICAL HABITAT IDENTIFIED SHALL HAVE MEASURES IN PLACE TO CONTAIN CONCRETE DUST, CEMENT DUST AND ALL OTHER MATERIALS. THESE MATERIALS ARE NOT ALLOWED TO ENTER WATERS OF THE STATE/U.S.

PROJECT COMMITMENTS

- (5) SEE PROJECT COMMITMENTS, SHEET 1B, FOR DETAILS RELATING TO SPECIAL ENVIRONMENTAL COMMITMENTS REQUIRED BY THIS PROJECT.

SCOPE OF WORK

- (6) SEE SHEET BR-132-761 FOR PROJECT SCOPE OF WORK.

TYPE	YEAR	CONST. NO.	SHEET NO.
PS&E	2026	73455-3512-04	2E

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL
NOTES

EROSION PREVENTION AND SEDIMENT CONTROL GENERAL NOTES

DISTURBED AREA

- (1) IF DISTURBED ACREAGE IS EQUAL TO ONE ACRE OR MORE, PLEASE CONTACT TDOT ENVIRONMENTAL DIVISION, PERMITS SECTION AS SOON AS POSSIBLE BECAUSE AN NPDES PERMIT WILL BE REQUIRED.
- (2) AREAS TO BE UNDISTURBED SHALL BE CLEARLY MARKED IN THE FIELD BEFORE CONSTRUCTION ACTIVITIES BEGIN.
- (3) UNLESS OTHERWISE NOTED IN THE PLANS, THE CONTRACTOR SHALL NOT CLEAR/DISTURB ANY AREA BEYOND 15 FEET FROM SLOPE LINES.
- (4) PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED (I.E. CLEARING AND GRUBBING INITIATED) MORE THAN 14 CALENDAR DAYS PRIOR TO GRADING OR EARTH MOVING ACTIVITIES UNLESS THE AREA IS MULCHED, SEEDED WITH MULCH, OR OTHER TEMPORARY COVER IS APPLIED.
- (5) CLEARING, GRUBBING, AND OTHER DISTURBANCE TO RIPARIAN VEGETATION SHALL BE LIMITED TO THE MINIMUM NECESSARY FOR SLOPE CONSTRUCTION AND EQUIPMENT OPERATIONS. EXISTING VEGETATION, INCLUDING STREAM AND WETLAND BUFFERS (UNLESS PERMITTED), SHOULD BE PRESERVED TO THE MAXIMUM EXTENT POSSIBLE. UNNECESSARY VEGETATION REMOVAL IS PROHIBITED.

SEDIMENT CONTROL

- (6) EPSC MEASURES SHALL BE INSTALLED AND FUNCTIONAL PRIOR TO ANY EARTH MOVING OPERATIONS AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD EXCEPT AS SUCH WORK MAY BE NECESSARY TO INSTALL EPSC MEASURES.
- (7) TEMPORARY EPSC MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORKDAY BUT MUST BE REINSTALLED AT THE END OF THE WORKDAY OR BEFORE/DURING A PRECIPITATION EVENT.
- (8) THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT THE OFFSITE MIGRATION OR DEPOSIT OF SEDIMENT OFF THE PROJECT LIMITS (E.G. R.O.W., EASEMENTS, ETC.), INTO WATERS OF THE STATE/U.S., OR ONTO ROADWAYS USED BY THE GENERAL PUBLIC. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFFSITE ACCUMULATIONS OF SEDIMENT THAT HAVE NOT REACHED A STREAM MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFFSITE IMPACTS (E.G., FUGITIVE SEDIMENT THAT HAS ESCAPED THE CONSTRUCTION SITE AND HAS COLLECTED IN A STREET MUST BE REMOVED SO THAT IT IS NOT SUBSEQUENTLY WASHED INTO STORM SEWERS AND STREAMS BY THE NEXT RAIN AND/OR SO THAT IT DOES NOT POSE A SAFETY HAZARD TO USERS OF PUBLIC STREETS). ARRANGEMENTS CONCERNING REMOVAL OF SEDIMENT ON ADJOINING PROPERTY MUST BE NEGOTIATED WITH THE ADJOINING PROPERTY OWNER BEFORE REMOVAL OF SEDIMENT.
- (9) OFFSITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST SHALL BE MINIMIZED. A STABILIZED CONSTRUCTION EXIT (A POINT OF ENTRANCE/EXIT TO THE CONSTRUCTION PROJECT) SHALL BE PROVIDED TO REDUCE THE TRACKING OF MUD AND DIRT ONTO PUBLIC ROADS BY CONSTRUCTION VEHICLES.
- (10) THE DEWATERING OF WORK AREAS, TRENCHES, FOUNDATIONS, EXCAVATIONS, ETC. THAT HAVE COLLECTED STORMWATER, WATER FROM VEHICLE WASH AREAS, OR GROUNDWATER SHALL BE EITHER HELD IN SETTLING BASINS OR TREATED BY FILTRATION AND/OR CHEMICAL TREATMENT PRIOR TO ITS DISCHARGE. ALL PHYSICAL AND/OR CHEMICAL TREATMENT WILL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES AND FULLY DESCRIBED IN THE EPSC PLANS. WATER DISCHARGED SHALL NOT CAUSE AN OBJECTIONABLE COLOR CONTRAST WITHIN THE RECEIVING NATURAL RESOURCE. WATER MUST BE HELD IN SETTLING BASINS UNTIL AT LEAST AS CLEAR AS THE RECEIVING WATERS. SETTLING BASINS SHALL NOT BE LOCATED CLOSER THAN 20 FEET FROM THE TOP BANK OF A STREAM. SETTLING BASINS AND SEDIMENT TRAPS SHALL BE PROPERLY DESIGNED ACCORDING TO THE SIZE OF THE DRAINAGE AREAS OR VOLUME OF WATER TO BE TREATED. TREATED WATER MUST BE DISCHARGED THROUGH A PIPE OR WELL-VEGETATED OR LINED CHANNEL, SO THAT THE DISCHARGE DOES NOT CAUSE EROSION OR SEDIMENT TRANSPORT. DISCHARGES FROM BASINS AND IMPOUNDMENTS SHALL UTILIZE OUTLET STRUCTURES THAT ONLY WITHDRAW WATER FROM NEAR THE SURFACE OF THE BASIN OR IMPOUNDMENT. DISCHARGES MUST NOT CAUSE AN OBJECTIONABLE COLOR CONTRAST WITH THE RECEIVING STREAM.

INSPECTION, MAINTENANCE & REPAIR

- (12) THE TDOT CONSTRUCTION SUPERVISOR (OR THEIR DESIGNEE) AND THE CONTRACTOR'S RESPONSIBLE PARTY ARE RESPONSIBLE FOR INSPECTIONS. MAINTENANCE AND REPAIR ACTIVITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE TDOT CONSTRUCTION SUPERVISOR OR THEIR DESIGNEE SHALL COMPLETE THE EPSC INSPECTION REPORTS AND DISTRIBUTE COPIES PER THE CONTRACT.
- (13) TDOT CONSULTANTS AND CONTRACTOR STAFF RESPONSIBLE FOR THE INSPECTION, IMPLEMENTATION, MAINTENANCE, AND/OR REPAIR OF EPSC MEASURES SHALL SUCCESSFULLY COMPLETE THE TDEC "LEVEL 1 - FUNDAMENTALS OF EROSION PREVENTION AND SEDIMENT CONTROL FOR CONSTRUCTION SITES" COURSE AND ANY REFRESHER COURSES AS REQUIRED TO MAINTAIN CERTIFICATION. TDOT STAFF AND SUPERVISORS RESPONSIBLE FOR THE INSPECTION, IMPLEMENTATION, MAINTENANCE, AND/OR REPAIR OF EPSC MEASURES SHALL SUCCESSFULLY COMPLETE THE TDOT "FUNDAMENTALS OF EROSION AND SEDIMENT CONTROL" CLASS AND ANY REFRESHER COURSES AS REQUIRED TO MAINTAIN CERTIFICATION.
- (14) EPSC CONTROLS SHALL BE INSPECTED ACCORDING TO PERMIT REQUIREMENTS TO VERIFY MEASURES HAVE BEEN INSTALLED AND MAINTAINED IN ACCORDANCE WITH TDOT STANDARD DRAWINGS, SPECIFICATIONS, AND GOOD ENGINEERING PRACTICES. EPSC INSPECTIONS SHALL BE DOCUMENTED ON THE TDOT EPSC INSPECTION REPORT.
- (15) DISCHARGE POINTS SHALL BE INSPECTED TO ASCERTAIN WHETHER EPSC MEASURES ARE EFFECTIVE IN PREVENTING EROSION AND CONTROLLING SEDIMENT INCLUDING SIGNIFICANT IMPACTS TO SURROUNDING NATURAL RESOURCES AND ADJACENT PROPERTY OWNERS. WHERE DISCHARGE LOCATIONS ARE INACCESSIBLE, NEARBY DOWN GRADIENT LOCATIONS SHALL BE INSPECTED. LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFFSITE ROADWAY SEDIMENT TRACKING.
- (16) UPON CONCLUSION OF THE INSPECTIONS, EPSC MEASURES FOUND TO BE INEFFECTIVE SHALL BE REPAIRED, REPLACED, OR MODIFIED BEFORE THE NEXT RAIN EVENT, IF POSSIBLE, BUT IN NO CASE MORE THAN 24 HOURS AFTER THE INSPECTION OR WHEN THE CONDITION IS IDENTIFIED. IF THE REPAIR, REPLACEMENT OR MODIFICATION IS NOT PRACTICAL WITHIN THE 24 HOUR TIMEFRAME, WRITTEN DOCUMENTATION SHALL BE PROVIDED IN THE FIELD DIARY AND EPSC INSPECTION REPORT. AN ESTIMATED REPAIR, REPLACEMENT OR MODIFICATION SCHEDULE SHALL BE DOCUMENTED WITHIN 24 HOURS AFTER IDENTIFICATION.
- (17) INSPECTION, REPAIR, AND MAINTENANCE OF EPSC MEASURES SHALL BE PERFORMED ON A REGULAR BASIS. SEDIMENT SHALL BE REMOVED FROM SEDIMENT CONTROL STRUCTURES WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT (50%). DURING SEDIMENT REMOVAL, THE CONTRACTOR SHALL TAKE STEPS TO ENSURE THAT STRUCTURAL COMPONENTS OF EPSC MEASURES ARE NOT DAMAGED AND THUS MADE INEFFECTIVE. IF DAMAGE DOES OCCUR, THE CONTRACTOR SHALL REPAIR THE EPSC MEASURES AT THE CONTRACTOR'S OWN EXPENSE.
- (18) THE EPSC PLAN SHALL BE UPDATED WHENEVER EPSC INSPECTIONS INDICATE, OR WHERE STATE OR FEDERAL OFFICIALS DETERMINE EPSC MEASURES ARE PROVING INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANT SOURCES OR ARE OTHERWISE NOT ACHIEVING THE GENERAL OBJECTIVES OF CONTROLLING POLLUTANTS IN STORM WATER DISCHARGES ASSOCIATED WITH THE CONSTRUCTION ACTIVITY.
- (19) SEDIMENT REMOVED FROM SEDIMENT CONTROL STRUCTURES SHALL BE PLACED AND TREATED IN A MANNER SO THAT THE SEDIMENT IS CONTAINED WITHIN THE PROJECT LIMITS AND DOES NOT MIGRATE ONTO ADJACENT PROPERTIES AND INTO WATERS OF THE STATE/U.S. COST FOR THIS TREATMENT SHALL BE INCLUDED IN PRICE BID FOR ITEM NO. 209-08.02 TEMPORARY SILT FENCE (WITH BACKING), L.F.

EROSION PREVENTION

- (20) CONSTRUCTION SHALL BE SEQUENCED AND STAGED TO MINIMIZE THE EXPOSURE TIME OF GRADED OR DENUDED SOIL AREAS, PRESERVE TOPSOIL, AND MINIMIZE SOIL COMPACTION.
- (21) THE ACCEPTED EPSC PLAN SHALL REQUIRE THAT EPSC MEASURES BE IN PLACE BEFORE CLEARING, GRUBBING, EXCAVATION, GRADING, CULVERT OR BRIDGE CONSTRUCTION, CUTTING, FILLING, OR ANY OTHER EARTHWORK OCCURS, EXCEPT AS SUCH WORK MAY BE NECESSARY TO INSTALL EPSC MEASURES.

- (22) NO WORK SHALL BE STARTED UNTIL THE CONTRACTOR'S PLAN FOR THE STAGING OF OPERATIONS, INCLUDING THE PLAN FOR STAGING OF TEMPORARY AND PERMANENT EPSC MEASURES, HAS BEEN ACCEPTED BY THE TDOT RESPONSIBLE PARTY. THE CONTRACTOR'S EPSC PLAN SHALL INCORPORATE AND SUPPLEMENT, AS ACCEPTABLE, THE BASIC EPSC DEVICES ON THE EPSC PLAN.
- (23) TEMPORARY STABILIZATION SHALL BE INITIATED WITHIN 14 CALENDAR DAYS WHEN CONSTRUCTION ACTIVITIES ON A PORTION OF THE SITE ARE TEMPORARILY CEASED AND EARTH DISTURBING ACTIVITIES WILL NOT RESUME UNTIL AFTER 14 CALENDAR DAYS. PERMANENT STABILIZATION MEASURES IN DISTURBED AREAS SHALL BE INITIATED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OF ANY PHASE OF CONSTRUCTION.
- (24) STEEP SLOPES SHALL BE TEMPORARILY STABILIZED NOT LATER THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY ON THE SLOPE HAS TEMPORARILY OR PERMANENTLY CEASED. STEEP SLOPES ARE DEFINED AS A NATURAL OR CREATED SLOPE OF 35% GRADE OR GREATER REGARDLESS OF HEIGHT.
- (25) PERMANENT STABILIZATION WILL REPLACE TEMPORARY MEASURES AS SOON AS PRACTICABLE. PRIORITY SHALL BE GIVEN TO FINISHING OPERATIONS AND PERMANENT EPSC MEASURES OVER TEMPORARY EPSC MEASURES ON ALL PROJECTS.
- (26) TEMPORARY OR PERMANENT STABILIZATION MUST BE FREE OF FINES (SILT AND CLAY SIZED PARTICLES). UNPACKED GRAVEL CONTAINING FINES OR CRUSHER-RUN WILL NOT BE CONSIDERED SUFFICIENT STABILIZATION.
- (27) DELAYING THE PLANTING OF COVER VEGETATION UNTIL WINTER MONTHS OR DRY MONTHS SHOULD BE AVOIDED.

PERMITS, PLANS & RECORDS

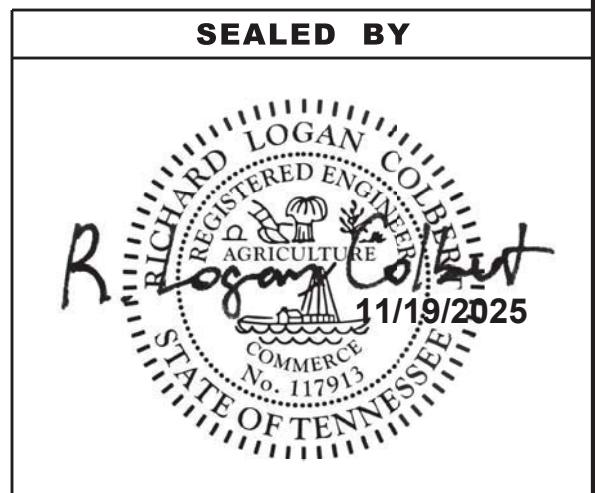
- (28) THE EPSC PLAN IS TO SERVE AS AN INITIAL GUIDE FOR SITE PERSONNEL AS THE CONSTRUCTION PROCESS DEVELOPS. IT MUST BE AMENDED, MODIFIED, AND UPDATED WHENEVER A CHANGE IN THE DESIGN OR CONSTRUCTION OF THE PROJECT OCCURS. THE STAGES DEPICTED IN THE EPSC PLANS MAY NOT COINCIDE WITH THE ACTUAL PHASES OF CONSTRUCTION ESTABLISHED BY THE CONTRACTOR DURING CONSTRUCTION, THUS MODIFICATIONS WILL BE REQUIRED TO ENSURE THE EPSC PLAN IS MAINTAINED TO DEPICT CURRENT SITE CONDITIONS. IT SHOULD BE MAINTAINED SUCH THAT IT WILL ALWAYS REFLECT THE MEASURES THAT ARE INSTALLED DURING THE VARIOUS PHASES OF CONSTRUCTION. IT IS IMPRACTICAL TO DETERMINE ALL THE INTERMEDIATE PHASES OF CONSTRUCTION THAT WILL OCCUR; THUS THESE DOCUMENTS WILL HAVE TO BE UPDATED THROUGHOUT THE LIFE OF THE CONSTRUCTION PROJECT.

GOOD HOUSEKEEPING MEASURES & WASTE DISPOSAL

- (29) THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT LITTER AND CONSTRUCTION WASTES FROM ENTERING WATERS OF THE STATE/U.S. THESE MATERIALS SHALL BE REMOVED FROM STORMWATER EXPOSURE PRIOR TO ANTICIPATED STORM EVENTS OR BEFORE BEING CARRIED OFFSITE BY WIND, OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORMWATER DISCHARGES. AFTER USE, MATERIALS USED FOR EPSC SHALL BE REMOVED FROM THE SITE.
- (30) THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS TO ENSURE THAT PETROLEUM PRODUCTS OR OTHER CHEMICAL POLLUTANTS ARE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. ALL EQUIPMENT REFUELING, SERVICING, AND STAGING AREAS SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS, RULES, REGULATIONS, AND ORDINANCES, INCLUDING THOSE OF THE NATIONAL FIRE PROTECTION ASSOCIATION. APPROPRIATE CONTAINMENT MEASURES FOR THESE AREAS SHALL BE USED.
- (31) CONTRACTORS SHALL PROVIDE DESIGNATED TRUCK WASHOUT AREAS ON THE SITE. THESE AREAS MUST BE SELF CONTAINED, NOT CONNECTED TO ANY STORMWATER OUTLET OF THE SITE, AND PROPERLY SIGNED. WASH DOWN OR WASTE DISCHARGE OF CONCRETE TRUCKS SHALL NOT BE PERMITTED ONSITE UNLESS PROPER SETTLEMENT AREAS HAVE BEEN PROVIDED IN ACCORDANCE WITH BOTH STATE AND FEDERAL REGULATIONS.
- (32) WHEEL WASH WATER SHALL BE COLLECTED AND ALLOWED TO SETTLE OUT SUSPENDED SOLIDS PRIOR TO DISCHARGE. WHEEL WASH WATER SHALL NOT BE DISCHARGED DIRECTLY INTO ANY STORMWATER SYSTEM OR STORMWATER TREATMENT SYSTEM.

TYPE	YEAR	CONST. NO.	SHEET NO.
PS&E	2026	73455-3512-04	2E1

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EPSC PLAN
AND NOTES

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EROSION PREVENTION AND SEDIMENT CONTROL GENERAL NOTES (CONT.)

- (33) IF PORTABLE SANITARY FACILITIES ARE PROVIDED ON CONSTRUCTION SITES, SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS IN A TIMELY MANNER BY A LICENSED WASTE MANAGEMENT CONTRACTOR OR AS REQUIRED BY ANY REGULATIONS. THE CONTRACTOR SHALL OBTAIN ANY AND ALL NECESSARY PERMITS TO DISPOSE OF SANITARY WASTE.
- (34) ONLY CONSTRUCTION PRODUCTS NEEDED SHALL BE STORED ONSITE BY THE CONTRACTOR. THE CONTRACTOR SHALL STORE ALL MATERIALS UNDER COVER AND IN APPROPRIATE CONTAINERS. PRODUCTS MUST BE STORED IN ORIGINAL CONTAINERS AND LABELED. MATERIAL MIXING SHALL BE CONDUCTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR'S RESPONSIBLE PARTY SHALL INSPECT MATERIALS STORAGE AREAS REGULARLY TO ENSURE PROPER USE AND DISPOSAL.
- (35) WHEN POSSIBLE, ALL PRODUCTS SHALL BE USED COMPLETELY BEFORE PROPERLY DISPOSING OF THE CONTAINER OFFSITE. THE MANUFACTURER'S DIRECTIONS FOR DISPOSAL OF MATERIALS AND CONTAINERS SHALL BE FOLLOWED.
- (36) ALL PAINT CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT SHALL BE DISPOSED OF ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS AND APPLICABLE STATE AND LOCAL REGULATIONS.
- (37) ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN A MANNER WHICH IS COMPLIANT WITH LOCAL OR STATE REGULATIONS. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES, AND THE INDIVIDUAL DESIGNATED AS THE CONTRACTOR'S RESPONSIBLE PARTY SHALL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED. THE CONTRACTOR SHALL OBTAIN ANY AND ALL NECESSARY PERMITS TO DISPOSE OF HAZARDOUS MATERIAL.
- (38) OPEN BURNING IS PROHIBITED UNLESS IT IS SPECIFICALLY ALLOWED BY LAW. IF ALLOWED, NATURAL VEGETATION, TREES, AND UNTREATED LUMBER SHALL BE THE ONLY MATERIALS THAT CAN BE OPEN BURNED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL APPLICABLE STATE AND LOCAL PERMITS PRIOR TO ANY BURNING.
- (39) DISPOSAL OF ONSITE VEGETATION AND TREES BY CHIPPING THEM INTO MULCH IS PREFERABLE TO OPEN BURNING. THIS MULCH MAY BE USED AS AN ONSITE SOIL STABILIZATION MEASURE WHERE APPROPRIATE.
- (40) WASTE MATERIAL (EARTH, ROCK, ASPHALT, CONCRETE, ETC.) NOT REQUIRED FOR THE CONSTRUCTION OF THE PROJECT WILL BE DISPOSED OF BY THE CONTRACTOR. IMPACTS TO WATERS OF THE STATE/U.S. SHALL BE AVOIDED IF POSSIBLE. IF UNAVOIDABLE, THE CONTRACTOR WILL OBTAIN ANY AND ALL NECESSARY PERMITS INCLUDING, BUT NOT LIMITED TO NPDES, AQUATIC RESOURCES ALTERATION PERMIT(S), CORPS OF ENGINEERS SECTION 404 PERMITS, AND TVA SECTION 26A PERMITS TO DISPOSE OF WASTE MATERIALS.

SUPPORT ACTIVITIES

- (41) IF OFFSITE BORROW AND WASTE AREAS BECOME NECESSARY DURING THE LIFE OF THE PROJECT, THIS SUPPORT ACTIVITY SHALL BE ADDRESSED PER THE TDOT WASTE AND BORROW MANUAL.
- (42) MATERIALS AND STAGING AREAS SHALL BE LOCATED IN NON-WETLAND AREAS AND ABOVE THE 100-YEAR, FEDERAL EMERGENCY MANAGEMENT AGENCY FLOODPLAIN.
- (43) IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUPPLY EPSC PLANS FOR THE MATERIAL AND STAGING AREAS TO THE ENVIRONMENTAL DIVISION COMPLIANCE AND FIELD SERVICES OFFICE FOR REVIEW.

SPILL PREVENTION, MANAGEMENT & NOTIFICATION

- (44) ALL ONSITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE AND SPILLS.
- (45) FOR ALL HAZARDOUS MATERIALS STORED ONSITE, THE MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEAN UP SHALL BE CLEARLY POSTED. SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATIONS OF THE INFORMATION AND CLEANUP SUPPLIES.
- (46) APPROPRIATE CLEANUP MATERIALS AND EQUIPMENT SHALL BE MAINTAINED BY THE CONTRACTOR IN THE MATERIALS STORAGE AREA ONSITE AND UNDER COVER. SPILL RESPONSE EQUIPMENT SHALL BE INSPECTED AND MAINTAINED BY THE CONTRACTOR AS NECESSARY TO REPLACE ANY MATERIALS USED IN SPILL RESPONSE ACTIVITIES.

- (47) ALL SPILLS SHALL BE CLEANED IMMEDIATELY AFTER DISCOVERY AND THE MATERIALS DISPOSED OF PROPERLY. THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
- (48) THE CONTRACTOR'S RESPONSIBLE PARTY SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE SITE SUPERINTENDENT HAS HAD APPROPRIATE TRAINING FOR HAZARDOUS MATERIALS HANDLING, SPILL MANAGEMENT, AND CLEANUP.
- (49) IF AN OIL SHEEN IS OBSERVED ON SURFACE WATER (E.G. SETTLING PONDS, DETENTION PONDS, SWALES), ACTION SHALL BE TAKEN IMMEDIATELY TO REMOVE THE MATERIAL CAUSING THE SHEEN. THE CONTRACTOR SHALL USE APPROPRIATE MATERIALS TO CONTAIN AND ABSORB THE SPILL. THE SOURCE OF THE OIL SHEEN WILL ALSO BE IDENTIFIED AND REMOVED OR REPAIRED AS NECESSARY TO PREVENT FURTHER RELEASES.
- (50) FERTILIZERS SHALL BE APPLIED ONLY IN THE AMOUNTS SPECIFIED. ONCE APPLIED, FERTILIZERS SHALL BE WORKED INTO THE SOIL TO LIMIT THE EXPOSURE TO STORMWATER.
- (51) IF A SPILL OCCURS THE CONTRACTOR'S RESPONSIBLE PARTY SHALL BE RESPONSIBLE FOR COMPLETING THE SPILL REPORTING FORM AND FOR REPORTING THE SPILL TO THE TDOT PROJECT RESPONSIBLE PARTY. ALL SPILLS MUST BE REPORTED TO THE APPROPRIATE AGENCY, AND MEASURES SHALL BE TAKEN IMMEDIATELY TO PREVENT THE POLLUTION OF WATERS OF THE STATE/U.S., INCLUDING GROUNDWATER, SHOULD A SPILL OCCUR.
- (52) WHERE A RELEASE CONTAINING A HAZARDOUS SUBSTANCE IN AN AMOUNT EQUAL TO OR IN EXCESS OF A REPORTABLE QUANTITY ESTABLISHED UNDER EITHER 40 CFR 117 OR 40 CFR 302 OCCURS DURING A 24 HOUR PERIOD, SEE THE LATEST TENNESSEE GENERAL PERMIT NO. TNR100000 STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES SECTION 5.1 FOR REPORTING REQUIREMENTS.
- (53) CONTRACTOR'S BULK FUEL AND PETROLEUM PRODUCTS STORED ONSITE OR ADJACENT TO THE R.O.W. IN ABOVE GROUND STORAGE CONTAINERS WITH A COMBINED CAPACITY OF 1320 GALLONS OR MORE SHALL HAVE SECONDARY CONTAINMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING A SPILL PREVENTION CONTROL AND COUNTERMEASURE (SPCC) PLAN FOR THE BULK STORAGE AND BE SOLELY RESPONSIBLE FOR OBTAINING ANY NECESSARY LOCAL, STATE, AND FEDERAL PERMITS. THE SPCC PLAN AND/OR PERMITS SHALL BE KEPT ONSITE AND A COPY PROVIDED TO THE TDOT PROJECT RESPONSIBLE PARTY PRIOR TO STORING 1320 GALLONS ON SITE.

STREAMS, WETLANDS & BUFFER ZONES

- (54) ANY WORK WITHIN THE STREAM CHANNEL AREA (E.G., PIER FOOTING, RIP-RAP PLACEMENT, CULVERT/BRIDGE CONSTRUCTION, 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 THE TEMPORARY DIVERSION CHANNELS (EC-STR-31) AND TEMPORARY DIVERSION CULVERTS (EC STR-32) FOR SINGLE BARREL CULVERT CONSTRUCTION.

EROSION PREVENTION AND SEDIMENT CONTROL SPECIAL NOTES

STREAMS, WETLANDS & BUFFER ZONES

- (1) FOR PROJECTS THAT DISCHARGE INTO KNOWN EXCEPTIONAL TENNESSEE WATERS OR WATERS IMPAIRED BY SILTATION, A 60 FOOT NATURAL RIPARIAN BUFFER ZONE ADJACENT TO AND ON BOTH SIDES OF THE RECEIVING STREAM WITH THIS DESIGNATION SHALL BE PRESERVED TO THE MAXIMUM EXTENT PRACTICABLE DURING CONSTRUCTION ACTIVITIES AT THE SITE. THE 60 FOOT CRITERION FOR THE WIDTH OF THE BUFFER ZONE CAN BE ESTABLISHED ON AN AVERAGE WIDTH BASIS AT A PROJECT, AS LONG AS THE MINIMUM WIDTH OF THE BUFFER ZONE IS MORE THAN 30 FEET AT ANY MEASURED LOCATION.
- (2) A 30 FOOT NATURAL RIPARIAN BUFFER ZONE ADJACENT TO AND ON BOTH SIDES OF THE RECEIVING STREAM SHALL BE PRESERVED TO THE MAXIMUM EXTENT PRACTICABLE DURING CONSTRUCTION ACTIVITIES AT THE SITE. THE 30 FOOT CRITERION FOR THE WIDTH OF THE BUFFER ZONE CAN BE ESTABLISHED ON AN AVERAGE WIDTH BASIS AT A PROJECT, AS LONG AS THE MINIMUM WIDTH OF THE BUFFER ZONE IS MORE THAN 15 FEET AT ANY MEASURED LOCATION. EVERY ATTEMPT SHALL BE MADE FOR CONSTRUCTION ACTIVITIES NOT TO TAKE PLACE WITHIN THE BUFFER ZONES.
- (3) BUFFER ZONES ARE NOT SEDIMENT CONTROL MEASURES AND MUST NOT BE RELIED UPON AS PRIMARY SEDIMENT CONTROL MEASURES. THE RIPARIAN BUFFER ZONE SHALL BE ESTABLISHED BETWEEN THE TOP OF THE STREAM BANK AND THE DISTURBED CONSTRUCTION AREA. EVERY ATTEMPT SHALL BE MADE FOR CONSTRUCTION ACTIVITIES NOT TO TAKE PLACE WITHIN THE BUFFER ZONES. BEST MANAGEMENT PRACTICES (BMPs) PROVIDING EQUIVALENT PROTECTION AS THE NATURAL RIPARIAN ZONE MAY BE USED. A JUSTIFICATION FOR USE AND DESIGN EQUIVALENCY SHALL BE DOCUMENTED WITHIN THE SWPPP. THE ENVIRONMENTAL AND ROADWAY DESIGN DIVISIONS SHALL REVIEW AND APPROVE THIS REVISION OF THE EPSC PLANS BEFORE DISTURBANCE OF THE SITE PROCEEDS, UNLESS PREVIOUSLY EXEMPT IN THE NPDES CONSTRUCTION GENERAL PERMIT. WHERE ISSUED, ARAP/401 REQUIREMENTS WILL PREVAIL IF IN CONFLICT WITH THESE BUFFER ZONE REQUIREMENTS.

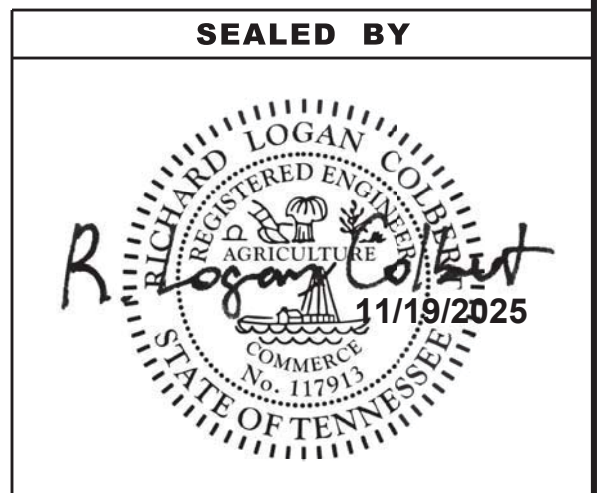
RAILROAD ENVIRONMENTAL

- (4) THE CONTRACTOR SHALL MAINTAIN A COMPLETE AND COMPREHENSIVE EPSC PLAN AND SWPPP TO PREVENT ROADWAY AND/OR CONSTRUCTION SEDIMENT OR DEBRIS AND ANY PETROLEUM BASED PRODUCTS OR CHLORINATED SOLVENTS, PAINTS OR COATINGS ETC. FROM FALLING ONTO THE RAILROAD'S RIGHT-OF-WAY AND/OR FROM ENTERING THE DRAINAGE DITCHES OR DRAINAGE STRUCTURES OF THE RAILROAD, AND ANY SEDIMENT OR DEBRIS OR PETROLEUM BASED PRODUCTS OR CHLORINATED SOLVENTS, ETC. THAT DO ENTER SUCH DRAINAGE AREAS OF THE RAILROAD'S RIGHT-OF-WAY ARE TO BE REMOVED IN ACCORDANCE WITH RULES SET FORTH BY NORFOLK SOUTHERN RAILWAY COMPANY AND AT THE CONTRACTOR'S EXPENSE.

ENVIRONMENTAL

- (5) EXCEPT AS OTHERWISE SPECIFIED, THERE ARE NO KNOWN SPECIAL ENVIRONMENTAL FACTORS PRESENT ON THIS PROJECT THAT INDICATE A NEED FOR SEASONAL LIMITATIONS ON THE CLEARING, GRUBBING, EXCAVATION, GRADING, CUTTING OR FILLING OPERATIONS OR ON THE TOTAL AREA OF EXPOSED SOIL.

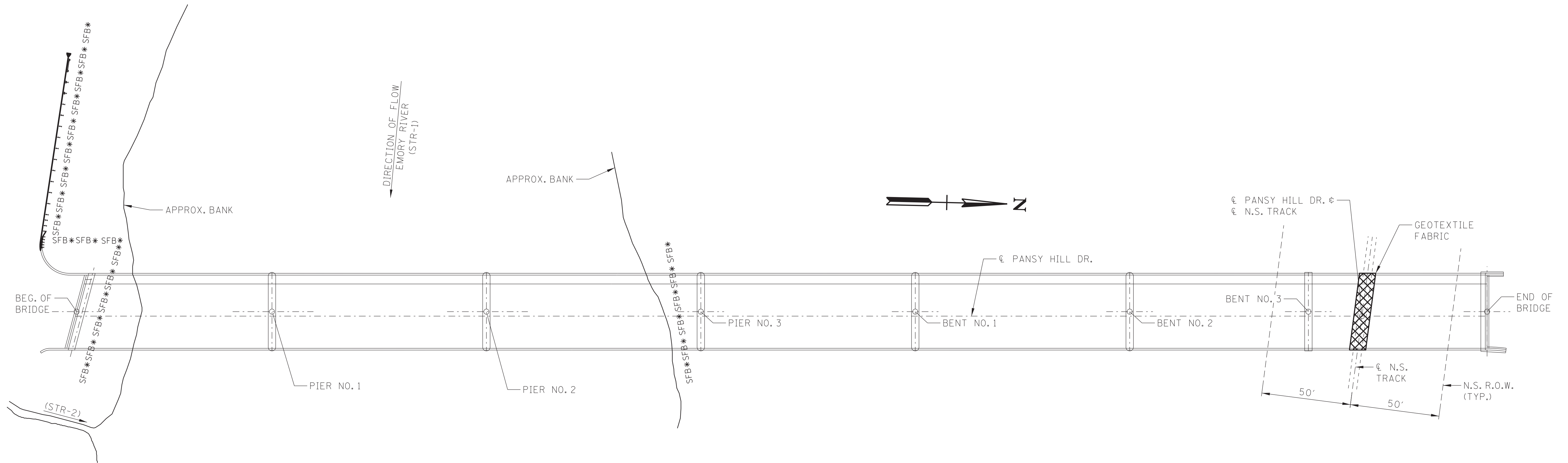
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**STATE OF TENNESSEE
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**EPSC PLAN
AND NOTES**

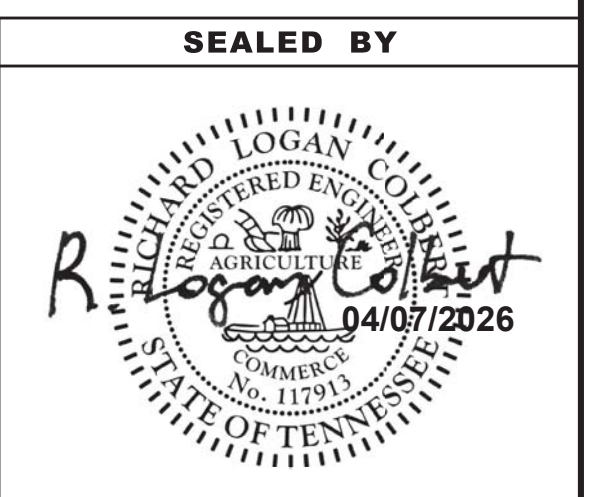
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EPSC PLAN

GEOTEXTILE FABRIC SHALL BE USED TO PROTECT THE RAILROAD TRACKS, TIES, AND BALLASTS, AND SHALL BE PLACED AS DIRECTED BY NORFOLK SOUTHERN. THE FABRIC MATERIAL SHALL MEET THE APPROVAL OF NORFOLK SOUTHERN. COST TO BE INCLUDED IN ITEM 740-10.05, GEOTEXTILE - TYPE V (RAILROAD PROTECTION), S.Y.

EROSION PREVENTION AND SEDIMENT CONTROL LEGEND		
SYMBOL	ITEM	STD. DWG.
SFB*SFB*SFB*	SILT FENCE WITH WIRE BACKING	EC-STR-3C
	GEOTEXTILE FABRIC (TYPE V)	-



STATE OF TENNESSEE
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EPSC PLAN
 AND NOTES
 NOT TO SCALE

UTILITY NOTES

- (1) THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE PLANS ARE APPROXIMATE ONLY. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. ABOVE GRADE AND UNDERGROUND UTILITIES SHOWN WERE TAKEN FROM VISIBLE APPURTENANCES AT THE SITE, PUBLIC RECORDS, AND/OR MAPS PREPARED BY OTHERS. THEREFORE, RELIANCE UPON THE TYPE, SIZE, AND LOCATION OF UTILITIES SHOWN SHOULD BE DONE SO WITH THIS CIRCUMSTANCE CONSIDERED. DETAILED VERIFICATION OF EXISTENCE, LOCATION, AND DEPTH SHOULD ALSO BE MADE PRIOR TO ANY DECISION RELATIVE THERETO IS MADE. AVAILABILITY AND COST OF SERVICE SHOULD BE CONFIRMED WITH THE APPROPRIATE UTILITY COMPANY. IN TENNESSEE, IT IS A REQUIREMENT, PER "THE UNDERGROUND UTILITY DAMAGE PREVENTION ACT", THAT ANYONE WHO ENGAGES IN EXCAVATION MUST NOTIFY ALL KNOWN UNDERGROUND UTILITY OWNERS, NO LESS THAN THREE (3) OR NOT MORE THAN TEN (10) WORKING DAYS PRIOR TO THE DATE OF THEIR INTENT TO EXCAVATE AND ALSO TO AVOID ANY POSSIBLE HAZARD OR CONFLICT. NOTIFICATION BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC., AT 1-800-351-1111 AS REQUIRED BY TCA 65-31-106 WILL BE REQUIRED.
- (2) UNLESS OTHERWISE NOTED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR ITS REPRESENTATIVE. THE CONTRACTOR AND UTILITY OWNERS WILL BE REQUIRED TO COOPERATE WITH EACH OTHER IN ORDER TO EXPEDITE THE WORK REQUIRED BY THIS CONTRACT. ON CONTRACTS WHERE CONSTRUCTION STAKES, LINES, AND GRADES ARE CONTRACT ITEMS, THE CONTRACTOR WILL BE REQUIRED TO PROVIDE RIGHT-OF-WAY OR SLOPE STAKES, DITCH OR STREAM BED GRADES, OR OTHER ESSENTIAL SURVEY STAKING TO PREVENT CONFLICTS WITH THE HIGHWAY CONSTRUCTION. FREQUENTLY, THIS WILL BE REQUIRED AS THE FIRST ITEM OF WORK AND AT ANY LOCATION ON THE PROJECT DIRECTED BY THE ENGINEER.
- (3) THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT WILL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.
- (4) PRIOR TO SUBMITTING HIS BID, THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR CONTACTING OWNERS OF ALL AFFECTED UTILITIES IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF WORK FOR THE PROJECT. WHILE SOME WORK MAY BE REQUIRED 'AROUND' UTILITY FACILITIES THAT WILL REMAIN IN PLACE, OTHER UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS. ADVANCE CLEAR CUTTING MAY BE REQUIRED BY THE ENGINEER AT ANY LOCATION WHERE CLEARING IS CALLED FOR IN THE SPECIFICATIONS AND CLEAR CUTTING IS NECESSARY FOR A UTILITY RELOCATION. ANY ADDITIONAL COST WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE CLEARING ITEM SPECIFIED IN THE PLANS.
- (5) THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF THE UTILITIES. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY IN ACCORDANCE WITH TCA 65-31-106. NOTIFICATION BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC AT 1-800-351-1111 WILL BE REQUIRED.

UTILITY OWNERS

THE REGION 1 UTILITIES DEPARTMENT HAS COMPLETED THE UTILITY COORDINATION PROCESS AND CONCLUDED THAT NO UTILITY CONFLICTS ARE ANTICIPATED BASED ON THE SCOPE OF WORK.

ELECTRIC/WATER/SEWER/GAS:

HARRIMAN UTILITY BOARD

P.O. BOX 434
300 NORTH ROANE ST.
HARRIMAN, TN 37748

CONTACT: CANDACE VANNASDALE

OFFICE PHONE: 865 882 3242

CELL PHONE: 865 607 4071

Email: CVANNASDALE@HUB-TN.COM

CABLE/INTERNET:

XFINITY (COMCAST)

5720 ASHEVILLE HWY.

KNOXVILLE, TN 37924

CONTACT: MICHAEL BAILEY

OFFICE PHONE: 865 862 5061

CELL PHONE: 865 320 2675

Email: MICHAEL_BAILEY2@CABLE.COMCAST.COM

TELEPHONE:

AT&T

307 DR. MARTIN LUTHER KING JR. PARKWAY

MORRISTOWN, TN 37813

CONTACT: SAM TRENT

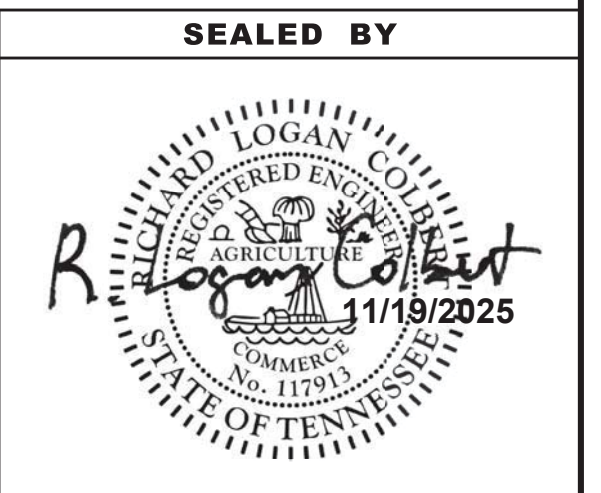
OFFICE PHONE: 423 317 8804

CELL PHONE: 865 789 4715

Email: ST3523@ATT.COM

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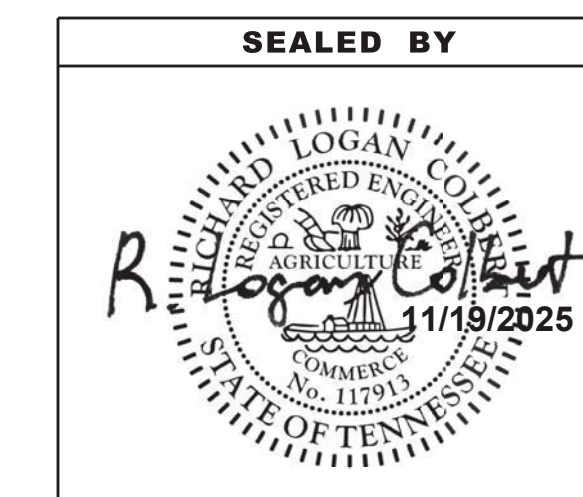
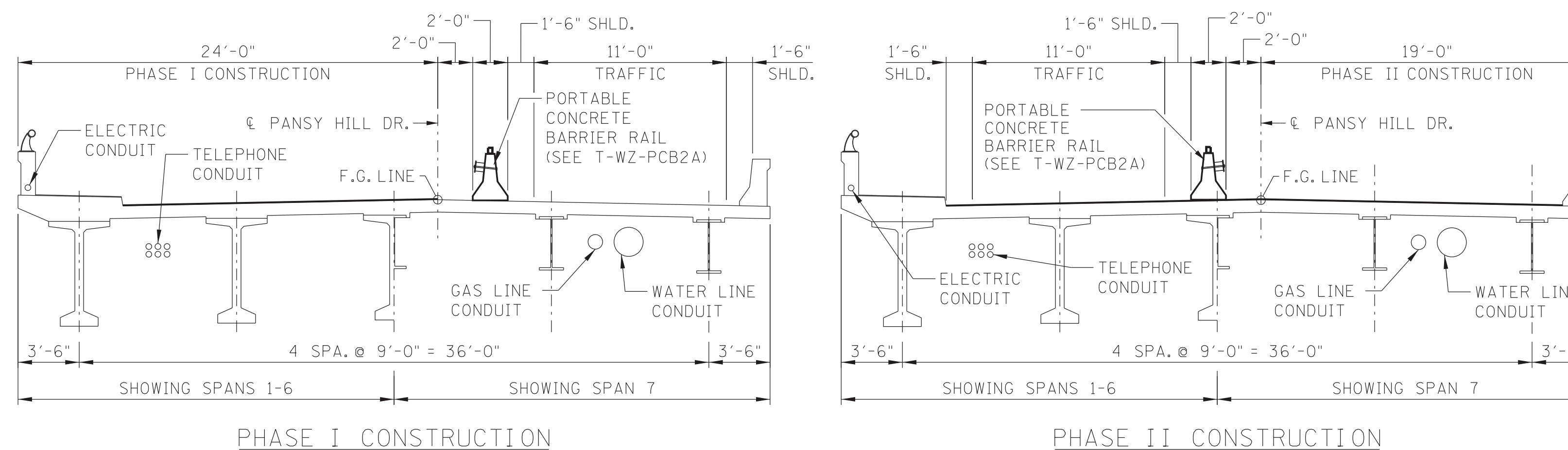
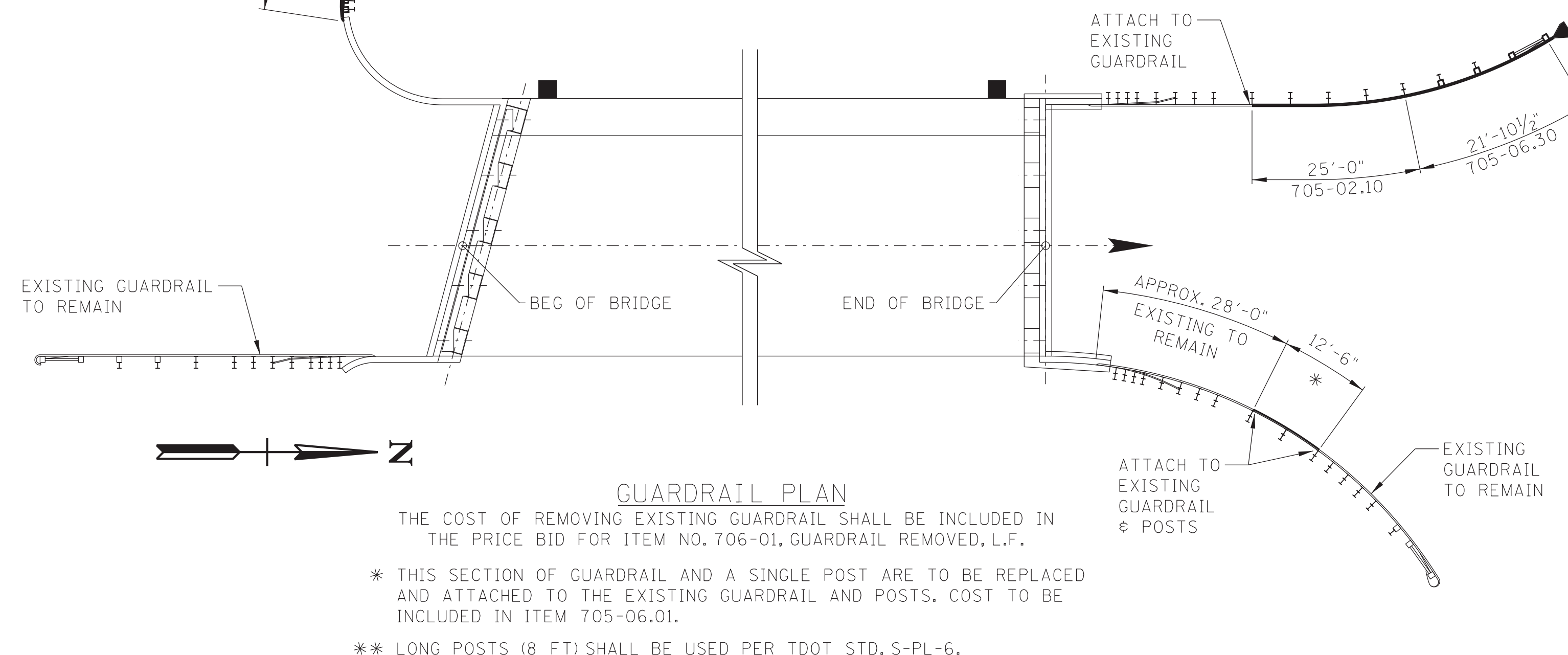
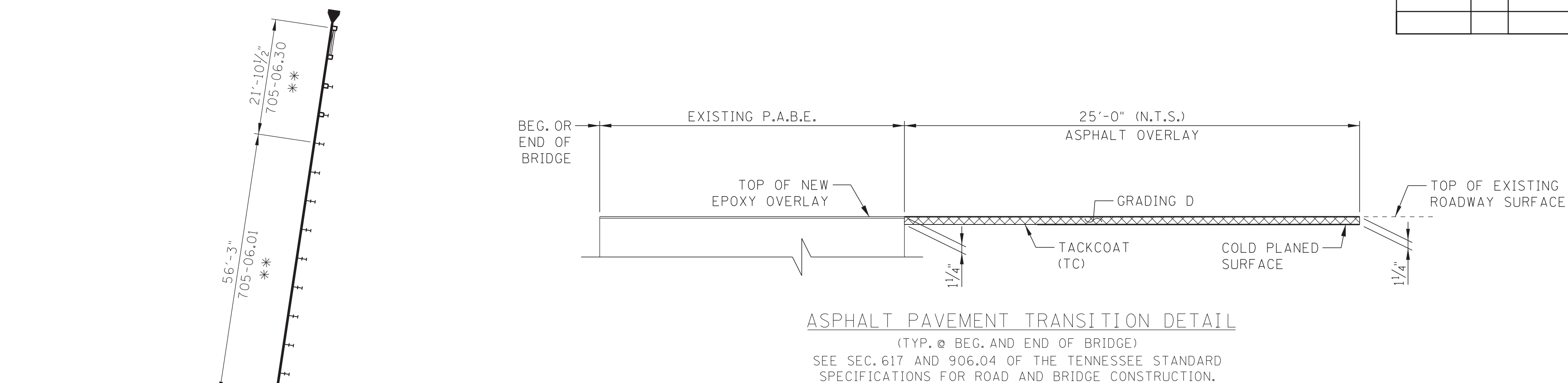
**UTILITY NOTES
AND
UTILITY OWNERS**

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TRAFFIC CONTROL SIGN QUANTITIES				
TYPE	DESCRIPTION	SIZE	SIGNS (CONST.) 712-06 TOTAL	
			EACH	S.F.
G20-2	END ROAD WORK	36"x18"	9	40.5
R9-9	SIDEWALK CLOSED	24"x12"	2	4
R10-6	STOP HERE ON RED	24"x36"	4	24
R10-6 (MOD)	STAY IN LANE TO EXTEND GREEN	30"x42"	3	26.25
R10-11A	NO TURN ON RED	30"x36"	2	15
SPECIAL	MAXIMUM XX MINUTE RED	42"x48"	4	56
SPECIAL	MAINTAIN XX MPH SPEED	42"x36"	2	21
W1-4R	REVERSE CURVE (RIGHT)	36"x36"	1	9
W3-3	SIGNAL AHEAD (SYMBOL)	36"x36"	4	36
W3-4	BE PREPARED TO STOP	36"x36"	8	72
W16-2P	1000 FEET (ADVISORY PLAQUE)	24"x18"	3	9
W20-1	ROAD WORK AHEAD	36"x36"	7	63
W20-1	ROAD WORK 1/2 MILE	36"x36"	3	27
W20-1	ROAD WORK 1500 FEET	36"x36"	3	27
W20-1	ROAD WORK 1000 FEET	36"x36"	3	27
W20-1	ROAD WORK 500 FEET	36"x36"	3	27
W20-4	ONE LANE ROAD AHEAD	36"x36"	5	45
W20-4	ONE LANE ROAD 1500 FEET	36"x36"	3	27
W20-7A	FLAGGER (SYMBOL)	36"x36"	8	72
TOTAL				627.75

TRAFFIC CONTROL SPECIAL NOTES

1. THESE TRAFFIC CONTROL PLANS DO NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF INSTALLING TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE CURRENT EDITION OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES."
2. CONSTRUCTION SIGNING SHOWN IN THESE PLANS IS TO SERVE AS A GUIDE ONLY. OTHER SIGNS MAY BE REQUIRED DURING VARIOUS PHASES OF CONSTRUCTION.
3. THE CONTRACTOR IS REQUIRED TO PROVIDE LANE SHIFTS WHERE NECESSARY TO ROUTE TRAFFIC AROUND CONSTRUCTION.
4. NO TRAFFIC SHALL BE DETOURED OR ROADWAY CLOSED, ABANDONED, OR REMOVED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
5. ADVANCE WARNING SIGNS ARE TO BE PLACED PRIOR TO BEGINNING OF CONSTRUCTION AND REMAIN IN PLACE UNTIL THE COMPLETION OF THIS PROJECT.
6. PERMANENT SIGNS AND PERMANENT MARKINGS SHALL BE IN PLACE BEFORE COMPLETED ROADWAYS ARE OPEN TO TRAFFIC.
7. SEE THE CURRENT EDITION OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" FOR TRAFFIC DETAILS NOT SHOWN, GENERAL TRAFFIC CONTROL NOTES, AND SIGN DETAILS.
8. CONTRACTOR TO COVER ALL CONFLICTING SIGNS DURING CONSTRUCTION. COVERINGS SHALL BE REMOVED AT COMPLETION OF CONSTRUCTION. COST ASSOCIATED WITH COVERING AND UNCOVERING SIGNS TO BE INCLUDED IN ITEM 712-06, SIGNS (CONSTRUCTION).
9. THE CONTRACTOR IS TO COORDINATE ALL LANE CLOSURES WITH THE TDOT REGIONAL OFFICE AND THE COUNTY ENGINEER.
10. MINIMUM TRAVEL LANE WIDTH TO BE 11 FEET (STRIPED).
11. ALL PORTABLE CONCRETE BARRIERS (PCB) DEFLECT DURING AN IMPACT. CONTRACTOR SHALL EXERCISE CAUTION WHEN WORKING IMMEDIATELY BEHIND THE PCB.



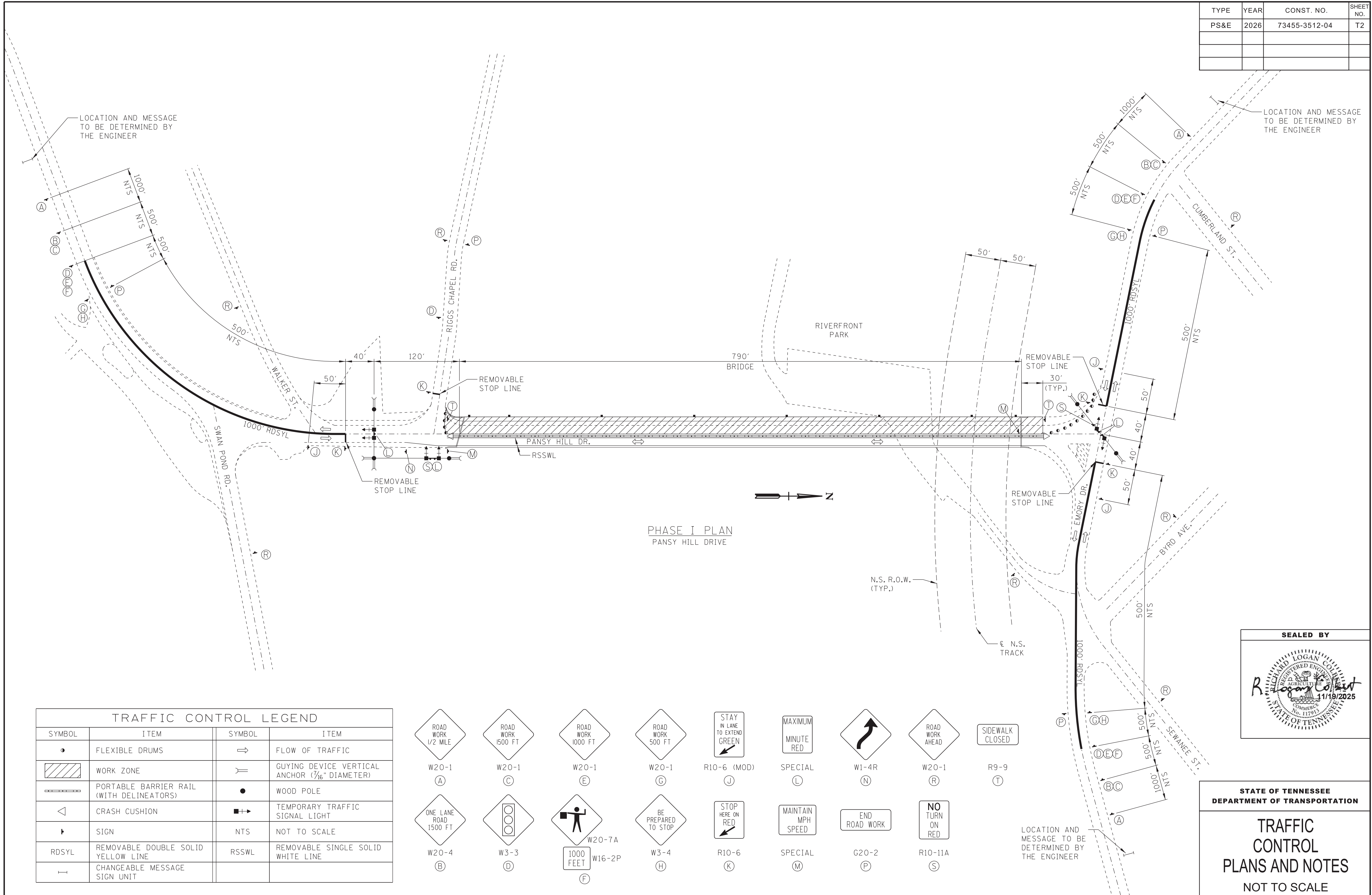
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TRAFFIC CONTROL PLANS AND NOTES
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PHASE I PLAN
PANSY HILL DRIVE

TRAFFIC CONTROL LEGEND			
SYMBOL	ITEM	SYMBOL	ITEM
•	FLEXIBLE DRUMS	→	FLOW OF TRAFFIC
	WORK ZONE	⊥	GUYING DEVICE VERTICAL ANCHOR (1/16" DIAMETER)
	PORTABLE BARRIER RAIL (WITH DELINEATORS)	●	WOOD POLE
◁	CRASH CUSHION	⊠	TEMPORARY TRAFFIC SIGNAL LIGHT
↑	SIGN	NTS	NOT TO SCALE
RDSYL	REMOVABLE DOUBLE SOLID YELLOW LINE	RSSWL	REMOVABLE SINGLE SOLID WHITE LINE
—	CHANGEABLE MESSAGE SIGN UNIT		

W20-1 A	W20-1 C	W20-1 E	W20-1 G	R10-6 (MOD) J	SPECIAL L	W1-4R N	W20-1 R	R9-9 T
W20-4 B	W3-3 D	W16-2P F	W3-4 H	R10-6 K	SPECIAL M	G20-2 P	R10-11A S	

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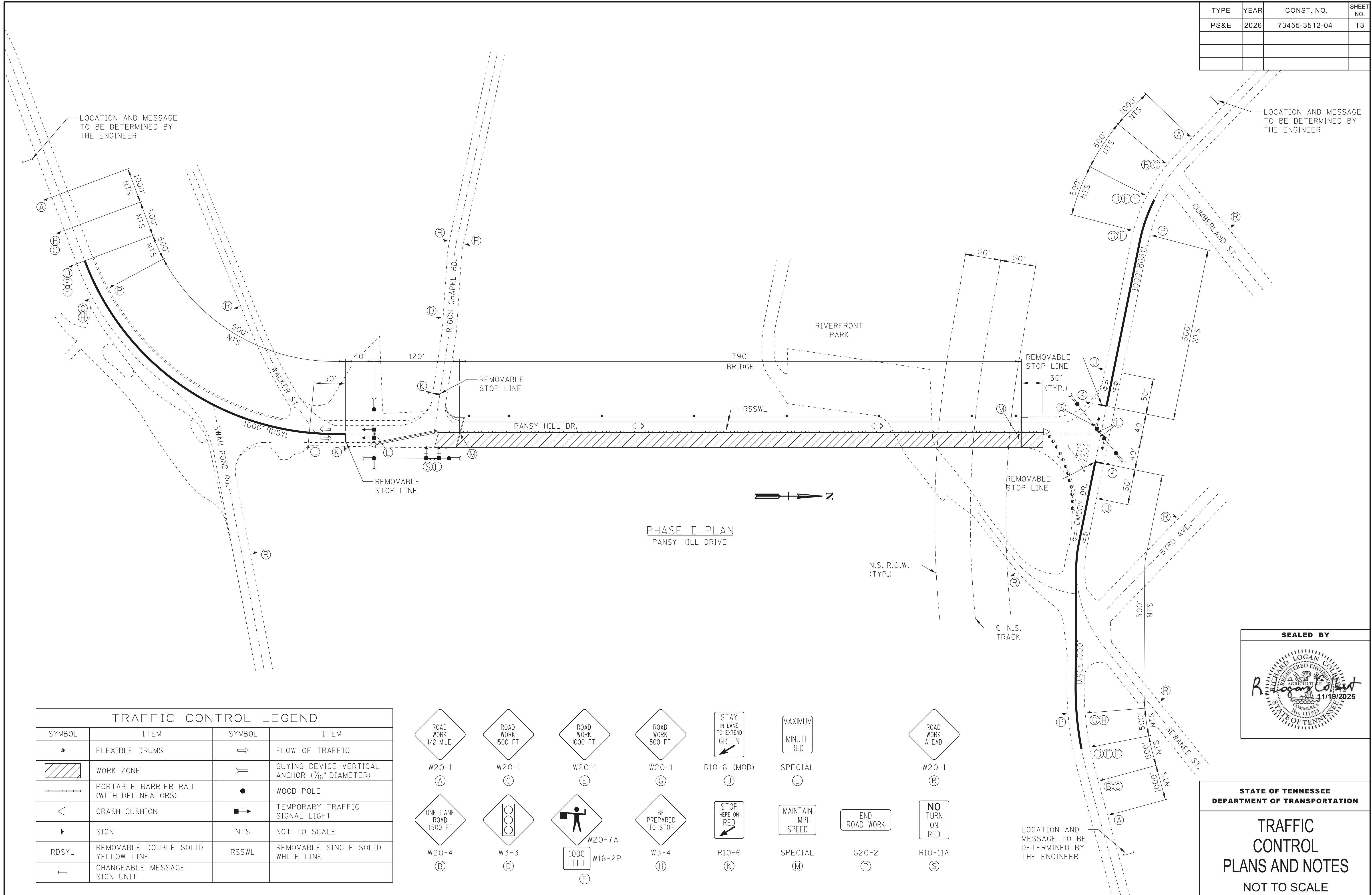
TRAFFIC CONTROL PLANS AND NOTES

NOT TO SCALE

LOCATION AND MESSAGE TO BE DETERMINED BY THE ENGINEER

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PHASE II PLAN
PANSY HILL DRIVE

TRAFFIC CONTROL LEGEND			
SYMBOL	ITEM	SYMBOL	ITEM
•	FLEXIBLE DRUMS	→	FLOW OF TRAFFIC
	WORK ZONE		GUYING DEVICE VERTICAL ANCHOR (1/16" DIAMETER)
	PORTABLE BARRIER RAIL (WITH DELINEATORS)	●	WOOD POLE
	CRASH CUSHION	■→	TEMPORARY TRAFFIC SIGNAL LIGHT
↑	SIGN	NTS	NOT TO SCALE
RDSYL	REMOVABLE DOUBLE SOLID YELLOW LINE	RSSWL	REMOVABLE SINGLE SOLID WHITE LINE
—	CHANGEABLE MESSAGE SIGN UNIT		

W20-1	W20-1	W20-1	W20-1	R10-6 (MOD)	SPECIAL	W20-1
(A)	(C)	(E)	(G)	(J)	(L)	(R)
W20-4	W3-3	W16-2P	W3-4	R10-6	SPECIAL	G20-2
(B)	(D)	(F)	(H)	(K)	(M)	(P)
						R10-11A
						(S)

SEALED BY

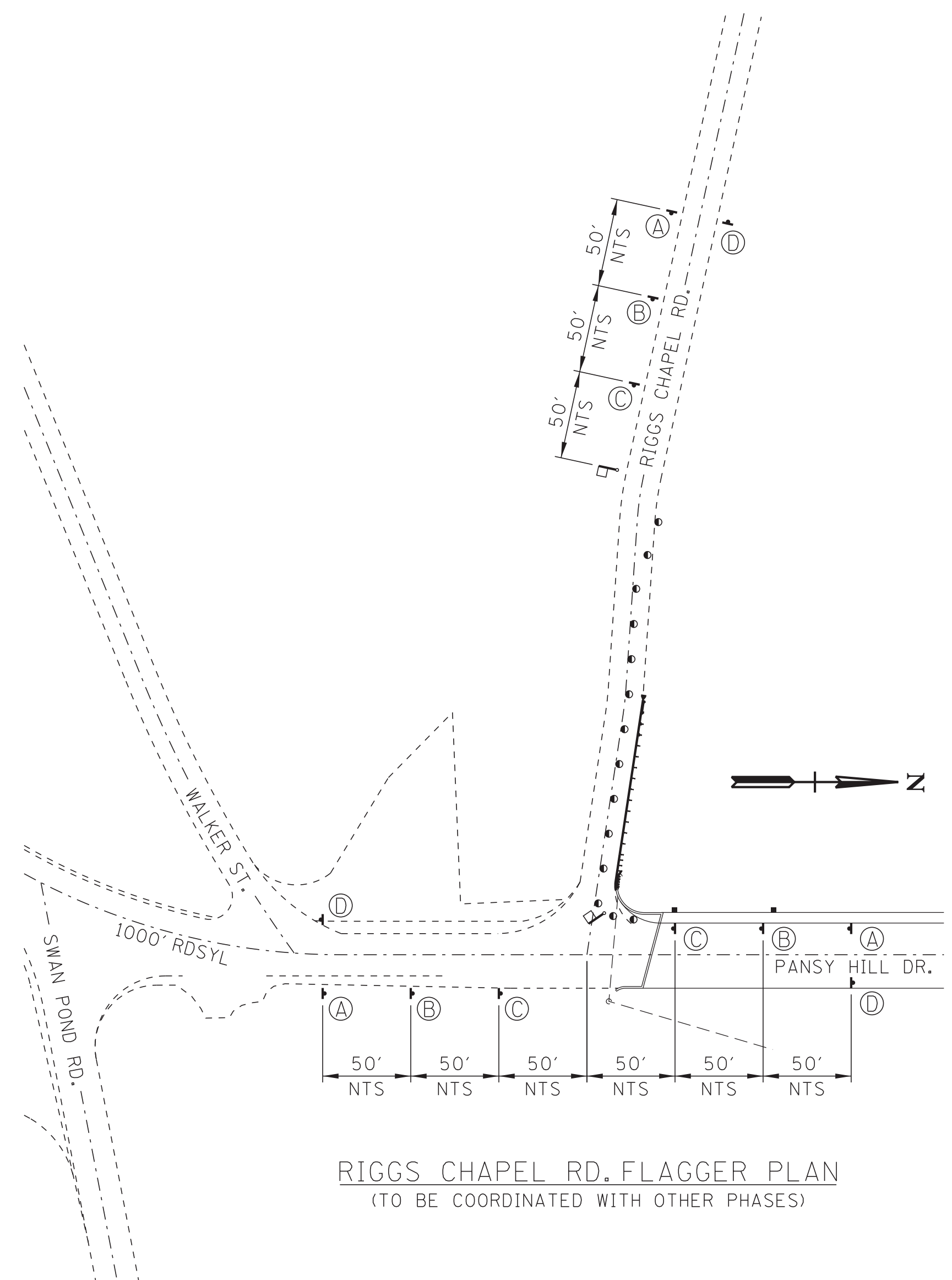
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS AND NOTES

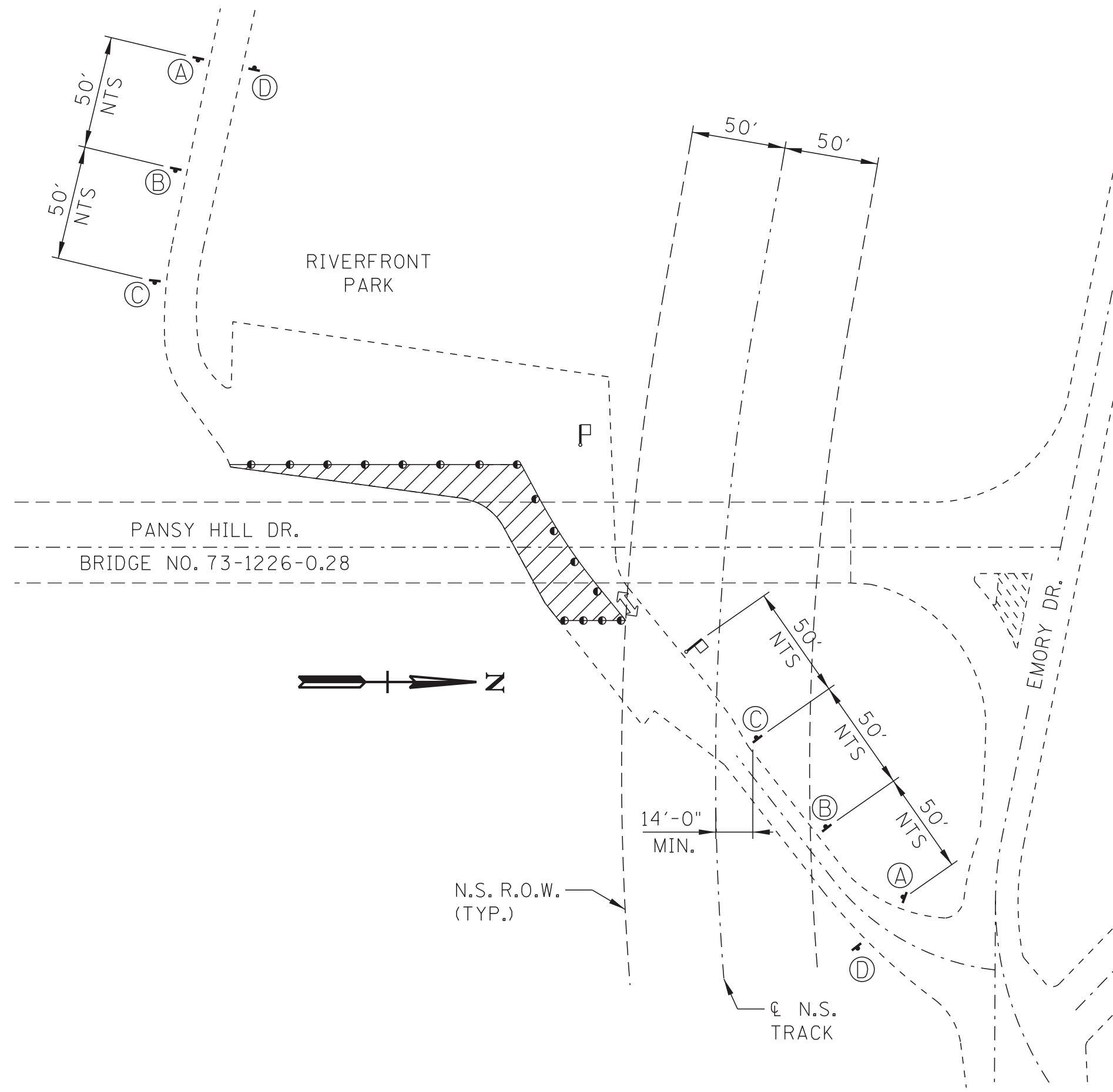
NOT TO SCALE

LOCATION AND MESSAGE TO BE DETERMINED BY THE ENGINEER

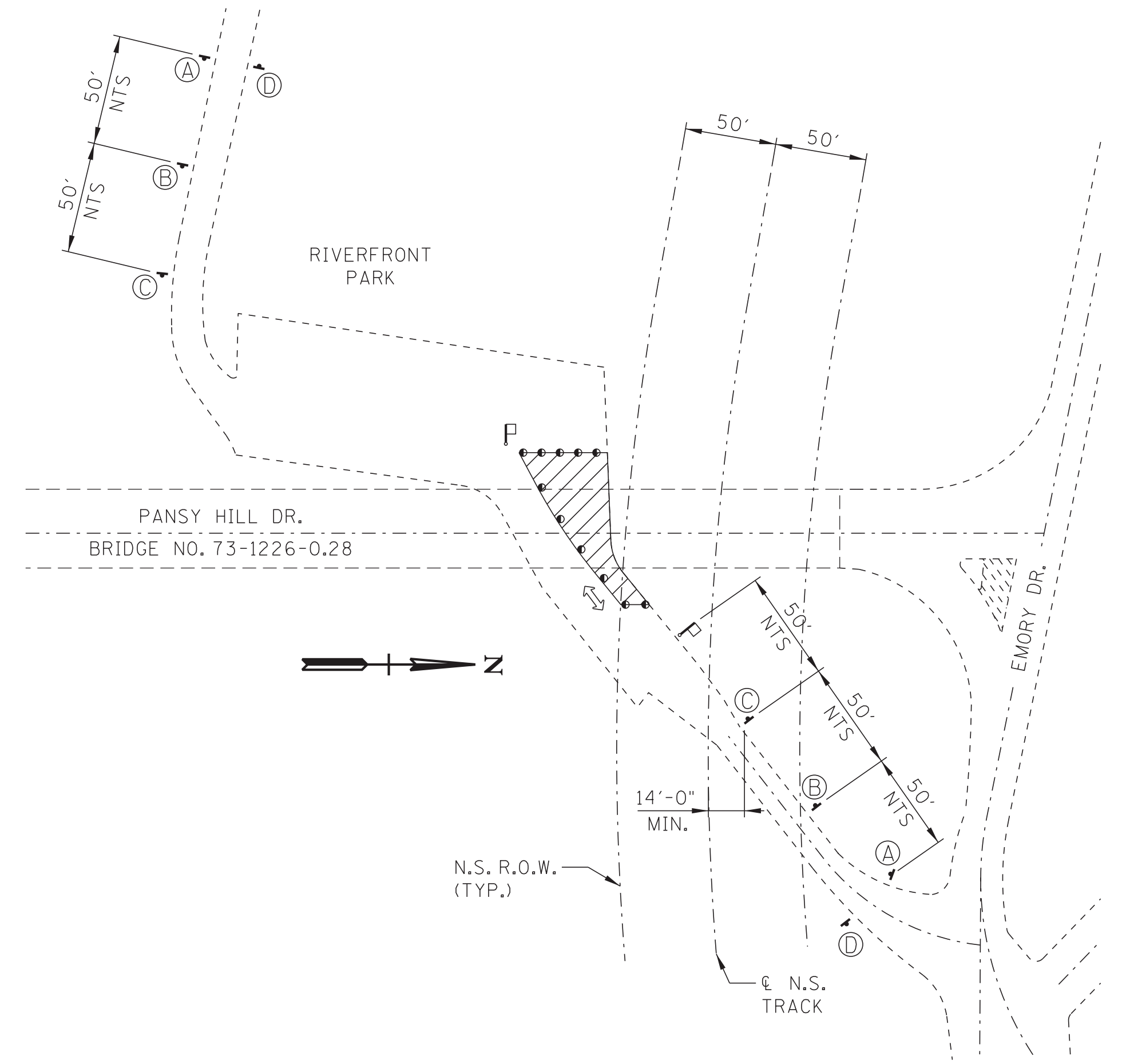
TYPE	YEAR	CONST. NO.	SHEET NO.
PS&E	2026	73455-3512-04	T4



RIGGS CHAPEL RD. FLAGGER PLAN
(TO BE COORDINATED WITH OTHER PHASES)



RIVER FRONT PARK PHASE I
FLAGGER PLAN
ACCESS BELOW BRIDGE



RIVER FRONT PARK PHASE II
FLAGGER PLAN
ACCESS BELOW BRIDGE

THE CONTRACTOR SHALL PHASE CONSTRUCTION ACTIVITIES AND TRAFFIC CONTROL TO ACCOMMODATE TRAFFIC TO PARK, PARKING UNDER BRIDGE, AND PEDESTRIAN TRAFFIC UNDER BRIDGE. ALL ASSOCIATED COSTS SHALL BE INCLUDED IN ITEM 712-01, TRAFFIC CONTROL, LUMP SUM.

SEALED BY

TRAFFIC CONTROL LEGEND			
SYMBOL	ITEM	SYMBOL	ITEM
•	FLEXIBLE DRUMS	⇒	FLOW OF TRAFFIC
▨	WORK ZONE	⬇	SIGN
NTS	NOT TO SCALE	P	FLAGGER

W20-4 A	W3-4 B	W20-7A C	G20-2 D

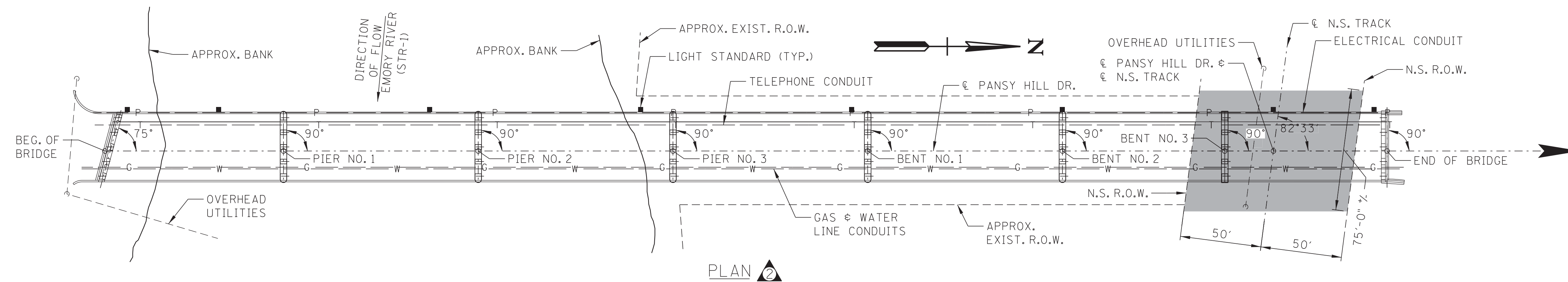
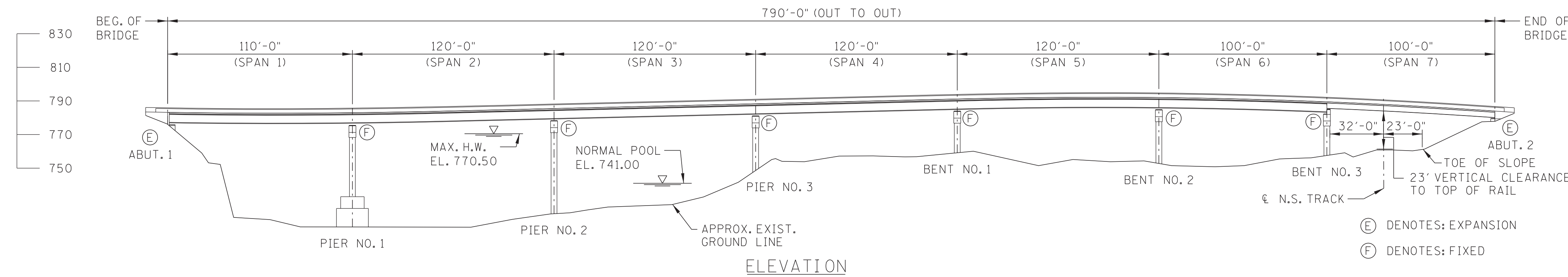
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS AND NOTES

NOT TO SCALE

11/19/2025 4:07:56 PM J:\Structures\11685-10_Roane_Co_Pansy_Hill_Dr_over_Emorey_River\Drawings\Final_dgn\11685-10_RD-Traf2.dgn

PROJECT NO.	YEAR	SHEET NO.	
73455-3512-04	2026	B1	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	01-29-2026	MEL	UPDATED LAST REV. DATES
2	04-07-2026	MEL	UPDATED LAST REV. DATES & REF. DWGS., SHEET NUMBER, AND PLAN VIEW



ALL DIMENSIONS AND ELEVATIONS OBTAINED FROM ORIGINAL PLANS DATED 1991. REFERENCE THESE PLANS FOR VERTICAL GRADE.

VERTICAL AND HORIZONTAL CLEARANCES SHOWN ARE MINIMUMS OBTAINED FROM 2019 INSPECTION REPORTS.

RAILROAD SPECIAL NOTES:

- REFER TO EXISTING RR AGREEMENT NO. 0352 FOR ALL INFORMATION REGARDING R.O.W. AND EASEMENTS.
- EXISTING SUBSTANDARD CLEARANCES SHALL NOT BE FURTHER REDUCED FOR THE TEMPORARY CONSTRUCTION CONDITION WITHOUT WRITTEN PERMISSION FROM NORFOLK SOUTHERN.
- THE MINIMUM TEMPORARY CLEARANCES FOR USE DURING CONSTRUCTION ARE 14'-0" (HORIZONTAL) AND 22'-0" (VERTICAL) IN ACCORDANCE WITH H.1.2. OF THE NORFOLK SOUTHERN PUBLIC PROJECTS MANUAL.

(E) DENOTES: APPROXIMATE LIMITS OF CONSTRUCTION AND AERIAL EASEMENTS.

SCOPE OF WORK

- PROVIDE TRAFFIC CONTROL AND PHASED CONSTRUCTION MAINTAINING ONE LANE OF TRAFFIC USING A TRAFFIC LIGHT SYSTEM.
- PROVIDE TRAFFIC CONTROL TO ACCOMMODATE PARK TRAFFIC (BELOW).
- RECONSTRUCT THE CONCRETE BRIDGE DECK IN AREAS OF FULL AND PARTIAL DEPTH DECK REPAIR (UTILIZE 18 HOUR CONCRETE).
- RECONSTRUCT THE CONCRETE PAVEMENT AT BRIDGES ENDS (PABE) IN AREAS OF FULL AND PARTIAL DEPTH DECK REPAIR (UTILIZE 18 HOUR CONCRETE).
- APPLY A THIN EPOXY OVERLAY ON CONCRETE BRIDGE DECK AND PABES WITH APPROPRIATE SKID RESISTANCE FOR VEHICULAR TRAFFIC.
- REPLACE STRIP SEAL EXPANSION JOINTS AT ABUTMENTS. RECESS TOPS OF CONCRETE HEADERS TO ALLOW FOR THIN OVERLAY.
- APPLY A NON-PENETRATING SEALER TO THE SIDEWALK.
- REPAIR DAMAGED/DETERIORATED AREAS OF CONCRETE ON PARAPETS, BEAMS, DIAPHRAGMS, AND SUBSTRUCTURE UNITS.
- REPAIR CRACKS IN BEAMS, DIAPHRAGMS, AND SUBSTRUCTURE UNITS.
- REPAIR UNDERMINED FOUNDATIONS AND PROVIDE SCOUR COUNTERMEASURES AT PIERS 1 AND 2.
- HIGH PRESSURE WATER WASH AND TEXTURE COAT TOP AND INSIDE FACE OF PARAPETS (WHITE).
- HIGH PRESSURE WATER WASH AND TEXTURE COAT OUTSIDE OF PARAPET, DECK OVERHANG, BOTTOM OF BEAMS, AND EXPOSED AREAS OF SUBSTRUCTURES (MOUNTAIN GREY).
- REPLACE BEARING KEEPER ANGLES AND ANCHOR BOLTS FOR BEAM 1 AT ABUTMENT 1.
- CLEAN AND PAINT STEEL BEAMS OF SPAN 7.
- CLEAN AND PAINT BEARINGS OF STEEL SPAN AND BEARING KEEPER ANGLES AT ABUTMENT 1.
- REPLACE DAMAGED SECTIONS OF GUARDRAIL.
- PLACE NEW GUARDRAIL ON SOUTHWEST CORNER OF BRIDGE.
- CONSTRUCT ASPHALT ROADWAY TRANSITIONS AT BEGINNING AND END OF BRIDGE.
- CLEAN AND MAINTAIN BRIDGE DRAINS (COST TO BE INCLUDED IN ITEMS BID ON).
- ALL DIRT/DEBRIS/TRASH SHALL BE REMOVED FROM SUBSTRUCTURES AND BELOW BRIDGE (COST TO BE INCLUDED IN ITEMS BID ON).
- REMOVE VEGETATION FOR A DISTANCE OF TEN FEET ALONG EACH SIDE OF THE BRIDGES AS DIRECTED BY THE ENGINEER.

BRIDGE INDEX

DRAWING	DRAWING NO.	LAST REV. DATE
BRIDGE INDEX & LAYOUT OF BRIDGE TO BE REPAIRED	B1 (BR-132-761)	04-07-2026
ESTIMATED BRIDGE QUANTITIES AND NOTES	B2 (BR-132-762)	04-07-2026
ESTIMATED BRIDGE QUANTITIES AND NOTES	B3 (BR-132-763)	04-07-2026
SUPERSTRUCTURE REPAIR DETAILS	B4 (BR-132-764)	04-07-2026
JOINT REPAIR DETAILS	B5 (BR-132-765)	04-07-2026
JOINT REPAIR DETAILS	B6 (BR-132-766)	04-07-2026
MISCELLANEOUS REPAIR DETAILS	B7 (BR-132-767)	04-07-2026
SCOUR REPAIR - PIER 1	B8 (BR-132-768)	04-07-2026
SCOUR REPAIR - PIER 2	B9 (BR-132-769)	04-07-2026
SUBSTRUCTURE REPAIRS	B10 (BR-132-770)	04-07-2026
SUBSTRUCTURE REPAIRS	B11 (BR-132-771)	04-07-2026
CONCRETE REPAIR DETAILS	B12 (BR-132-772)	04-07-2026

POSTED SPEED LIMIT (PANSY HILL DR.) = 25 M.P.H.

AADT (2023) = 4,933

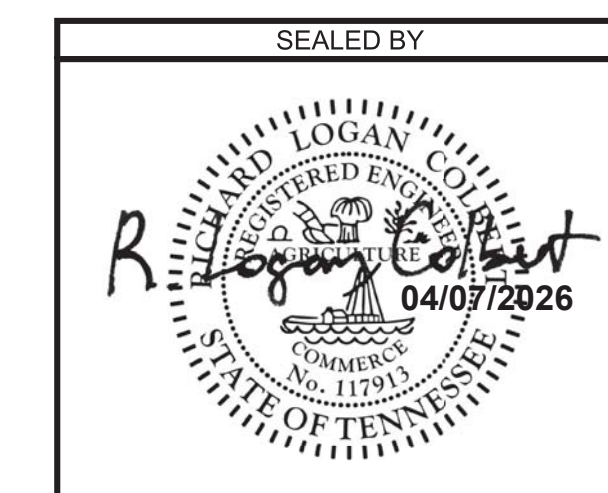
EXTREME CARE SHALL BE TAKEN TO PROTECT AND MAINTAIN THE PLAQUES ON THE BRIDGE PARAPETS, AS WELL AS THE MEMORIAL FOUNTAIN AND ASSOCIATED AESTHETIC TREATMENTS PRESENT AT BENT 3. ANY DAMAGE TO THESE ELEMENTS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

LIST OF REFERENCE DRAWINGS

(TO BE PRINTED WITH PLANS)
M-220-152 THRU M-220-173

LIST OF SPECIAL PROVISIONS

NS SPECIAL PROVISIONS FOR THE PROTECTION OF RAILWAY INTERESTS (DATED 11/4/2022)



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
**BRIDGE INDEX & LAYOUT OF
BRIDGE TO BE REPAIRED
BRIDGE NO. 73-1226-0.28
FED. I.D. NO. 73S24010001
PANSY HILL DR. OVER EMORY RIVER
& NORFOLK SOUTHERN RAILWAY
ROANE COUNTY
2026**

BR-132-761

PIN NO.:	124518.00	DATE:	11/2025
DESIGN BY:	R.L. COLBERT	DATE:	11/2025
DRAWN BY:	M.D. SIMPSON	DATE:	11/2025
SUPERVISED BY:	G.S. WILSON	DATE:	11/2025
CHECKED BY:	R.L. COLBERT	DATE:	11/2025



GENERAL NOTES

SPECIFICATIONS & LOADING

- (1) **SPECIFICATIONS:** STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION (APRIL 1, 2026 EDITION), AND THE 4TH EDITION (2017) AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS WITH INTERIMS [AND THE NORFOLK SOUTHERN PUBLIC PROJECTS MANUAL].
- (2) **DESIGN SPECIFICATIONS:** 10TH EDITION (2024) AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, AND THE 2ND EDITION (2011) AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN WITH INTERNS.

STEEL, CONCRETE, REINFORCING, AND FORMING

- (3) **STRUCTURAL STEEL:** SHALL CONFORM TO ASTM A709 GRADE 60 UNLESS OTHERWISE NOTED.
- (4) **CONCRETE:** TO BE CLASS "A" (CAST-IN-PLACE) F'C = 3000 PSI EXCEPT AS NOTED OTHERWISE.
- (5) **HIGH EARLY STRENGTH CONCRETE:** THE MIX IS TO MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, CLASS X. THE CEMENT CONTENT SHALL BE A MINIMUM OF 714 LBS. THE WATER-CEMENT RATIO SHALL BE A MAXIMUM OF 0.40. DESIGN AIR CONTENT SHALL BE 6% WITH ±2% ACCEPTANCE RANGE IN THE FIELD. SLUMP SHALL BE 3±1 INCHES. IF USING A TYPE A, F, OR G WATER REDUCER, THE SLUMP SHALL BE A MAXIMUM OF 8 INCHES. NO FLY ASH REPLACEMENT WILL BE PERMITTED. THE MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 3,500 PSI. THE CONTRACTOR SHALL PROVIDE PROOF PRIOR TO BEGINNING WORK THAT THE PROPOSED CONCRETE MIX WILL OBTAIN THE REQUIRED PROPERTIES. PROOF SHALL BE PROVIDED BY AN INDEPENDENT TESTING COMPANY AND SUBMITTED TO THE MATERIALS AND TESTS DIVISION OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION FOR APPROVAL. TRAFFIC SHALL NOT BE PERMITTED BELOW ANY REPAIR AREA UNTIL TEST SPECIMENS ATTAIN A COMPRESSIVE STRENGTH OF 3,000 P.S.I. AND THE CONCRETE HAS BEEN IN PLACE A MINIMUM OF EIGHTEEN (18) HOURS.
- (6) **BRIDGE DECK SURFACE FINISH:** TO BE IN ACCORDANCE WITH METHOD 1 IN ARTICLE 604.22 OF THE STANDARD SPECIFICATIONS.
- (7) **CONCRETE CURING:** ALL CONCRETE IN REPAIR AREAS SHALL BE CURED ACCORDING TO THE STANDARD SPECIFICATIONS.
- (8) **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. 604-04.02.

MISCELLANEOUS GENERAL NOTES

- (9) **REQUIREMENTS AND RESTRICTIONS FOR PHASE CONSTRUCTION:**
 - A. A SINGLE 11 FT. TRAFFIC LANE SHALL BE MAINTAINED AT ALL TIMES.
- (10) **SHOP DRAWINGS:** REFER TO SECTION 105.02 OF THE STANDARD SPECIFICATIONS. IF USING PAPER COPIES, SHOP DRAWINGS ARE TO BE SENT TO THE BRIDGE REPAIR OFFICE IN THE DIVISION OF THE STRUCTURES, FOR ELECTRONIC SUBMITTALS, SEE SECTION 105.02 OF THE STANDARD SPECIFICATIONS. EACH SHOP DRAWING SHALL CONTAIN IN THE TITLE BLOCK THE FOLLOWING: THE STATE PROJECT NUMBER, COUNTY, BRIDGE NAME, BRIDGE NUMBER (OR STRUCTURE TYPE AND NUMBER), STATION, AND CONTRACT NUMBER. SHOP DRAWINGS WITH TITLE BLOCKS NOT INCLUDING THE FOREGOING IDENTIFICATION WILL BE RETURNED FOR CORRECTION BEFORE ANY REVIEWS FOR APPROVAL ARE CONDUCTED.

- (11) **EXPANSION JOINTS:** FOR ADDITIONAL GENERAL NOTES APPLICABLE TO STRIP SEAL EXPANSION JOINTS, SEE STANDARD DRAWING NOS. SBR-2-115 AND SBR-2-116, ALSO SEE SECTION 623 OF THE STANDARD SPECIFICATIONS.
- (12) **SPECIAL NOTE TO CONTRACTOR:** CONTRACTOR SHALL USE EXTREME CARE AND TAKE ANY MEASURES NECESSARY TO ENSURE THAT NO DEBRIS IS DROPPED INTO THE STREAM. ANY DEBRIS WHICH IS ALLOWED TO DROP ON THE BANKS BELOW THE BRIDGE SHALL NOT BE ALLOWED TO ENTER THE STREAM AND SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. COST OF REMOVAL AND DISPOSAL OF DEBRIS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OTHER ITEMS.
- (13) **DEMOLITION:** THE CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ANY PARTS OF THE STRUCTURE THAT ARE NOT TO BE REMOVED SPECIFICALLY. FOR FULL DEPTH SLAB REMOVAL, EXCEPT OVER BEAMS, THE MAXIMUM HAMMER SIZE IS 90 POUND CLASS. FOR PARTIAL DEPTH SLAB REMOVAL AND ANY WORK OVER THE BEAMS, THE MAXIMUM HAMMER SIZE IS 60 POUND CLASS; CHIPPING HAMMERS OF THE 15 POUND CLASS SHALL BE USED TO REMOVE CONCRETE FROM BENEATH ANY REINFORCING STEEL. SAWING OR CUTTING OF THE CONCRETE IS ACCEPTABLE AS LONG AS ANY SPECIFIED PROJECTION OF THE EXISTING REINFORCING STEEL IS MAINTAINED. EXPANSION JOINT REMOVAL SHALL FOLLOW THE SAME RESTRICTIONS AS FULL DEPTH SLAB REMOVAL. ALL DEVICES PROPOSED FOR CONCRETE DEMOLITION SHALL MEET THE APPROVAL OF THE ENGINEER.
- (14) THE CONTRACTOR IS NOT ALLOWED TO USE A HYDRAULIC RAM MOUNTED ON A BACKHOE (COMMONLY CALLED A HOE RAM), MINI EXCAVATOR, OR OTHER EQUIPMENT FOR ANY CONCRETE REMOVAL.
- (15) **WELDING:** SEE CURRENT EDITION OF THE AASHTO/AWS D1.5 BRIDGE WELDING CODE. CONTRACTOR IS TO SUBMIT WELDING PROCEDURE SPECIFICATIONS (BASED ON SUCCESSFUL TEST RESULTS AS RECORDED IN A PROCEDURE QUALIFICATION TEST RECORD, SEE AASHTO/AWS D1.5 SECTION 1.9 AND SECTION 7 (QUALIFICATION)) AND WELDER QUALIFICATIONS TO THE ENGINEER FOR REVIEW BEFORE WELDING WILL BE ALLOWED. WELDER QUALIFICATION SHALL INCLUDE PROOF OF CONTINUOUS WORK USING THE SPECIFIED WELDING PROCESS. WELDING PROCEDURE SPECIFICATIONS ARE NOT REQUIRED FOR TEMPORARY WELDS (STAY-IN-PLACE METAL DECK FORMS ARE CONSIDERED TEMPORARY.) THE WELDING PROCEDURE SPECIFICATIONS SHOULD BE ON SITE FOR WELDER AND INSPECTOR REVIEW. WELDING IS TO BE DONE BY QUALIFIED WELDERS. SUPERVISION OF NON-QUALIFIED WELDERS IS NOT PERMITTED. TDOT HAS THE OPTION OF HAVING THE WELDER RECERTIFIED IF QUESTIONABLE WORK IS OBSERVED. THE COST OF THIS REQUALIFICATION IS TO BE PAID FOR BY THE CONTRACTOR. WELDER QUALIFICATION POSITIONS FOR FILLET AND GROOVE WELDS: FLAT (F), HORIZONTAL (H), VERTICAL (V), OVERHEAD (OH). SEE FIG 7.4 OR FIG 7.5 IN AASHTO/AWS D1.5 FOR POSITION LIMITS.

QUALIFICATION TEST		TYPE OF WELD AND POSITION OF WELDING QUALIFIED PLATE	
		GROOVE	FILLET
WELD	1G	F	F,H
	2G	F,H	F,H
	3G	F,H,V	F,H,V
	4G	F,OH	F,H,OH
GROOVE	3G AND 4G	ALL	ALL
	1F		F
	2F		F,H
	3F		F,H,V
FILLET	4F		F,H,OH
	3F AND 4F		ALL

FROM TABLE 7.10, WELDER QUALIFICATION – TYPE AND POSITION LIMITATIONS, AASHTO/AWS D1.5

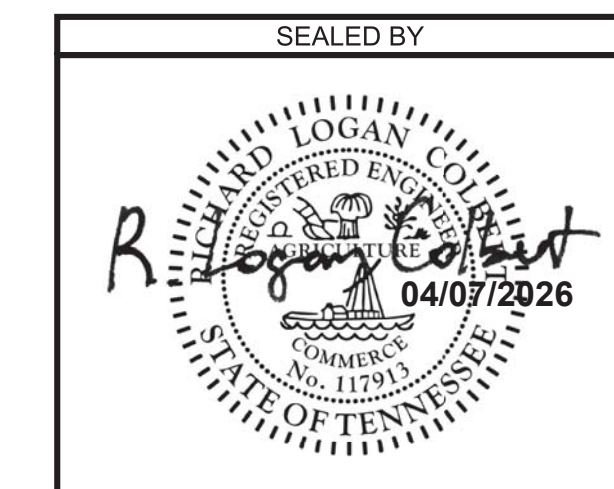
PROJECT NO.	YEAR	SHEET NO.	
73455-3512-04	2026	B2	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	01-29-2026	MEL	REMOVED ITEM 204-12
2	04-07-2026	MEL	REMOVED ITEMS 204-09.01, 204-09.02, & 604-03.25; ADDED ITEMS 604-10.55 & 709-02.02; UPDATED FOOTNOTES, SHEET NUMBER & GENERAL NOTE 1

ESTIMATED BRIDGE QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	TOTAL
① 201-05.31	VEGETATION REMOVAL	LS	1
602-10.12	BEARING DEVICE (REPAIR)	LS	1
② 603-02.01	REPAINTING EXISTING STEEL STRUCTURES (BR. NO. 73-1226-0.28)	LS	1
③ 603-05.20	CONTAINMENT & DISPOSAL OF WASTE (BR. NO. 73-1226-0.28)	LS	1
④ 604-04.02	APPLIED TEXTURE FINISH (EXISTING STRUCTURES)	S.Y.	5460
⑤ 604-10.05	CONCRETE	S.F.	197
604-10.17	NON-PENETRATING CONCRETE SEAL	S.Y.	514
⑥ 604-10.30	BRIDGE DECK REPAIRS (FULL DEPTH OF SLAB)	S.Y.	10
604-10.32	EXPANSION JOINT REPAIRS (TYPE A)	L.F.	43
604-10.42	CONCRETE REPAIRS	C.F.	3
604-10.46	EXPANSION JOINT REPAIRS (TYPE G)	L.F.	45
604-10.50	BRIDGE DECK REPAIRS (PARTIAL DEPTH OF SLAB)	S.Y.	25
⑦ 604-10.54	CONCRETE REPAIRS	S.F.	196
⑧ 604-10.55	CONCRETE (FOUNDATION REPAIRS)	C.Y.	4
604-10.63	CONCRETE REPAIRS (CRACKS)	L.F.	26
617-04.01	TYPE 1 THIN EPOXY OVERLAY (EPOXY-URETHANE)	S.Y.	3360
⑨ 709-02.02	SACKED SAND CEMENT RIPRAP	C.Y.	29

- ① INCLUDES COST OF ALL LABOR AND MATERIALS NECESSARY FOR THE REMOVAL AND DISPOSAL OF VEGETATION WITHIN 10 FEET OF THE STRUCTURE AND ANY OTHER LOCATIONS NECESSARY TO COMPLETE THE WORK, AS DIRECTED BY THE ENGINEER, WHERE POSSIBLE, STUMPS AND ROOTS ARE TO REMAIN TO PREVENT GROUND DISTURBANCE.
- ② INCLUDES ALL COSTS ASSOCIATED WITH PAINTING ALL BEARING KEEPER ANGLES AT ABUTMENT 1 (EXISTING AND NEW) AND REPAINTING ALL SPAN 7 BEARINGS AND STEEL BEAMS. SEE NOTES FOR SURFACE PREPARATION AND PAINTING STRUCTURAL STEEL ON SHEET 2A.
- ③ INCLUDES COST OF ALL LABOR AND MATERIALS NECESSARY FOR THE CONTAINMENT AND DISPOSAL OF ALL WASTE GENERATED DURING CLEANING AND PAINTING STRUCTURAL STEEL.
- ④ INCLUDES ALL COSTS ASSOCIATED WITH APPLYING TEXTURE FINISH TO INDICATED AREAS. SEE DETAILS IN PLANS. ALSO INCLUDES SURFACE PREPARATION USING A HIGH PRESSURE WATER WASH TO REMOVE ALL LOOSE COATINGS, DEBRIS, ETC., AS DIRECTED BY THE ENGINEER.
- ⑤ INCLUDES ALL LABOR AND MATERIALS NECESSARY TO PLACE HIGH EARLY STRENGTH CONCRETE FOR REPAIR OF INDICATED AREAS.
- ⑥ INCLUDES ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED FOR FULL DEPTH DECK REPAIRS IN AREAS THAT ARE MARKED FOR PARTIAL DEPTH, AND DURING REMOVAL TURN INTO FULL DEPTH.
- ⑦ INCLUDES COST OF ALL LABOR AND MATERIALS NECESSARY TO PLACE A POLYMER MODIFIED CEMENTITIOUS STRUCTURAL PATCHING MATERIAL FOR REPAIR OF INDICATED AREAS.
- ⑧ INCLUDES COST OF ALL LABOR, EQUIPMENT, AND MATERIALS (INCLUDING DIVERS) NECESSARY FOR FABRICATION, INSTALLATION, AND FILLING OF GROUT BAGS FOR REPAIR OF UNDERMINING AT PIERS 1 AND 2.
- ⑨ INCLUDES COST OF ALL LABOR, EQUIPMENT, AND MATERIALS (INCLUDING DIVERS) NECESSARY FOR THE UNDERWATER PLACEMENT OF THE SACKED SAND CEMENT RIPRAP FOR ARMORING AT PIERS 1 AND 2.

ANY DAMAGE TO VEGETATED AREAS NOT SPECIFICALLY MENTIONED WITHIN THE PROJECT SCOPE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. THESE AREAS ARE TO BE RETURNED TO THEIR PRE-CONSTRUCTION STATE AND SHALL BE DETERMINED BY THE ENGINEER. ALL COSTS (LABOR AND MATERIALS) ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN ITEMS BID ON.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
**ESTIMATED BRIDGE
QUANTITIES AND NOTES**
BRIDGE NO. 73-1226-0.28
FED. I.D. NO. 73S24010001
PANSY HILL DR. OVER EMORY RIVER
& NORFOLK SOUTHERN RAILWAY
ROANE COUNTY
2026

BR-132-762

(CONT. NEXT SHEET)

GENERAL NOTES (CONT.) 

(16) **SPECIAL NOTE CONCERNING WORK OVER A NAVIGABLE WATERWAY:** THE CONTRACTOR SHALL COMPLY FULLY WITH ANY REQUIREMENTS ESTABLISHED BY THE CORPS OF ENGINEERS, U.S. COAST GUARD, AND ANY OTHER AGENCIES WHICH MAY HAVE JURISDICTION RELATIVE TO CONSTRUCTION WORK OVER A NAVIGABLE STREAM WHICH IS APPLICABLE TO THIS CONTRACT, AND WHICH MAY NOT BE COVERED BY EXISTING PERMITS. THE CONTRACTOR SHALL ALSO NOTIFY THE CORPS OF ENGINEERS INFORMING THEM OF WORK TO BE PERFORMED BEFORE ANY WORK OVER THE WATERWAY BEGINS. THE CONTRACTOR SHALL SUBMIT A DESCRIPTION OF WORK AND SKETCHES OF ANY FALSEWORK, SCAFFOLDING, DEBRIS CONTAINMENT SYSTEMS, ETC. WHICH MAY BE REQUIRED DURING CONSTRUCTION WHICH MAY ENCROACH UPON THE VERTICAL AND/OR HORIZONTAL CLEARANCES FOR WATERWAY TRAFFIC TO THE U.S. COAST GUARD FOR APPROVAL BEFORE ANY WORK BEGINS.

CONTACT: ERIC WASHBURN
U.S. COAST GUARD
BRIDGE ADMINISTRATOR
1222 SPRUCE STREET
ST. LOUIS, MO 63103-2832

(17) **SPECIAL NOTE 2 CONCERNING WORK OVER A NAVIGABLE WATERWAY:** ALL EQUIPMENT IS WELL LIT WITH PROPER COAST GUARD COMPLIANT LIGHTING IF EQUIPMENT IS BEING MOORED ON SITE OVERNIGHT.

(18) **SPECIAL NOTE 3 CONCERNING WORK OVER A NAVIGABLE WATERWAY:** AT LEAST 30 DAYS PRIOR TO ANY WORK BEGINNING, SUBMIT THE JOB DETAILS IN THE ATTACHED FORM SO THAT WE CAN ISSUE A NOTICE TO NAVIGATION INTERESTS TO LET THE PUBLIC KNOW THIS WILL BE OCCURRING IN THE RIVER.

(19) **QUICK-SET PATCHING MATERIAL:** QUICK-SET PATCHING MATERIAL SHALL BE A POLYMER MODIFIED CEMENTITIOUS PATCHING MATERIAL. SEE TDOT QUALIFIED PRODUCTS LIST 13.009 POLY MOD CEMENT STRUCT PATCH VERT & OVER FOR ACCEPTABLE PATCHING MATERIALS.

PAINTING STEEL NOTES

(20) **BLAST CLEANING:** SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION 603.05(B), EXCEPT AS MODIFIED BY THIS NOTE. ALL STRUCTURAL STEEL SHALL BE BLAST CLEANED. THE BLAST CLEANING SHALL REMOVE ALL EXISTING FINISH COAT. THE TIGHTLY ADHERING EXISTING INORGANIC ZINC PRIMER COAT MAY REMAIN.

(21) **PAINTING:** THE SYSTEM SHALL BE SYSTEM "B" (QPL 3.005) IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. COLOR OF THE FINISH COAT SHALL COMPLY WITH AMS-STD-595A, AND SHALL BE SIMILAR TO MOUNTAIN GREY. SEE SECTIONS 603 AND 901 OF THE STANDARD SPECIFICATIONS.

(22) **APPLICATION:** THE COATING APPLICATOR SHALL FOLLOW THE MANUFACTURER'S PRINTED INSTRUCTIONS AND SHALL HAVE THESE INSTRUCTIONS ON SITE DURING THE COURSE OF THE WORK.

(23) **CONTAINMENT AND DISPOSAL:** ACCORDING TO OUR RECORDS, THE EXISTING PAINT SYSTEM CONTAINS AN INORGANIC ZINC PRIMER AND URETHANE TOP COAT. THE CONTRACTOR SHALL CONTAIN AND DISPOSE OF ALL PAINT REMOVAL WASTE IN ACCORDANCE WITH SECTION 603.13 OF THE STANDARD SPECIFICATIONS.

RAILROAD NOTES

(1) THE CONTRACTOR SHALL CONDUCT HIS WORK SO AS TO PROTECT THE RAILROAD'S TRACKS AND PROPERTIES FROM ANY DAMAGE. THE WORK SHALL BE DONE IN ACCORDANCE WITH REGULATIONS STIPULATED BY NORFOLK SOUTHERN RAILWAY AS TO MAINTAIN CLEARANCE AND NOT INTERRUPT TRAFFIC IN ANY MANNER.

(2) FOR A GENERAL LIST OF ANTICIPATED CONSTRUCTION SUBMISSIONS, PLEASE REVIEW SECTION 6.A.2 OF THE NORFOLK SOUTHERN SPECIAL PROVISIONS FOR PROTECTION OF RAILWAYS INTERESTS. A LIST OF REQUIRED SUBMISSIONS WILL BE PROVIDED AT THE PRECONSTRUCTION MEETING.

(3) THE CONTRACTOR SHALL USE EXTREME CARE AND TAKE ANY MEASURES NECESSARY TO PREVENT DEBRIS FROM FALLING ONTO THE RAILROAD'S RIGHT-OF-WAY. THE METHOD PROPOSED TO ACCOMPLISH THIS MUST BE SUBMITTED TO NORFOLK SOUTHERN FOR REVIEW AND APPROVAL PRIOR TO USE AND MUST NOT INFRINGE ON THE VERTICAL AND/OR HORIZONTAL CLEARANCES IN THESE PLANS. THE TEMPORARY MINIMUM VERTICAL AND HORIZONTAL CONSTRUCTION CLEARANCES THAT THE CONTRACTOR MUST MEET AT ALL TIMES ARE LISTED IN SECTION 5.A OF THE NORFOLK SOUTHERN SPECIAL PROVISIONS FOR PROTECTION OF RAILWAYS INTERESTS, WHICH CRITERIA ARE INCLUDED IN THE SPECIAL PROVISION 105C. NORFOLK SOUTHERN CORPORATION WILL NOT ALLOW TRACK OR TRACKS TO BE OBSTRUCTED WITH AT GRADE CRANE MAT PROTECTION. COMPLETE AND FULL ENCLOSURE OF STRUCTURE DEMOLITION WITHIN ALLOWABLE CLEARANCES WILL BE REQUIRED. THE COST OF REMOVING AND DISPOSING OF DEBRIS, AND THE COMPLETE AND FULL PROTECTION OF THE CONTRACTOR'S WORK AREA FOR DEMOLITION SHALL BE INCLUDED IN UNIT ITEMS BID ON.

(4) CONTRACTOR PROTECTIVE SERVICES SHALL BE ONSITE ANYTIME CONSTRUCTION ACTIVITIES ARE TAKING PLACE ON OR ADJACENT TO THE RAILROAD PROPERTY AND/OR HAVE THE POTENTIAL TO FOUL THE RAILROAD'S TRACK OR OPERATIONS. SEE SECTION 8 OF THE NORFOLK SOUTHERN SPECIAL PROVISIONS FOR PROTECTION OF RAILWAYS INTERESTS – DIRECT HIRE FOR ADDITIONAL CLARIFICATIONS AND REQUIREMENTS REGARDING CONTRACTOR PROTECTION SERVICES.

(5) NO DRAINAGE, TEMPORARY OR PERMANENT, MAY BE DIVERTED ON TO NORFOLK SOUTHERN PROPERTY. HOWEVER, EXISTING DRAINS MAY REMAIN WITHOUT MODIFICATIONS.

(6) PER SECTION H.1.5.J OF THE NORFOLK SOUTHERN PUBLIC PROJECTS MANUAL, NO DRAINAGE IS PERMITTED TO DRAIN ON RAILROAD PROPERTY. THIS INCLUDES ANY WASH WATER FROM THE CLEANING OF EXPOSED CONCRETE SURFACES.

(7) ALL WORK ON, OVER, UNDER, OR ADJACENT TO NORFOLK SOUTHERN (NS) RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH THE NORFOLK SOUTHERN "SPECIAL PROVISIONS FOR THE PROTECTION OF RAILWAY INTERESTS" (NS SPECIAL PROVISIONS).

(8) THE CONTRACTOR WILL NOT BE PERMITTED TO STORE ANY EQUIPMENT ON NORFOLK SOUTHERN PROPERTY WITHOUT PERMISSION FROM THE NORFOLK SOUTHERN RAILROAD ENGINEER IN ACCORDANCE WITH SECTION E.5.K.1 OF THE NORFOLK SOUTHERN PUBLIC PROJECTS MANUAL.


(9) "ONE CALL" SERVICES DO NOT LOCATE BURIED RAILROAD SIGNAL AND COMMUNICATIONS LINES. THE CONTRACTOR SHALL CONTACT THE RAILROAD'S REPRESENTATIVE TWO (2) DAYS IN ADVANCE OF THOSE PLACES WHERE EXCAVATION, PILE DRIVING, OR HEAVY LOADS MAY DAMAGE RAILROAD UNDERGROUND LINES ON RAILROAD PROPERTY. UPON REQUEST FROM THE CONTRACTOR OR AGENCY, RAILROAD SIGNAL FORCES WILL LOCATE AND PAINT MARK OR FLAG RAILROAD UNDERGROUND SIGNAL, COMMUNICATION, AND POWER LINED IN THE AREA TO BE DISTURBED FOR THE CONTRACTOR. THE CONTRACTOR SHALL AVOID EXCAVATION OR DISTURBANCE OF THESE LINES WHICH ARE CRITICAL TO THE SAFETY OF THE RAILROAD AND THE PUBLIC. IF DISTURBANCE OR EXCAVATION IS REQUIRED NEAR A BURIED RAILROAD SIGNAL, COMMUNICATION, OR POWER LINE, THE LINE SHALL BE POTHOLED MANUALLY WITH CAREFUL HAND EXCAVATION BUT THE CONTRACTOR AND PROTECTED BY THE CONTRACTOR DURING THE COURSE OF THE DISTURBANCE UNDER THE SUPERVISION AND DIRECTION OF A RAILROAD SIGNAL REPRESENTATIVE.

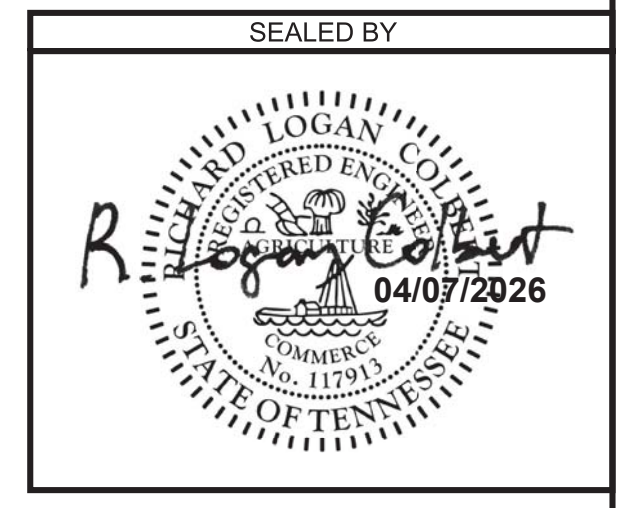
(10) ALL UTILITY INSTALLATIONS OR RELOCATIONS THAT ARE REQUIRED IN CONJUNCTION WITH THIS PROJECT CAN BE INSTALLED OR RELOCATED AS PART OF THE PROJECT PROVIDED THE CONSTRUCTION IS PERFORMED BY THE PROJECT CONTRACTOR OR PROJECT CONTRACTOR'S SUB-CONTRACTOR. HOWEVER, THE UTILITY MUST SUBMIT AN APPLICATION FOR THE -INSTALLATION- OR RELOCATION TO NORFOLK SOUTHERN PIPE AND WIRE FOR APPROPRIATE HANDLING FOR LICENSE AGREEMENT AND APPLICABLE FEES. FOR UTILITY APPLICATIONS GO TO: [HTTP://WWW.NSCORP.COM/CONTENT/NSCORP/EN/REAL-ESTATE/NORFOLK-SOUTHERN-SERVICES/WIRE-PIPELINE-FIBER-OPTIC-PROJECTS.HTML](http://www.nscorp.com/content/nscorp/en/real-estate/norfolk-southern-services/wire-pipeline-fiber-optic-projects.html). NOTE: LICENSE AGREEMENT MUST BE EXECUTED PRIOR TO UTILITY BEING INSTALLED OR RELOCATED.

(11) NORFOLK SOUTHERN CORPORATION CONTACT:

SHAWN STARLING, P.E.
SENIOR ENGINEER PUBLIC IMPROVEMENTS
NORFOLK SOUTHERN RAILWAY COMPANY
ENGINEERING – DESIGN & CONSTRUCTION
650 WEST PEACHTREE STREET NW – BOX 45
ATLANTA, GA 30308
PHONE: (470) 463-6721
EMAIL: DOUGLAS.STARLING@NSCORP.COM


PAUL A ANDERSON, DIVISION ENGINEER
1400 NORFOLK SOUTHERN DRIVE
BIRMINGHAM, AL 35210
PHONE: (304) 266-1558
EMAIL: PAUL.ANDERSON@NSCORP.COM

PROJECT NO.	YEAR	SHEET NO. 	
73455-3512-04	2026	B3	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	04-07-2026	MEL	UPDATED NOTES & SHEET NUMBER



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ESTIMATED BRIDGE
QUANTITIES AND NOTES
BRIDGE NO. 73-1226-0.28
FED. I.D. NO. 73S24010001
PANSY HILL DR. OVER EMORY RIVER
& NORFOLK SOUTHERN RAILWAY
ROANE COUNTY
2026

BR-132-763


PIN NO.: 124518.00
DESIGN BY: R.L. COLBERT DATE: 11/2025
DRAWN BY: M.D. SIMPSON DATE: 11/2025
SUPERVISED BY: G.S. WILSON DATE: 11/2025
CHECKED BY: R.L. COLBERT DATE: 11/2025

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THIN EPOXY OVERLAY NOTES

THE TOP OF THE NEW OVERLAY SHALL CONFORM TO THE EXISTING CROSS SLOPE AND GRADE OF THE EXISTING BRIDGE.

TYPE 1 THIN EPOXY OVERLAY SYSTEM - USE DECK PRETREATMENT/PRIMER PER MANUFACTURER'S RECOMMENDATION, AND 2 LIFTS OF AN EPOXY-URETHANE COPOLYMER AND AGGREGATE. TYPE 1 OVERLAY SHALL BE APPLIED MECHANICALLY USING METEDED EQUIPMENT; HAND MIXING OF MATERIAL IS NOT PERMITTED. THIN OVERLAY SYSTEM SHALL BE FROM THE QUALIFIED PRODUCTS LIST 23.005 TYPE 1 THIN OVERLAY (EPOXY URETHANE). MINIMUM OVERLAY THICKNESS SHALL BE 3/8".

APPLICATION EQUIPMENT SHOULD:

- A) BE CAPABLE OF METERING, MIXING AND DISTRIBUTING THE POLYMER AND PRETREATMENT TO MANUFACTURER'S RECOMMENDATION.
- B) USE AN APPLICATION MACHINE THAT FEATURES POSITIVE DISPLACEMENT VOLUMETRIC METERING PUMPS CONTROLLED BY A HYDRAULIC POWER UNIT.
- C) STORE COMPONENTS IN TEMPERATURE CONTROLLED RESERVOIRS CAPABLE OF MAINTAINING 100 DEGREES FAHRENHEIT (PLUS OR MINUS 10 DEGREES) TO INSURE OPTIMAL MIXING.
- D) CHECK MIXING RATIO AT THE PUMP OUTLETS AS WELL AS CYCLE COUNTING CAPABILITIES TO MONITOR OUTPUT ON STANDARD FEATURES.
- E) USE MOTIONLESS IN-LINE MIXING SO AS TO NOT OVERLY SHEAR THE MATERIAL TO ENTRAP AIR IN THE MIX.
- F) MAXIMIZE MATERIAL WORKING TIME BY MIXING IT IMMEDIATELY BEFORE DISPENSING.

AGGREGATE SHALL BE ANGULAR, HAVING LESS THAN 0.2% MOISTURE AND FREE OF DIRT, CLAY, ASPHALT AND OTHER FOREIGN OR ORGANIC MATERIALS. AGGREGATE FOR ALL LAYERS SHALL BE BAUXITE OR FLINT ROCK PRODUCTS FLINT, AND MEET THE FOLLOWING GRADATION:

SIEVE SIZE	% PASSING
NO. 6	95-100
NO. 10	10-35
NO. 20	0-3

FULL AND PARTIAL DEPTH DECK AND PABE REPAIR SHALL CURE A MINIMUM OF 28 DAYS BEFORE THE OVERLAY IS PLACED. THE 28 DAYS MAY BE WAIVED IF THE OVERLAY MANUFACTURER PROVIDES A METHOD OF TESTING THE REPAIRED AREAS AND APPROVES THE PLACEMENT BY LETTER. TRAFFIC SHALL BE ALLOWED TO USE THE BRIDGE DURING THE CURING PERIOD OF THE PATCHES BUT NOT AFTER SHOTBLASTING. MAGNESIUM PHOSPHATE BASED MATERIALS WILL NOT BE ALLOWED.

THE CONCRETE DECK AND PABE SURFACES SHALL BE CLEANED BY SHOTBLASTING TO REMOVE ANY OIL, DIRT, RUBBER, TRAFFIC STRIPING, OR ANY OTHER POTENTIAL DETRIMENTAL MATERIAL SUCH AS CURING COMPOUND AND LAITANCES, WHICH THE MANUFACTURER AND ENGINEER'S OPINION WOULD PREVENT PROPER BONDING AND CURING OF THE MATERIAL. IN AREAS WHERE SHOTBLASTING EQUIPMENT CAN NOT REACH (I.E., ALONG CURBS AND BRIDGE RAILS) SANDBLASTING IS PERMITTED TO AN EXTENT TO THE ENGINEER'S AND MANUFACTURER'S APPROVAL. IMMEDIATELY BEFORE APPLICATION, ALL PREPARED SURFACES SHALL BE CLEANED WITH COMPRESSED AIR OR VACUUMED TO REMOVE DUST AND DEBRIS.

THE CONTRACTOR IS TO PREVENT THE TRACKING OF TACKCOAT AND CONSTRUCTION DEBRIS ACROSS THE BRIDGE DECK AND PABE PRIOR TO APPLICATION OF THE THIN EPOXY OVERLAY. MILLING THE BRIDGE DECK AND PABE WILL NOT BE AN OPTION FOR TACKCOAT OR DEBRIS REMOVAL.

ALL SURFACES THAT ARE TREATED SHALL BE DRY AT THE TIME OF APPLICATION. THE OVERLAY SHALL NOT BE APPLIED WHEN IT HAS RAINED 24 HOURS PRIOR TO, OR RAIN IS FORECAST WITHIN 8 HOURS AFTER, APPLICATION. THE MOISTURE CONTENT IN THE DECK SUBSTRATE SHALL BE TESTED. MOISTURE IS NOT TO EXCEED 4.5 PERCENT WHEN MEASURED BY ELECTRONIC METER. IF THE TEST SHOWS EXCESS MOISTURE, THE DECK AND PABE SHALL CONTINUE TO DRY BEFORE APPLICATION PROCEEDS.

BLUSHING (A WAXY SURFACE COATING ON THE EPOXY) IS CAUSED BY THE REACTION OF MOISTURE WITH THE HARDENING AGENT. BLUSHING CREATES A SURFACE THAT MAKES FUTURE LAYERS DIFFICULT TO ADHERE. LIFTS THAT SHOW SIGNS OF BLUSHING SHALL BE REMOVED AND REPLACED PRIOR TO APPLICATION OF THE NEXT. THE COST TO REMOVE AND REPLACE THESE AREAS SHALL BE AT THE CONTRACTOR'S EXPENSE.

TRAFFIC, OTHER THAN APPLICATION EQUIPMENT, SHALL NOT BE ALLOWED ON ANY PORTION OF THE DECK OR PABE THAT HAS BEEN SHOTBLASTED OR WHERE PART OF THE APPLICATION HAS BEEN PLACED.

SEE MANUFACTURER'S RECOMMENDATIONS FOR REQUIRED AMBIENT AND SURFACE TEMPERATURES AND HUMIDITY LIMITS FOR APPLICATION.

THE MANUFACTURER SHALL HAVE A REPRESENTATIVE ON THE JOB SITE AT ALL TIMES DURING APPLICATION AND CURE TIME. THE REPRESENTATIVE, ALONG WITH CONSULTATION WITH ENGINEER, MAY SUSPEND ANY ITEM OF WORK THAT IS SUSPECT AND DOES NOT MEET THE REQUIREMENTS OF THE SPECIFICATIONS. WORK SHALL NOT RESUME UNTIL THE ENGINEER AND REPRESENTATIVE ARE SATISFIED THAT APPROPRIATE REMEDIAL ACTION HAS BEEN TAKEN BY THE CONTRACTOR.

ALL COSTS FOR AGGREGATE, EPOXY FOR MINIMUM OF TWO LIFTS, SURFACE PREPARATION, LABOR AND ANY OTHER MISCELLANEOUS MATERIALS REQUIRED TO PLACE THIN OVERLAY SHALL BE INCLUDED IN ITEM NO. 617-04.01, TYPE 1 THIN EPOXY OVERLAY (EPOXY URETHANE), SY.

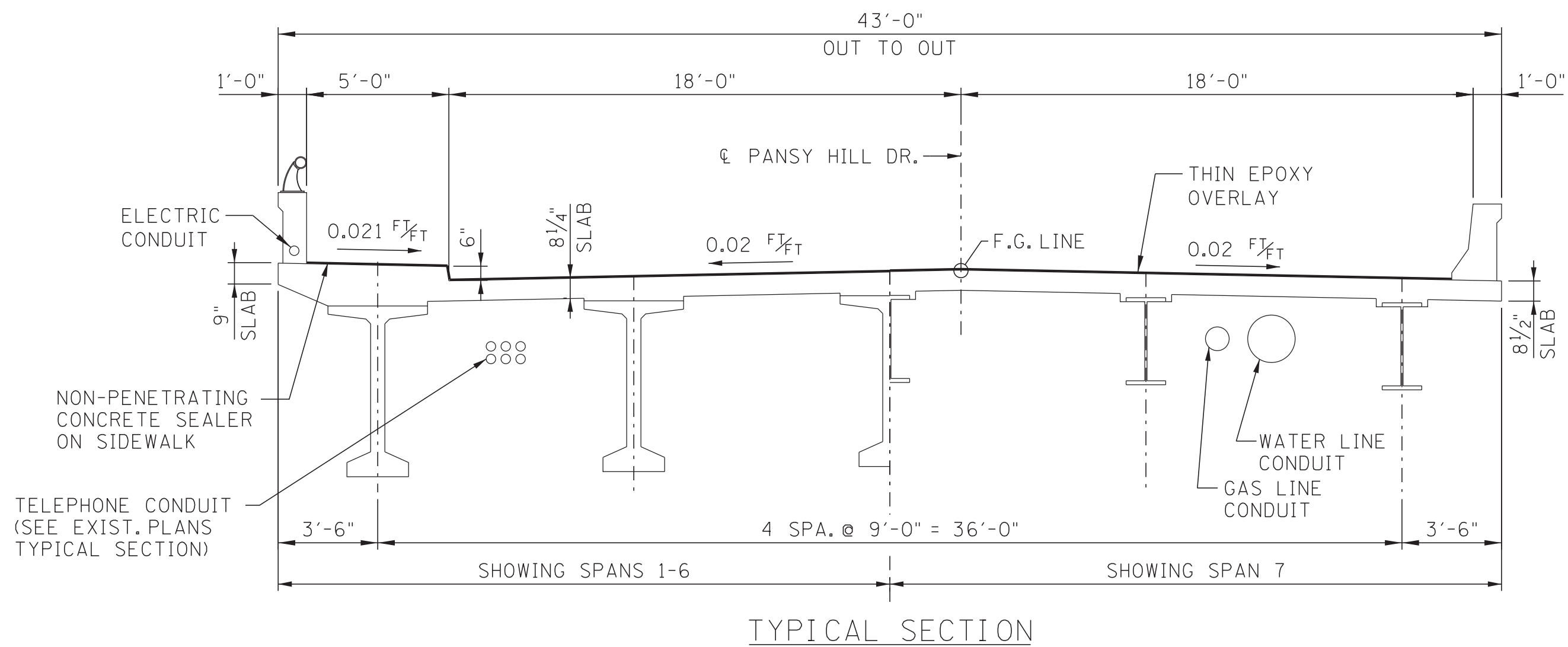
THICKNESS VERIFICATION: THE PROJECT ENGINEER SHALL BE NOTIFIED OF THE NUMBER OF GALLONS USED ON THE PROJECT WITH NOTARIZED QUANTITY STATEMENTS FROM THE CONTRACTOR AND THE MANUFACTURER. THE CONTRACTOR SHALL VERIFY TO TDOT THAT THE OVERLAY IS AN AVERAGE OF AT LEAST 3/8" THICK AT THREE RANDOM LOCATIONS AGREED UPON BY THE PROJECT ENGINEER AND THE MATERIAL MANUFACTURER REPRESENTATIVE. IF 3/8" AVERAGE IS NOT ACHIEVED, A RETEST SHALL BE PERFORMED IN ADJOINING AREAS. THIN AREAS SHALL BE RE-COATED AS DESCRIBED ABOVE BY THE CONTRACTOR AND RE-VERIFIED AT NO ADDITIONAL COST TO TDOT. THIS VERIFICATION MAY CONSIST OF CORES, HOLES, ETC., BUT IN ALL CASES, ANY DESTRUCTIVELY TESTED AREAS SHALL BE REPAIRED BY THE CONTRACTOR BEFORE FINAL ACCEPTANCE BY THE PROJECT ENGINEER.



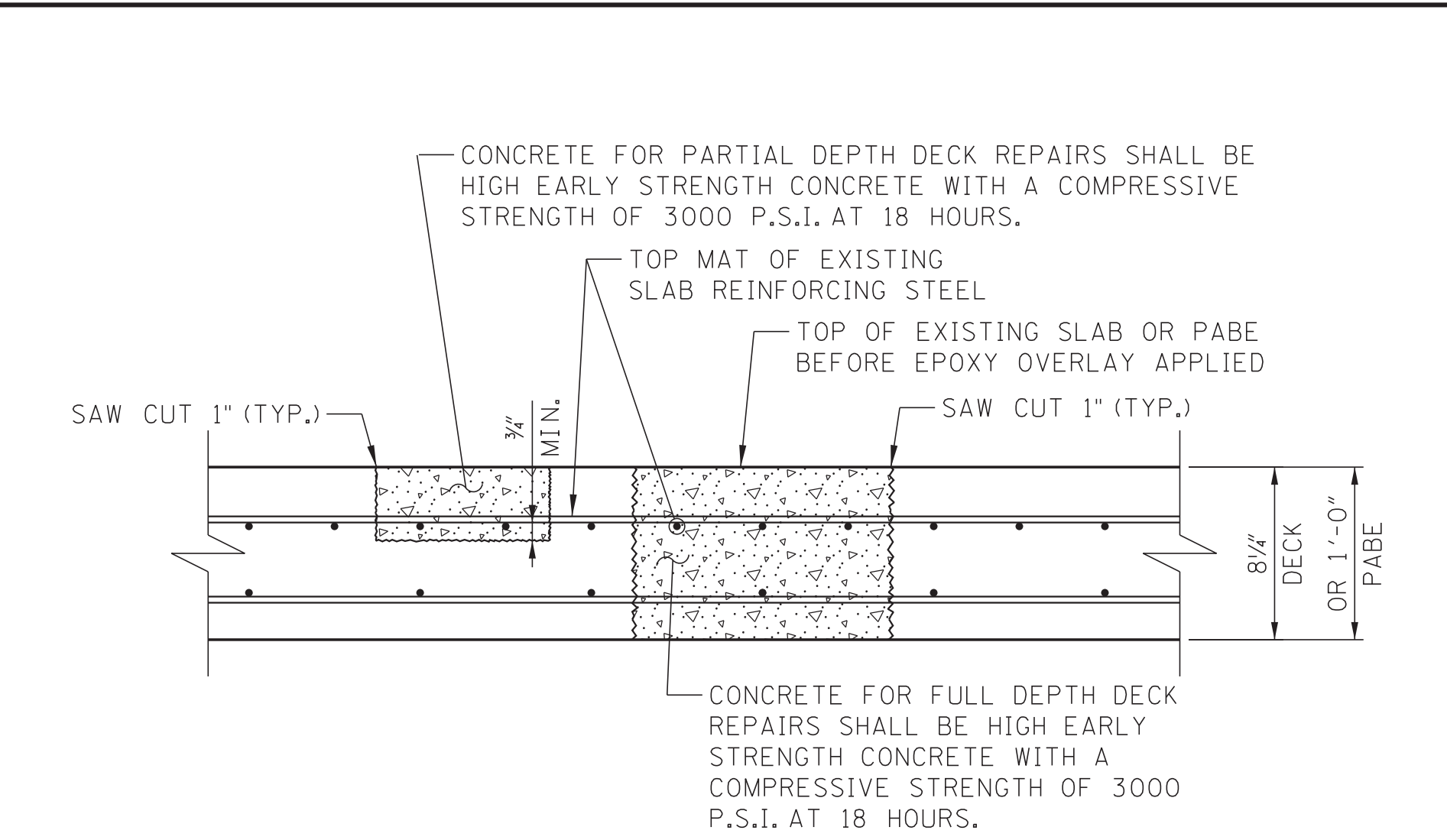
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SUPERVISED BY:	G.S. WILSON	DATE:	11/2025
CHECKED BY:	R.L. COLBERT	DATE:	11/2025

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PROJECT NO.	YEAR	SHEET NO.	
73455-3512-04	2026	B4	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	04-07-2026	MEL	UPDATED SHEET NUMBER



DETAIL SHOWING FULL AND PARTIAL DEPTH DECK AND PABE REPAIR

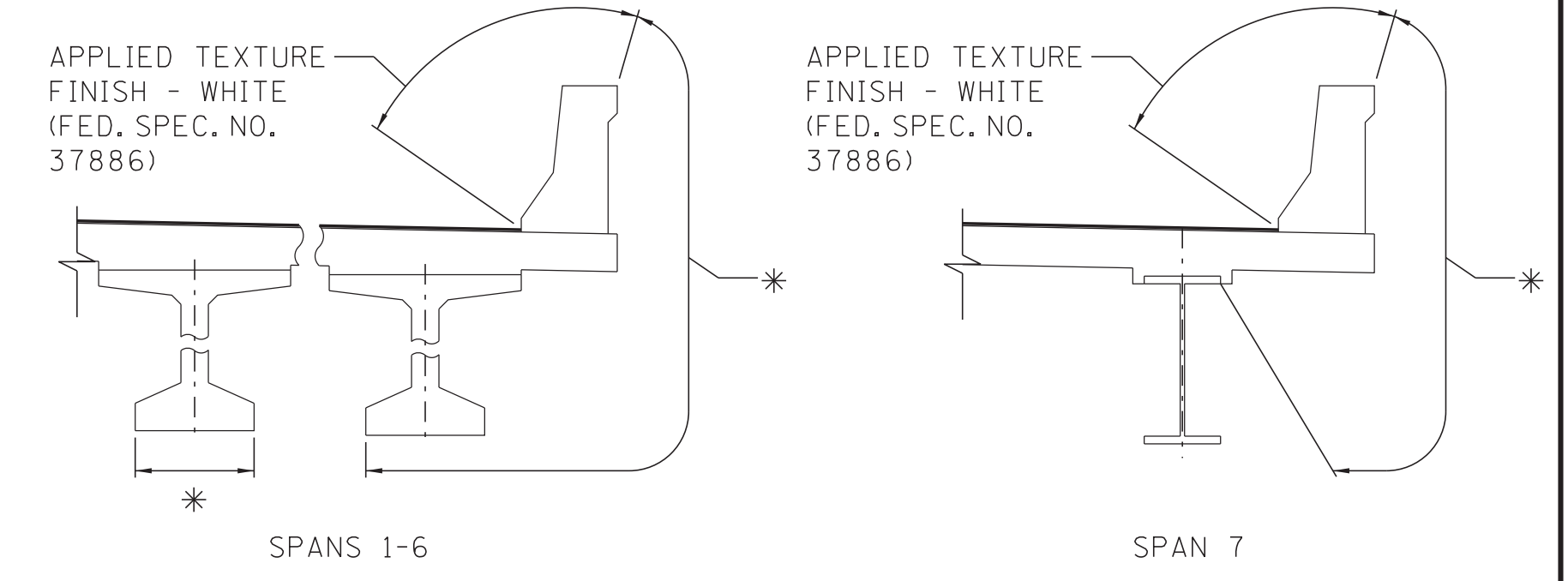
REMOVE CONCRETE IN ALL DELAMINATED AREAS TO A DEPTH OF 3/4" BELOW THE TOP BAR OF THE TOP MAT OF REINFORCING STEEL. ALL REINFORCING STEEL IN AREAS OF REPAIR SHALL BE COMPLETELY CLEANED. AREAS OF CONCRETE REMOVAL SHALL BE DESIGNATED BY PERSONNEL FROM HEADQUARTERS, BRIDGE INSPECTION AND REPAIR OFFICE. INSPECTIONS TO DETERMINE AREAS OF DECK REPAIR SHALL BE SCHEDULED WITH THE BRIDGE REPAIR OFFICE AT LEAST THREE (3) DAYS IN ADVANCE. DECK AND PABE REPAIR WILL BE PAID FOR UNDER ITEM NO. 604-10.50, BRIDGE DECK REPAIR (PARTIAL DEPTH OF SLAB), OR ITEM NO. 604-10.30, BRIDGE DECK REPAIR (FULL DEPTH OF SLAB), DURING PARTIAL DEPTH REPAIRS, SHOULD DETERIORATED CONCRETE BE ENCOUNTERED WHICH APPEARS TO RUN FULL DEPTH IN THE SLAB, THE ENGINEER MAY DESIGNATE THESE AREAS TO BE REPAIRED UNDER ITEM NO. 604-10.30. POWER DRIVEN HAND TOOLS USED FOR THE REMOVAL OF UNSOUND CONCRETE IN MAKING FULL AND PARTIAL DEPTH REPAIRS ARE SUBJECT TO THE FOLLOWING RESTRICTIONS:

1. PARTIAL DEPTH REPAIRS AND ANY WORK OVER BEAMS - PNEUMATIC HAMMERS HEAVIER THAN NOMINAL 60-POUND CLASS SHALL NOT BE USED.
2. FULL DEPTH REPAIRS, EXCEPT OVER BEAMS - PNEUMATIC HAMMERS HEAVIER THAN A 90-POUND CLASS SHALL NOT BE USED.
3. CHIPPING HAMMERS OF THE 15-POUND CLASS SHALL BE USED TO REMOVE CONCRETE FROM BENEATH ANY REINFORCING STEEL.

WHEN REMOVING DECK CONCRETE, CARE SHALL BE TAKEN TO AVOID DAMAGING ANY REINFORCING STEEL. REINFORCING STEEL EXPOSED DURING CONCRETE REMOVAL SHALL BE CLEANED AND MAINTAINED, AND THE COST IS TO BE INCLUDED IN OTHER ITEMS BID ON. ANY DAMAGE TO EXISTING REINFORCING STEEL DURING CONCRETE REMOVAL SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.

DURING DECK REPAIRS, ANY EXISTING REINFORCING STEEL EXHIBITING MORE THAN 20 PERCENT SECTION LOSS SHALL BE REPAIRED. EITHER NEW IN-KIND REINFORCING STEEL SHALL BE SPLICED TO THE EXISTING BARS OR THE BARS SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. THE COST OF ANY NEW REINFORCING STEEL REQUIRED TO COMPLETE THE DECK REPAIRS SHALL BE INCLUDED IN OTHER ITEMS BID ON.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING REPAIRS. EXTENSIVE AREAS OF FULL DEPTH REPAIR WILL REQUIRE A SUPPORT SYSTEM FOR THE BEAM, AND DETAILS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.



APPLIED TEXTURE FINISH DETAILS
* APPLIED TEXTURE FINISH - MOUNTAIN GRAY (FED. SPEC. NO. 36440)

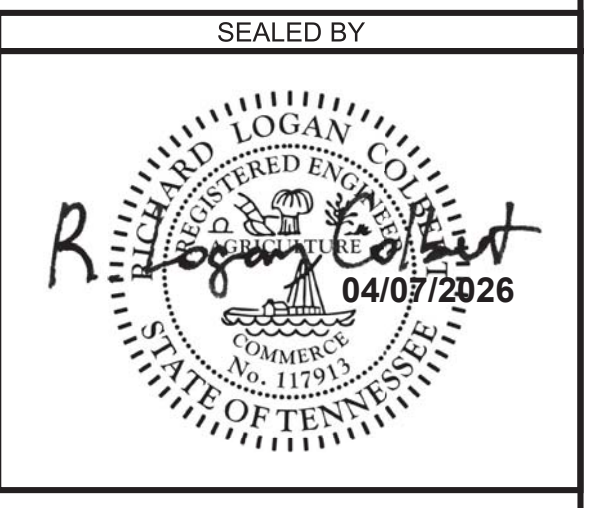
COST OF TEXTURE COATING SHALL BE INCLUDED IN ITEM NO. 604-04.02.

IN ADDITION TO SURFACES SHOWN, BOTTOM FACE OF ALL PRESTRESSED CONCRETE BEAMS IN SPANS 1-6 AND ALL EXPOSED CONCRETE SURFACES ON THE PIERS AND ABUTMENTS ARE TO RECEIVE AN APPLIED TEXTURE FINISH, MOUNTAIN GRAY, (FED. SPEC. NO. 36440).

THE CONTRACTOR SHALL USE CONTAINMENT SCREENS OR OTHER MEASURES AS NECESSARY TO PREVENT ANY TEXTURE COATING FROM ENTERING THE ENVIRONMENT. CONTAINMENT MEASURES SHALL BE APPROVED BY THE ENGINEER, AND COST SHALL BE INCLUDED IN ITEMS BID ON.

THE EXISTING SURFACES THAT ARE TO RECEIVE A TEXTURE FINISH SHALL BE FREE OF ALL FLAKING TEXTURE COATING, RUST, DIRT, OIL, AND OTHER FOREIGN SUBSTANCES PRIOR TO THE APPLICATION OF THE TEXTURE FINISH. THE SURFACE SHALL BE CLEANED TO THE COMPLETE SATISFACTION OF THE ENGINEER USING A HIGH PRESSURE WATER WASH. COST TO BE INCLUDED IN ITEM NO. 604-04.02.

THE WASH WATER IS TO BE FILTERED AND PAINT CHIPS AND DEBRIS COLLECTED PRIOR TO RELEASE OF WATER.

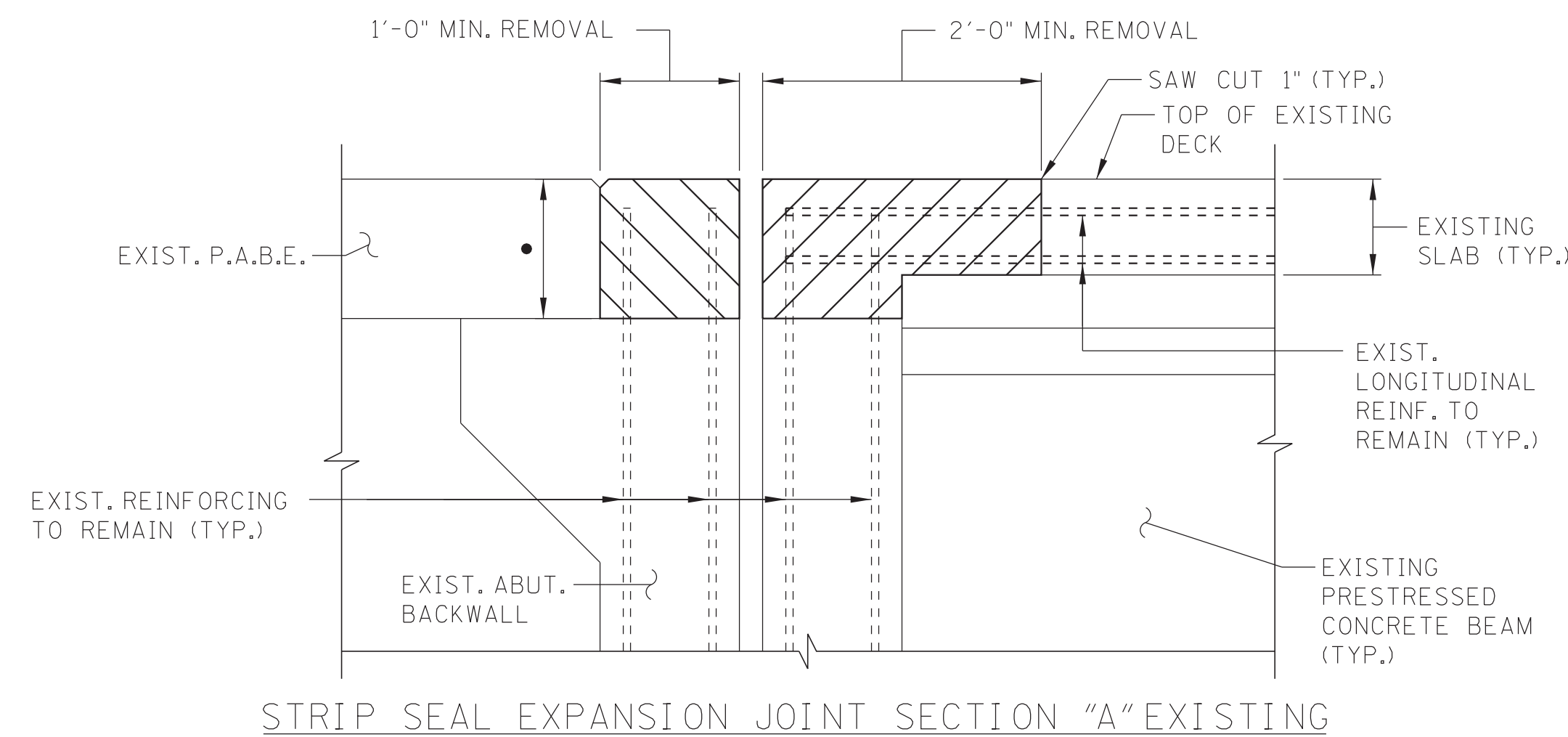


STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

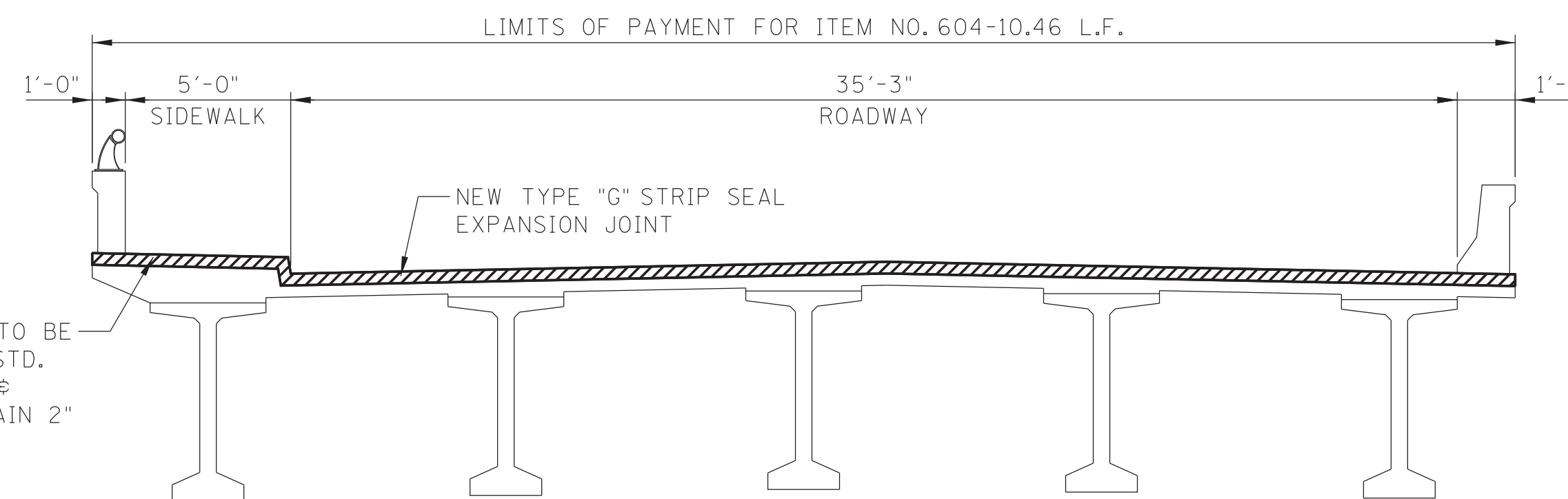
SUPERSTRUCTURE REPAIR DETAILS
BRIDGE NO. 73-1226-0.28
FED. I.D. NO. 73S24010001
PANSY HILL DR. OVER EMORY RIVER
& NORFOLK SOUTHERN RAILWAY
ROANE COUNTY
2026

BR-132-764

PROJECT NO.	YEAR	SHEET NO.	
73455-3512-04	2026	B5	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	04-07-2026	MEL	UPDATED SHEET NUMBER



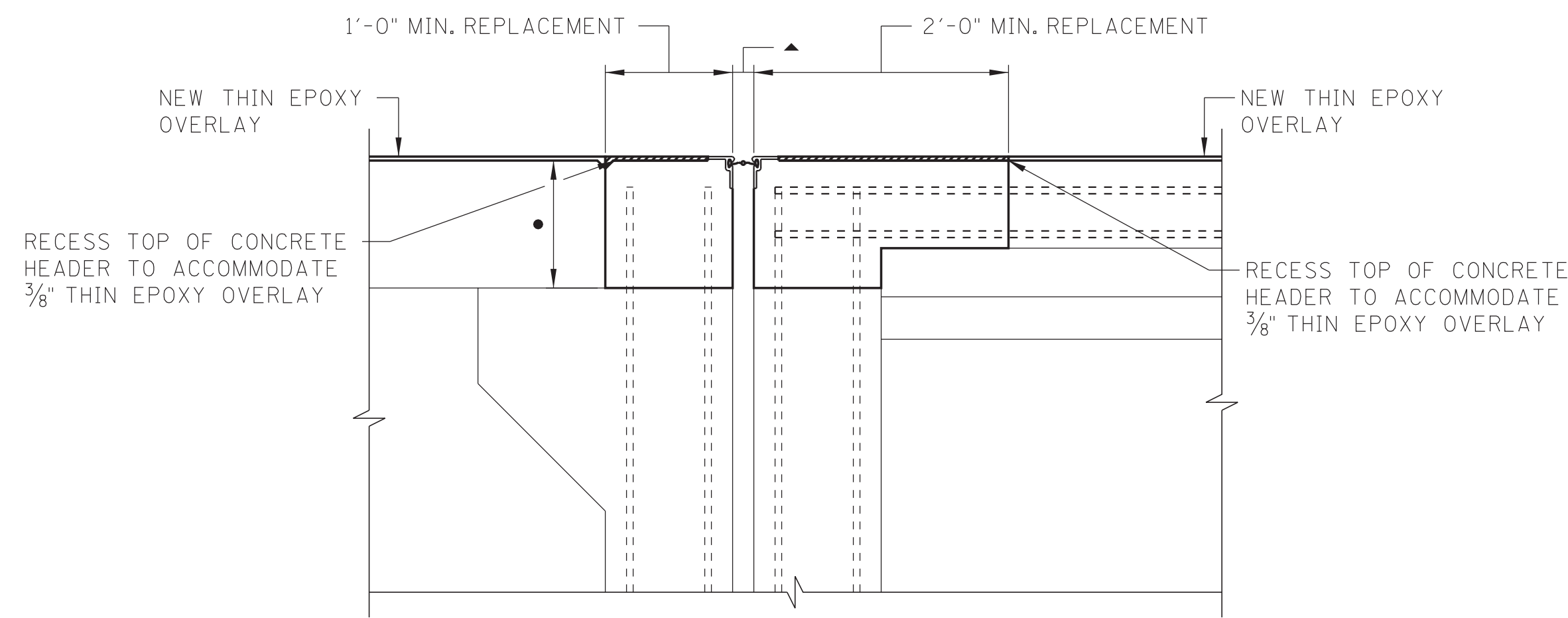
STRIP SEAL EXPANSION JOINT SECTION "A" EXISTING



CROSS SECTION SHOWING LIMITS OF NEW TYPE "E" STRIP SEAL EXPANSION JOINT

(LOCATED AT ABUT 1) (DIMENSIONS SHOWN PERPENDICULAR TO BRIDGE)

COST OF ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO REPLACE EXISTING SIDEWALK JOINT AT ABUTMENT NO. 1 TO BE INCLUDED IN ITEM NO. 604-10.46, EXPANSION JOINT REPAIRS (TYPE G), L.F.



STRIP SEAL EXPANSION JOINT SECTION "A" PROPOSED

(LOCATED AT ABUT 1) ITEM NO. 604-10.46, EXPANSION JOINT REPAIRS (TYPE G), L.F.

SHOWING PORTIONS OF BACKWALL, HEADER, DIAPHRAGM, AND SLAB TO BE REPLACED FOR CONSTRUCTION OF NEW STRIP SEAL JOINT.

▲ DENOTES: SET EXPANSION JOINT OPENING 2" AT 60°F. (ACTUAL SETTING AS PER TEMPERATURE CHART ON EXPANSION JOINT SHOP DRAWINGS.)

• 1'-0" MIN. LIMITS OF EXISTING CONCRETE ABUTMENT BACKWALL REMOVAL AND REPLACEMENT. SEE TYPICAL SECTION AT ABUTMENT BACKWALL (TYPE "G") ON STD. DWG. SBR-2-120 AND REFERENCE DRAWINGS FOR DETAILS NOT SHOWN.

NEW CONCRETE HEADERS SHALL BE HIGH EARLY STRENGTH CONCRETE WITH A COMPRESSIVE STRENGTH OF 3000 PSI AT 18 HOURS.

SEE STD. DWG.'S SBR-2-115, SBR-2-116, AND SBR-2-120 FOR ALL OTHER NOTES AND DETAILS NOT SHOWN.

EXPANSION JOINT REPLACEMENT SHALL BE CONSTRUCTED IN PHASES. THE STEEL PORTIONS OF THE EXPANSION JOINT SHALL BE FABRICATED IN SECTIONS TO COORDINATE WITH PHASED CONSTRUCTION. THE SECTIONS ARE TO BE CONNECTED WITH A FULL PENETRATION BUTT WELD. THE ELASTOMERIC SEAL SHALL BE A SINGLE CONTINUOUS PIECE FOR FULL LENGTH OF EXPANSION JOINT.

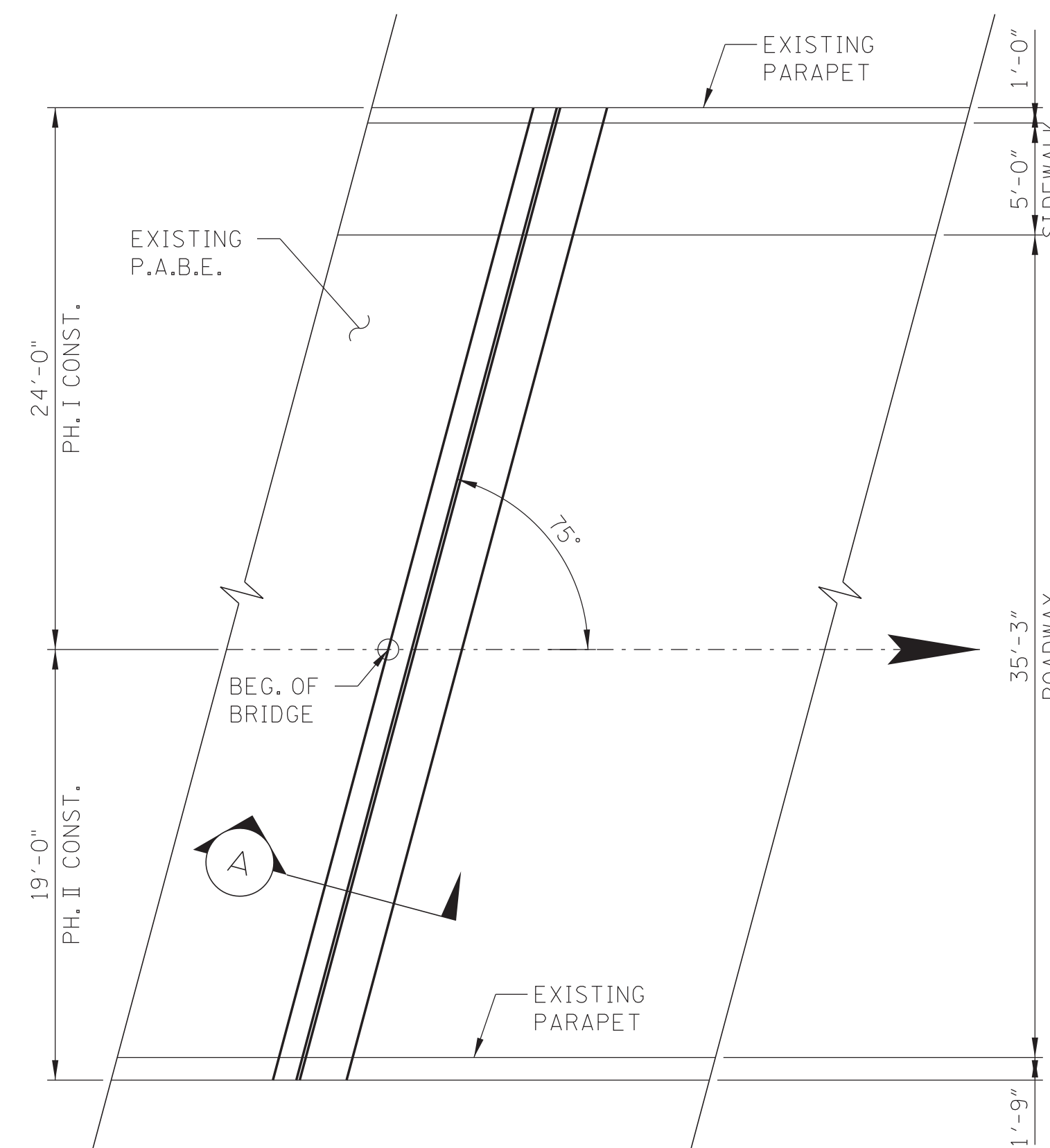
PROVISIONS SHALL BE MADE WHEN REMOVING PORTIONS OF DECK AND PARAPETS TO PROTECT THE EXISTING LONGITUDINAL AND VERTICAL REINFORCING STEEL FROM DAMAGE. THE EXISTING REINFORCING STEEL SHALL BE COMPLETELY CLEANED, MAINTAINED, AND INCORPORATED INTO THE NEW CONSTRUCTION. PROVIDE 2" MINIMUM COVER FOR REINFORCING STEEL. SHOULD THE EXISTING REINFORCING REQUIRE EPOXY COATING UPON CLEANING, THE CONTRACTOR WILL BE REQUIRED TO USE A QUALIFIED PRODUCT TO MAKE ANY NECESSARY TOUCH-UPS. NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR THIS AS THIS IS CONSIDERED INCIDENTAL TO THE WORK.

EXTREME CARE SHALL BE TAKEN TO NOT DAMAGE EXISTING PRESTRESSED DECK PANELS. ANY DAMAGE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

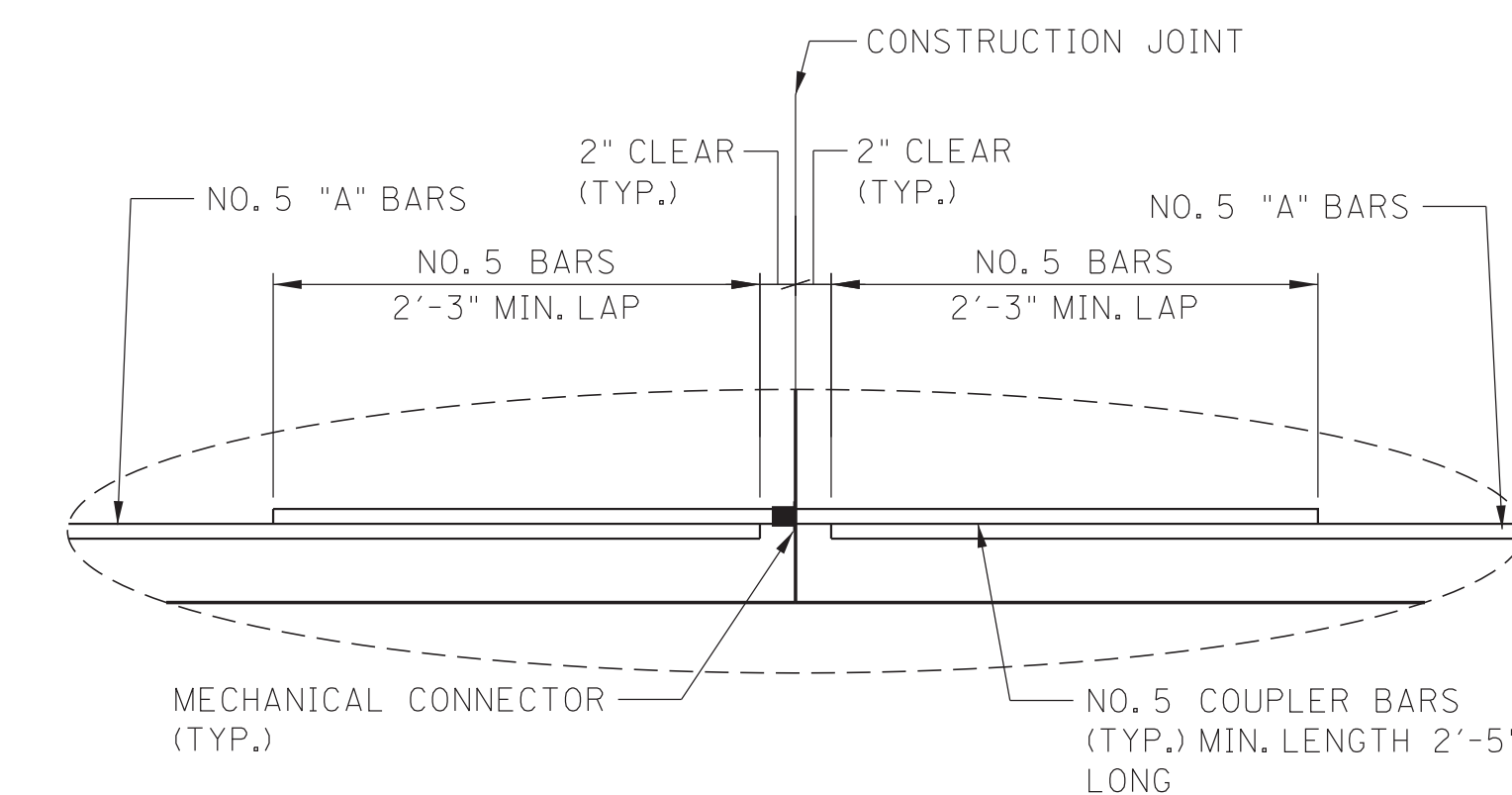
REMOVED PORTIONS OF THE PARAPET ON EACH SIDE OF THE JOINT SHALL BE REPLACED TO AS-BUILT LINES. CARE SHALL BE TAKEN TO ENSURE CONSISTENT LINES (NO SNAG POINTS) ARE ON EACH SIDE OF THE JOINT ALONG THE FACE OF THE BARRIER. ALL COST ASSOCIATED WITH THIS WORK ARE TO BE INCLUDED IN ITEM 604-10.46, EXPANSION JOINT REPAIRS (TYPE G), L.F.

BRIDGE LIGHTING SYSTEM MUST BE DE-ENERGIZED PRIOR TO REMOVING PORTIONS OF THE PARAPET FOR JOINT REPLACEMENT. SEE GENERAL NOTES FOR UTILITY CONTACT INFORMATION. EXTREME CARE SHALL BE TAKEN TO AVOID DAMAGING EXISTING CONDUIT WITHIN THE PARAPET. ANY DAMAGE SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.

THE COST OF ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO REPLACE THE EXPANSION JOINT AT ABUT 1, INCLUDING REMOVAL OF EXISTING JOINT HEADERS AND PORTIONS OF SLAB TO BE INCLUDED IN THE COST BID FOR ITEM 604-10.46, EXPANSION JOINT REPAIRS (TYPE G), L.F.



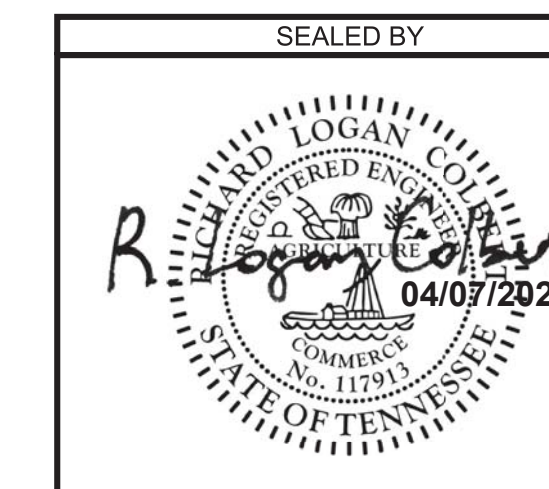
PLAN
JOINT AT ABUT. 1



CONSTRUCTION JOINT
MECHANICAL SPLICE DETAIL

REFER TO STD. DWG. SBR-2-120 FOR ADDITIONAL DETAILS OF NO. 5 "A" BARS NOT SHOWN.

COST OF MECHANICAL CONNECTORS WITH COUPLER BARS USED FOR CONSTRUCTION OF THE NEW ABUTMENT 1 EXPANSION JOINT TO BE INCLUDED UNDER ITEM NO. 604-10.46, EXPANSION JOINT REPAIR, (TYPE G) L.F. INSTALLATION MUST MEET WITH THE FULL APPROVAL OF THE ENGINEER.



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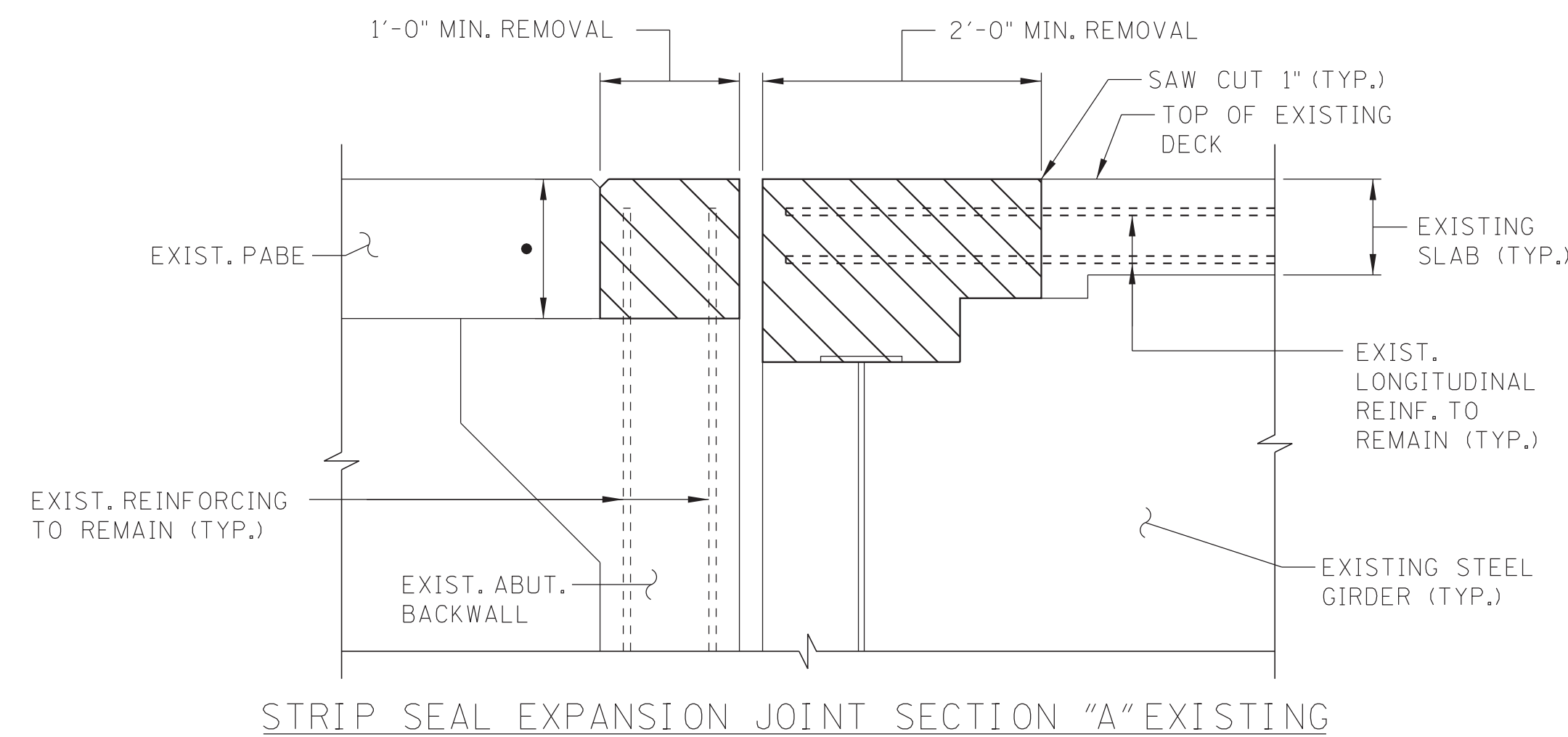
JOINT REPAIR DETAILS
BRIDGE NO. 73-1226-0.28
FED. I.D. NO. 73S24010001
PANSY HILL DR. OVER EMORY RIVER
& NORFOLK SOUTHERN RAILWAY
ROANE COUNTY
2026

BR-132-765

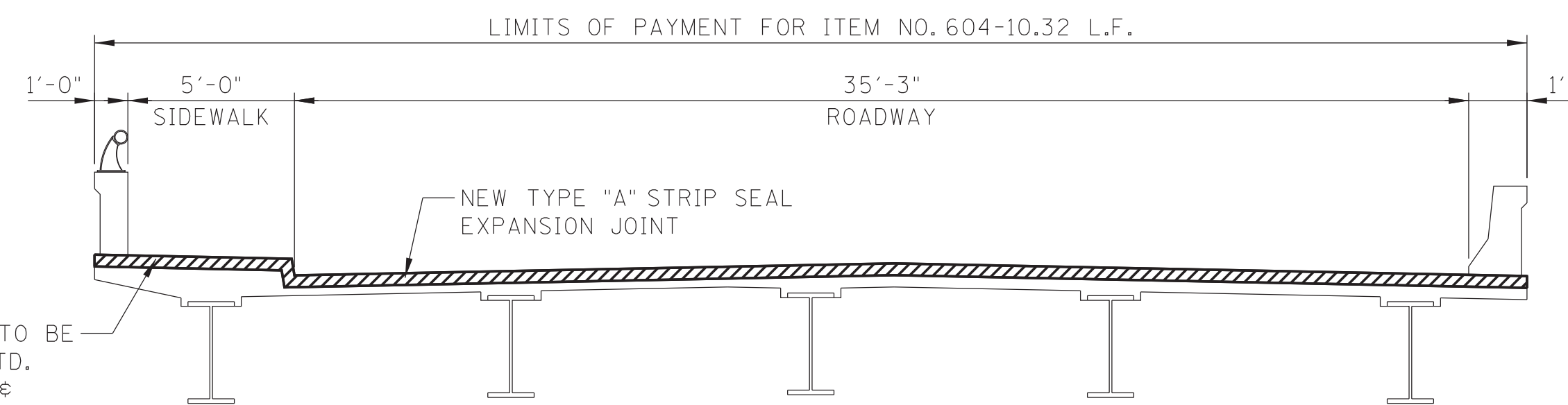
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DESIGN BY:	R.L. COLBERT
DRAWN BY:	M.D. SIMPSON
SUPERVISED BY:	G.S. WILSON
CHECKED BY:	R.L. COLBERT

DATE:	11/2025
DATE:	11/2025
DATE:	11/2025
DATE:	11/2025

PROJECT NO.	YEAR	SHEET NO. 1	
73455-3512-04	2026	B6	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	04-07-2026	MEL	UPDATED SHEET NUMBER



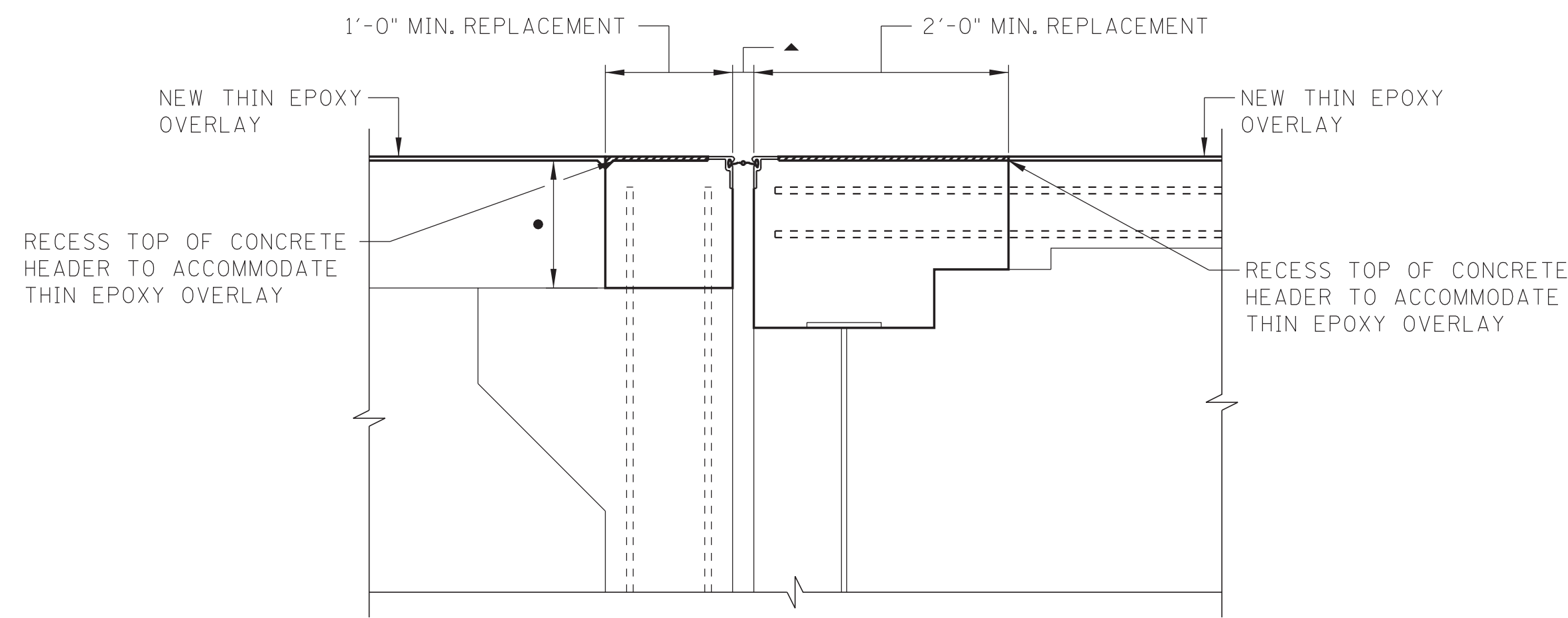
STRIP SEAL EXPANSION JOINT SECTION "A" EXISTING



CROSS SECTION SHOWING LIMITS OF NEW TYPE "A" STRIP SEAL EXPANSION JOINT

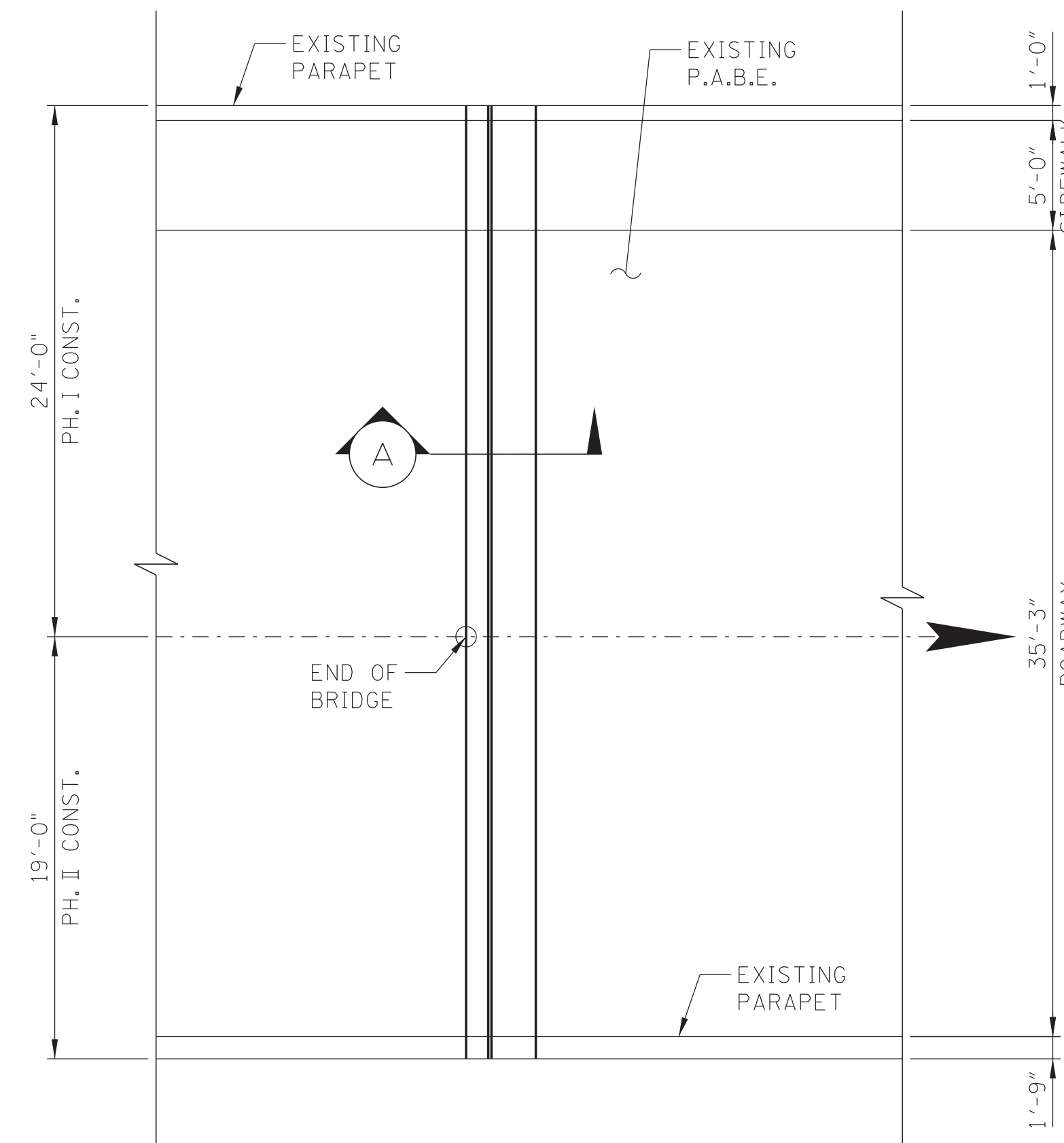
(LOCATED AT ABUT 2)

COST OF ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO REPLACE EXISTING SIDEWALK JOINT AT ABUTMENT NO. 2 TO BE INCLUDED IN ITEM NO. 604-10.32, EXPANSION JOINT REPAIRS (TYPE A), L.F.



STRIP SEAL EXPANSION JOINT SECTION "A" PROPOSED

(LOCATED AT ABUT 2) ITEM NO. 604-10.32, EXPANSION JOINT REPAIRS (TYPE A), L.F.



PLAN
JOINT AT ABUT. 2

SEE SHEET BR-132-765 FOR MECHANICAL SPLICE DETAIL.

COST OF MECHANICAL CONNECTORS WITH COUPLER BARS USED FOR CONSTRUCTION OF THE NEW ABUTMENT 2 EXPANSION JOINT TO BE INCLUDED UNDER ITEM NO. 604-10.32, EXPANSION JOINT REPAIR, (TYPE A) L.F. INSTALLATION MUST MEET WITH THE FULL APPROVAL OF THE ENGINEER.

SHOWING PORTIONS OF BACKWALL, HEADER, DIAPHRAGM, AND SLAB TO BE REPLACED FOR CONSTRUCTION OF NEW STRIP SEAL JOINT.

▲ DENOTES: SET EXPANSION JOINT OPENING 2" AT 60°F. (ACTUAL SETTING AS PER TEMPERATURE CHART ON EXPANSION JOINT SHOP DRAWINGS.)

- 1'-0" MIN. LIMITS OF EXISTING CONCRETE ABUTMENT BACKWALL REMOVAL AND REPLACEMENT. SEE TYPICAL SECTION AT ABUTMENT BACKWALL (TYPE "A") ON STD. DWG. SBR-2-117 AND REFERENCE DRAWINGS FOR DETAILS NOT SHOWN.

NEW CONCRETE HEADERS SHALL BE HIGH EARLY STRENGTH CONCRETE WITH A COMPRESSIVE STRENGTH OF 3000 PSI AT 18 HOURS.

SEE STD. DWG.'S SBR-2-115, SBR-2-116, AND SBR-2-117 FOR ALL OTHER NOTES AND DETAILS NOT SHOWN.

EXPANSION JOINT REPLACEMENT SHALL BE CONSTRUCTED IN PHASES. THE STEEL PORTIONS OF THE EXPANSION JOINT SHALL BE FABRICATED IN SECTIONS TO COORDINATE WITH PHASED CONSTRUCTION. THE SECTIONS ARE TO BE CONNECTED WITH A FULL PENETRATION BUTT WELD. THE ELASTOMERIC SEAL SHALL BE A SINGLE CONTINUOUS PIECE FOR FULL LENGTH OF EXPANSION JOINT.

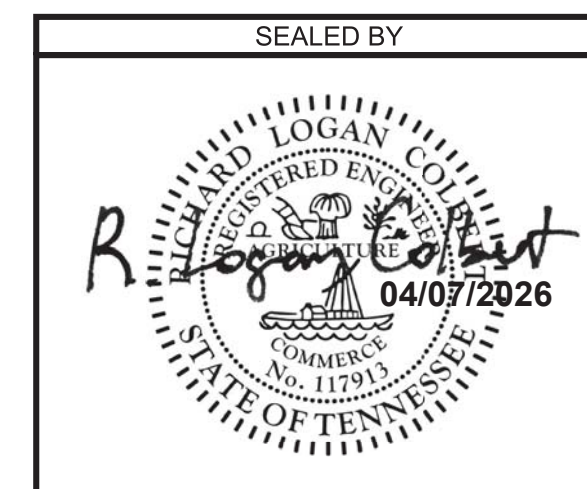
PROVISIONS SHALL BE MADE WHEN REMOVING PORTIONS OF DECK AND PARAPETS TO PROTECT THE EXISTING LONGITUDINAL AND VERTICAL REINFORCING STEEL FROM DAMAGE. THE EXISTING REINFORCING STEEL SHALL BE COMPLETELY CLEANED, MAINTAINED, AND INCORPORATED INTO THE NEW CONSTRUCTION. PROVIDE 2" MINIMUM COVER FOR REINFORCING STEEL. SHOULD THE EXISTING REINFORCING REQUIRE EPOXY COATING UPON CLEANING, THE CONTRACTOR WILL BE REQUIRED TO USE A QUALIFIED PRODUCT TO MAKE ANY NECESSARY TOUCH-UPS. NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR THIS AS THIS IS CONSIDERED INCIDENTAL TO THE WORK.

EXTREME CARE SHALL BE TAKEN TO NOT DAMAGE EXISTING PRESTRESSED DECK PANELS. ANY DAMAGE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

REMOVED PORTIONS OF THE PARAPET ON EACH SIDE OF THE JOINT SHALL BE REPLACED TO AS-BUILT LINES. CARE SHALL BE TAKEN TO ENSURE CONSISTENT LINES (NO SNAG POINTS) ARE ON EACH SIDE OF THE JOINT ALONG THE FACE OF THE BARRIER. ALL COST ASSOCIATED WITH THIS WORK ARE TO BE INCLUDED IN ITEM 604-10.32, EXPANSION JOINT REPAIRS (TYPE A), L.F.

BRIDGE LIGHTING SYSTEM MUST BE DE-ENERGIZED PRIOR TO REMOVING PORTIONS OF THE PARAPET FOR JOINT REPLACEMENT. SEE GENERAL NOTES FOR UTILITY CONTACT INFORMATION. EXTREME CARE SHALL BE TAKEN TO AVOID DAMAGING EXISTING CONDUIT WITHIN THE PARAPET. ANY DAMAGE SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.

THE COST OF ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO REPLACE THE EXPANSION JOINT AT ABUT 1, INCLUDING REMOVAL OF EXISTING JOINT HEADERS AND PORTIONS OF SLAB TO BE INCLUDED IN THE COST BID FOR ITEM 604-10.32, EXPANSION JOINT REPAIRS (TYPE A), L.F.



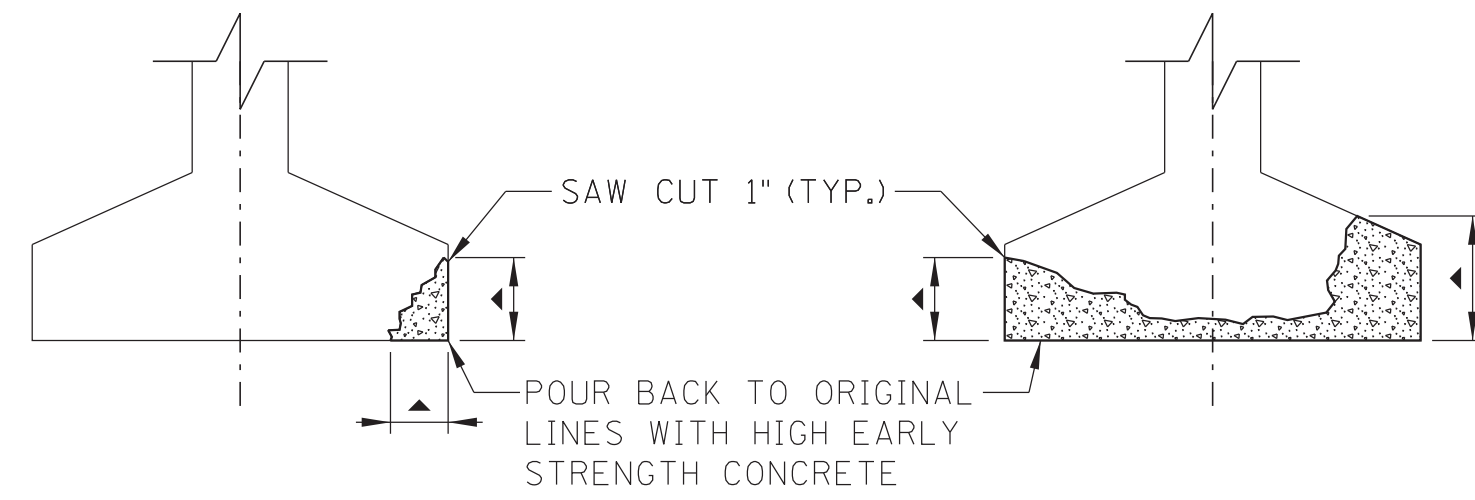
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

JOINT REPAIR DETAILS
BRIDGE NO. 73-1226-0.28
FED. I.D. NO. 73S24010001
PANSY HILL DR. OVER EMORY RIVER
& NORFOLK SOUTHERN RAILWAY
ROANE COUNTY
2026

BR-132-766

Palmer ENGINEERING	PIN NO.: 124518.00	DATE: 11/2025
DESIGN BY: R.L. COLBERT	DATE: 11/2025	
DRAWN BY: M.D. SIMPSON	DATE: 11/2025	
SUPERVISED BY: G.S. WILSON	DATE: 11/2025	
CHECKED BY: R.L. COLBERT	DATE: 11/2025	

PROJECT NO.	YEAR	SHEET NO. 1	
73455-3512-04	2026	B7	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	04-07-2026	MEL	UPDATED SHEET NUMBER



PRESTRESSED BEAM REPAIR DETAILS

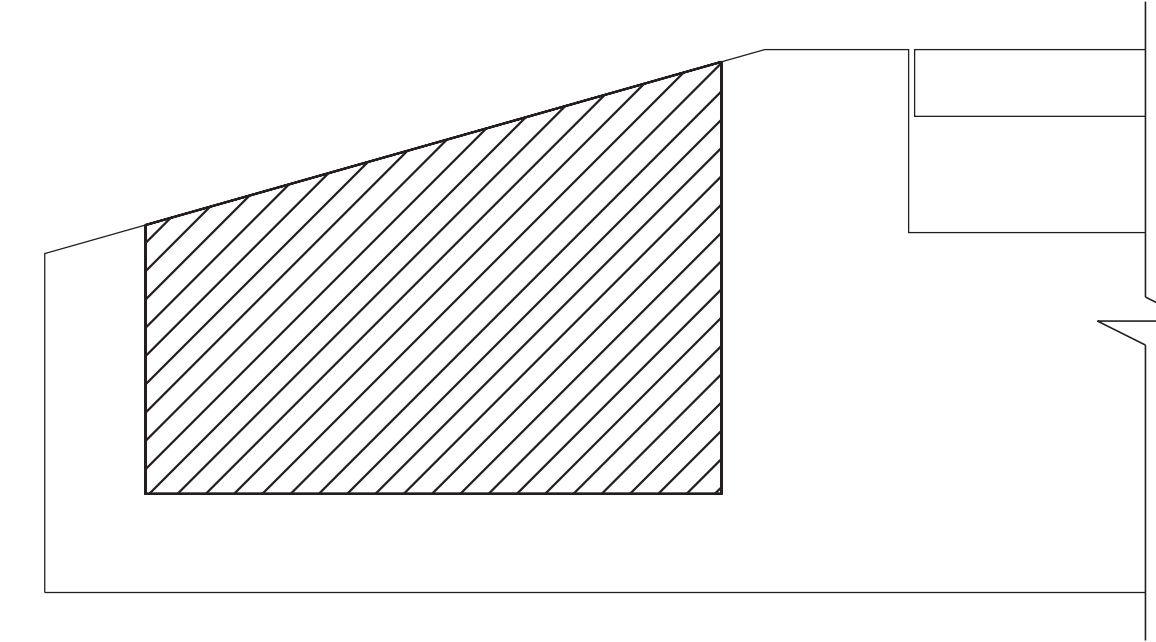
(TYPICAL SPANS 1 THRU 6)

- ▲ REMOVE CONCRETE TO A DEPTH OF 3/4" BEHIND ANY EXPOSED PRESTRESSING STRANDS OR REINFORCING STEEL. SEE SHEET BR-132-771 FOR APPROXIMATE LIMITS AND LOCATIONS. FINAL LIMITS AND LOCATIONS OF PAIRS TO BE DESIGNATED BY THE ENGINEER.

THE COST OF REMOVING PORTIONS OF THE EXISTING CONCRETE WITHIN THE LIMITS SHOWN, SAW CUTTING, COMPLETELY CLEANING EXISTING REINFORCING STEEL OR PRESTRESSING STRANDS, HIGH EARLY STRENGTH CONCRETE, FORMING, LABOR, AND ALL MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS AS SHOWN SHALL BE INCLUDED IN PRICE BID FOR ITEM NO. 604-10.42, CONCRETE REPAIRS, C.F.

CONTRACTOR TO TAKE EXTREME CARE WHEN REMOVING DELAMINATED CONCRETE SO AS NOT TO DAMAGE EXISTING REINFORCING STEEL OR PRESTRESSING STRANDS. ALL EXISTING REINFORCING STEEL AND PRESTRESSING STRANDS SHALL BE COMPLETELY CLEANED TO THE SATISFACTION OF THE ENGINEER BEFORE REPOURING. ANY DAMAGE TO EXISTING REINFORCING STEEL OR PRESTRESSING STRANDS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

- ☞ THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING REPAIRS TO THE BEAMS. DETAILS OF ANY TEMPORARY SUPPORT SYSTEM OR FALSEWORK REQUIRED SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND SHALL MEET WITH THE FULL SATISFACTION OF THE ENGINEER BEFORE THE BEGINNING OF ANY BEAM REPAIR. COST TO BE INCLUDED IN ITEM NO. 604-10.42, CONCRETE REPAIRS, C.F.



ABUTMENT 1 WEST END POST REPAIRS

☐ DENOTES APPROX. 10 S.F. AREA TO BE REPAIRED UNDER ITEM NO. 604-10.05 AND/OR 604-10.54. FOR SPALL AND DELAMINATION REPAIR DETAILS AND NOTES, SEE SHEET BR-132-772.

NOTES FOR ABUTMENT 1 BEAM 1 BEARING REPAIRS:

ANCHOR BOLTS SHALL BE 1" DIA. ASTM F1554 GRADE 36.

A QUICK SETTING EPOXY SHALL BE USED.

THE CONTRACTOR SHALL BORE ANCHOR BOLT HOLES AS SHOWN.

THE CONTRACTOR SHALL REPLACE THE ANCHORS ONE AT A TIME. CORING CAN BEGIN AT ADJACENT ANCHORS ONCE THE BOLTS ARE IN PLACE AND EPOXY GROUT HAS CURED.

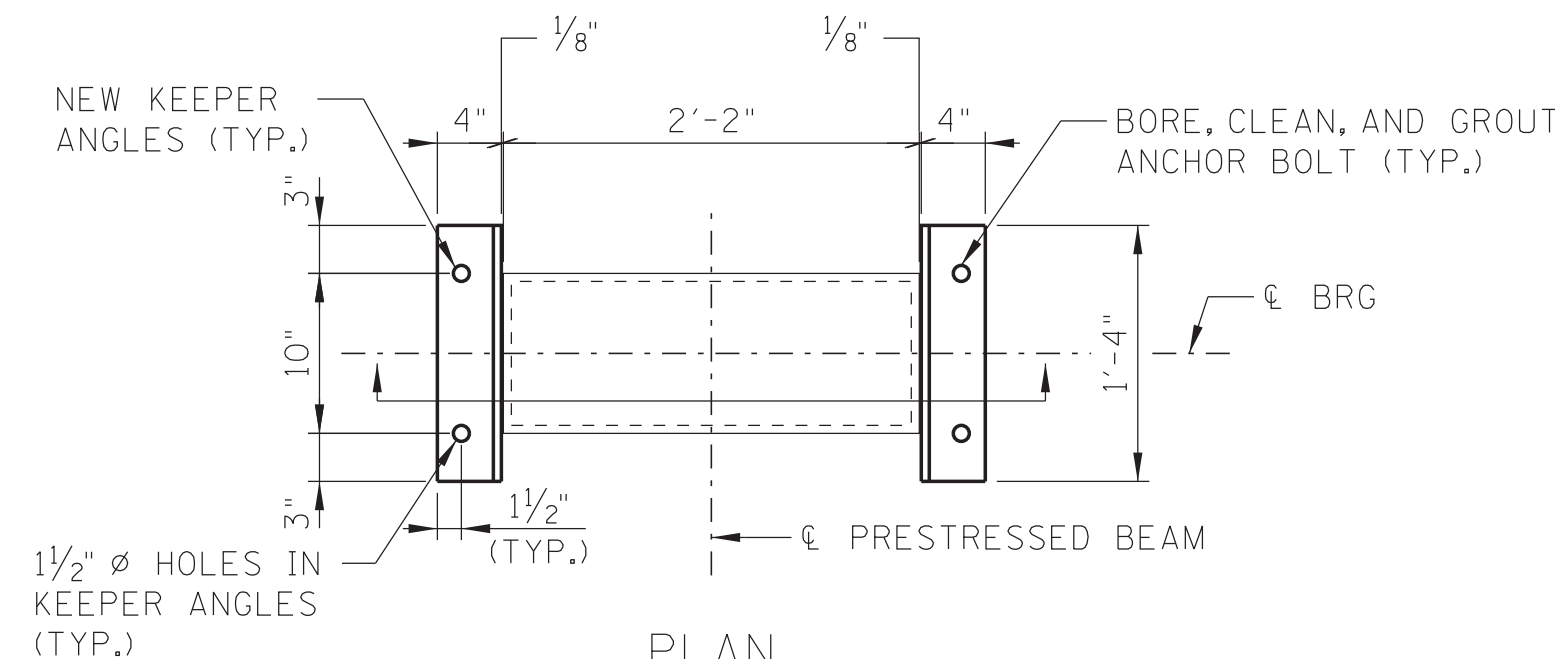
THE ANCHORS SHALL BE CENTERED IN THE HOLES OF THE NEW KEEPER ANGLES.

THE NEW KEEPER ANGLES, ANCHORS, NUTS, AND WASHERS SHALL BE PAINTED TO MATCH EXISTING COLOR. SEE SHEET BR-132-763 FOR PAINTING NOTES.

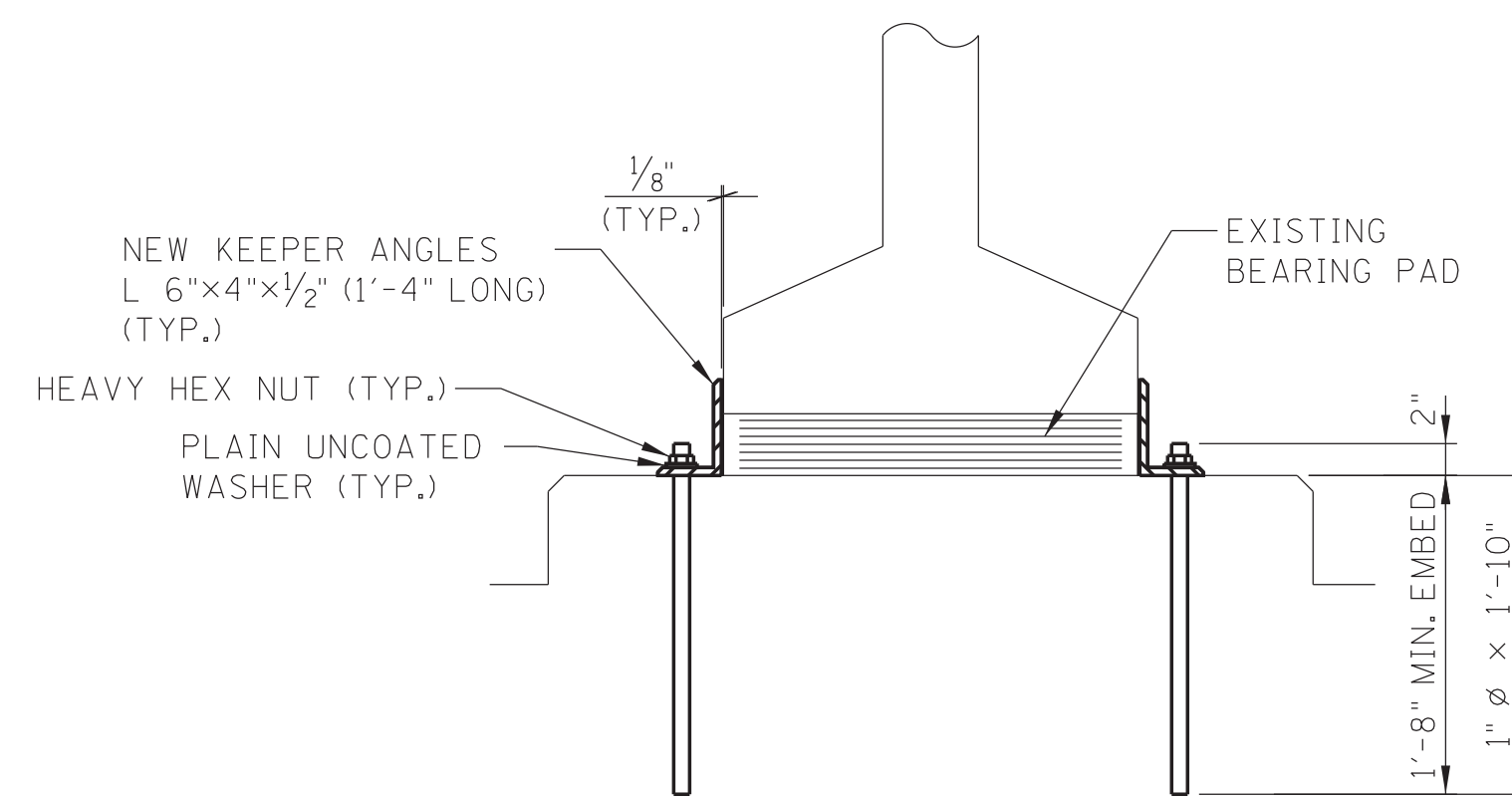
IN ADDITION, ALL OTHER EXISTING KEEPER ANGLES AND ANCHORS AT ABUTMENT 1 ARE TO BE CLEANED AND REPAINTED TO MATCH THE EXISTING COLOR.

COST OF PAINTING ALL KEEPER ANGLES AND ANCHORS, EXISTING AND NEW, AT ABUTMENT 1 TO BE INCLUDED IN THE COST BID FOR ITEM 603-02.01 REPAINTING EXISTING STEEL STRUCTURES (BR. NO. 73-1226-0.28), L.S.

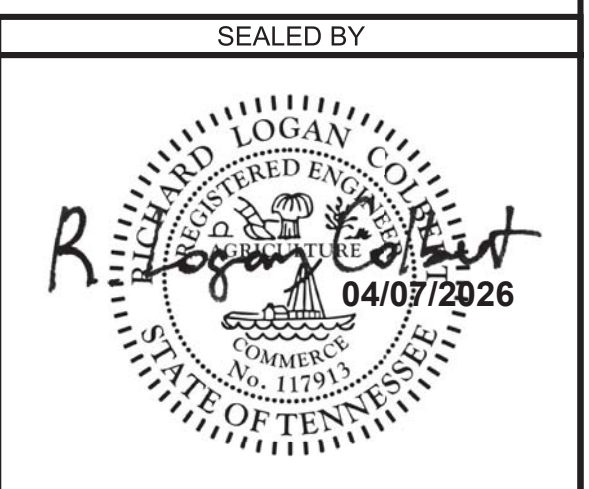
COST OF ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO CORE OUT EXISTING ANCHORS, REPLACE KEEPER PLATES, AND INSTALL NEW ANCHORS WITH NEW WASHERS AND NUTS FOR BEAM 1 AT ABUTMENT 1 AS SHOWN TO BE INCLUDED IN THE UNIT PRICE BID FOR ITEM NO. 602-10.12 BEARING DEVICE (REPAIR), L.S.



PLAN
(SHOWING LOCATIONS OF ANCHORS TO BE REPLACED)



SECTION
ABUTMENT 1 BEAM 1 BEARING REPAIRS



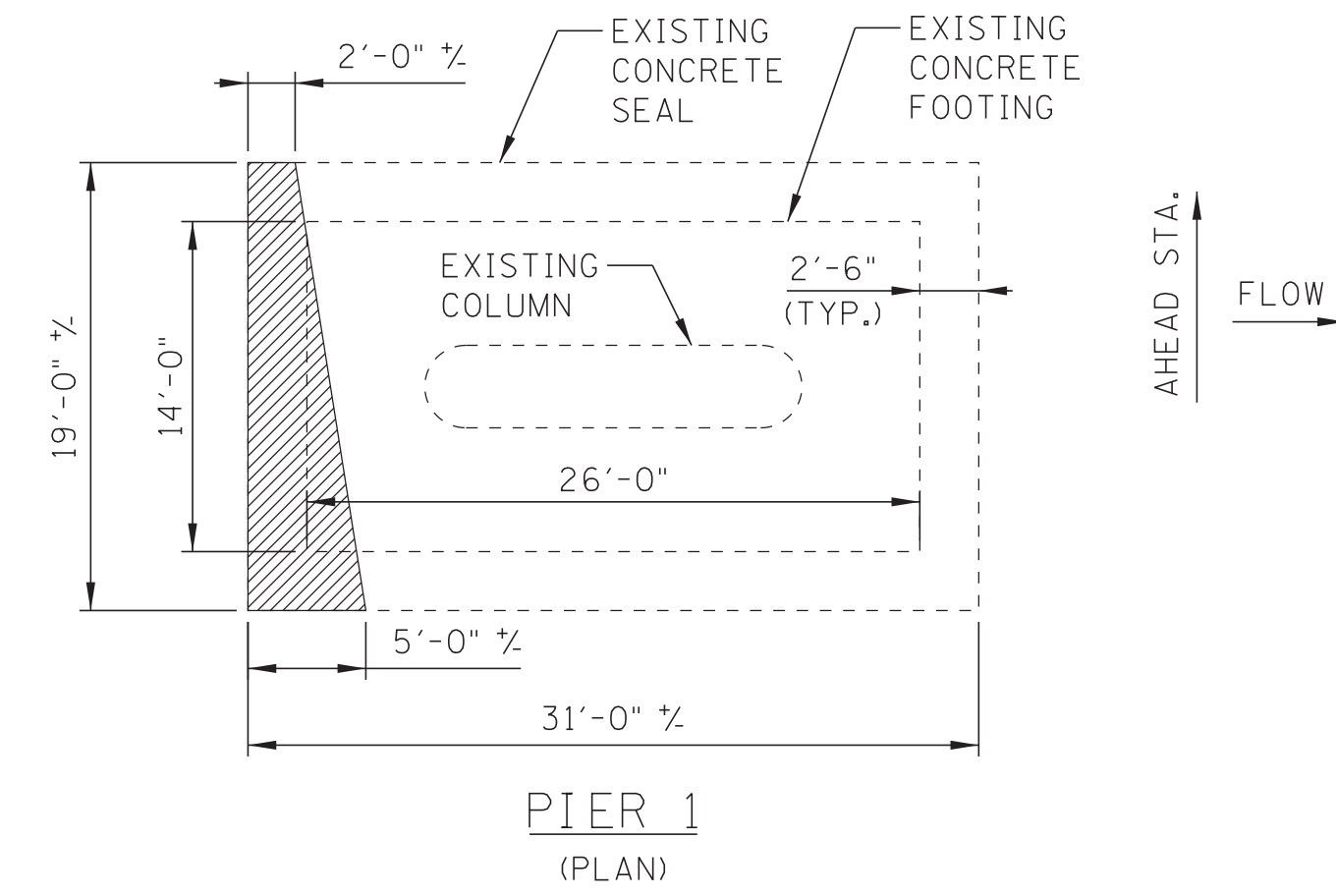
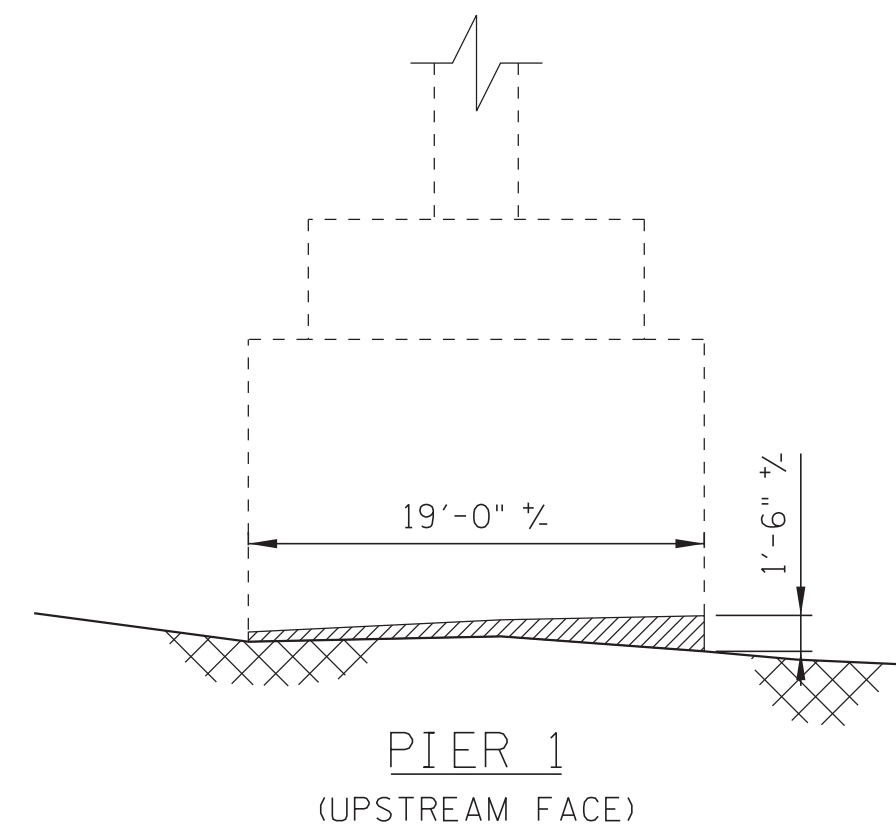
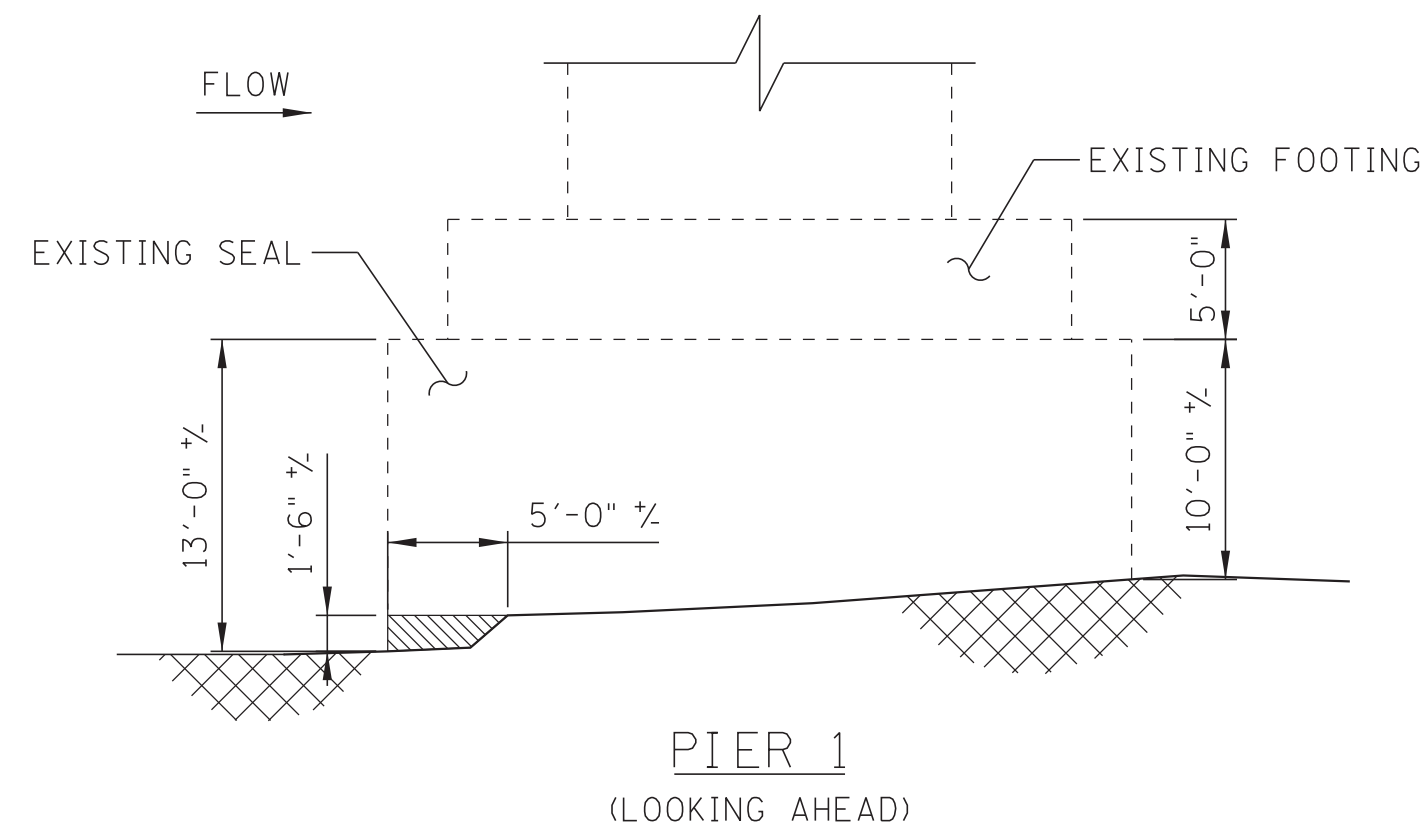
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

MISCELLANEOUS REPAIR DETAILS
BRIDGE NO. 73-1226-0.28
FED. I.D. NO. 73S24010001
PANSY HILL DR. OVER EMORY RIVER
& NORFOLK SOUTHERN RAILWAY
ROANE COUNTY
2026

BR-132-767

Palmer ENGINEERING	PIN NO.: 124518.00	DATE: 11/2025
DESIGN BY: R.L. COLBERT	DATE: 11/2025	
DRAWN BY: M.D. SIMPSON	DATE: 11/2025	
SUPERVISED BY: G.S. WILSON	DATE: 11/2025	
CHECKED BY: R.L. COLBERT	DATE: 11/2025	

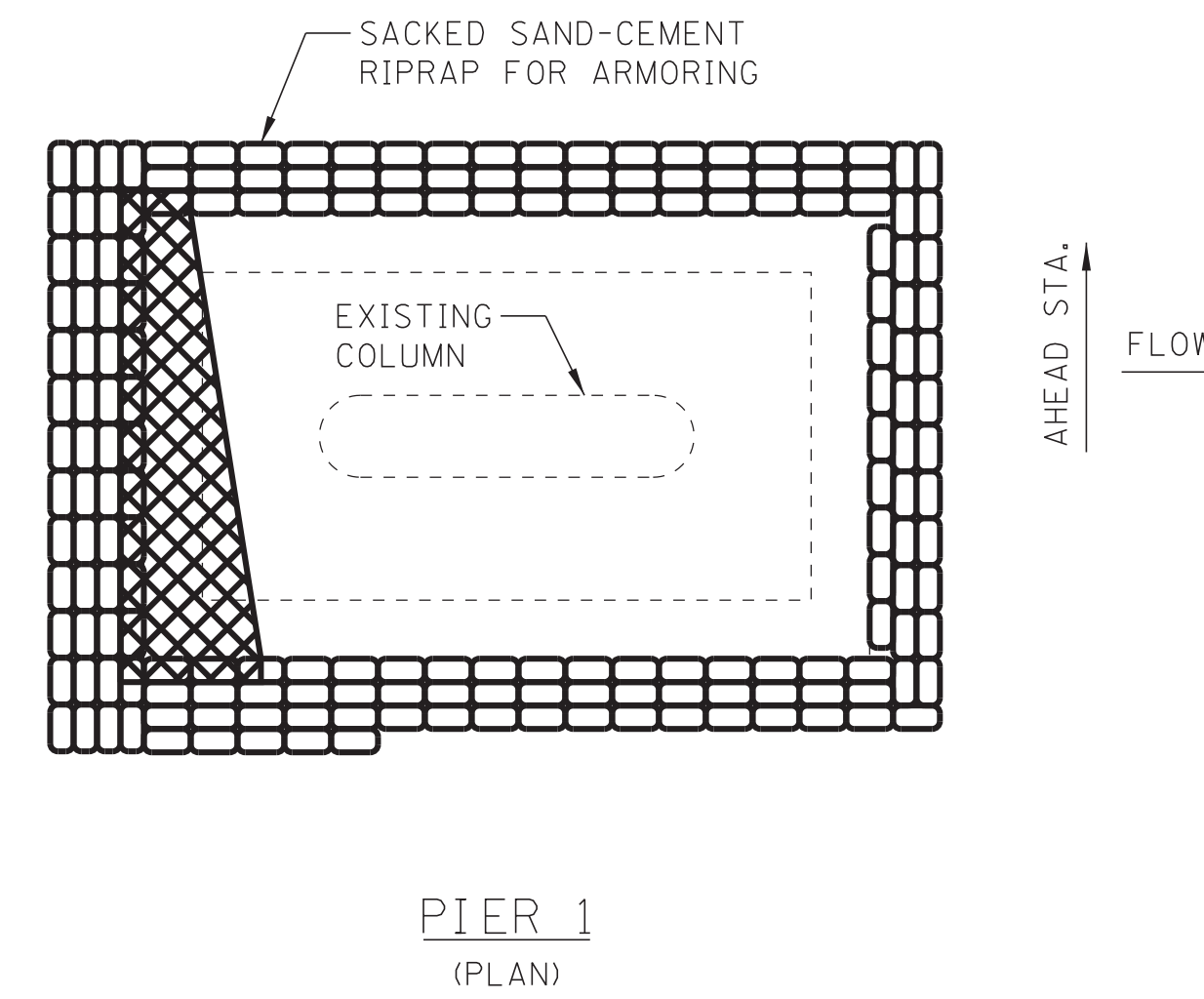
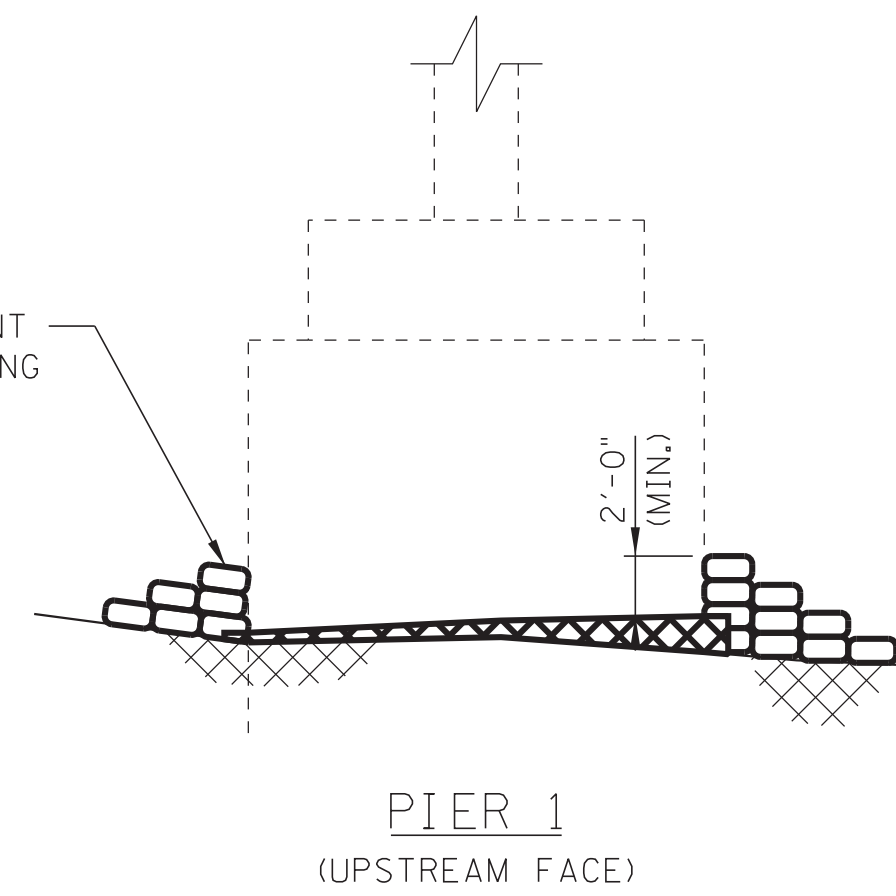
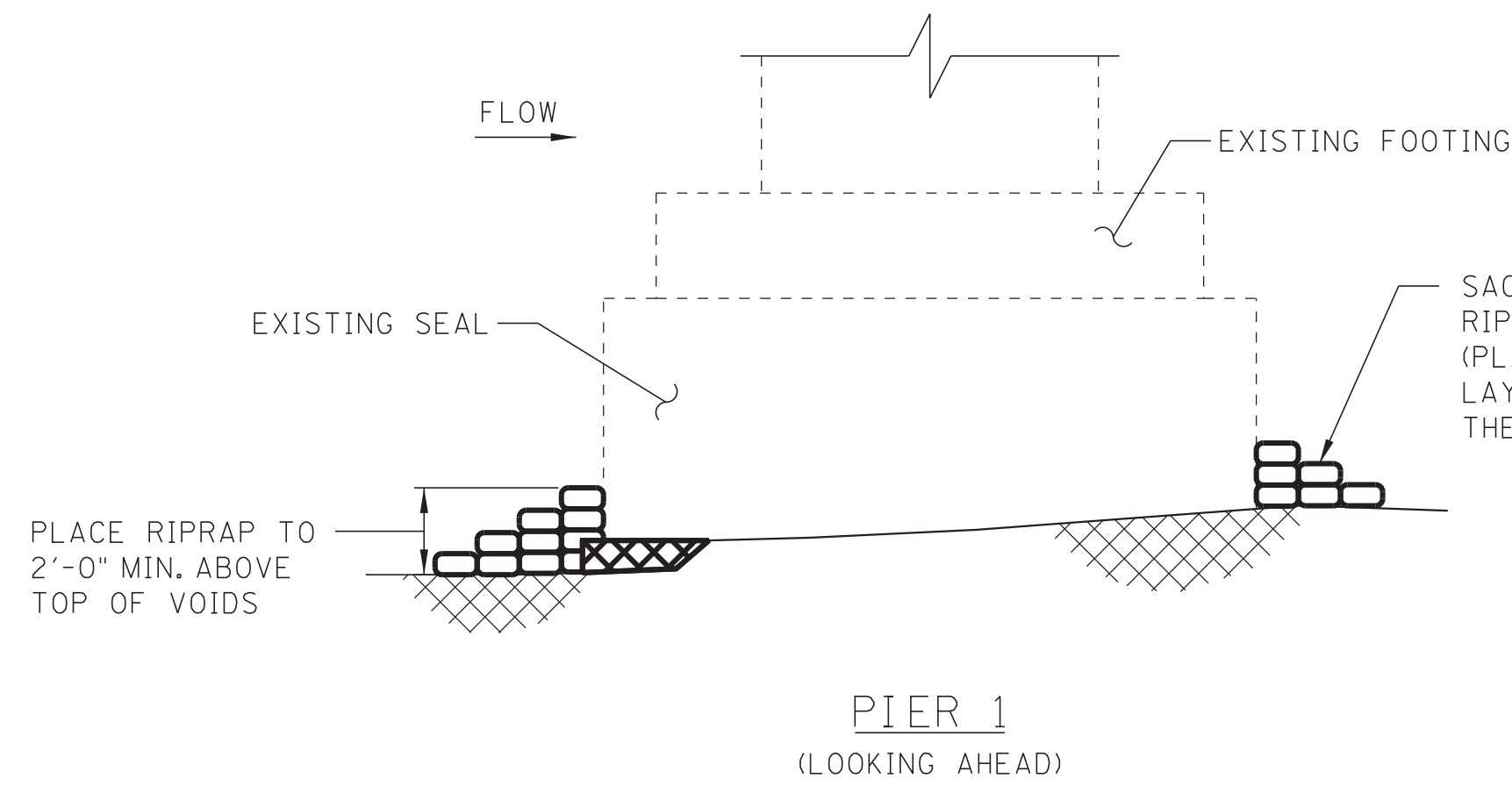
PROJECT NO.	YEAR	SHEET NO.	
73455-3512-04	2026	B8	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	01-29-2026	MEL	UPDATED DETAILS AND REMOVED NOTES
2	04-07-2026	MEL	UPDATED PROPOSED REPAIRS & SHEET NUMBER



EXISTING CONDITION ①

■ DENOTES: AREAS OF EXIST. CONCRETE SEAL AND ROCK BEING UNDERMINED

EXISTING CONDITION SHOWN IS PER THE UNDERWATER INSPECTION REPORT DATED JULY 21, 2023. PRESENT CONDITIONS MAY VARY.



PROPOSED REPAIRS ① ②

■ DENOTES: HYDROTEX GROUT BAGS OR APPROVED EQUIVALENT FILLED W/ GROUT IN ALL UNDERMINED AREAS (TYP.)

ALL UNDERMINED AREAS ARE TO BE REPAIRED USING HYDROTEX GROUT BAGS, INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND FILLED WITH NON-SHRINK GROUT. ANY OTHER PRODUCT SHALL BE APPROVED BY THE ENGINEER.

VOIDS SHALL BE FIELD MEASURED PRIOR TO FABRICATION OF THE GROUT BAGS.

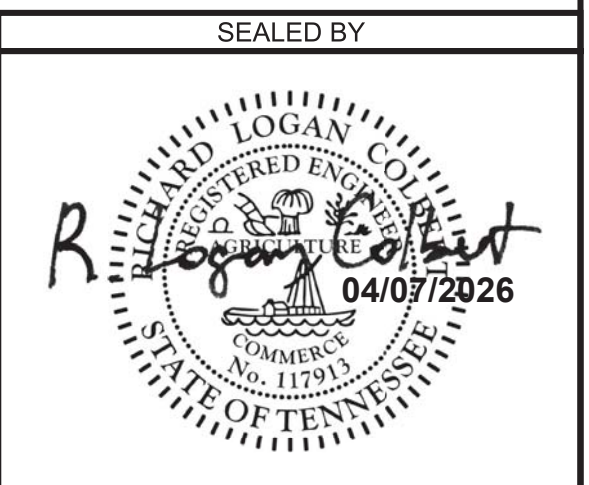
COST OF ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO PLACE AND FILL GROUT BAGS, INCLUDING DIVERS, SHALL BE INCLUDED IN THE PRICE BID FOR ITEM NO. 604-10.55, CONCRETE (FOUNDATION REPAIRS), C.Y.

FOLLOWING INSTALLATION OF THE GROUT BAGS AND PRIOR TO PLACING SACKED SAND CEMENT RIPRAP, A THIRD-PARTY UNDERWATER INSPECTION SHALL BE PERFORMED TO ENSURE ALL VOIDES HAVE BEEN REPAIRED.

SACKED SAND CEMENT BAGS SHALL THEN BE PLACED AROUND THE REPAIRED AREAS AS SHOWN. COST OF ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED FOR PLACING SACKED SAND CEMENT RIPRAP, INCLUDING DIVERS, TO BE INCLUDED IN THE PRICE BID FOR ITEM NO. 709-02.02, SACKED SAND CEMENT RIPRAP, C.Y.

FOLLOWING INSTALLATION OF THE SACKED SAND CEMENT RIPRAP, AN ADDITIONAL THIRD-PARTY UNDERWATER INSPECTION SHALL BE PERFORMED TO ENSURE ALL FOUNDATION REPAIRS HAVE BEEN COMPLETED AS DETAILED. COSTS OF ALL LABOR, EQUIPMENT, AND DIVERS NECESSARY TO COMPLETE THE UNDERWATER INSPECTIONS WILL BE COVERED BY TDOT'S CEI ON-CALL CONTRACT.

ALL DIVERS SHALL BE CERTIFIED COMMERCIAL DIVERS, AND COMPETENT IN THE SCOUR REMEDIATION MEASURES SHOWN ABOVE. THE CONTRACTOR SHALL ENSURE THE COMPLETED REPAIRS MEET THE FULL SATISFACTION OF THE THIRD-PARTY INSPECTORS AND THE ENGINEER. ANY INCOMPLETE/IMPROPER WORK DISCOVERED DURING THE INSPECTIONS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.



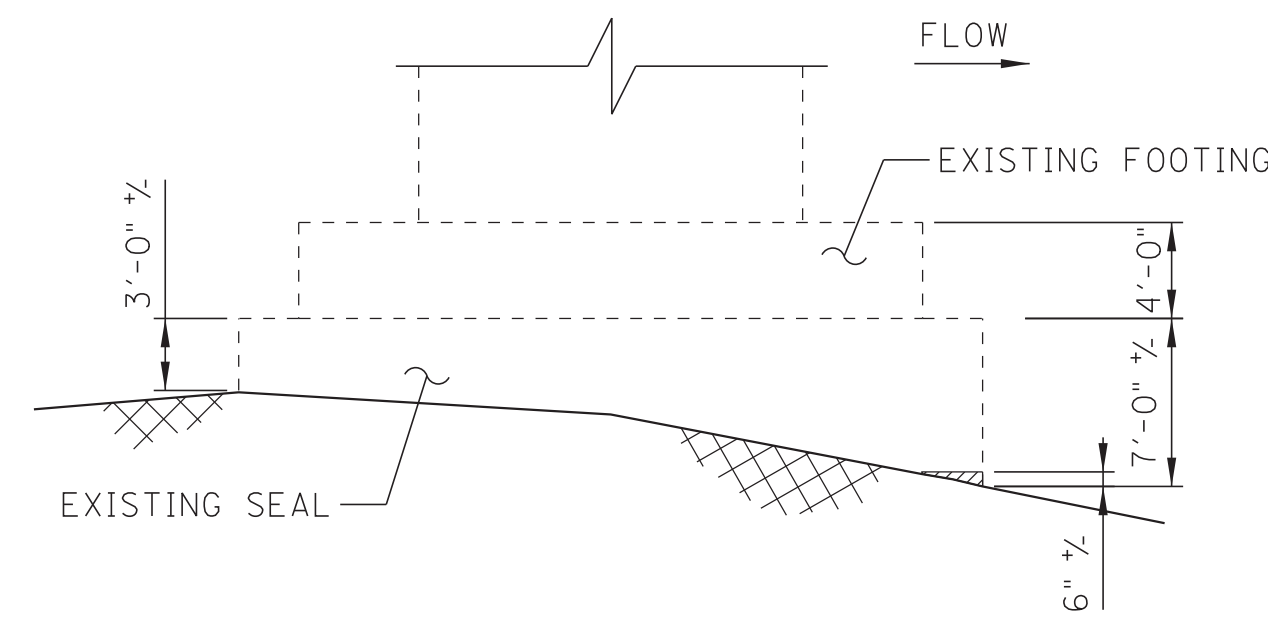
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SCOUR REPAIR - PIER 1
BRIDGE NO. 73-1226-0.28
FED. I.D. NO. 73S24010001
PANSY HILL DR. OVER EMORY RIVER
& NORFOLK SOUTHERN RAILWAY
ROANE COUNTY
2026

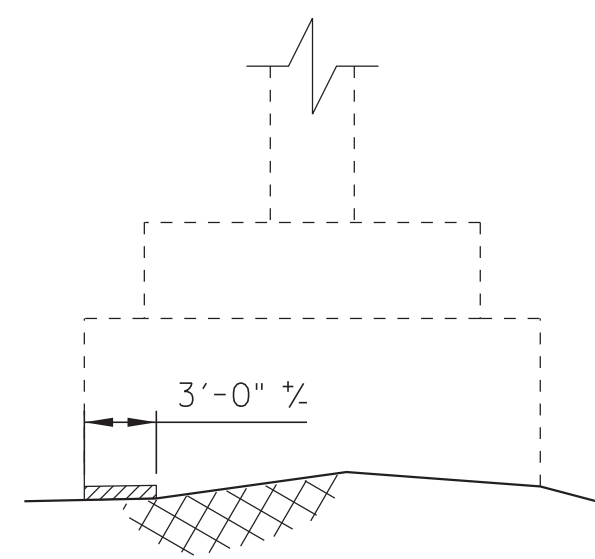
BR-132-768

Palmer ENGINEERING	PIN NO.: 124518.00	DATE: 11/2025
DESIGN BY: R.L. COLBERT	DATE: 11/2025	
DRAWN BY: M.D. SIMPSON	DATE: 11/2025	
SUPERVISED BY: G.S. WILSON	DATE: 11/2025	
CHECKED BY: R.L. COLBERT	DATE: 11/2025	

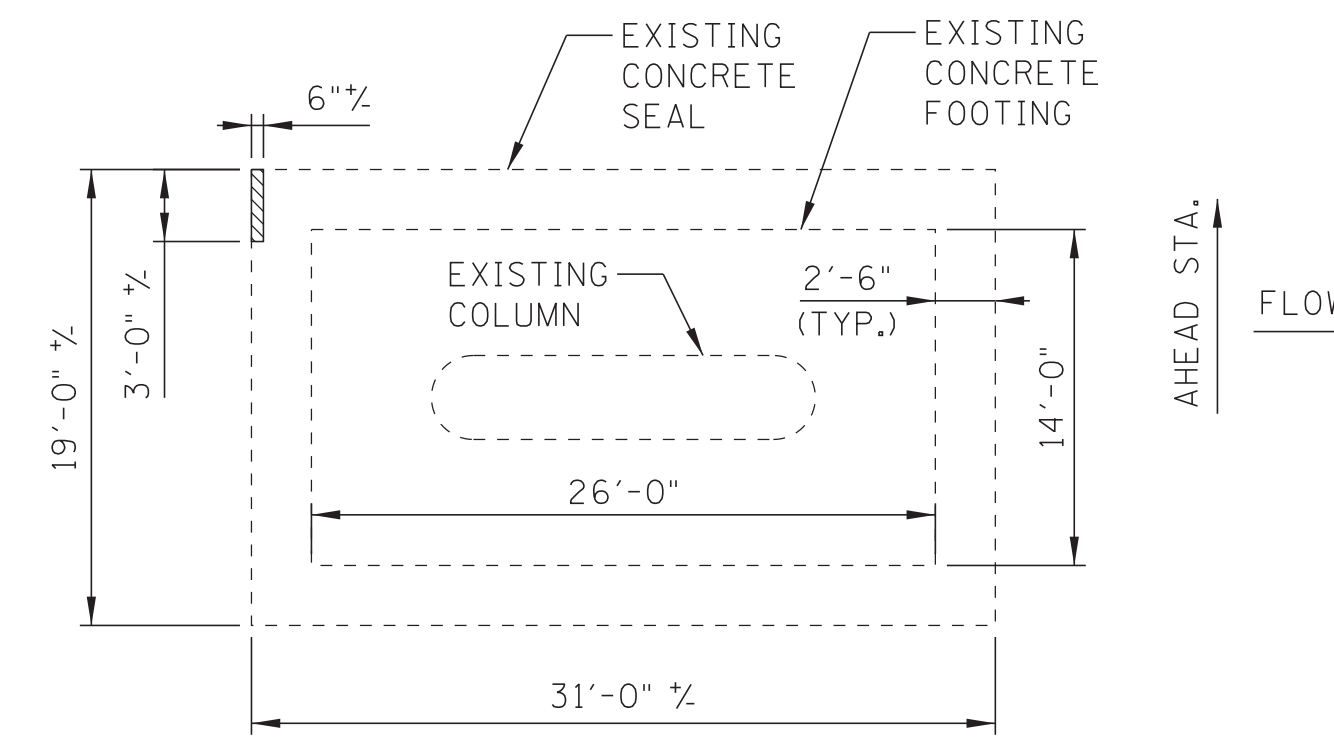
PROJECT NO.	YEAR	SHEET NO.	
73455-3512-04	2026	B9	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	01-29-2026	MEL	UPDATED DETAILS AND REMOVED NOTES
2	04-07-2026	MEL	UPDATED PROPOSED REPAIRS & SHEET NUMBER



PIER 2
(LOOKING BACK)



PIER 2
(UPSTREAM FACE)

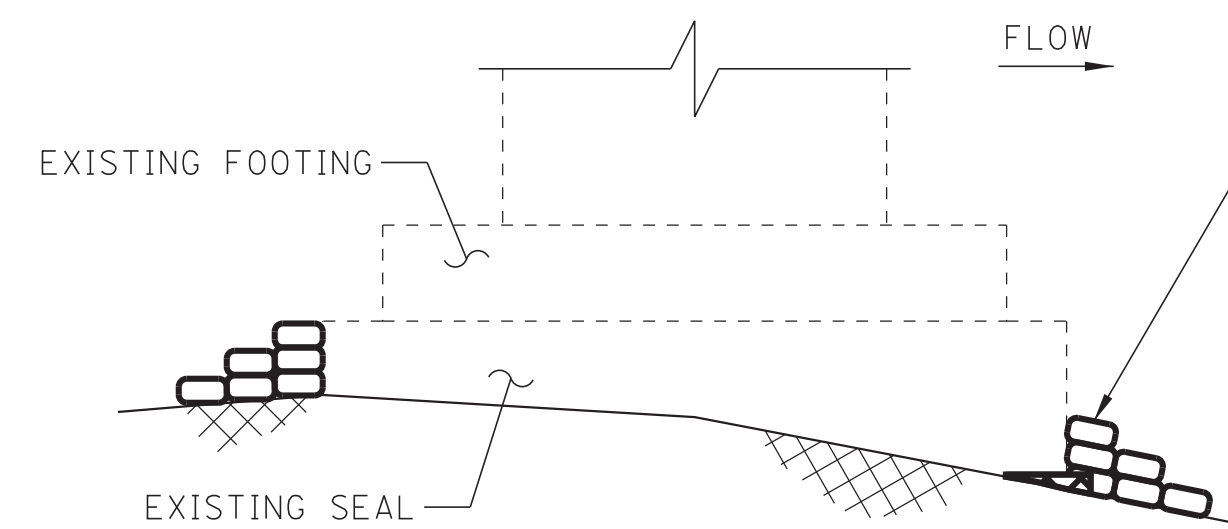


PIER 2
(PLAN)

EXISTING CONDITION ①

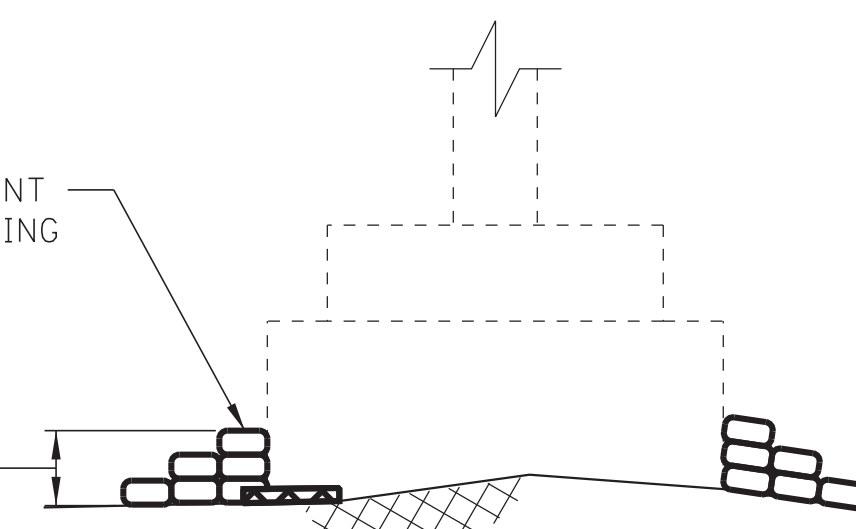
■ DENOTES: AREAS OF EXIST. CONCRETE SEAL AND ROCK BEING UNDERMINED

EXISTING CONDITION SHOWN IS PER THE UNDERWATER INSPECTION REPORT DATED JULY 21, 2023. PRESENT CONDITIONS MAY VARY.

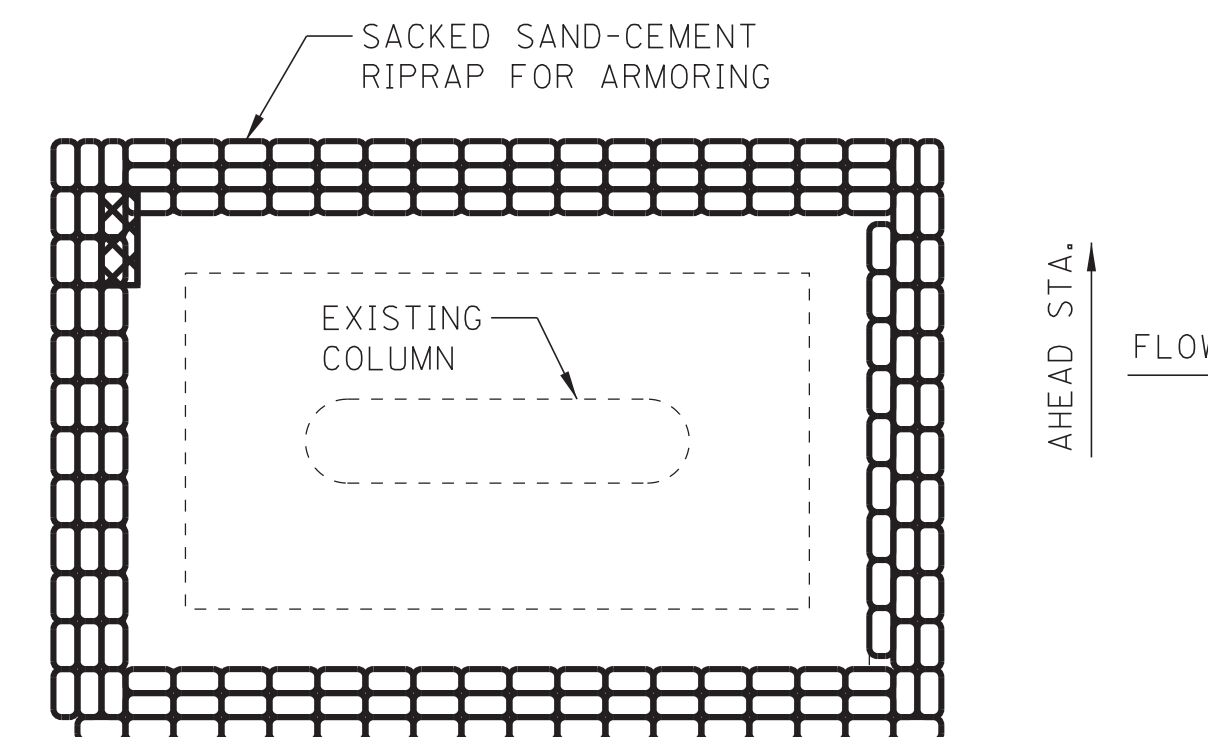


PIER 2
(LOOKING BACK)

SACKED SAND-CEMENT RIPRAP FOR ARMORING (PLACE MINIMUM 3 LAYERS THICK ALL THE WAY AROUND)
PLACE RIPRAP TO 2'-0" MIN. ABOVE TOP OF VOIDS



PIER 2
(UPSTREAM FACE)



PIER 2
(PLAN)

PROPOSED REPAIRS ①②

■ DENOTES: HYDROTEX GROUT BAGS OR APPROVED EQUIVALENT FILLED W/ GROUT IN ALL UNDERMINED AREAS (TYP.)

ALL UNDERMINED AREAS ARE TO BE REPAIRED USING HYDROTEX GROUT BAGS, INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND FILLED WITH NON-SHRINK GROUT. ANY OTHER PRODUCT SHALL BE APPROVED BY THE ENGINEER.

VOIDS SHALL BE FIELD MEASURED PRIOR TO FABRICATION OF THE GROUT BAGS.

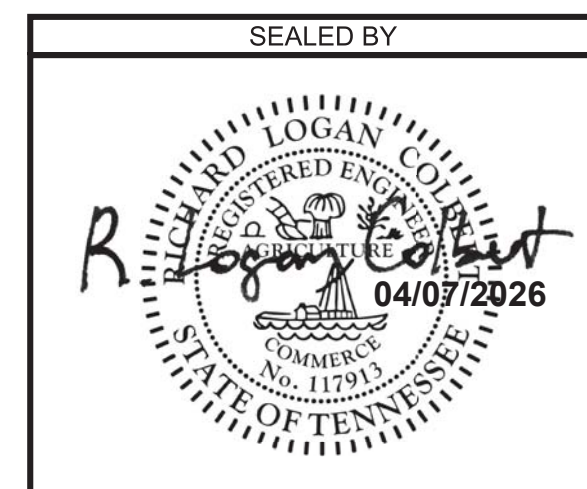
COST OF ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO PLACE AND FILL GROUT BAGS, INCLUDING DIVERS, SHALL BE INCLUDED IN THE PRICE BID FOR ITEM NO. 604-10.55, CONCRETE (FOUNDATION REPAIRS), C.Y.

FOLLOWING INSTALLATION OF THE GROUT BAGS AND PRIOR TO PLACING SACKED SAND CEMENT RIPRAP, A THIRD-PARTY UNDERWATER INSPECTION SHALL BE PERFORMED TO ENSURE ALL VOIDS HAVE BEEN REPAIRED.

SACKED SAND CEMENT BAGS SHALL THEN BE PLACED AROUND THE REPAIRED AREAS AS SHOWN. COST OF ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED FOR PLACING SACKED SAND CEMENT RIPRAP, INCLUDING DIVERS, TO BE INCLUDED IN THE PRICE BID FOR ITEM NO. 709-02.02, SACKED SAND CEMENT RIPRAP, C.Y.

FOLLOWING INSTALLATION OF THE SACKED SAND CEMENT RIPRAP, AN ADDITIONAL THIRD-PARTY UNDERWATER INSPECTION SHALL BE PERFORMED TO ENSURE ALL FOUNDATION REPAIRS HAVE BEEN COMPLETED AS DETAILED. COSTS OF ALL LABOR, EQUIPMENT, AND DIVERS NECESSARY TO COMPLETE THE UNDERWATER INSPECTIONS WILL BE COVERED BY TDOT'S CEI ON-CALL CONTRACT.

ALL DIVERS SHALL BE CERTIFIED COMMERCIAL DIVERS, AND COMPETENT IN THE SCOUR REMEDIATION MEASURES SHOWN ABOVE. THE CONTRACTOR SHALL ENSURE THE COMPLETED REPAIRS MEET THE FULL SATISFACTION OF THE THIRD-PARTY INSPECTORS AND THE ENGINEER. ANY INCOMPLETE/IMPROPER WORK DISCOVERED DURING THE INSPECTIONS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.



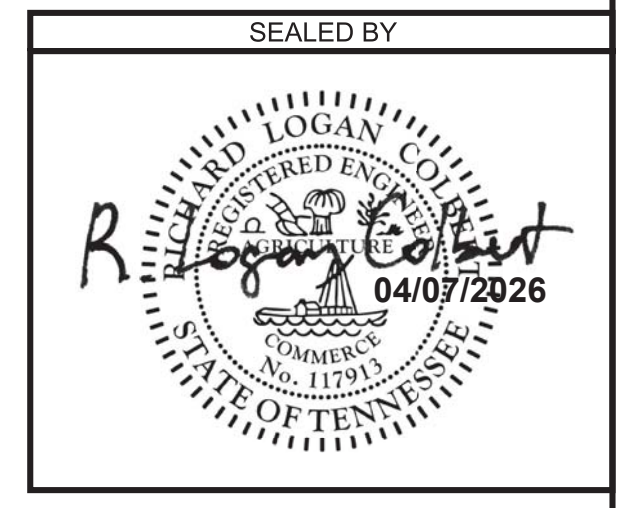
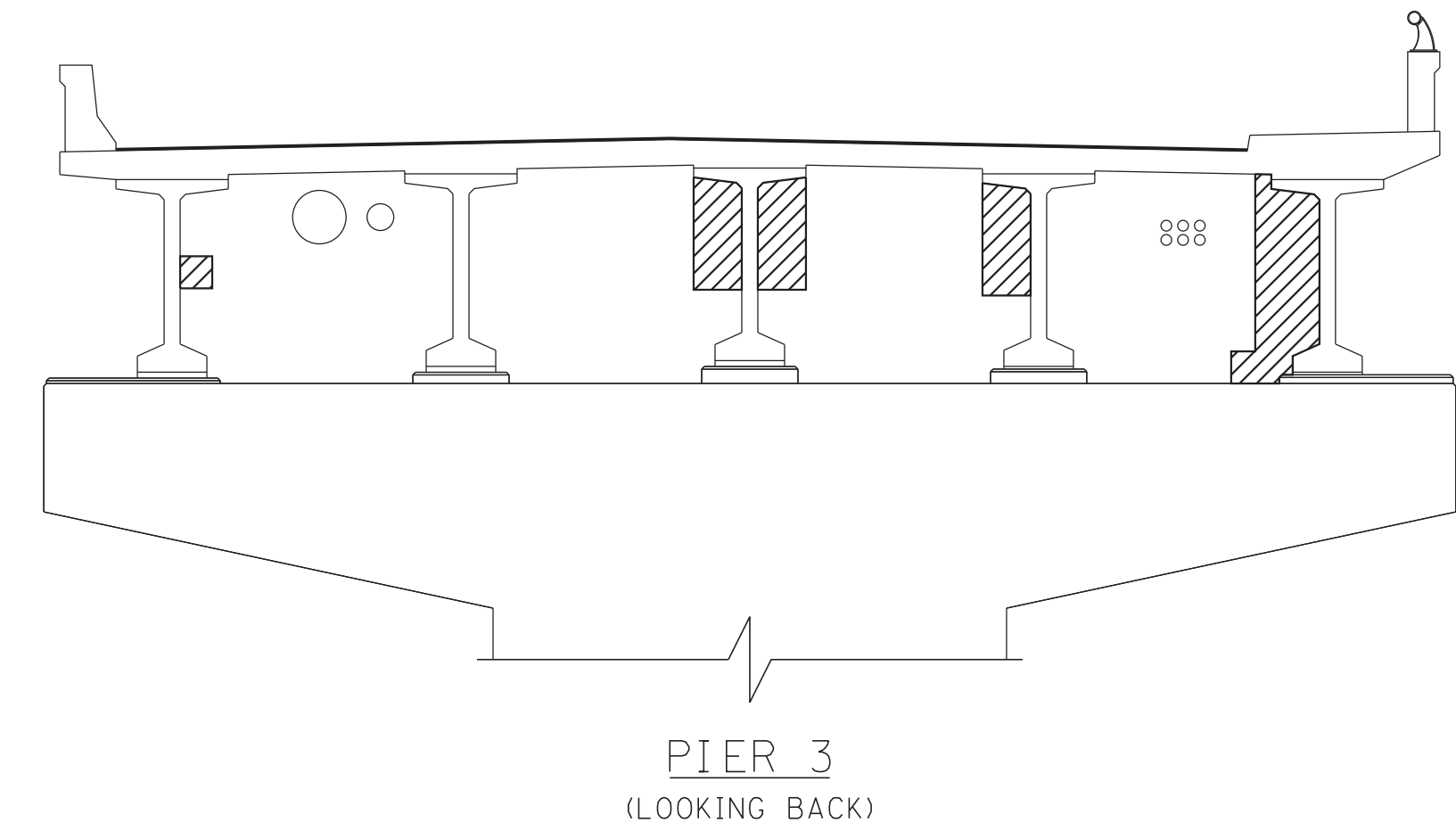
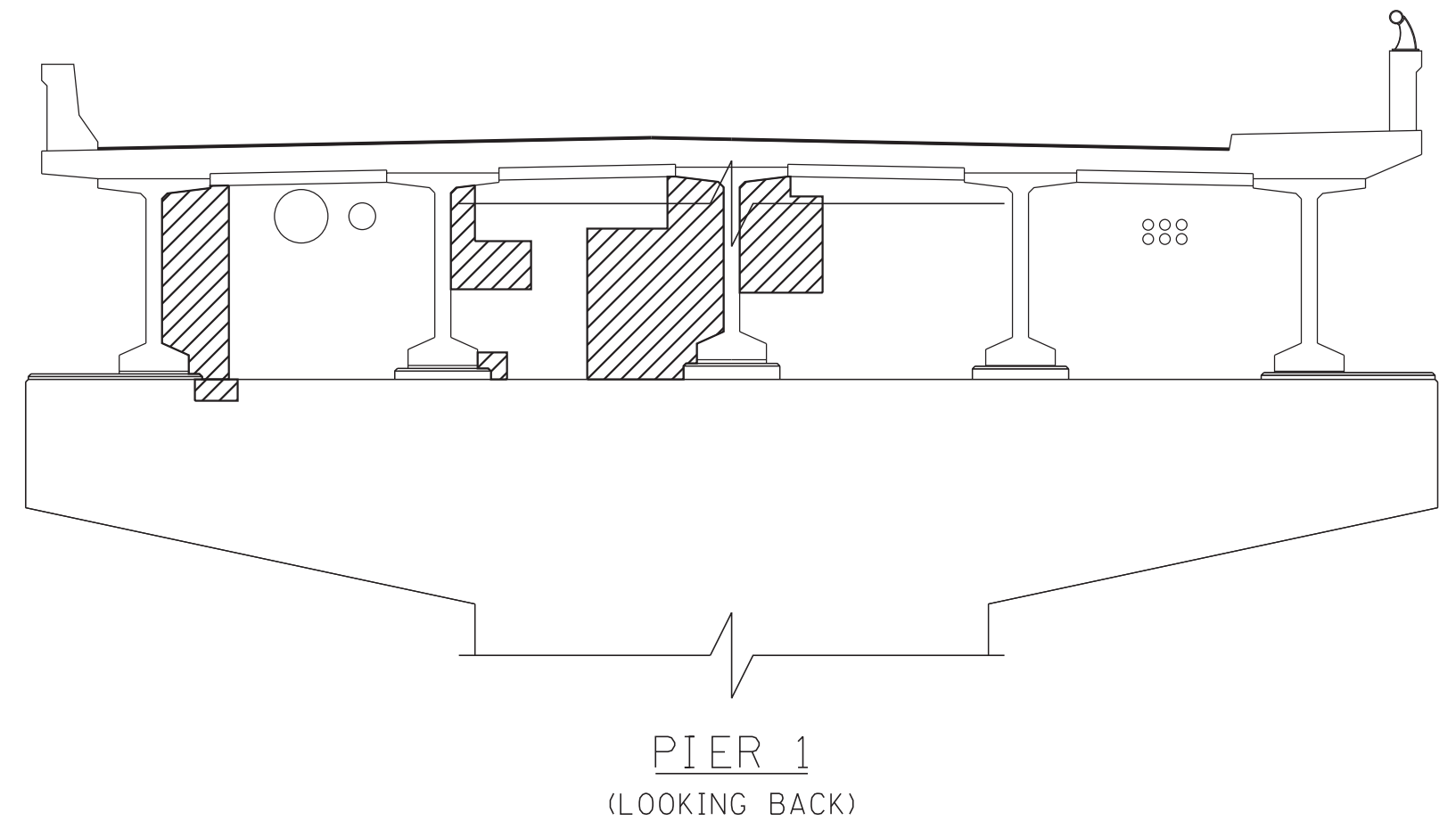
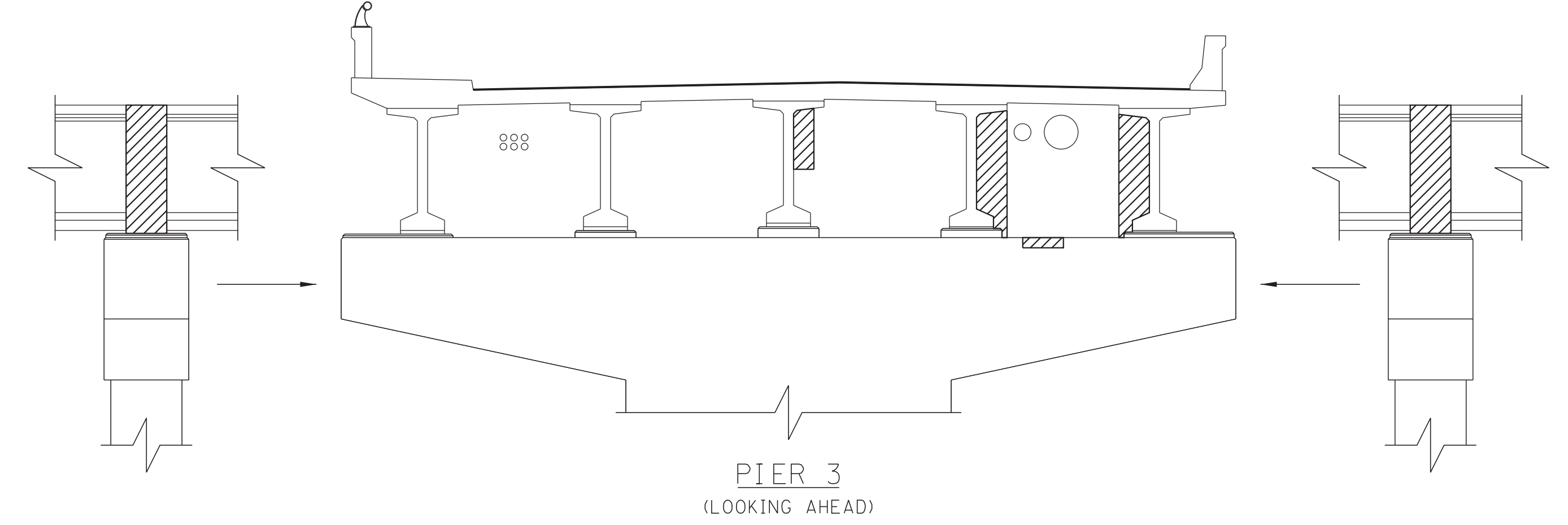
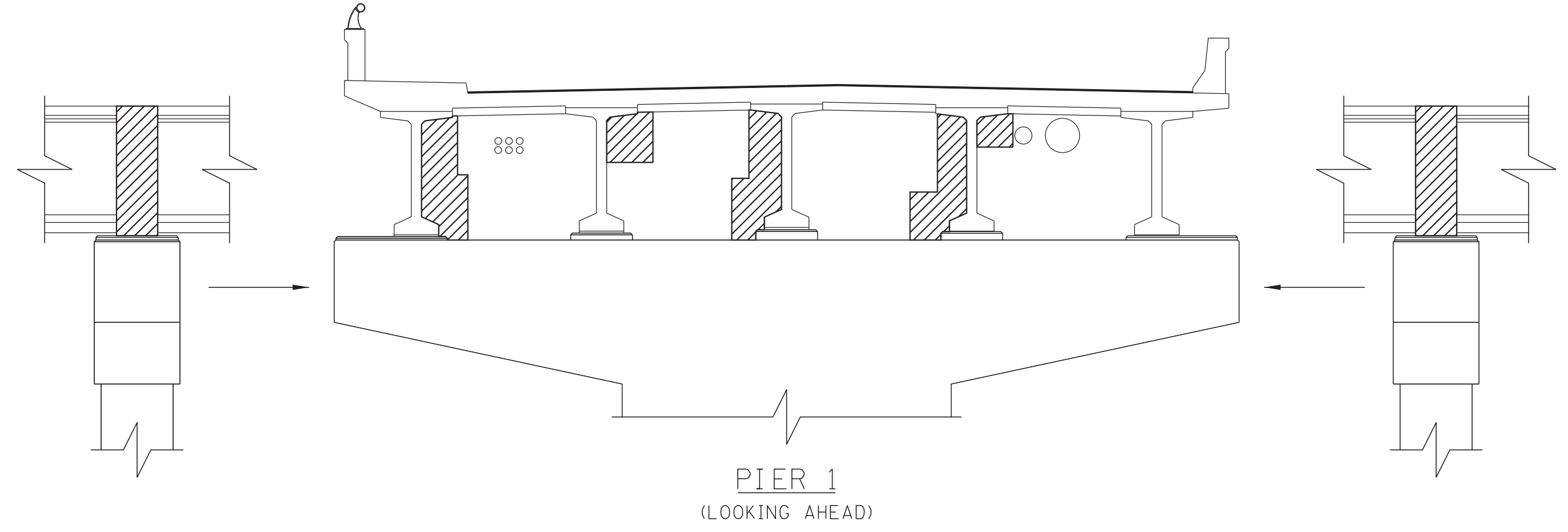
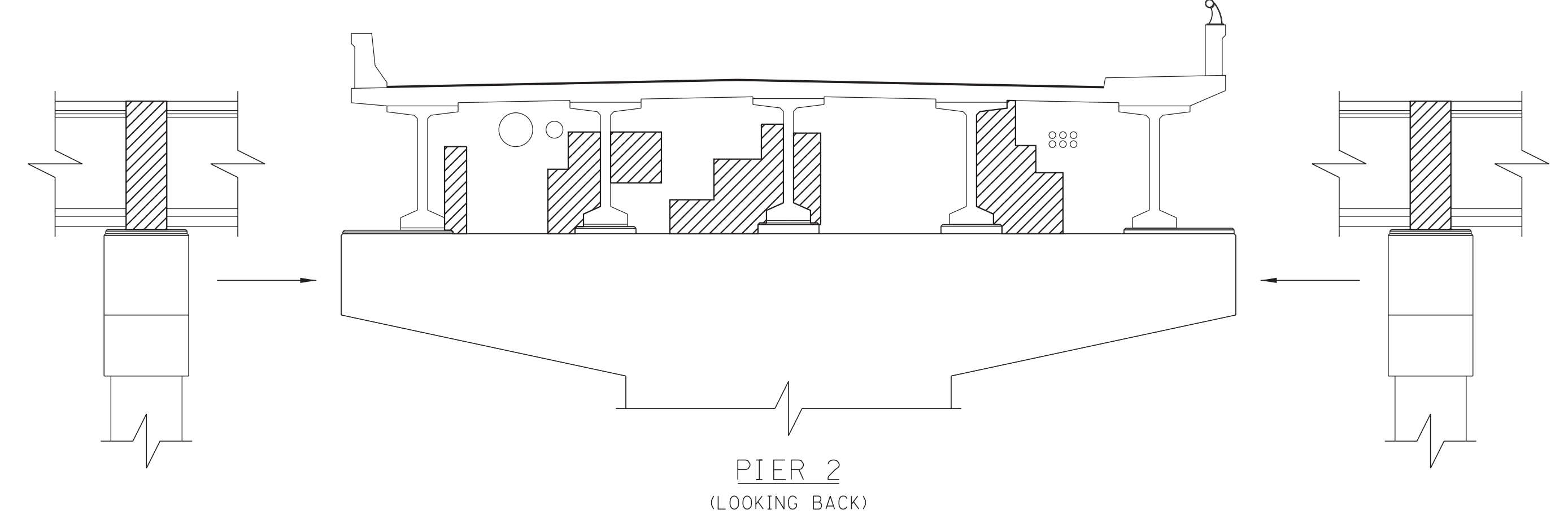
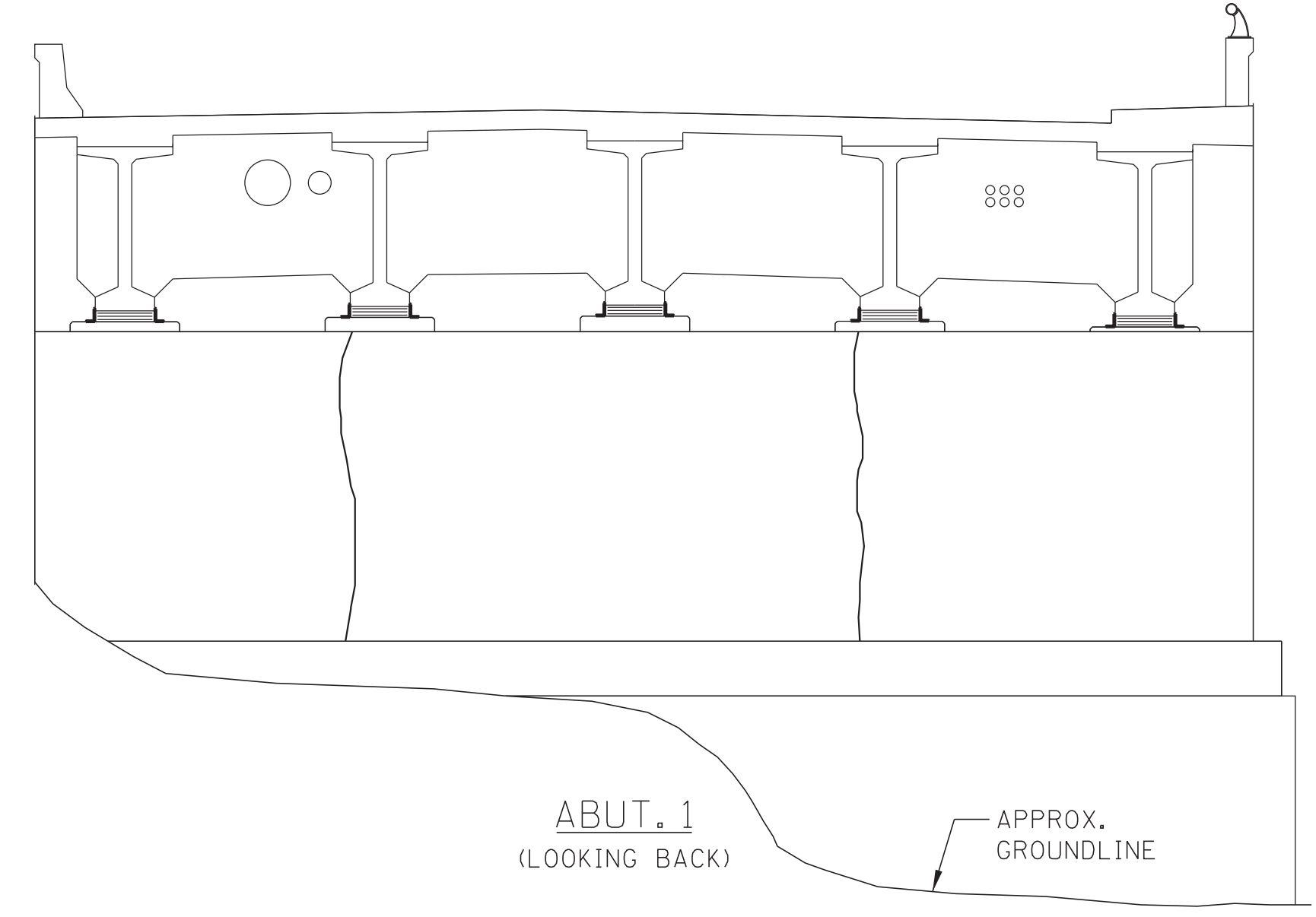
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SCOUR REPAIR - PIER 2
BRIDGE NO. 73-1226-0.28
FED. I.D. NO. 73S24010001
PANSY HILL DR. OVER EMORY RIVER
& NORFOLK SOUTHERN RAILWAY
ROANE COUNTY
2026

BR-132-769

Palmer
ENGINEERING
PIN NO.: 124518.00
DESIGN BY: R.L. COLBERT DATE: 11/2025
DRAWN BY: M.D. SIMPSON DATE: 11/2025
SUPERVISED BY: G.S. WILSON DATE: 11/2025
CHECKED BY: R.L. COLBERT DATE: 11/2025

PROJECT NO.	YEAR	SHEET NO.	
73455-3512-04	2026	B10	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	04-07-2026	MEL	UPDATED SHEET NUMBER



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIRS
BRIDGE NO. 73-1226-0.28
FED. I.D. NO. 73S24010001
PANSY HILL DR. OVER EMORY RIVER
& NORFOLK SOUTHERN RAILWAY
ROANE COUNTY
2026

BR-132-770

- SEE SHEET BR-132-771 FOR ESTIMATED QUANTITIES.
- DENOTES AREA TO BE REPAIRED UNDER ITEM NO. 604-10.05 AND/OR 604-10.54. FOR SPALL AND DELAMINATION REPAIR DETAILS AND NOTES, SEE SHEET BR-132-772.
 - DENOTES CRACK TO BE REPAIRED UNDER ITEM NO. 604-10.63. SEE CRACK REPAIR DETAILS AND NOTES ON SHEET BR-132-772.

Palmer
ENGINEERING

PIN NO.: 124518.00

DESIGN BY: R.L. COLBERT DATE: 11/2025

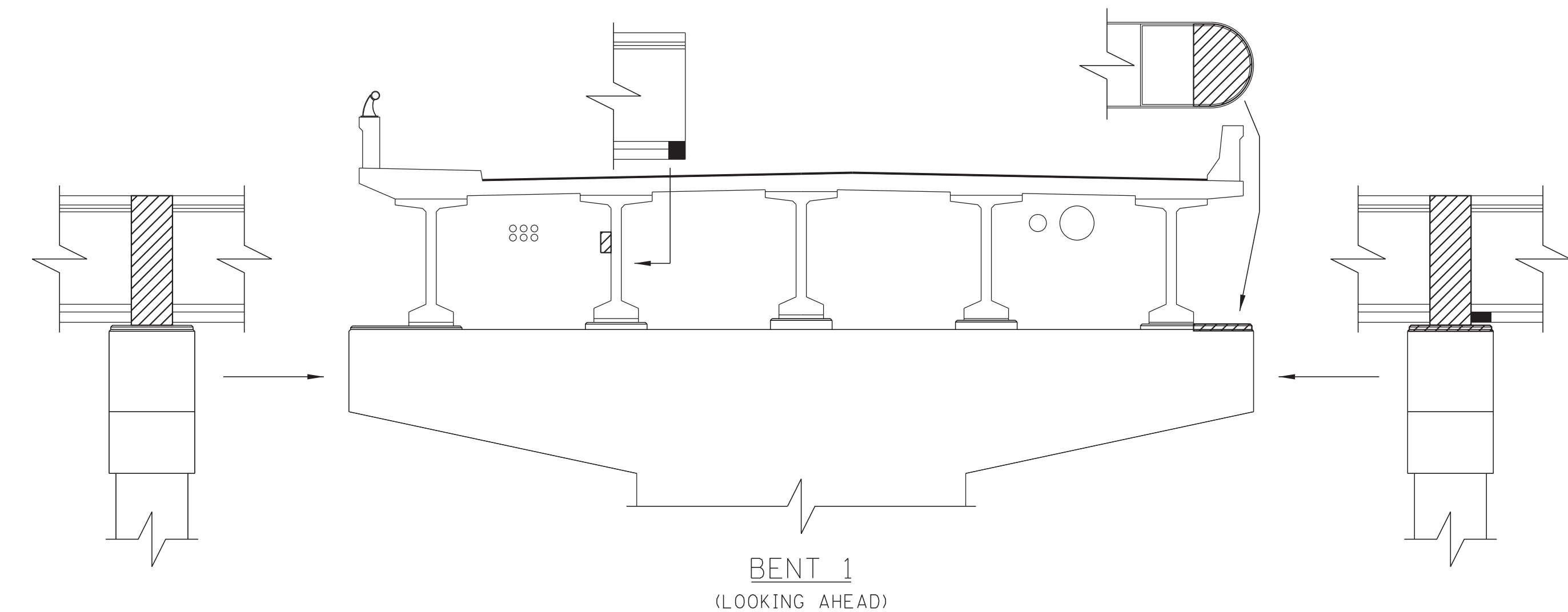
DRAWN BY: M.D. SIMPSON DATE: 11/2025

SUPERVISED BY: G.S. WILSON DATE: 11/2025

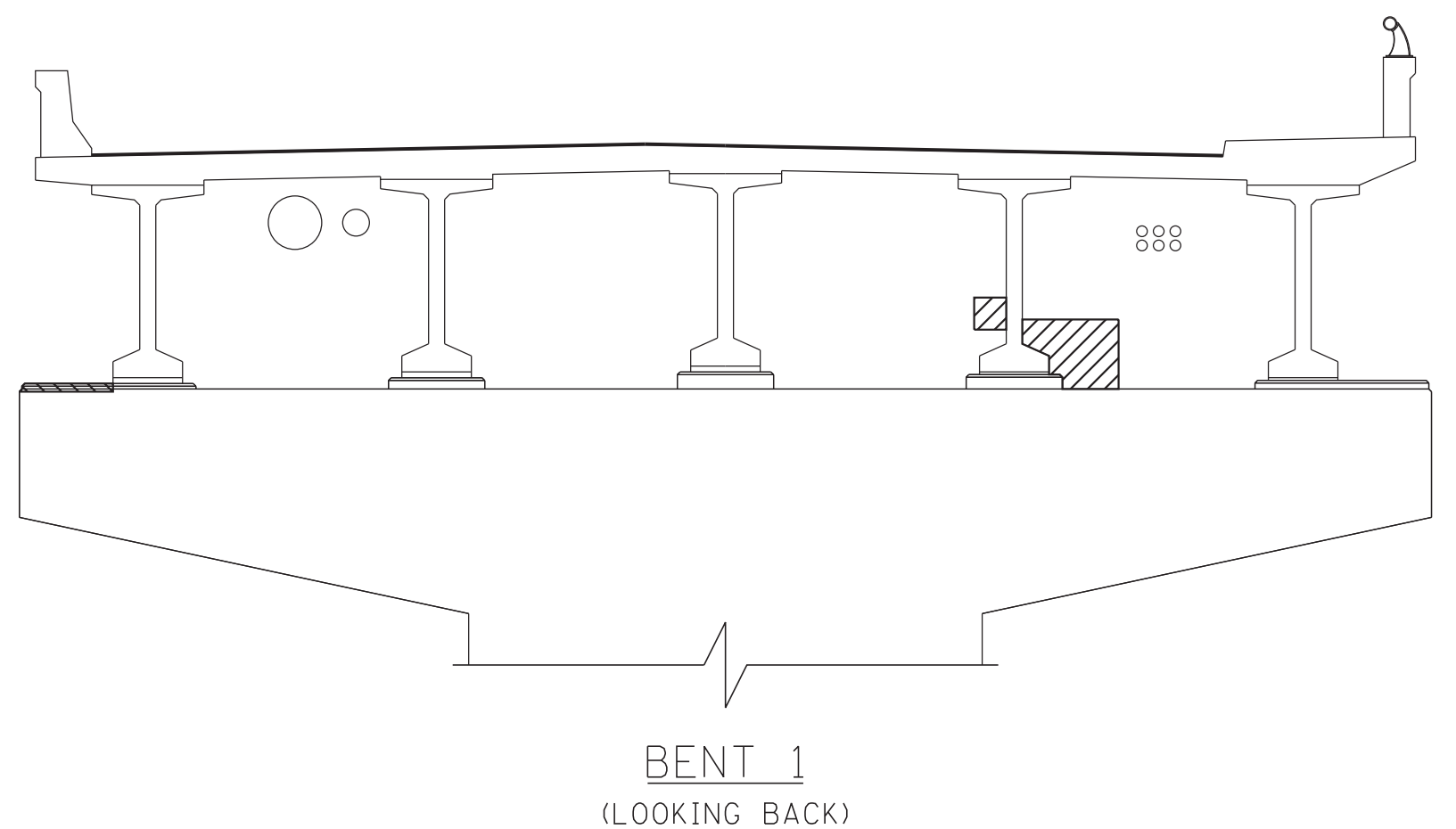
CHECKED BY: R.L. COLBERT DATE: 11/2025

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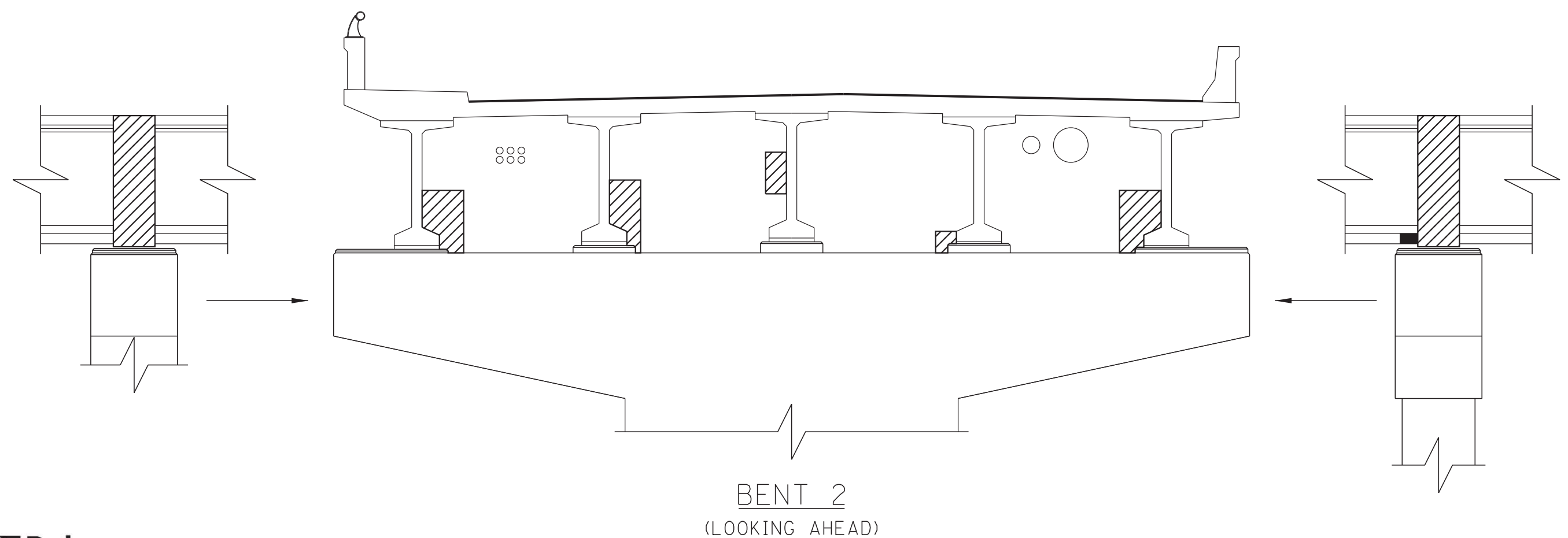
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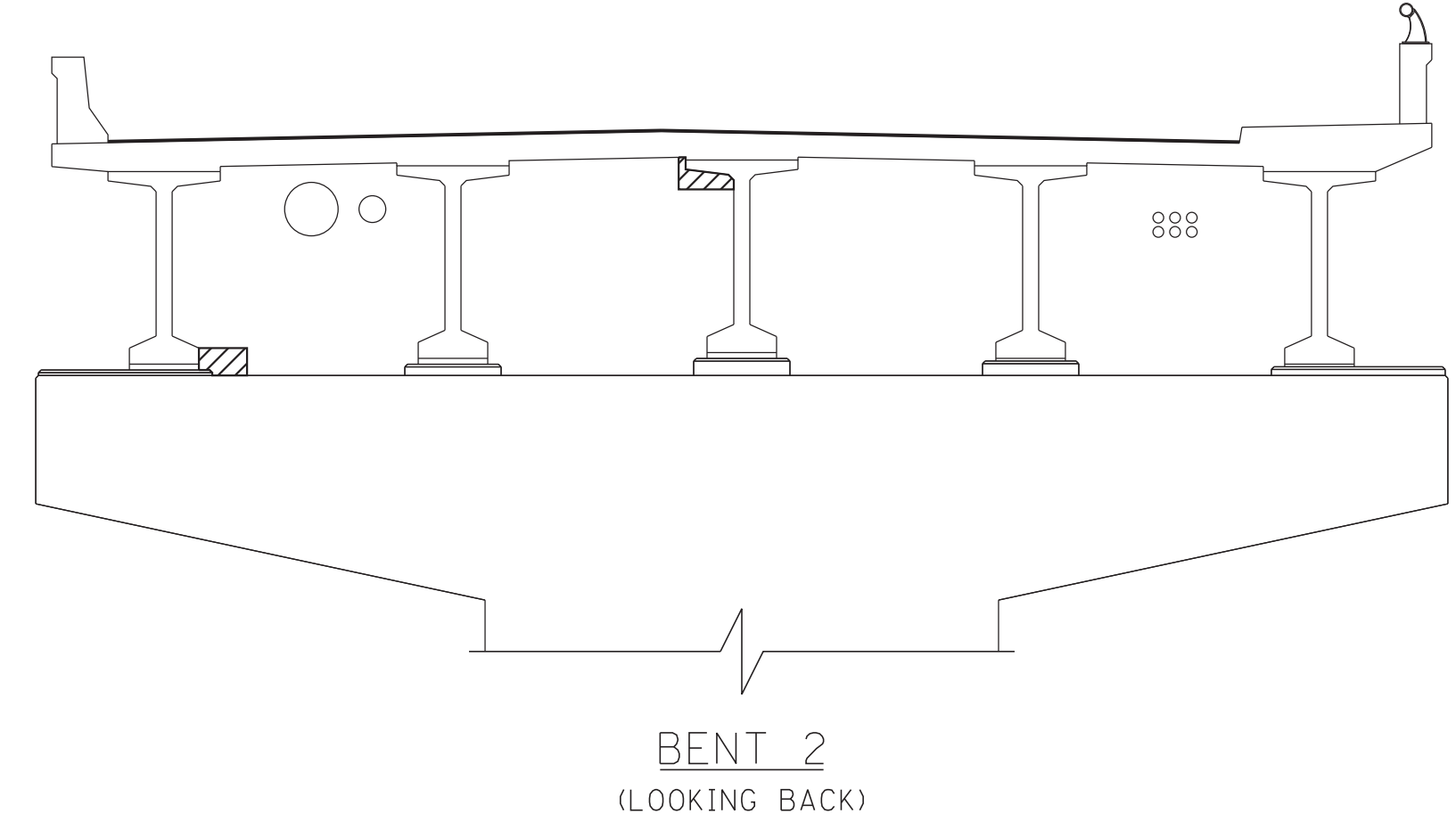
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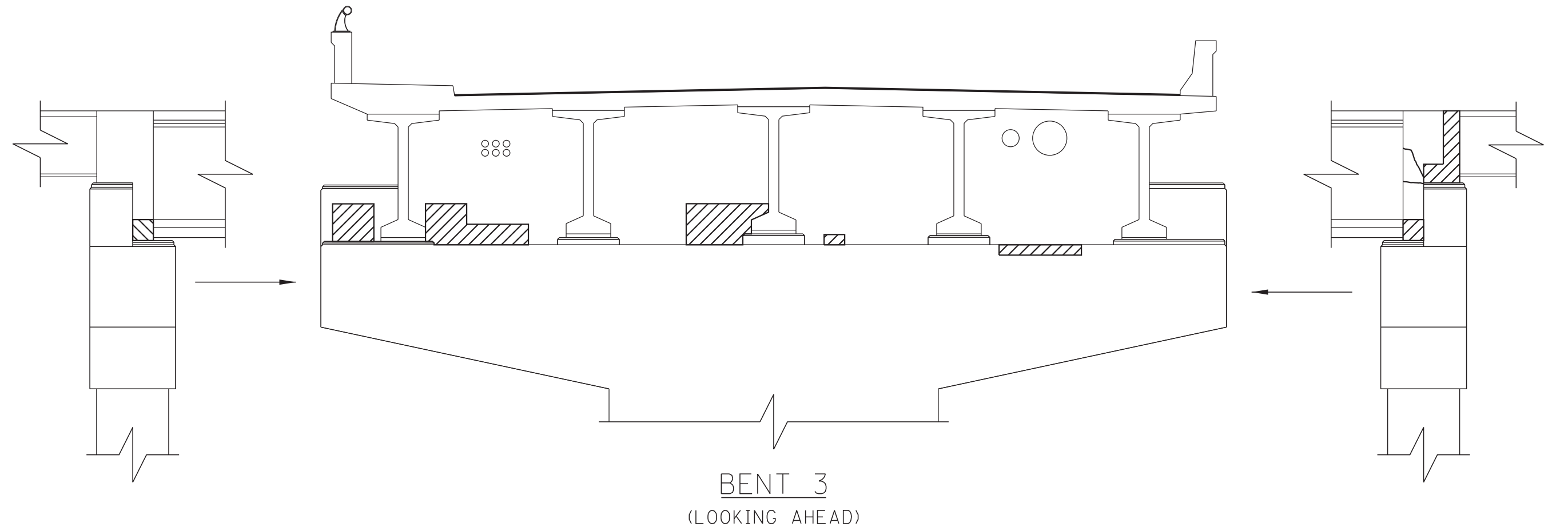
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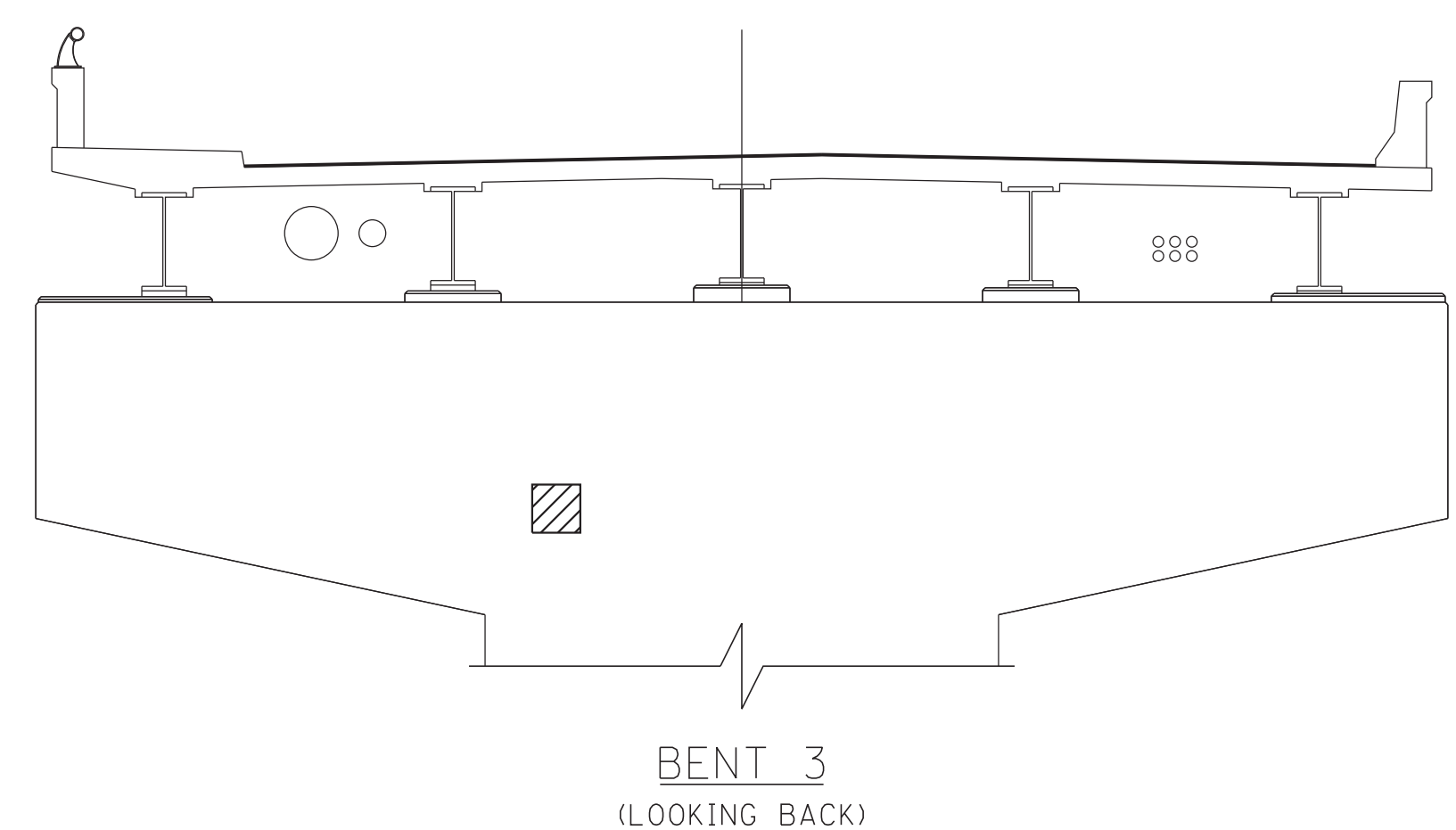
BENT 2
(LOOKING AHEAD)



BENT 2
(LOOKING BACK)



BENT 3
(LOOKING AHEAD)



BENT 3
(LOOKING BACK)

ESTIMATED QUANTITIES

LOCATION OF REPAIR	ITEM 604-10.05 AND/OR 604-10.54 APPROX. REPAIR AREAS (S.F.)	ITEM 604-10.63 APPROX. REPAIR AREAS (L.F.)	ITEM 604-10.42 APPROX. REPAIR AREAS (C.F.)
ABUT. 1	-	23	-
PIER 1	114	-	-
PIER 2	87	-	-
PIER 3	74	-	-
BENT 1	45	-	2
BENT 2	45	-	1
BENT 3	28	3	-
TOTAL	393	26	3

PROJECT NO.	YEAR	SHEET NO.
73455-3512-04	2026	B11

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	04-07-2026	MEL	UPDATED SHEET NUMBER

- DENOTES AREA TO BE REPAIRED UNDER ITEM NO. 604-10.05 AND/OR 604-10.54, FOR SPALL AND DELAMINATION REPAIR DETAILS AND NOTES, SEE SHEET BR-132-772.
- DENOTES CRACK TO BE REPAIRED UNDER ITEM NO. 604-10.63. SEE CRACK REPAIR DETAILS AND NOTES ON SHEET BR-132-772.
- DENOTES PORTIONS OF PRESTRESSED BEAMS TO BE REPAIRED UNDER ITEM NO. 604-10.42. SEE REPAIR DETAILS ON SHEET BR-132-767.

Palmer
ENGINEERING

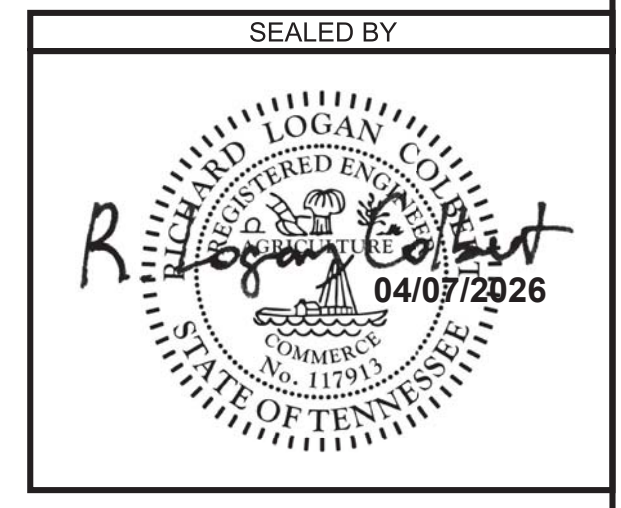
PIN NO.: 124518.00

DESIGN BY: R.L. COLBERT DATE: 11/2025

DRAWN BY: M.D. SIMPSON DATE: 11/2025

SUPERVISED BY: G.S. WILSON DATE: 11/2025

CHECKED BY: R.L. COLBERT DATE: 11/2025

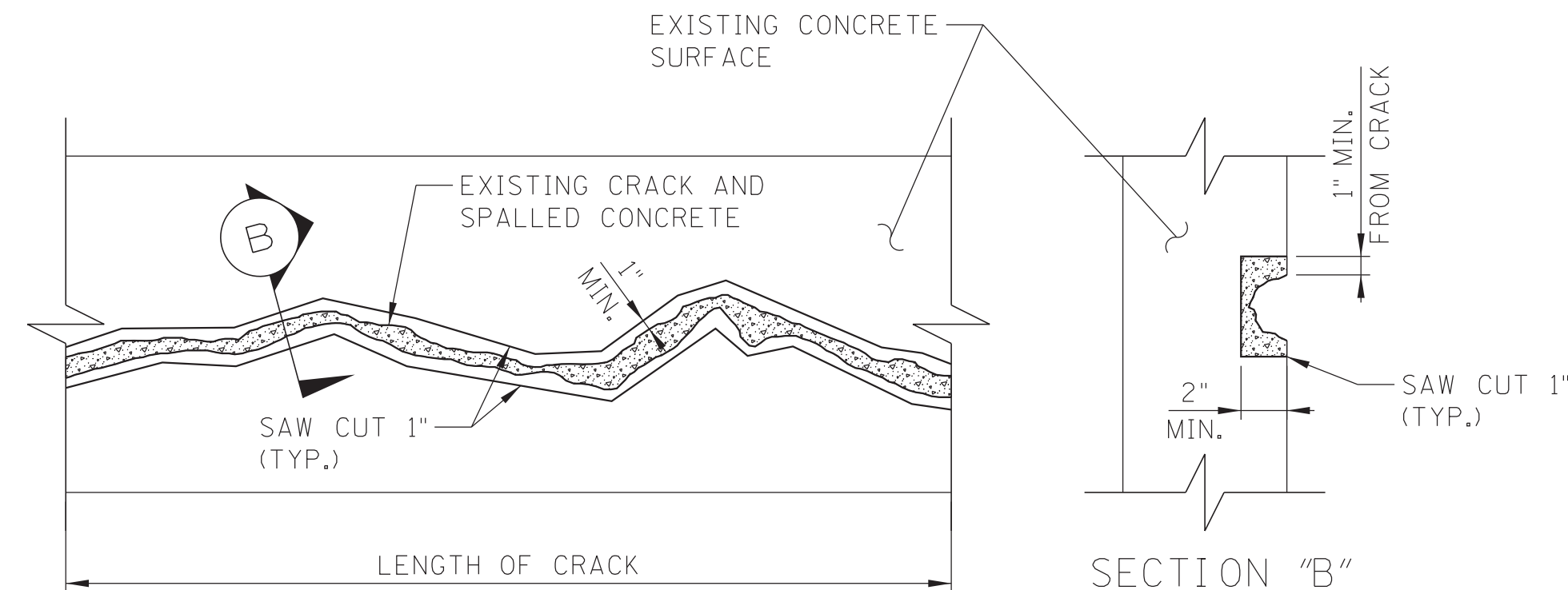


STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIRS
BRIDGE NO. 73-1226-0.28
FED. I.D. NO. 73S24010001
PANSY HILL DR. OVER EMORY RIVER
& NORFOLK SOUTHERN RAILWAY
ROANE COUNTY
2026

BR-132-771

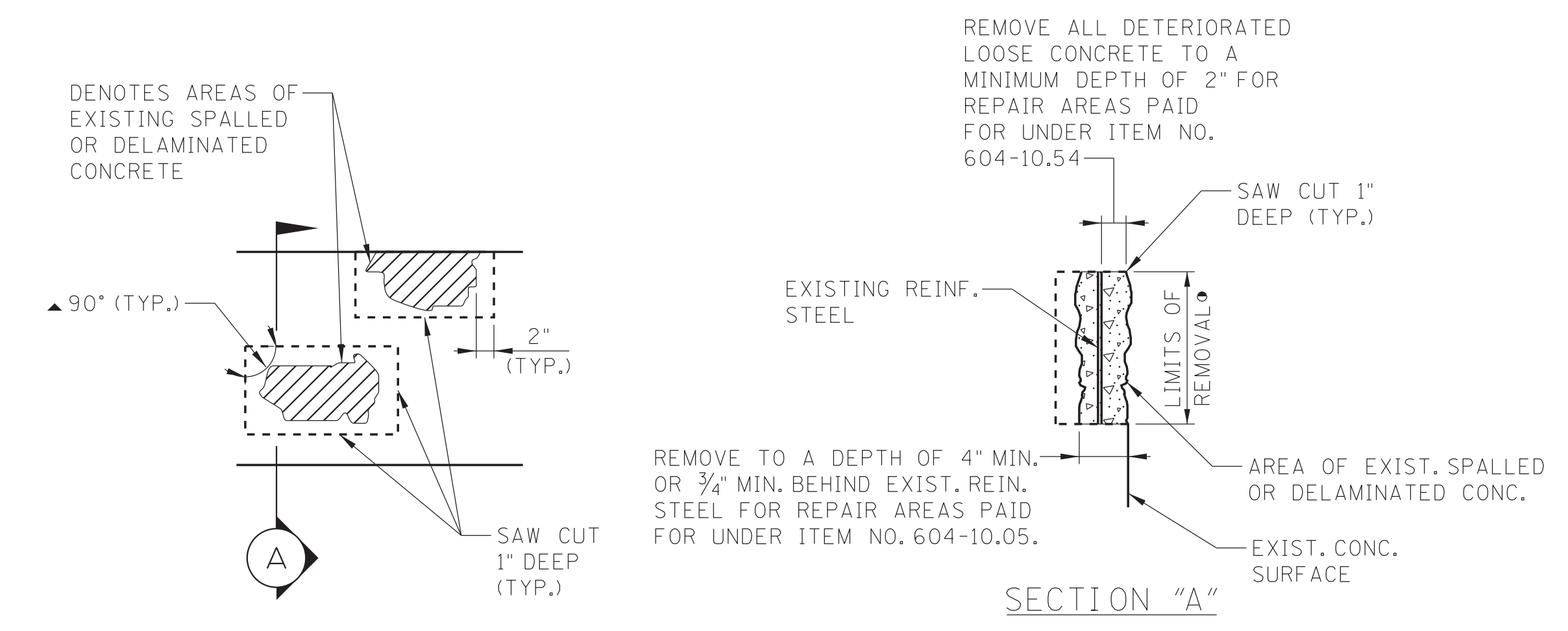
PROJECT NO.	YEAR	SHEET NO. 1	
73455-3512-04	2026	B12	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	04-07-2026	MEL	UPDATED SHEET NUMBER



DETAIL SHOWING CRACKED CONCRETE SURFACE TO BE REPAIRED

THE CONTRACTOR MAY OBTAIN A LIST OF ACCEPTABLE BRANDS OF POLYMER MODIFIED CEMENTITIOUS PATCHING MATERIAL FROM THE TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF MATERIALS AND TEST.

COST OF SAW CUTTING, REMOVING SPALLED CONCRETE, NEW POLYMER MODIFIED CEMENTITIOUS PATCHING MATERIAL, LABOR, AND ANY MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS AS SHOWN TO BE INCLUDED IN ITEM NO. 604-10.63, CONCRETE REPAIRS (CRACKS), L.F.



DETAILS SHOWING AREAS OF EXIST. SPALLED OR DELAMINATED CONCRETE SURFACES TO BE REMOVED AND REPAIRED

- DENOTES: LIMITS AND LOCATION OF REPAIRS TO BE DESIGNATED BY THE ENGINEER.
- ▲ DENOTES: SAW CUT EXISTING CONCRETE SURFACES SO AS TO OBTAIN SQUARED CORNERS.

EXTREME CARE SHALL BE TAKEN WHEN REMOVING THE EXISTING SPALLED OR DELAMINATED CONCRETE SO AS NOT TO DAMAGE THE EXISTING REINFORCING STEEL. ALL EXPOSED EXISTING REINFORCING STEEL SHALL RECEIVE A COMPLETE CLEANING TO REMOVE ALL RUST. ALL EXISTING REINFORCEMENT SHALL REMAIN IN PLACE. ALL WORK MUST MEET WITH THE FULL APPROVAL OF THE ENGINEER.

THE ENGINEER SHALL HAVE THE OPTION OF DESIGNATING A SPALLED OR DELAMINATED AREA TO BE REPAIRED UNDER ITEM NO. 604-10.05 OR 604-10.54. PATCHING MATERIAL FOR ITEM NO. 604-10.05 SHALL BE HIGH EARLY STRENGTH CONCRETE. PATCHING MATERIAL FOR ITEM NO. 604-10.54 SHALL BE A POLYMER MODIFIED CEMENTITIOUS STRUCTURAL PATCHING MATERIAL. SEE QUALIFIED PRODUCTS LIST (SECTION B, QPL 13.009).

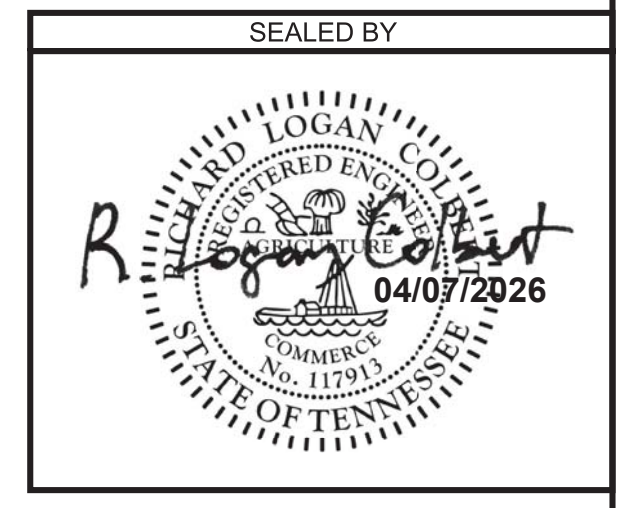
COST OF SAW CUTTING, REMOVING SPALLED OR DELAMINATED CONCRETE, CLEANING, PATCHING MATERIAL, LABOR, AND ANY MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS AS SHOWN TO BE INCLUDED IN ITEM NO. 604-10.54, CONCRETE REPAIRS, S.F. OR ITEM NO. 604-10.05, CONCRETE, S.F.

DURING REPAIRS, ANY EXISTING REINFORCING STEEL EXHIBITING MORE THAN 20 PERCENT SECTION LOSS SHALL BE REPAIRED. EITHER NEW IN-KIND REINFORCING STEEL SHALL BE SPLICED TO THE EXISTING BARS OR THE BARS SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. THE COST OF ANY NEW REINFORCING STEEL REQUIRED TO COMPLETE THE REPAIRS SHALL BE INCLUDED IN ITEM NO. 604-10.05. ANY DAMAGE TO EXISTING REINFORCING STEEL DURING CONCRETE REMOVAL SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

THE ENGINEER SHALL DESIGNATE ALL SPALLED OR DELAMINATED CONCRETE REPAIR AREAS IN THE FIELD. QUANTITIES GIVEN ARE APPROXIMATE.

- POWER DRIVEN HAND TOOLS USED FOR REMOVAL OF UNSOUND CONCRETE ARE SUBJECT TO THE FOLLOWING RESTRICTIONS:
1. PNEUMATIC HAMMERS HEAVIER THAN THE 35 LB. CLASS SHALL NOT BE USED.
 2. CHIPPING HAMMERS OF THE 15 LB. CLASS SHALL BE USED TO REMOVE CONCRETE FROM BEHIND REINFORCING STEEL.

PNEUMATICALLY PLACED CONCRETE IS NOT ALLOWED.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONCRETE REPAIR DETAILS
BRIDGE NO. 73-1226-0.28
FED. I.D. NO. 73S24010001
PANSY HILL DR. OVER EMORY RIVER
& NORFOLK SOUTHERN RAILWAY
ROANE COUNTY
2026

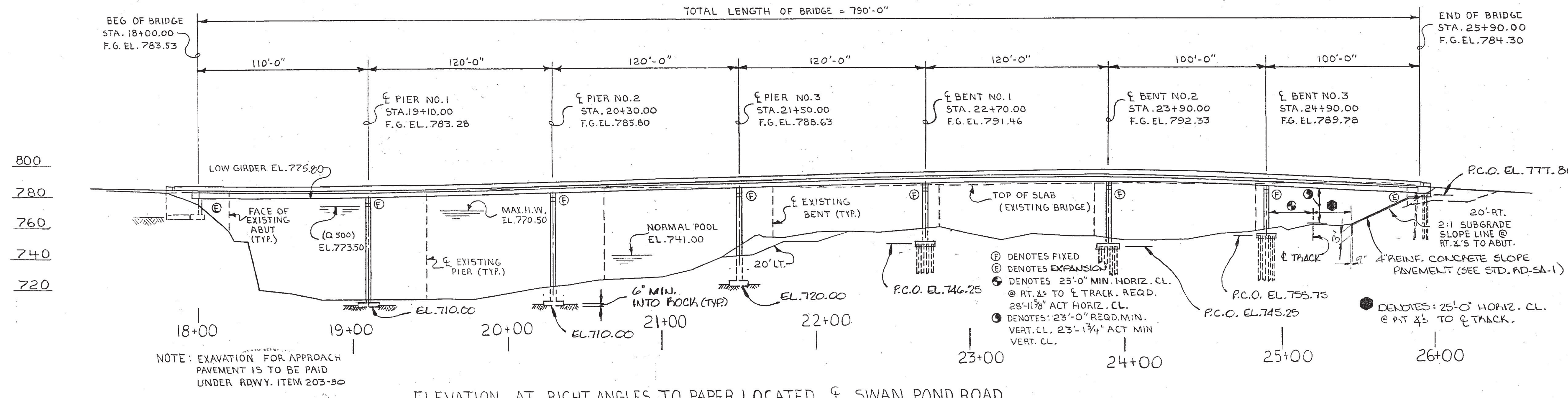
BR-132-772

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Palmer ENGINEERING	PIN NO.: 124518.00	DATE: 11/2025
DESIGN BY: R.L. COLBERT	DATE: 11/2025	
DRAWN BY: M.D. SIMPSON	DATE: 11/2025	
SUPERVISED BY: G.S. WILSON	DATE: 11/2025	
CHECKED BY: R.L. COLBERT	DATE: 11/2025	

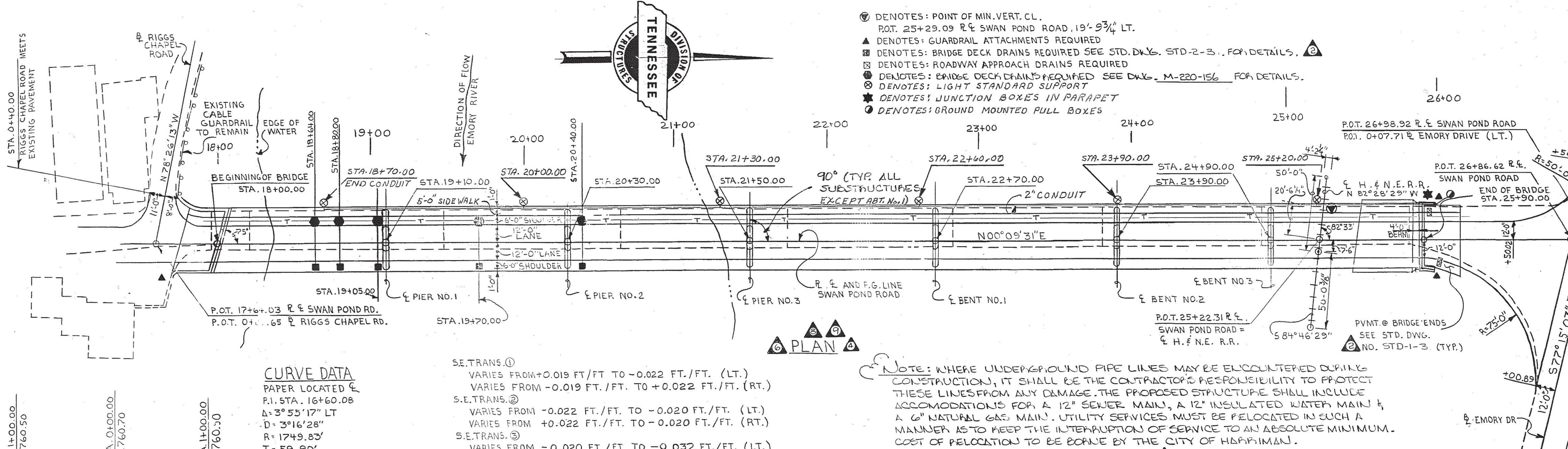
PROJECT NO.	YEAR	SHEET NO.
BRM-1226(1)	1991	

REVISIONS		
NO.	DATE	BRIEF DESCRIPTION
1	10-9-91	AEP REV. STD. DWG. NOS. & REV. DATES
2	10-23-91	AEP REV. STD. DWG. NOS. & REV. DATES
3	11-22-91	AEP REV. DATES
4		AEP ADDED TELE. LINE
5	4-15-92	R/W REV. DATES
6	8-24-92	AP REV. DATES & STATION
7	9-21-92	AEP REV. DATES
8	4-01-93	AEP STRUCTURE LIGHTING
9	4-05-93	AEP REV. STRUCTURE LIGHTING



ELEVATION AT RIGHT ANGLES TO PAPER LOCATED @ SWAN POND ROAD

DWG. NO.	REV.	DATE
LAYOUT OF BRIDGE	M-220-152	4-05-93
GENERAL NOTES	M-220-153	10-23-91
ESTIMATED QUANTITIES	M-220-154	4-05-93
FOUNDATION DATA	M-220-155	10-23-91
SUPERSTRUCTURE	M-220-156	9-21-92
SUPERSTRUCTURE DETAILS	M-220-157	9-21-92
SU PERSTRUCTURE DETAILS	M-220-158	4-15-92
SUPERSTRUCTURE DETAILS	M-220-159	4-15-92
SUPERSTRUCTURE DETAILS	M-220-160	11-22-91
PRESTRESS BEAM DET.-SPAN 1, BM 1	M-220-161	
PRESTRESS BEAM DET.-SPAN 1, BM 2-4	M-220-162	
PRESTRESS BEAM DET.-SPAN 1, BM 5	M-220-163	
PRESTRESS BEAM DET.-SPAN 2-5	M-220-164	
PRESTRESS BEAM DET.-SPAN 6	M-220-165	
ABUTMENT NO. 1	M-220-166	8-24-92
ABUTMENT NO. 1 DETAILS	M-220-167	8-24-92
ABUTMENT NO. 1 DETAILS	M-220-168	
ABUTMENT NO. 2	M-220-169	4-15-92
ABUTMENT NO. 2 DETAILS	M-220-170	10-23-91
PIERS NO. 1, 2 & 3	M-220-171	8-24-92
PIERS NO. 1 & 2	M-220-172	10-23-91
BENT NO. 3	M-220-173	10-23-91
BILL OF STEEL	M-220-174	9-21-92
BILL OF STEEL	M-220-175	
BILL OF STEEL	M-220-176	
BILL OF STEEL	M-220-177	



PLAN

DWG. NO.	LAST REV. DATE
* BRIDGE RAILING WITH STRUCTURAL TUBING	STD-11-1 9-01-91
REINFORCING BAR SUPPORT DETAILS FOR CONCRETE SLAB	STD-9-1 9-01-91
* MISC. ABUTMENT AND DRAINAGE DETAILS	STD-10-1 9-01-91
* REINFORCED CONCRETE PAVEMENT AT BRIDGE ENDS	STD-1-3 9-01-91
* BRIDGE RAILING CONCRETE PARAPET	STD-1-1 9-01-91
DESIGN CRITERIA	STD-4-1 9-01-91
STD. PRECAST PREST. PANELS GEN. DETAILS	STD-4-2 9-01-91
STD. PRECAST PREST. PANELS CONSTRUCTION DETAILS	STD-4-3 9-01-91
STD. PILE DETAILS	STD-5-1 9-01-91
* STRIP SEAL EXPANSION JOINT	STD-3-1 9-01-91
* STRIP SEAL EXPANSION JOINT	STD-3-2 9-01-91

CURVE DATA

PAPER LOCATED @ P.I. STA. 18+60.08
 Δ = 3° 55' 17" LT
 D = 3° 16' 28"
 R = 1749.82'
 T = 59.90'
 L = 119.76'
 E = 1.03'
 SEE GRADE SKETCH FOR SUPER. ELEVATIONS

S.E. TRANS

VARIES FROM +0.019 FT./FT. TO -0.022 FT./FT. (LT.)
 VARIES FROM -0.019 FT./FT. TO +0.022 FT./FT. (RT.)
 VARIES FROM -0.022 FT./FT. TO -0.020 FT./FT. (LT.)
 VARIES FROM +0.022 FT./FT. TO -0.020 FT./FT. (RT.)
 VARIES FROM -0.020 FT./FT. TO -0.032 FT./FT. (LT.)
 VARIES FROM -0.020 FT./FT. TO -0.011 FT./FT. (RT.)

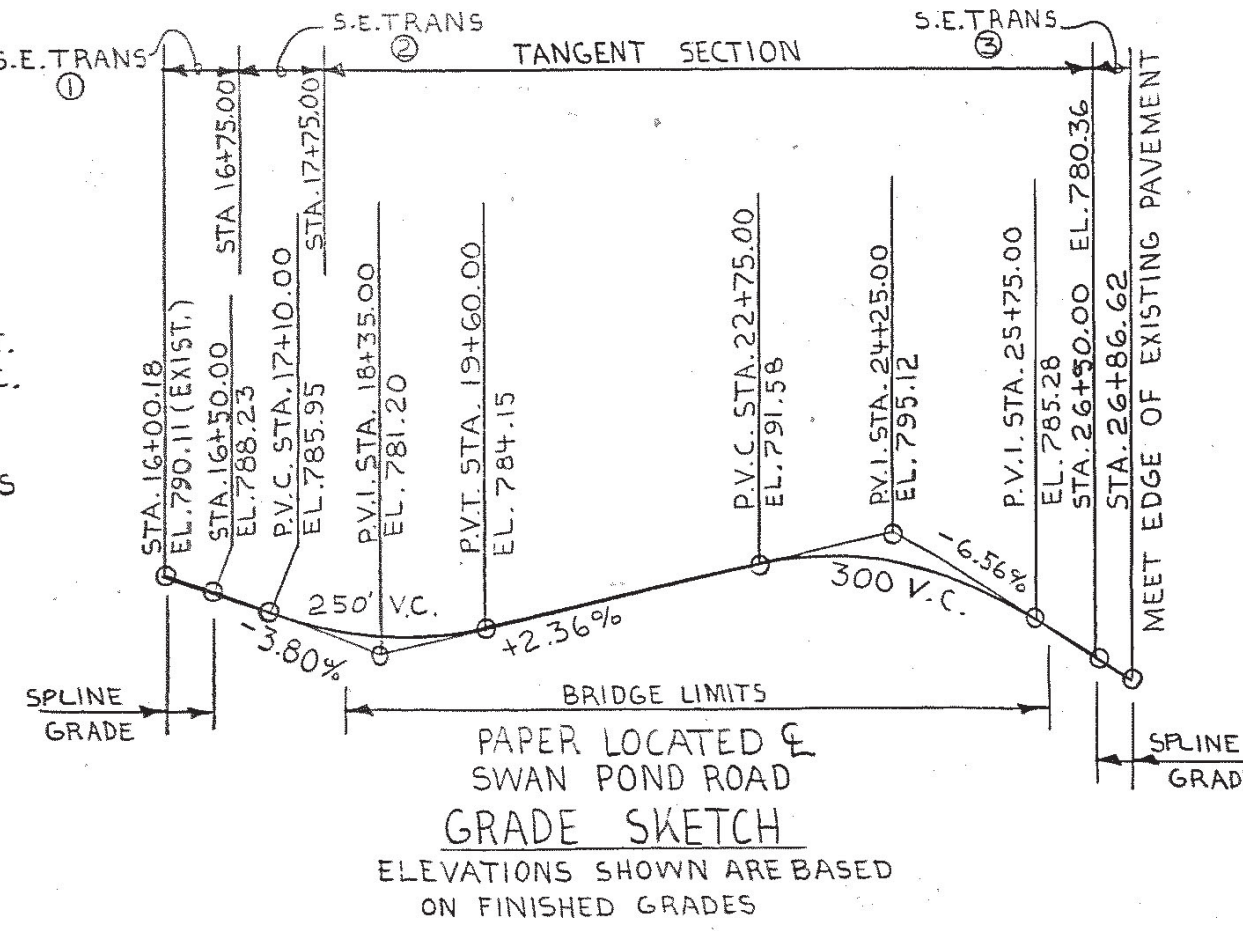
NOTE: WHERE UNDERGROUND PIPE LINES MAY BE ENCOUNTERED DURING CONSTRUCTION, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT THESE LINES FROM ANY DAMAGE. THE PROPOSED STRUCTURE SHALL INCLUDE ACCOMMODATIONS FOR A 12" SEWER MAIN, A 12" INSULATED WATER MAIN & A 6" NATURAL GAS MAIN. UTILITY SERVICES MUST BE LOCATED IN SUCH A MANNER AS TO KEEP THE INTERRUPTION OF SERVICE TO AN ABSOLUTE MINIMUM. COST OF RELOCATION TO BE BORNE BY THE CITY OF HARRIMAN.

PROVISION NO.	LAST REV. DATE	LIST OF PROVISIONS
105A	7-21-87	APPROVAL OF SHOP DRAWINGS
602	3-15-89	SECTION 602 - STEEL STRUCTURES
603A	8-05-91	PAINTING
604	2-18-91	CONCRETE STRUCTURES
604CX	9-16-91	CONTRACTOR-MIX DESIGN AND TESTING STRUCTURAL CONCRETE
604P	8-05-91	PRECAST PREST BRIDGE DECK PANELS
604S	9-17-90	STRIP SEAL EXPANSION JOINTS
907A	3-25-85	EPOXY COATED REINFORCING STEEL
606	2-18-91	STEEL "H" PILE TIP REINFORCING
615	12-11-89	PRE-CAST PRESTRESS, CONCRETE BRIDGE MEMBERS
100	8-05-91	REVIS. & ADDIT. TO STD. SPEC. FOR ROAD & BRIDGE CONST. (MARCH 1981)

STD.	DWG. NO.	LAST REV. DATE
STD. PARAPET CHAINS	STD-2-3	9-01-91
STEEL SLIDER PLATE ASSEMBLIES FOR CONCRETE PARAPET & MEDIAN CARRIER	STD-1-7	9-01-91
BRIDGE END DRAIN DETAILS	STD-1-4	9-01-91
BRIDGE END DRAIN DETAILS	STD-1-5	9-01-91
BRIDGE END DRAIN DETAILS	STD-1-6	9-01-91
STD. FILE DETAILS	STD-5-2	9-01-91
STD. SEISMIC DETAILS	STD-6-1	9-01-91
* GUARDRAIL ATTACHMENT & TRANSITION DETAILS	M-19C-149A	12-14-90
SLOPE PROTECTION	RD SA-1	4-24-88
* LIGHT STANDARD SUPPORT DETAILS	STD-8-2	9-01-91

HYDRAULIC DESIGN DATA

DRAINAGE AREA 798 SQ. MI.
 DESIGN DISCHARGE (100 YR.) 197,000 CFS
 WATER AREA PROVIDED BELOW
 DESIGN H.W. EL. 766.50 18,440 SQ. FT.
 DESIGN VELOCITY 10.7 FT./SEC.
 BRIDGE BACKWATER 0.0'
 ROADWAY OVERTOPPING EL. 777.00
 500 YR. DISCHARGE (EL. 773.50) 275,000 CFS



DESIGNED BY A. PRICE DATE 4-91
 DRAWN BY K. DOTSON/P. LUTTRELL DATE 5-91
 SUPERVISED BY WOODS & FIELDS DATE 5-91
 CHECKED BY A. PRICE DATE 5-91

APPROVED *Edward P. Wossum*
 ENGINEER OF STRUCTURES
 DIRECTOR OF HIGHWAYS

ESTIMATED QUANTITIES

CONST. NO. 73950-3717-94

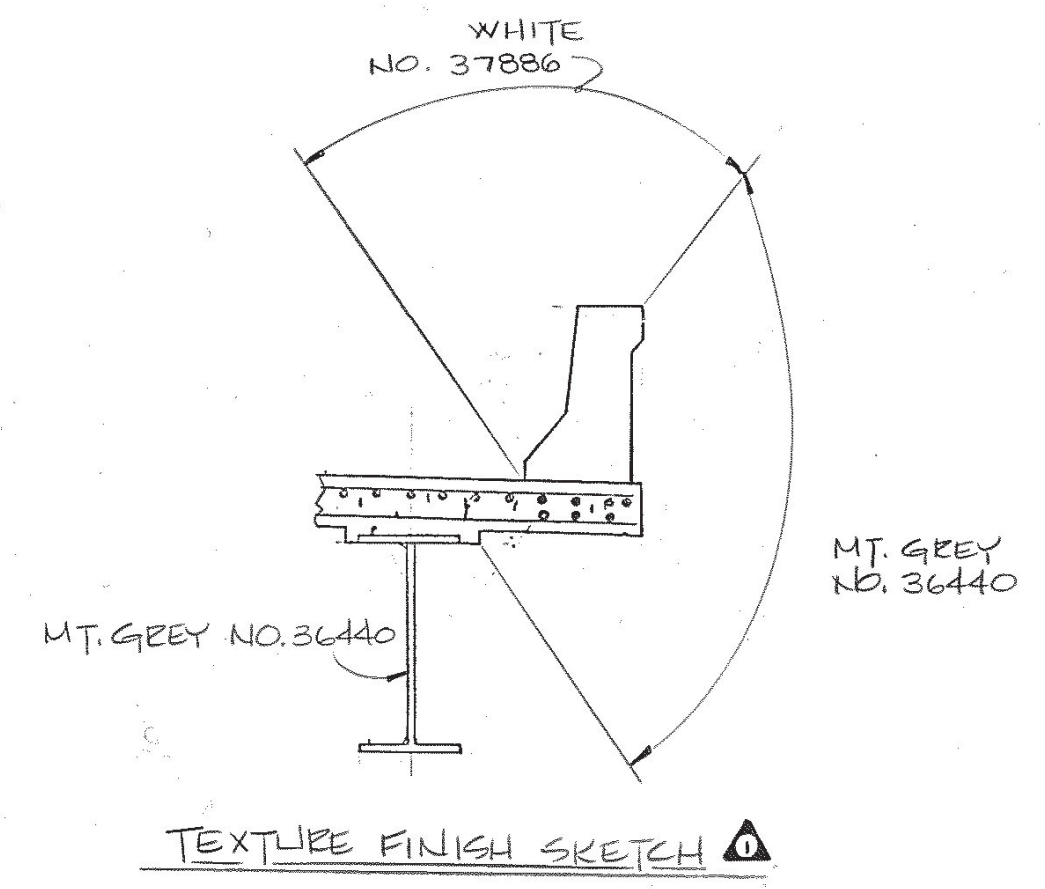
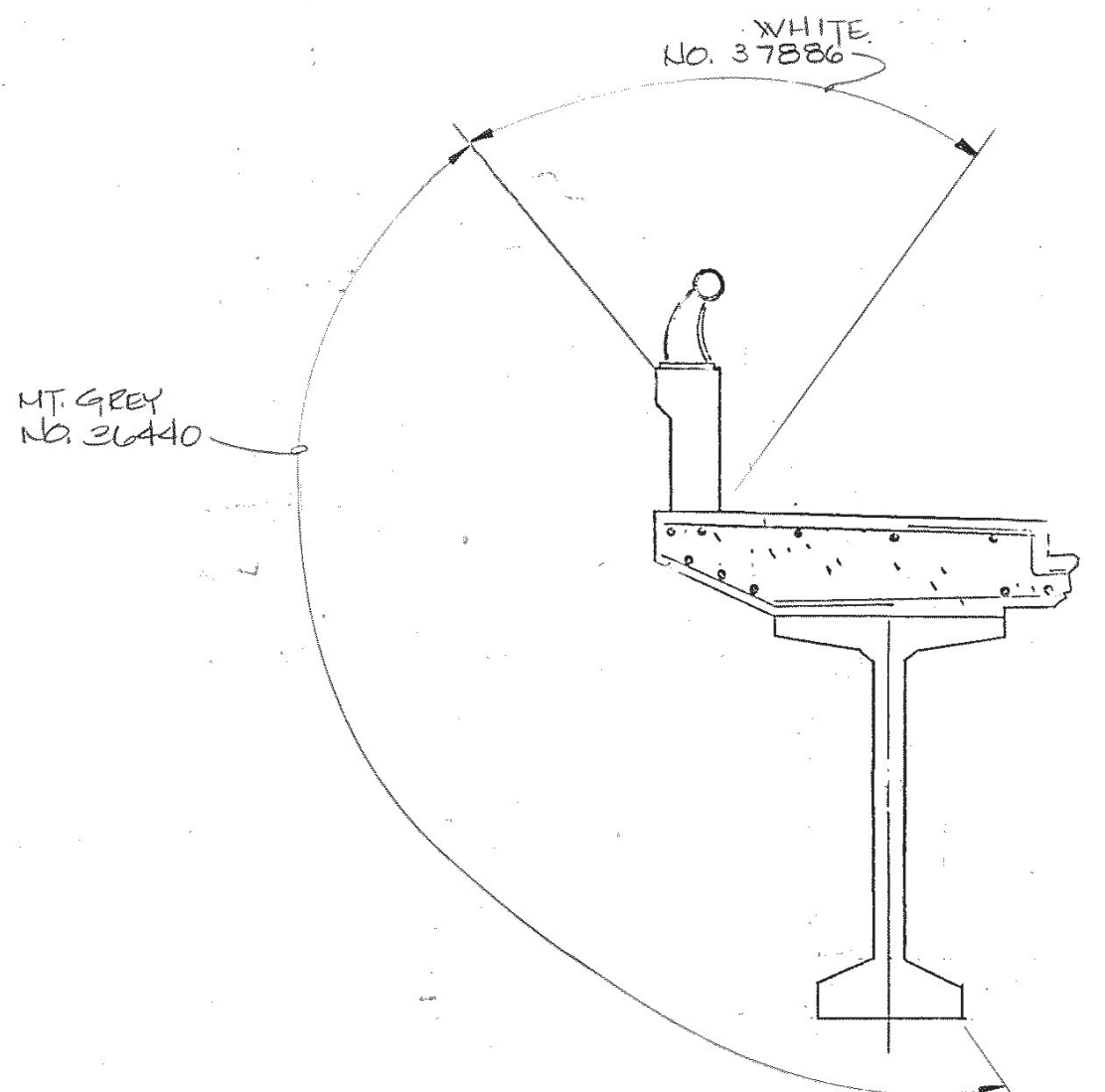
PROJECT NO.	YEAR	SHEET NO.
BRM-1226(1)	1991	

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	10-9-91	AEP	REV. 55 EPOXY REINF. TEXTURE
			SKETCH STRUCTURAL STEEL
			ITEM NO. 604-03.09
2	10-23-91	AEP	REV. STD. DWG. NOS.
3	11-19-91	WMM	REV. ITEM NO. 615-01.12
4	8-24-92	AP	REV. QUANTITIES
5	9-21-92	AEP	REV. QUANTITIES
6	4-01-93	AEP	STRUCTURE LIGHTING
7	4-05-93	AEP	REV. NOTE

ITEM NO.	DESCRIPTION	UNIT	TOTAL	SUPERSTRUCTURE	ABUT. NO. 1	PIER NO. 1	PIER NO. 2	PIER NO. 3	BENT NO. 1	BENT NO. 2	BENT NO. 3	ABUT. NO. 2
202-04.01	REMOVAL OF STRUCTURES (EXISTING BRIDGE NO. 73S24010001)	L.S.	1									
202-04.02	REMOVAL OF STRUCTURES (EXISTING ROCK ABUTMENT)	L.S.	1									
204-02.01	DRY EXCAVATION (BRIDGES)	C.Y.	1,234		677			247	104	81	72	53
204-03.01	WET EXCAVATION (BRIDGES)	C.Y.	639			155	155	329				
204-04.01	ROCK EXCAVATION (BRIDGES)	C.Y.	267		102	46	64	55				
204-05	ROCK DRILLING (BRIDGES)	L.F.	60		24	12	12	12				
204-10.01	FOUNDATION PREPARATION (PIER NO.1 - STATION 19+10.00)	L.S.	1									
204-10.02	FOUNDATION PREPARATION (PIER NO.2 - STATION 20+30.00)	L.S.	1									
204-10.03	FOUNDATION PREPARATION (PIER NO.3 - STATION 21+50.00)	L.S.	1									
303-01.02	GRANULAR BACKFILL (BRIDGES)	TON	217									
602-03	STEEL STRUCTURES	L.S.	1									
604-03.09	CONCRETE (BRIDGE DECK)	C.Y.	1,119	1,119								
604-02.03	EPOXY COATED REINFORCING STEEL	L.B.	312,306	302,953	8,063							
604-03.01	CLASS 'A' CONCRETE (BRIDGES)	C.Y.	1,224	43	179	195	202	188	128	132	126	1,290
604-03.02	STEEL BAR REINFORCEMENT (BRIDGES)	L.B.	303,235	8,280	20,348	58,644	60,015	56,012	32,762	33,804	28,193	5,177
604-03.04	PAVEMENT AT BRIDGE ENDS	S.Y.	222		112							
604-04.01	APPLIED TEXTURE FINISH (NEW STRUCTURES)	S.Y.	3,002									
604-11.01	EXPANSION DEVICE (4" MOVEMENT)	L.F.	88		45							43
606-02.03	STEEL PILES (10-INCH)	L.F.	4,400		25				711	1,179	1,917	568
606-02.06	PILE TIP REINFORCEMENT	L.F.	125		2				36	36	36	15
615-01.12	PRESTRESSED CONCRETE BULB-TEE BEAM (3" WEB) (BT-72)	L.F.	3,378									
620-03.10	CONCRETE PARAPET (STD-1-1)	L.F.	219									
620-14	CONCRETE PARAPET WITH STRUCTURAL TUBING (STD-11-1)	L.F.	825									
709-04	REINFORCED CONCRETE SLOPE PAVEMENT	C.Y.	29									29
908-21.02	BEARINGS (SLIDING PLATE)	EA.	5									
908-21.04	BEARINGS (2'-2" X 10" X 4 1/2" REINFORCED NEOPRENE PAD)	EA.	5									
710-09.01	6" PERF. PIPE WITH VERTICAL DRAIN SYSTEM	L.F.	110									56
710-09.02	6" PIPE UNDERDRAIN	L.F.	41									14
714-01.01	STRUCTURE LIGHTING	L.S.	1									

- ① NOTE: SQUARE YARD FOR PAVEMENT AT BRIDGE ENDS SHALL BE MEASURED AS ROAD SURFACE AREA AND SHALL INCLUDE ALL CONCRETE, REINFORCING STEEL, PILES, JOINT MATERIAL, BRIDGE END DRAIN SYSTEM, SURFACE FINISH, AS PER SP604 AND ANY OTHER INCIDENTALS NECESSARY FOR COMPLETE INSTALLATION 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 IS A SEVEN SPAN CONCRETE ARCH STRUCTURE WITH ASPHALT DECK. THE BRIDGE IS 760.4' IN LENGTH AND HAS A 21.0' ROADWAY WITH A 3.0' SIDEWALK CANTILEVERED ON ONE SIDE. THE SUBSTRUCTURES ARE CONCRETE. EXISTING BRIDGE TO BE REMOVED TO 1' 0" BELOW FINAL PROFILE EXCEPT WHERE EXISTING SUBSTRUCTURES COINCIDE WITH PROPOSED SUBSTRUCTURES AND COMPLETE REMOVAL IS REQUIRED. SEE BRIDGE INSPECTION REPORT NO. 73-1226-0.28 FOR ADDITIONAL INFORMATION.
- ③ EXCAVATION BASED ON FINAL PROFILE AT ABUTMENTS AND EXISTING GROUND AT PIERS AND BENTS.
- ④ THE PRICE BID FOR ROADWAY EXPANSION DEVICES TO INCLUDE THE COST OF 95 S.Y. OF CONCRETE SEAL REQUIRED. SEE GENERAL NOTES FOR DESCRIPTION OF CONCRETE SEAL.
- ⑤ NOTE: SEE FOUNDATION PREPARATION NOTE - DWG. M-220-153.
- ⑥ NOTE: LUMP SUM: TOTAL ESTIMATED WEIGHT OF 158,371 LBS. OF STRUCTURAL STEEL INCLUDES: SHEAR CONNECTORS, BOLTS, ANCHOR BOLTS CHANNELS AND 1' X 10 1/2" X 2' 2" SOLE PLATE AT BENT NO. 3 & STIFFENERS. ALSO SEE TENNESSEE STANDARD SPECIFICATIONS SECTION 602.53 AND 602.54.
- ⑦ NOTE: COST OF 10 BRIDGE DECK DRAINS TO BE INCLUDED IN THE UNIT PRICE BID FOR THE PARAPET.
- ⑧ NOTE: THE COST OF BITUMINOUS FIBERBOARD AND ALL MISCELLANEOUS JOINT MATERIAL TO BE INCLUDED IN BRIDGE ITEMS BID ON.
- ⑨ NOTE: COST OF ELASTOMERIC PADS, RUBBER BONDING CEMENT, AND ALL MATERIALS AND LABOR NECESSARY FOR INSTALLATION OF THE ANCHOR BOLT ASSEMBLIES TO BE INCLUDED IN THE COST OF THE PRESTRESSED BEAM.
- ⑩ NOTE: COST OF BRIDGE RAIL ENDPOST IS TO BE INCLUDED IN THE COST OF THE BRIDGE RAIL SYSTEM.
- ⑪ NOTE: COST OF POLYETHYLENE SHEETING AND ALL MISCELLANEOUS ITEMS NECESSARY FOR INSTALLATION TO BE INCLUDED IN COST OF PERFORATED PIPE.

- ⑫ NOTE: THE COST OF 6 INSERT ASSEMBLIES AND 24 7/8" X 1-1/2" HEX HEAD BOLTS, (A307), TO BE INCLUDED IN ITEM 620-03.10 AND 620-14.
- ⑬ THE EXPANSION JOINT AT ABUTS. 1 & 2 SHALL BE IN ACCORDANCE WITH SPECIAL PROVISION 604S AND STANDARD DRAWING STD-3-1. THE TOTAL REQUIRED MOVEMENT IS 4" INCHES. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER OF STRUCTURES FOR APPROVAL.
- ⑭ NOTE: GRANULAR BACKFILL SHALL BE CLASS "A" GRADING "D" MATERIAL. SEE STANDARD DRAWING STD-10-1.
- ⑮ NOTE: EXISTING ROCK ABUTMENT TO BE COMPLETELY REMOVED.
- ⑯ NOTE: LUMP SUM FOR STRUCTURE LIGHTING, ITEM NO. 714-01.01 INCLUDES 750 L.F. OF 2" Ø SCHEDULE 40 PVC CONDUIT, 1 JUNCTION BOX IN PARAPET, 1 GROUND MOUNTED PULL BOX, 24 ANCHOR BOLTS AND ALL NECESSARY MATERIALS FOR INSTALLATION OF STRUCTURE LIGHTING. BOLT CIRCLE 10" DIA.



NOTE: IN ADDITION TO SURFACES SHOWN, ALL EXPOSED SUBSTRUCTURES SHALL BE TEXTURE COATED

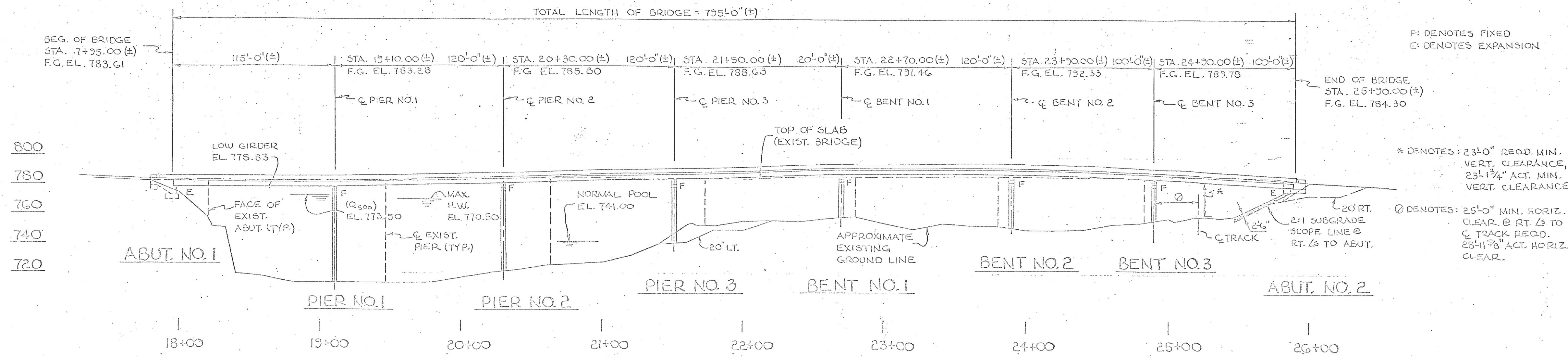
STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BUREAU OF HIGHWAYS
 ALTERNATE "B"
 ESTIMATED QUANTITIES
 SWAN POND ROAD OVER
 EMORY RIVER AND HARRIMAN AND
 NORTHEASTERN RAILROAD
 STATION 21+95.00
 ROANE COUNTY
 1991
 CORRECT Edward P. Wasserman
 ENGINEER OF STRUCTURES

DESIGNED BY A. PRICE DATE 4-91
 DRAWN BY B. LITTLEBELL DATE 5-91
 SUPERVISED BY FIELDS & WOODS DATE 5-91
 CHECKED BY A. PRICE DATE 5-91

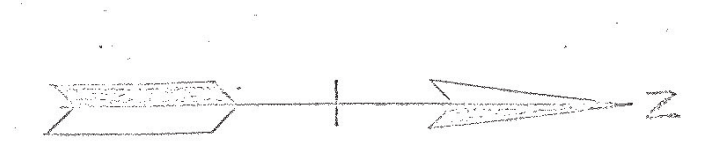
CONST. NO. 73950-3717-94.

PROJECT NO.	YEAR	SHEET NO.
BRM-1226(1)	1991	

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	10-9-91	AEP	GENERAL REVISIONS
2	10-23-91	AEP	REV. STD. DWG. NO.



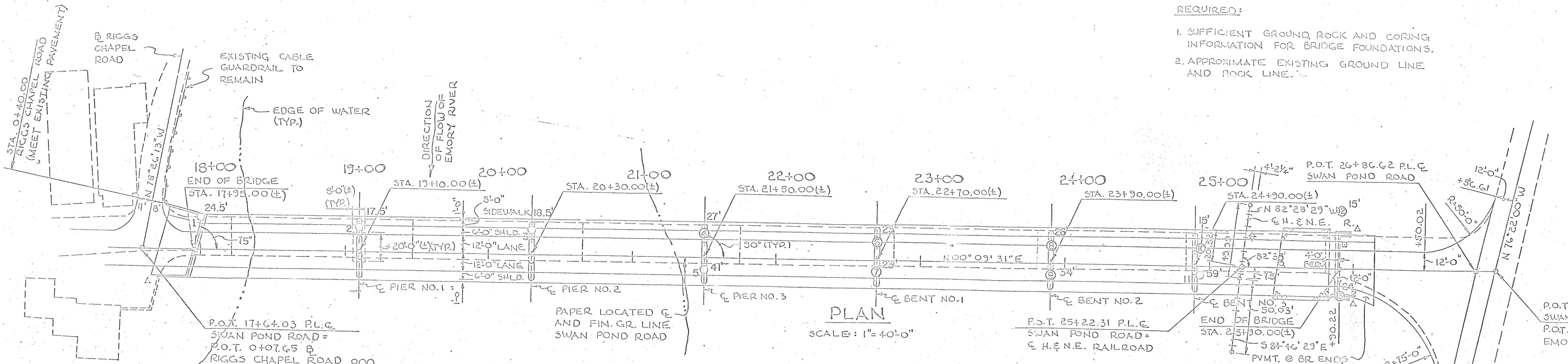
ELEVATION AT RIGHT ANGLES TO PAPER LOCATED Q SWAN POND ROAD
SCALE: 1" = 40'-0"



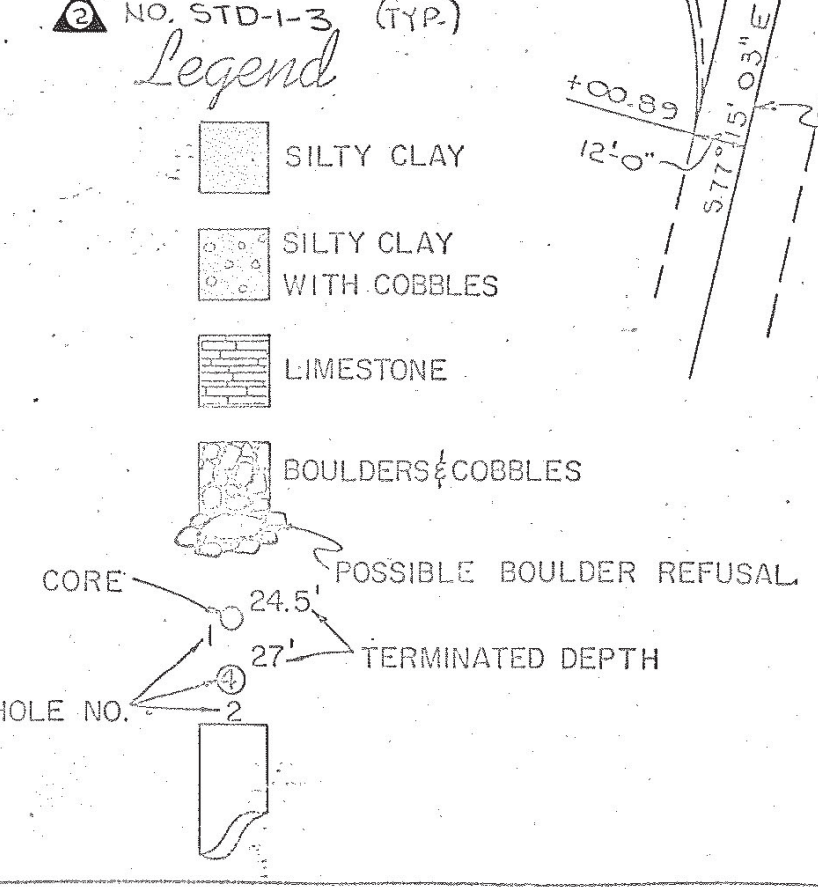
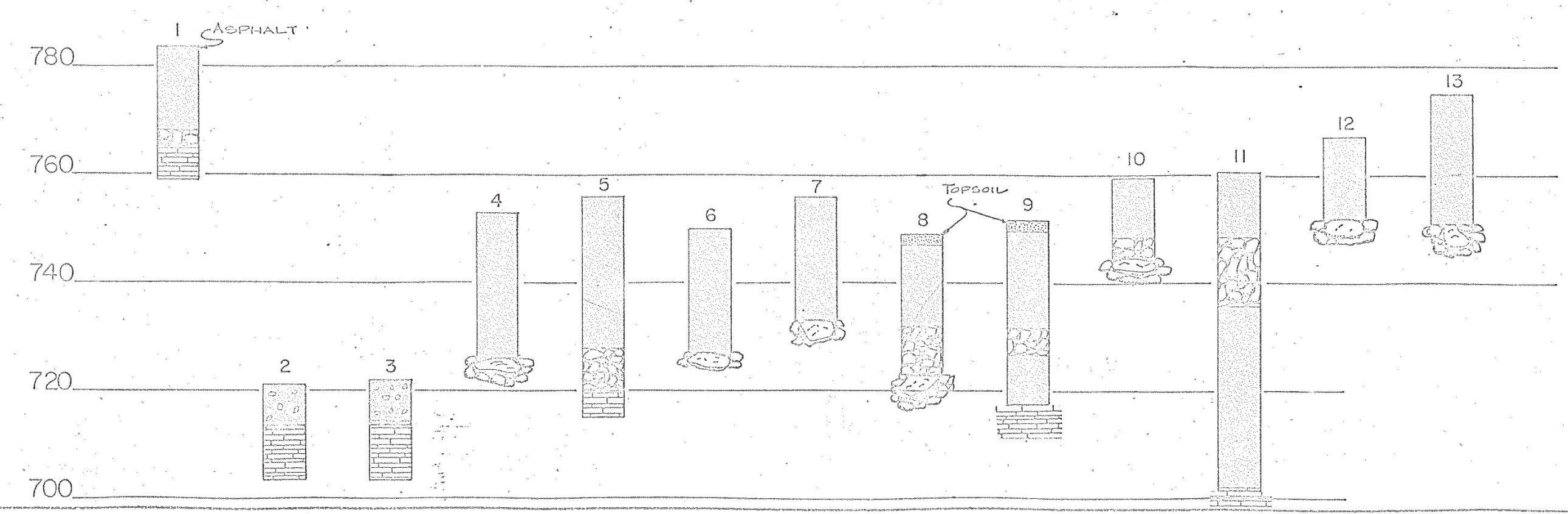
- DENOTES: POINT OF MIN. VERT. CLEARANCE
P.O.T. 25+23.03 P.L. Q SWAN POND ROAD, 19.31' LT.
- △ DENOTES: GUARDRAIL ATTACHMENTS REQUIRED
- ⊠ DENOTES: ROADWAY APPROACH DRAINS REQUIRED

- BENCHMARKS:
- B.M. NO. 3 CHISELED SQUARE ON WEST SIDE TOP OF BRIDGE RAIL 33' LT. STA. 18+00 ELEV. 786.46
 - B.M. NO. 4 SPIKE IN 4" SYCAMORE STUMP 2' LT. STA. 21+85 ELEV. 746.68

- REQUIRED:
- SUFFICIENT GROUND ROCK AND CORING INFORMATION FOR BRIDGE FOUNDATIONS.
 - APPROXIMATE EXISTING GROUND LINE AND ROCK LINE.



1. G. 783.5 R. 763.0	8. G. 749.0 R. -----
2. G. 721.0 R. 712.3	9. G. 731.9 R. -----
3. G. 722.0 R. 713.5	10. G. 759.5 R. -----
4. G. 753.0 R. 726.0	11. G. 760.9 R. 702.0
5. G. 756.0 R. 720.0	12. G. 767.0 R. -----
6. G. 790.0 R. -----	13. G. 775.0 R. -----
7. G. 796.0 R. -----	



NOTE: THIS SHEET IS FOR FOUNDATION DATA ONLY AND IS NOT TO BE USED AS A LAYOUT.

ALTERNATE "B"
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
FOUNDATION DATA
SWAN POND ROAD OVER
EMORY RIVER AND
HARRIMAN AND
NORTHEASTERN RAILROAD
STATION 21+95.00 (±)
ROANE COUNTY

CORRECT *Edward P. Warren* 1991
ENGINEER OF STRUCTURES

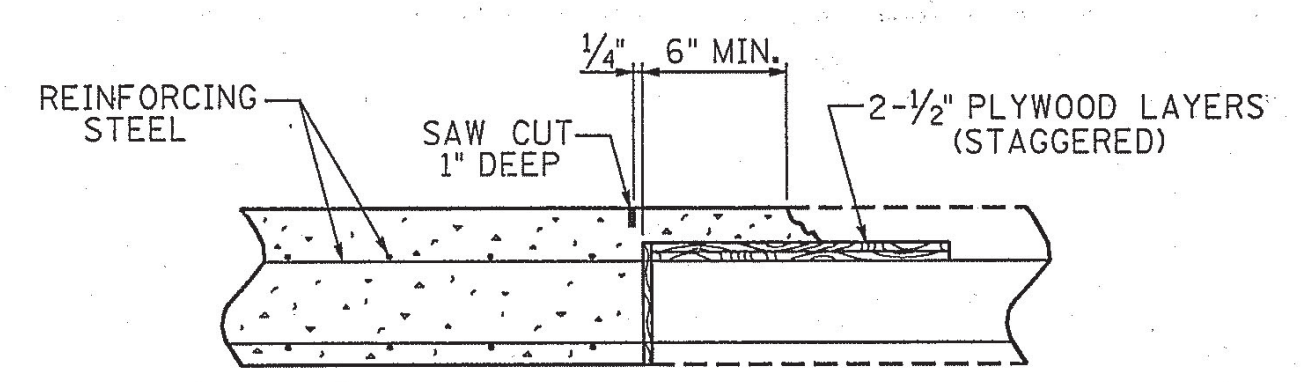
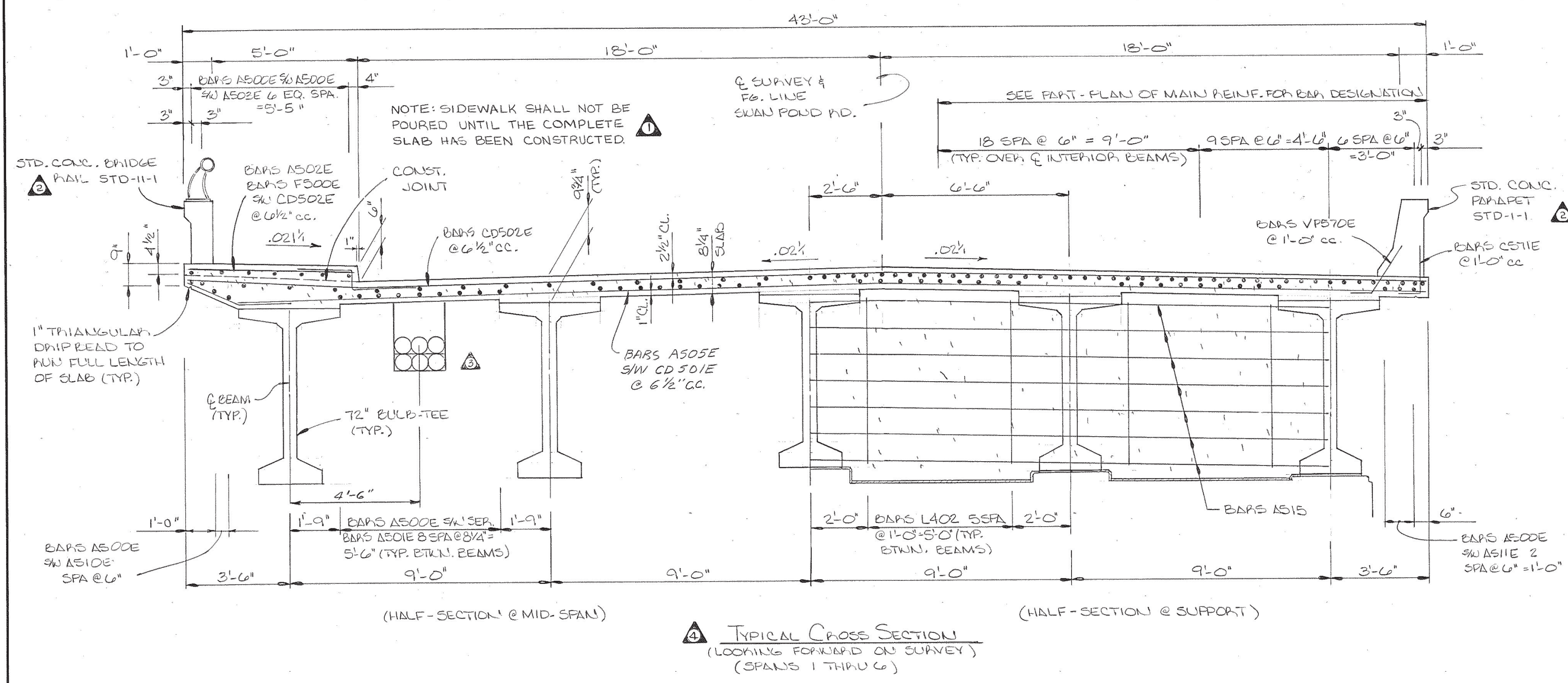
APPROVED *[Signature]*
DIRECTOR OF HIGHWAYS

ILLUSTRATION

DESIGNED BY C. DIETERS DATE 5-89
DRAWN BY C. DIETER, E. M. WRYE DATE 5-89
SUPERVISED BY W. R. WOODS DATE 5-89
CHECKED BY C. DIETERS DATE 5-89

PROJECT NO.	YEAR	SHEET NO.
EPM-1226(1)	1991	

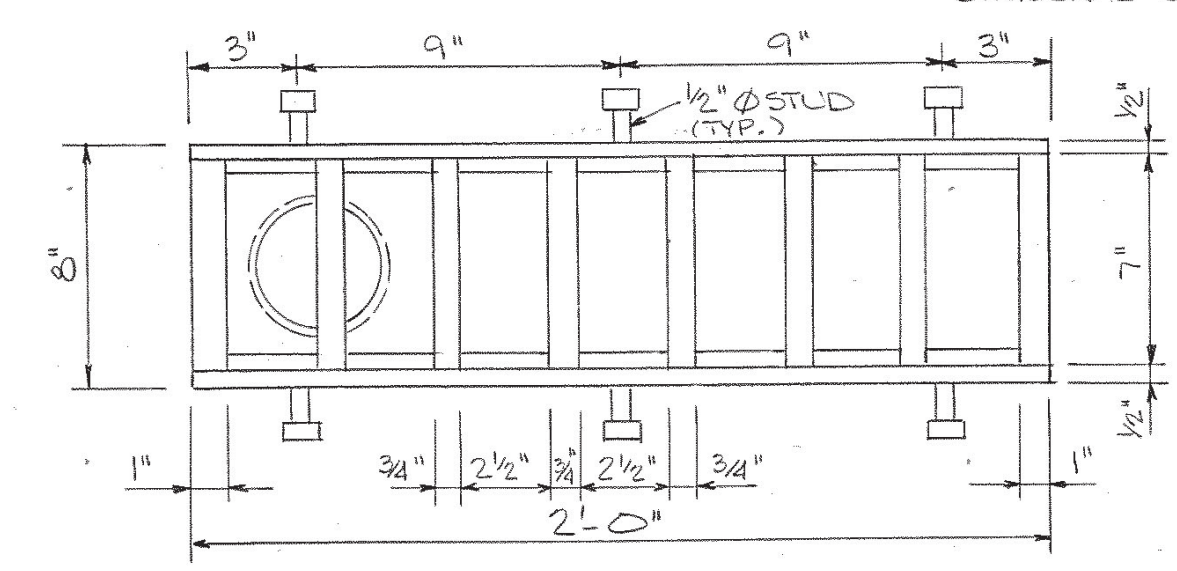
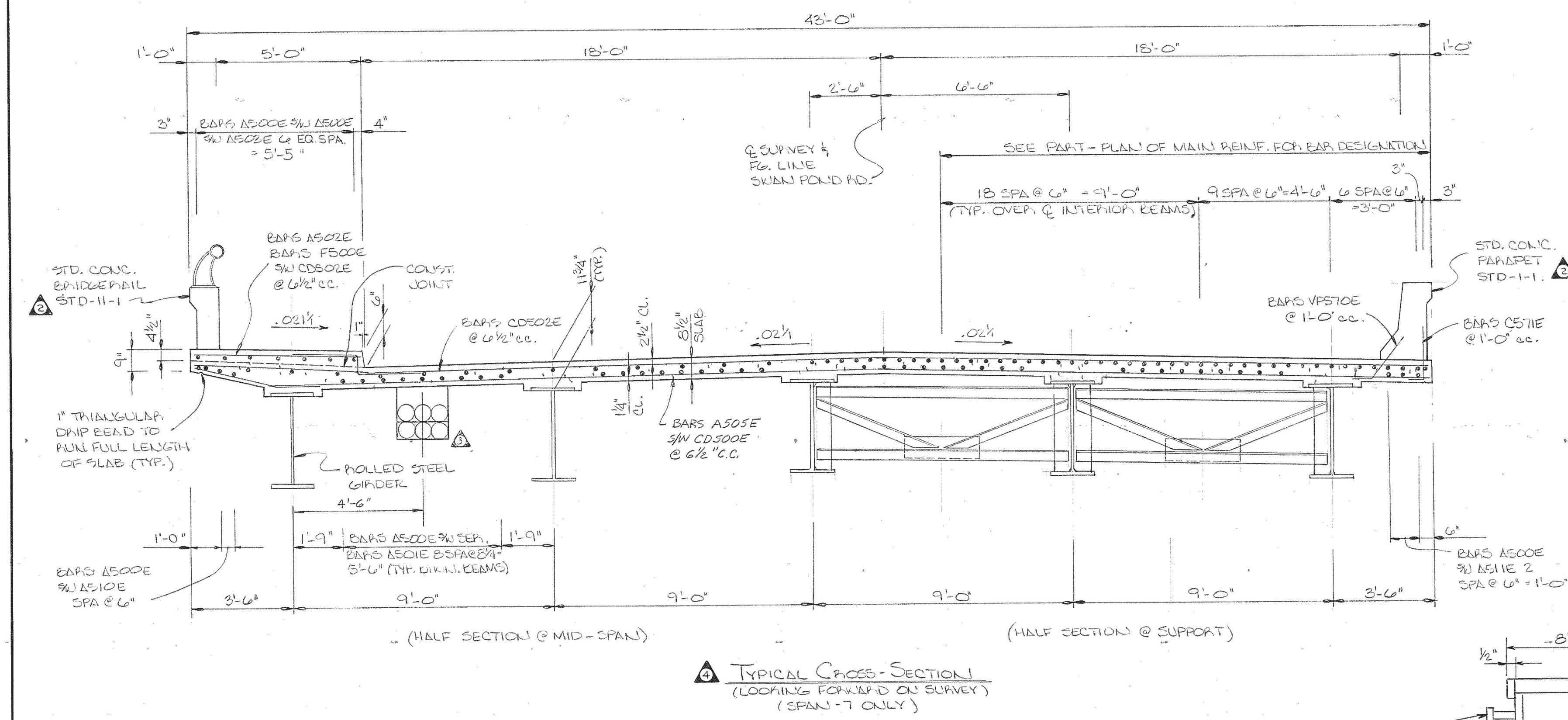
REVISIONS		
NO.	DATE	BRIEF DESCRIPTION
1	10-1-91	AEP ADDED NOTES, REV. EPOXY STEELQTY.
2	10-23-91	AEP REV. STD. DWG. NOS.
3	4-15-92	R/W ADDED TELEPHONE CONDUIT W/RACK
4	9-21-92	AEP ADDED OFFSET FOR SIDEWALK, REV. BARS SPACING CORRECTED, BARS IN SIDEWALK & CANTILEVER, REV. QUANTITY



SLAB CONSTRUCTION JOINT DETAIL

NOTE: SLAB CONSTRUCTION JOINTS MAY BE LOCATED AT THE CONTRACTOR'S OPTION EXCEPT NO JOINT MAY BE LOCATED CLOSER THAN 1/5 SPAN LENGTH FROM AN INTERIOR SUPPORT. THE CONTRACTOR SHALL MAKE ADEQUATE PROVISIONS DURING PLACEMENT OF THE SLAB TO PREVENT THE EXTERIOR BEAM FROM TWISTING. NO EQUIPMENT SHALL BE PERMITTED ON THE BRIDGE UNTIL ALL POURS ARE MADE AND THE CONCRETE IS PROPERLY CURED. ALL SLAB CONSTRUCTION JOINTS SHALL BE IN ACCORDANCE WITH THE SLAB CONSTRUCTION JOINT DETAIL SHOWN ABOVE.

- NOTE:
- NO PORTION OF THE PARAPET OR BRIDGE RAIL SHALL BE POURED UNTIL THE ENTIRE DECK SLAB IS IN PLACE.
 - THE CONCRETE DECK SHALL NOT BE POURED UNTIL ALL STRUCTURAL STEEL IS ERECTED AND ALL WELDING AND/OR BOLTING COMPLETE.
 - WHEN POURING SLAB, PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL AND ANCHOR BOLTS FOR BRIDGE RAIL AND PARAPET. THE PARAPET & BRIDGE RAIL SHALL NOT BE POURED UNTIL THE SLAB IS POURED AND CURED. NO SIDEWALKS OR PARAPETS ARE TO BE POURED UNTIL FALSEWORK HAS BEEN REMOVED. WHEN POURING PARAPET & BRIDGE RAIL, PROVISIONS SHALL BE MADE FOR SETTING ANCHOR BOLTS FOR BRIDGE RAIL. ALSO SEE DRAWING NO. STD-1-1 AND STD-11-1.
 - WHEN POURING WINGWALLS, PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR WINGPOST AND BRIDGE RAIL. FOR DETAILS OF WINGPOST AND BRIDGE RAIL SEE STD. DWG. NO. STD-11-1 & STD-11-1.
 - ALL GIRDETS TO BE SUPPORTED DURING CONSTRUCTION OF SLAB TO PREVENT ROTATION.
 - APPROVAL OF MATERIALS: NO FABRICATION SHALL BE STARTED UNTIL THE MATERIALS INVOLVED HAVE BEEN APPROVED BY THE TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF MATERIALS AND TESTS OF HARRISMAN AND NORTHEASTERN RAILROAD WITH A COPY OF THE TEST REPORTS ALSO GOING TO THE TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF MATERIALS AND TESTS.
 - IDENTITY OF MAIN MATERIALS: SEE SPECIAL PROVISION NO. 602.
 - WELDING: ANSI/AASHTO/AWS D1.5-BB BRIDGE WELDING CODE AND SPECIAL PROVISION 602.
 - FIELD CONNECTIONS: SHALL BE 7/8" Ø HIGH TENSILE STRENGTH BOLTS ASTM-A325 (OR ASTM A490) UNLESS OTHERWISE SHOWN. SEE AASHTO SPECIFICATIONS PART 10.17 DIVISION II AND SPECIAL PROVISION 602.
 - STRUCTURAL STEEL: SHALL CONFORM TO AASHTO M 210 (ASTM A709) GRADE 50 UNLESS OTHERWISE NOTED. ALL STRUCTURAL STEEL FOR GIRDER FLANGES IN TENSION AND ALL WEBS SHALL MEET THE SUPPLEMENTAL REQUIREMENTS FOR LONGITUDINAL CHAMFY V-NOTCH TEST SPECIFIED IN AASHTO MATERIAL SPECIFICATIONS. ZONE 2 OF NON-FRACTURE CRITICAL CRITERIA SHALL APPLY. AASHTO M 210 (ASTM-A709) GRADE 50 IN THICKNESS GREATER THAN 2 INCHES SHALL MEET THE LONGITUDINAL CHAMFY IMPACT VALUES SPECIFIED FOR M 210 (ASTM-A709) GRADE 50 OF EQUIVALENT THICKNESSES.
 - SHOP ASSEMBLY: PROGRESSIVE SHOP ASSEMBLY WILL BE ALLOWED. SEE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, PART 10.14.4.2 DIVISION II.



"ESTIMATED QUANTITIES"

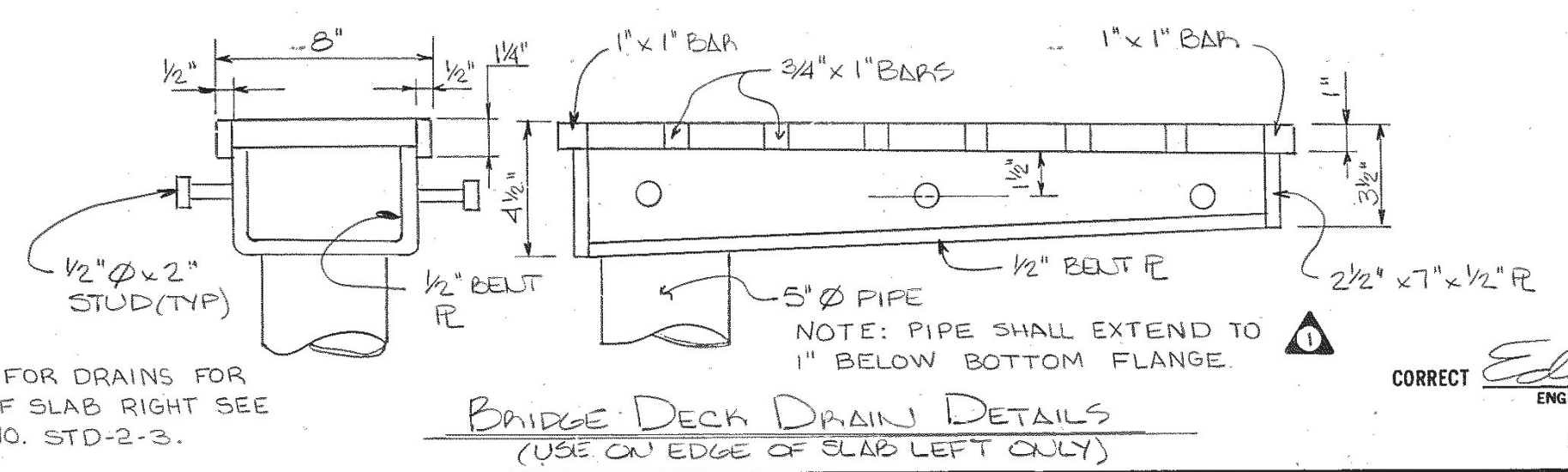
CLASS "A" CONCRETE BRIDGE DECK CY.	CLASS "A" CONCRETE CY.	EPOXY-COATED REINFORCING LB.	REINFORCING STEEL LB.
1119	43	202,953	8,280

ALT. "B"
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

SUPERSTRUCTURE
SWAMP POND ROAD OVER
EMORY RIVER AND HARRISMAN AND
NORTHEASTERN RAILROAD
STATION 21+95.00
PROBLE COUNTY
1991

DESIGNED BY A. PRICE DATE 4-91
DRAWN BY V. PHILLIPS DATE 4-91
SUPERVISED BY A. WOOD & J. FIELDS DATE 4-91
CHECKED BY A. PRICE DATE 5-91

NOTE: FOR DRAINS FOR EDGE OF SLAB RIGHT SEE DWG. NO. STD-2-3.

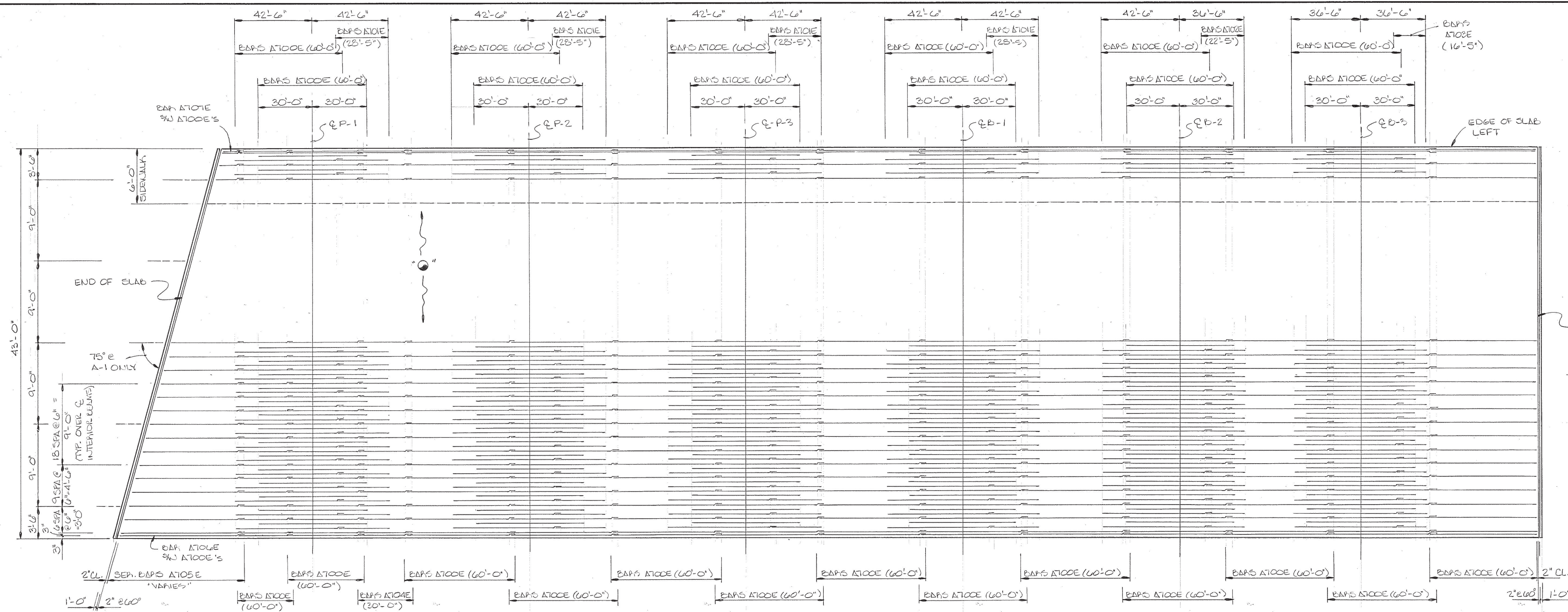


CORRECT
Edward A. Wasserman
ENGINEER OF STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

CONST. NO. 950-3717-74

PROJECT NO.	YEAR	SHEET NO.
RAM-1226 (1)	1991	

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	10-9-91	AEP	REV. NOTE
2	9-21-92	AEP	REV. BAR SPACING

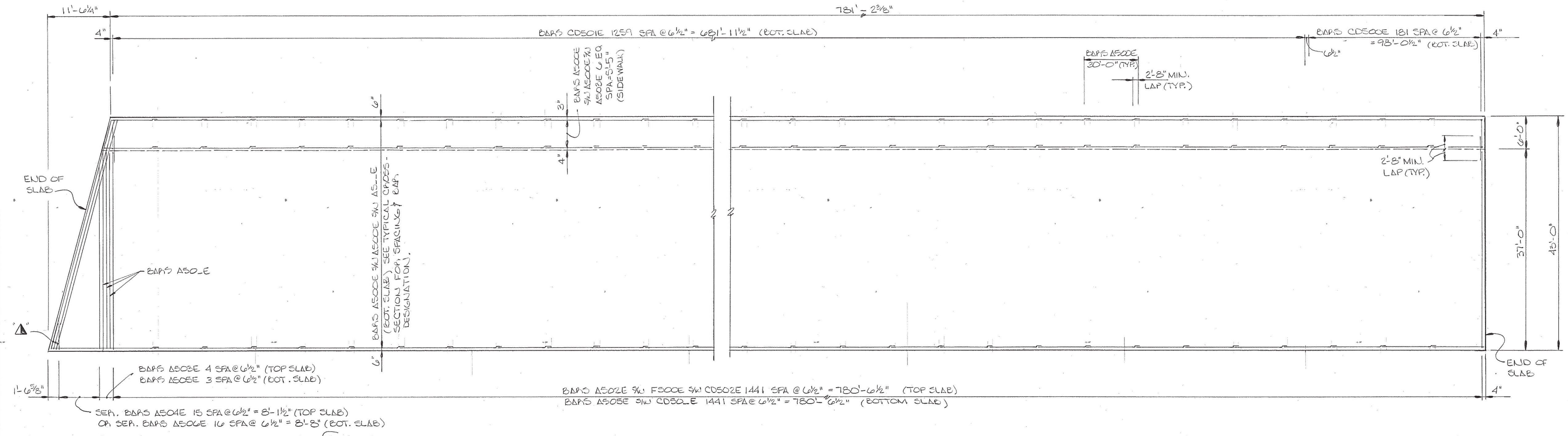


⊙ DENOTES: ALTHOUGH REINF. IS NOT SHOWN, PATTERN IS TYPICAL THROUGH-OUT SLAB.

END OF SLAB

⊂ 2'-8" MIN. LAP (TYP. #7 BARS UNLESS OTHERWISE NOTED.)

PART - PLAN OF MAIN REINFORCING



ALT. "B"
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
SUPERSTRUCTURE DETAILS
SWAN POND ROAD OVER
EMORY RIVER AND HARRIMAN AND
NORTHEASTERN RAILROAD
STATION 21+95.00
ROANE COUNTY
1991

DESIGNED BY A. PRICE DATE 4-91
DRAWN BY A. PHILLIPS DATE 5-91
SUPERVISED BY R. WOODS & J. FIELDS DATE 5-91
CHECKED BY A. PRICE DATE 5-91

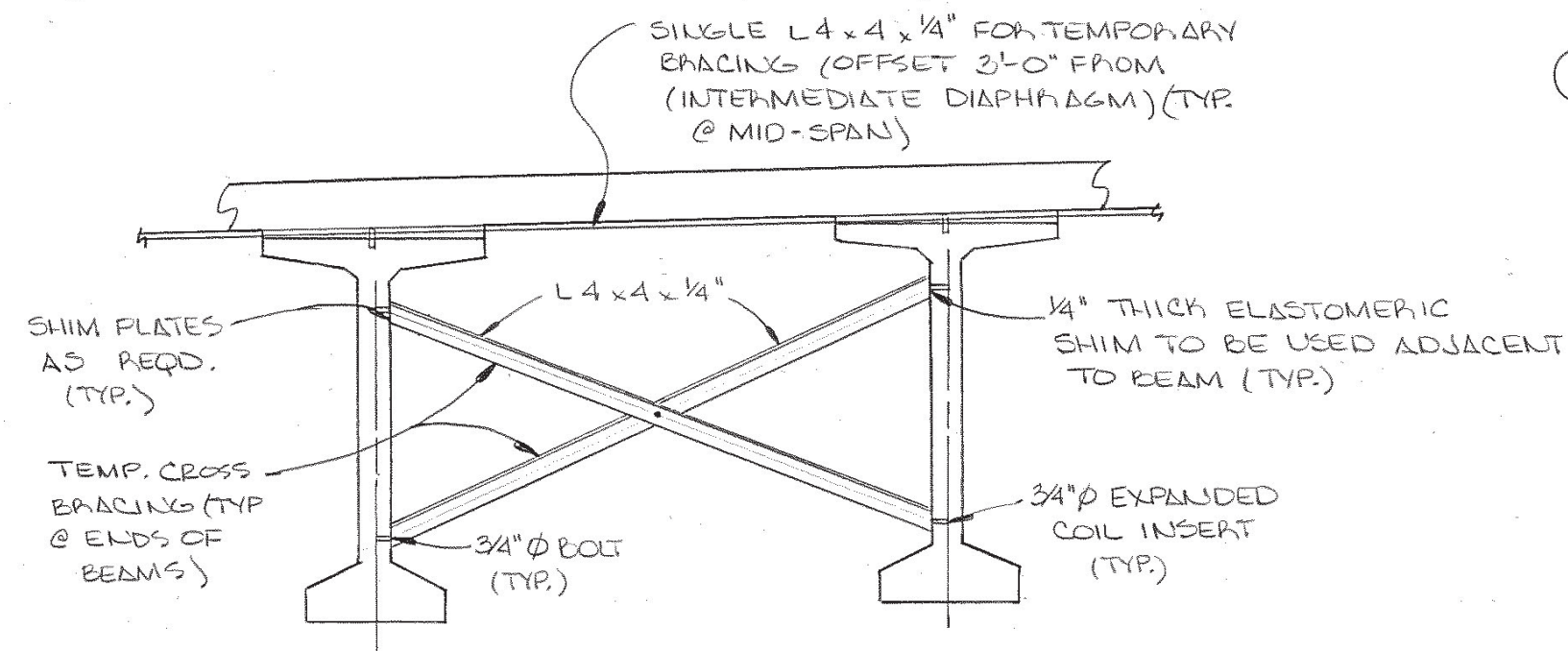
⊙ DENOTES: BARS AT TOE 3/4 FSOLE 3/4 CDSOLE (TOP SLAB) @ 6 1/2" cc.
⊂ BARS AT SOLE 3/4 CDSOLE (BOT. SLAB) @ 6 1/2" cc.

SLAB PLAN

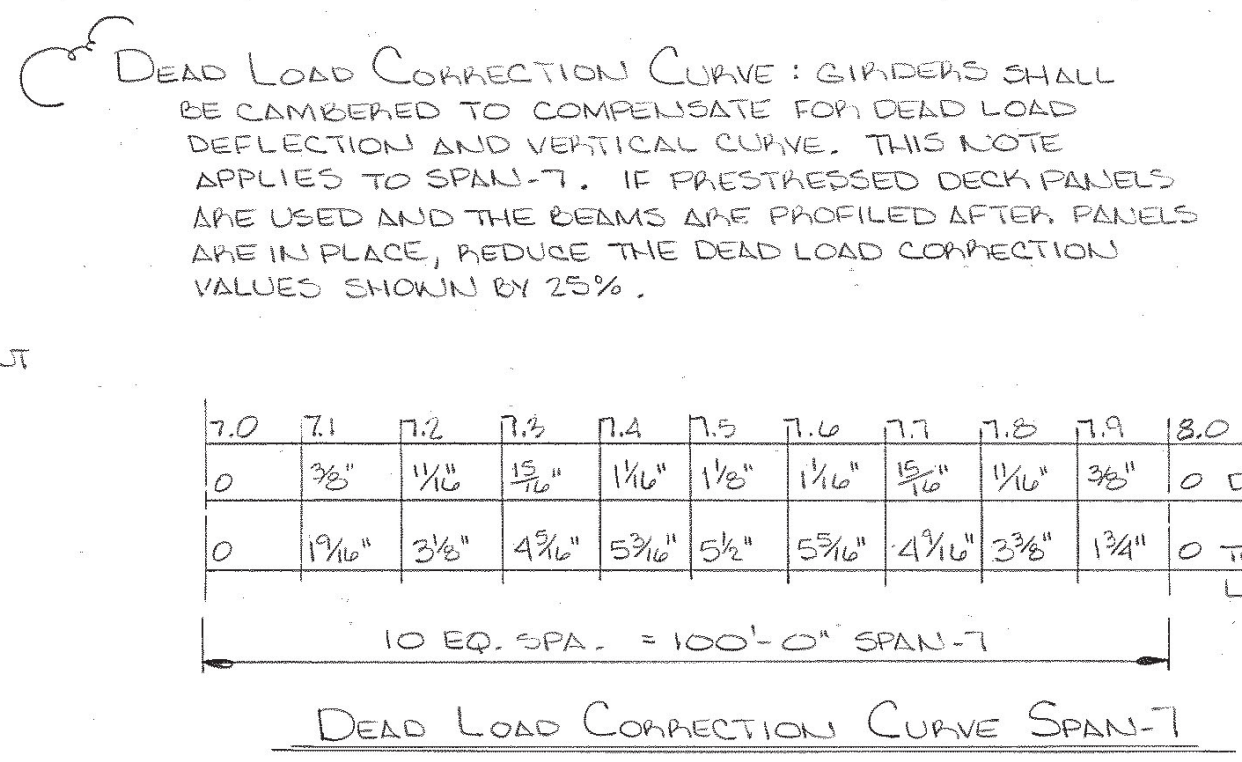
CORRECT *Edward Wasserman*
ENGINEER OF STRUCTURES
APPROVED _____
DIRECTOR OF HIGHWAYS

M-220-157

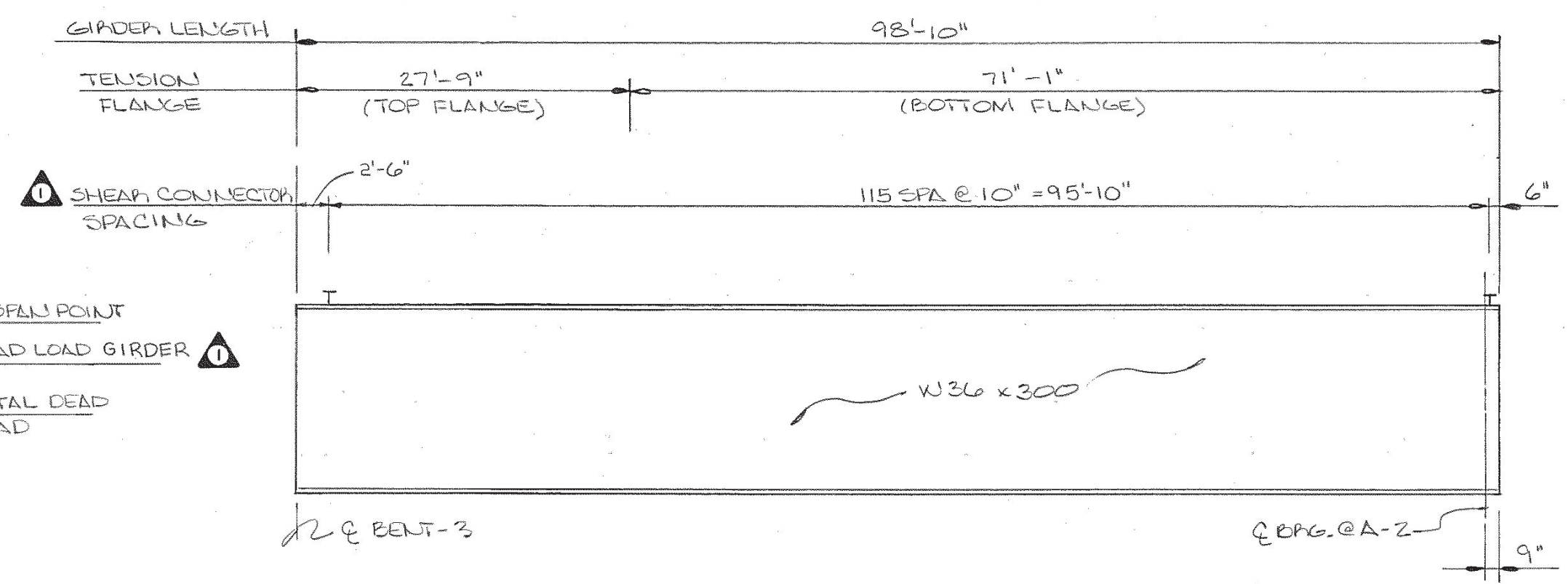
PROJECT NO.		YEAR		SHEET NO.	
EAM-1226 (1)		1991			
REVISIONS					
NO.	DATE	BY	BRIEF DESCRIPTION		
1	10-9-91	AEP	GENERAL REVISIONS		
2	10-23-91	AEP	REV. NOTE		
3	4-15-92	RW	ADDED STEEL SLEEVE FOR TEL. LINES		



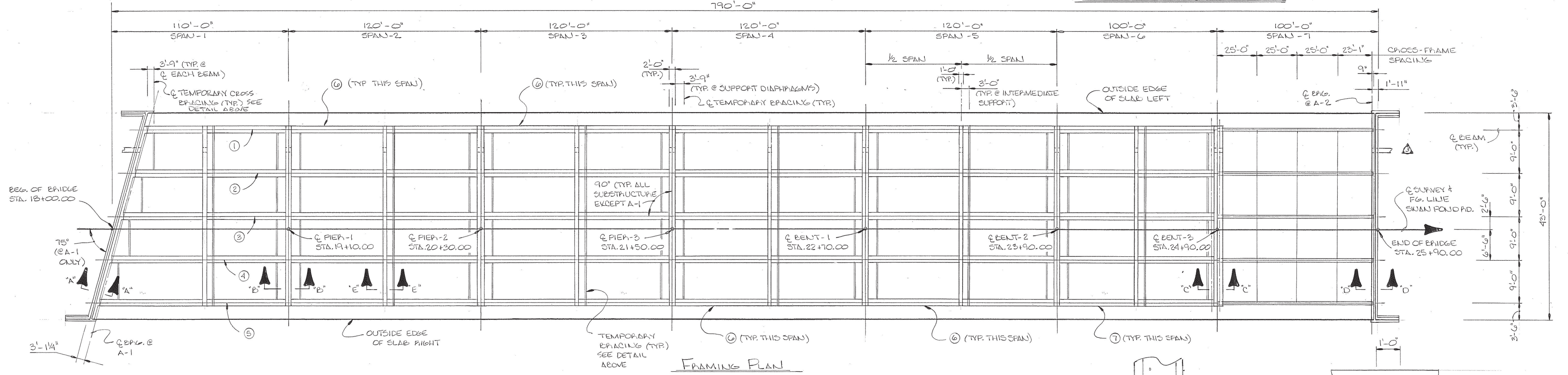
TYPICAL TEMPORARY CROSS-BRACING DETAIL



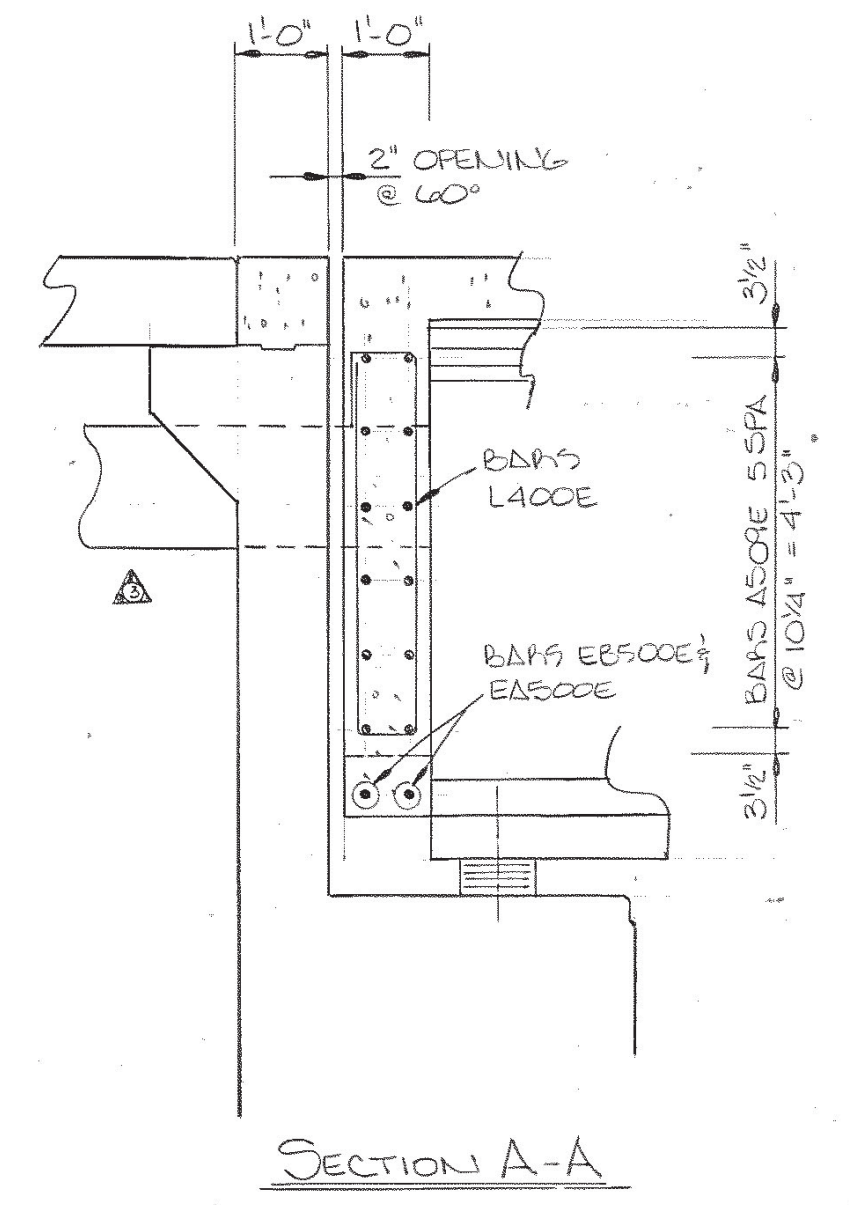
DEAD LOAD CORRECTION CURVE SPAN-7



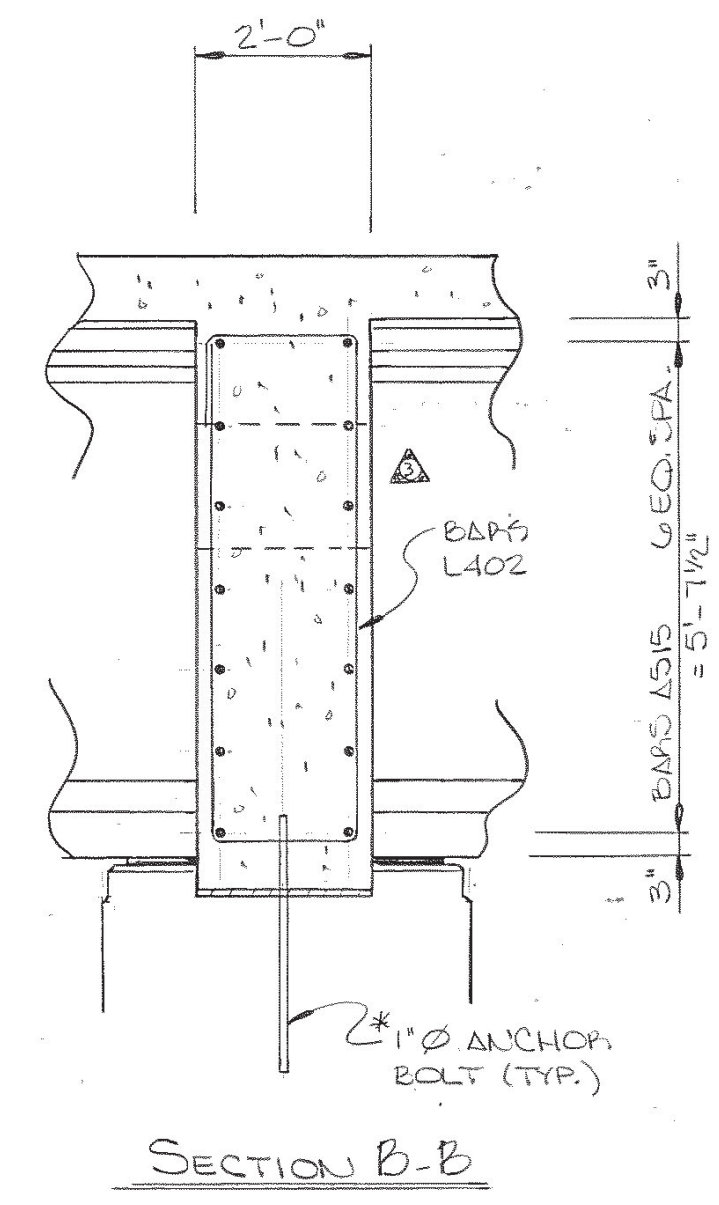
GIRDER ELEVATION - SPAN-7



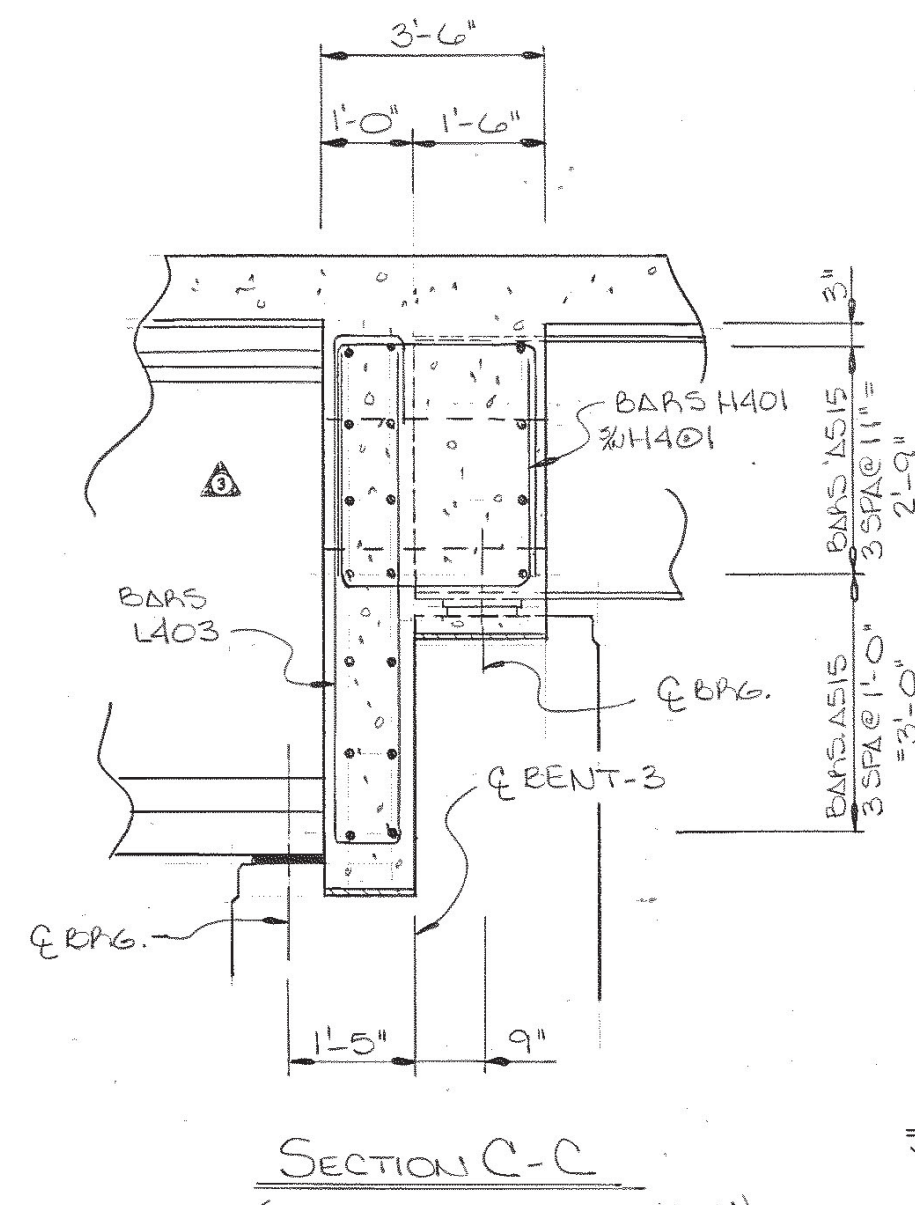
FRAMING PLAN



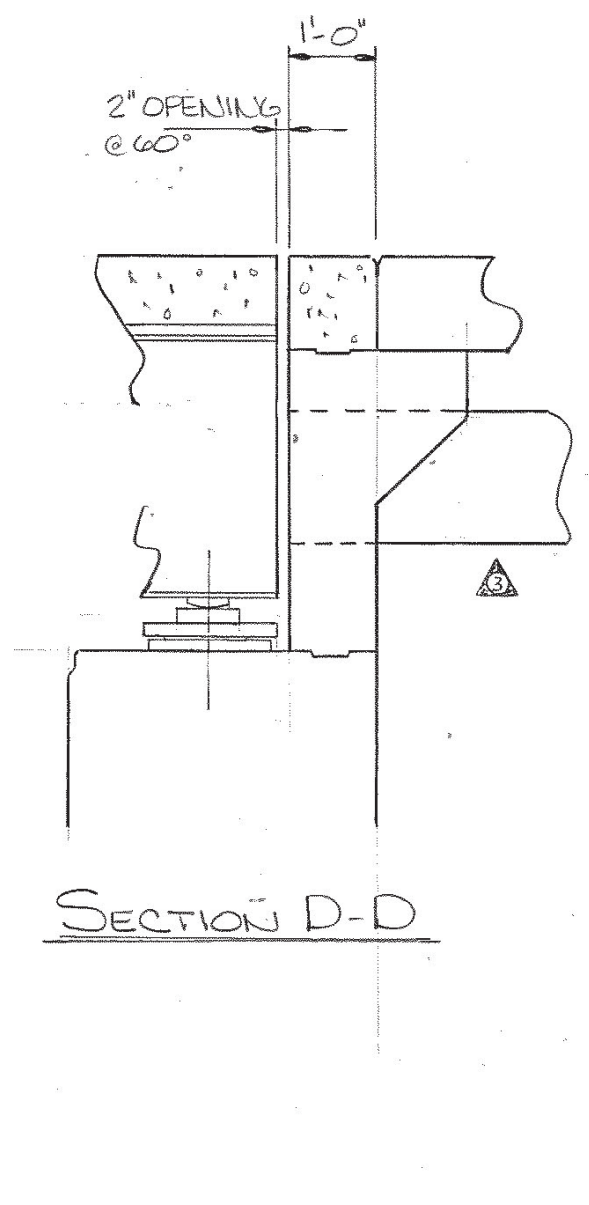
SECTION A-A



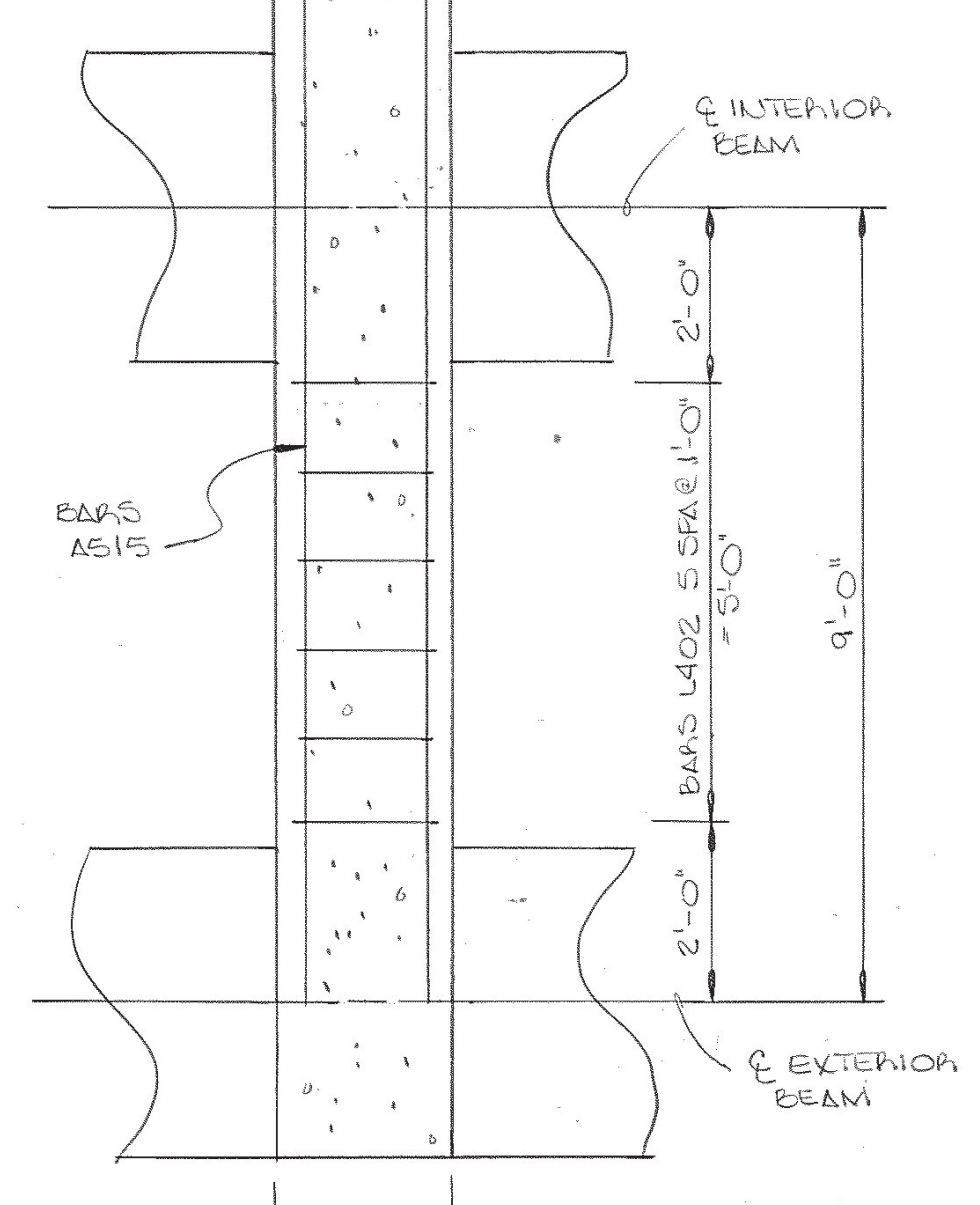
SECTION B-B



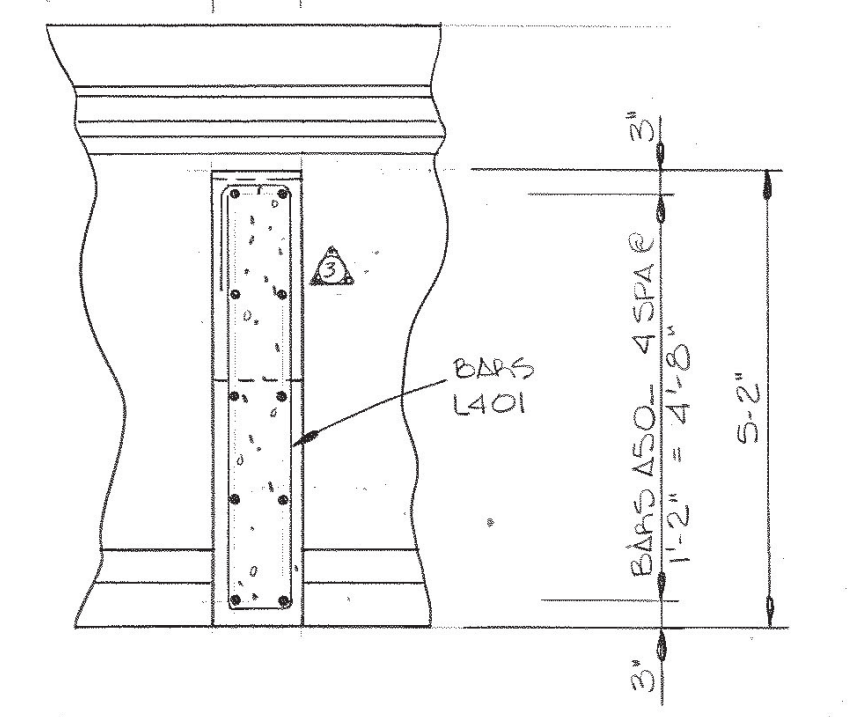
SECTION C-C



SECTION D-D



PART-PLAN OF SUPPORT DIAPHRAGM



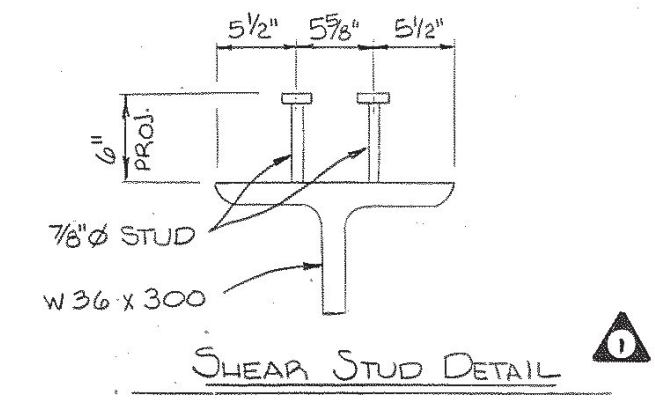
SECTION E-E

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BUREAU OF HIGHWAYS

SUPERSTRUCTURE DETAILS
 SWAN POND ROAD OVER
 EMORY RIVER AND HAPPIMAN AND
 NORTHEASTERN RAILROAD
 STATION 21+95.00
 PLOANE COUNTY
 1991

DESIGNED BY A. PRICE DATE 4-91
 DRAWN BY P. PHILLIPS DATE 3-91
 SUPERVISED BY J. FIELDS & R. WOODS DATE 2-91
 CHECKED BY A. PRICE DATE 3-91

SPECIAL NOTE FOR ANCHOR BOLTS @ BENTS & PIERS:
 ANCHOR BOLT ASSEMBLIES @ BENTS & PIERS SHALL BE IN ACCORDANCE WITH STANDARD DRAWING NO. STD-6-1.

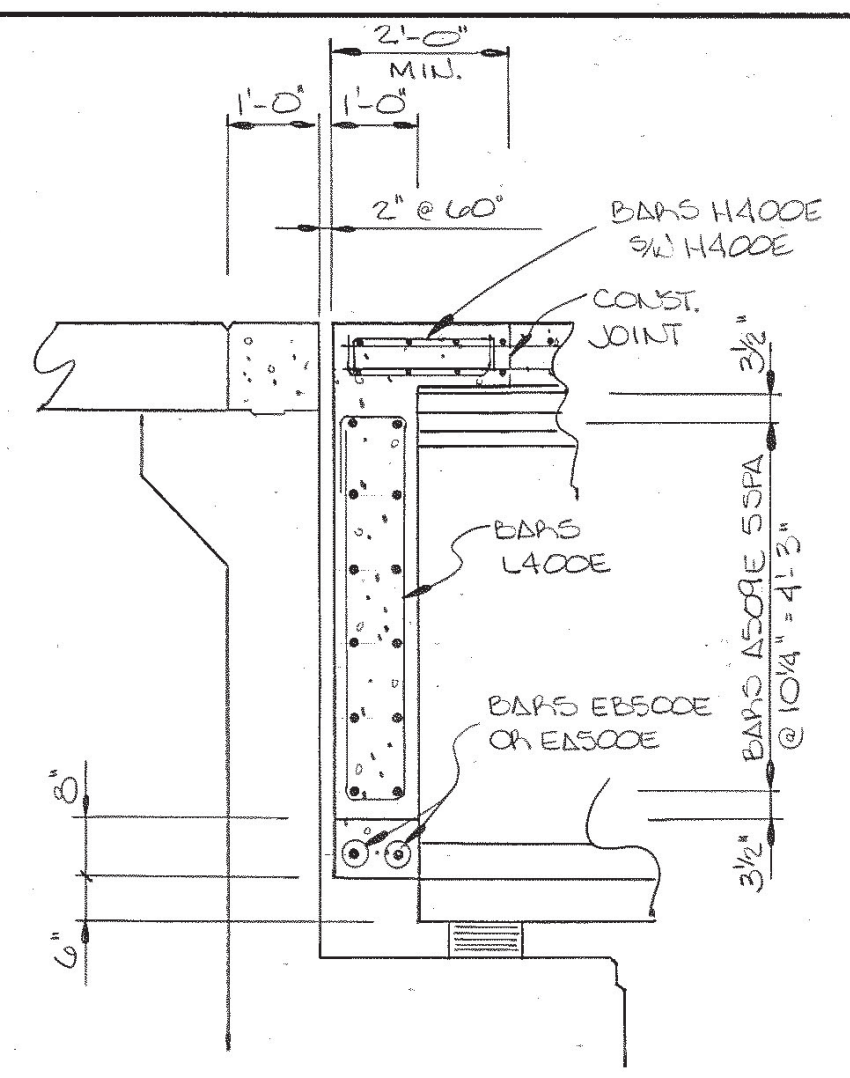
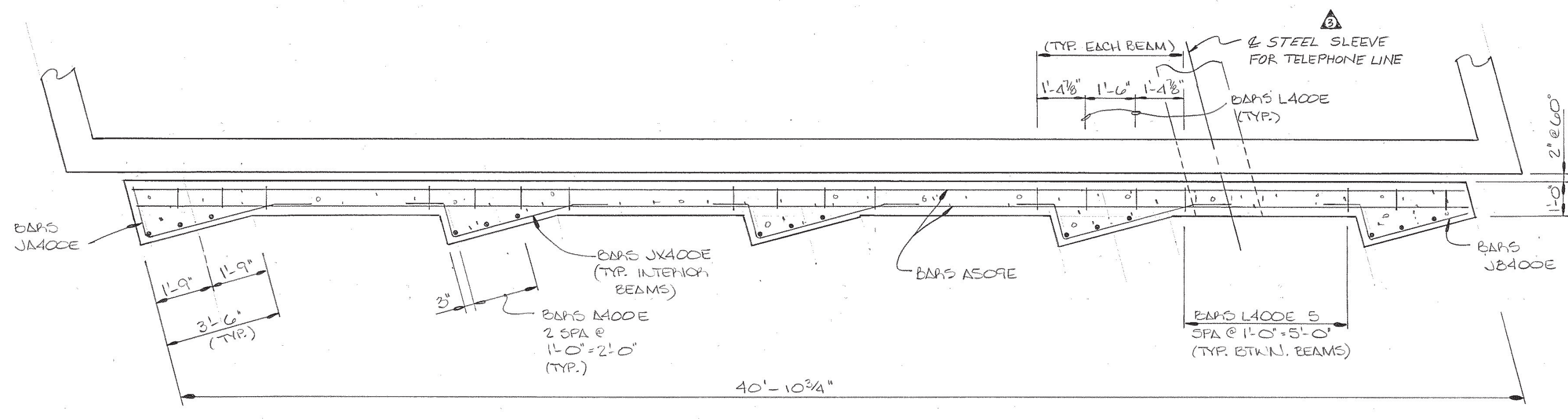


CORRECT *Edward J. Wasserman*
 ENGINEER OF STRUCTURES

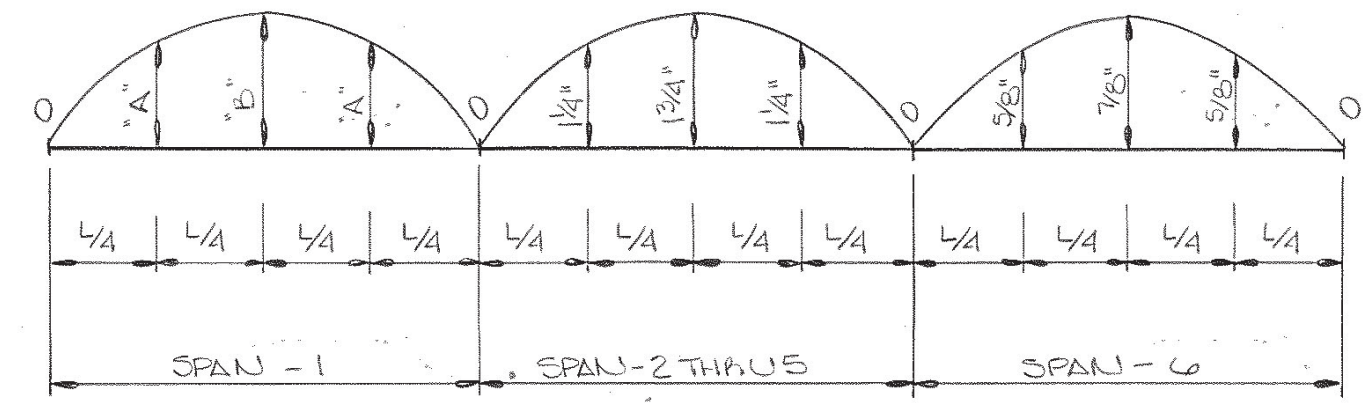
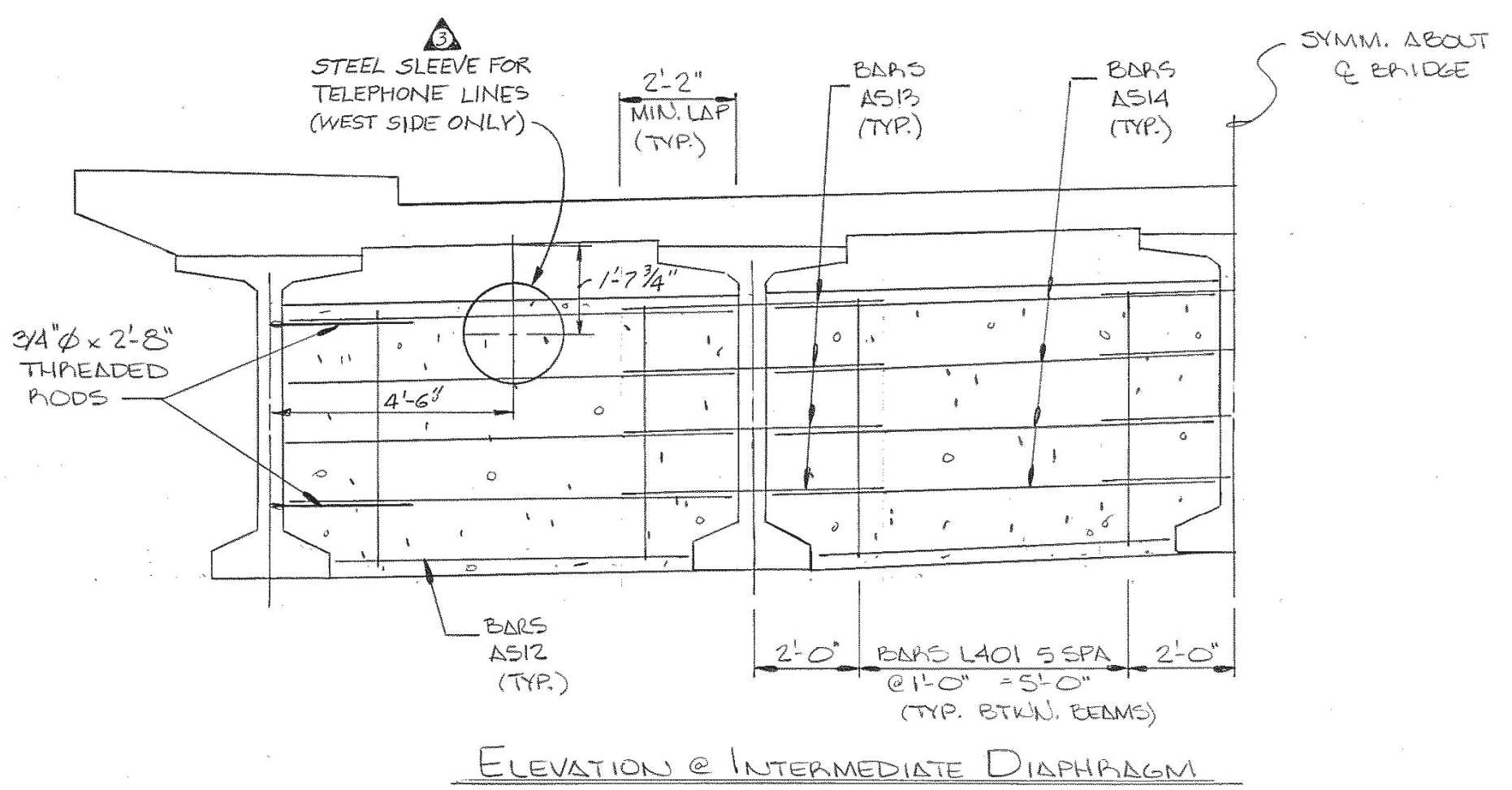
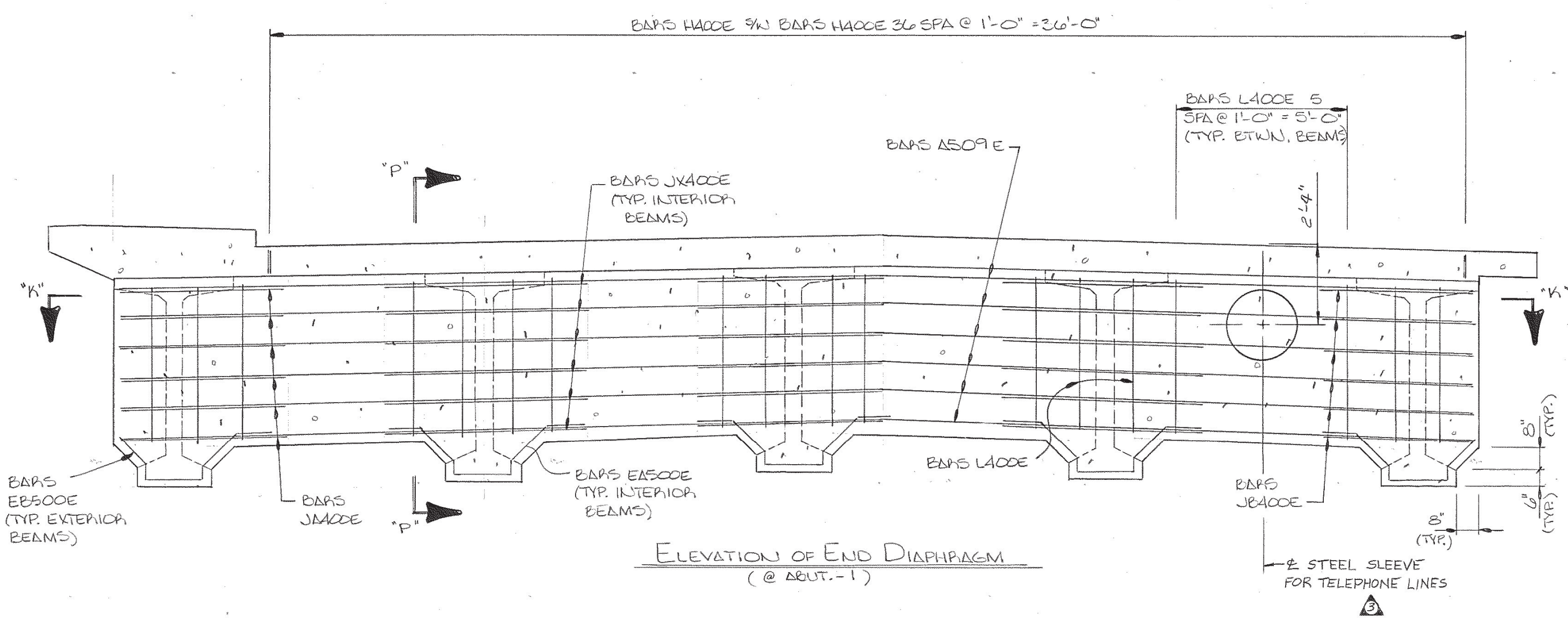
APPROVED _____
 DIRECTOR OF HIGHWAYS

CONST. NO. 78450-8717-74

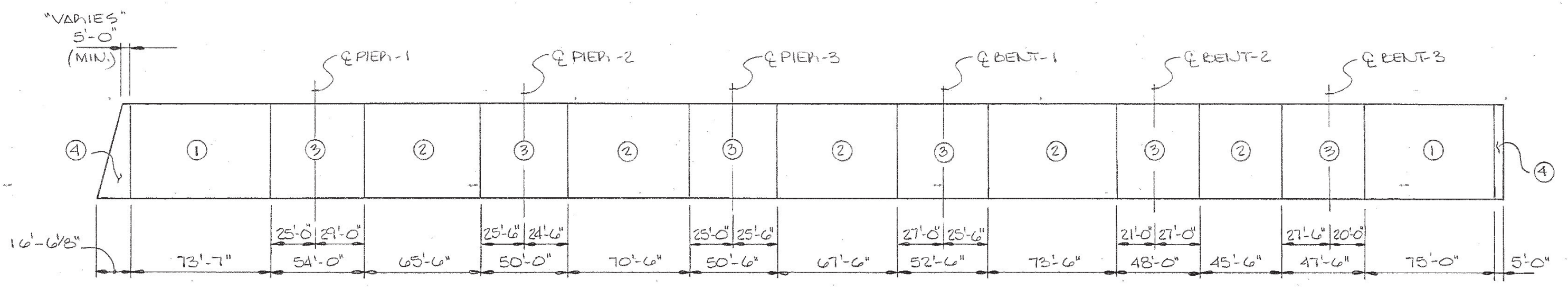
PROJECT NO.	YEAR	SHEET NO.	
BAM-1226(1)	1991		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	10-9-91	AEP	ADDED NOTE.
2	10-23-91	AEP	REV. NOTE.
3	4-15-92	RW	ADDED STEEL SLEEVE.



NOTE: END DIAPHRAGMS SHALL BE POURED CONCURRENTLY WITH THE DECK SLAB AND INCLUDED IN THE QUANTITY FOR ITEM 604-03.09.



NOTE: SEE DWG. NO. M-220-158 FOR SPAN 7.



POURING SEQUENCE

- ① DENOTES: POUR NO. 1
- ② DENOTES: POUR NO. 2
- ③ DENOTES: POUR NO. 3
- ④ DENOTES: POUR NO. 4

TABLE OF DIM.'S (SPAN-1)

BEAM NO.	"A"	"B"
1	1 1/16"	1"
2	3/4"	1 1/16"
3	1 3/16"	1 3/16"
4	1 5/16"	1 3/16"
5	1"	1 1/16"

DEAD LOAD CONNECTION CURVE: THIS CURVE IS FOR DEAD LOAD SLAB AND ALL DEAD LOADS THAT ARE APPLIED AFTER SLABS IN PLACE AND SHOULD BE CORRECTED TO COMPENSATE FOR THE EFFECTS DUE TO VERTICAL CURVE. IF PRESTRESSED DECK PANELS ARE USED AND THE BEAMS ARE PROFILED AFTER PANELS ARE IN PLACE, REDUCE THE DEAD LOAD CONNECTION VALUES SHOWN BY 25%.

ALT. "B"
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
SUPERSTRUCTURE DETAILS
SWAN POND ROAD OVER
EMORY RIVER AND HARRIMAN AND
NORTHEASTERN RAILROAD
STATION 21+95.00
ROANE COUNTY
1991

CORRECT
Edward P. Wasserman
ENGINEER OF STRUCTURES

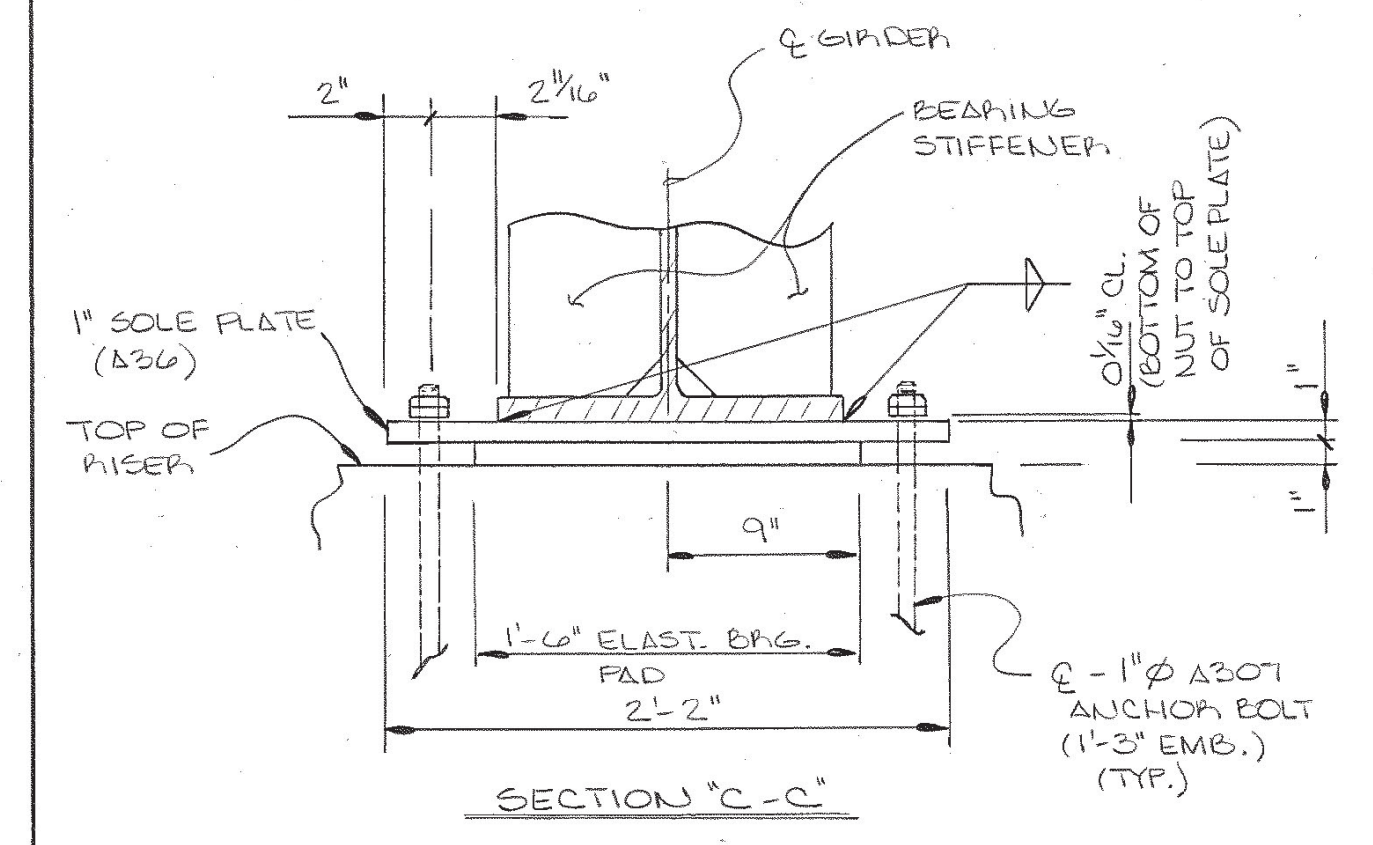
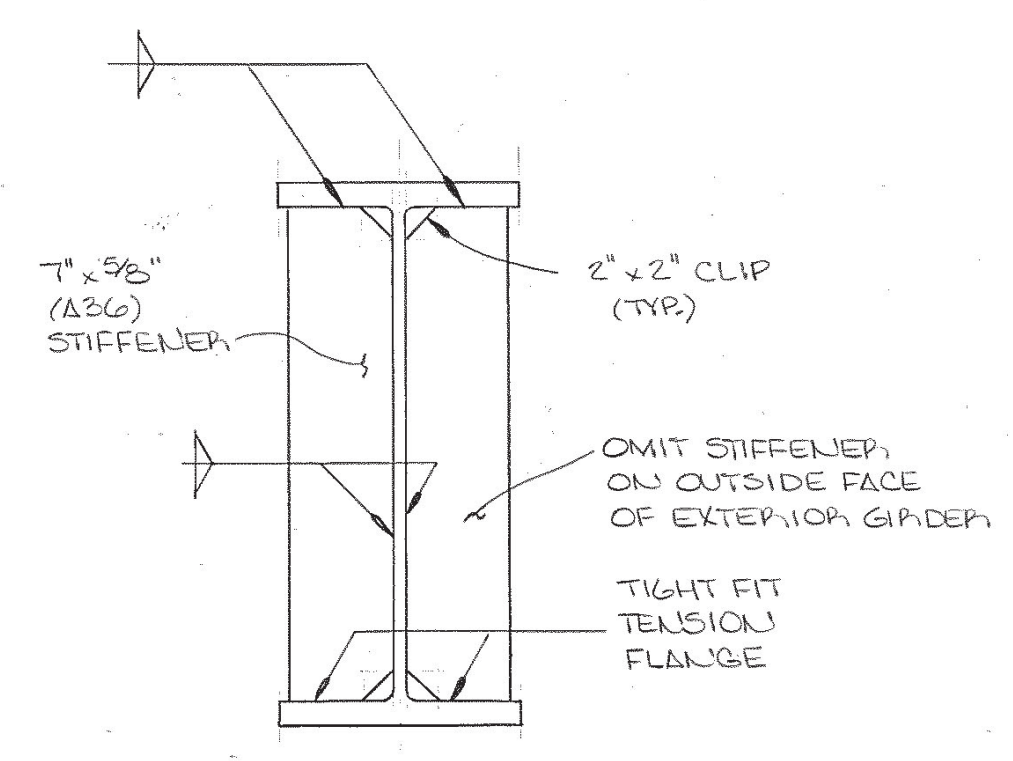
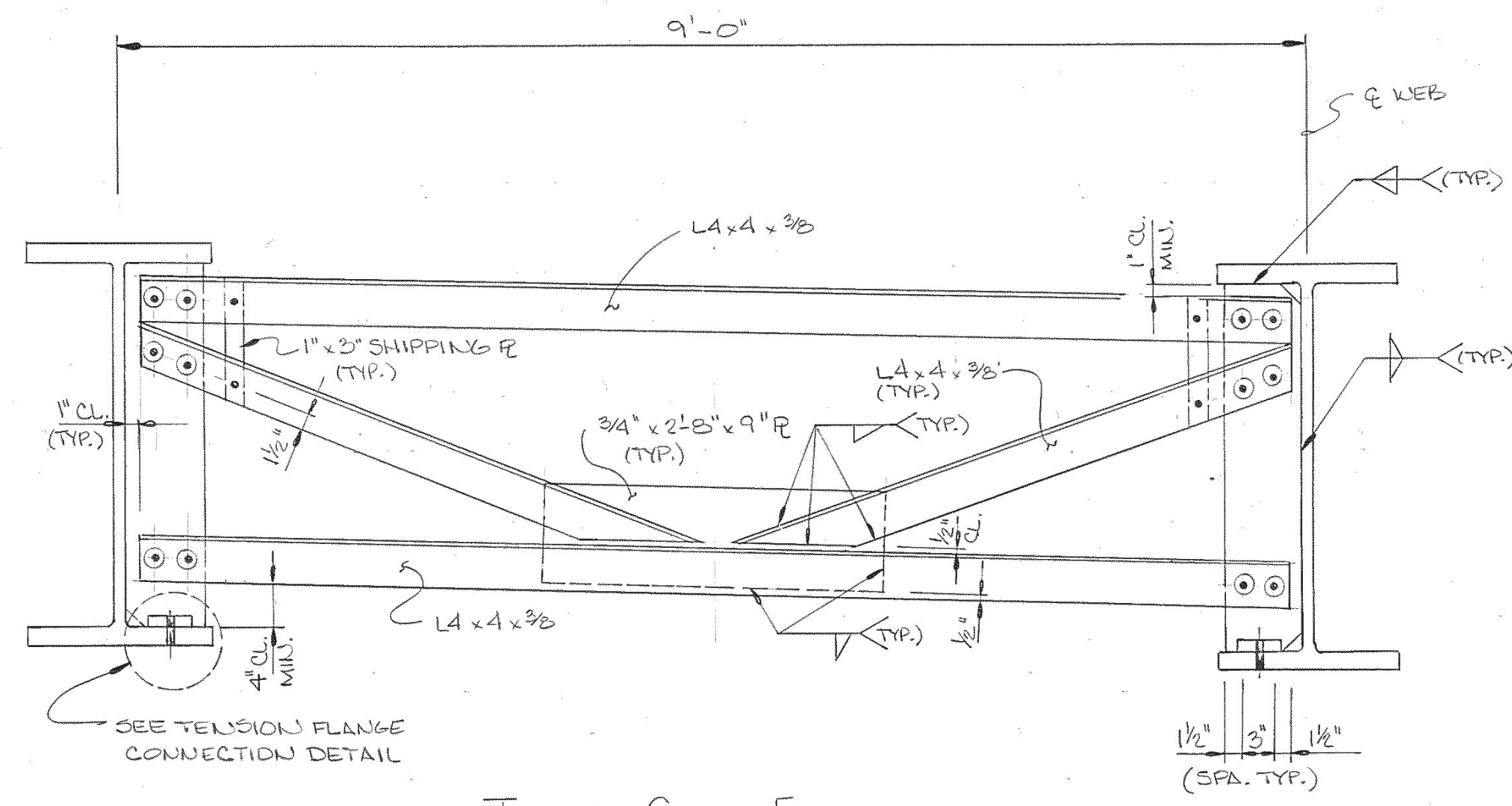
APPROVED _____
DIRECTOR OF HIGHWAYS

M-220-159

DESIGNED BY A. PRICE DATE 4-91
DRAWN BY P. PHILLIPS DATE 5-91
SUPERVISED BY B. WOODS & J. FIELDS DATE 5-91
CHECKED BY A. PRICE DATE 5-91

PROJECT NO.	YEAR	SHEET NO.
EEM-1220(1)	1991	

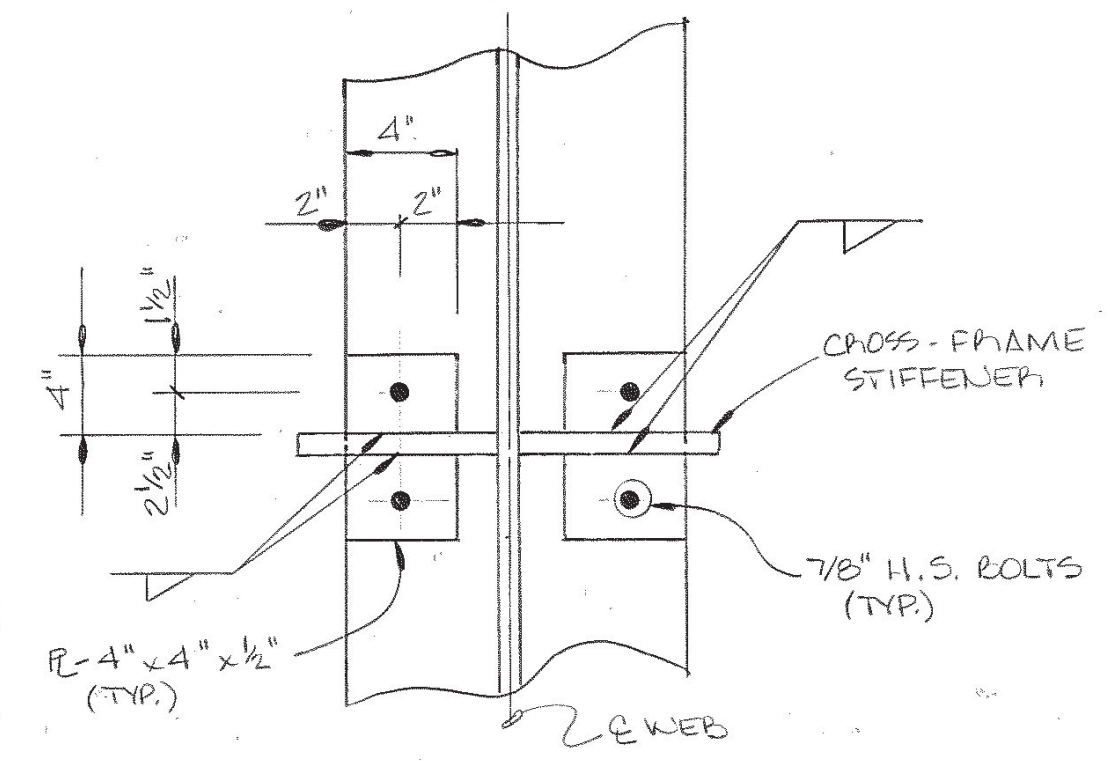
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	11-22-91	AEP	ADDED NOTE.



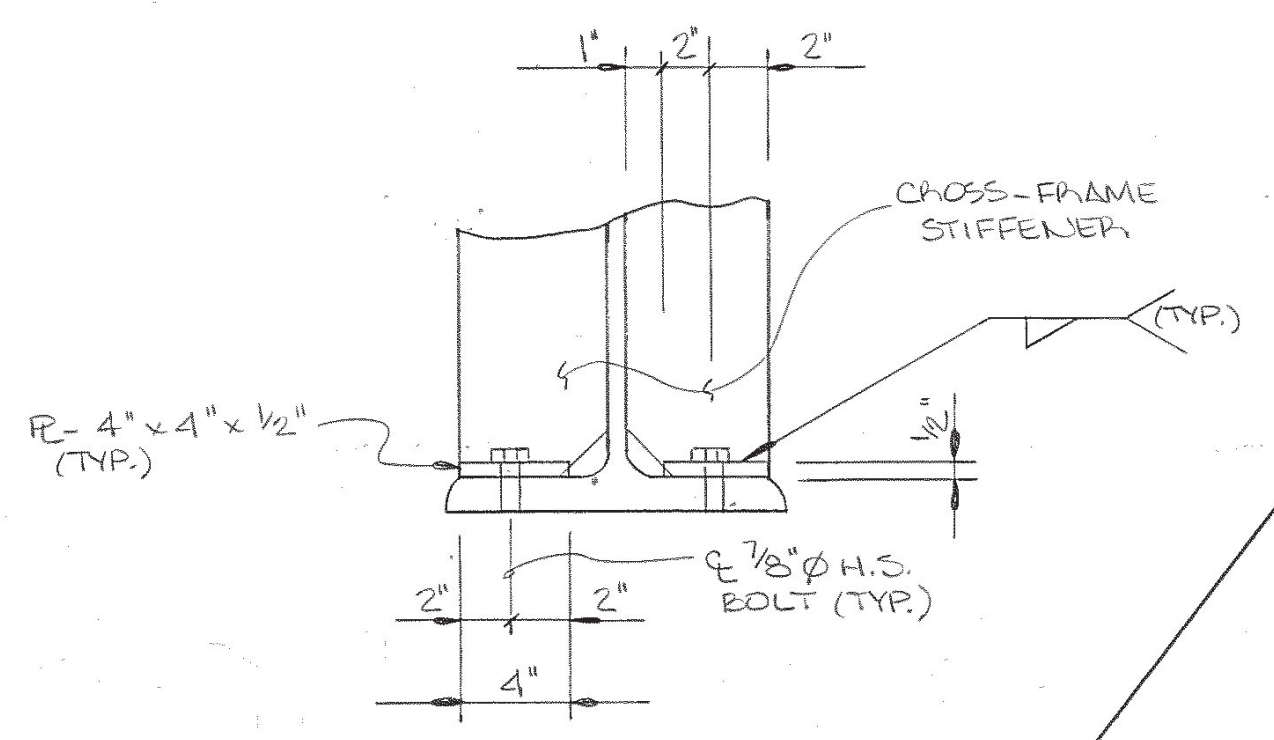
NOTE: BEARING STIFFENERS AND DETAILS ARE IDENTICAL TO CROSS-FRAME STIFFENERS AND DETAILS.

NOTE: ALL BOLTS ARE TO BE 7/8" Ø A325. BOLTS CIRCLED ARE TO BE FIELD BOLTED.

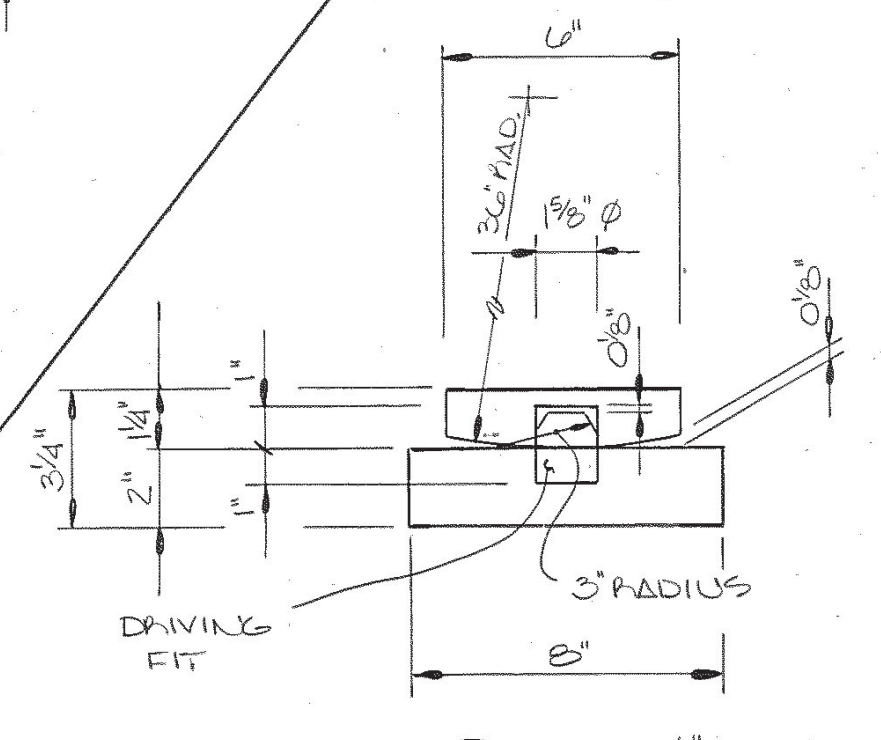
TYPICAL CROSS-FRAME (at span-7)



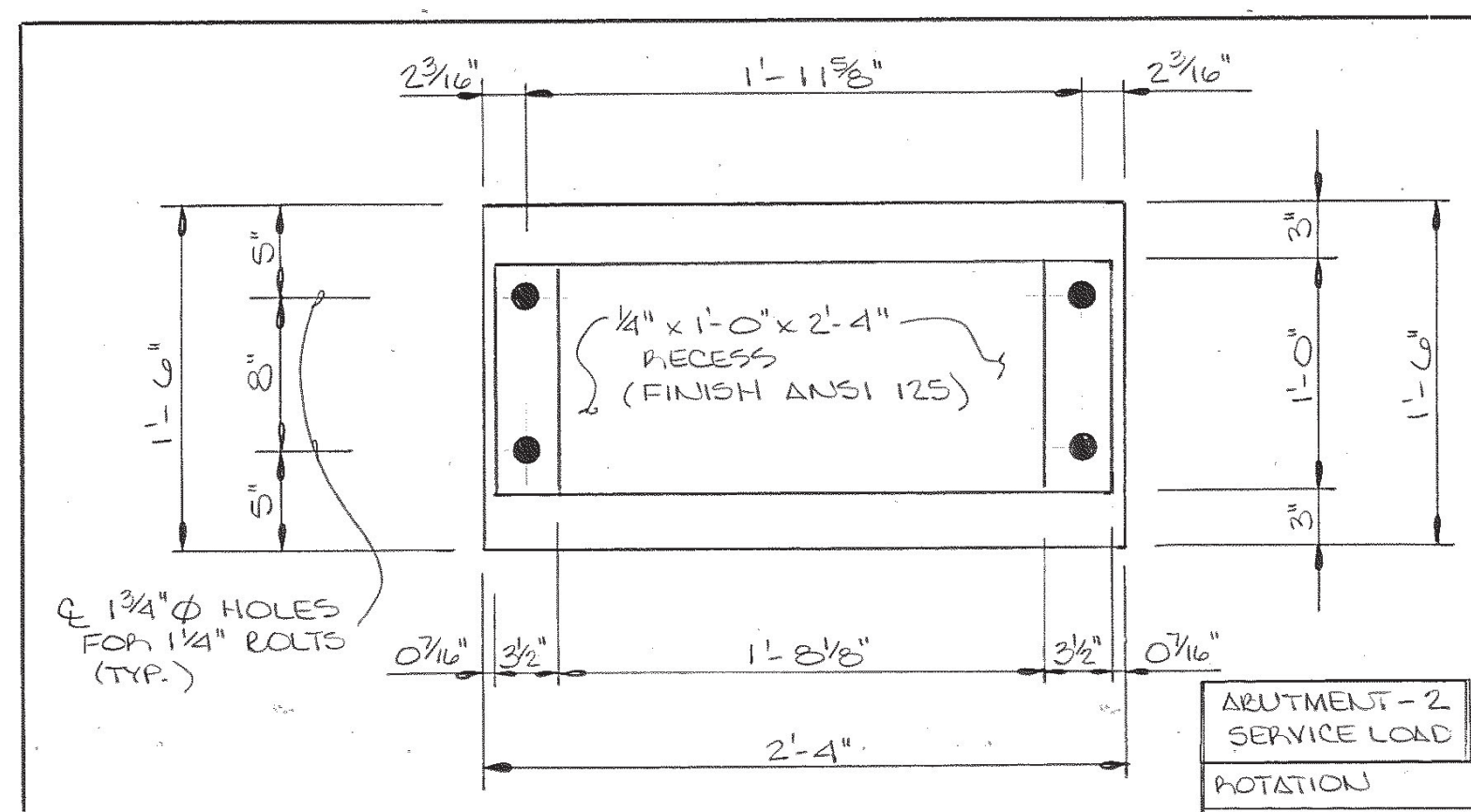
PLAN



ELEVATION
TENSION FLANGE CONNECTION DETAIL

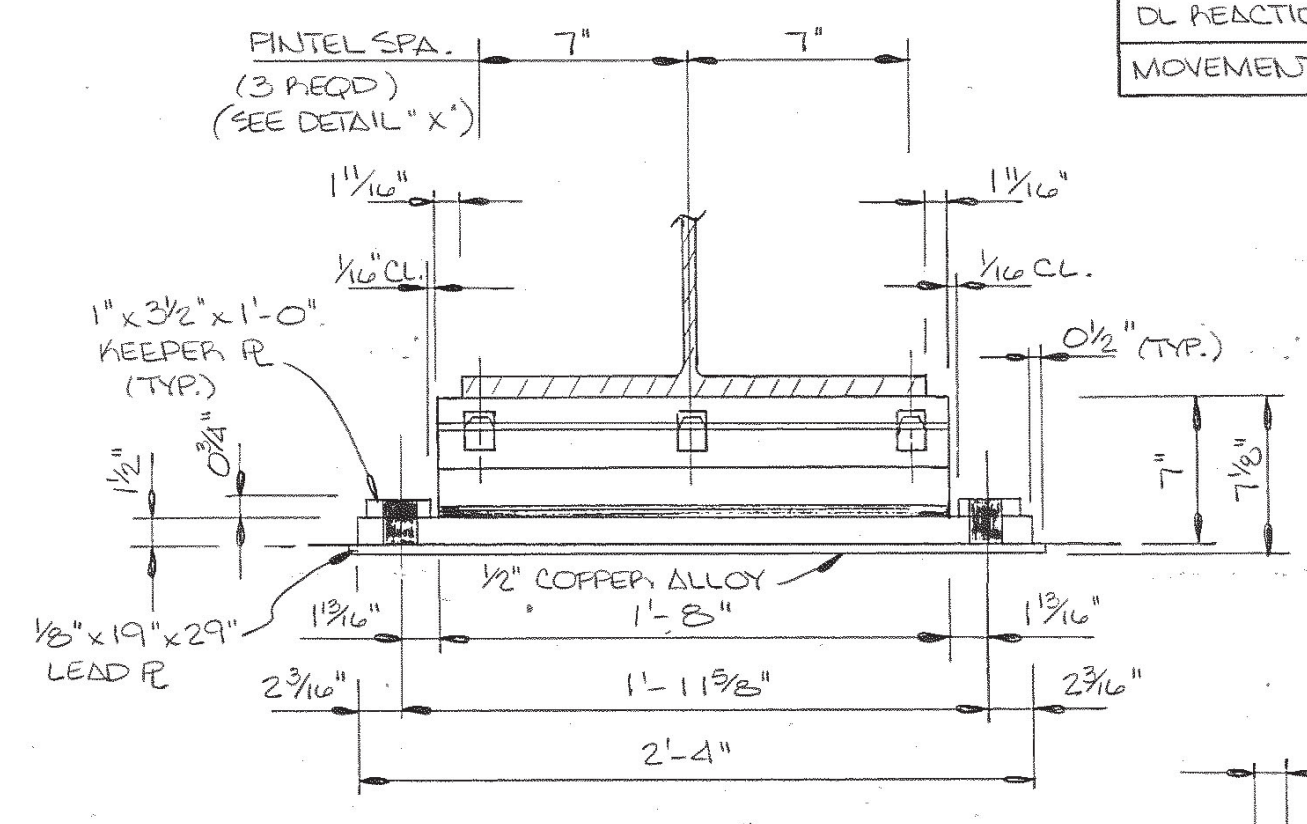


DETAIL X (PIN & ROLLER ASSEMBLY)



PLAN

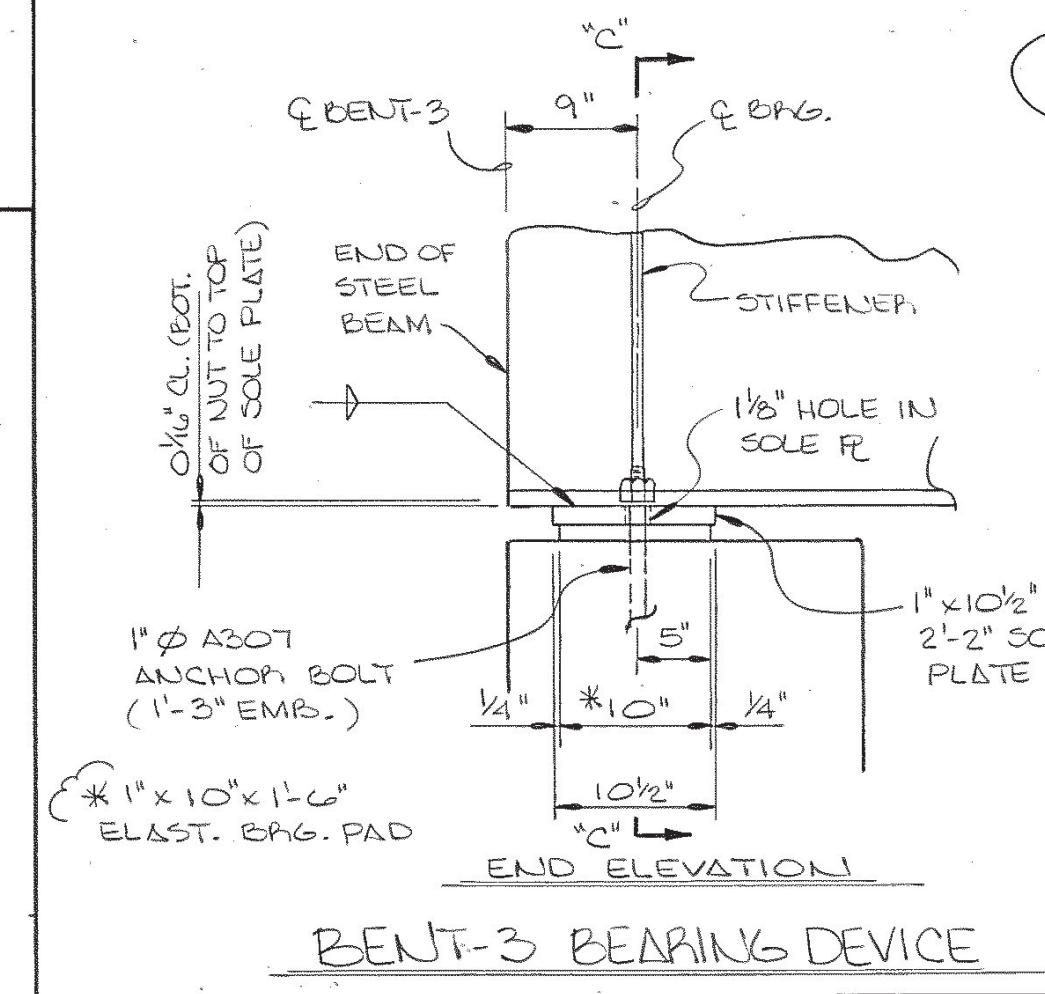
ABUTMENT-2 SERVICE LOAD	
ROTATION	= 0.020 RAD.
TOTAL REACTION (DL+LW)	= 116 K
DL REACTION	= 64 K
MOVEMENT	= 3 3/4" IN.



SECTION A-A

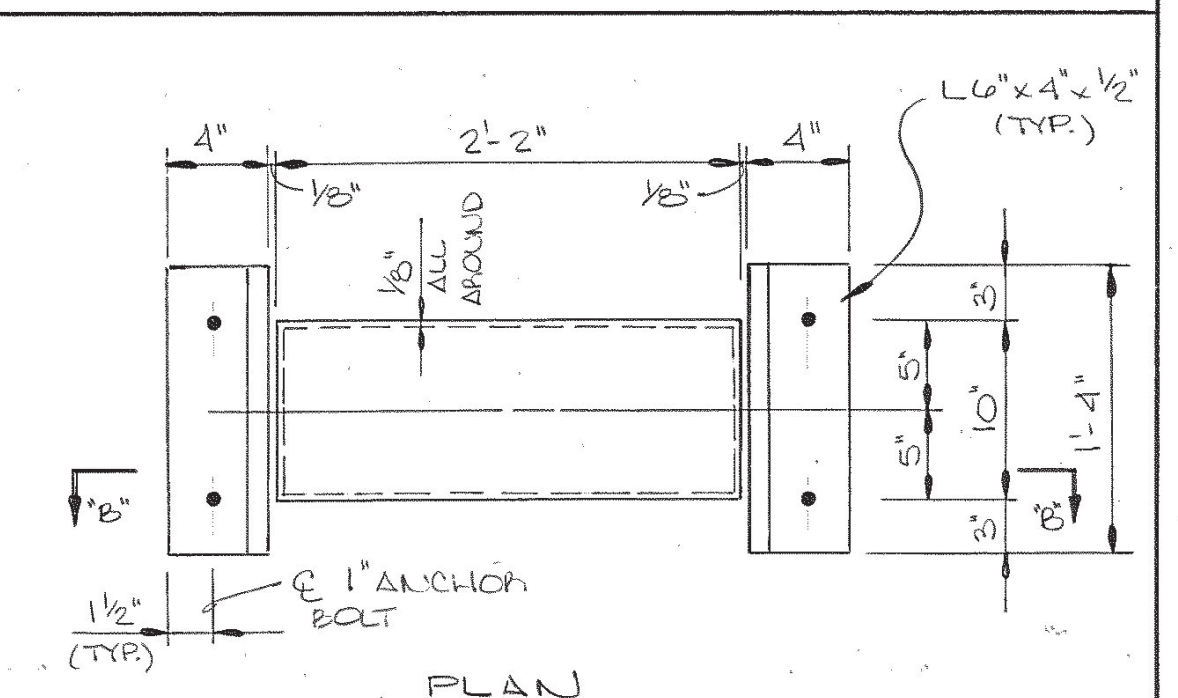
FINISH NOTE: ALL MACHINED AND/OR POLISHED SURFACES IN DIRECT CONTACT WITH THE SELF LUBRICATED COPPER-ALLOY PLATE (ASTM B-100), SHALL MEET THE ANSI SURFACE ROUGHNESS REQUIREMENTS AS DEFINED IN ANSI B-46.1. SURFACE ROUGHNESS, WAVINESS AND LAY, PART-1. MAXIMUM ROUGHNESS HEIGHT SHALL BE 125 MICRONS AND MACHINE MARKS ARE TO BE PARALLEL TO THE DIRECTION OF MOVEMENT ON THE MOVING PART.

ABUT. 2 BEARING DETAILS

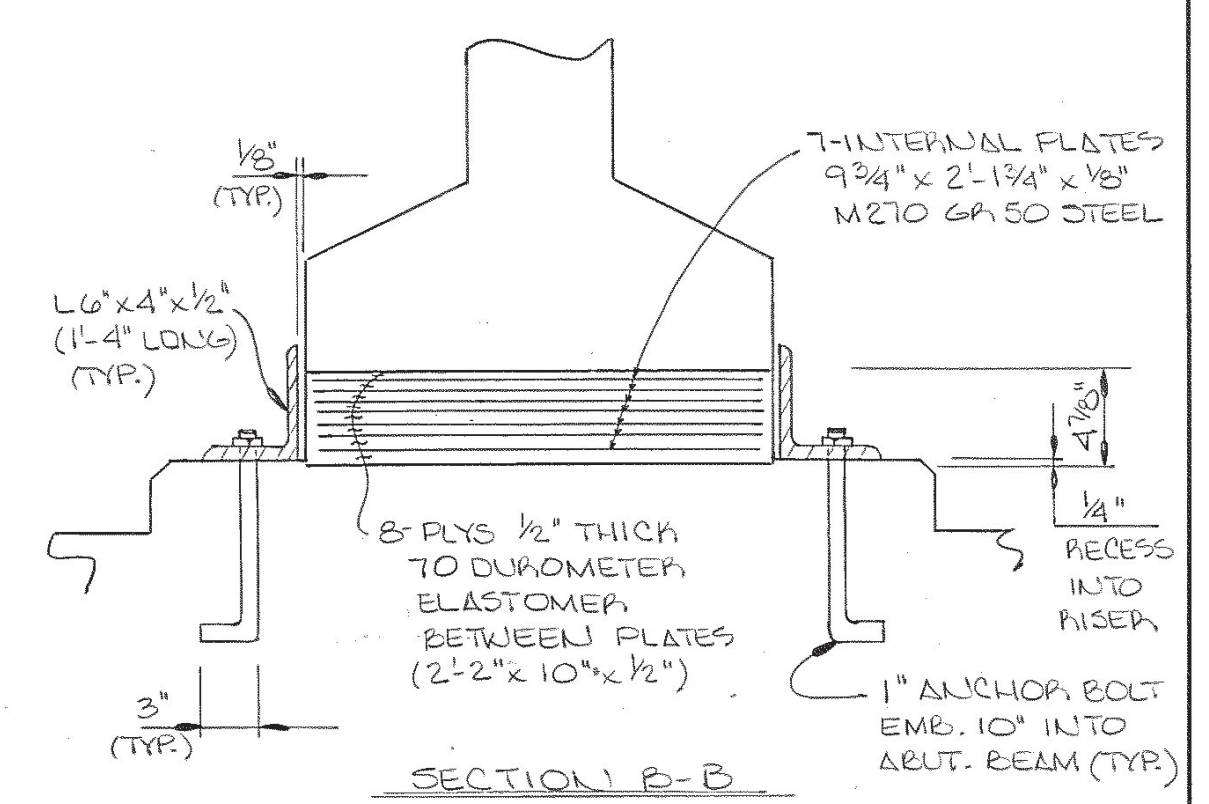


BENT-3 BEARING DEVICE

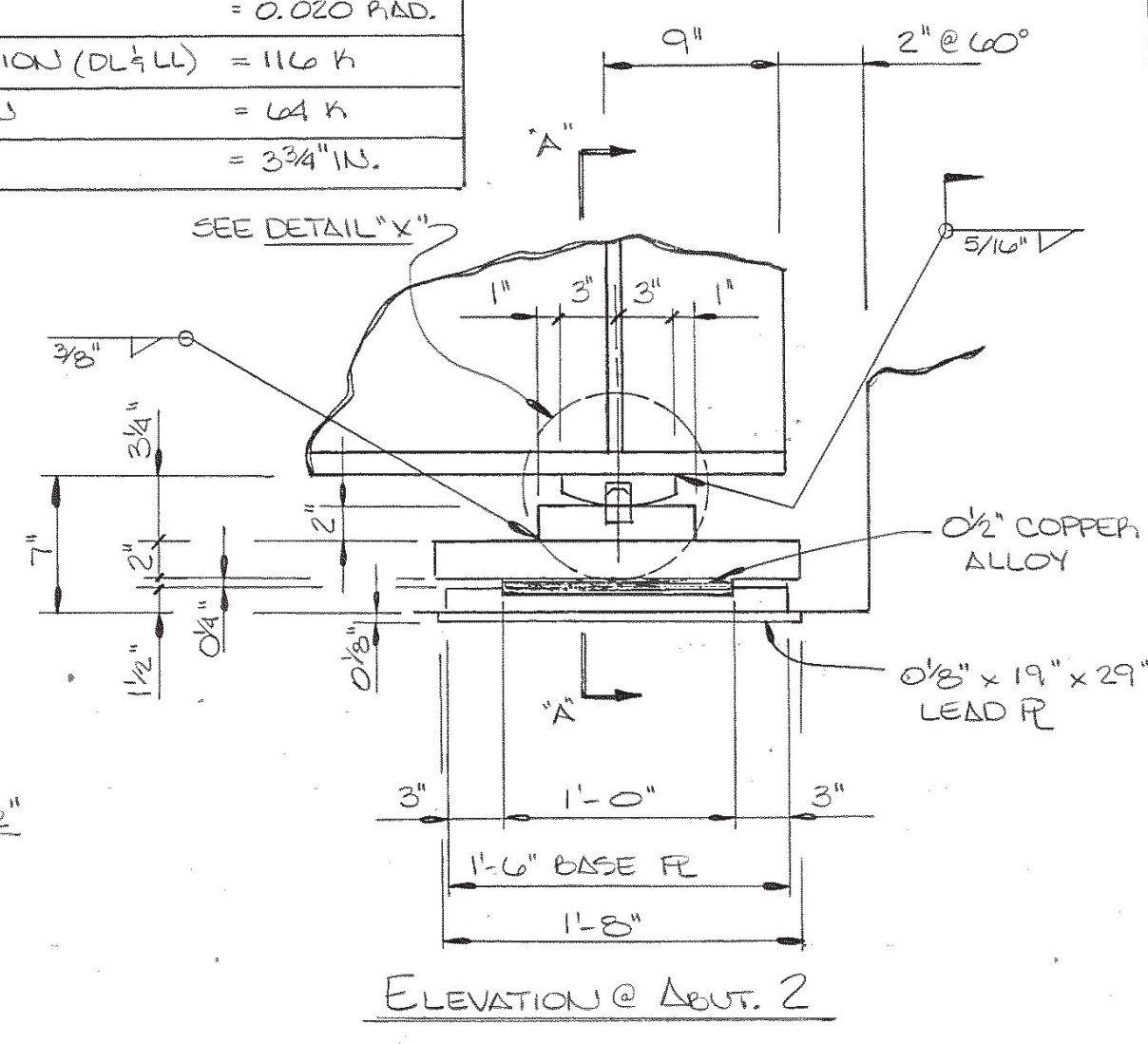
NOTE: SOLE PLATE MUST BE FACTORY VULCANIZED TO ELASTOMERIC BEARING PAD.



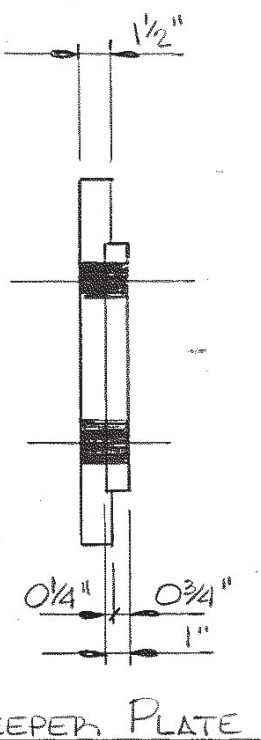
PLAN



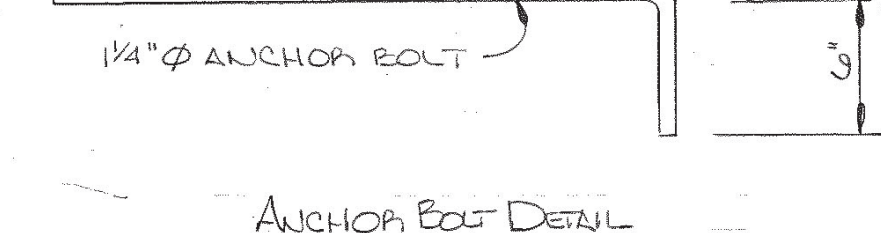
SECTION B-B
ABUT. 1 BEARING DETAILS



ELEVATION @ ABUT. 2



KEEPER PLATE

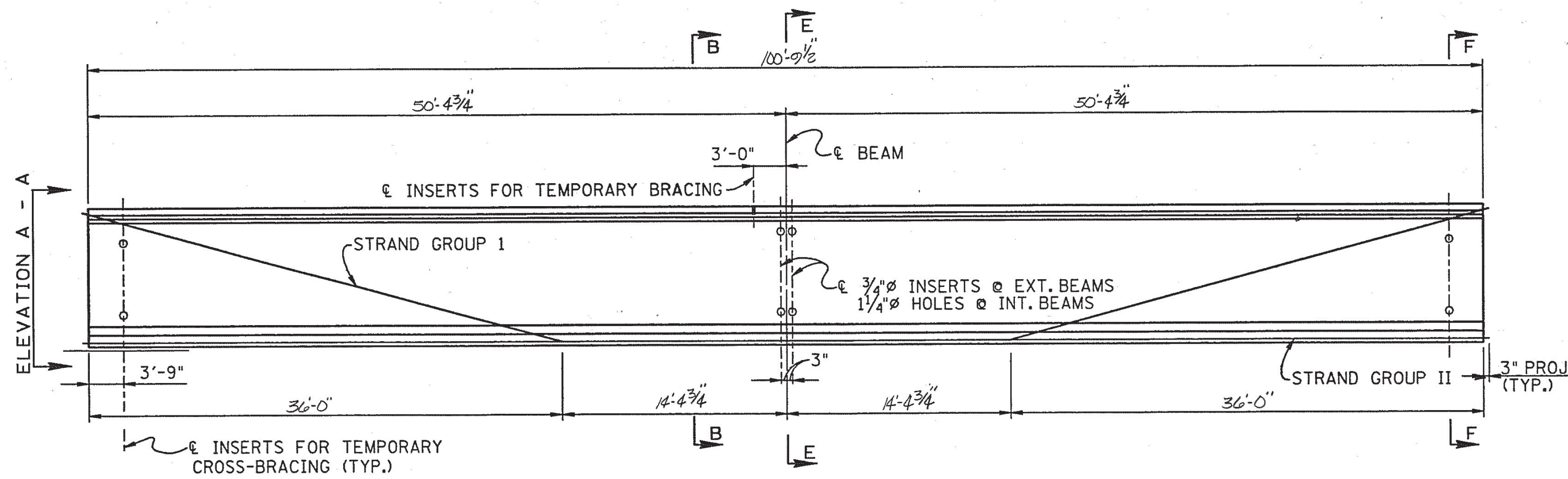


ANCHOR BOLT DETAIL

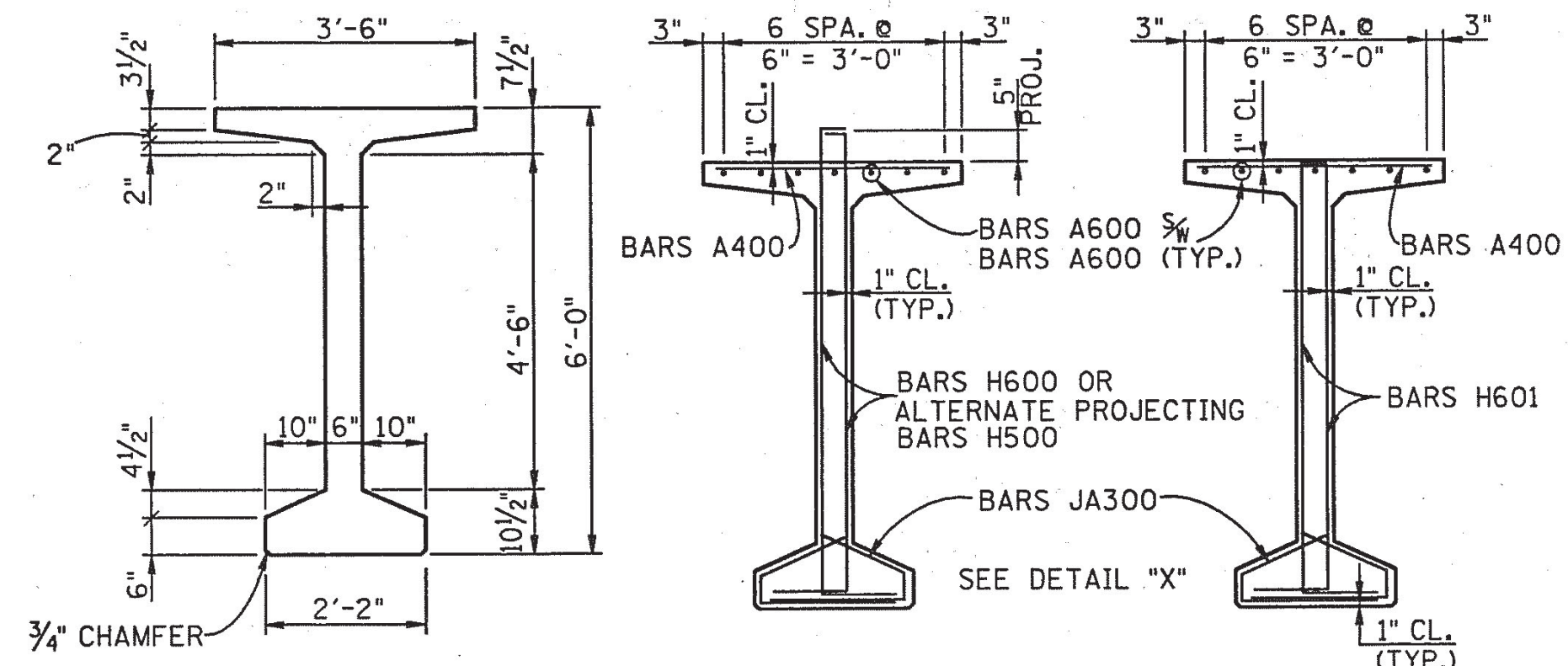
ALT. B
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
SUPERSTRUCTURE DETAILS
SWAN POND ROAD OVER
EMORY RIVER AND HARRIMAN AND
NORTHEASTERN RAILROAD
STATION 21+95.00
ROANE COUNTY
1991

DESIGNED BY A. PRICE DATE 4-91
DRAWN BY P. PHILLIPS DATE 5-91
SUPERVISED BY J. FIELDS & P. WOODS DATE 5-91
CHECKED BY A. PRICE DATE 5-91

CORRECT *Edward Wasserman*
ENGINEER OF STRUCTURES
APPROVED _____
DIRECTOR OF HIGHWAYS



ELEVATION (SHOWING STRAND DEFLECTION ARRANGEMENT)

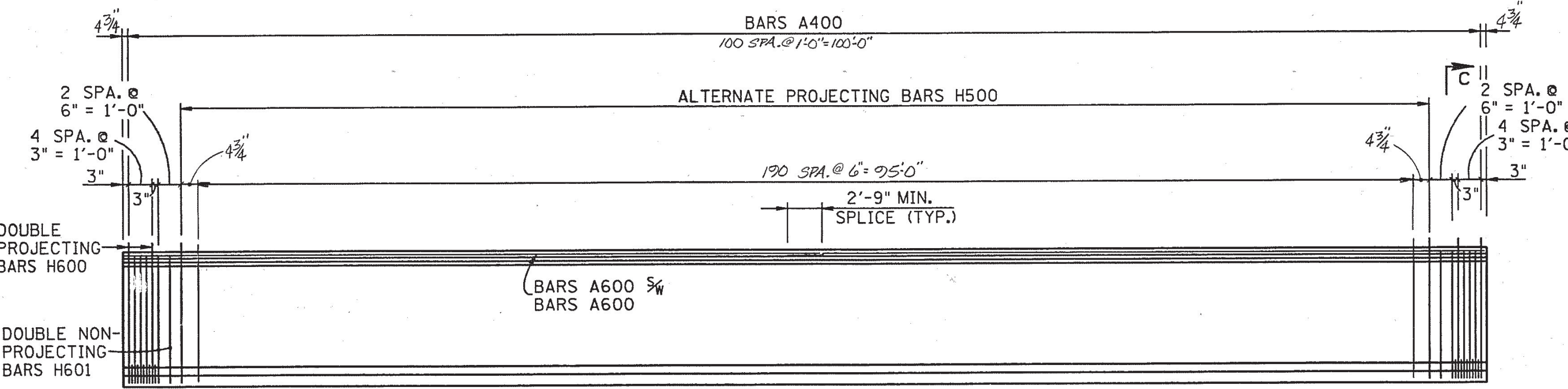


SECTION SHOWING PROPERTIES

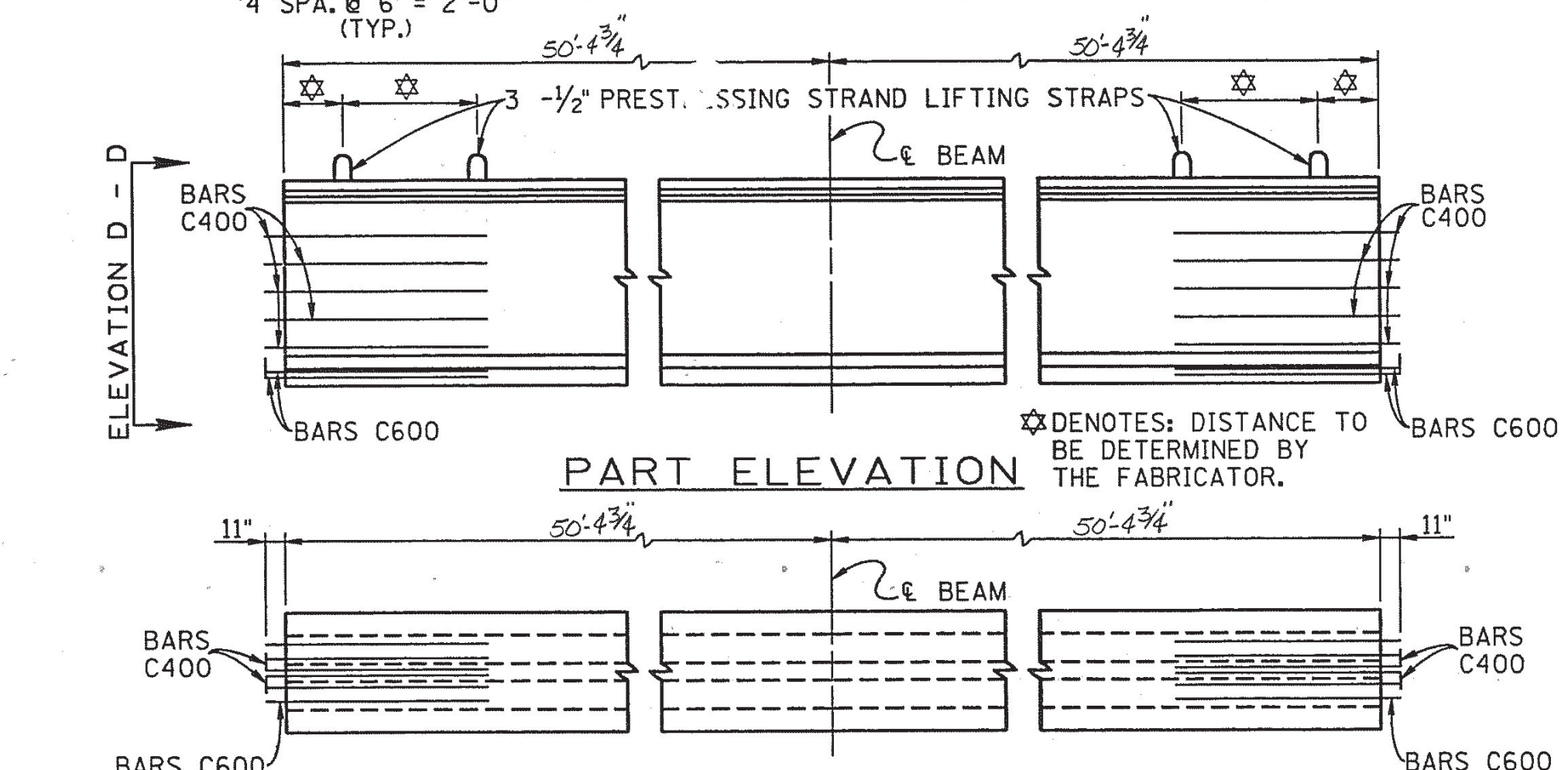
SECTION C - C

CONST. NO. 13950-3717-94		
PROJECT NO. BFM-1226(1)	YEAR 1991	SHEET NO.
REVISIONS		
NO.	DATE	BY
		BRIEF DESCRIPTION

- NOTES:
- THE TOP OF ALL BEAMS TO BE ROUGH FLOATED, AT APPROXIMATELY THE TIME OF INITIAL SET, THE TOP OF THE BEAMS SHALL ALSO BE SCRUBBED TRANSVERSELY WITH A COARSE WIRE BRUSH TO REMOVE ALL LAITANCE AND PRODUCE A ROUGH SURFACE. WHERE PRECAST SLAB PANELS ARE TO BE USED AND SET ON BITUMINOUS FIBERBOARD, THE OUTER TWO INCHES OF THE TOP FLANGE MAY BE TROWELED.
 - MILD STEEL REINFORCING SHALL BE ASTM A615 GRADE 60.
 - ALL PRESTRESSING STRANDS TO BE 1/2" Ø ASTM GRADE 270K, 7 WIRE UNCOATED STRESS RELIEVED LOW RELAXATION PRESTRESSING STRANDS.
 - ALL BEAMS ARE BT-72.
 - THE PRESTRESSING STRANDS SHALL BE LEFT PROJECTING 3" ± FROM THE END OF THE BEAMS. THERE SHALL NOT BE ANY PROTECTIVE COATING PLACED ON THE ENDS OF THE BEAMS OR ON THE PROJECTING STRANDS.
 - THE CONCRETE FOR THIS CONSTRUCTION SHALL BE OF SUCH PROPERTIES AS TO ATTAIN A COMPRESSIVE STRENGTH OF NOT LESS THAN 5,000 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 4,000 PSI. SEE GENERAL NOTES FOR CONCRETE FINISHING NOTE.
 - AN INITIAL FORCE OF 31,003 LB., SHALL BE APPLIED TO EACH STRAND IN ALL BEAMS.
 - PRESTRESSING STRANDS SHALL NOT BE GREATER THAN NOMINAL 1/2" DIAMETER.
 - THE SEQUENCE FOR TRANSFER OF STRESS OR THE CUTTING STRANDS SHALL BE IN ACCORDANCE WITH ARTICLE 615.14 OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND SHALL BE SHOWN ON THE APPROVED SHOP DRAWINGS. AT NO TIME SHALL MORE THAN 1/6th OF THE TOTAL PRESTRESSING FORCE BE ECCENTRIC ABOUT THE CENTERLINE OF THE BEAM.
 - PREFORMED HOLES FOR THE DIAPHRAGM CONNECTION SHALL BE 1 1/4" Ø.
 - INSERTS FOR DIAPHRAGMS ARE TO BE DOUBLED THREADED TYPE (CAST-IN-PLACE). 3/4" Ø THREADED RODS FOR INSERTS ARE TO PROVIDE A 2'-2" SPLICE WITH THE DIAPHRAGM REINFORCEMENT.
 - FOR BEARING DEVICE DETAILS AT ABUTMENT NO. 1, SEE DWG. NO. M-220-160.



ELEVATION (SHOWING STIRRUP BAR ARRANGEMENT)



PART PLAN

BILL OF STEEL (PER BEAM)

BAR	SIZE	NO. REQ'D	LENGTH
A400	4	101	3'-2"
A600	6	14	5'-7"
C400	4	20	7'-6"
C600	6	16	7'-6"
H500	5	193	7'-7"
H600	6	8	7'-7"
H601	6	20	7'-0"
JA300	3	20	3'-5"

DESIGNED BY A. PRICE DATE 4-91
 DRAWN BY M. SUPDAM DATE 5-91
 SUPERVISED BY J. FIELDS & B. WOODS DATE 5-91
 CHECKED BY A. PRICE DATE 5-91

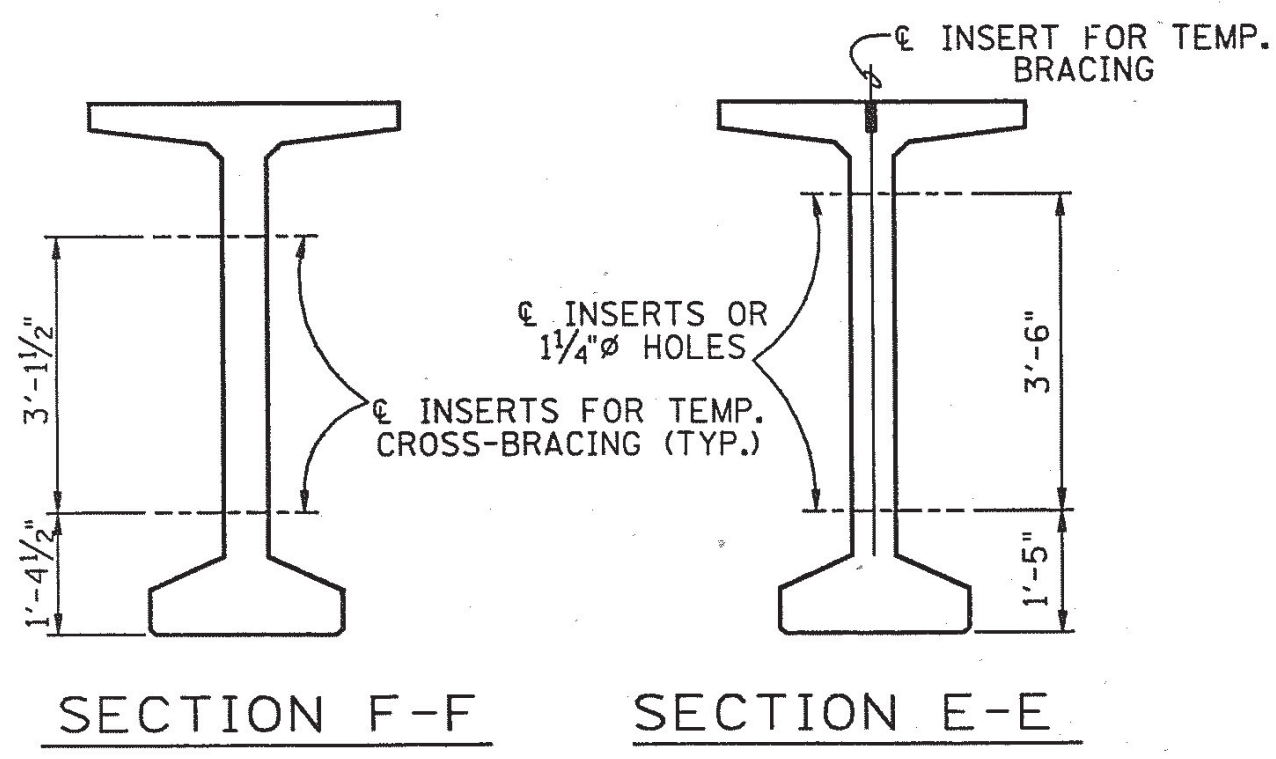
-PRESTRESSED BEAM DESIGN DATA-
 -PER BEAM-

LIVE LOAD DISTRIBUTION FACTOR: 1.34 @ WHEELS
 COMPOSITE DEAD LOAD: 453 LB/FT
 COMPOSITE DESIGN SLAB (f'c = 3,000 PSI; 108 IN. X 8.25 IN.

MAXIMUM DESIGN VALUES	SPAN POINT					
	0.0	0.1	0.2	0.3	0.4	0.5
POSITIVE MOMENT (K-FT)	0	682	1153	1424	1528	1470
NEGATIVE MOMENT (K-FT)	-1735	-786	-500	-253	-52	94
SHEAR (K)	300	272	227	181	132	83

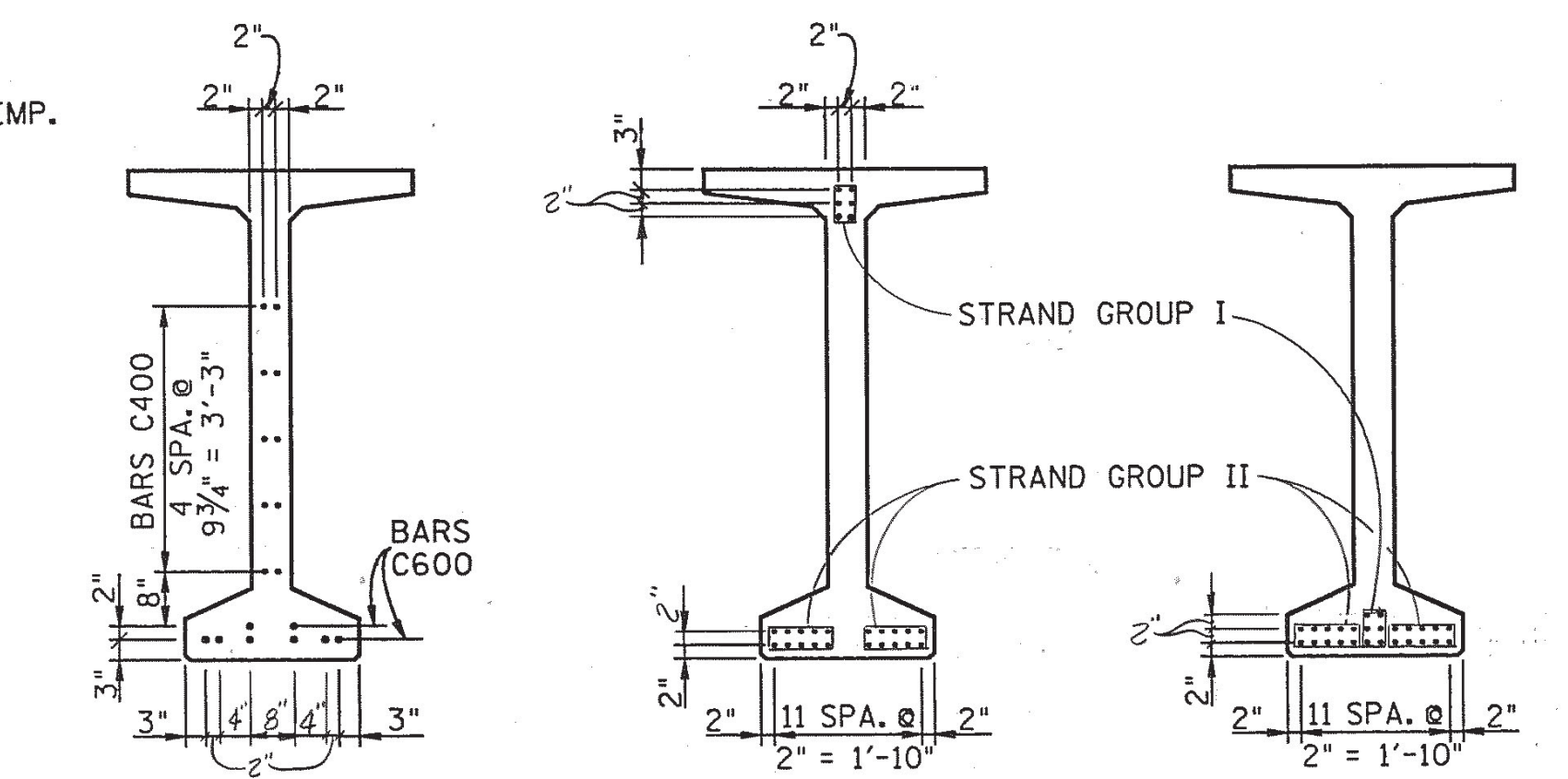
MAXIMUM STRESS (PSI)	@ MIDSPAN		@ END SPAN	
	TOP	BOTTOM	TOP	BOTTOM
INIT PRES + BM DL	135.74	1833.31	125.44	1843.96
FINAL PRES + TOTAL DL + LL	1450.45	-341.13	-83.98	2492.69

(NO SIGN DENOTES COMPRESSION; '-' DENOTES TENSION)
 ULTIMATE MOMENT CAPACITY REQUIRED = 5798.6 K-FT
 ULTIMATE MOMENT CAPACITY PROVIDED = 6649.5 K-FT
 NOTE: DOWNWARD DEFLECTION UNDER TOTAL DL IS NOT ALLOWED.



SECTION F-F

SECTION E-E



ELEVATION D-D

ELEVATION A-A

SECTION B-B

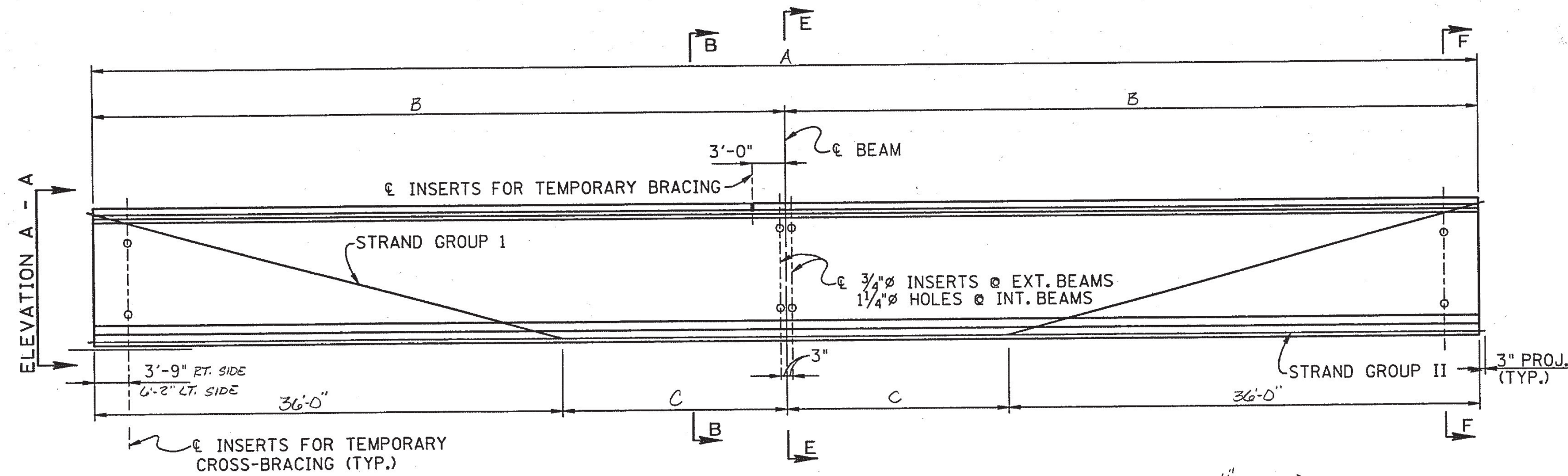
ESTIMATED QUANTITIES (PER BEAM)

NO. REQ'D	CLASS "A" CONCRETE	REINFORCING STEEL	PRESTRESSING STRANDS (LOW RELAXATION)
	C.Y.	LB.	LB.
1	19.9	3432	1383

ALTERNATE "B"
 STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BUREAU OF HIGHWAYS

PRESTRESSED BEAM DETAILS
 SPAN NO. 1 BEAM NO. 1
 SWAN POND ROAD OVER
 EMORY RIVER AND HARRISMAN
 AND NORTHEASTERN RAILROAD
 STATION 21+95.00
 ROANE COUNTY
 1991

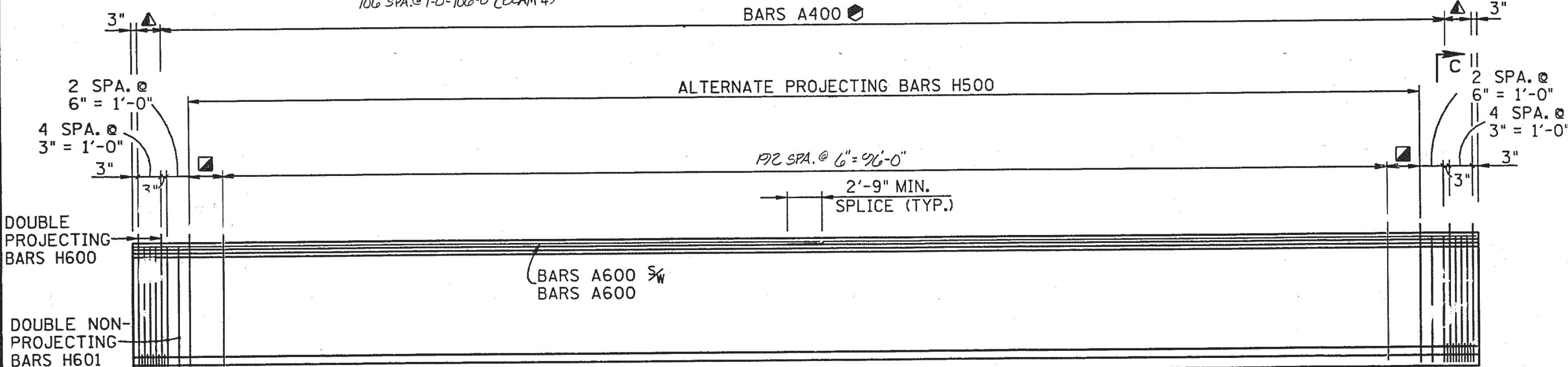
CORRECT Edward P. Wasserman
 ENGINEER OF STRUCTURES



ELEVATION (SHOWING STRAND DEFLECTION ARRANGEMENT)

● DENOTES: 101 SPA. @ 1'-0"=10'-0" (BEAM 2)
10A SPA. @ 1'-0"=10'-0" (BEAM 3)
10L SPA. @ 1'-0"=10'-0" (BEAM 4)

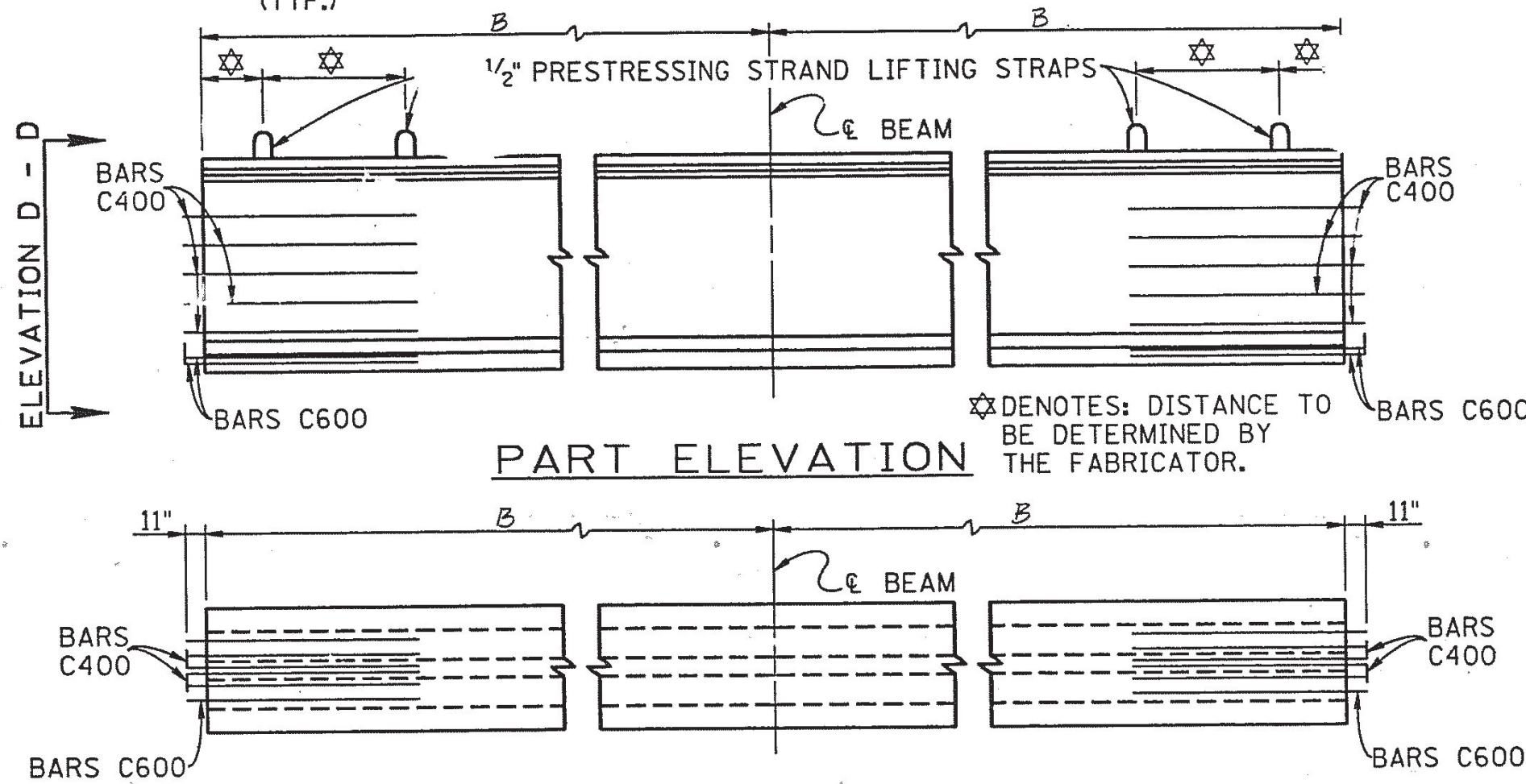
▲ DENOTES: 10 1/4" (BEAM 2)
6 3/4" (BEAM 3)
9 1/4" (BEAM 4)



ELEVATION (SHOWING STIRRUP BAR ARRANGEMENT)

■ DENOTES: 2 EQ. SPA. @ 1'-1/4" (BEAM 2)
5 EQ. SPA. @ 2'-3/4" (BEAM 3)
7 EQ. SPA. @ 3'-6 1/4" (BEAM 4)

BEAM	A	B	C
2	10'-2 1/2"	5'-7 1/4"	15'-7 1/4"
3	10'-5 7/8"	5'-9 3/4"	16'-9 3/4"
4	10'-8 0 1/2"	5'-10 1/4"	18'-0 1/4"

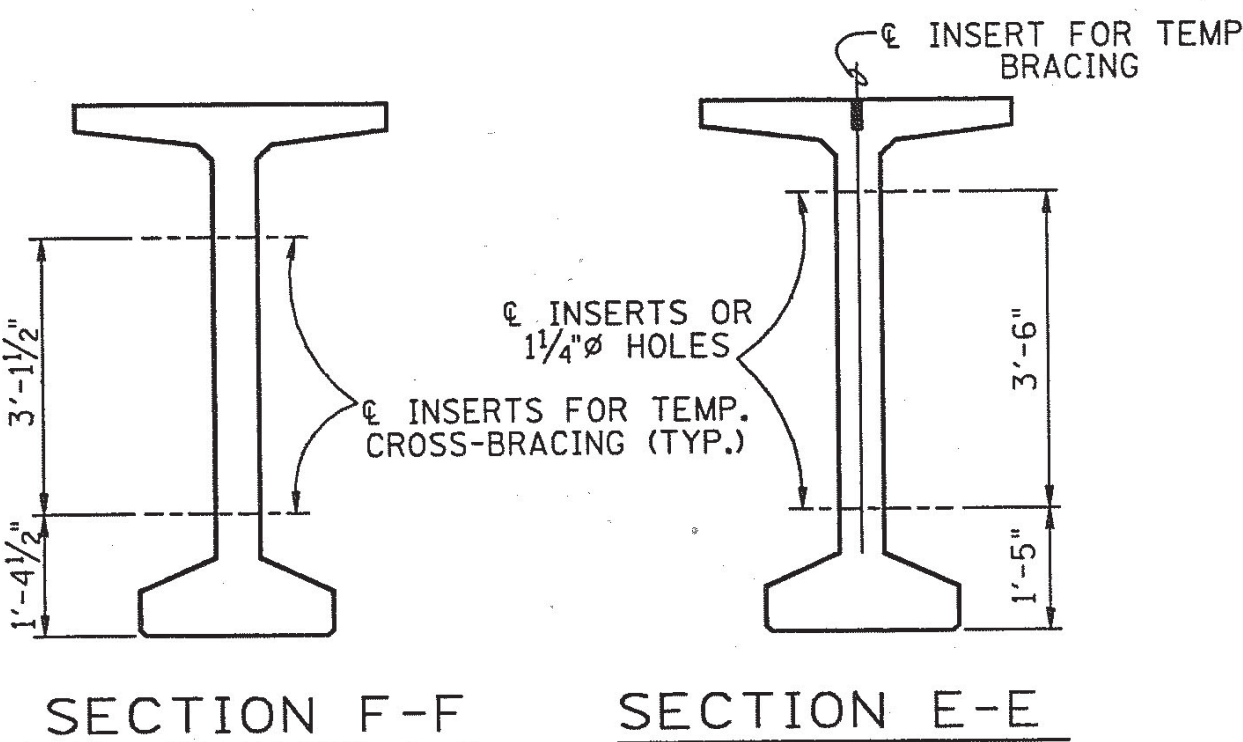


PART ELEVATION

PART PLAN

BILL OF STEEL (PER BEAM)

BAR	SIZE	NO. REQ'D	LENGTH
A400	4	4	3'-2"
A600	6	14	5'-8"
C400	4	20	7'-6"
C600	6	16	7'-6"
H500	5	8	7'-7"
H600	6	8	7'-7"
H601	6	20	7'-0"
JA300	3	20	3'-5"

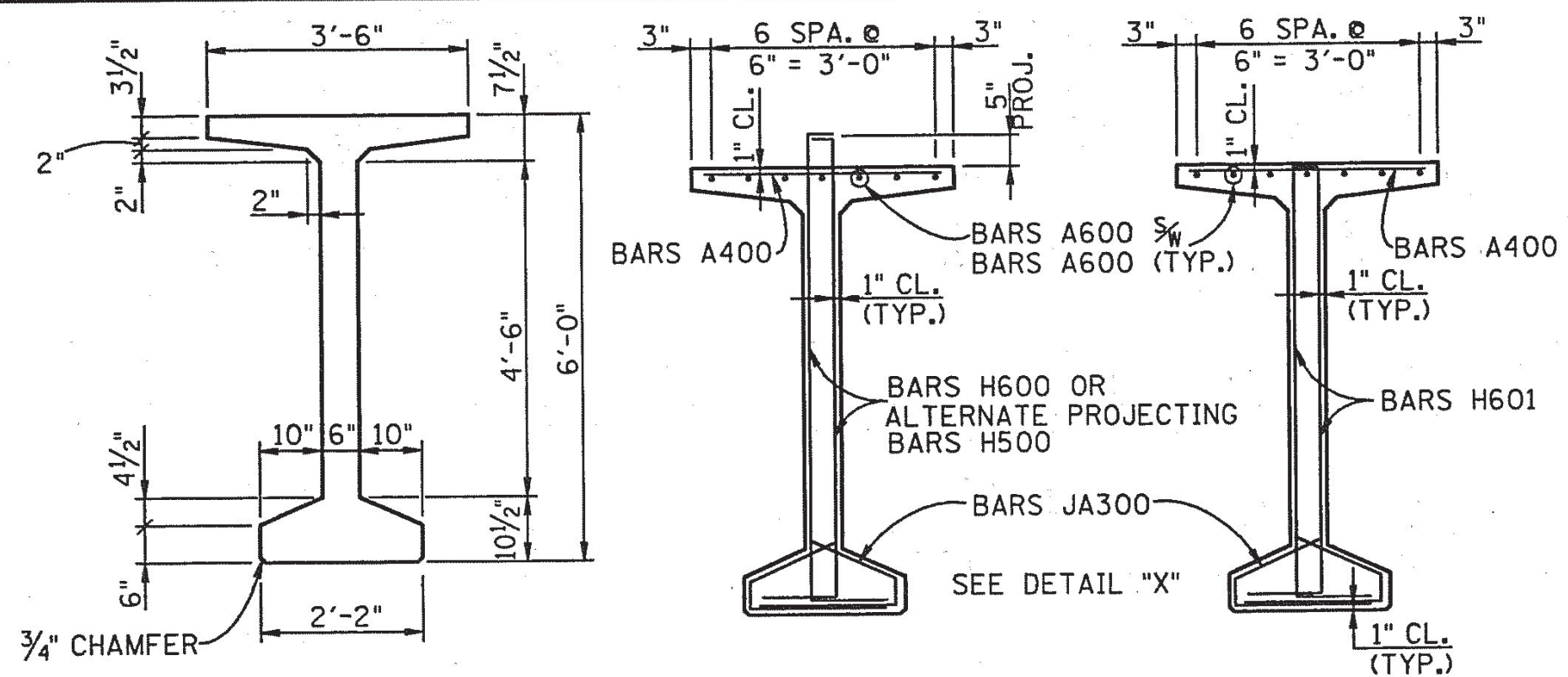


SECTION F-F

SECTION E-E

● DENOTES: 104 (BEAM 2)
101 (BEAM 3)
109 (BEAM 4)

▲ DENOTES: 197 (BEAM 2)
203 (BEAM 3)
207 (BEAM 4)

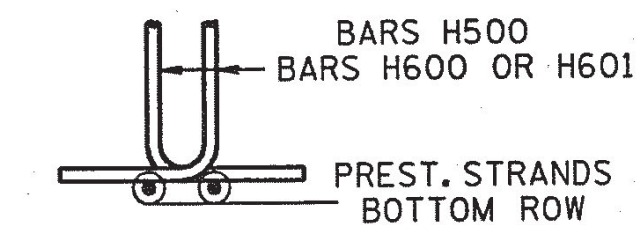


SECTION SHOWING PROPERTIES

SHOWING PROJECTING BARS

SHOWING NON-PROJECTING BARS

SECTION C - C



DETAIL "X"

-PRESTRESSED BEAM DESIGN DATA-
-PER BEAM-

LIVE LOAD DISTRIBUTION FACTOR: 1.34 @ WHEELS
COMPOSITE DEAD LOAD: 453.2 LB/FT
COMPOSITE DESIGN SLAB (f'c = 3,000 PSI): 108 IN. X 8.25 IN.

COMPOSITE DL + LIVE LOAD MAXIMUM DESIGN VALUES	SPAN POINT					
	0.0	0.1	0.2	0.3	0.4	0.5
POSITIVE MOMENT (K-FT)	0	682	1153	1424	1528	1470
NEGATIVE MOMENT (K-FT)	-1735	-986	-500	-253	-52	94
SHEAR (K)	320	272	227	181	132	83

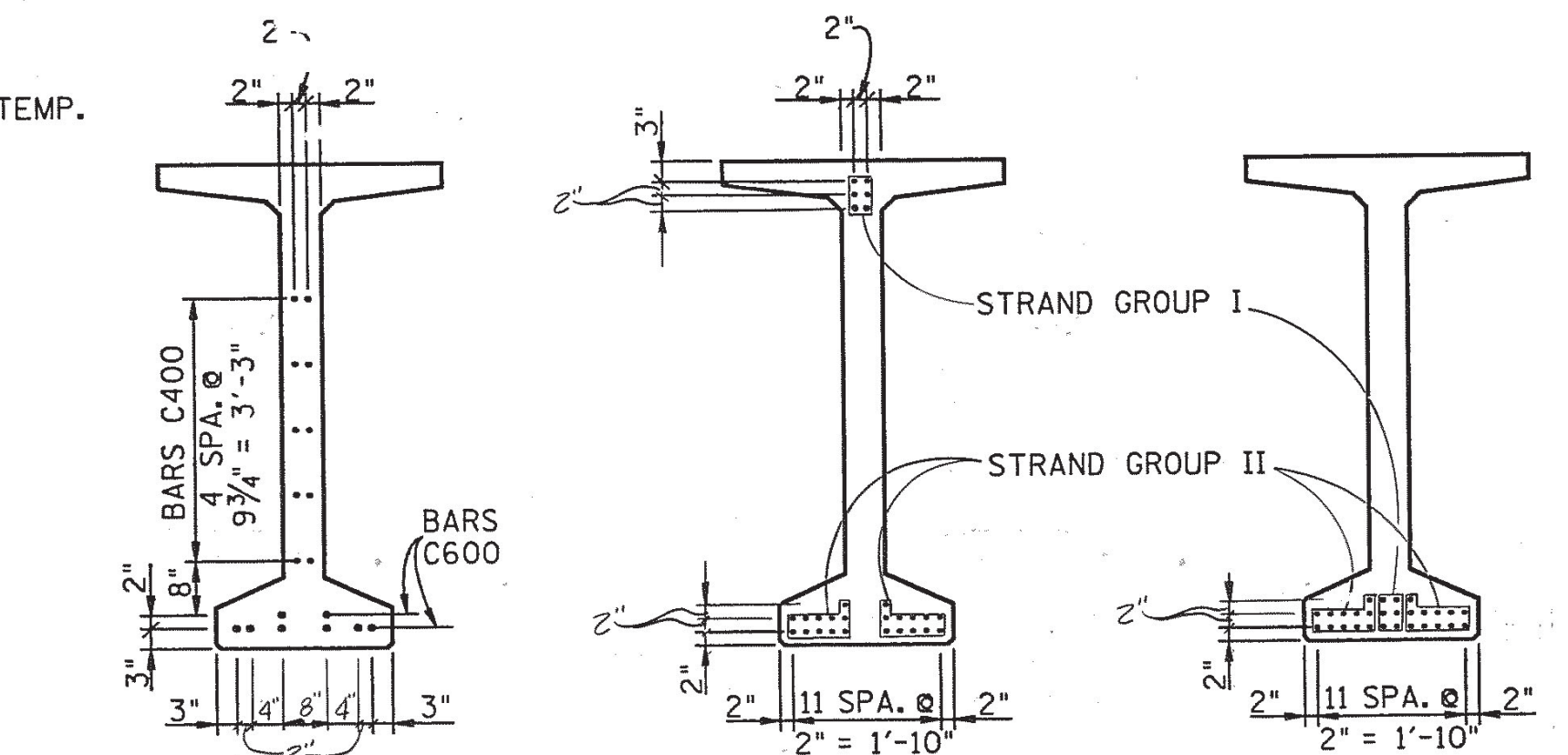
MAXIMUM STRESS (PSI)	@ MIDSPAN		@ END SPAN	
	TOP	BOTTOM	TOP	BOTTOM
INIT PRES + BM DL	214.91	1897.97	91.14	2025.94
FINAL PRES + TOTAL DL + LL	1629.21	-396.97	-114.00	2656.95

(NO SIGN DENOTES COMPRESSION; '-' DENOTES TENSION)

ULTIMATE MOMENT CAPACITY REQUIRED = 615.8 K-FT

ULTIMATE MOMENT CAPACITY PROVIDED = 712.8 K-FT

NOTE: DOWNWARD DEFLECTION UNDER TOTAL DL IS NOT ALLOWED.



ELEVATION D-D

ELEVATION A-A

SECTION B-B

ESTIMATED QUANTITIES (PER BEAM)

NO. REQ'D	CLASS "A" CONCRETE	REINFORCING STEEL		PRESTRESSING STRANDS (LOW RELAXATION)
		C.Y.	LB.	LB.
1	20.4	3556	1525	
1	20.8	3604	1560	
1	21.3	3635	1596	

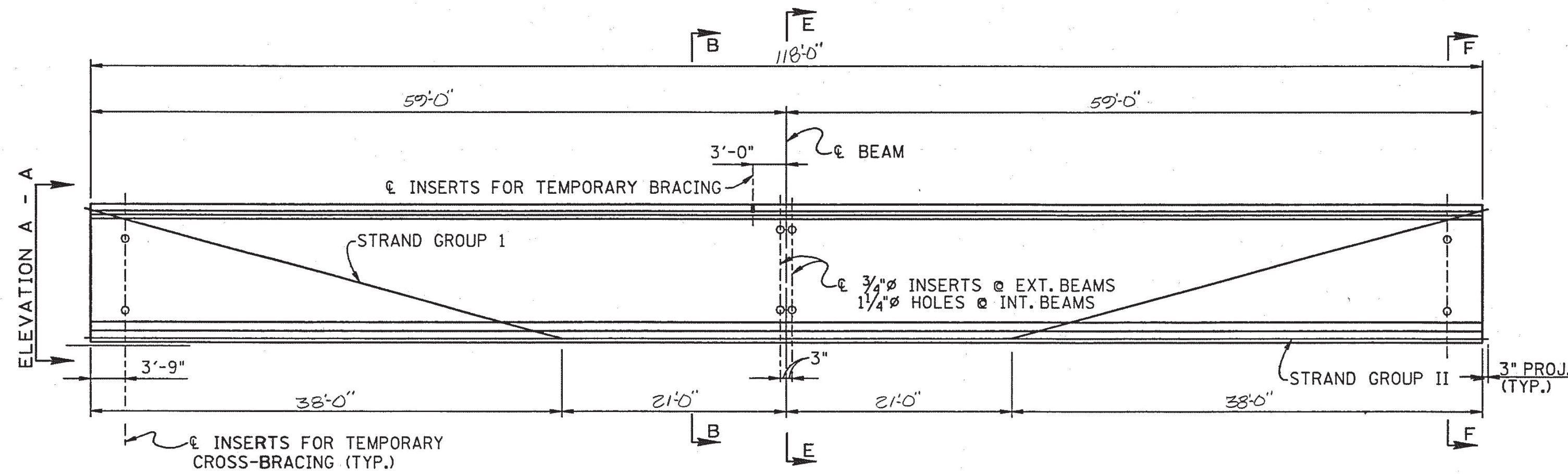
CONST. NO. 73950-3717-94			
PROJECT NO.	YEAR	SHEET NO.	
BRM-1226 (1)	1991		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

- NOTES:
- THE TOP OF ALL BEAMS TO BE ROUGH FLOATED. AT APPROXIMATELY THE TIME OF INITIAL SET, THE TOP OF THE BEAMS SHALL ALSO BE SCRUBBED TRANSVERSELY WITH A COARSE WIRE BRUSH TO REMOVE ALL LAITANCE AND PRODUCE A ROUGH SURFACE. WHERE PRECAST SLAB PANELS ARE TO BE USED AND SET ON BITUMINOUS FIBERBOARD, THE OUTER TWO INCHES OF THE TOP FLANGE MAY BE TROWELED.
 - MILD STEEL REINFORCING SHALL BE ASTM A615 GRADE 60.
 - ALL PRESTRESSING STRANDS TO BE 1/2" Ø ASTM GRADE 270K, 7 WIRE UNCOATED STRESS RELIEVED LOW RELAXATION PRESTRESSING STRANDS.
 - ALL BEAMS ARE BT-72.
 - THE PRESTRESSING STRANDS SHALL BE LEFT PROJECTING 3" ± FROM THE END OF THE BEAMS. THERE SHALL NOT BE ANY PROTECTIVE COATING PLACED ON THE ENDS OF THE BEAMS OR ON THE PROJECTING STRANDS.
 - THE CONCRETE FOR THIS CONSTRUCTION SHALL BE OF SUCH PROPERTIES AS TO ATTAIN A COMPRESSIVE STRENGTH OF NOT LESS THAN 5,000 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 4,000 PSI. SEE GENERAL NOTES FOR CONCRETE FINISHING NOTE.
 - AN INITIAL FORCE OF 31,003 LB., SHALL BE APPLIED TO EACH STRAND IN ALL BEAMS.
 - PRESTRESSING STRANDS SHALL NOT BE GREATER THAN NOMINAL 1/2" DIAMETER.
 - THE SEQUENCE FOR TRANSFER OF STRESS TO THE CUTTING STRANDS SHALL BE IN ACCORDANCE WITH ARTICLE 615.14 OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND SHALL BE SHOWN ON THE APPROVED SHOP DRAWINGS. AT NO TIME SHALL MORE THAN 1/6th OF THE TOTAL PRESTRESSING FORCE BE ECCENTRIC ABOUT THE CENTERLINE OF THE BEAM.
 - PREFORMED HOLES FOR THE DIAPHRAGM CONNECTION SHALL BE 1 1/4" Ø.
 - INSERTS FOR DIAPHRAGMS ARE TO BE DOUBLED THREADED TYPE (CAST-IN-PLACE). 3/4" Ø THREADED RODS FOR INSERTS ARE TO PROVIDE A 2'-2" SPLICE WITH THE DIAPHRAGM REINFORCEMENT.
 - FOR BEARING DEVICE DETAILS AT ABUTMENT NO. 1, SEE DWG. NO. M-220-160.

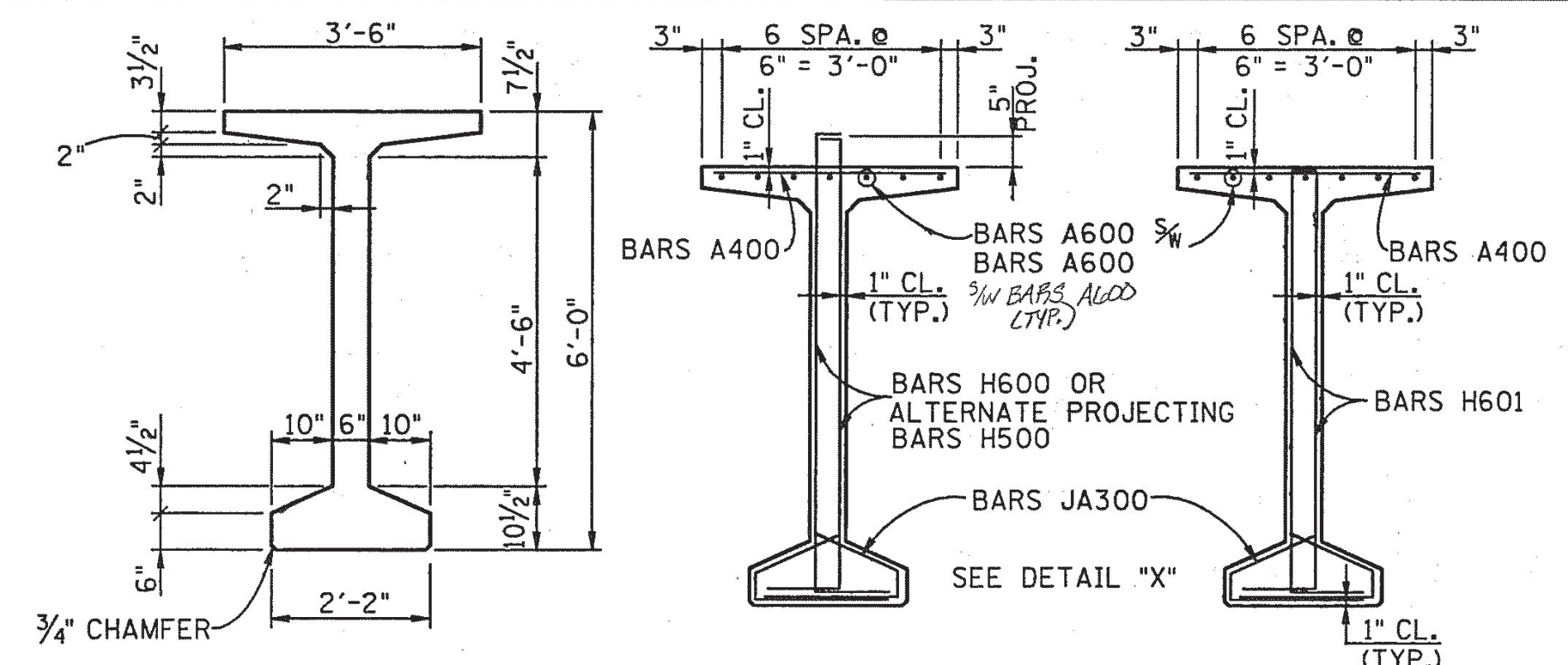
ALTERNATE "B"
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
PRESTRESSED BEAM DETAILS
SPAN NO. 1 BEAMS 2, 3, & 4
SWAN POND ROAD OVER
EMORY RIVER AND HARRISMAN
AND NORTHEASTERN RAILROAD
STATION 21+95.00
BOANE COUNTY
1991

CORRECT Edward P. Wasserman
ENGINEER OF STRUCTURES

DESIGNED BY A. PRICE DATE 4-91
DRAWN BY M. SURDAM DATE 5-91
SUPERVISED BY J. FIELDS & P. WOODS DATE 5-91
CHECKED BY A. PRICE DATE 5-91



ELEVATION (SHOWING STRAND DEFLECTION ARRANGEMENT)

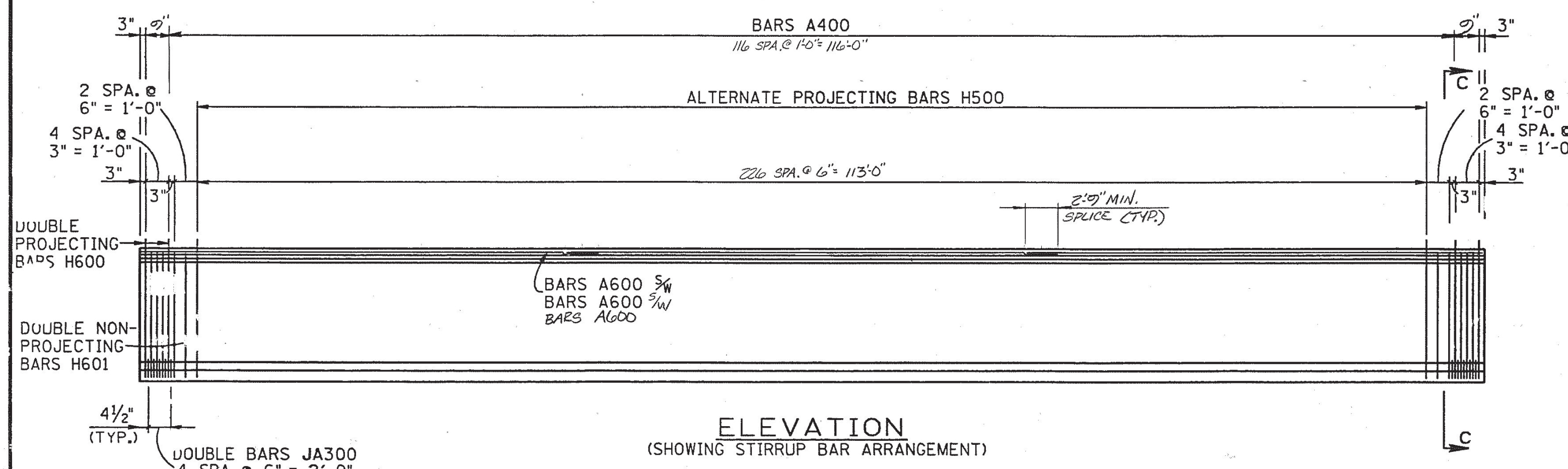


SECTION SHOWING PROPERTIES

SECTION C - C

CONST. NO. 13750-3717-94			
PROJECT NO. BFM-1226(D)	YEAR 1991	SHEET NO.	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

- NOTES:
1. THE TOP OF ALL BEAMS TO BE ROUGH FLOATED. AT APPROXIMATELY THE TIME OF INITIAL SET, THE TOP OF THE BEAMS SHALL ALSO BE SCRUBBED TRANSVERSELY WITH A COARSE WIRE BRUSH TO REMOVE ALL LAITANCE AND PRODUCE A ROUGH SURFACE. WHERE PRECAST SLAB PANELS ARE TO BE USED AND SET ON BITUMINOUS FIBERBOARD, THE OUTER TWO INCHES OF THE TOP FLANGE MAY BE TROWELED.
 2. MILD STEEL REINFORCING SHALL BE ASTM A615 GRADE 60.
 3. ALL PRESTRESSING STRANDS TO BE 1/2" Ø ASTM GRADE 270K, 7 WIRE UNCOATED STRESS RELIEVED LOW RELAXATION PRESTRESSING STRANDS.
 4. ALL BEAMS ARE BT-72.
 5. THE PRESTRESSING STRANDS SHALL BE LEFT PROJECTING 3" ± FROM THE END OF THE BEAMS. THERE SHALL NOT BE ANY PROTECTIVE COATING PLACED ON THE ENDS OF THE BEAMS OR ON THE PROJECTING STRANDS.
 6. THE CONCRETE FOR THIS CONSTRUCTION SHALL BE OF SUCH PROPERTIES AS TO ATTAIN A COMPRESSIVE STRENGTH OF NOT LESS THAN 6,000 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 5,000 PSI. SEE GENERAL NOTES FOR CONCRETE FINISHING NOTE.
 7. AN INITIAL FORCE OF 31,003 LB., SHALL BE APPLIED TO EACH STRAND IN ALL BEAMS.
 8. PRESTRESSING STRANDS SHALL NOT BE GREATER THAN NOMINAL 1/2" DIAMETER.
 9. THE SEQUENCE FOR TRANSFER OF STRESS OR THE CUTTING STRANDS SHALL BE IN ACCORDANCE WITH ARTICLE 615.14 OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND SHALL BE SHOWN ON THE APPROVED SHOP DRAWINGS. AT NO TIME SHALL MORE THAN 1/6th OF THE TOTAL PRESTRESSING FORCE BE ECCENTRIC ABOUT THE CENTERLINE OF THE BEAM.
 10. PREFORMED HOLES FOR THE DIAPHRAGM CONNECTION SHALL BE 1 1/4" Ø.
 11. INSERTS FOR DIAPHRAGMS ARE TO BE DOUBLED THREADED TYPE (CAST-IN-PLACE). 3/4" Ø THREADED RODS FOR INSERTS ARE TO PROVIDE A 2'-2" SPLICE WITH THE DIAPHRAGM REINFORCEMENT.
 12. ELASTOMERIC BEARING PADS TO BE 1"x2'-2"x1'-7" AT PIER 1, 2, 3 AND BENTS 1 AND 2 AND 1"x10"x2'-2" AT BENT 3



ELEVATION (SHOWING STIRRUP BAR ARRANGEMENT)

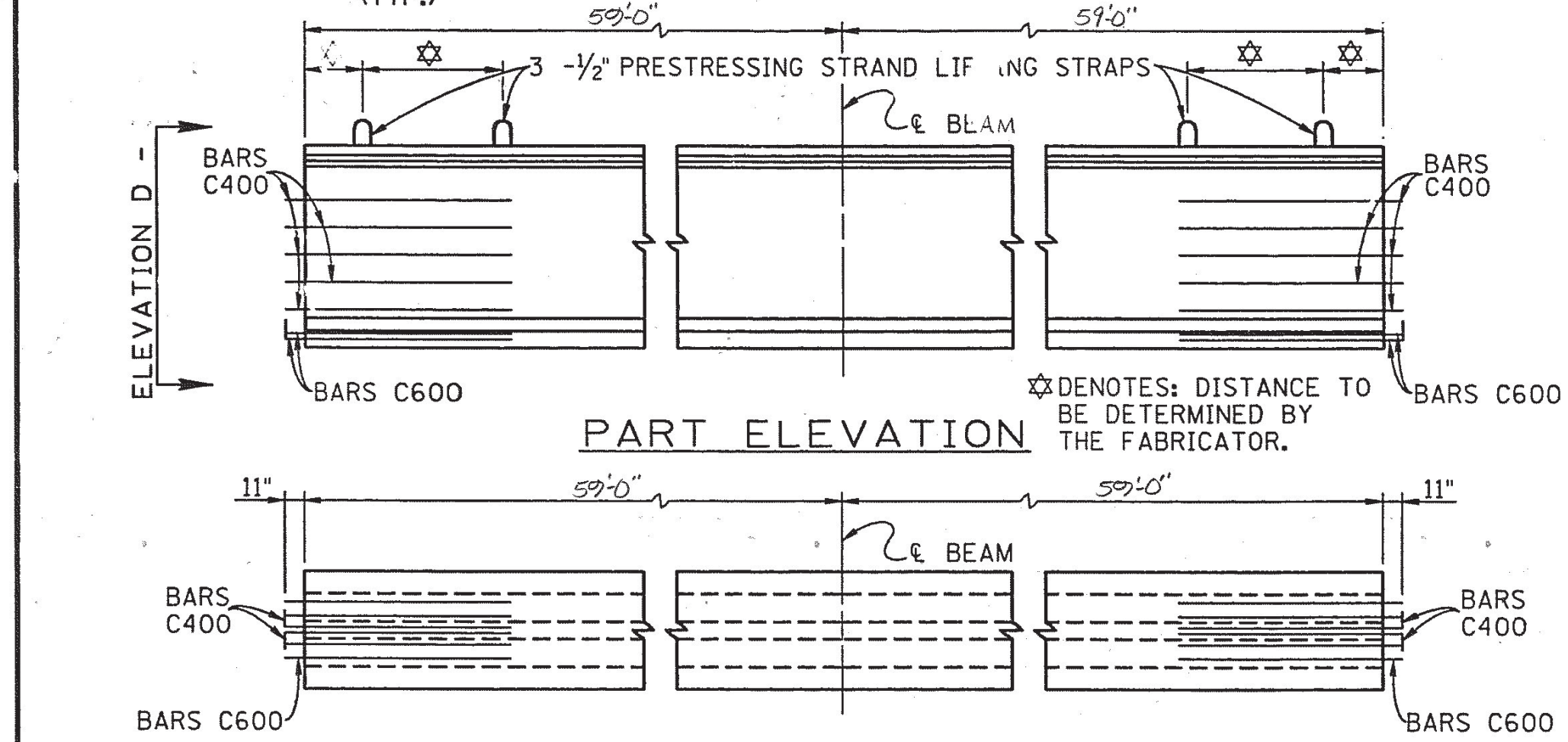
-PRESTRESSED BEAM DESIGN DATA-
-PER BEAM-

LIVE LOAD DISTRIBUTION FACTOR: 1.34/8 WHEELS
COMPOSITE DEAD LOAD: 453.2 LB/FT
COMPOSITE DESIGN SLAB (f'c = 3,000 PSI); 108 IN. X 8.25 IN.

COMPOSITE DL + LIVE LOAD MAXIMUM DESIGN VALUES	SPAN POINT					
	0.0	0.1	0.2	0.3	0.4	0.5
POSITIVE MOMENT (K-FT)	-266	45	497	912	1163	1233
NEGATIVE MOMENT (K-FT)	-1735	-964	-535	-319	-213	-172
SHEAR (K)	325	271	220	183	130	77

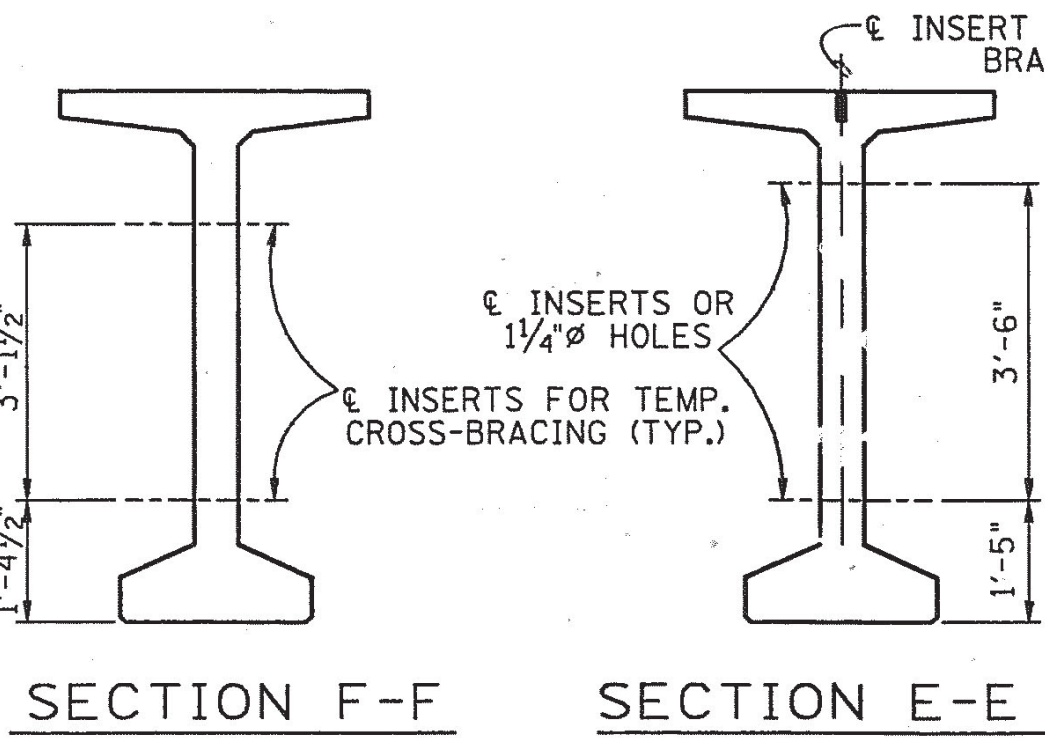
MAXIMUM STRESS (PSI)	MIDSPAN		END SPAN	
	TOP	BOTTOM	TOP	BOTTOM
INIT PRES + BM DL	265.36	2425.0	353.96	2333.60
FINAL PRES + TOTAL DL + LL	2039.48	-254.56	101.42	2879.73

(NO SIGN DENOTES COMPRESSION; '-' DENOTES TENSION)
ULTIMATE MOMENT CAPACITY REQUIRED = 6637.5 K-FT
ULTIMATE MOMENT CAPACITY PROVIDED = 8781.7 K-FT
NOTE: DOWNWARD DEFLECTION UNDER TOTAL DL IS NOT ALLOWED.



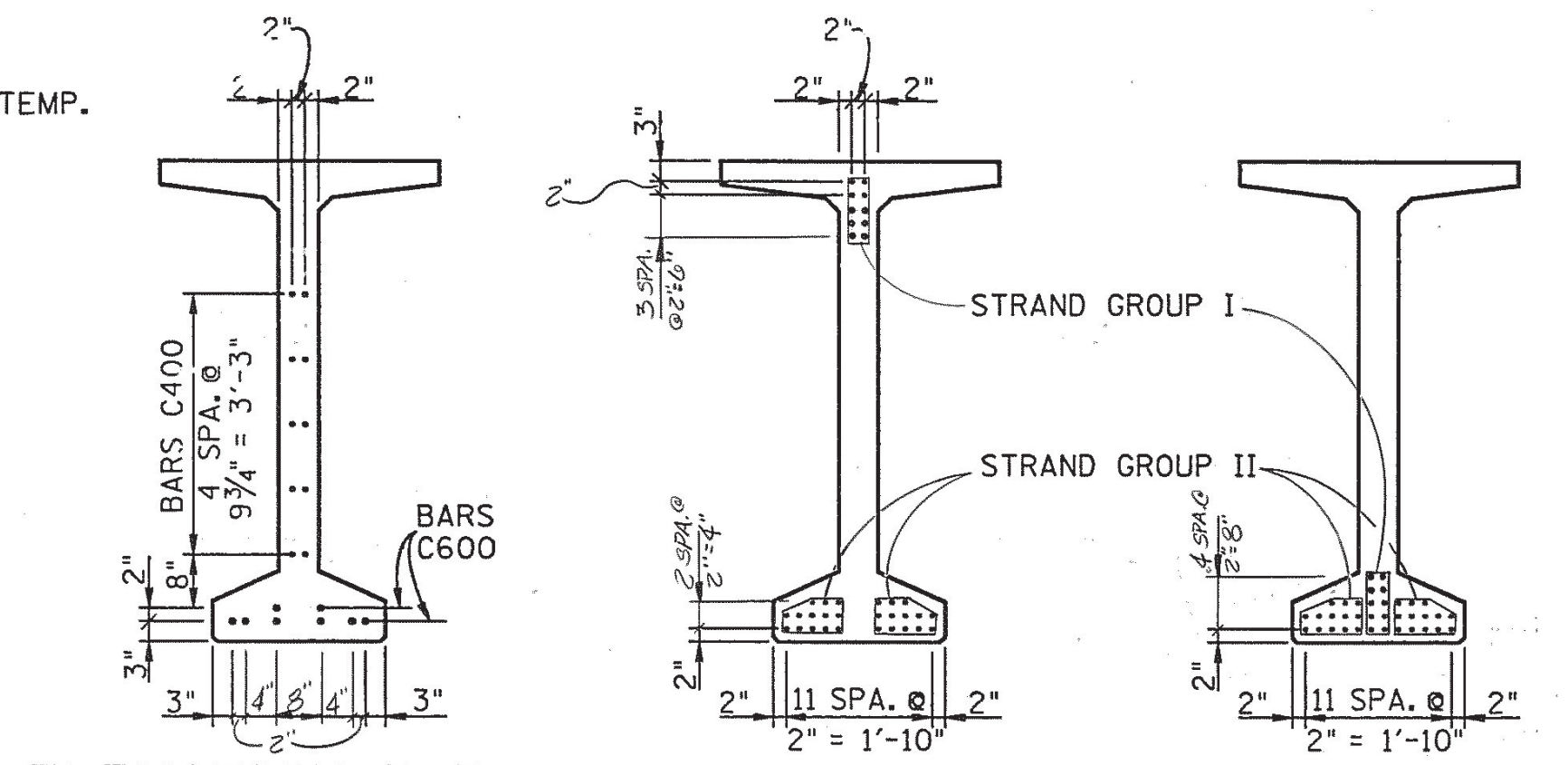
PART ELEVATION

PART PLAN



SECTION F-F

SECTION E-E



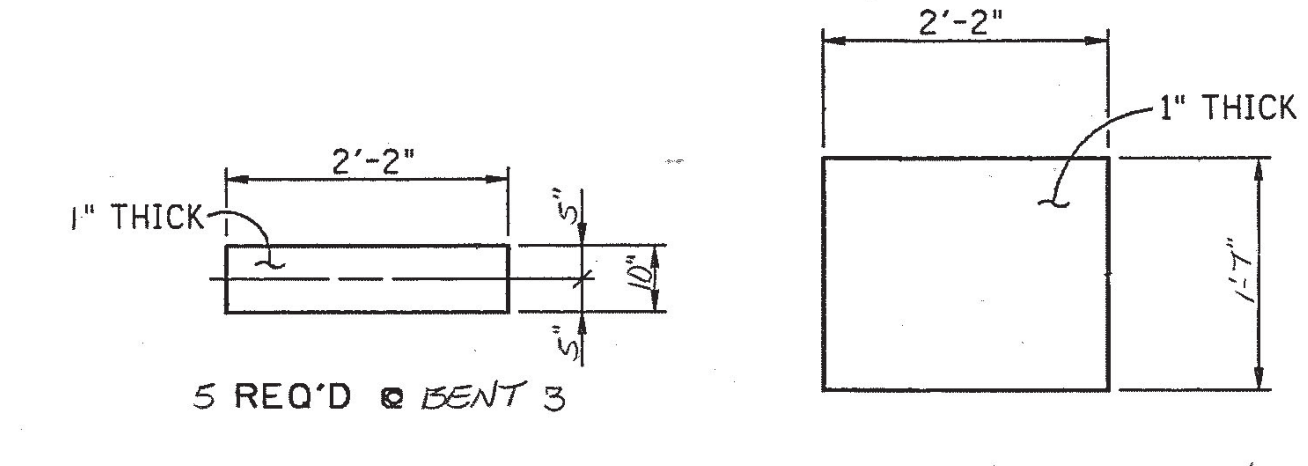
ELEVATION D-D

ELEVATION A-A

SECTION B-B

BILL OF STEEL (PER BEAM)

BAR	SIZE	NO. REQ'D	LENGTH
A400	4	119	3'-2"
A600	6	21	41'-1"
C400	4	20	7'-6"
C600	6	16	7'-6"
H500	5	227	7'-7"
H600	6	8	7'-7"
H601	6	20	7'-0"
JA300	3	20	3'-5"



ELASTOMERIC BEARING PAD DETAILS

ESTIMATED QUANTITIES (PER BEAM)

NO. REQ'D	CLASS "A" CONCRETE	REINFORCING STEEL	PRESTRESSING STRANDS (LOW RELAXATION)
	C.Y.	LB.	LB.
20	23.3	3951	4247

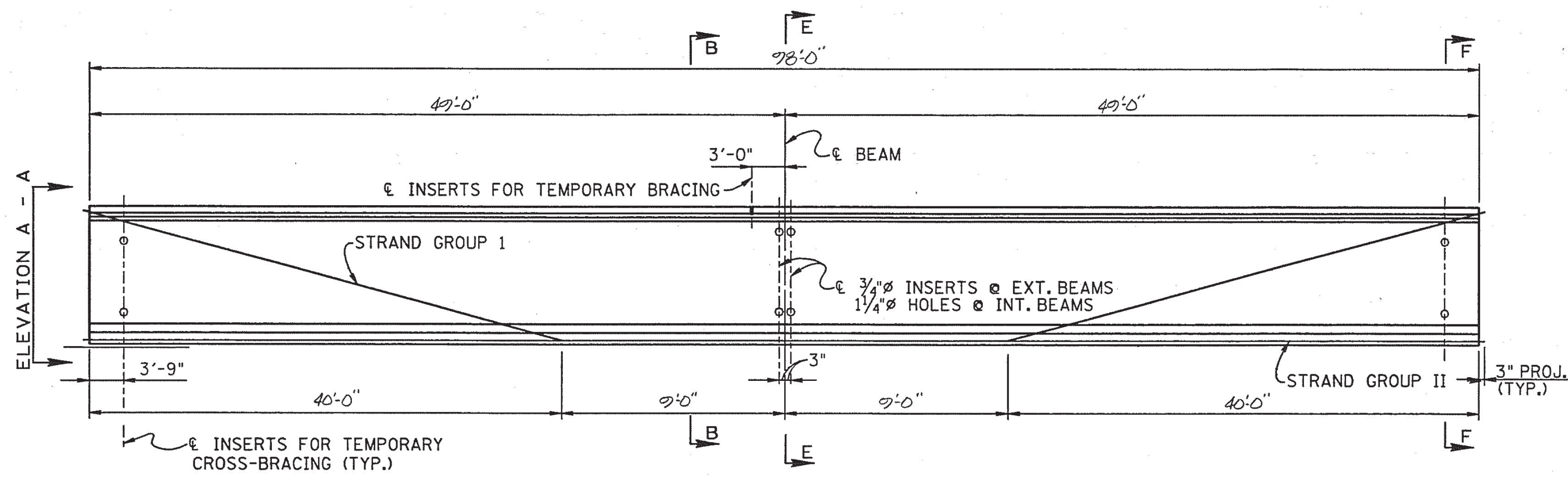
NOTE: COST OF ELASTOMERIC PADS, 60 ANCHOR BOLT ASSEMBLIES, 270 INSERTS, 48-3/4" X 2'-8" THREADED RODS, 1 1/4" Ø PVC PIPE, AND RUBBER BONDING CEMENT TO BE INCLUDED IN COST OF PRESTRESSED BEAM.

ALTERNATE "B"
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
PRESTRESSED BEAM DETAILS

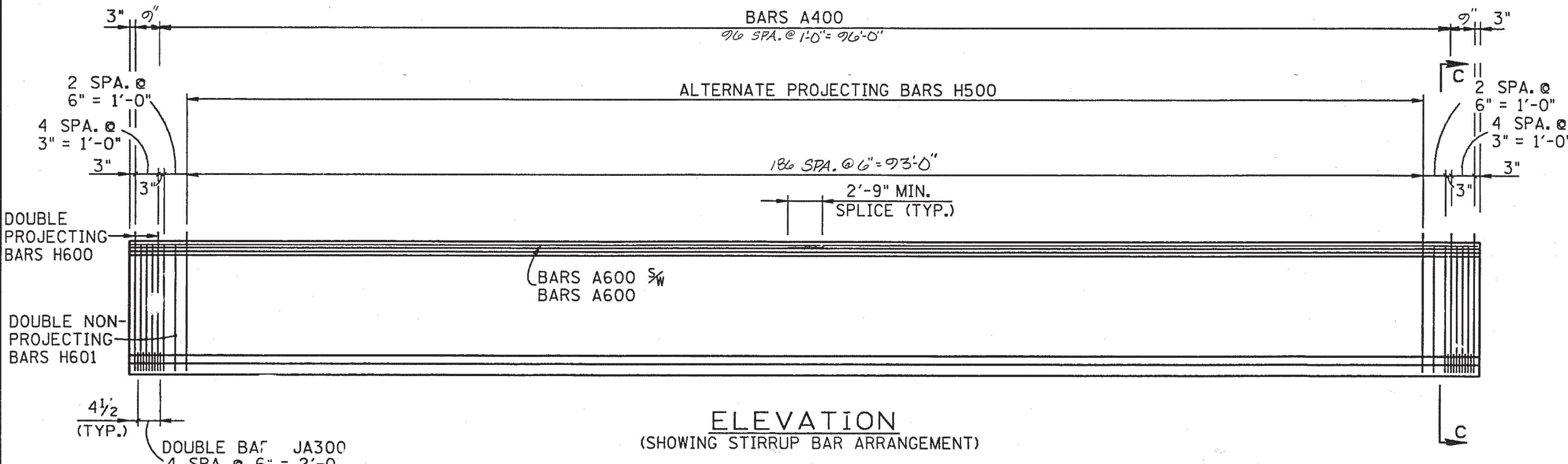
SPANS 2, 3, 4, & 5
SWAN POND ROAD OVER
EMORY RIVER AND HARRISMAN
AND NORTHEASTERN RAILROAD
STATION 21+95.00
ROANE COUNTY
1991

DESIGNED BY: A. PRICE DATE: 4-91
DRAWN BY: M. BORDAN DATE: 5-91
SUPERVISED BY: J. FIELDS & R. WOODS DATE: 5-91
CHECKED BY: A. PRICE DATE: 5-91

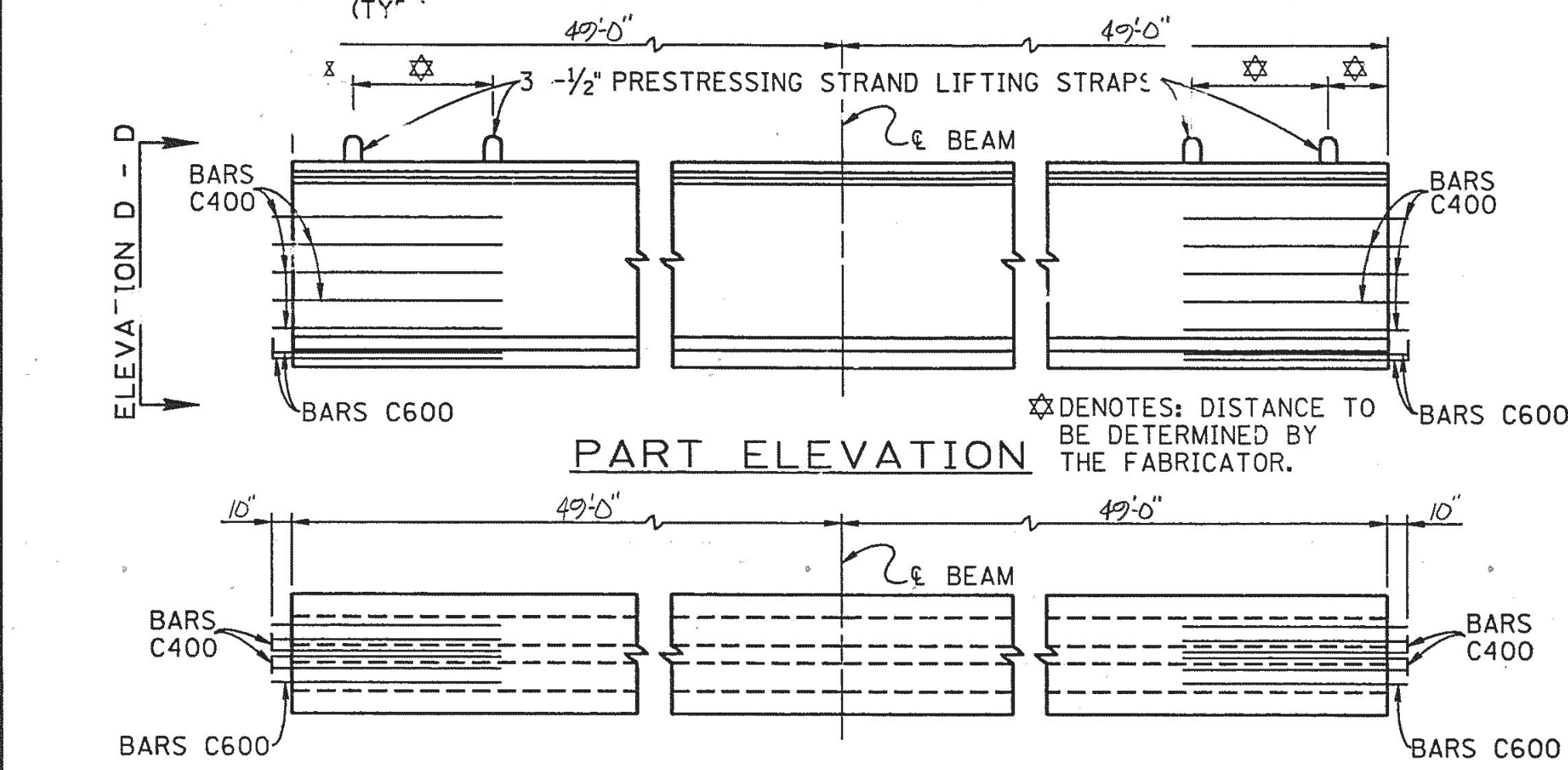
CORRECT Edward P. Wasserman
ENGINEER OF STRUCTURES



ELEVATION (SHOWING STRAND DEFLECTION ARRANGEMENT)



ELEVATION (SHOWING STIRRUP BAR ARRANGEMENT)



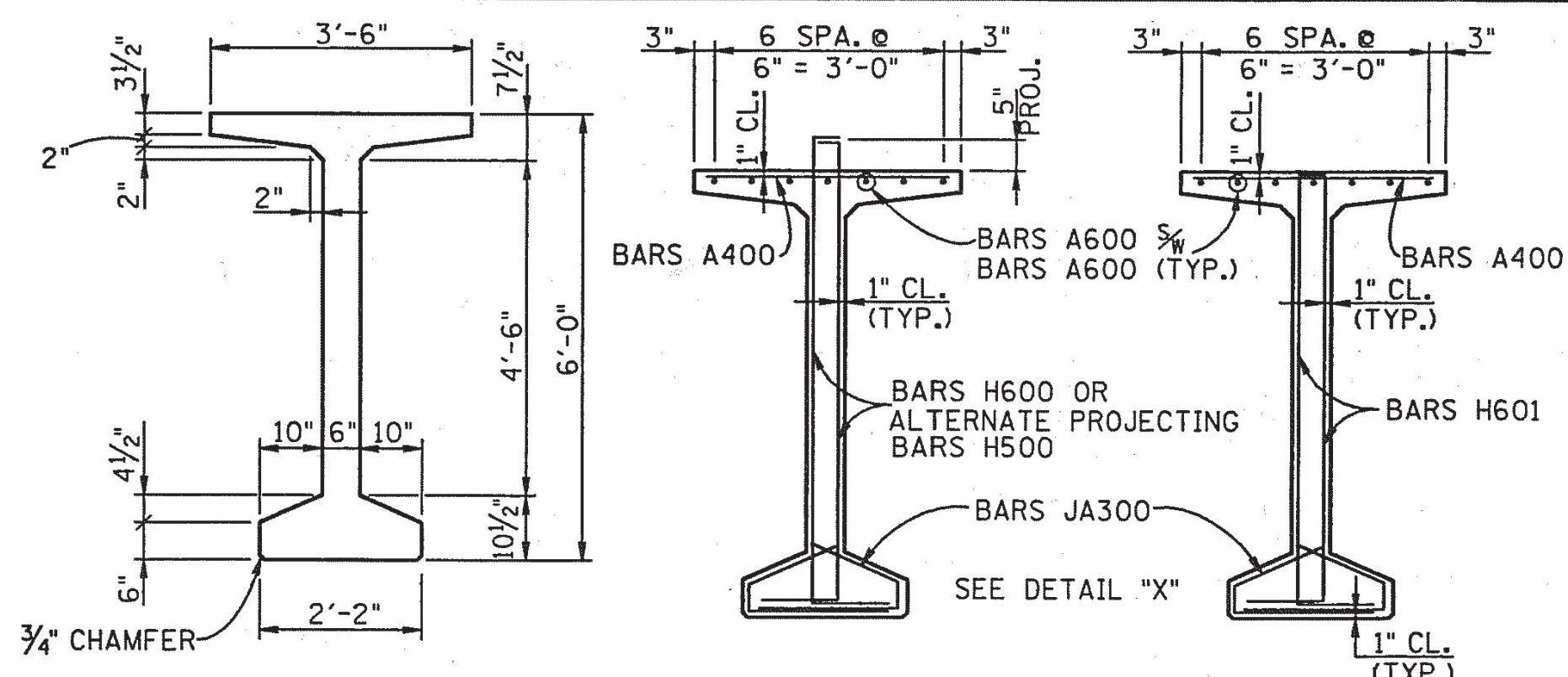
PART ELEVATION

PART PLAN

BILL OF STEEL (PER BEAM)

BAR	SIZE	NO. REQ'D	LENGTH
A400	4	99	3'-2"
A600	6	14	50'-3"
C400	4	20	7'-6"
C600	6	16	7'-6"
H500	5	187	7'-7"
H600	6	8	7'-7"
H601	6	20	7'-0"
JA300	3	20	3'-5"

DESIGNED BY A. PRICE DATE 4-91
 DRAWN BY M. SUREDMAN DATE 5-91
 SUPERVISED BY J. FIELDS & R. WOODS DATE 5-91
 CHECKED BY A. PRICE DATE 5-91



SECTION SHOWING PROPERTIES

SECTION C - C

-PRESTRESSED BEAM DESIGN DATA-
 -PER BEAM-

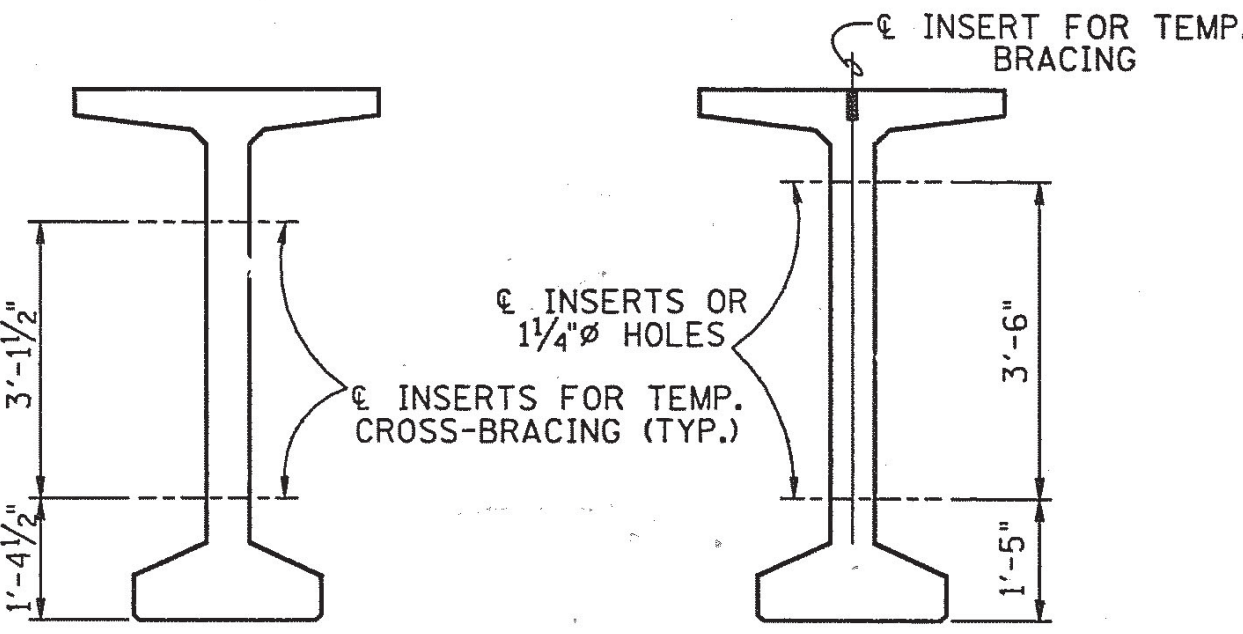
LIVE LOAD DISTRIBUTION FACTOR: 1.348 WHEELS
 COMPOSITE DEAD LOAD: 453.2 LB/FT
 COMPOSITE DESIGN SLAB (f'c = 3,000 PSI): 108 IN. X 8.25 IN.

COMPOSITE DL + LIVE LOAD MAXIMUM DESIGN VALUES	SPAN POINT					
	0.0	0.1	0.2	0.3	0.4	0.5
POSITIVE MOMENT (K-FT)	-191	27	362	691	888	944
NEGATIVE MOMENT (K-FT)	-1439	-882	-554	-426	-343	-305
SHEAR (K)	286	244	199	153	106	59

MAXIMUM STRESS (PSI)	MIDSPAN		END SPAN	
	TOP	BOTTOM	TOP	BOTTOM
INIT PRES	180.65	1504.47	218.23	1465.62
FINAL PRES + TOTAL DL + LL	1335.43	-238.39	44.94	2021.94

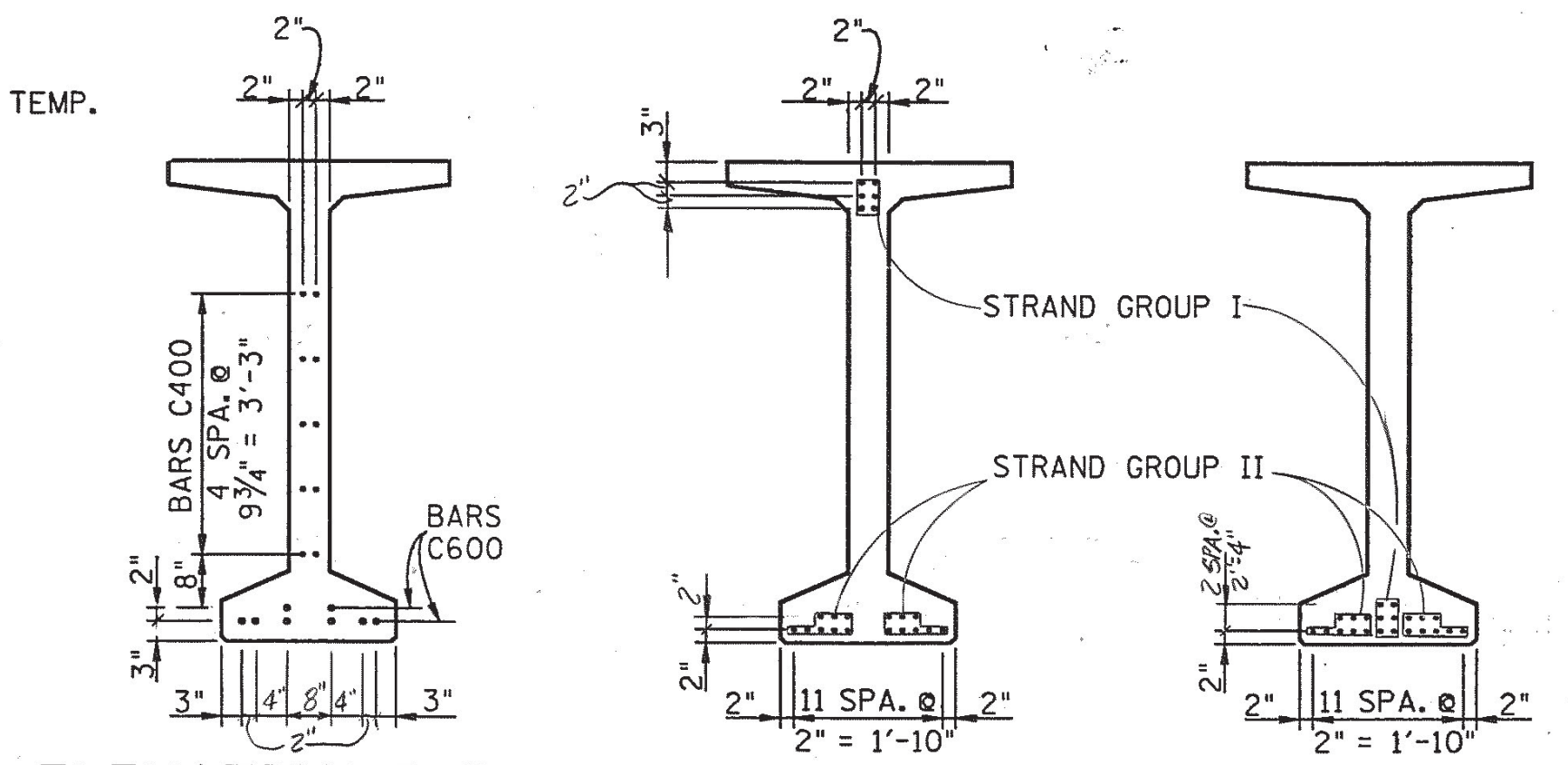
(NO SIGN DENOTES COMPRESSION; '-' DENOTES TENSION)
 ULTIMATE MOMENT CAPACITY REQUIRED = 4732.0 K-FT
 ULTIMATE MOMENT CAPACITY PROVIDED = 5669.0 K-FT

NOTE: DOWNWARD DEFLECTION UNDER TOTAL DL IS NOT ALLOWED.



SECTION F-F

SECTION E-E



ELEVATION D-D

ELEVATION A-A

SECTION B-B

ESTIMATED QUANTITIES (PER BEAM)

NO. REQ'D	CLASS "A" CONCRETE	REINFORCING STEEL	PRESTRESSING STRANDS (LOW RELAXATION)
		LB.	LB.
5	19.3	3353	1138

CONST. NO. 73950-3117-94

PROJECT NO.	YEAR	SHEET NO.
BPM-1226(1)	1991	

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

- NOTES:
- THE TOP OF ALL BEAMS TO BE ROUGH FLOATED. AT APPROXIMATELY THE TIME OF INITIAL SET, THE TOP OF THE BEAMS SHALL ALSO BE SCRUBBED TRANSVERSELY WITH A COARSE WIRE BRUSH TO REMOVE ALL LAITANCE AND PRODUCE A ROUGH SURFACE. WHERE PRECAST SLAB PANELS ARE TO BE USED AND SET ON BITUMINOUS FIBERBOARD, THE OUTER TWO INCHES OF THE TOP FLANGE MAY BE TROWELED.
 - MILD STEEL REINFORCING SHALL BE ASTM A615 GRADE 60.
 - ALL PRESTRESSING STRANDS TO BE 1/2" Ø ASTM GRADE 270K, 7 WIRE UNCOATED STRESS RELIEVED LOW RELAXATION PRESTRESSING STRANDS.
 - ALL BEAMS ARE BT-72.
 - THE PRESTRESSING STRANDS SHALL BE LEFT PROJECTING 3" ± FROM THE END OF THE BEAMS. THERE SHALL NOT BE ANY PROTECTIVE COATING PLACED ON THE ENDS OF THE BEAMS OR ON THE PROJECTING STRANDS.
 - THE CONCRETE FOR THIS CONSTRUCTION SHALL BE OF SUCH PROPERTIES AS TO ATTAIN A COMPRESSIVE STRENGTH OF NOT LESS THAN 5,000 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 4,000 PSI. SEE GENERAL NOTES FOR CONCRETE FINISHING NOTE.
 - AN INITIAL FORCE OF 31,003 LB., SHALL BE APPLIED TO EACH STRAND IN ALL BEAMS.
 - PRESTRESSING STRANDS SHALL NOT BE GREATER THAN NOMINAL 1/2" DIAMETER.
 - THE SEQUENCE FOR TRANSFER OF STRESS OR THE CUTTING STRANDS SHALL BE IN ACCORDANCE WITH ARTIC 515.14 OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND SHALL BE SHOWN ON THE APPROVED SHOP DRAWINGS. AT NO TIME SHALL MORE THAN 1/6th OF THE TOTAL PRESTRESSING FORCE BE ECCENTRIC ABOUT THE CENTERLINE OF THE BEAM.
 - PREFORMED HOLES FOR THE DIAPHRAGM CONNECTION SHALL BE 1 1/4" Ø.
 - INSERTS FOR DIAPHRAGMS ARE TO BE DOUBLED THREADED TYPE (CAST-IN-PLACE). 3/4" Ø THREADED RODS FOR INSERTS ARE TO PROVIDE A 2'-2" SPLICE WITH THE DIAPHRAGM REINFORCEMENT.
 - FOR BEARING DEVICE DETAILS AT BENT NO. 3, SEE DNG. NO. 1A-220-160

ALTERNATE "B"
 STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BUREAU OF HIGHWAYS

PRESTRESSED BEAM DETAILS

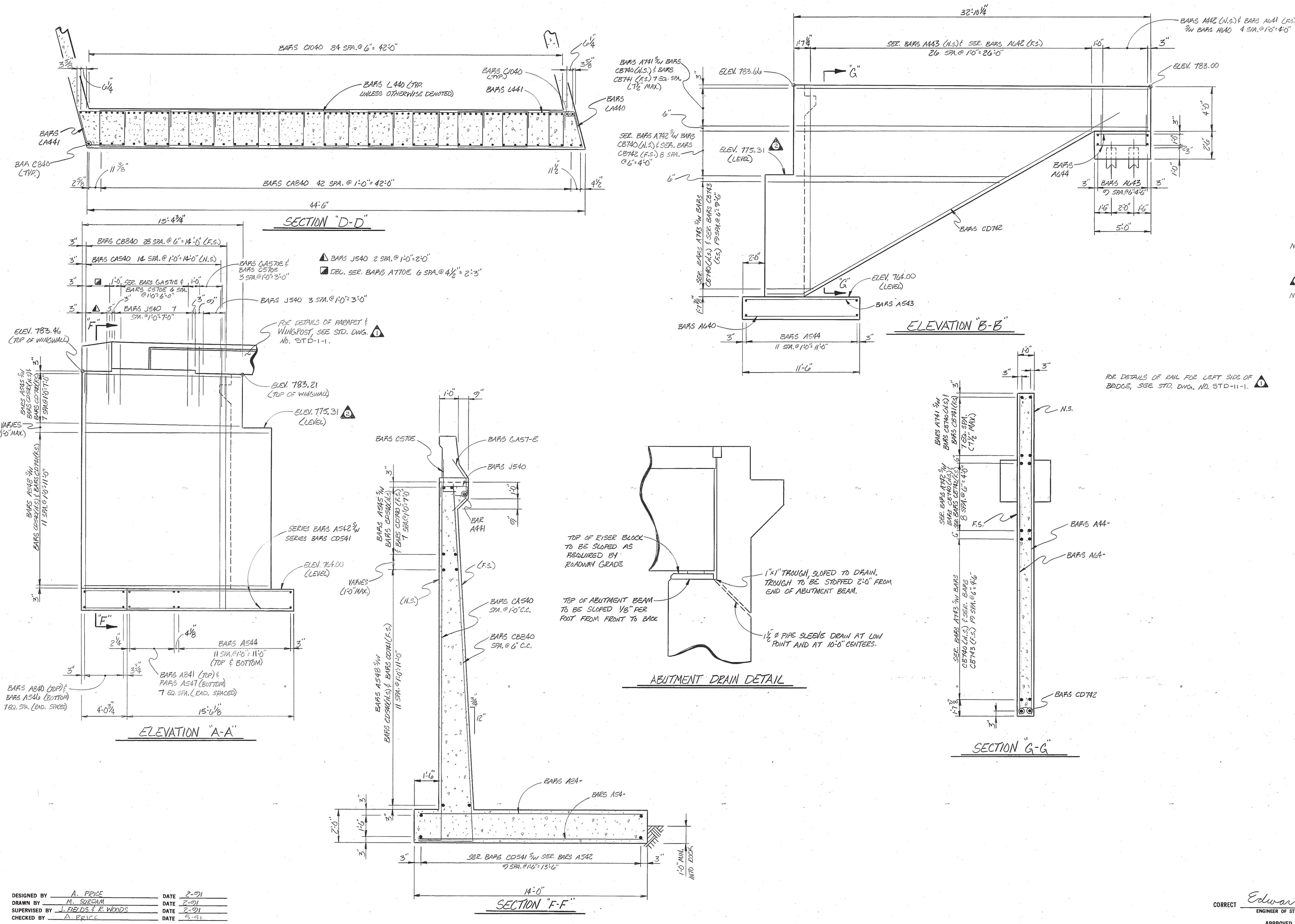
SPAN NO. 6
 SWAN POND ROAD OVER
 EMORY RIVER AND HARRIMAN
 AND NORTHEASTERN RAILROAD
 STATION 21+95.00
 ROANE COUNTY
 1991

CORRECT Edward P. Wasserman
 ENGINEER OF STRUCTURES

CONST. NO. T3950-3717-94

PROJECT NO.	YEAR	SHEET NO.
BRM-1226(L)	1991	

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	10-23-91	AEP	REV. NOTES.
2	8-24-92	AP	REV. ELEVATION



NOTE: WHEN POURING WINGWALLS, PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR WINGPOST AND BRIDGERAIL. FOR DETAILS OF WINGPOST AND BRIDGERAIL, SEE STD. DWG. NOS. STD-11-1 AND STD-11-1.

NOTE: WHEN POURING ABUTMENT BEAM, PROVISIONS SHALL BE MADE FOR SETTING ANCHOR BOLTS. BOLT PROJECTION 3".

FOR DETAILS OF RAIL FOR LEFT SIDE OF BRIDGE, SEE STD. DWG. NO. STD-11-1.

TOP OF RISER BLOCK TO BE SLOPED AS REQUIRED BY ROADWAY GRADE

TOP OF ABUTMENT BEAM TO BE SLOPED 1/8" PER FOOT FROM FRONT TO BACK

1" x 1" TROUGH SLOPED TO DRAIN. TROUGH TO BE STOPPED 2'-0" FROM END OF ABUTMENT BEAM.

1/2" Ø PIPE SLEEVE DRAIN AT LOW POINT AND AT 10'-0" CENTERS.

ALTERNATE "B"
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
ABUTMENT NO. 1 DETAILS
SWAN POND ROAD OVER
EMORY RIVER AND HARRIMAN
AND NORTHEASTERN RAILROAD
STATION 21+95.00
FOANE COUNTY
1991

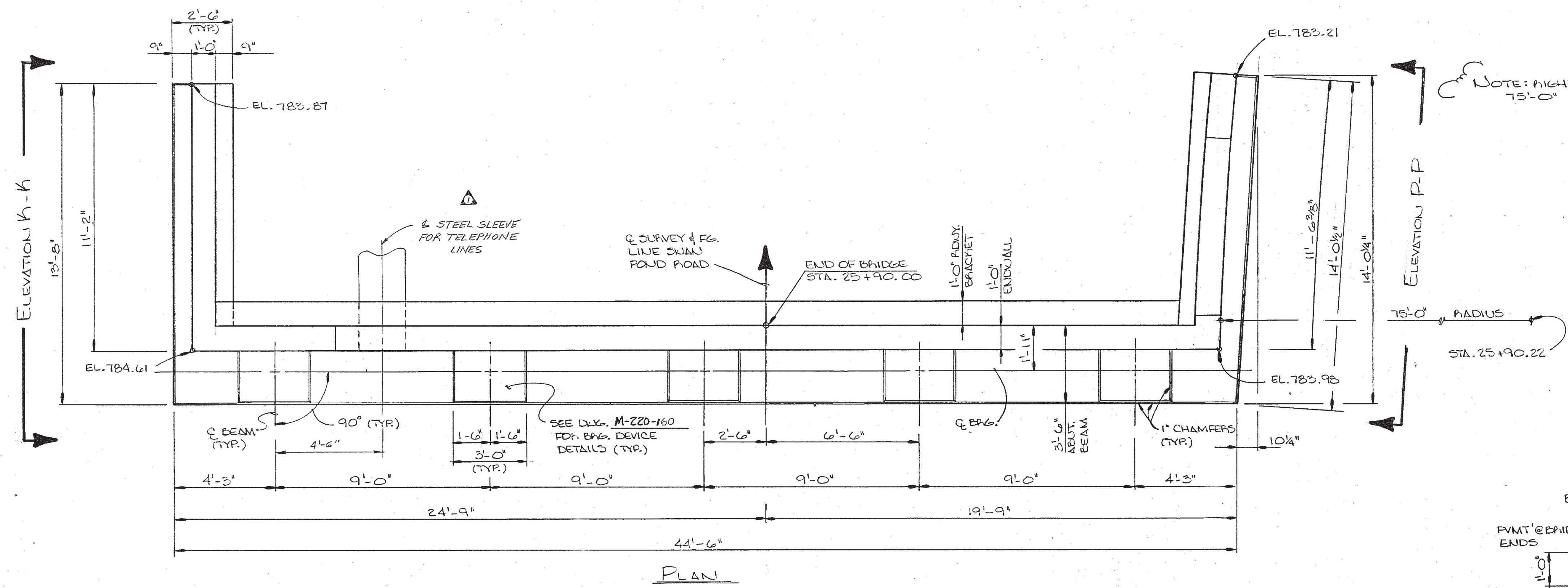
DESIGNED BY A. PRICE DATE 2-91
DRAWN BY M. SURDAM DATE 2-91
SUPERVISED BY J. FIELDS & R. WOODS DATE 2-91
CHECKED BY A. PRICE DATE 5-91

CORRECT Edward P. Wosserman
ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS M-220-167

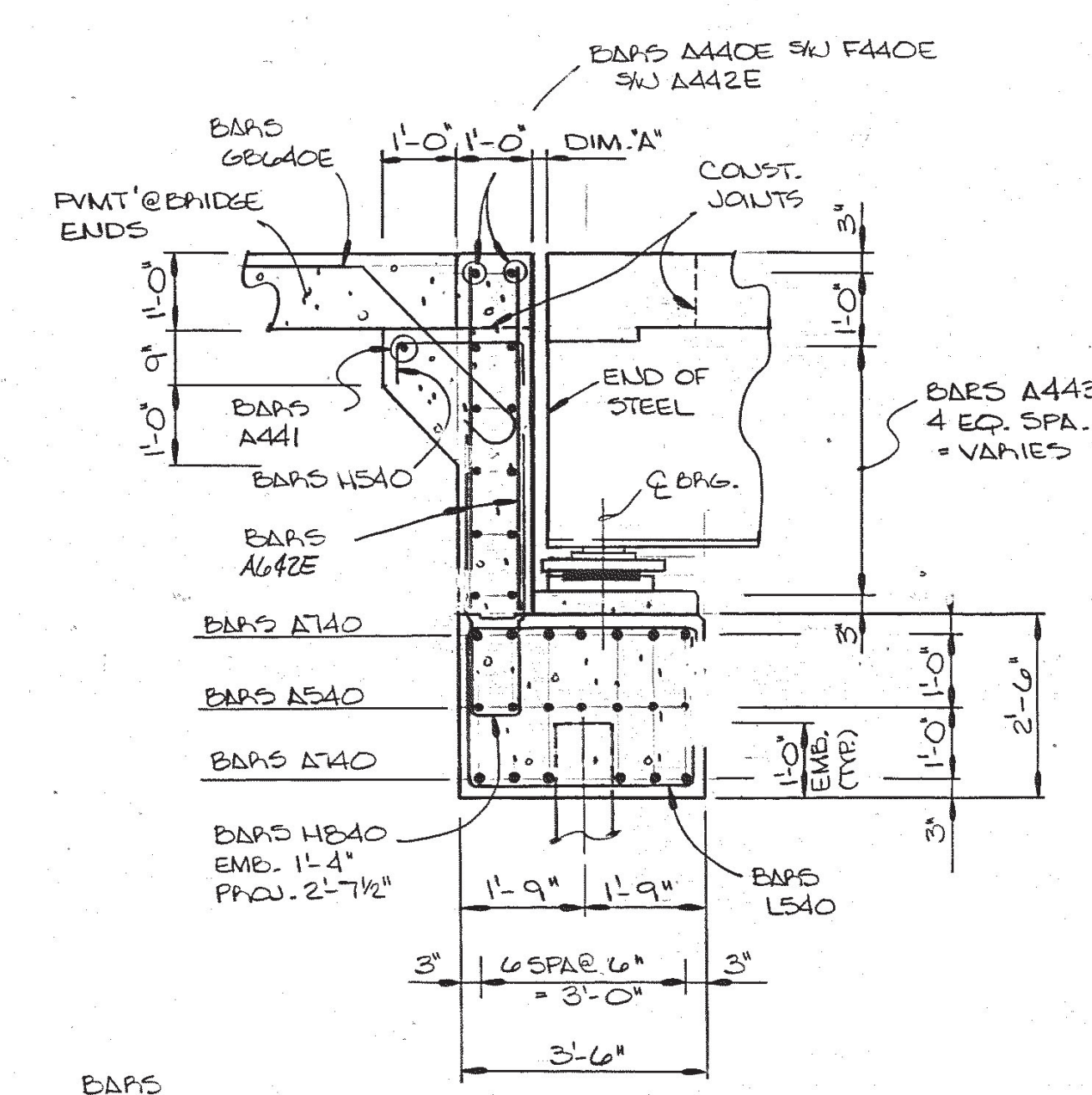
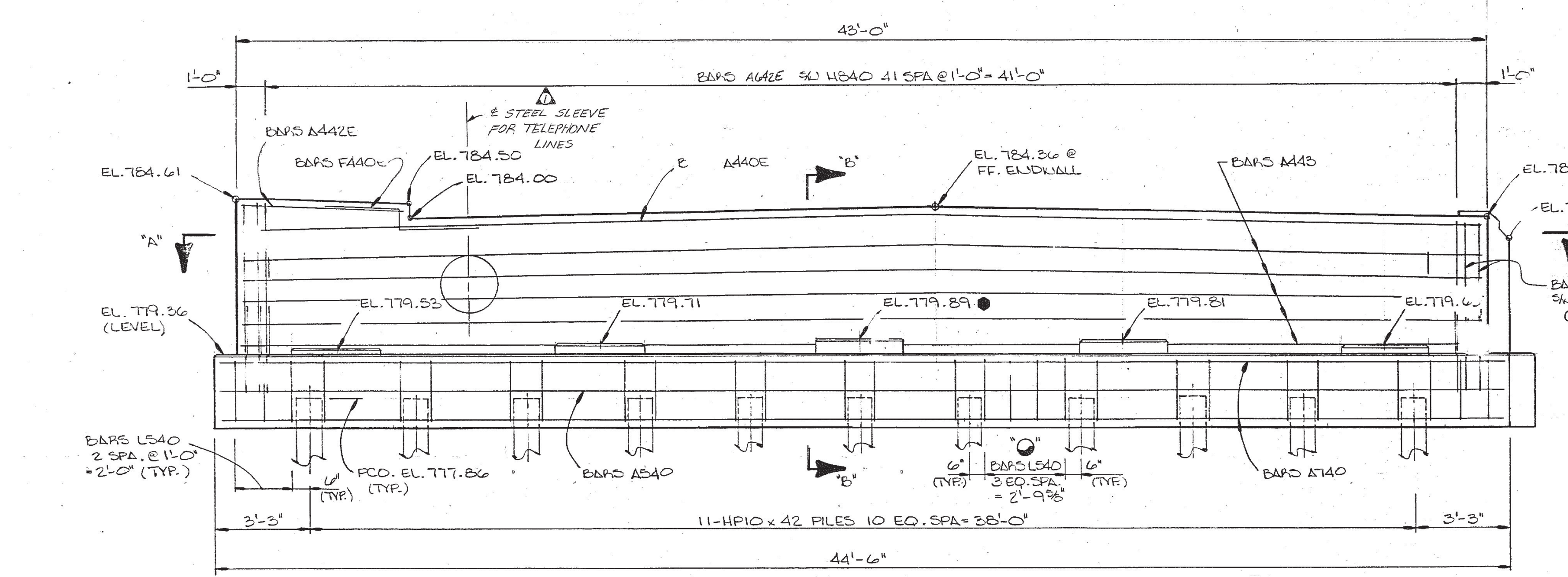
PROJECT NO.	YEAR	SHEET NO.
BRM-1226(1)	1991	

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	4-15-92	R.W.	ADDED STEEL SLEEVE

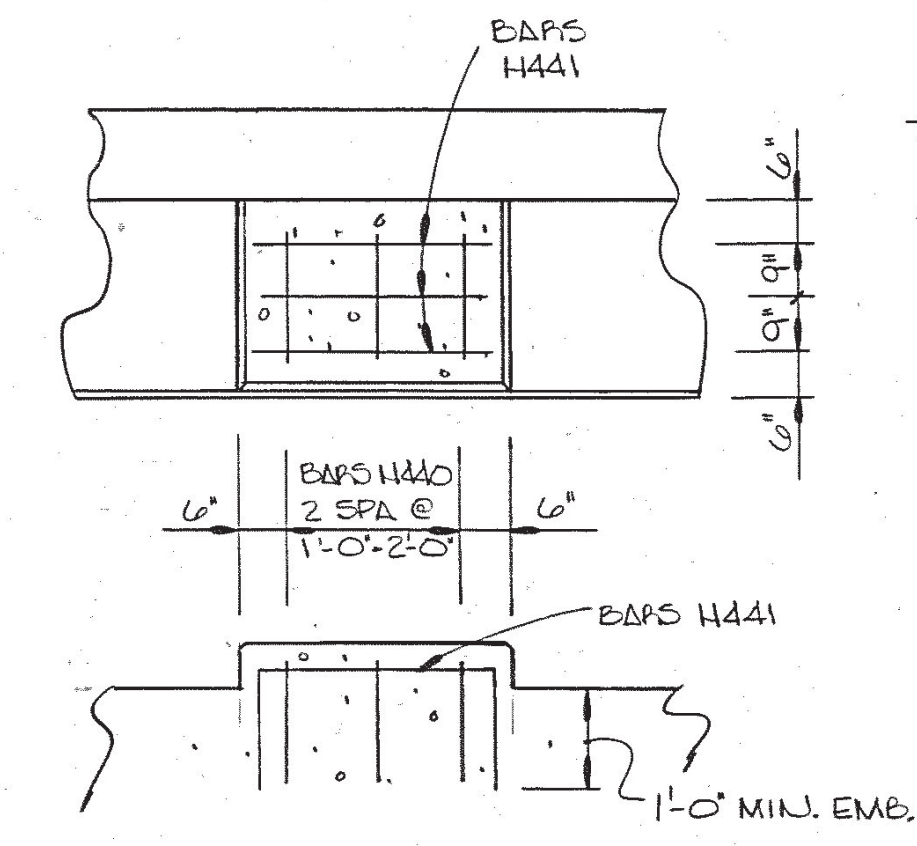


NOTE: RIGHT WINGWALL IS TO CONFORM TO 75'-0" RADIUS CURVE.

NOTE: RISER BLOCKS TO BE FORMED MONOLITHICALLY WITH ABUTMENT BEAM.
 THE ENDWALL SHALL NOT BE FORMED UNTIL THE GIRDERS ARE IN PLACE. THE TOP 12" OF THE ENDWALL SHALL BE FORMED CONCURRENTLY WITH THE END OF SLAB.
 COST OF BRIDGE RAILS AND POST ARE TO BE INCLUDED IN THE COST OF BRIDGE PAVEMENT SYSTEMS.
 WHEN FORMING ABUTMENT BEAM, PROVISIONS SHALL BE MADE FOR SETTING ANCHOR BOLTS. BOX PROJECTION 4 3/4"



NOTE: FOR ABUTMENT DRAIN DETAIL, SEE DNG. NO. M-220-170.



RISER BLOCK REINFORCEMENT DETAIL

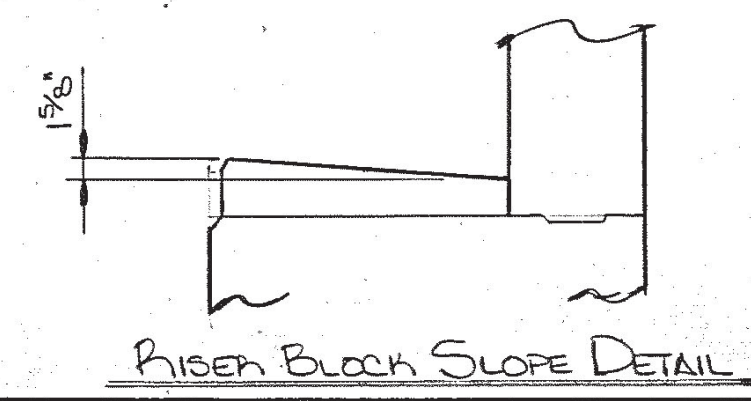
* DENOTES: THESE QUANTITIES INCLUDE ABUTMENT FILING BEAMS, ENDWALL WINGWALLS, PARAPET SUPPORT & ROWY. BRACKET THE TOP 12" OF THE ENDWALL IS BRIDGE DECK CONCRETE AND IS TO BE INCLUDED IN BRIDGE DECK CONCRETE AT THE SUPERSTRUCTURE.

* ESTIMATED QUANTITIES

CLASS "A" CONCRETE	EPoxy COATED STEEL	REINFORCING STEEL
CY.	LB.	LB.
ABUT. 2	31	1,090
		5,177

ALT. "B"
 STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BUREAU OF HIGHWAYS
 ABUTMENT No. 2
 SWAN POND ROAD OVER
 EMORY RIVER AND HARRIMAN
 AND NORTHEASTERN RAILROAD
 STATION 21+95.00
 ROANE COUNTY
 1991

NOTE: RISER BLOCK BEARING PAD SURFACES TO CONFORM TO BOTTOM OF BEAM GRADE.



RISER BLOCK SLOPE DETAIL

DESIGNED BY A. PRICE DATE 4-91
 DRAWN BY R. PHILLIPS DATE 5-91
 SUPERVISED BY A. WOODS & J. FIELDS DATE 5-91
 CHECKED BY A. PRICE DATE 5-91

CORRECT *Edward P. Wasserman*
 ENGINEER OF STRUCTURES
 APPROVED _____
 DIRECTOR OF HIGHWAYS

○ DENOTES: 1" x 1.7" x 2'-2" ELAST. BRG. PAD

CONST. NO. 73950-3717-94

PROJECT NO.	YEAR	SHEET NO.
BRM-1226 (1)	1991	

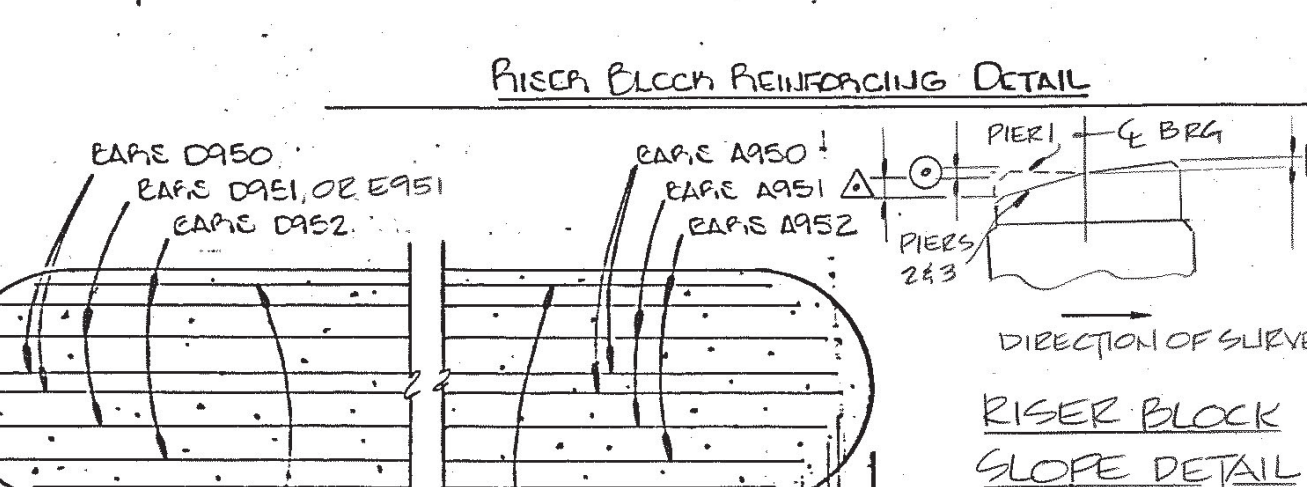
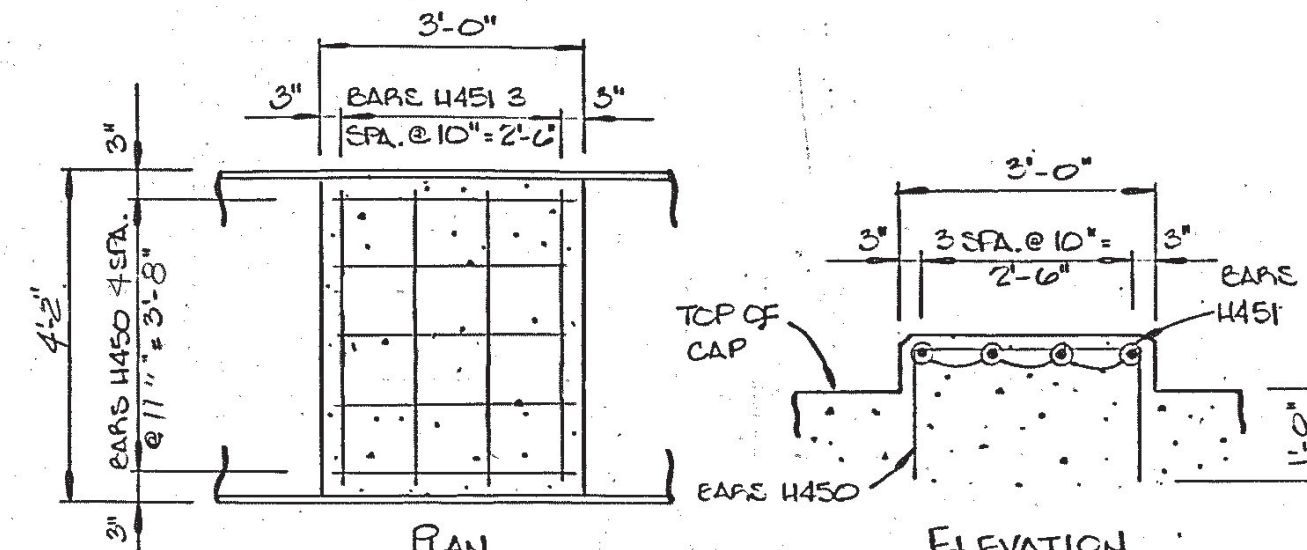
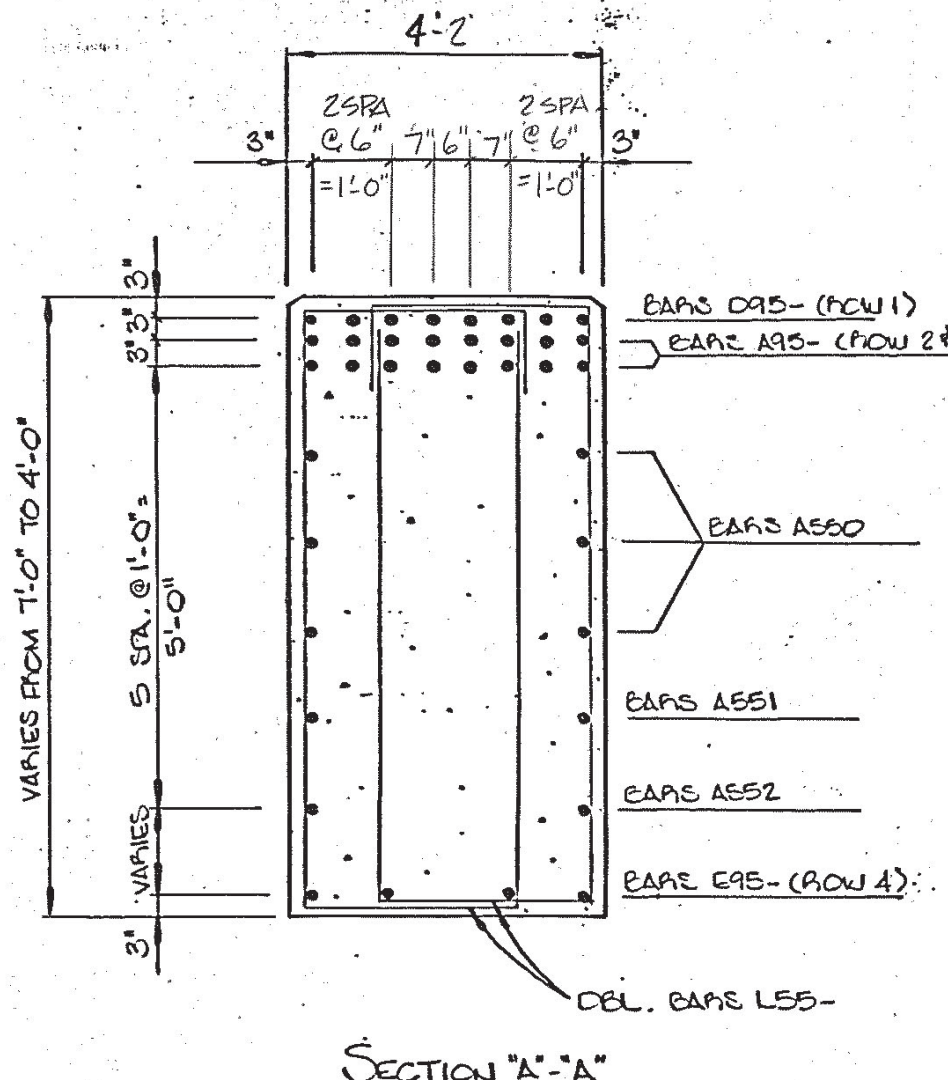
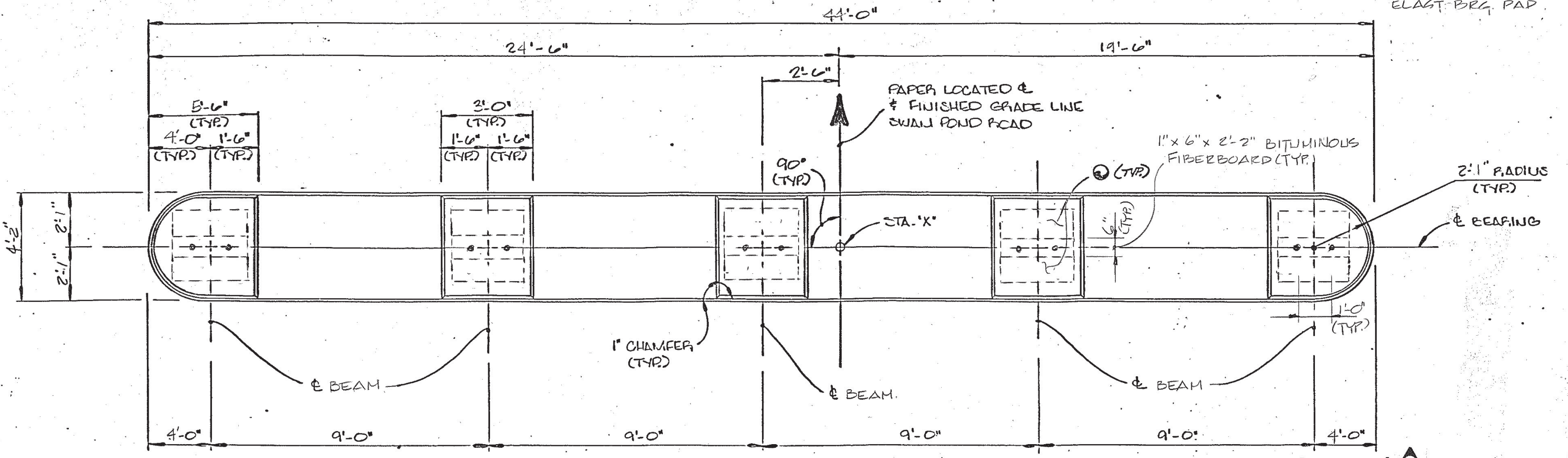
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	10-23-91	AEP	REV. STD. DWG. NO.
2	8-24-92	AP	REV. ELEVATIONS, RISER BLOCK SLOPE & QUANTITY

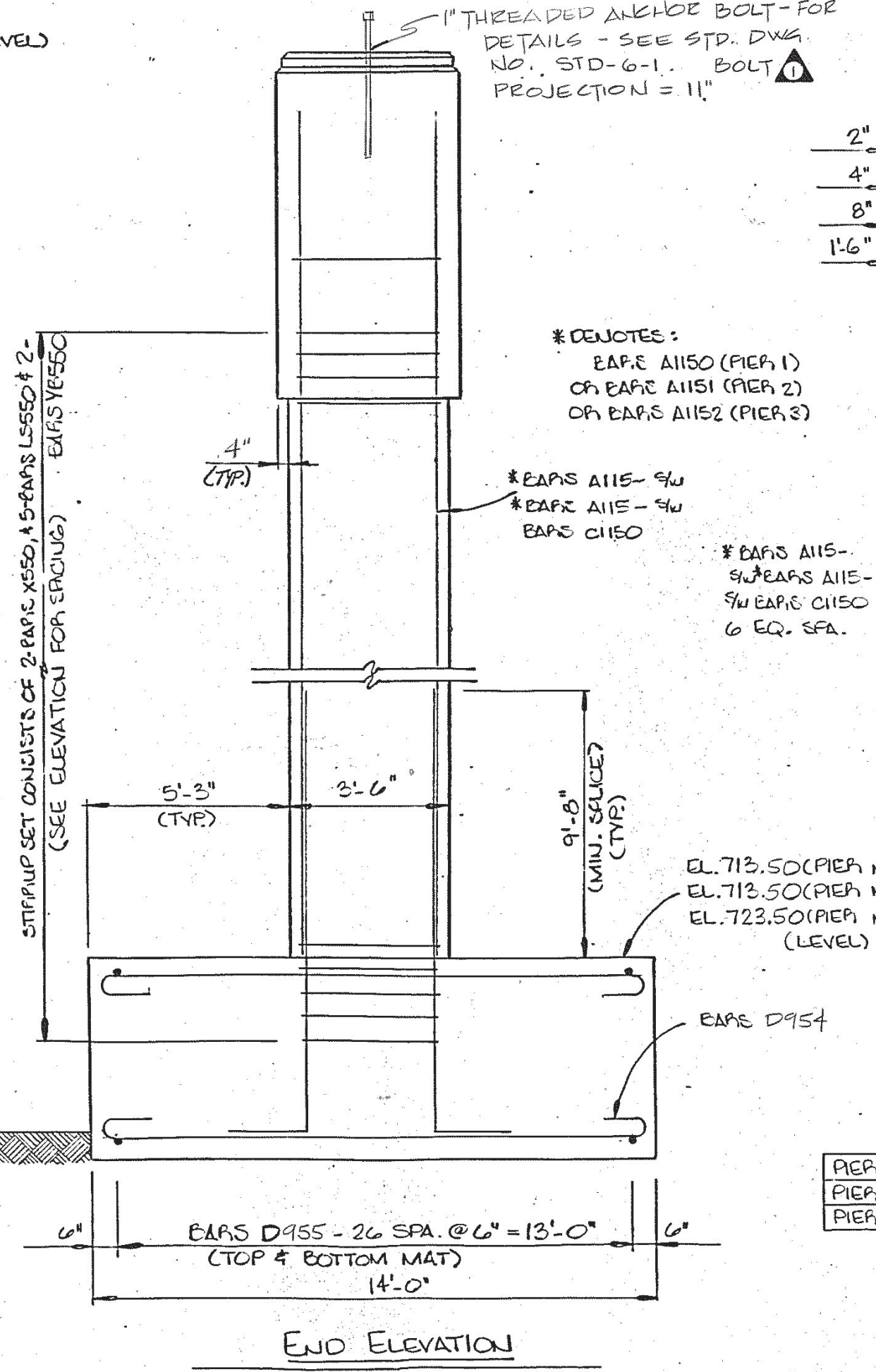
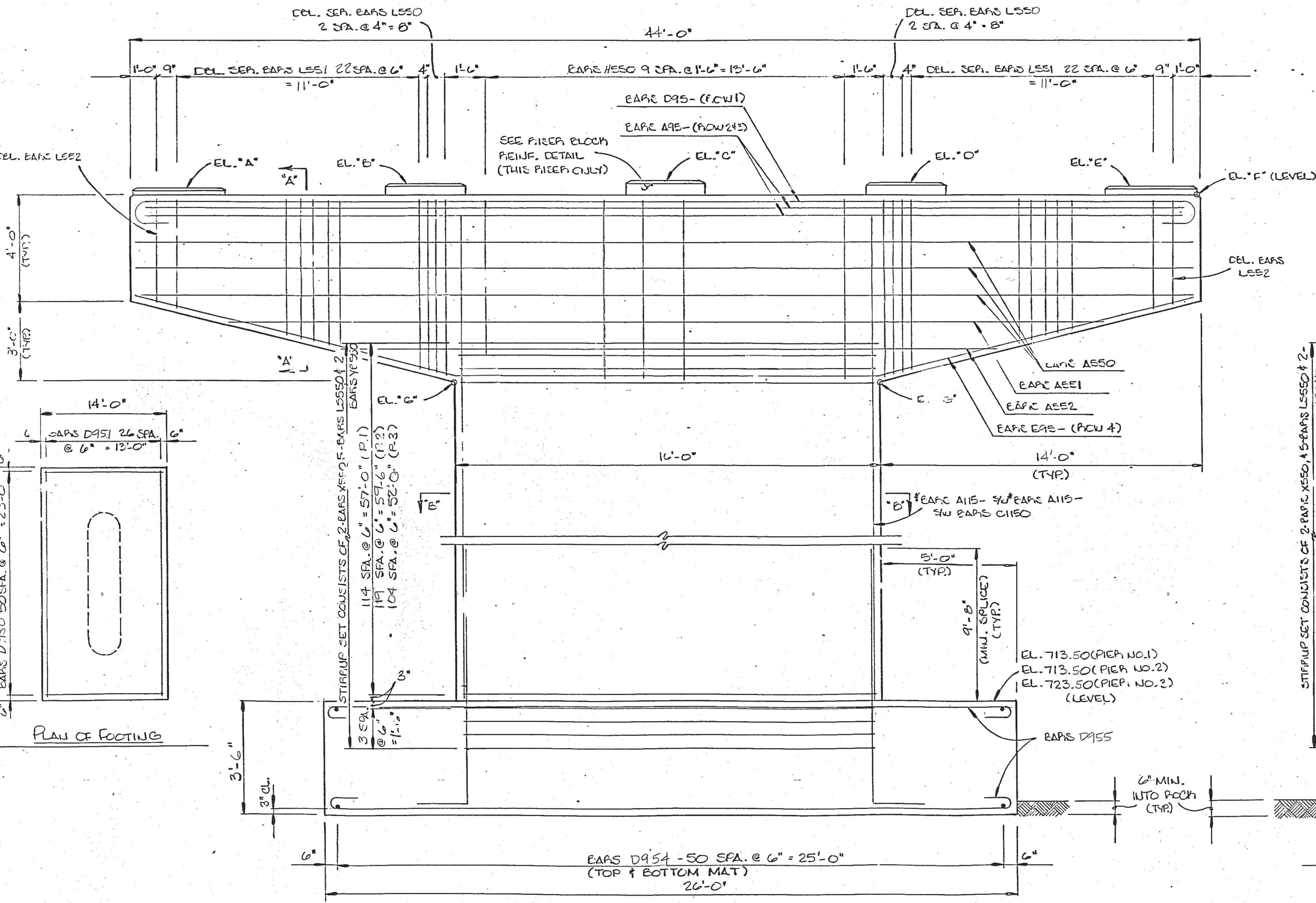
NOTE: RISER BLOCKS TO BE FORMED MONOLITHICALLY WITH CAP BEAM.

NOTE: COLUMN STEEL TO EXTEND 6" INTO CAP BEAM.

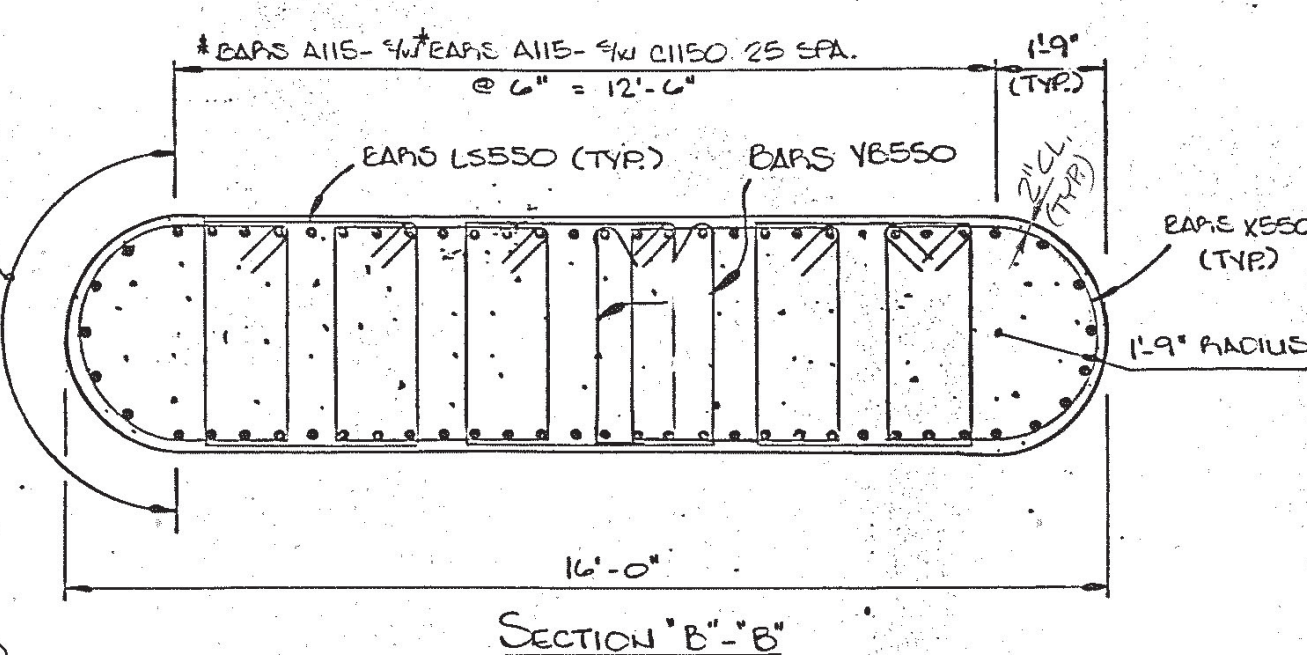
NOTE: RISER BLOCK BEARING PAD SURFACE TO COUPEL TO BOTTOM OF BEAM GRADE.



NOTE: WHEN RETURNING CAP BEAM, PROVISIONS SHALL BE MADE FOR SETTING ANCHOR BOLTS.



○ DENOTES: PIER 1 = 0" PIER 2 = 1/2" PIER 3 = 3/4" PIER 1 = 5/8" PIER 2 = 3/4" PIER 3 = 3/4"



ALTERNATE "B" STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS

PIERS NO. 1, 2, & 3 SWAN POND ROAD OVER EMORY RIVER AND HARRIMAN AND NORTHEASTERN RAILROAD STATION 21+95.00 POCAHONTE COUNTY 1991

CLASS "A" CONCRETE	STEEL BAR REINFORCING
C.Y.	LB.
PIER NO. 1	195 58,644
PIER NO. 2	202 60,015
PIER NO. 3	188 56,012

DESIGNED BY A. PRICE DATE 4-91
 DRAWN BY KEITH COUPLAS/B.LUTKILL DATE 5-91
 SUPERVISED BY J. FIELDS & R. WOODS DATE 5-91
 CHECKED BY A. PRICE DATE 5-91

CORRECT Edward P. Wasserman ENGINEER OF STRUCTURES

APPROVED DIRECTOR OF HIGHWAYS

M-220-171

PROJECT NO.	YEAR	SHEET NO.
BEM-1226(1)	1991	

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	10-23-91	AEP	REV. STD. DWG. NO.

NOTE: RISER BLOCKS TO BE FORMED MONOLITHICALLY WITH CAP BEAM.

NOTE: COLUMN STEEL TO EXTEND 6'-0" INTO CAP BEAM.

NOTE: RISER BLOCK BEARING PAD SURFACE TO CONFORM TO BOTTOM OF BEAM GRADE.

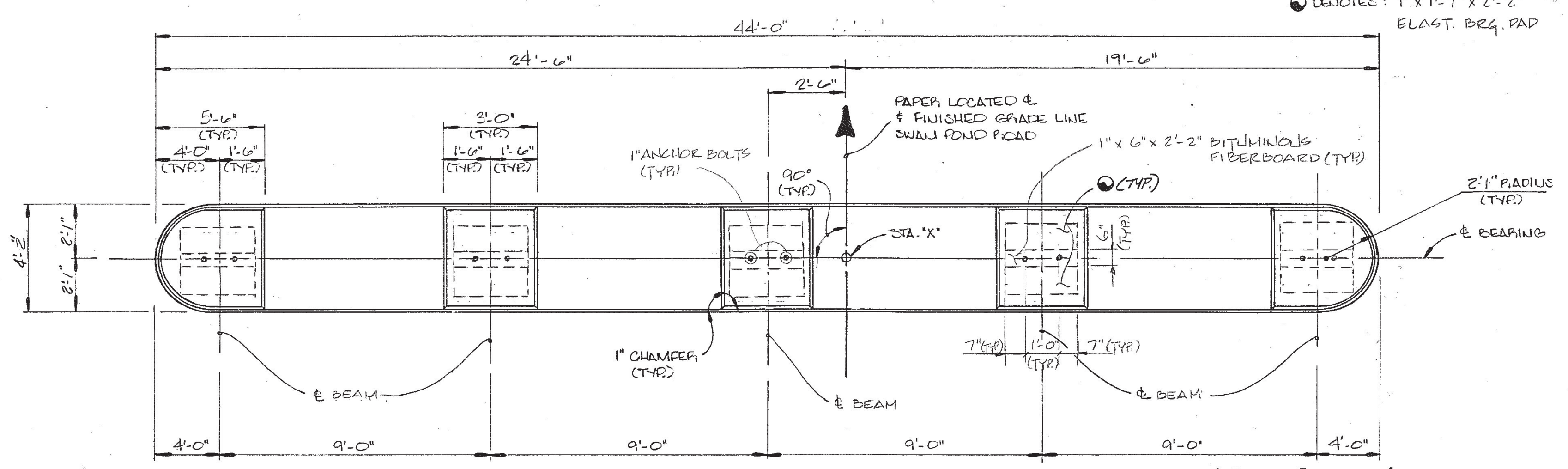
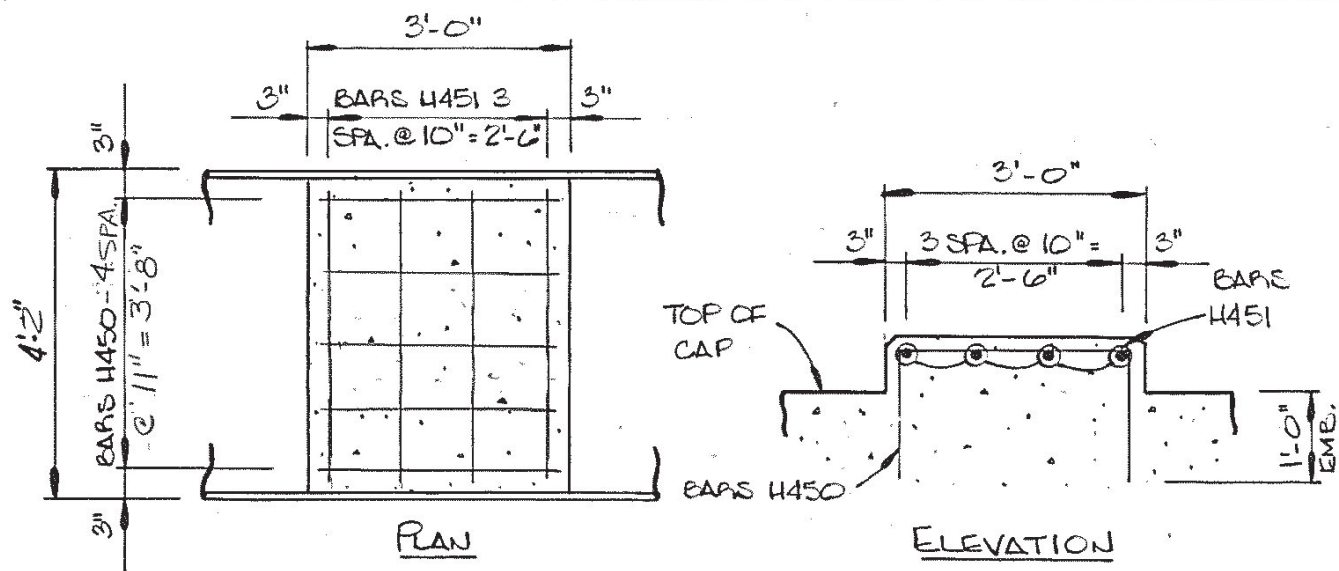
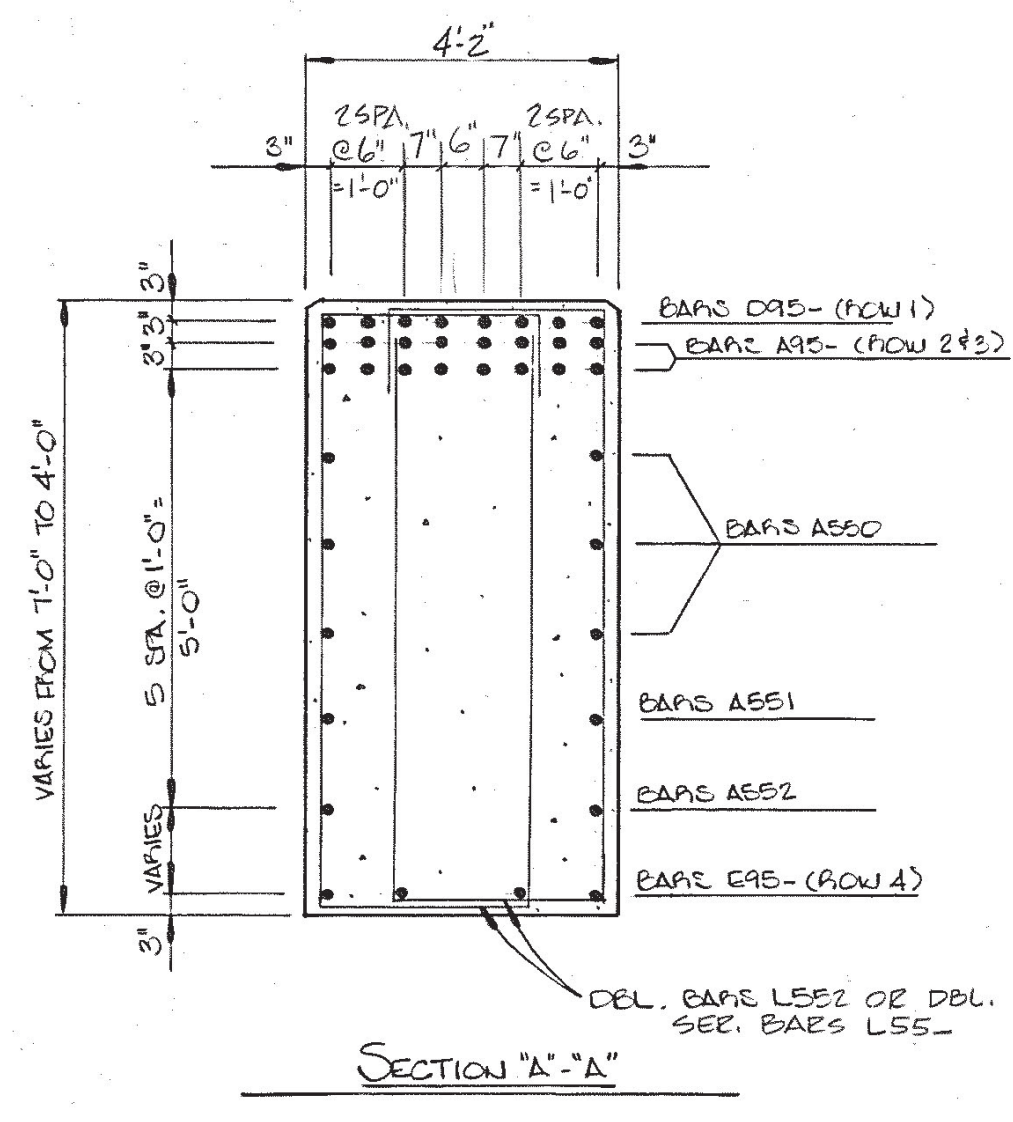
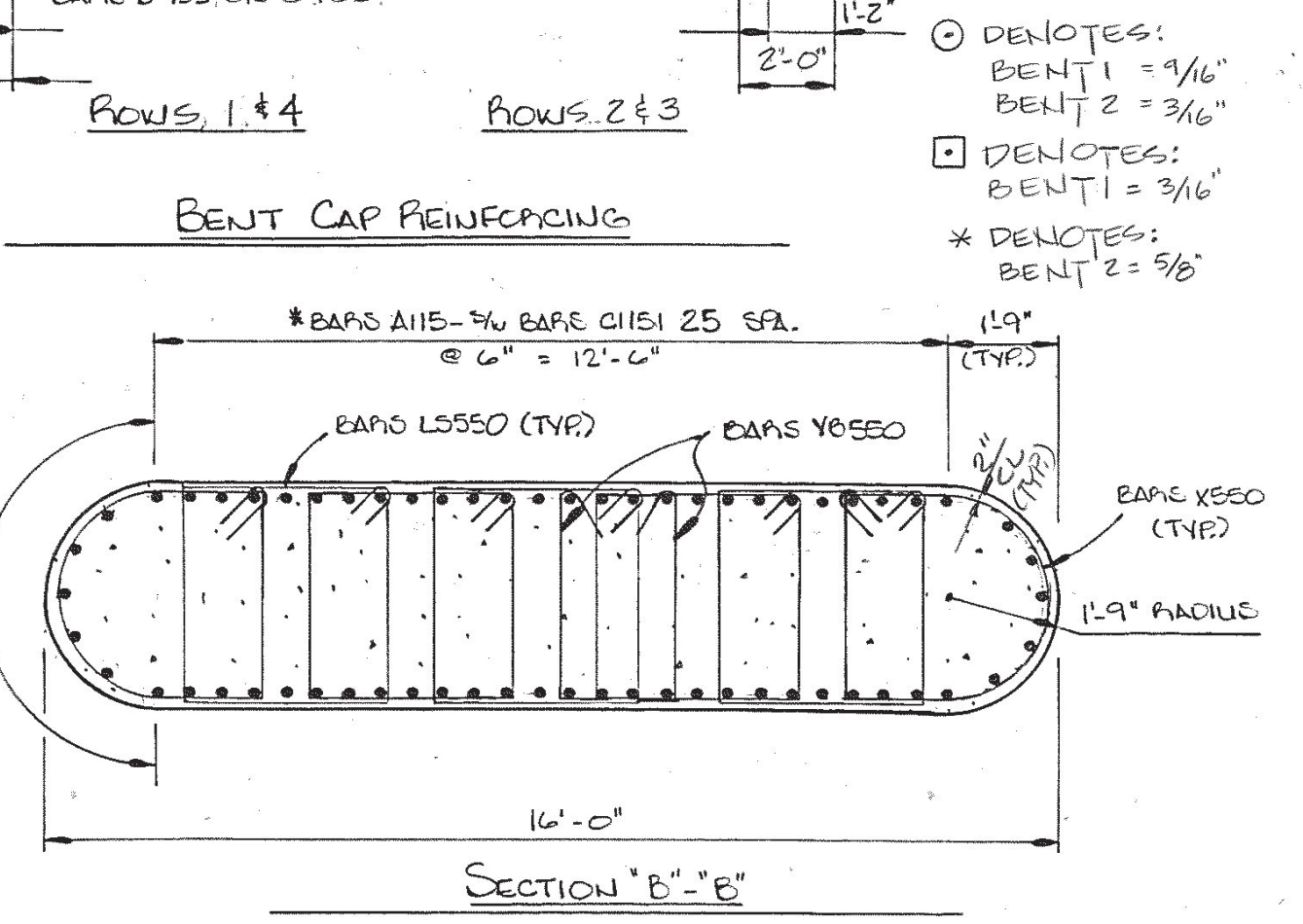
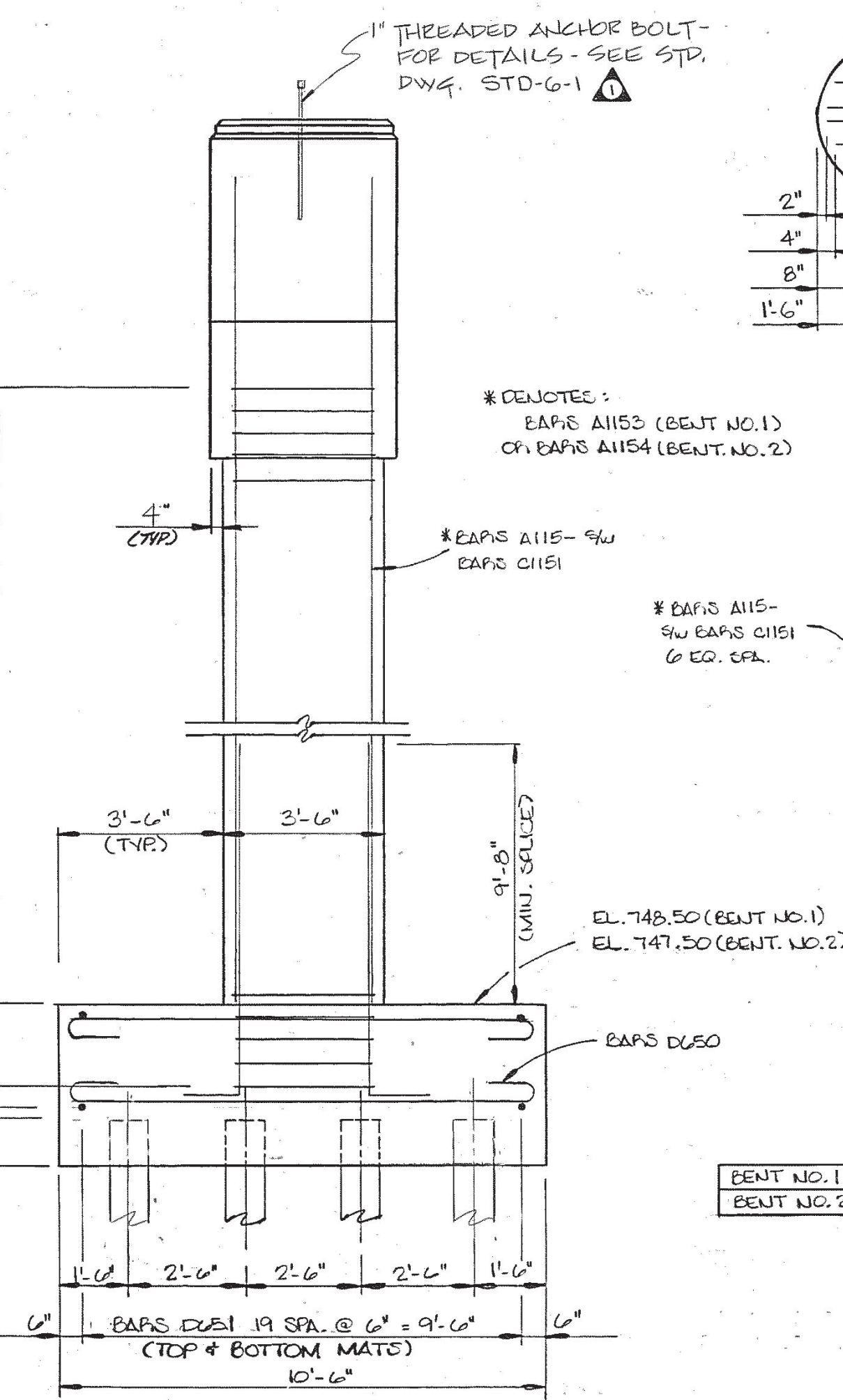
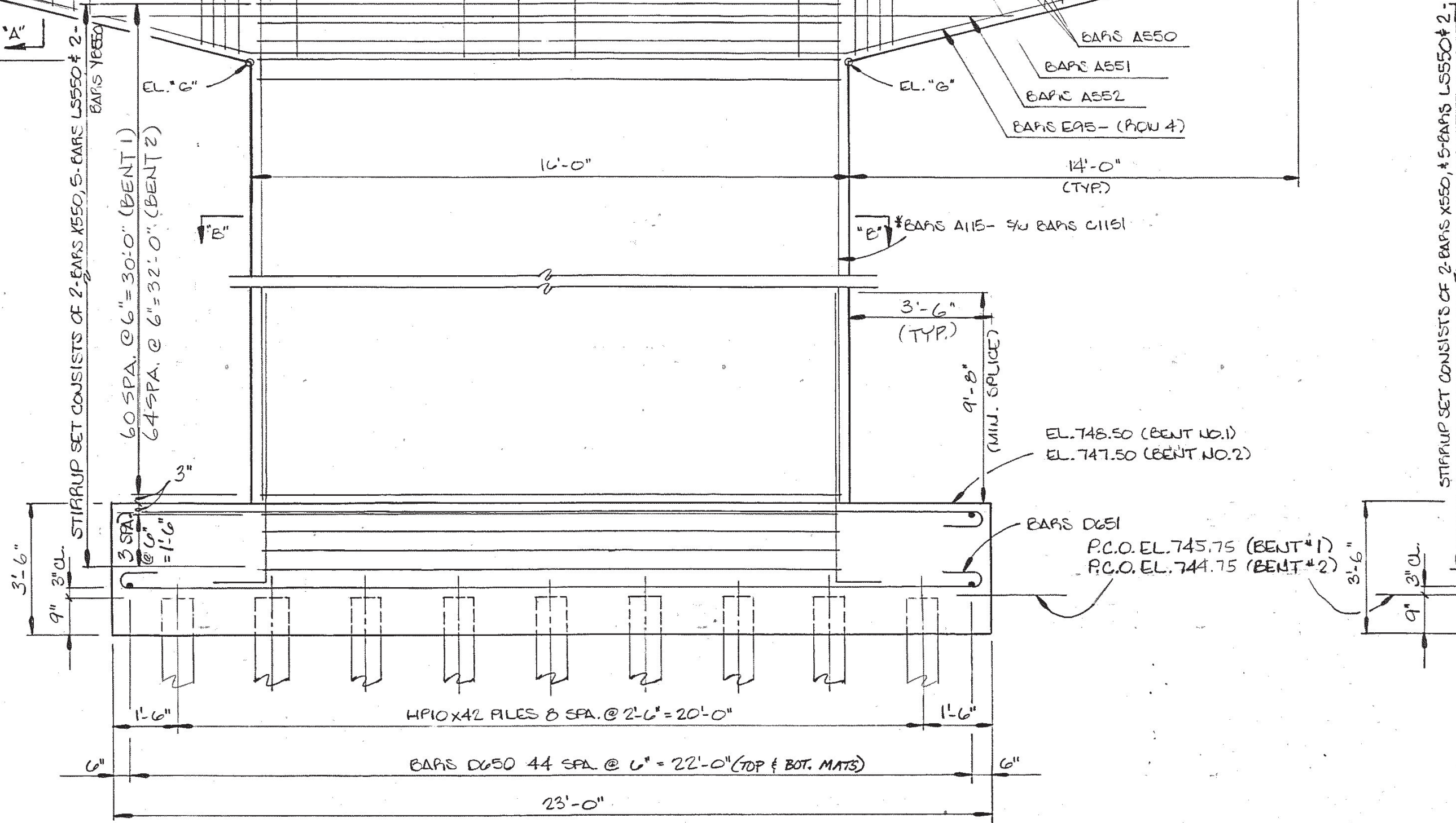
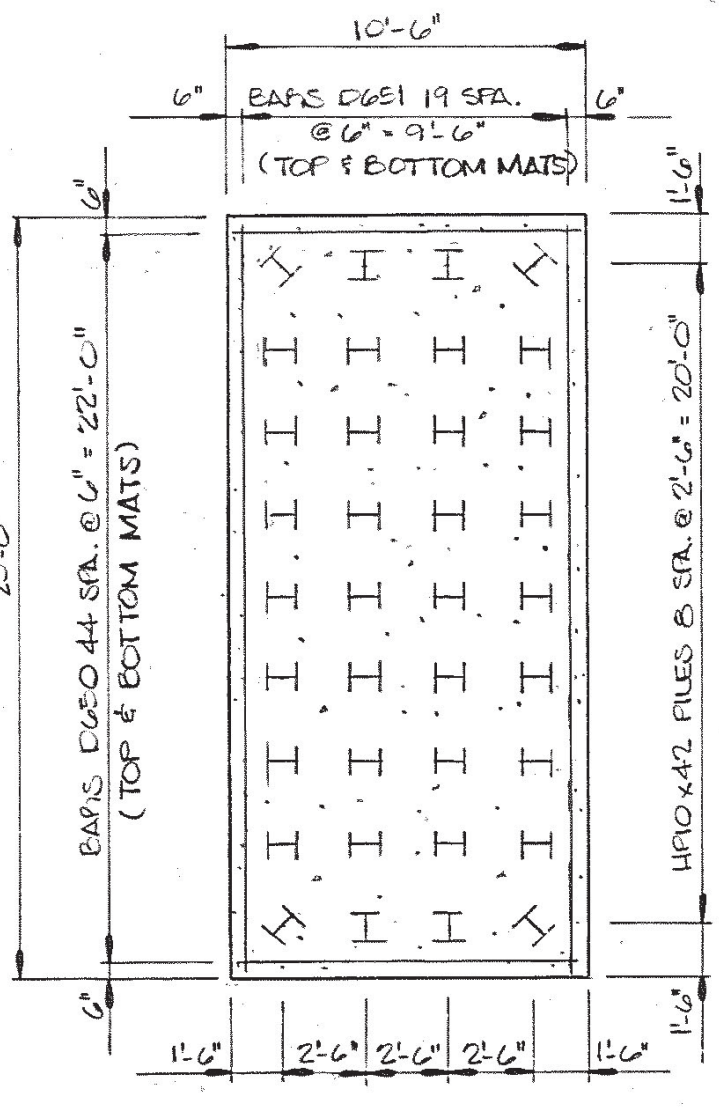
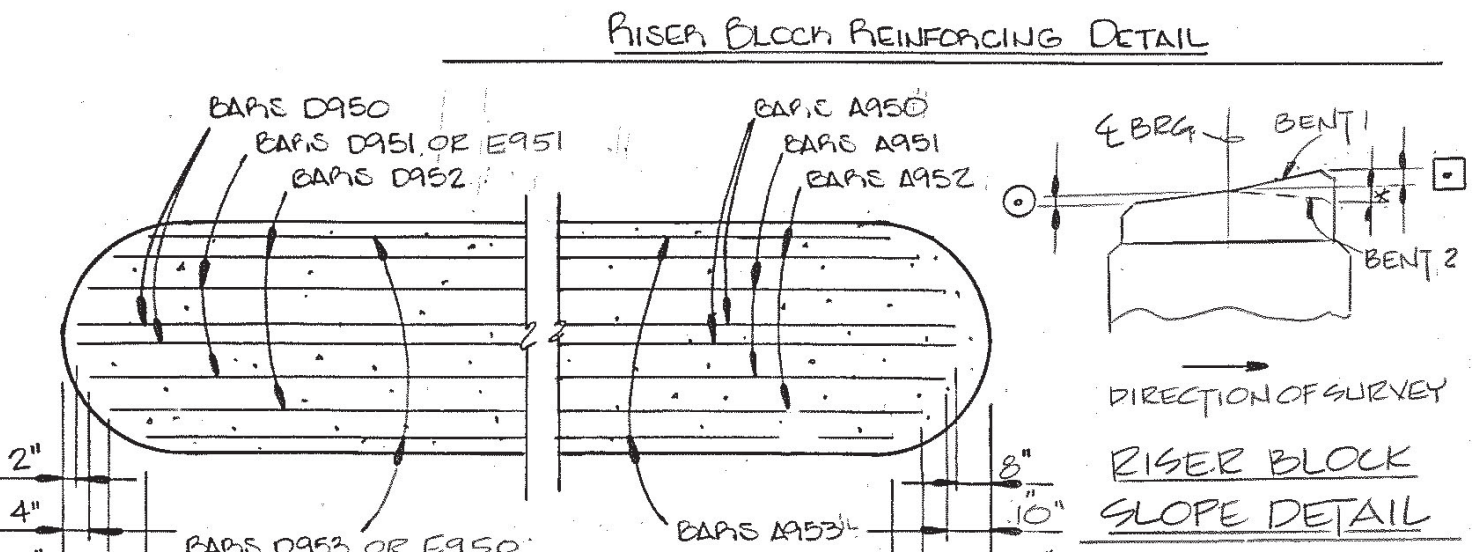
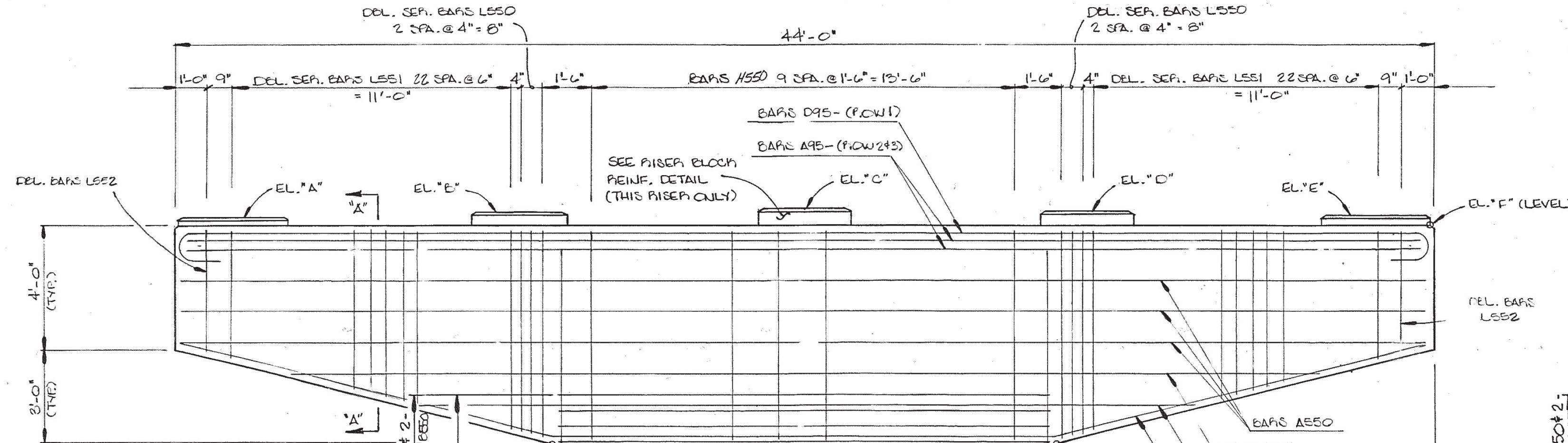


TABLE OF ELEVATIONS

	STA. "X"	"A"	"E"	"C"	"D"	"E"	"F"	"G"
BENT NO. 1	2276.00	784.16	784.34	784.52	784.44	784.26	783.99	776.99
BENT NO. 2	2319.00	785.02	785.20	785.38	785.30	785.12	784.85	777.85



NOTE: WHEN FORMING CAP BEAM, PROVISIONS SHALL BE MADE FOR SETTING ANCHOR BOLTS.



BENT NO.	CLASS 'A' CONCRETE C.Y.	STEEL BAR REINF. LB.
BENT NO. 1	128	32,762
BENT NO. 2	132	33,804

ALTERNATE "B"
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BENTS No. 1 & 2
SWAN POND ROAD OVER
EMORY RIVER AND HARFIMAN AND
NORTHEASTERN RAILROAD
STATION 21+95.00
PLANE COUNTY
1991

DESIGNED BY A. PRICE DATE 4-91
DRAWN BY NEITH DOUGLAS/BLITTRILL DATE 5-91
SUPERVISED BY J. FIELDS & R. WOODS DATE 5-91
CHECKED BY A. PRICE DATE 5-91

ELEVATION
(LOOKING FORWARD ON SURVEY)

CORRECT Edward W. Wossum
ENGINEER OF STRUCTURES

APPROVED DIRECTOR OF HIGHWAYS

M-220-172

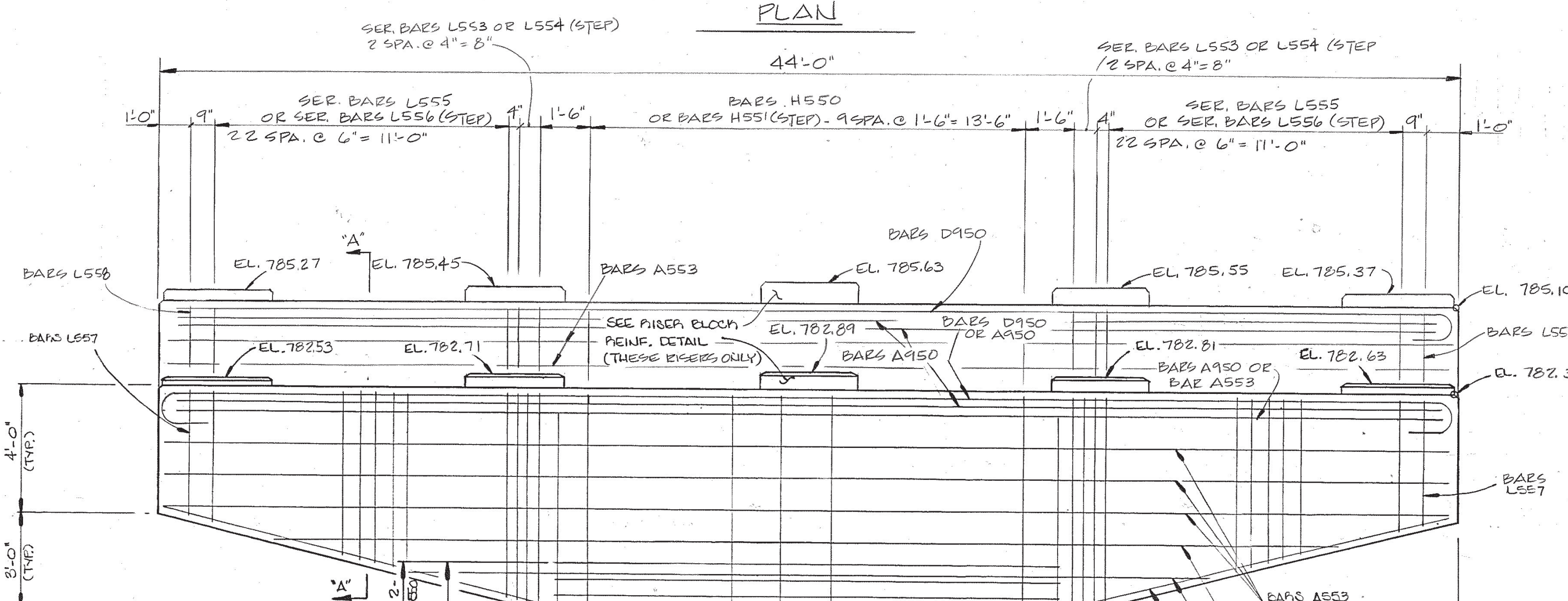
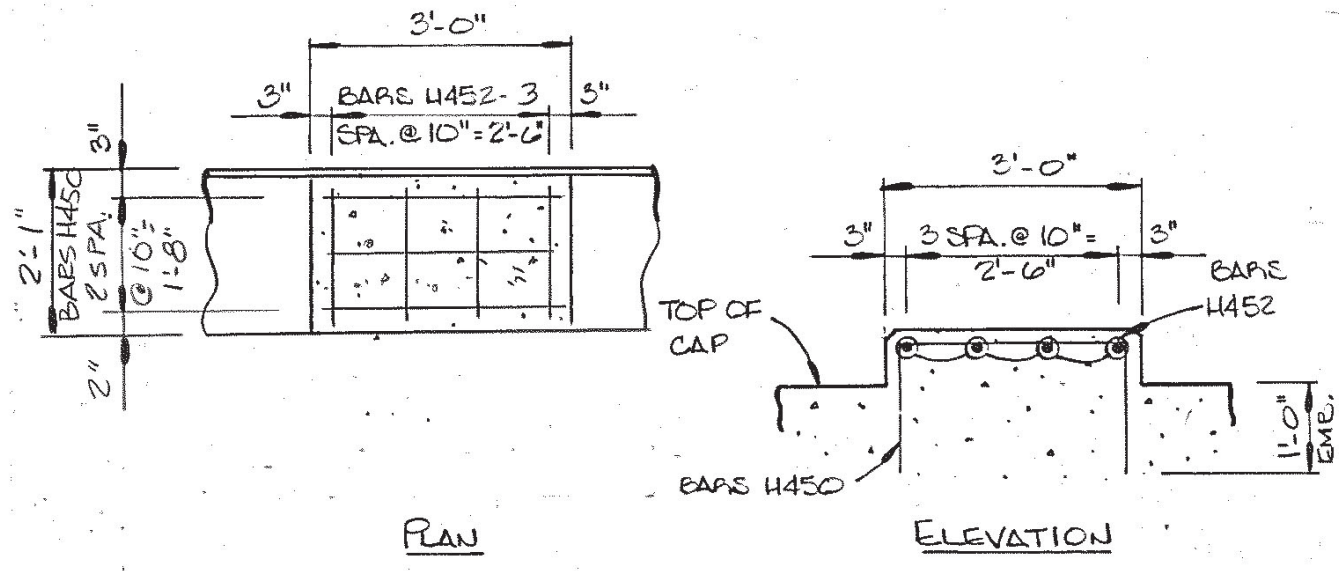
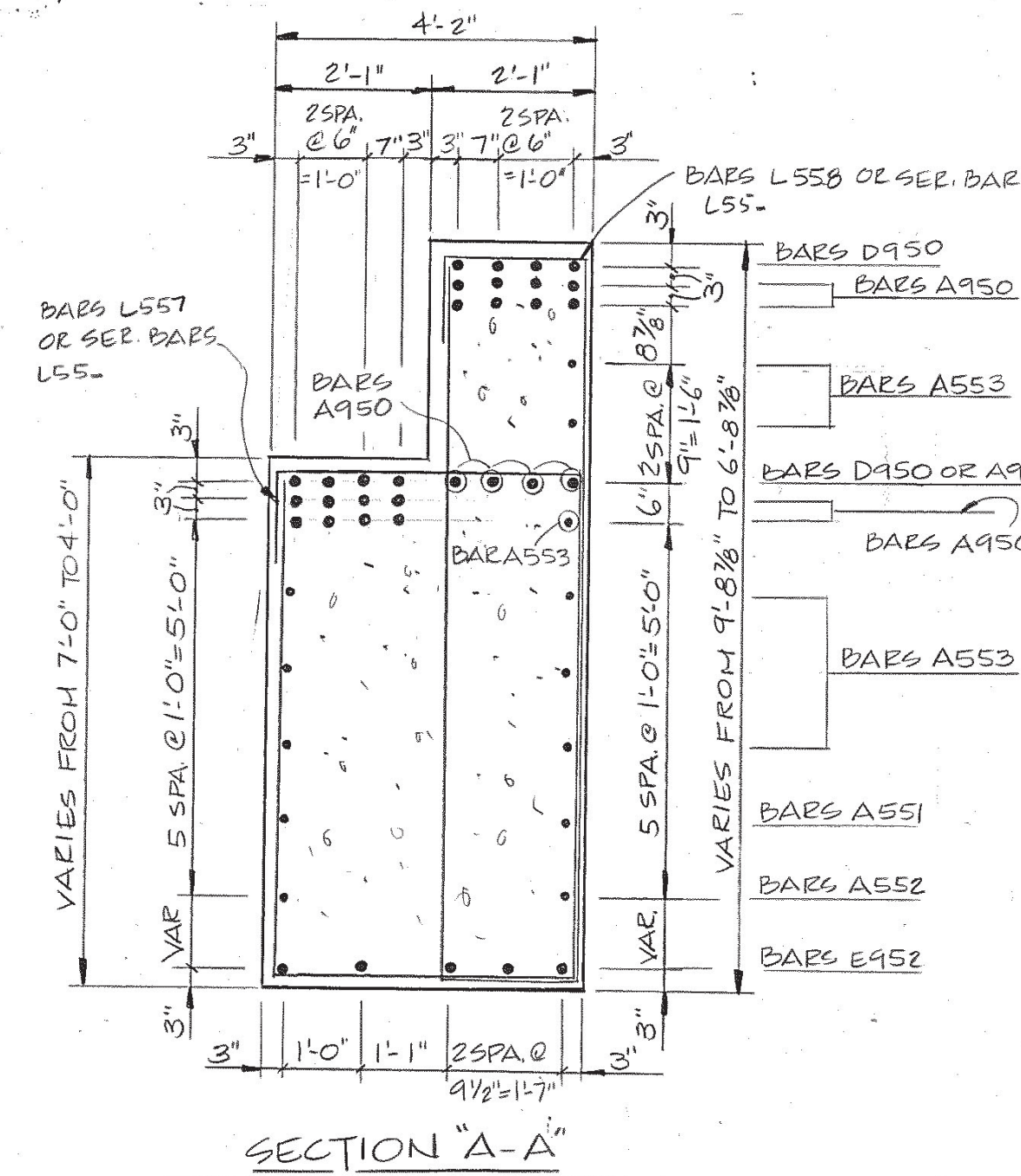
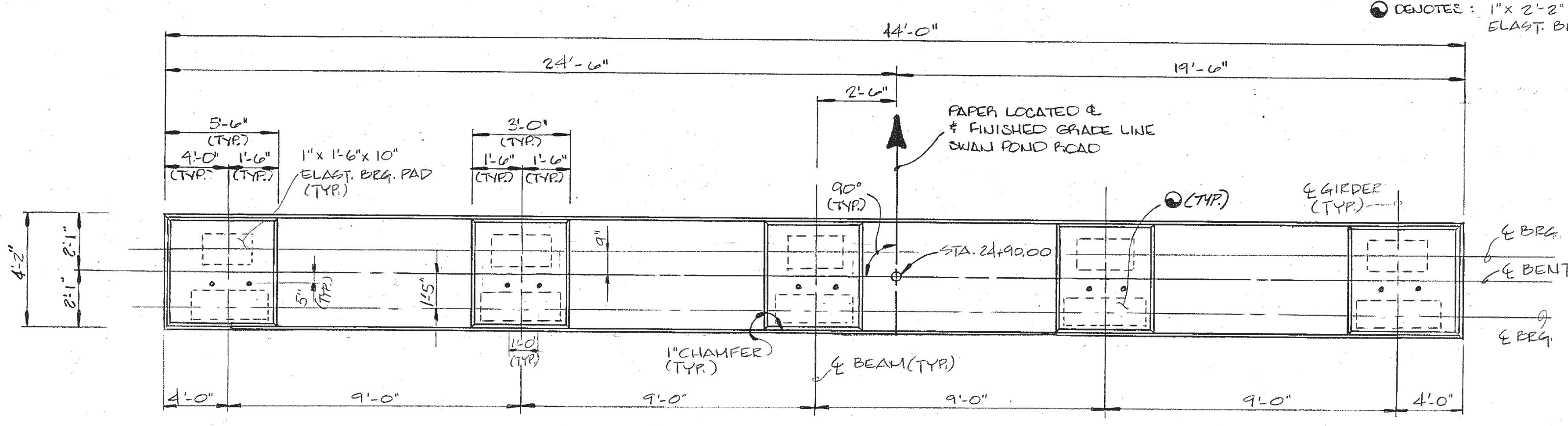
PROJECT NO.	YEAR	SHEET NO.
BRM-726(1)	1991	

REVISIONS				
NO.	DATE	BY	REV.	BRIEF DESCRIPTION
1	10-23-91	AEP		REV. STD. DNG. NO.

NOTE: RISER BLOCKS TO BE FORMED MONOLITHICALLY WITH CAP BEAM.

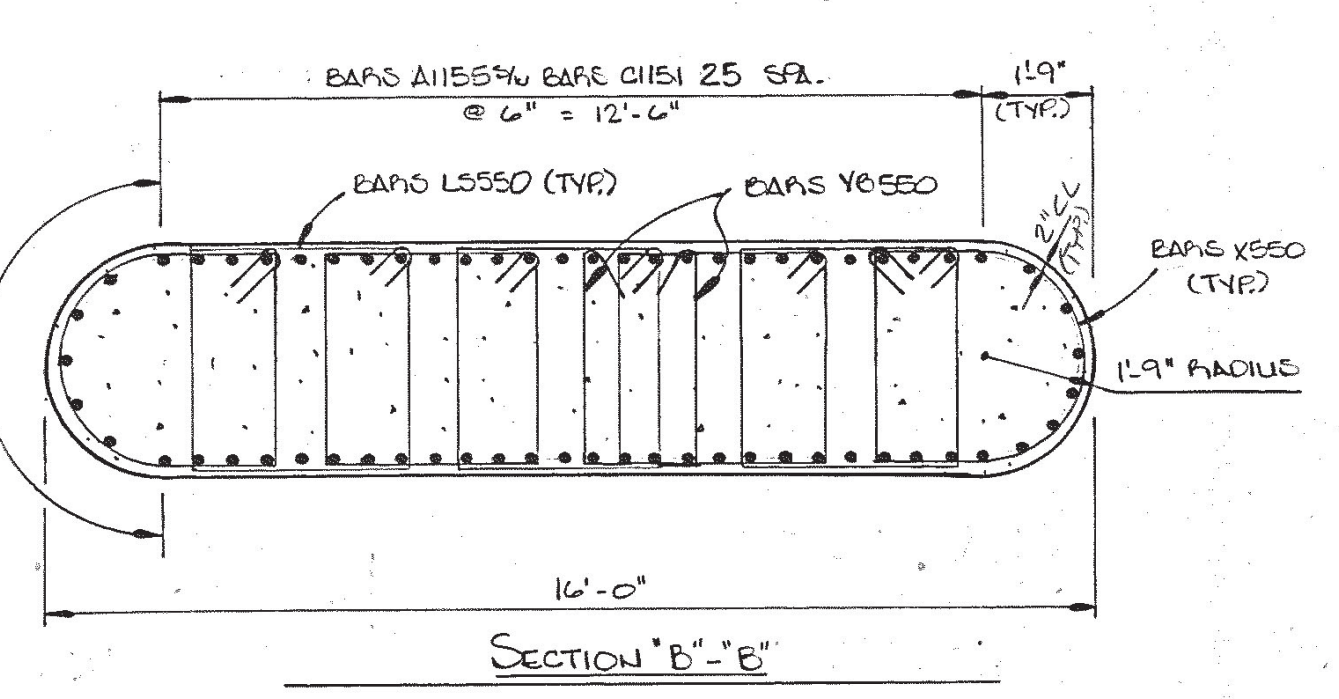
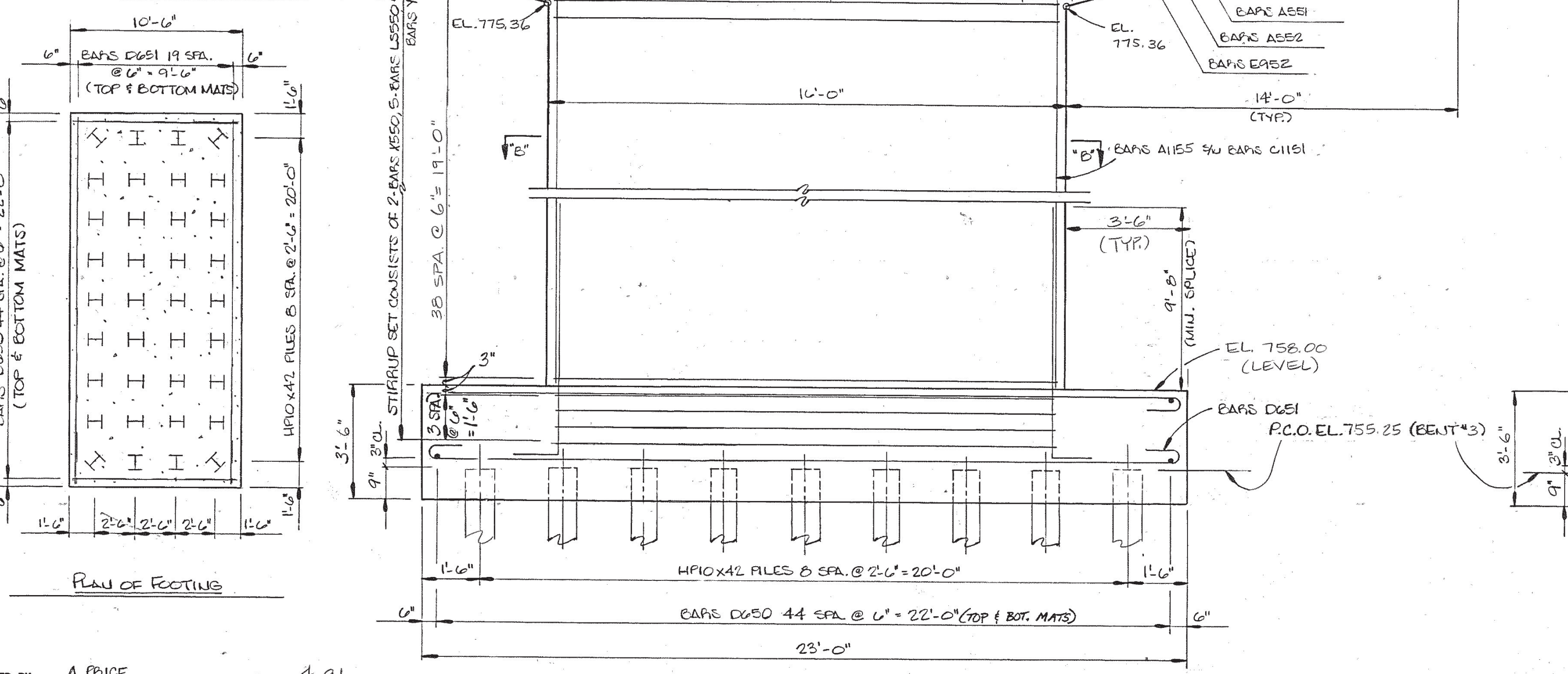
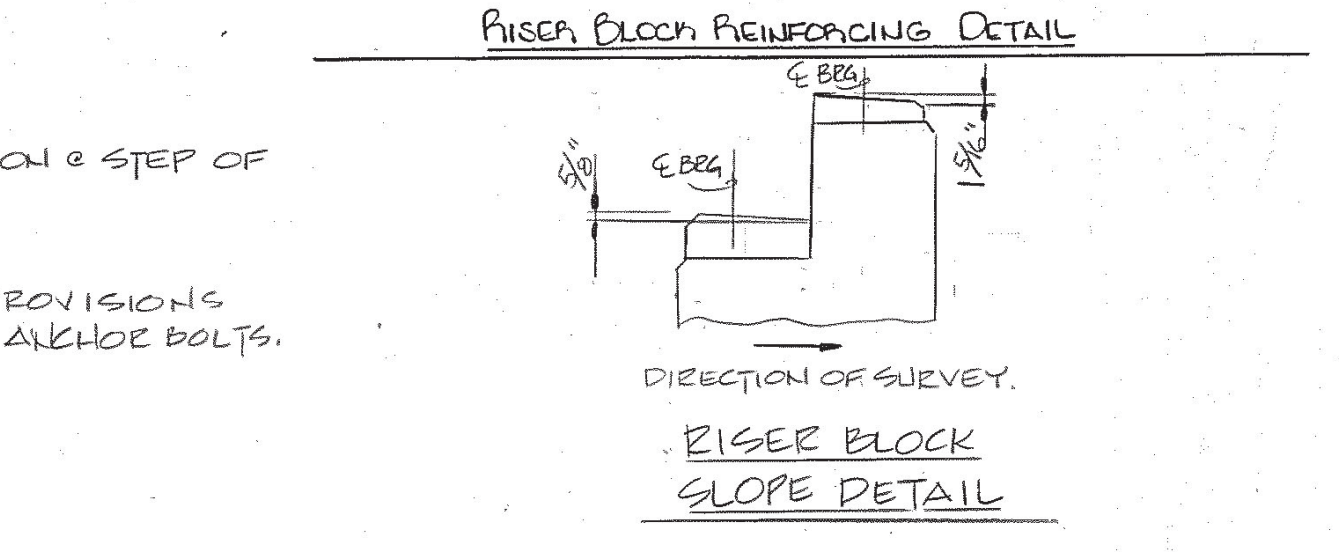
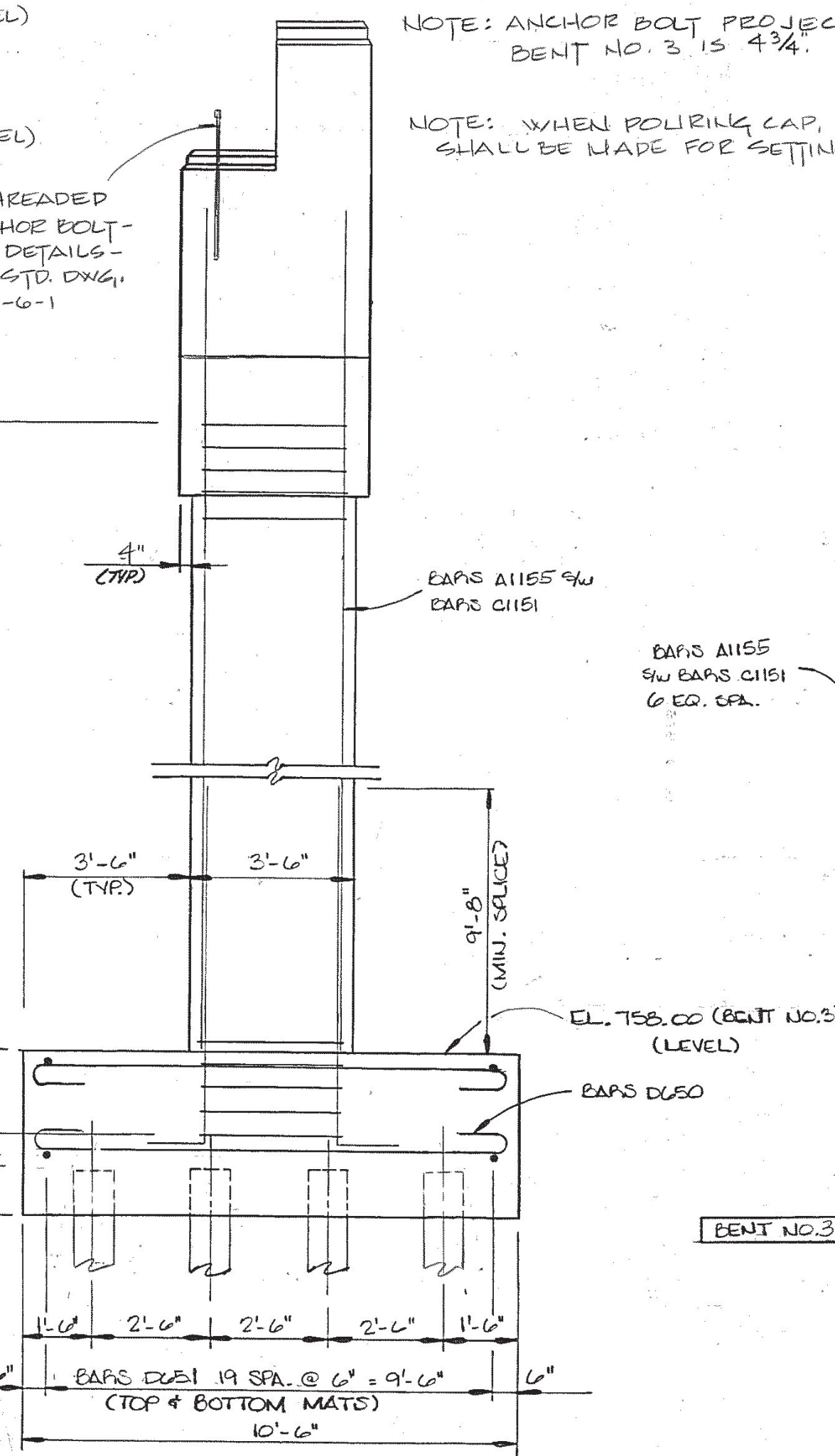
NOTE: COLUMN STEEL TO EXTEND 6'-0" INTO CAP BEAM.

NOTE: RISER BLOCK BEARING PAD SURFACE TO CONFORM TO BOTTOM OF BEAM GRADE.



NOTE: ANCHOR BOLT PROJECTION & STEP OF BENT NO. 3 IS 4'-0".

NOTE: WHEN POURING CAP, PROVISIONS SHALL BE MADE FOR SETTING ANCHOR BOLTS.



CLASS 'A' CONCRETE C.Y.	STEEL BAR REINF. LB.
BENT NO. 3	126
	28,193

ALTERNATE "B"
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
BENT NO. 3
SWAN POND ROAD OVER
EMORY RIVER AND HARRISMAN AND
NORTHEASTERN RAILROAD
STATION 21+95.00
PICKENS COUNTY
1991

DESIGNED BY A. PRICE DATE 4-91
DRAWN BY KEITH DOUGLAS/D. LUTTRELL DATE 5-91
SUPERVISED BY J. FIELDS & P. WOODS DATE 5-91
CHECKED BY A. PRICE DATE 5-91

CORRECT *Edward A. Wasserman*
ENGINEER OF STRUCTURES

APPROVED _____
DIRECTOR OF HIGHWAYS