

12
LATEST
REVISION

DRAWING NO. LATEST
REVISION

6-4-81

DRAWING NO. _____

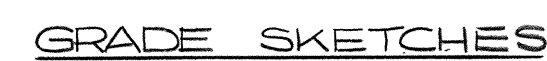
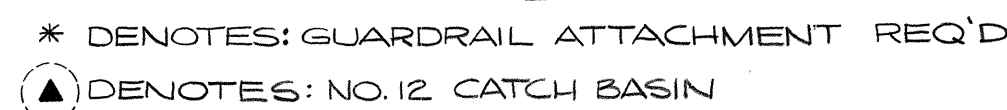
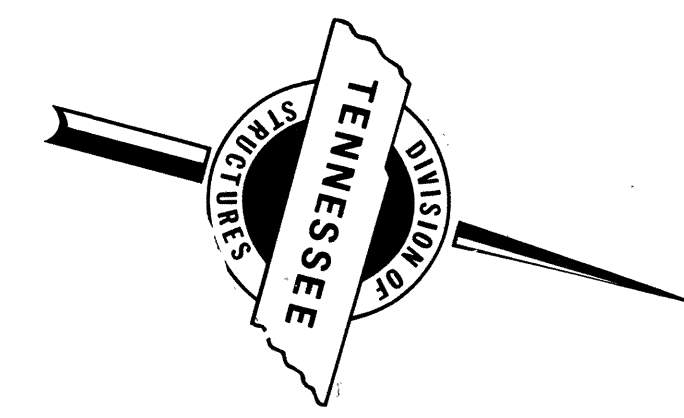
VISION
DATE

JS:

2-17-79

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

Class "A" Grading "D" 23.0



<u>CURVE DATA</u>	
RAMP 'N-A' (CURVE ①)	RAMP 'N-C' (CURVE ②)
PI = 1+00.779	PI = 0+89.831
$\Delta = 36^{\circ} 01' 05''$ RT.	$\Delta = 32^{\circ} 02' 52''$ RT
$D_c = 18.4825'$	$D_c = 16.465'$
R = 310'	R = 310'
T = 100.779	T = 89.031
L = 194.676	L = 173.395

GENERAL NOTES:

- SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF HIGHWAYS. (1968 EDITION)
- LOADING: HS20-44.
- DESIGN SPECIFICATIONS: AASHTO 1977 EDITION WITH ADDENDA.
- CONCRETE: TO BE CLASS 'A' (CAST IN PLACE). $f'c$ 3000 PSI. SEE SPECIAL PROVISION NO. 130.
- BRIDGE DECK FORMS: BRIDGE DECK FORMS FOR CONCRETE DECKS SHALL BE CONSTRUCTED USING EITHER REMOVAL FORMS OR PERMANENT FORMS. PERMANENT FORMS MAY BE EITHER REMAIN-IN-PLACE STEEL OR PRECAST, PRESTRESSED CONCRETE PANELS. IN EITHER CASE, FORMS SHALL BE ATTACHED BY MEANS OTHER THAN WELDING TO SUPPORT MEMBERS. SEE SPECIAL PROVISION NO. 450 AND STANDARD DWG. K-80-19A. THE CONTRACTOR SHALL TAKE STEPS TO ASSURE THE STABILITY OF THE EXTERIOR GIRDER AGAINST TWISTING OR OVERTURNING DURING SLAB POURING OPERATIONS.

REINFORCING STEEL: TO BE ASTM A615 GRADE 60. STANDARD CRSI HOOK DETAILS APPLY UNLESS OTHERWISE NOTED ON BILL OF STEEL. BENDING DIMENSIONS SHOWN ARE BASED ON GRADE 60. SPACING DIMENSIONS ARE CENTER TO CENTER UNLESS OTHERWISE NOTED ON DETAIL DRAWINGS. — THE SUFFIX 'E', FOR BARS MARKED 50, DENOTES EPOXY COATED REINFORCEMENT. SEE SPECIAL PROVISION 471.

SPECIAL NOTE - FOOTING FOR BENTS: AFTER EXCAVATION TO ROCK, FOR FOOTING HAS BEEN COMPLETED, HOLES 6' DEEP SHALL BE DRILLED AT POINTS DESIGNATED BY THE ENGINEER. FROM THE RESULTS OBTAINED, THE ENGINEER SHALL DETERMINE THE FINAL FOOTING ELEVATIONS. NO REINFORCING STEEL FOR BENT COLUMNS SHALL BE ORDERED UNTIL FINAL FOOTING ELEVATIONS HAVE BEEN DETERMINED.

LINSEED OIL PROTECTIVE TREATMENT: Surfaces receiving Decorative or Class 2" Finish shall not receive a Linseed Oil Treatment. See Special Provision No. 130 and Surface Finishing Details this sheet.

⚠ Bridge Rail SYS.: Build Concrete Parapet With Structural Tubing according to Std. Dwg. K-38-162.

Special Note For Utilities: It is intended that the cost of materials and labor necessary for the complete installation of utilities shall be borne by others and shall not be paid for as part of this contract. The contractor shall cooperate with others in the installation of utilities with no additional compensation allowed the contractor as a result.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BUREAU OF HIGHWAYS

GENERAL NOTES AND ESTIMATED
QUANTITIES
NOLENSVILLE PIKE OVER
INTERSTATE 440
STATION 421+56.68
DAVIDSON COUNTY

CORRECT Edellon L Loveall 1981
ENGINEER OF STRUCTURES
APPROVED Lewis Evans
DIRECTOR OF HIGHWAYS



Concrete Finishes: Portions of the Bridge surface designated to receive a class 2 "Rubbed Finish" shall be finished according to subsection 604-22 of the Std. Specifications. Portions of the bridge surface designated to receive a decorative form finish shall be formed using a formliner similar to Burke formliner BG 308, concrete harp, or equal.

After stripping formliners the Decorative Form finished area shall be given a "Class 1" ordinary finish according to subsection 604-22 of the Sid. Specifications. The contractor shall submit to the Engineer, for approval, a sample casting using the Formliner, to be furnished. Cost of all Concrete Finishing to be included in the price bid for Class "A" Concrete (Bridges) Concrete Parapet K-38-161.

ESTIMATED QUANTITIES

ITEM NO.	204-02.01	204-04.01	204-05	604-03.01	604-03.02	604-02.03	604-03.03	606-22.03	606-32.03	606-42.03	920-01.11	1220-14	710-10	710-11	908-21.03	714-01.08
ITEM	DRY EXCAVATIONS (BRIDGES) C.Y. ①	ROCK EXCAVATIONS (BRIDGES) C.Y. ①	ROCK DRILLING (BRIDGES) L.F.	CLASS "A" CONCRETE (BRIDGES) C.Y. ⚠	STEEL BAR REINFORCEMENT (BRIDGES) LB. ⚠ ⚠ ⚠	EPOXY COATED REINFORCING STEEL LB. ⚠	LINSEED OIL TREATMENT SY.	STEEL PILES 10 INCH L.F.	STEEL PILES (FURNISH DOMESTIC) 10 INCH L.F.	STEEL PILES (FURNISH FOREIGN) 10 INCH L.F.	ROADWAY EXPANSION DEVICE L.F. ⑤	CONCRETE PARAPET @ STRUCTURAL TUBING (K-38-162) L.F. ④	6" Ø PERFORATED C.M. PIPE (18 GA.) WITH POROUS BACKFILL (L.F.) ②	6" Ø C.M. PIPE UNDERDRAINS (18 GA.) L.F.	BEARINGS M-93-98 EA.	STRUCTURE LIGHTING (NOLENSVILLE PIKE OVER I-440) L.S. ⑥
SUPERSTRUCTURE				1290.0	286,832	334,961	2,465									
ABUTMENT NO. 1	7.1	79.9	12.0	59.5	11,772								96.5	25.0		
BENT NO. 1	170.8	16.7	12.0	174.5	40,527											
ABUTMENT NO. 2	3.1	87.1	12.0	36.5	11,386 ⚠								98.5	25.0		
PAV'T @ BRIDGE ENDS				203.8	32,523	11,961		80	80	80	88	452				
TOTAL	181.0	183.7	36.0	1764.3	383,040	346,922	2,465	80	80	80	88	452	195.0	50.0	9	1

- ① NOTE: EXCAVATION BASED ON EXISTING GROUND.
- ② NOTE: COST OF POLYETHYLENE SHEETING AND ALL MISCELLANEOUS ITEMS NECESSARY FOR INSTALLATION TO BE INCLUDED IN COST OF PERFORATED C.M. PIPE.
- ③ NOTE: THE COST OF 1/2" THREADED STEEL INSERTS AND 1/2" ϕ x 4" HEX HEAD BOLTS, (A307), TO BE INCLUDED IN BRIDGE ITEMS BID ON.
- ④ NOTE: ALL REINFORCING STEEL IN THE TRAFFIC FACE OF PARAPETS SHALL BE EPOXY COATED. COST TO BE INCLUDED IN THE PRICE BID FOR ITEM 620-14. 
- ⑤ Note: To be Onflex 25, A5200 ACME or SA 200 WABO, Maurer. Total movement required
1 1/4" .
- ⑥ NOTE: LUM SUM FOR STRUCTURE LIGHTING, ITEM 714-01.08 INCLUDES 260 FT. 1" CONDUIT WITH PULL WIRES, 8-4" x 4" x 3" JUNCTION BOXES, 2-PARAPET LUMINAIRE SUPPORT AND ALL NECESSARY MATERIALS FOR INSTALLATION OF STRUCTURE LIGHTING.

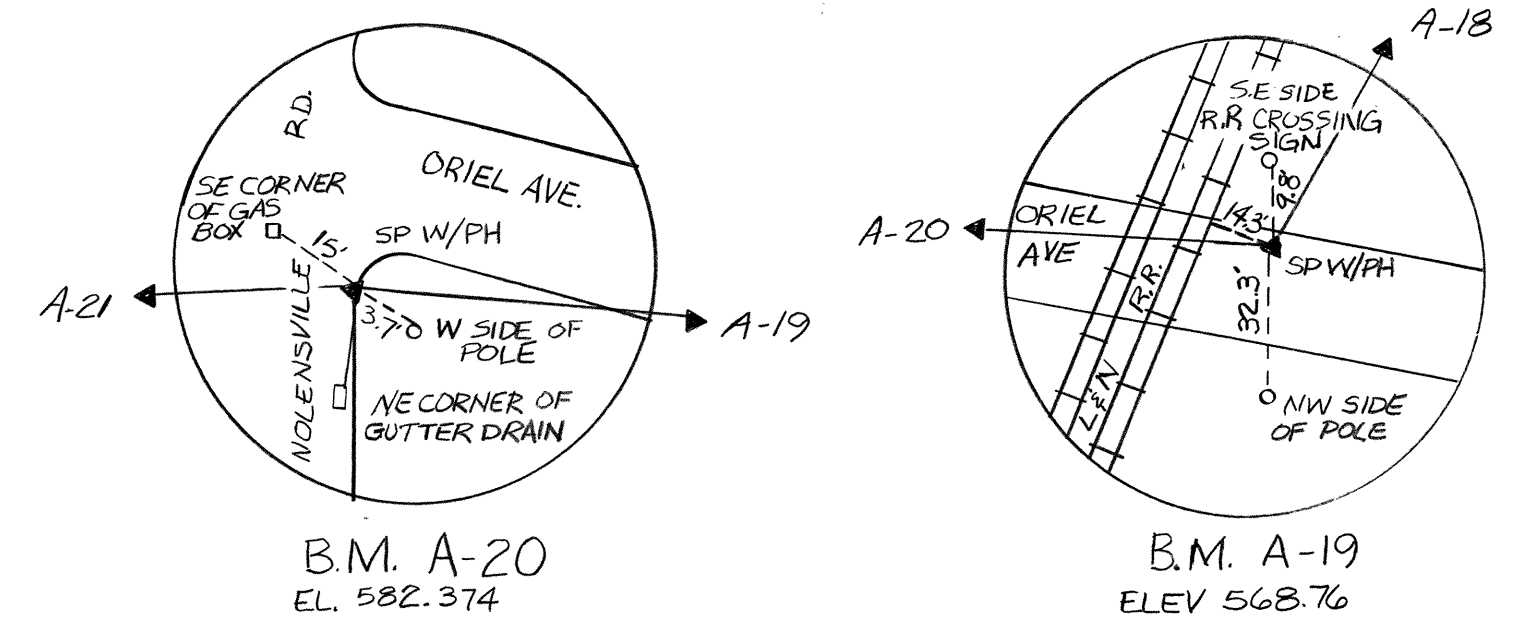
3 PILES : TO BE HP 10x42 DRIVEN TO REFUSAL ON ROCK OR A MINIMUM BEARING OF 30 TONS.

NOTE: AT THE CONTRACTORS OPTION; ALTERNATE BEARING DEVICES MAY BE SUBMITTED, FOR APPROVAL OF THE ENGINEER OF STRUCTURES. THE BEARING SHALL BE CAPABLE OF PROVIDING THE FOLLOWING MINIMUM REQUIREMENTS UNDER SERVICE LOADS.

BEARING	TOTAL MOVEMENT	DEAD LOAD REACTION	LIVE LOAD REACTION
M-93-98	1 1/4"	171.4 K	37.61 K

Diagram illustrating the proposed bridge structure and its dimensions. The bridge is shown in cross-section, spanning a creek. Key dimensions and stationing are provided:

- Span Lengths:** 32'-6" (±) and 212'-3" (±).
- Total Bridge Length:** 277'-3" (±).
- Stationing:**
 - BEGIN BRIDGE STA 12+49.04 (±) F.G. EL. 580.35
 - END BRIDGE STA 15+26.29 (±) F.G. EL. 568.15
- Elevations:**
 - Future Grade (F.G.) EL. 578.92
 - Future Grade (F.G.) EL. 569.58
 - Future Grade (F.G.) EL. 544.0
- Structural Features:**
 - ABUTMENT 1
 - ABUTMENT 2
 - VERTICAL ROCK CUT (TYP)
 - FUTURE GRADE
- Notes:**
 - NOTE: 2:1 SLOPE AT RIGHT ANGLES TO ABUTMENT
 - ELEVATION (GIVEN AT RIGHT ANGLES TO E SURVEY)



- 1) APPROXIMATE EXISTING GROUND AND ROCK LINE.
- 2) SUFFICIENT GROUND, ROCK AND CORING INFORMATION FOR BRIDGE FOUNDATIONS

This geological column chart displays 22 numbered stratigraphic units. The vertical axis on the left is labeled from 530 to 580 in increments of 10. The vertical axis on the right is labeled from 530 to 580 in increments of 10. Each unit is represented by a vertical bar with a specific lithological pattern and a number at the top. The units are numbered 1 through 22. The patterns include various textures such as horizontal lines, dots, and solid black areas, representing different rock types. The units are arranged in a sequence that generally increases in elevation from left to right, with some units (8, 12, 16) being isolated or truncated.

Unit Number	Approximate Elevation Range (m)	Lithological Pattern Description
1	555 - 580	Horizontal lines with small dots
2	556 - 580	Horizontal lines with small dots
3	550 - 578	Horizontal lines with small dots
4	538 - 580	Horizontal lines with small dots
5	541 - 578	Horizontal lines with small dots
6	533 - 578	Horizontal lines with small dots
7	540 - 578	Horizontal lines with small dots
8	565 - 576	Horizontal lines with small dots
9	533 - 574	Horizontal lines with small dots
10	539 - 572	Horizontal lines with small dots
11	533 - 570	Horizontal lines with small dots
12	545 - 568	Horizontal lines with small dots
13	533 - 569	Horizontal lines with small dots
14	533 - 568	Horizontal lines with small dots
15	537 - 570	Horizontal lines with small dots
16	562 - 568	Horizontal lines with small dots
17	533 - 568	Horizontal lines with small dots
18	546 - 568	Horizontal lines with small dots
19	541 - 567	Horizontal lines with small dots
20	541 - 567	Horizontal lines with small dots
21	538 - 567	Horizontal lines with small dots
22	547 - 568	Horizontal lines with small dots

- Legend -

-

FOUNDATION DATA
NOLENSVILLE PIKE OVER I-440
STA 456+21.68
DAVIDSON COUNTY
1980

M-93-92

[illegible]

BE FORMS AND SUPPORTS FOR THE ENTIRE BOTTOM SLAB SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF SUPERSTRUCTURE CONCRETE. CONCRETE FOR THE TOP AND BOTTOM SLAB AND WALLS MAY BE PLACED IN ANY SEQUENCE, HOWEVER, CONSTRUCTION JOINTS WILL BE PERMITTED AT DESIGNATED LOCATIONS ONLY. NO TOP SLAB CONCRETE MAY BE PLACED UNTIL ALL THE WALLS HAVE BEEN COMPLETE.

TOP OF DOVELS TO BE COVERED WITH 1/2" COMPRESSIBLE MATERIAL AND THE 9" PROJECTION WRAPPED WITH TWO LAYERS OF WATERPROOF PAPER.

THE DEAD LOAD CORRECTION CURVE IS FOR DEAD LOAD CAMBER ONLY AND SHOULD BE INCREASED BY THE AMOUNT OF ANTICIPATED TAKE UP IN THE FALSEWORK.

WHEN POURING CURB, PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR PARAPET. THE PARAPET SHALL NOT BE POURED UNTIL THE SLAB IS POURED AND CURED. WHEN POURING PARAPET PROVISIONS SHALL BE MADE FOR SETTING ANCHORS BOLT FOR PARAPET RAILS. ALSO SEE STD. DWG. K-30-1G1

IF THE CONTRACTOR ELECTS TO USE
REMAIN-IN-PLACE FORMS, DETAILS
FOR PROVIDING ACCESS TO ALL CELLS
OF THE STRUCTURE SHALL BE SUBMIT-
TED TO THE ENGINEER OF STRUCTURE
SEE SPECIAL PROVISION NO. 450

ESTIMATED QUANTITIES OF SUPERSTRUCTURE

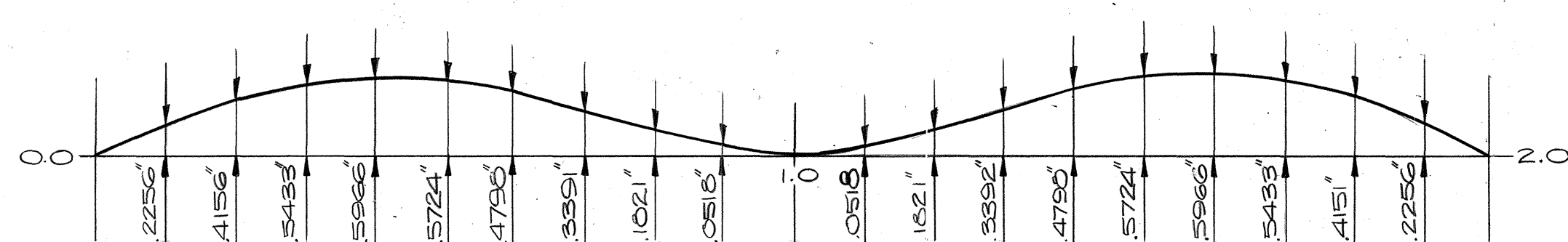
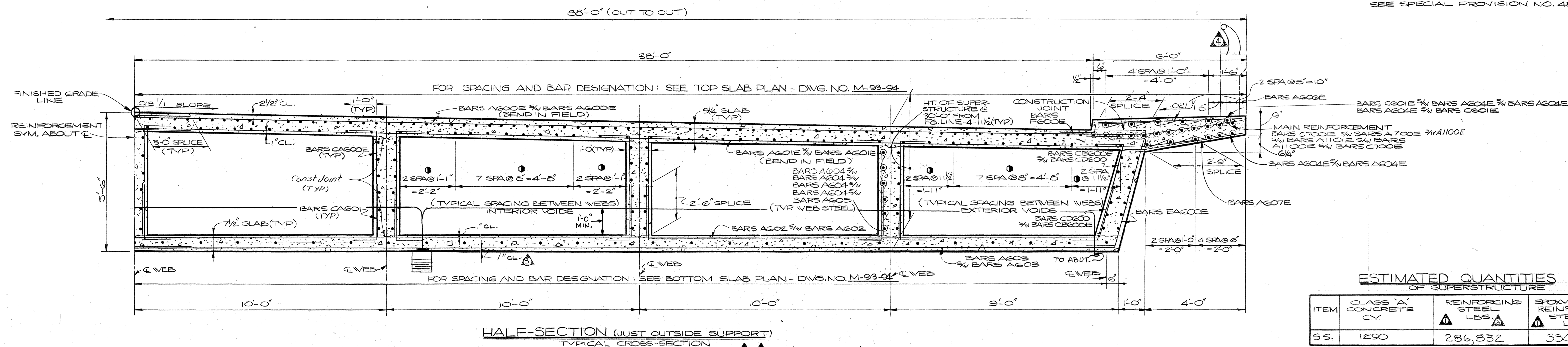
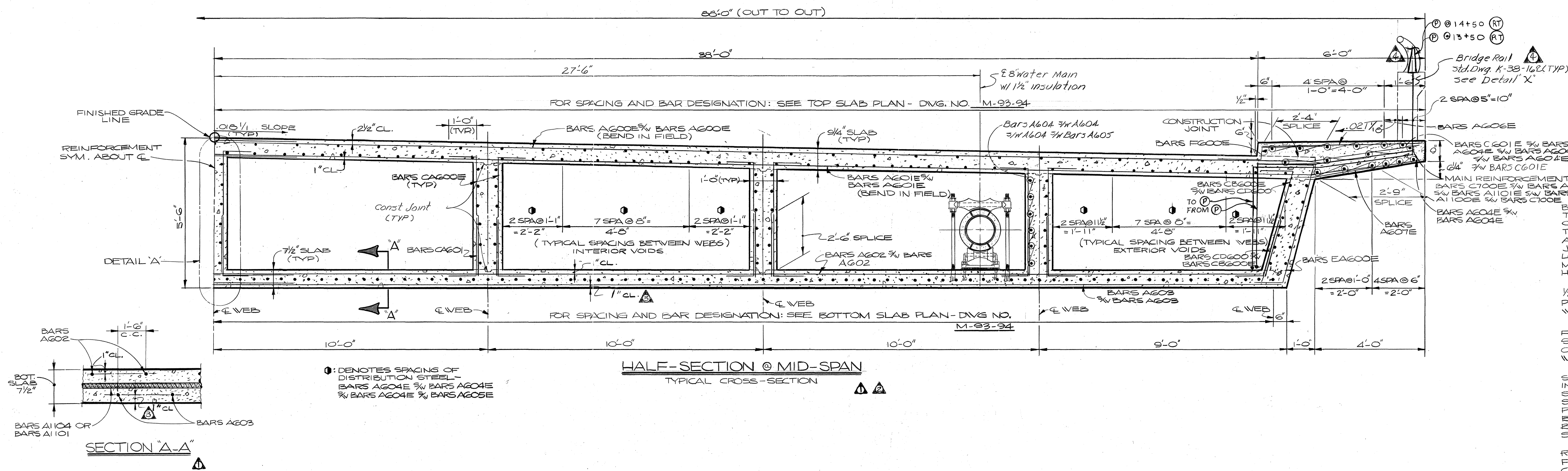
ITEM	CLASS 'A' CONCRETE C.Y.	REINFORCING STEEL LBS.  	EPOXY-COATED REINFORCING STEEL LBS.  
55.	1290	286,832	334,961

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

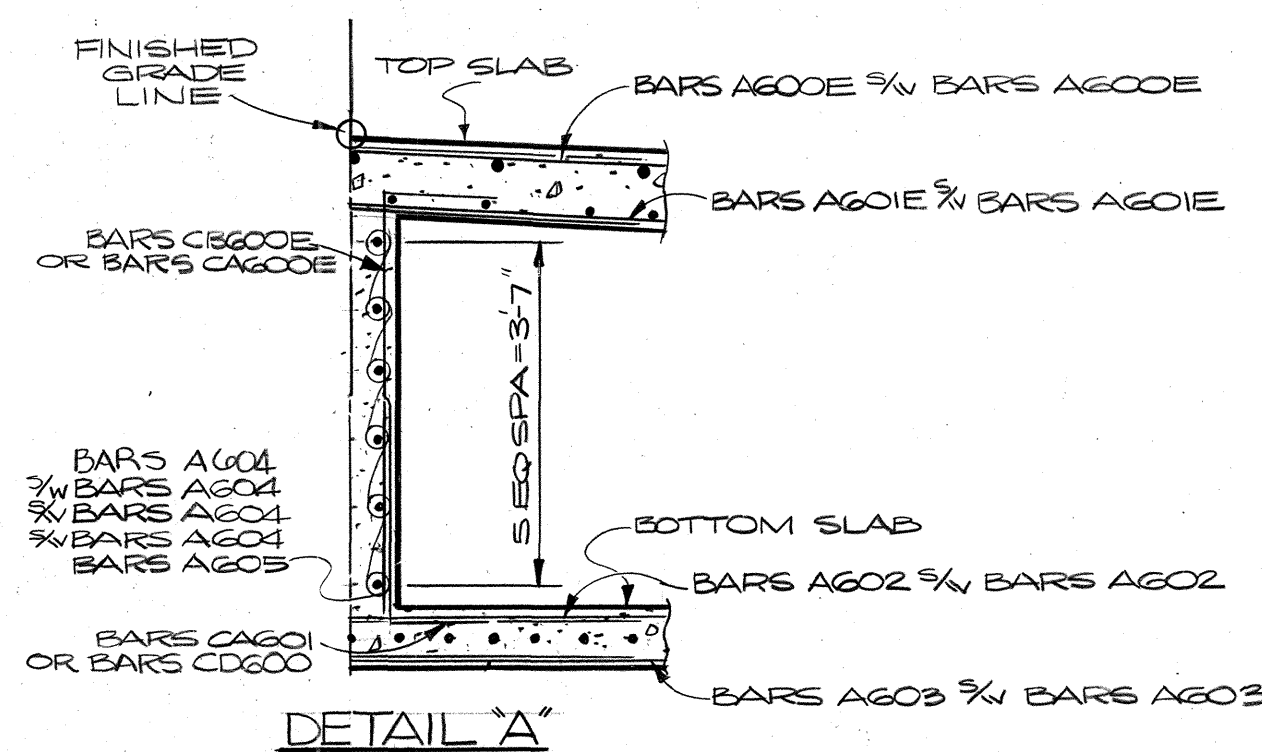
SUPERSTRUCTURE
NOLLENSVILLE PIKE OVER INTERSTATE 440
STATION 421+56.68
DAVIDSON COUNTY
1981

CORRECT Eldon L. Lonsell
ENGINEER OF STRUCTURES
APPROVED Louis Evans
DIRECTOR OF HIGHWAYS

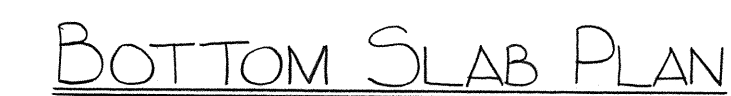
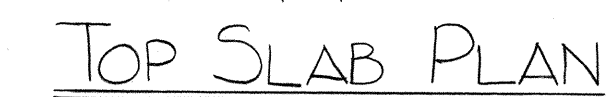
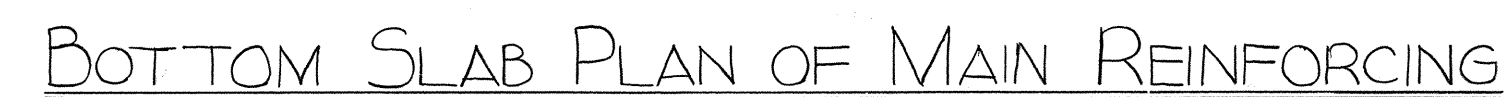
M-93-93



DEAD LOAD CORRECTION CURVE



DETAIL "X"

[illegible]

NOTE: TOS: DENOTES TOP OF SLAB
BOS: DENOTES BOTTOM OF SLAB

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

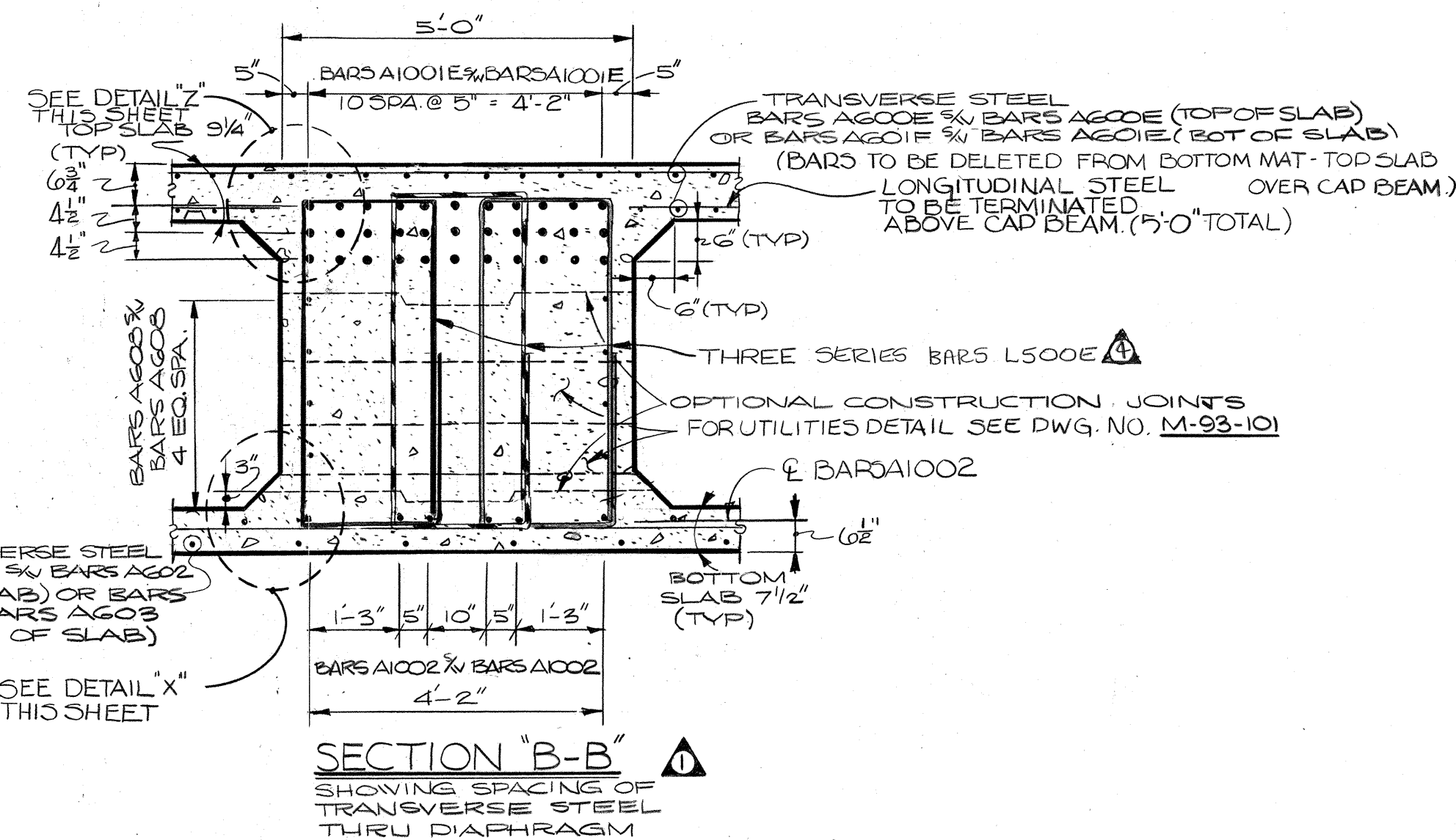
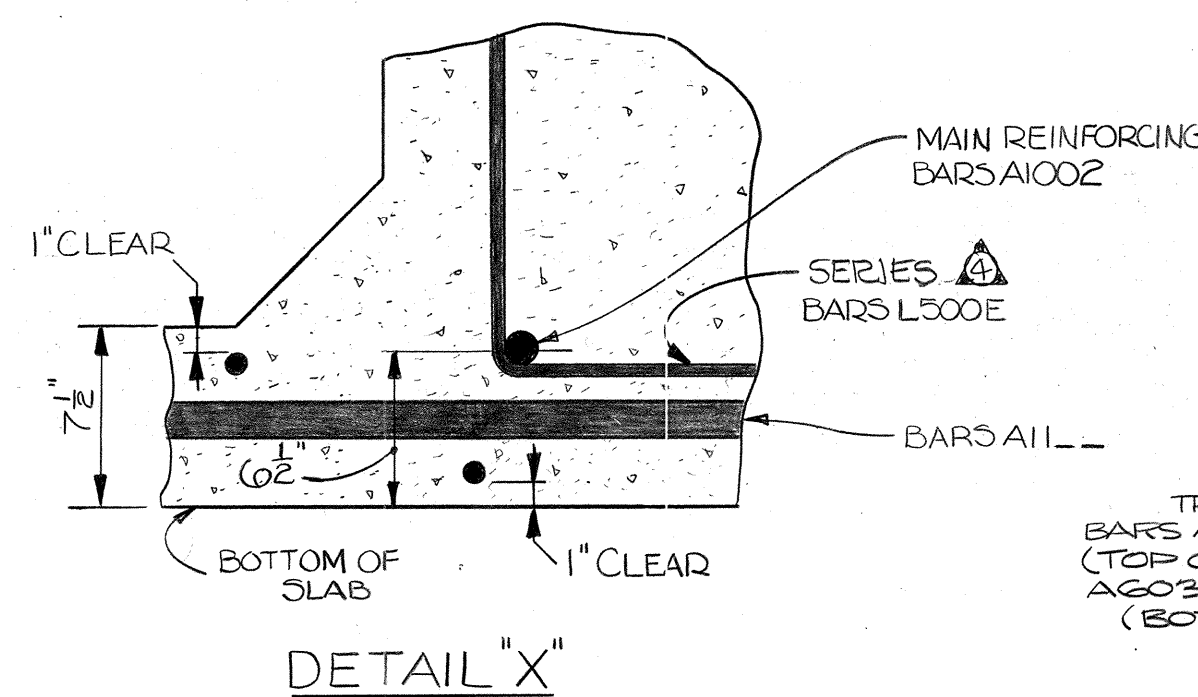
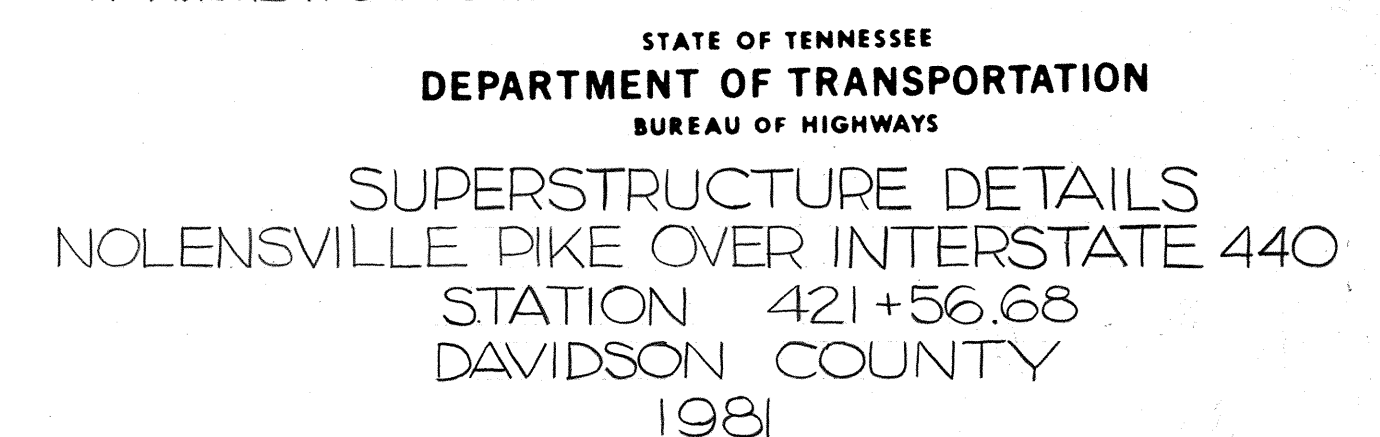
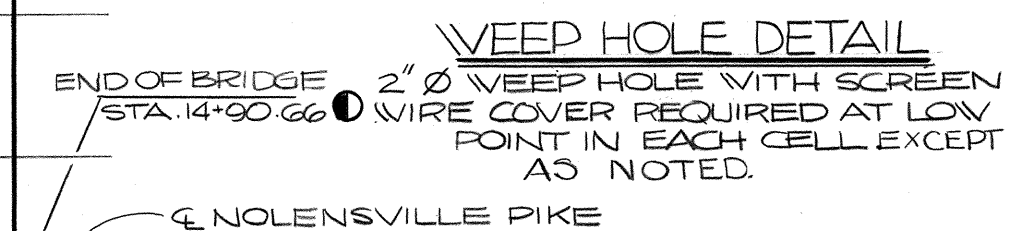
SUPERSTRUCTURE DETAILS
NOLENVILLE PIKE OVER
INTERSTATE 440
STATION 421+56.68
DAVIDSON COUNTY
1961

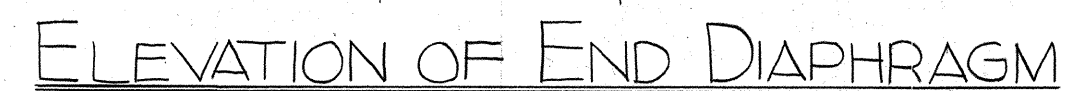
DESIGNED BY GLENN GREGORY DATE 1-81
DRAWN BY ANDY TUCKER DATE 2-81
SUPERVISED BY ROGER L. HARRISON DATE 2-81
CHECKED BY _____ DATE _____

CORRECT Cellon Loveall
ENGINEER OF STRUCTURES

APPROVED Lewis Evans
DIRECTOR OF HIGHWAYS

M-93-94



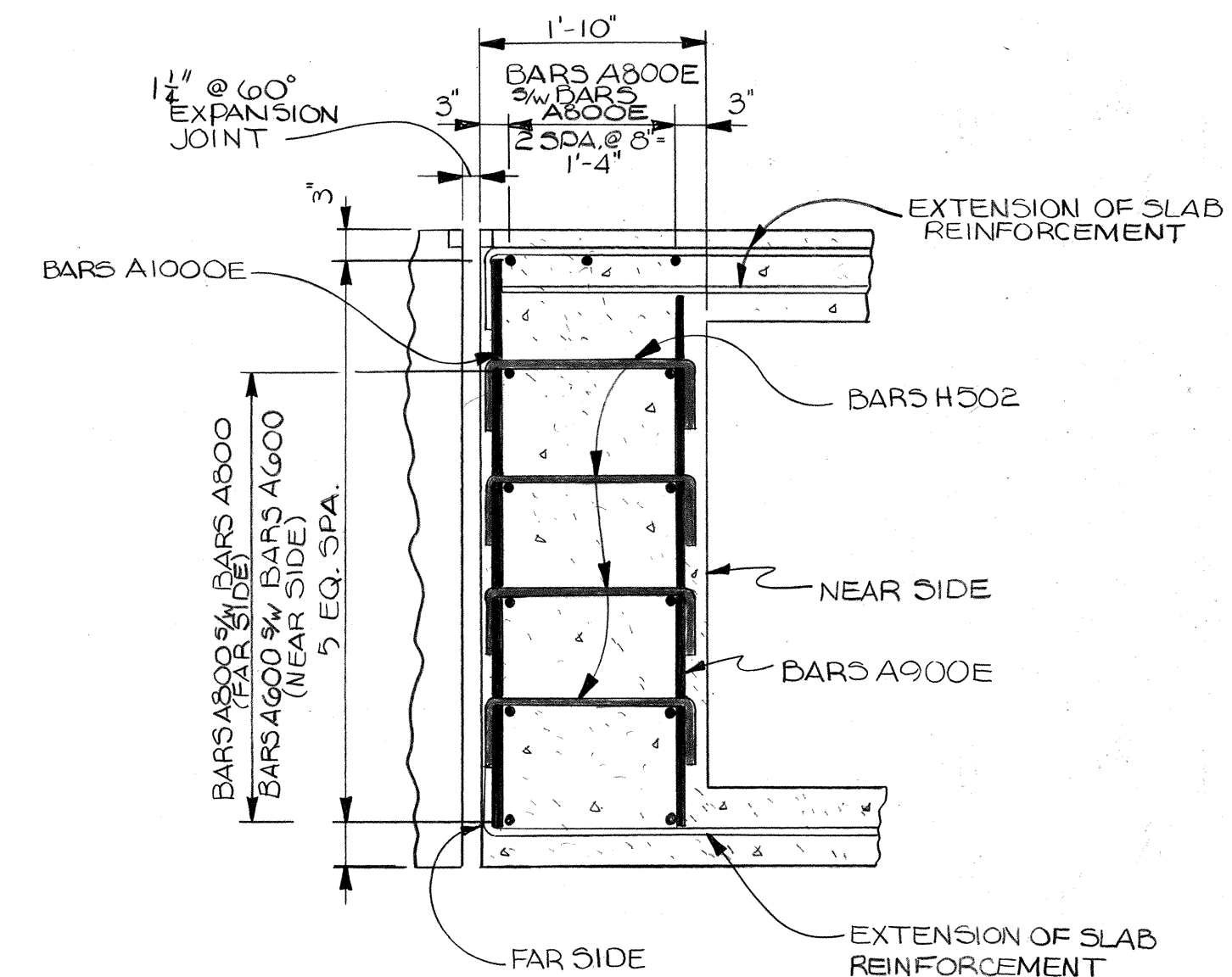
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LOOKING BACK ON SURVEY - ABUTMENT NO. 1

LOOKING FORWARD ON SURVEY



(LOOKING FORWARD ON SURVEY PERPENDICULAR
TO BENT CAP)



SECTION "B"- "B"
@ABUTMENT NO. 1

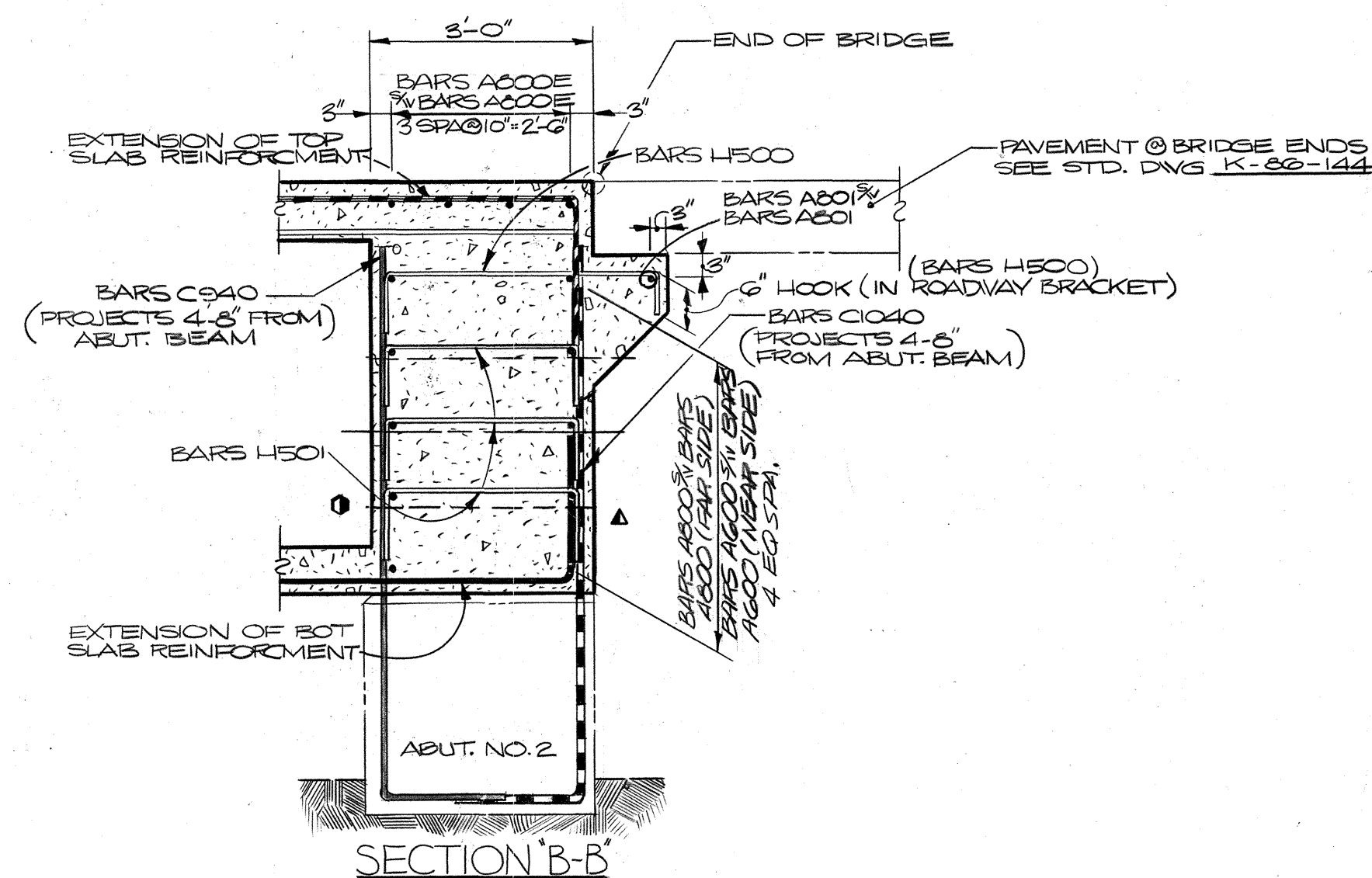
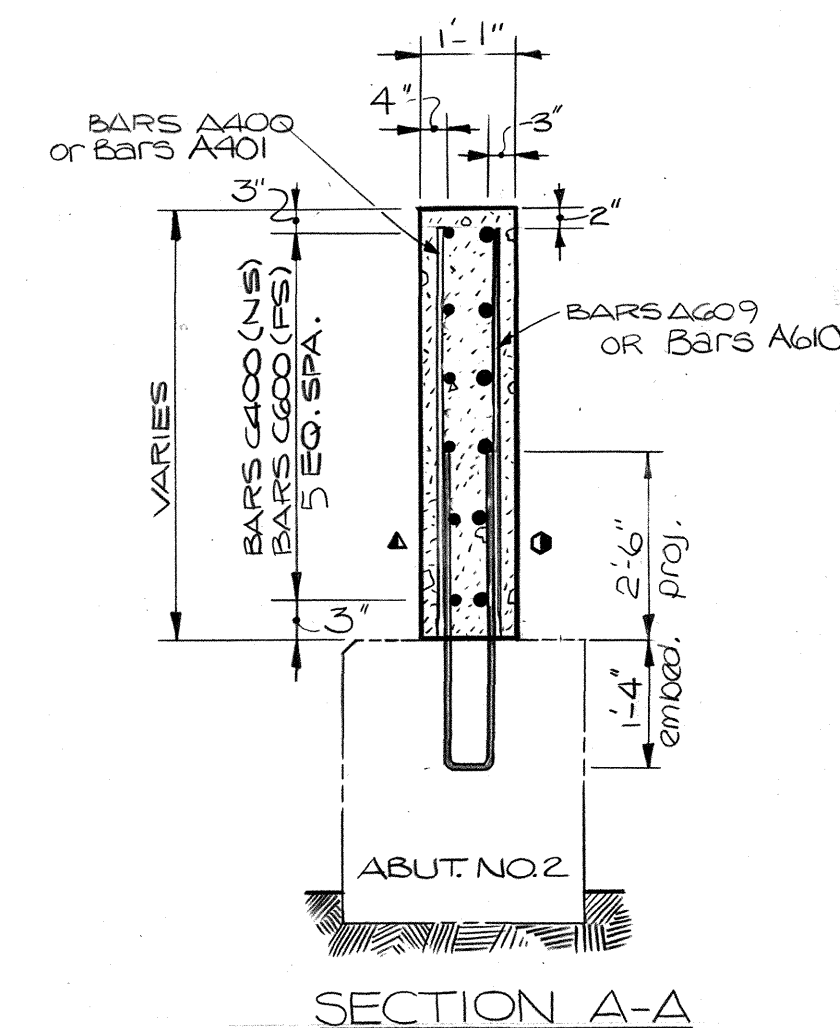
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
SUPERSTRUCTURE DETAILS
NOLENSVILLE PIKE OVER
INTERSTATE 440
STATION 421+56.68
DAVIDSON COUNTY
1081

DESIGNED BY GLENN GREGORY DATE 1-81
DRAWN BY ANDY TUCKER DATE 2-81
SUPERVISED BY ROGER HARBISON DATE 2-81
CHECKED BY _____ DATE _____

CORRECT Chellon Loveall
ENGINEER OF STRUCTURES

APPROVED Lewis Evans
DIRECTOR OF HIGHWAYS

M-93-96

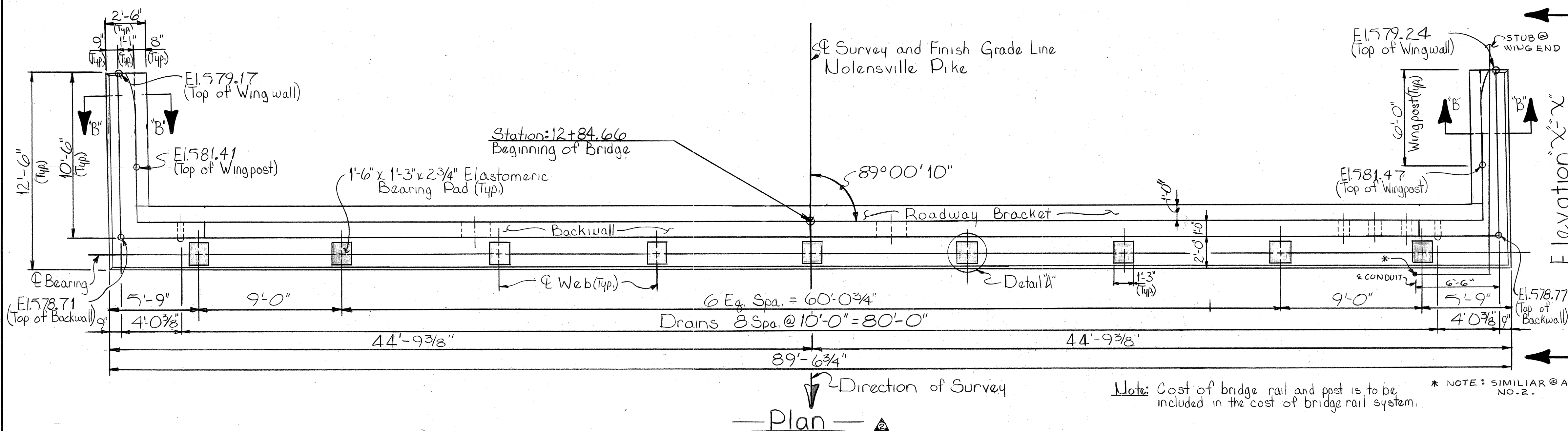
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CORRECT Edmon L. Leneall
ENGINEER OF STRUCTURES
APPROVED Lewis Brann
DIRECTOR OF HIGHWAYS

M-93-97

PROJECT NO.	YEAR	SHEET NO.
I-440-4(44)212	1981	59

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	1-18-82	WRW	CHANGE ABUTMENT ELEVATION
2	1-24-83	F.C.	CONDUIT
3	4-6-83	W.R.W.	RAIL REMOVED

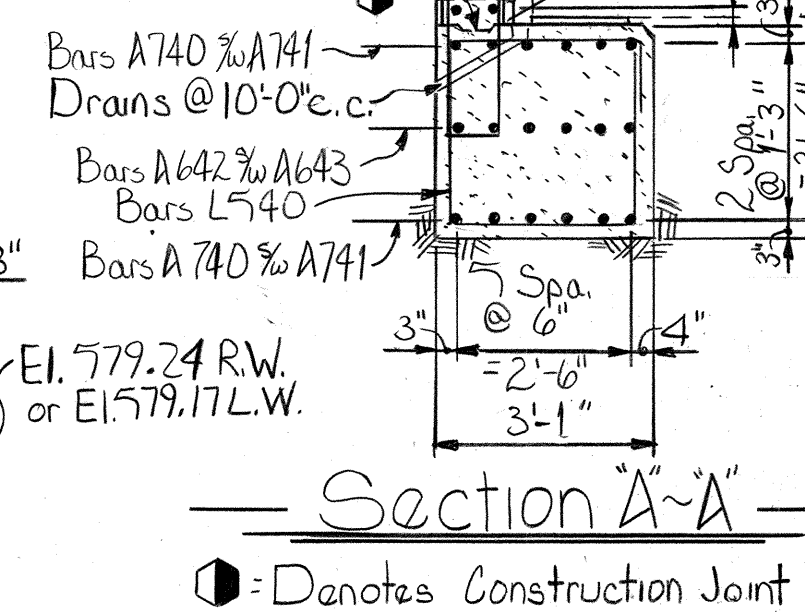
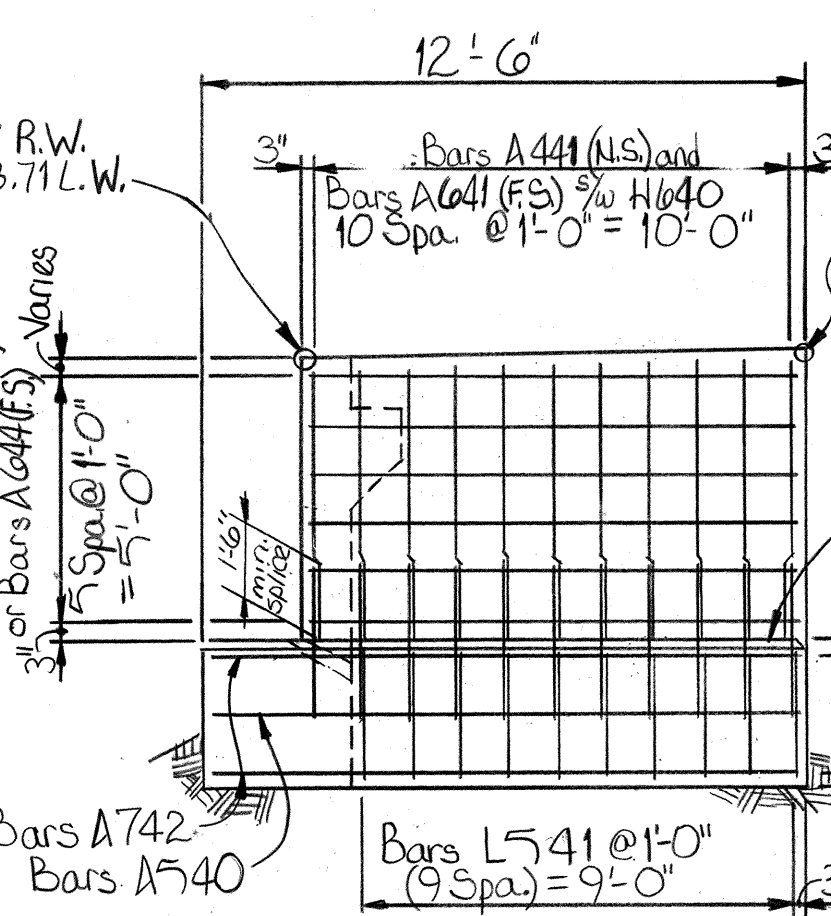


Note: Cost of bridge rail and post is to be included in the cost of bridge rail system.

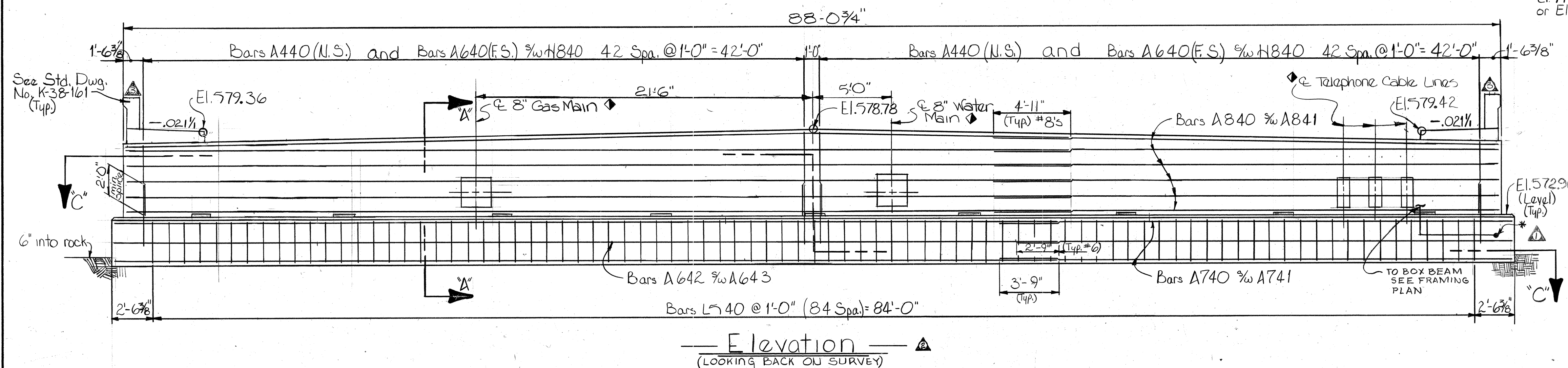
Note: The backwall shall not be poured until the girders are in place. The top 12\"/>

* NOTE: SIMILAR @ ABUT. NO. 2.

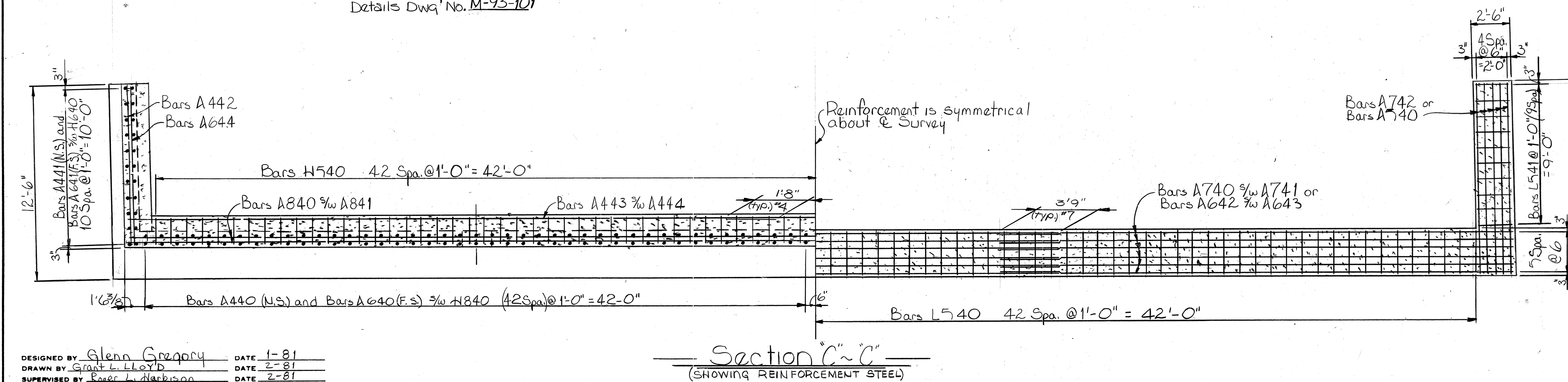
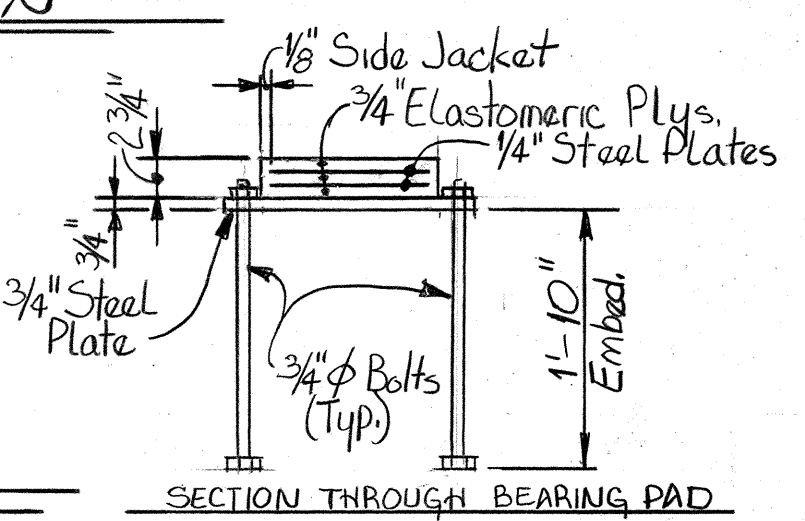
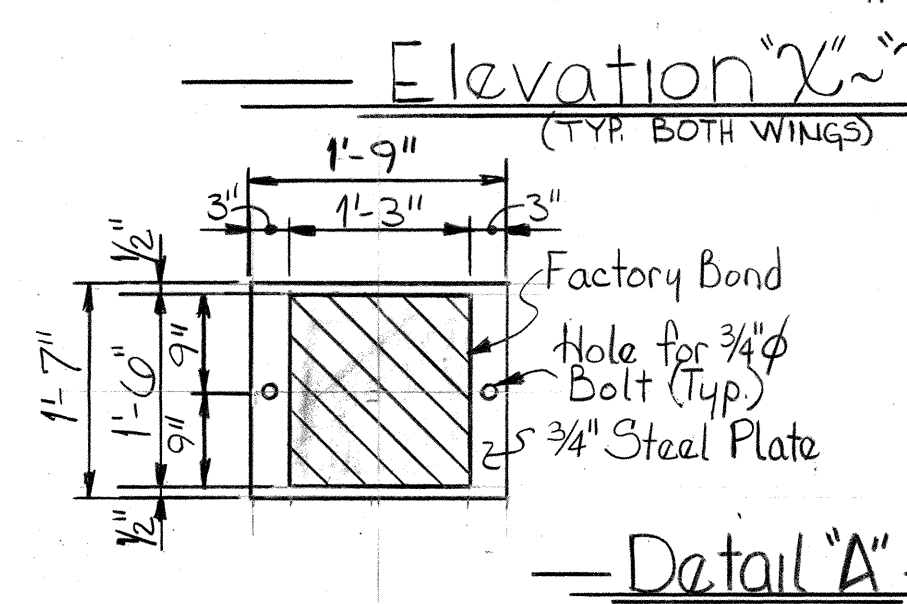
Section B~B
Denotes Construction Joint



Note: R.W. denotes Right Wing L.W. denotes Left Wing



See Utility Details Dwg No. M-93-101



ESTIMATED QUANTITIES

ITEM	Class A Concrete C.Y.	Reinforcing Steel Lbs.
Abut. No. 1	59.5	11,772

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

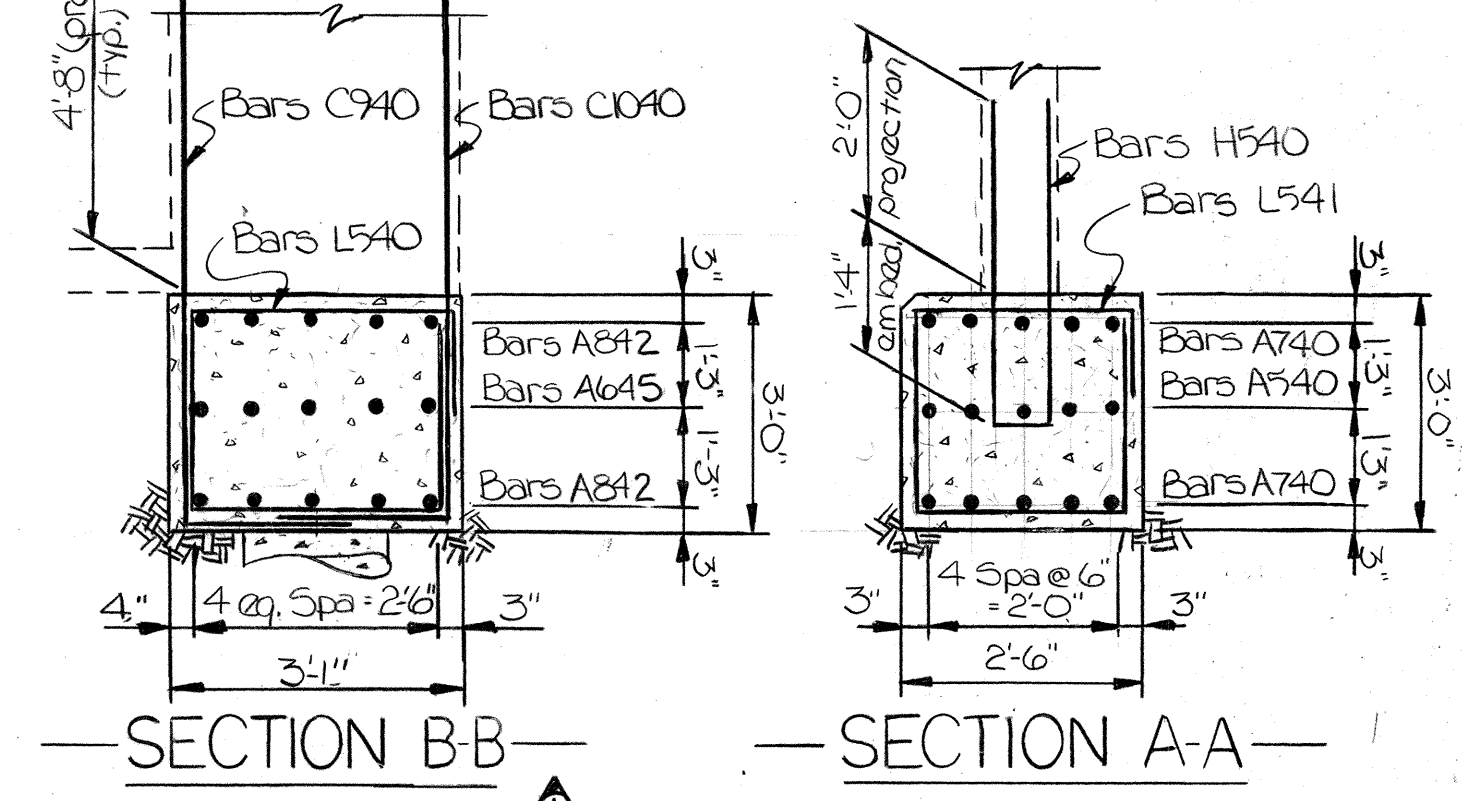
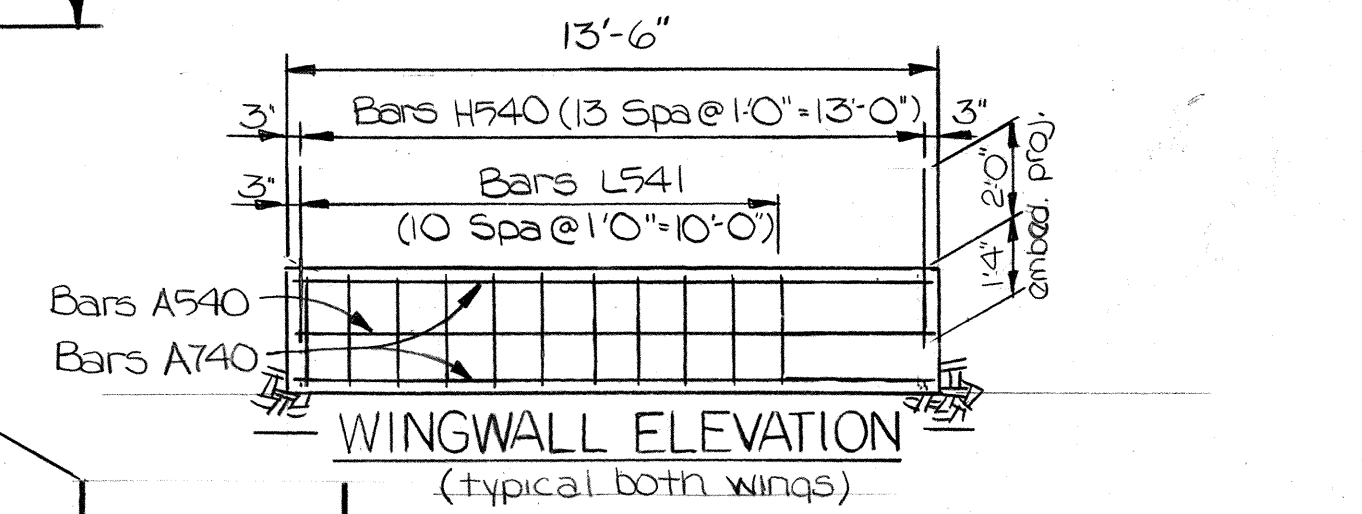
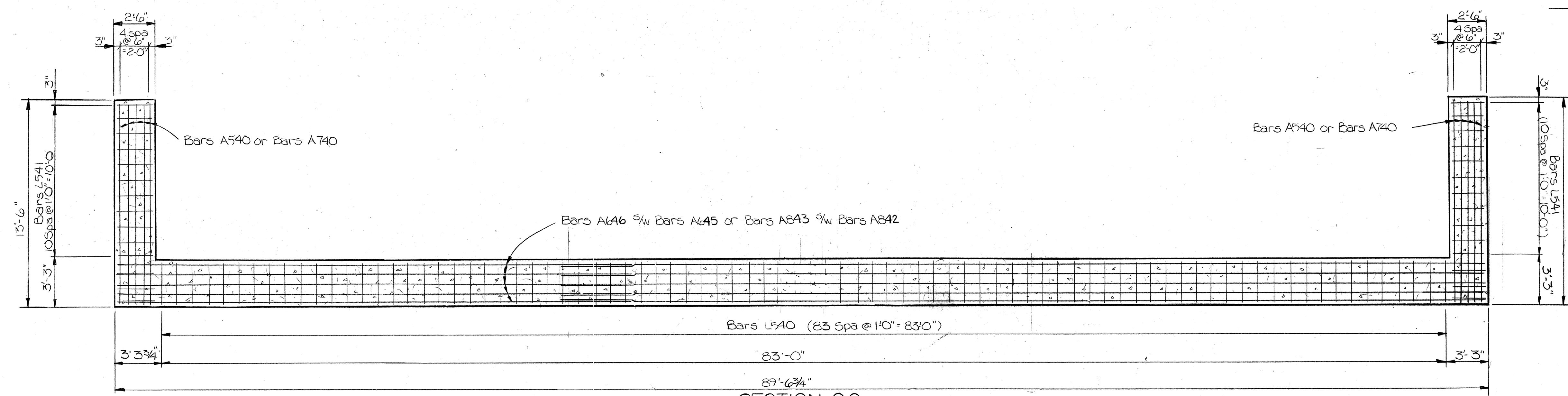
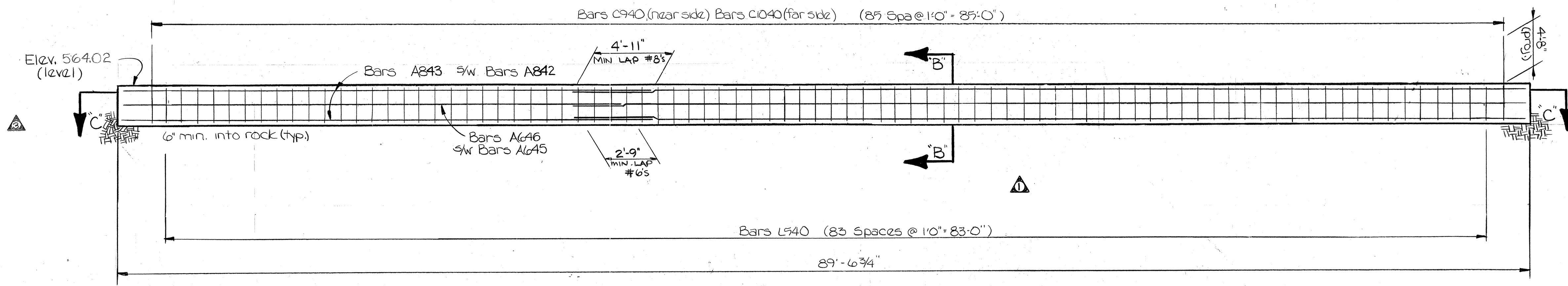
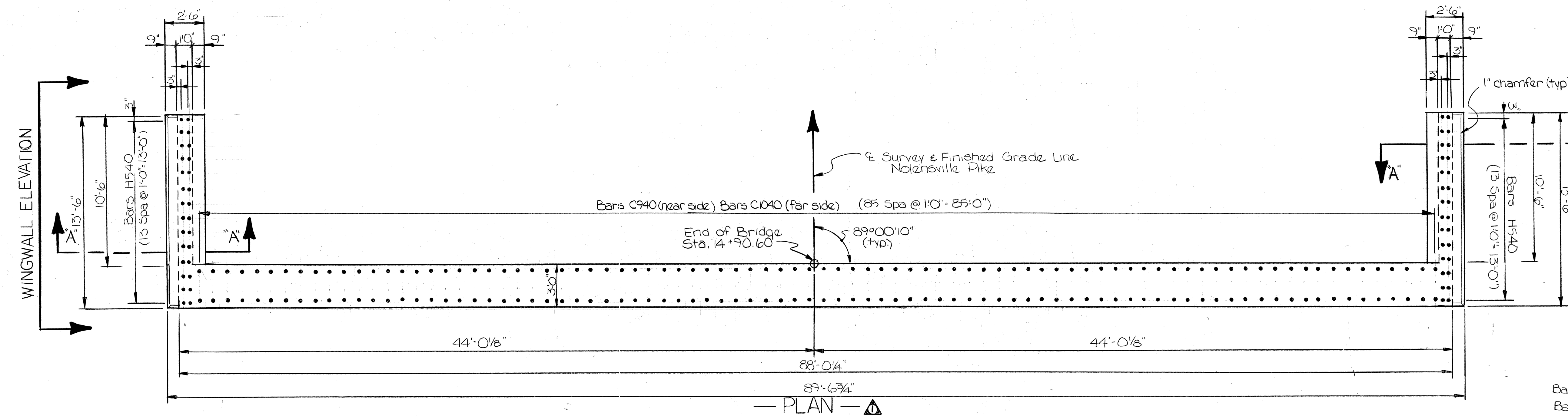
Abutment No. 1
Nolensville Pike Over Interstate-440
Station: 421+56.68
Davidson County
1981

DESIGNED BY Glenn Gregory DATE 1-81
DRAWN BY Grant L. Lloyd DATE 2-81
SUPERVISED BY Roger L. Harrison DATE 2-81
CHECKED BY DATE

CORRECTED
ENGINEER OF STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

Construction No. 19015-3110-44

PROJECT NO.	YEAR	SHEET NO.	
I-440-4(44)212	1981	60	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	6-4-81	GNG	REVISE STEEL NUMBERS, REMOVE DRILLED PILES & SPICE POSITION CONCRETE & STEEL QUANTITIES.
2	12-6-82	WRW	REVISED STEEL QUANTITY
3	1-18-82	WRW	Change Abutment ELEVATION



ESTIMATED QUANTITIES

	Class "A" Concrete (cy)	Reinforcing Steel (lbs)
Abutment No. 2	36.5	11,386

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
ABUTMENT NO. 2
NOLENSVILLE PIKE OVER
INTERSTATE 440
STATION 42+56.68
DAVIDSON COUNTY
1981

DESIGNED BY: Glenn W. Gregory
DRAWN BY: Rhonda R. Riddle
SUPERVISED BY: Roger Harrison
CHECKED BY: _____

DATE: 1-81
DATE: 2-81
DATE: 2-81
DATE: _____

CORRECT: *Charles L. Loveall*
ENGINEER OF STRUCTURES
APPROVED: *James E. Jones*
DIRECTOR OF HIGHWAYS

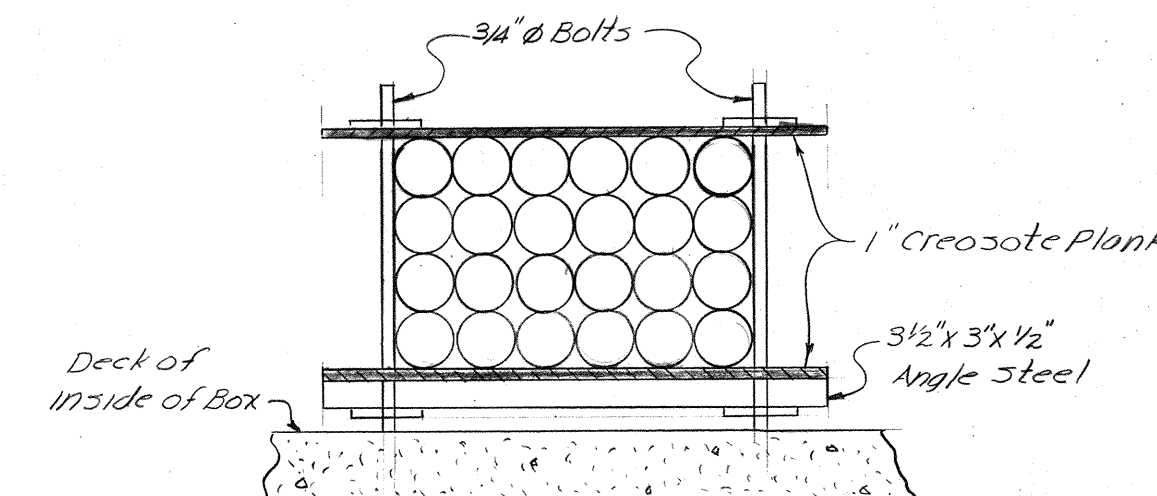
M-93-99

[illegible]

NOTE: All work necessary to install the 8" water main across the Nolensville Pike Bridge, including pipe supports and appurtenances, shall be merged into the unit price per lineal foot for 8" DIP water main.

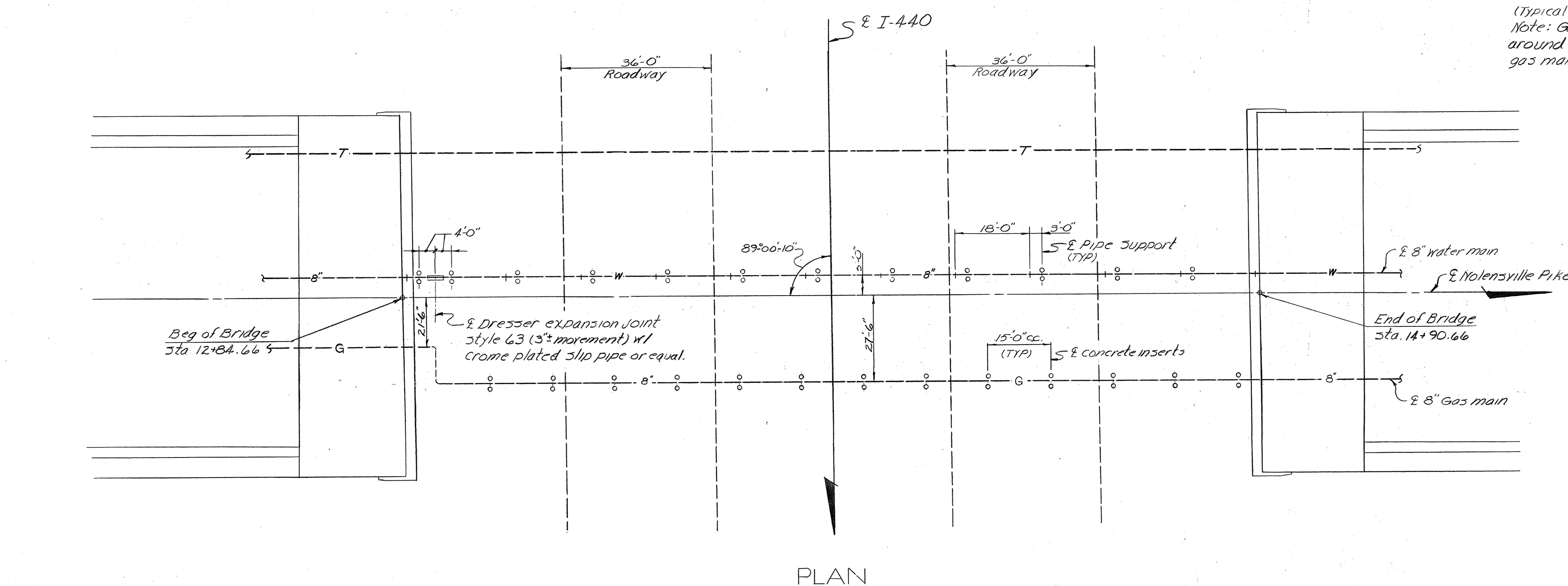
Note: Prior to installation, the contractor shall submit to the Engineer the layout of the pipe indicating joint locations, Dresser Expansion details and wall fittings, etc, for his approval.

NOTE: For quantities of DI Pipe and C.I. fittings see Roadway item No 755-45-22.

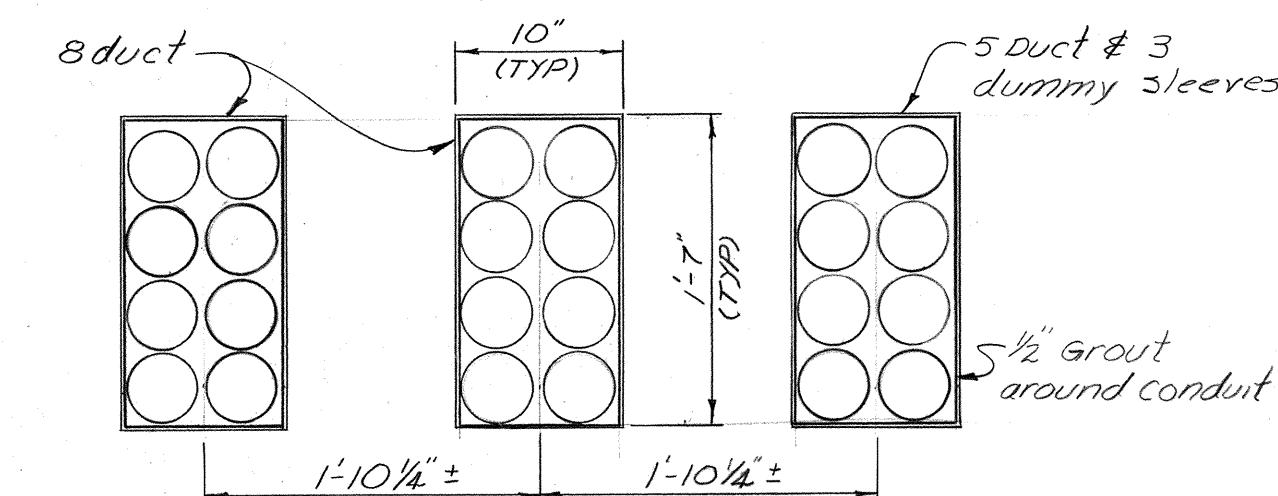


NOTE: 21 Duct formation with 3 dummy sleeves at support locations only.

NOTE: Support locations to be approximately every 10 feet for a total of 18 locations.



NOTE: 12" Ø Sleeves with casing seals at both Abutments for Gas Main.



TELEPHONE CABLE
SUPPORT DETAIL

UTILITY DETAILS
NOLENSVILLE PIKE OVER
INTERSTATE 440
STATION 421+56.68
DAVIDSON COUNTY
1981

DESIGNED BY Glenn Gregory DATE 1-81
DRAWN BY Mark Taylor DATE 3-81
SUPERVISED BY RL Harbison DATE 3-81
CHECKED BY _____ DATE _____

CORRECT Clifton L Loveall
ENGINEER OF STRUCTURES
APPROVED James E. Voss
DIRECTOR OF HIGHWAYS

M-9.3-10

Const. No. 19015-3110-44

NO.	DATE	BY	BRIEF DESCRIPTION
1	4-29-81	GNW	CHANGE STEEL
2	6-4-81	GNW	REVISE STEEL
3	12-6-82	WRW	CHANGE BAR NUMBERS
4	4-4-83	WRW	CHANGED NO. REQ'D.
5	4-19-83	WRW	BAR DIM. REVISED.

Bent No. 1

NOTE Dimensions shown on this sheet
are outside to outside of bar
Standard C R S. I. Hook Details
Shall Apply, Except As Noted.



BILL OF STEEL
Nolensville Pike
over Interstate 440
Station 421+56.68
Davidson County

198

CORRECT Chellan L. Lovel

ENGINEER OF STRUCTURES

APPROVED Lewis Evans

M-93-102



DESIGNED BY Glenn Gregory DATE 3/81
DRAWN BY Peggy Jackson DATE 3/81
SUPERVISED BY JLH DATE 3/81
CHECKED BY _____ DATE 3/81

MICROFILMED