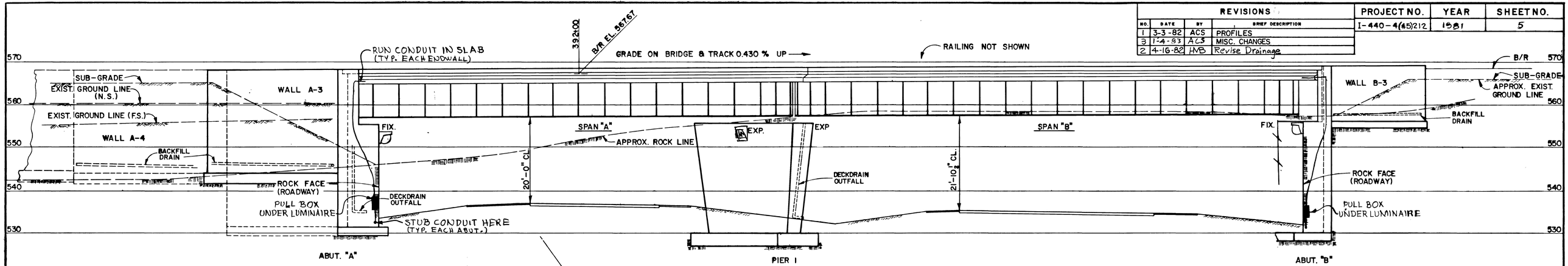
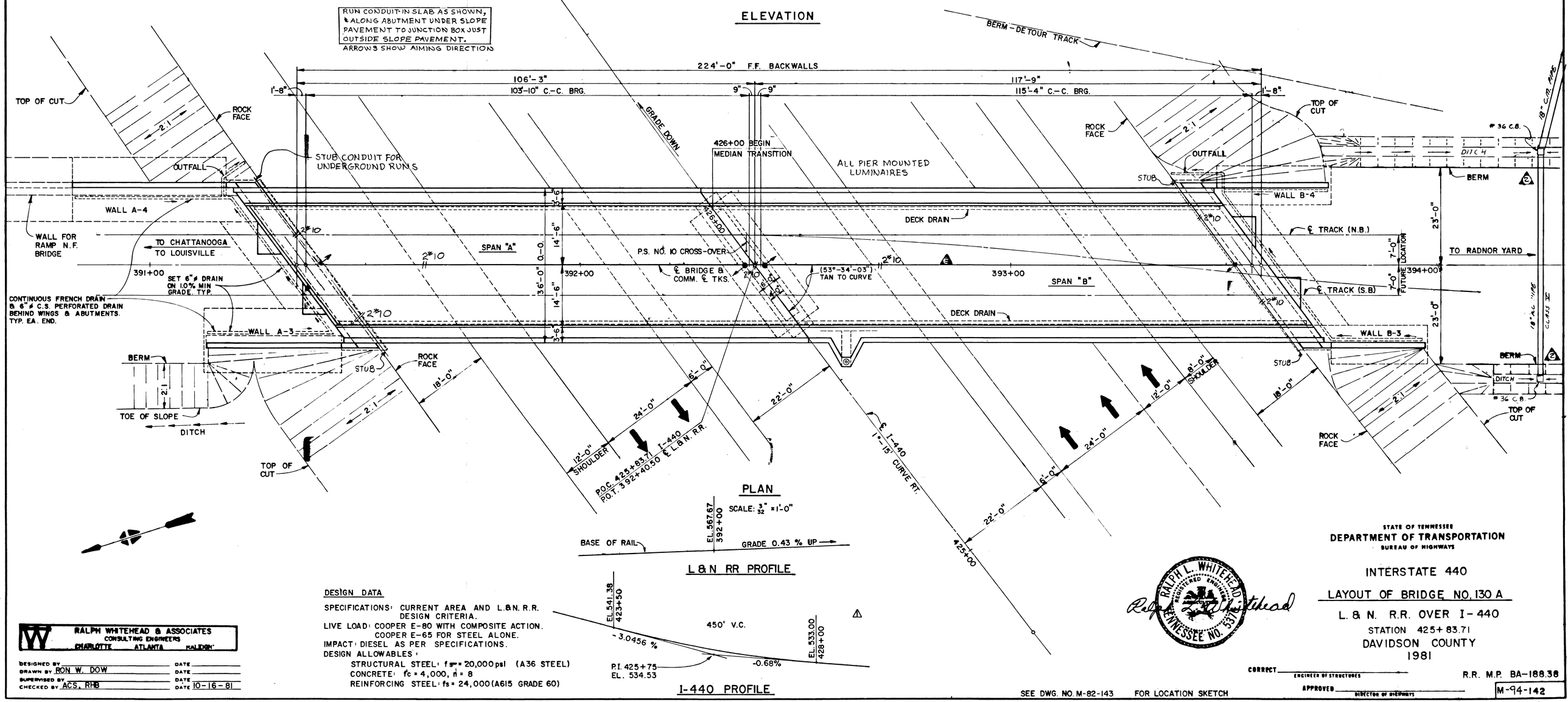
REVISIONS				PROJECT NO.	YEAR	SHEET NO.
NO.	DATE	BY	BRIEF DESCRIPTION	I-440-4(45)212	1981	5
1	3-3-82	ACS	PROFILES			
3	1-4-83	ACS	MISC. CHANGES			
2	4-16-82	HVB	Revise Drainage			



ELEVATION

RUN CONDUIT IN SLAB AS SHOWN, ALONG ABUTMENT UNDER SLOPE PAVEMENT TO JUNCTION BOX JUST OUTSIDE SLOPE PAVEMENT.
ARROWS SHOW AIMING DIRECTION



PLAN

L&N RR PROFILE

I-440 PROFILE

DESIGN DATA

SPECIFICATIONS: CURRENT AREA AND L.&N. R.R. DESIGN CRITERIA.
LIVE LOAD: COOPER E-80 WITH COMPOSITE ACTION. COOPER E-65 FOR STEEL ALONE.
IMPACT: DIESEL AS PER SPECIFICATIONS.
DESIGN ALLOWABLES:
STRUCTURAL STEEL: f_s = 20,000 psi (A36 STEEL)
CONCRETE: f'_c = 4,000, n = 8
REINFORCING STEEL: f_s = 24,000 (A615 GRADE 60)

RALPH WHITEHEAD & ASSOCIATES
CONSULTING ENGINEERS
CHARLOTTE ATLANTA RALEIGH

DESIGNED BY _____ DATE _____
DRAWN BY RON W. DOW DATE _____
SUPERVISED BY _____ DATE _____
CHECKED BY ACS, RHB DATE 10-16-81

RALPH L. WHITEHEAD REGISTERED ENGINEER TENNESSEE NO. 5371

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

LAYOUT OF BRIDGE NO. 130 A

L. & N. R.R. OVER I-440

STATION 425+83.71

DAVIDSON COUNTY

1981

CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

R.R. M.P. BA-188.38

M-94-142

SEE DWG. NO. M-82-143 FOR LOCATION SKETCH

CLASS "A" GRADING "D" 676 CU. YDS.

GENERAL NOTES

1. SPECIFICATIONS: ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION", TENNESSEE BUREAU OF HIGHWAYS, 1981 EDITION, EXCEPT AS NOTED HEREIN, ELSEWHERE ON THE PLANS, OR IN THE SPECIAL PROVISIONS. (STRUCTURAL STEEL TO BE IN ACCORDANCE WITH CURRENT A.R.E.A. SPECIFICATIONS FOR STEEL STRUCTURES).

2. STRUCTURAL STEEL: SEE NOTES FOR STRUCTURAL STEEL ON DWG. M-94-154.

3. METAL HANDRAIL: SEE DRAWINGS. M-94-150.

4. REINFORCED CONCRETE: ALL CONCRETE SHALL BE CLASS "A", f'c = 4,000psi, AIR ENTRAINED, WITH NO. 57 COARSE AGGREGATE. CONCRETE SHALL BE COMPACTED BY MECHANICAL VIBRATION. CHAMFER ALL EXPOSED EDGES AND CORNERS $\frac{3}{4}$" UNLESS NOTED. ALL CONSTRUCTION JOINTS SHOWN ON THE PLANS SHALL BE REQUIRED. NO CONSTRUCTION JOINTS WILL BE PERMITTED EXCEPT AS SHOWN ON THE PLANS OR WHERE WRITTEN APPROVAL HAS BEEN OBTAINED. DECK OVERHANG SHALL HAVE A CLASS 2 RUBBED FINISH. SUB-STRUCTURE SHALL HAVE FORMLINER TO OBTAIN BRUSH HAMMER FINISH (SEE SKETCH) USING: BURKE FORMLINER NO. BG 308 - CONCRETE HARP; SYMONS FORMLINER, $\frac{3}{4}$" NARROW FRACTURED FIN, P/C 30909-9; LITHOTEX FORMLINER - FRACTURED FIN, T-2150; OR EQUAL.

5. REINFORCING STEEL: REINFORCING STEEL SHALL BE BILLET STEEL ACCORDING TO ASTM DESIGNATION A615, GRADE 60. ALL DIMENSIONS RELATING TO REINFORCING BAR SPACING ARE TO BAR CENTERS UNLESS NOTED. FABRICATION SHALL BE IN ACCORDANCE WITH THE "MANUAL OF STANDARD PRACTICE", ACI 315-80.

6. EXPANSION JOINT MATERIAL AND WATER STOPS SHALL BE AS SHOWN ON THE PLANS AND IN THE SPECIAL PROVISIONS.

7. STRUCTURE DRAINAGE SYSTEM: STRUCTURE DRAINAGE SYSTEM (DECK DRAINAGE AND DRAINAGE BEHIND ABUTMENTS & WINGWALLS) TO BE AS DETAILED AND SPECIFIED ON DRAWINGS AND OUTLINED IN THE SPECIAL PROVISIONS.

8. MARKINGS: NO IDENTIFICATION MARKINGS ARE TO BE PLACED ON THE STRUCTURE.

9. WATERPROOFING:
   - A. DAMPPROOFING: BACK OF ABUTMENT WALLS ABOVE ROCK LINE AND BACK OF WINGWALLS (FOOTING HEELS AND WALL SHAFT) SHALL BE DAMPPROOFED. MATERIALS AND APPLICATION SHALL BE IN ACCORDANCE WITH AREA SPECIFICATIONS, CHAPTER 29, PART 3. PIER SHAFT BELOW GROUND LINE TO BE DAMPPROOFED.
   - B. WATERPROOFING - CONSTRUCTION JOINTS. ALL CONSTRUCTION JOINTS COVERED BY FILL AND ANY SHRINKAGE CRACKS WHICH APPEAR BEFORE THE STRUCTURE IS BACKFILLED SHALL BE WATERPROOFED ON THE FILL FACE WITH TWO LAYERS OF BITUMEN-TREATED COTTON FABRIC AND THREE MOPPINGS OF BITUMEN. STRIPS OF FABRIC TWO FEET WIDE SHALL BE PLACED SYMMETRICALLY OVER JOINT OR CRACK. WATERPROOFING MATERIALS AND APPLICATION SHALL BE IN ACCORDANCE WITH AREA SPECIFICATIONS, CHAPTER 29, PART 2.
   - C. WATERPROOFING - BRIDGE DECK. BRIDGE DECK SHALL BE WATERPROOFED AS SHOWN ON PLANS USING $\frac{1}{8}$ THICK BUTYL RUBBER MEMBRANE AND 1$\frac{1}{2}$ THICK ASPHALT PLANK PROTECTION. WATERPROOFING MATERIALS AND APPLICATION SHALL BE IN ACCORDANCE WITH AREA SPECIFICATIONS, CHAPTER 29, PART 2.
   - D. DO NOT DAMPPROOF OR WATERPROOF ABUTMENT WALLS AND WINGWALLS ABOVE SUB-BALLAST LINE.

10. FOUNDATIONS ON ROCK: AFTER EXCAVATION TO ROCK FOR ABUTMENT AND WINGWALL FOOTINGS HAS BEEN COMPLETED, HOLES 6' DEEP SHALL BE DRILLED AS DIRECTED BY THE ENGINEER. HOLES SHALL BE AT LOCATION DESIGNATED BY THE ENGINEER. THE ENGINEER SHALL DETERMINE THE FINAL FOOTING ELEVATIONS. NO REINFORCING STEEL SHALL BE ORDERED UNTIL FINAL FOOTING ELEVATIONS HAVE BEEN DETERMINED.

11. STRUCTURE EXCAVATION: STRUCTURE EXCAVATION SHALL BE MEASURED FROM THE SURFACE OF THE PROPOSED ROADWAY SECTION.

12. BACKFILL MATERIAL BEHIND ABUTMENTS AND WINGWALLS SHALL BE SELECTED MATERIAL APPROVED BY THE ENGINEER. MATERIAL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH SECTION 204 OF THE STANDARD SPECIFICATIONS.

13. EXCAVATION AND FOUNDATION DATA: THE EXCAVATION AND FOUNDATION DATA AND ALL ELEVATIONS OF GROUND LINES GIVEN ARE BELIEVED TO BE CORRECT AND ARE FURNISHED FOR THE CONVENIENCE OF THE BIDDER. NEITHER THE TENNESSEE DEPARTMENT OF HIGHWAYS, THE L & N RAILROAD COMPANY, NOR THE CONSULTANT GUARANTEES AS CORRECT ANY OF THE INFORMATION GIVEN.

4. NON-PAY ITEMS: ONLY ITEMS SHOWN ON THE PROPOSAL AS PAY ITEMS WILL BE PAID FOR. COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND INCIDENTALS FOR THE ENTIRE CONTRACT SHALL BE INCLUDED IN THE PRICE BID FOR PAY ITEMS.

15. CONTROL OF WORK: ALL WORK INVOLVED IN THE CONSTRUCTION OF THE RAILROAD STRUCTURE SHALL BE PERFORMED UNDER THE SUPERVISION OF, AND SATISFACTORY TO, THE TENNESSEE DEPARTMENT OF HIGHWAYS AND/OR THE LOUISVILLE & NASHVILLE RAILROAD COMPANY. ALL METHODS OF HANDLING WORK AFFECTING THE SAFETY OF RAILROAD OPERATIONS MUST BE APPROVED BY THE L&N RAILROAD COMPANY BEFORE PROCEEDING WITH THAT PORTION OF THE WORK. RAILROAD TRAFFIC SHALL AT ALL TIMES BE MAINTAINED AND PROTECTED. THE CONTRACTOR SHALL NOT AT ANY TIME DELAY OR INTERFERE WITH RAILROAD OPERATIONS.

16. NOTE: LUMP SUM FOR STRUCTURE LIGTHING, ITEM NO. 714-01. INCLUDES 420 FT. 1" Ø CONDUIT WITH 4-4"x4"x3" JUNCTION BOXES, 2-4"x4"x3" PULL BOXES AND ALL NECESSARY MATERIALS FOR INSTALLATION OF STRUCTURE LIGHTING.

LIST OF DRAWINGS

DWG. NO.	TITLE	LATEST REV. DATE
M-94-142	LAYOUT OF BRIDGE	3-3-82
M-94-143	GENERAL NOTES & ESTIMATED QUANT.	6-29-83
M-94-144	TYPICAL DECK SECTION	
M-94-145	PLAN OF DECK - SPAN "A"	
M-94-146	PLAN OF DECK - SPAN "B"	
M-94-147	BILL OF REINFORCING - DECK	
M-94-148	EXPANSION JOINT IN DECK SLAB	
M-94-149	STRUCTURE DRAINAGE DETAILS	
M-94-150	METAL RAILING DETAILS (1)	
M-94-151	METAL RAILING DETAILS (2)	
M-94-152	STRUCTURAL STEEL - SPAN "A"	
M-94-153	STRUCTURAL STEEL - SPAN "B"	
M-94-154	STRUCTURAL STEEL DETAILS	
M-94-155	BEARING DETAILS	
M-94-156	ABUTMENT "A" DETAILS (1)	3-3-82 ⚠
M-94-157	ABUTMENT "A" DETAILS (2)	3-3-82
M-94-158	BILL OF REIN. - ABUTMENTS & WINGWALLS	3-3-82
M-94-159	PIER I DETAILS (1)	
M-94-160	PIER I DETAILS (2)	
M-94-161	ABUTMENT "B" DETAILS (1)	3-3-82
M-94-162	ABUTMENT "B" DETAILS (2)	3-3-82
M-94-163	WINGWALL A-3 DETAILS	2-11-82
M-94-164	WINGWALL A-4 DETAILS	2-11-82
M-94-165	WINGWALL B-3 DETAILS	2-11-82 ⚠
M-94-166	WINGWALL B-4 DETAILS	2-11-82
M-94-167	FOUNDATION DATA	

DWG. NO.	
K-80-14	
K-85-150	

PROJECT NO.	YEAR	SHEET NO.
I-440-~~4(15)209~~ 4(45)212	1981	6

REVISIONS

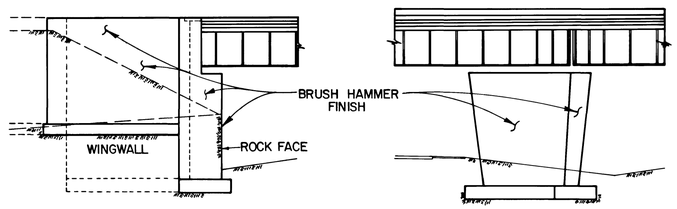
NO.	DATE	BY	BRIEF DESCRIPTION
1	3-3-82		ADDED NOTES
			REVISION TO QUANTITIES
2	1-24-83	F.S.	ADDED NOTE
3	6-29-83	HVB	ADDED SP. PROVISION NO. 6048

LIST OF STANDARD DRAWINGS

TITLE	LATEST REV. DATE
STD. REINF. BAR SUPPORT	8-27-76
MISCELLANEOUS ABUT. & DRAINAGE DETAILS	1-9-75

LIST OF SPECIAL PROVISIONS

SP. PROVISION NO.	TITLE	LATEST REV. DATE
105 A	REGARDING APPROVAL OF SHOP DRAWING	9-8-81
602	REGARDING SECTION 602 STEEL STRUCTURE	9-8-81
602 A	REGARDING SECTION 602 STEEL STRUCTURE	9-8-81
⚠ 6048	REGARDING RAILROAD STRUCTURES	



SKETCH SHOWING
SURFACES TO RECEIVE BRUSH HAMMER FINISH

ESTIMATED QUANTITIES

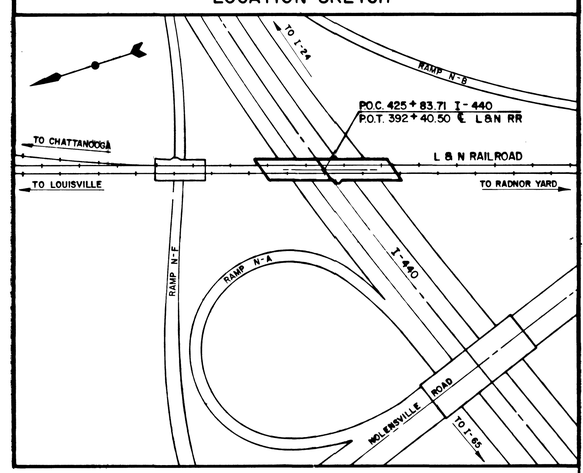
ITEM	EXCAVATION (BRIDGES) ② CUBIC YARDS DRY	EXCAVATION (BRIDGES) ② CUBIC YARDS ROCK	ROCK DRILLING (BRIDGES) ⚠	CLASS "A" CONCRETE (BRIDGES) ③	STEEL BAR REINFORCEMENT (BRIDGES)	STEEL STRUCTURES (ERECTION) (STA. 425+83.71)	WATERPROOFING (RAILROAD BRIDGE DECK)	WATERPROOFING CONSTR. JTS. (RAILROAD STRUCTURE)	DAMPPROOFING (RAILROAD STRUCTURE)	ALUMINUM RAILING	DRAINAGE SYSTEM RAILROAD (BRIDGE DECK) (STA. 425+83.71)	DRAINAGE SYSTEM RAILROAD (ABT. & RET. WALL) (STA. 425+83.71)	STEEL STRUCTURES (FURNISHING DOMESTIC) (STA. 425+83.71)	STEEL STRUCTURES (FURNISHING FOREIGN) (STA. 425+83.71)	⚠ STRUCTURE LIGHTING (BRIDGE NO.)
	DRY	ROCK	LIN. FT.	CUBIC YARDS	LBS.	LUMP SUM	SQ. YDS.	SQ. YDS.	SQ. YDS.	LIN. FT.	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM
ITEM NO.	204-02.01	204-04.01	204-05	604-03.01	604-03.02	602-14.01	605-03	605-04	605-05	620-01	610-10.01	610-09.01	602-18.01	602-46.01	714-01.09
SUPERSTRUCTURE	—	—	—	356.3	70,646		757	—	—	460.7					
ABUTMENT "A"	370	160	12	270.4	24,365		—	37	78	—					
PIER I	—	90	12	210.3	13,523		—	16	32	—					
ABUTMENT "B"	165	295	12	282.9	22,753		—	26	34	—					
WINGWALL A-3	390	45	12	91.7	12,073		—	26	76	32.7					
WINGWALL A-4	480	25	12	105.4	13,866		—	28	88	37.2					
WINGWALL B-3	50	45	12	26.5	3,377		—	13	28	23.6					
WINGWALL B-4	75	35	12	30.3	3,861		—	14	26	26.7					
TOTAL	⚠ 1,530	⚠ 695	84	⚠ 1,373.8	⚠ 164,464	LUMP SUM ①	757	160	362	580.9	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	1

① TOTAL ESTIMATED WEIGHT OF STRUCTURAL STEEL = 845,700 LBS. (INCLUDES BEARING DEVICES, ANCHOR BOLTS, SHEAR CONNECTORS, BOLTS, ETC.) SEE ALSO TENNESSEE STANDARD SPECIFICATIONS SECTION 602.53 AND 602.54

② EXCAVATION BASED ON LOWER ROAD PROFILE.

③ NOTE: THE COST OF WATERSTOPS, BITUMINOUS-FIBERBOARD, EXPANSION JOINTS, & ALL MISCELLANEOUS JOINT MATERIAL TO BE INCLUDED IN THE UNIT PRICE BID FOR CLASS "A" CONCRETE.

LOCATION SKETCH



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

GENERAL NOTES & ESTIMATED QUANTITIES

L & N R.R. OVER I-440

STATION 425+83.71

DAVIDSON COUNTY

1981

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

R.R. M.P. BA-188.38

M-94-143

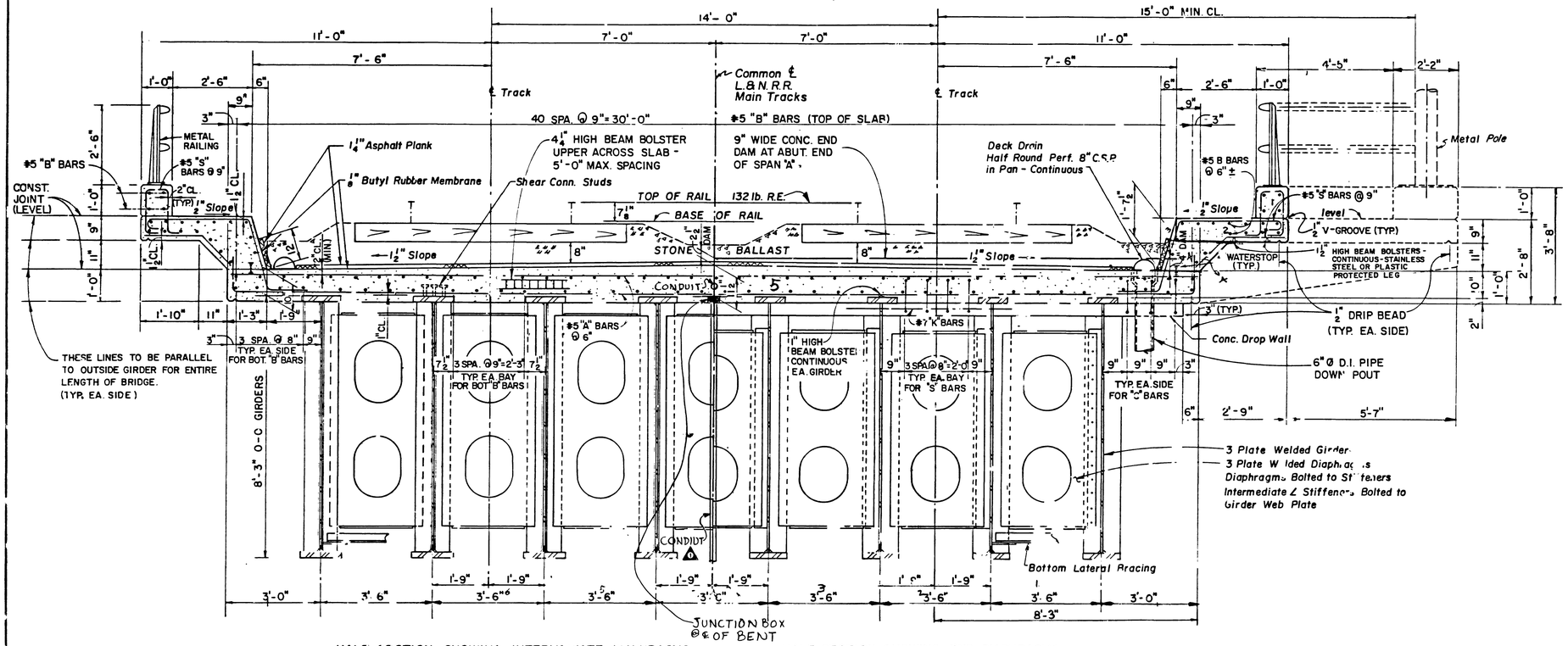
RALPH WHITEHEAD & ASSOCIATES
CONSULTING ENGINEERS
CHARLOTTE ATLANTA RALEIGH

DESIGNED BY RHB DATE
DRAWN BY LGH DATE
SUPERVISED BY DATE
CHECKED BY ACS DATE

PROJECT NO.	YEAR	SHEET NO.
I-40-4(15)209		

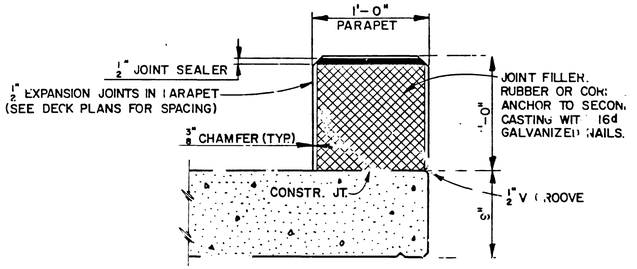
REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION
1	1/24/83	F.C.	CONDUIT



HALF SECTION SHOWING INTERMEDIATE DIAPHRAGMS

HALF SECTION SHOWING END DIAPHRAGMS

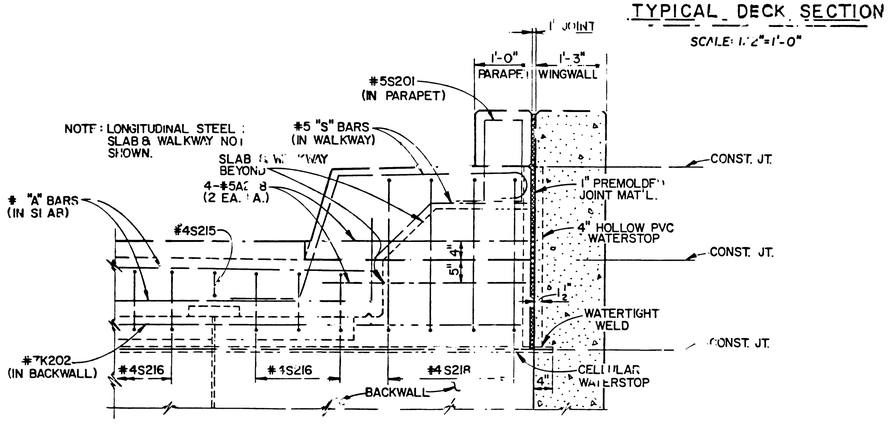


SECTION THRU JOINTS IN PARAPET

SCALE: 1½" = 1'-0"

TYPICAL DECK SECTION

SCALE: 1½" = 1'-0"



SECTION F-F

SCALE: ¾" = 1'-0"

(OTHER SIDE OF BRIDGE SIMILAR)

DESIGNED BY _____ DATE _____

DRAWN BY DOW, LGH, RWR DATE _____

SUPERVISED BY _____ DATE _____

CHECKED BY ACS, RHB DATE _____

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

TYPICAL DECK SECTION

L. & N. R.R. OVER I-440

STATION 425+83.71

DAVIDSON COUNTY

1981

R.R. MP-BA 188.38

CORRECT _____ ENGINEER OF STRUCTURES

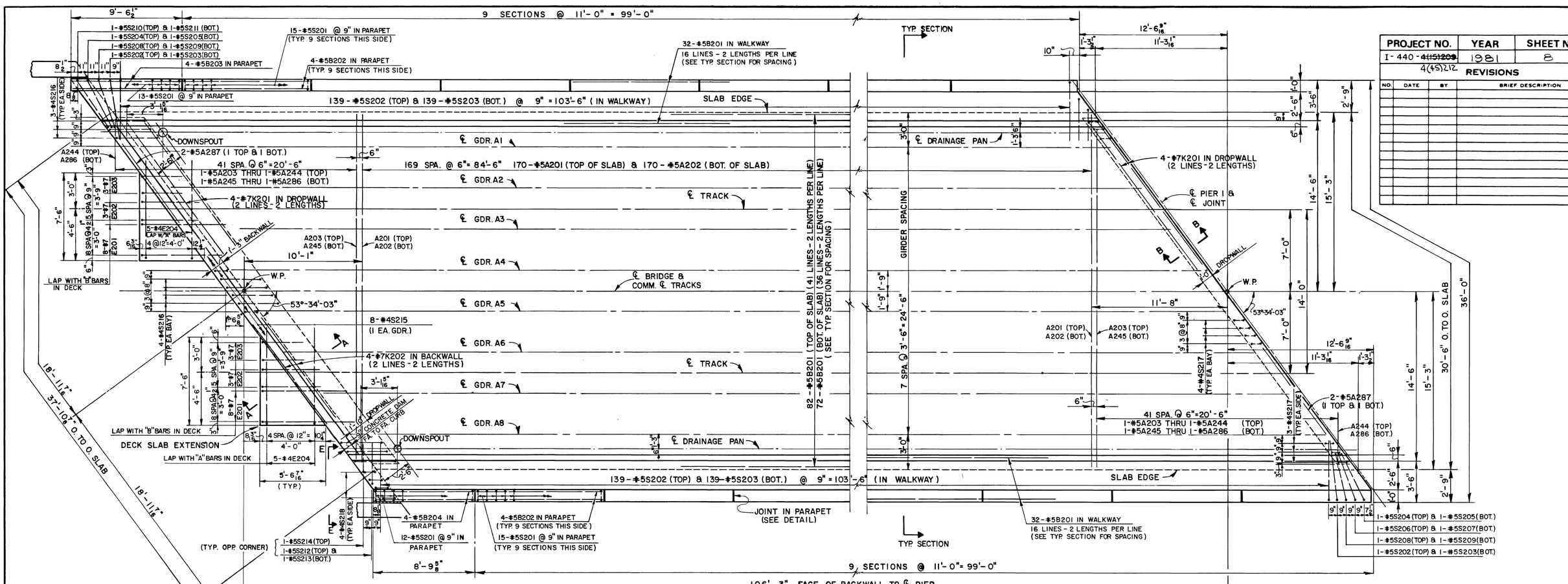
APPR. VER _____ DIRECTOR OF HIGHWAYS

M-24 144

PROJECT NO.	YEAR	SHEET NO.
I-440-~~4(15)203~~ 4(45)212	1981	8

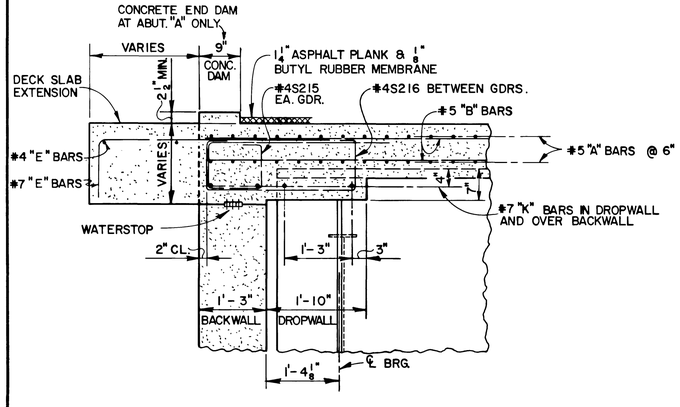
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



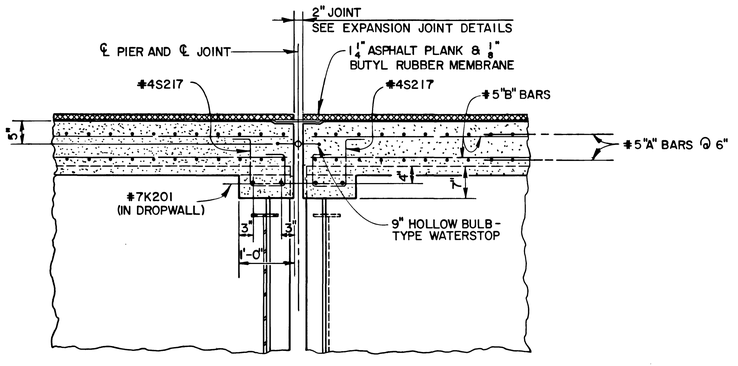
DECK PLAN – SPAN "A"

SCALE: 1" = 1'-0"



SECTION A-A

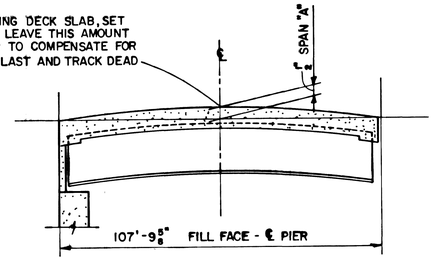
SCALE: ¾" = 1'-0"



SECTION B-B

SCALE: ¾" = 1'-0"

WHEN POURING DECK SLAB, SET SCREED TO LEAVE THIS AMOUNT OF CAMBER TO COMPENSATE FOR CURBS, BALLAST AND TRACK DEAD LOADS.



CAMBER FOR SLAB

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

PLAN OF DECK-SPAN "A"

L & N R.R. OVER I-440

STATION 425 + 83.71

DAVIDSON COUNTY

1981

DESIGNED BY GGS DATE
DRAWN BY DLV DATE
SUPERVISED BY DATE
CHECKED BY RHB, ACS DATE

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

R.R. M.P. BA-188.38

M-94-145

MICROFILMED

PROJECT NO.	YEAR	SHEET NO.
I-440-~~4(15)209~~ 4(45)212	1981	9

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION

10 SECTIONS @ 11'-0" = 110'-0"

1-#5S204(TOP) & 1-#5S205(BOT.)
1-#5S206(TOP) & 1-#5S207(BOT.)
1-#5S208(TOP) & 1-#5S209(BOT.)
1-#5S202(TOP) & 1-#5S203(BOT.)

48-#5B205 IN WALKWAY
16 LINES - 3 LENGTHS EA. LINE
(SEE TYP. SECTION FOR SPACING)

15-#5S201 @ 9" IN PARAPET
(TYP. 10 SECTIONS THIS SIDE)

4-#5B202 IN PARAPET
(TYP. 10 SECTIONS THIS SIDE)

155-#5S202 (TOP) & 155-#5S203 (BOTT.) @ 9" = 115'-6" (IN WALKWAY)

DOWNSPOUT

℄ DRAINAGE PAN

41 SPA. @ 6" = 20'-6"
1-#5A203 THRU 1-#5A244 (TOP)
1-#5A245 THRU 1-#5A286 (BOT.)

A244 (TOP)
A286 (BOT.)

3-#4S217 (TYP. EA. SIDE)

℄ PIER 1 & ℄ JOINT

4-#7K201 IN DROPWALL
(2 LINES - 2 LENGTHS EA. LINE)

℄ GDR. B1
℄ GDR. B2
℄ TRACK
℄ GDR. B3

A203 (TOP)
A245 (BOT.)

A201 (TOP)
A202 (BOT.)

192 SPA. @ 6" = 96'-0" 193-#5A201 (TOP OF SLAB) & 193-#5A202 (BOT. OF SLAB)

℄ GDR. B4
℄ BRIDGE & COMM. ℄ TRACKS
℄ GDR. B5
℄ GDR. B6
℄ TRACK
℄ GDR. B7
℄ GDR. B8

DROPWALL
53°34'-03"

4-#4S217 (TYP. EA. BAY)

2-#5A287
(1 TOP & 1 BOT.)

DOWNSPOUT

℄ DRAINAGE PAN

5 SPA. @ 9" (IN WALKWAY) = 3'-9"
6-#5S202 (TOP)
6-#5S203 (BOT.)

SEE WALKWAY EXTENSION DETAIL

JOINT IN PARAPET
(SEE DETAIL)

36'-0" O. TO O. SLAB
30'-6" O. TO O. SLAB

11'-3 1/16"
12'-6 9/16"
14'-0"
4'-7 7/16"
4'-0"
1'-4 9/16"
21'-2"

9'-3 5/8"
3 5/8"
E
4-#5B206 IN PARAPET
12-#5S201 @ 9" IN PARAPET
1-#5S224(TOP)
1-#5S225(BOT.)
TYP. OPP. CORNER
4-#4S218 (TYP. EA. SIDE)
5'-6 7/16" (TYP.)
5-#4E204 LAP WITH "A" BARS IN DECK
4 @ 12" = 4'-0"
8 3/16"
LAP WITH "B" BARS IN DECK
SLAB EDGE
GIRDER SPACING
123-#5B205 (TOP OF SLAB) (41 LINES - 3 LENGTHS PER LINE)
108-#5B205 (BOT. OF SLAB) (36 LINES - 3 LENGTHS PER LINE)
(SEE TYP. SECTION FOR SPACING)
DROPWALL BACKWALL
4-#7K202 IN BACKWALL
(2 LINES - 2 LENGTHS)
8-#4S215
(1 EA. GDR.)
4-#4S218 (TYP. EA. BAY)
37'-10 5/8" O. TO O. SLAB
18'-11 5/16"
10'-1"
4-#7K201 IN DROPWALL
(2 LINES - 2 LENGTHS EA. LINE)
2-#5A287
(1 TOP & 1 BOT.)
A201 (TOP)
A202 (BOT.)
A203 (TOP)
A245 (BOT.)
41 SPA. @ 6" = 20'-6"
1-#5A203 THRU 1-#5A244 (TOP)
1-#5A245 THRU 1-#5A286 (BOT.)
A244 (TOP)
A286 (BOT.)
LAP WITH "B" BARS IN DECK
138-#5S202 (TOP) & 138-#5S203 (BOT.) @ 9" = 102'-9" (IN WALKWAY)
SLAB EDGE
9-#5S201 @ 9" IN PARAPET
3-#4S216 (TYP. EA. SIDE)
48-#5B205 IN WALKWAY
16 LINES - 3 LENGTHS EA. LINE
(SEE TYP. SECTION FOR SPACING)
15-#5S201 @ 9" IN PARAPET
(TYP. 9 SECTIONS THIS SIDE)
4-#5B207 IN PARAPET
4-#5B202 IN PARAPET
(TYP. 9 SECTIONS THIS SIDE)
1-#5S210(TOP) & 1-#5S211(BOT.)
1-#5S204(TOP) & 1-#5S205(BOT.)
1-#5S208(TOP) & 1-#5S209(BOT.)
1-#5S202(TOP) & 1-#5S203(BOT.)
9 SECTIONS @ 11'-0" = 99'-0"
7'-0 1/2"
117'-9" ℄ PIER TO FACE OF BACKWALL

DECK PLAN — SPAN "B"

SCALE: 1/4" = 1'-0"

#5S202 (TOP) & #5S203 (BOT.) @ 9" (IN WALKWAY)
3 @ 9" = 2'-3"
9"
2 @ 9" = 1'-6"
#5S226 THRU #5S229 (TOP)
#5S230 THRU #5S233 (BOT.)
3-#5S234 (TOP)

7-#5S201 @ 9" IN PARAPET
℄ PIER 1 & ℄ JOINT
2'-9"
4-#5B210 (IN PARAPET)
SLAB EDGE
2-#5B211 THRU 2-#5B214 @ 12" (1 EA. TOP & BOT. OF SLAB)
4-#5B216 (IN PARAPET)
2-#5S201 IN PARAPET
3'-6" WALKWAY
LEVEL SLOPE DOWN
8'-4"
5'-7"
3'-5"
4'-9"
7-#5S201 @ 9" IN PARAPET (TYP. BOTH SIDES)
4-#5B215 (2 IN SLAB)
4-#5B209 (2 IN PARAPET & 2 IN SLAB)
4-#5B209 (2 IN PARAPET & 2 IN SLAB)
TYP. BOTH SIDES
15'-0" MIN. CL. TO ℄ TRACK
1'-1"
C
METAL POLE
3-#5S245 @ 9" (IN PARAPET)
4-#5B215 (2 IN SLAB)
1'-1"
4'-0"
4-#5B208 (2 IN SLAB)
D

PLAN

NOTE: METAL POLE, BASE PLATE, & ANCHOR BOLTS TO BE FURNISHED BY L & N R.R. CO.

#5 "B" BARS IN PARAPET
#5S245
#5 "B" BARS IN WALKWAY
#5 "S" BARS IN WALKWAY
2" CL. (TYP.)
#5S248
6"
#5 "S" BARS
CONCRETE BRACKET
4" 6" 6" 6" 4"
#5S246 (BOT. OF BRACKET)
2'-2"

SECTION C-C

#5B215
#5B215
#5B208
3" 3 @ 12" = 3'-0" 5" 10" 10" 3"
#5B211 THRU #5B214
3"
2-#5S248 (1 EA. FA.)
2-#5S247 (1 EA. FA.)
FIELD BEND
#5S245
2" CL. (TYP.)
CONST. JOINT
1'-6"
1'-0"
1'-2"
4-#5S246 (BOT. OF BRACKET) (IN SLAB POUR)
3" 9" 5 SPA. @ 12" = 5'-0" 5" 2 @ 10" 3"
1-#5S235 THRU 1-#5S244 (LAP WITH "B" BARS)
CONST. JT.
8'-4"

SECTION D-D

WHEN POURING DECK SLAB, SET SCREED TO LEAVE THIS AMOUNT OF CAMBER TO COMPENSATE FOR CURBS, BALLAST AND TRACK DEAD LOADS.

3" SPAN "B"
119'-3 5/8" ℄ PIER - FILL FACE

CAMBER FOR SLAB

WALKWAY EXTENSION DETAIL

SCALE: 1/2" = 1'-0"

NOTE: SUPERSTRUCTURE, INCLUDING NORMAL WALKWAY REINFORCING, NOT SHOWN.

DESIGNED BY GGS DATE
DRAWN BY DLV, LGH DATE
SUPERVISED BY DATE
CHECKED BY RHB, ACS DATE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

PLAN OF DECK-SPAN "B"

L & N R.R. OVER I-440
STATION 425 + 83.71
DAVIDSON COUNTY
1981

CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

R.R. M.P. BA-188.38

M-~~94~~-146

MICROFILMED

BILL OF REINFORCING

BAR	TOTAL NO.	SIZE	TYPE	LENGTH	BARS PER SPAN "A"	BARS PER SPAN "B"
A201	363	# 5	STR.	30'- 0"	170	193
A202	363	# 5	①	33'- 0"	170	193
A203	4	# 5	STR.	29'- 9"	2	2
A204	↑	↑	↑	29'- 1"	↑	↑
A205				28'- 5"		
A206				27'- 8"		
A207				27'- 0"		
A208				26'- 4"		
A209				25'- 8"		
A210				25'- 0"		
A211				24'- 4"		
A212				23'- 8"		
A213				23'- 0"		
A214				22'- 3"		
A215				21'- 7"		
A216				20'-11"		
A217				20'- 3"		
A218				19'- 7"		
A219				18'-11"		
A220				18'- 3"		
A221				17'- 6"		
A222				16'-10"		
A223				16'- 2"		
A224				15'- 6"		
A225				14'-10"		
A226				14'- 2"		
A227				13'- 6"		
A228				12'-10"		
A229				12'- 1"		
A230				11'- 5"		
A231				10'- 9"		
A232				10'- 1"		
A233				9'- 5"		
A234				8'- 9"		
A235				8'- 1"		
A236				7'- 4"		
A237				6'- 8"		
A238				6'- 0"		
A239				5'- 4"		
A240				4'- 8"		
A241				4'- 0"		
A242				3'- 4"		
A243	↓	↓	↓	2'- 8"	↓	↓
A244	4	# 5	STR.	1'-11"	2	2
A245	4	# 5	②	31'- 3"	2	2
A246	↑	↑	↑	30'- 7"	↑	↑
A247				29'-11"		
A248				29'- 2"		
A249				28'- 6"		
A250				27'-10"		
A251				27'- 2"		
A252				26'- 6"		
A253				25'-10"		
A254				25'- 2"		
A255				24'- 6"		
A256				23'- 9"		
A257				23'- 1"		
A258				22'- 5"		
A259				21'- 9"		
A260				21'- 1"		
A261				20'- 5"		
A262				19'- 9"		
A263				19'- 0"		
A264				18'- 4"		
A265				17'- 8"		
A266				17'- 0"		
A267				16'- 4"		
A268				15'- 8"		
A269				15'- 0"		
A270				14'- 4"		
A271	4	# 5	②	13'- 7"	2	2

BAR	TOTAL NO.	SIZE	TYPE	LENGTH	BARS PER SPAN "A"	BARS PER SPAN "B"
A272	4	# 5	②	12'-11"	2	2
A273	↑	↑	↑	12'- 3"	↑	↑
A274				11'- 7"		
A275				10'-11"		
A276				10'- 3"		
A277				9'- 7"		
A278				8'-10"		
A279				8'- 2"		
A280				7'- 6"		
A281				6'-10"		
A282				6'- 2"		
A283				5'- 6"		
A284				4'-10"		
A285	↓	↓	↓	4'- 2"	↓	↓
A286	4	# 5	②	3'- 5"	2	2
A287	8	# 5	STR.	37'- 3"	4	4
A288	16	# 5	STR.	4'- 0"	8	8
B201	218	# 5	STR.	54'- 6"	218	-
B202	148		↑	10'- 7"	72	76
B203	4			9'- 1"	4	-
B204	4			8'- 4"	4	-
B205	327			40'- 9"	-	327
B206	4		↓	8'-10"	-	4
B207	4		STR.	6'- 7"	-	4
B208	4		③	3'- 11"	-	4
B209	16		STR.	6'- 9"	-	16
B210	4		⑮	5'-4"	-	4
B211	2		STR.	7'- 5"	-	2
B212	2		↑	6'- 4"	-	2
B213	2			5'- 4"	-	2
B214	2	↓	↓	4'- 3"	-	2
B215	8	# 5	STR.	3'- 0"	-	8
B216	4	# 5	⑮	2'- 1"	-	4
E201	32	# 7	④	8'- 4"	16	16
E202	12	# 7	↑	6'- 1"	6	6
E203	12	# 7	↓	4'- 7"	6	6
E204	20	# 4	④	9'- 3"	10	10
K201	16	# 7	STR.	19'- 3"	8	8
K202	8	# 7	STR.	23'- 3"	4	4
S201	624	# 5	⑤	4'- 6"	295	329
S202	581	# 5	⑥	7'- 4"	280	301
S203	581	# 5	⑦	3'- 2"	280	301
S204	4	# 5	⑧	7'- 1"	2	2
S205	4	↑	⑦	3'- 4"	2	2
S206	2		⑧	6'-11"	1	1
S207	2		⑦	3'- 3"	1	1
S208	4		⑧	6'- 9"	2	2
S209	4		⑦	3'- 3"	2	2
S210	2		⑧	7'- 3"	1	1
S211	2		⑦	3'- 6"	1	1
S212	2		⑥	6'- 2"	2	-
S213	2	↓	⑦	2'- 0"	2	-
S214	2	# 5	⑥	5'- 2"	2	-

BAR	TOTAL NO.	SIZE	TYPE	LENGTH	BARS PER SPAN "A"	BARS PER SPAN "B"
S215	16	# 4	⑨	6'- 6"	8	8
S216	68	# 4	⑩	6'- 1"	34	34
S217	68	# 4	⑪	3'- 0"	34	34
S218	16	# 4	⑫	7'- 4"	8	8
S224	2	# 5	⑥	5'- 8"	-	2
S225	2	# 5	⑥	4'- 8"	-	2
S226	2	# 5	⑥	7'- 6"	-	2
S227	↑	↑	↑	8'-11"	-	↑
S228			↓	10'- 5"	-	
S229			⑥	11'-10"	-	
S230			⑦	3'- 4"	-	
S231			↑	4'- 9"	-	
S232	↓		↓	6'- 3"	-	↓
S233	2	↑	⑦	7'- 8"	-	2
S234	3	# 5	⑥	12'-11"	-	3
S235	1	# 5	⑬	8'- 0"	-	1
S236	↑	↑	↑	7'- 9"	-	↑
S237				7'- 6"	-	
S238				7'- 3"	-	
S239				6'-11"	-	
S240				6'- 8"	-	
S241			↓	6'- 5"	-	
S242			⑬	6'- 3"	-	
S243	↓	↓	⑭	5'- 6"	-	↓
S244	1	# 5	⑭	5'- 4"	-	1
S245	3	# 5	⑤	5'- 8"	-	3
S246	4	# 5	STR.	10'- 3"	-	4
S247	2	# 5	STR.	7'- 0"	-	2
S248	2	# 5	STR.	9'- 0"	-	2

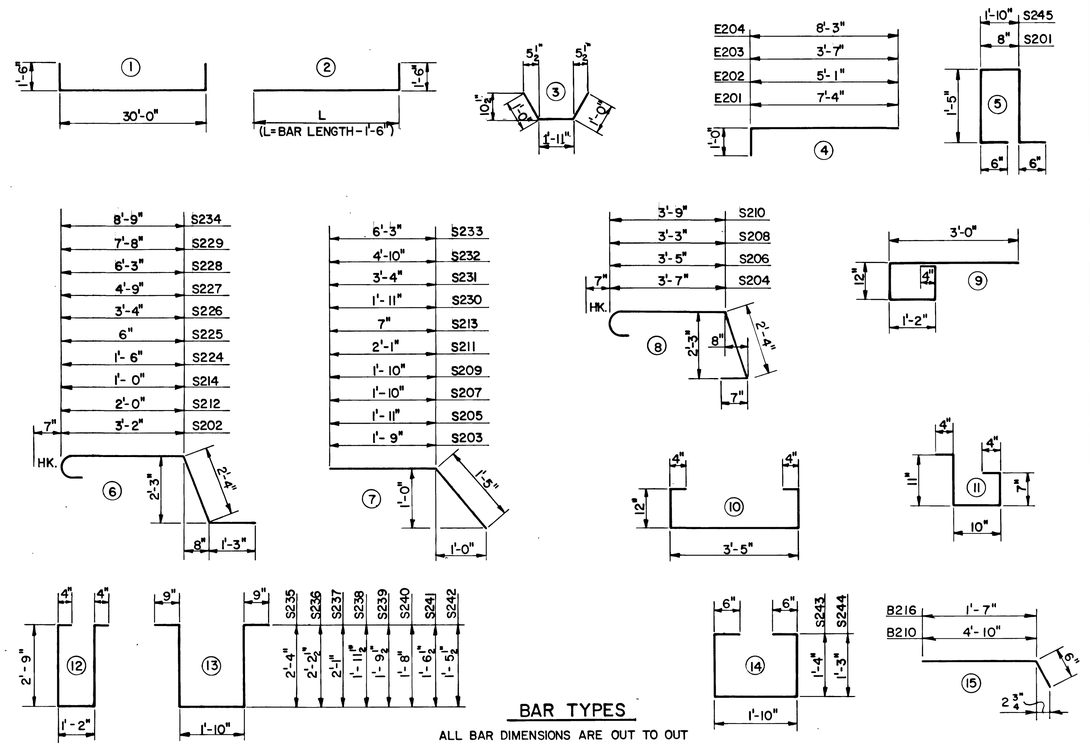
DESIGNED BY GGS DATE
DRAWN BY LGH DATE
SUPERVISED BY DATE
CHECKED BY RHB, ACS DATE

MICROFILMED

PROJECT NO.	YEAR	SHEET NO.
I-440 ~~4(15)209~~ 4(45)212	1981	10

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



BAR TYPES

ALL BAR DIMENSIONS ARE OUT TO OUT

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

BILL OF REINFORCING — DECK SLAB

L. & N. RR OVER I-440

STATION 425+83.71

DAVIDSON COUNTY

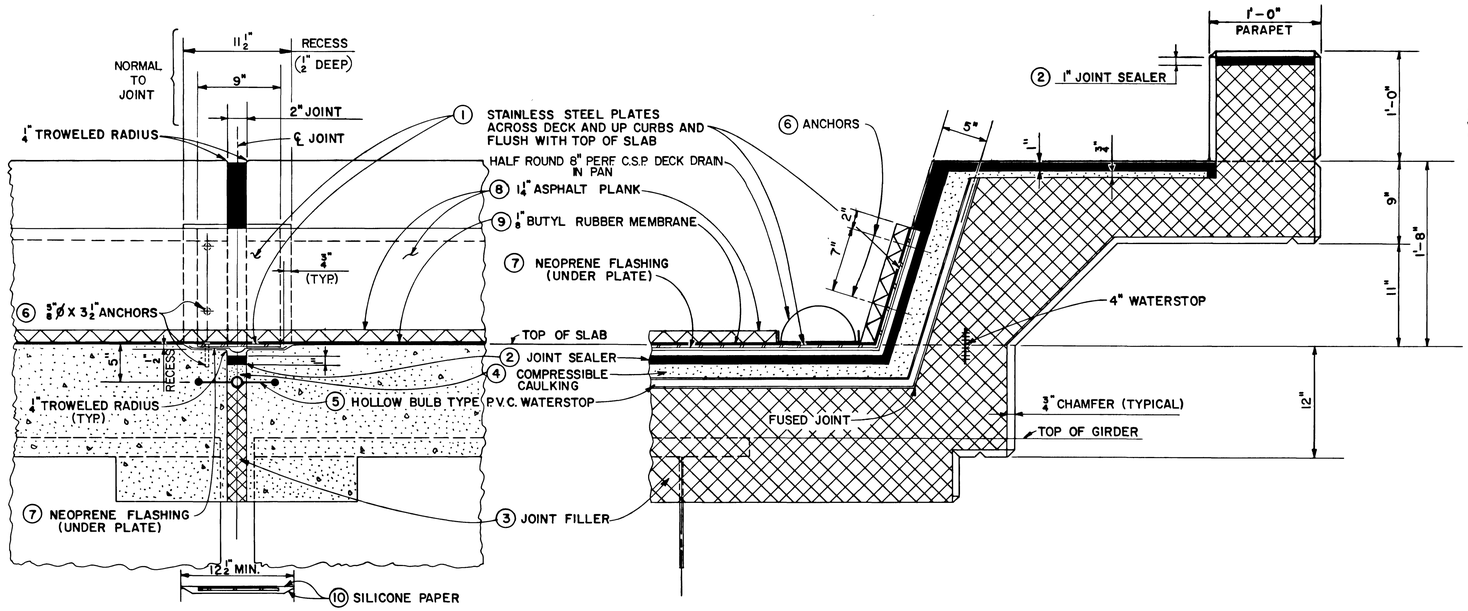
1981

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

R. R. M. P. BA-188.38

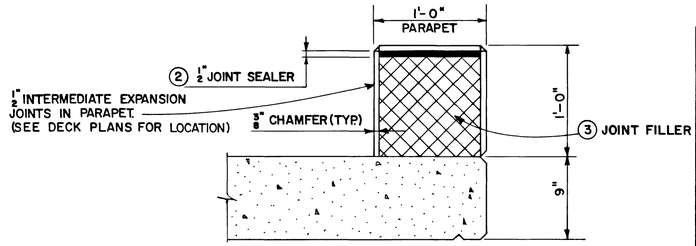
M-94-147



SECTION ACROSS JOINT AT PIER

PART SECTION ALONG JOINT

DETAIL OF EXPANSION JOINT IN DECK SLAB
SCALE: 1½ = 1'-0"



SECTION THRU INTERMEDIATE EXPANSION JOINTS IN PARAPET

PROJECT NO.	YEAR	SHEET NO.
I-440-~~4(15)209~~ 4(45)212	1981	11

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

NOTES:

1. STAINLESS STEEL PLATE - ASTM A666, TYPE 304, CONTINUOUS ACROSS SLAB AND UP CURBS.
2. JOINT SEALER - GRAY POLYSULFIDE RUBBER BASE CAULKING COMPOUND CONFORMING TO ASA SPEC. 116.1. POUR GRADE FOR HORIZONTAL JOINTS AND TROWEL GRADE FOR VERTICAL OR SLOPING JOINTS.
3. JOINT FILLER - RUBBER OR CORK. ANCHOR TO SECOND CASTING WITH 16d GALVANIZED NAILS.
4. COMPRESSIBLE CAULKING - YARN, OAKUM OR OTHER (NO ASPHALTIC MATERIAL).
5. WATERSTOP - POLYVINYLCHLORIDE. 9"X 3/8" HOLLOW BULB (BULB - 3/4" I.D., 1½" O.D.) HORIZONTAL, CONTINUOUS ACROSS J.T.
6. ANCHORS - STAINLESS STEEL, 5/8" ø x 3½" WITH APPROVED ANCHORAGE IN CONCRETE. (STAINLESS STEEL ASTM A-276 TYPE 302 COND. B).
7. 10" WIDE x 1/16" THICK NEOPRENE FLASHING. USE CONTINUOUS STRIP ACROSS DECK & UP CURBS TO TOP OF EXPANSION PLATE. LOOP OVER JOINT AS SHOWN IN SECTION & GLUE EACH EDGE TO CONCRETE WITH AN APPROVED ADHESIVE.
8. EXTEND 1¼" ASPHALT PLANK ACROSS TOP OF EXPANSION PLATE.
9. EXTEND ⅛" BUTYL RUBBER MEMBRANE ACROSS TOP OF EXPANSION PLATE.
10. PLACE HEAVY SILICONE PAPER SHEET OVER AND UNDER PLATE TO KEEP PLATE FREE FROM STICKING TO FLASHING OR PLANK.

DESIGNED BY GGS DATE
DRAWN BY EFD DATE
SUPERVISED BY DATE
CHECKED BY RHB, ACS DATE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

EXPANSION JOINT IN DECK SLAB

L & N R.R. OVER I-440

STATION 425 + 83.71

DAVIDSON COUNTY

1981

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

R.R. M.P. BA-188.38

M-~~94~~-148

MICROFILMED

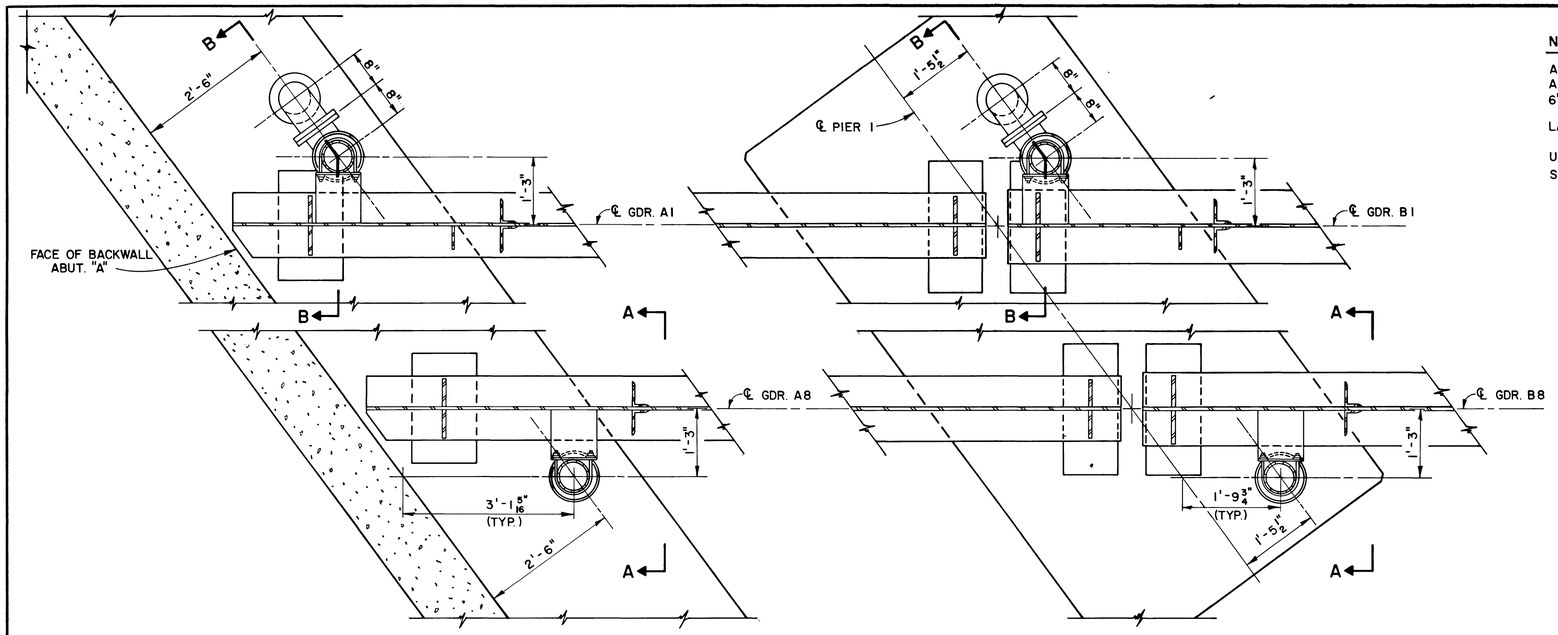
NOTES:

ALL PIPES AND BENDS SHALL BE 6" DUCTILE IRON.
ALL BENDS SHALL BE SHORT RADIUS.
6" Ø DUCTILE IRON PIPE SHALL BE THICKNESS CLASS 54, 6.90" O.D AND .37" WALL THICKNESS.
LAYOUT BASED ON DIMENSIONS GIVEN IN THE PIPE MANUAL OF THE AMERICAN CAST IRON PIPE COMPANY.
U-BOLTS AND SUPPORT PLATE ARE INCLUDED IN STRUCTURAL STEEL QUANTITY.
SEE ABUTMENT "A" AND PIER I DWGS. FOR ADDITIONAL DETAILS.

PROJECT NO.	YEAR	SHEET NO.
I-440-~~4(15)209~~ 4(45)212	1981	12

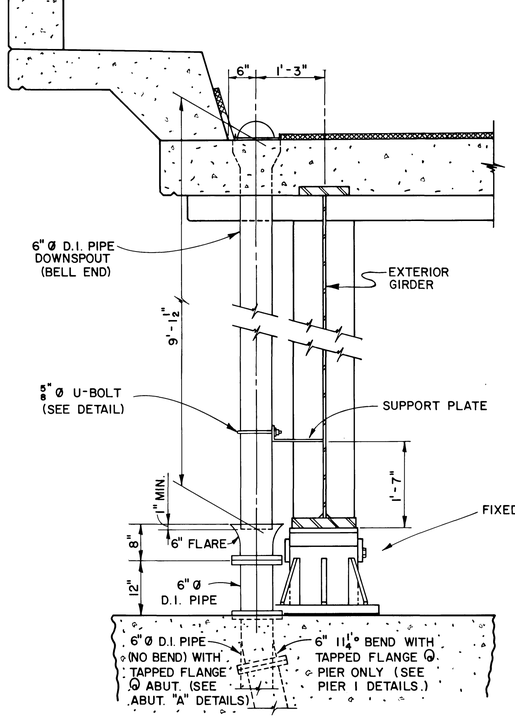
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

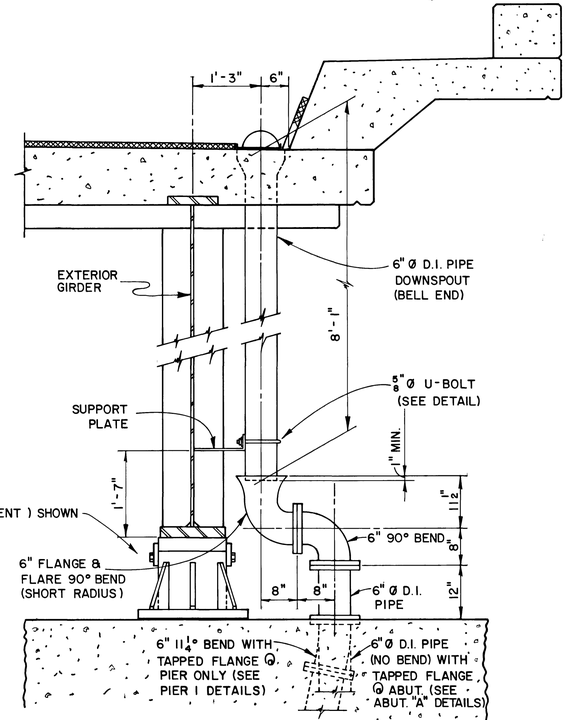


PLAN AT ABUTMENT "A"
SCALE: 3/4" = 1'-0"

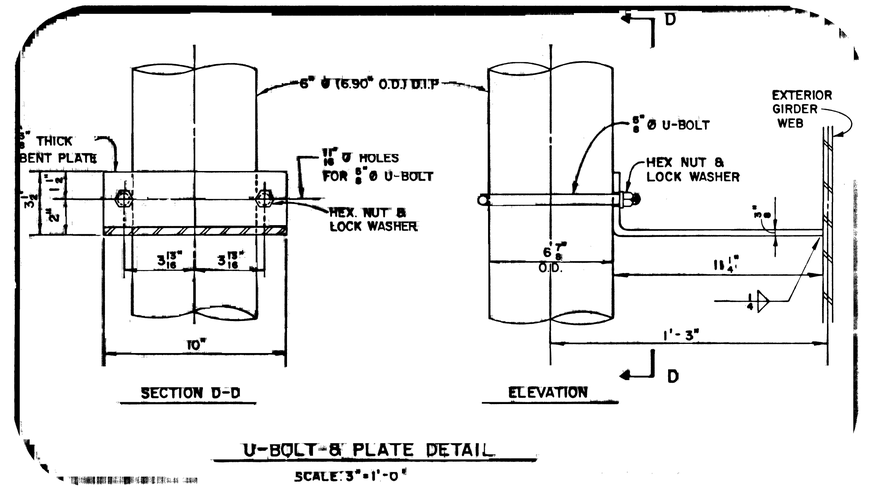
PLAN AT PIER 1
SCALE: 3/4" = 1'-0"



SECTION A-A
SCALE: 3/4" = 1'-0"



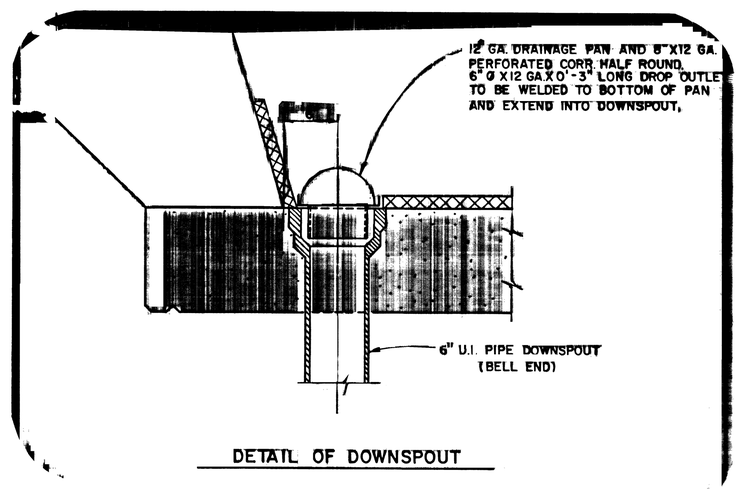
SECTION B-B
SCALE: 3/4" = 1'-0"



SECTION D-D

ELEVATION

U-BOLT-& PLATE DETAIL
SCALE: 3" = 1'-0"



DETAIL OF DOWNSPOUT
SCALE: 1½" = 1'-0"

DESIGNED BY RHB DATE
DRAWN BY LGH DATE
SUPERVISED BY DATE
CHECKED BY ACS DATE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

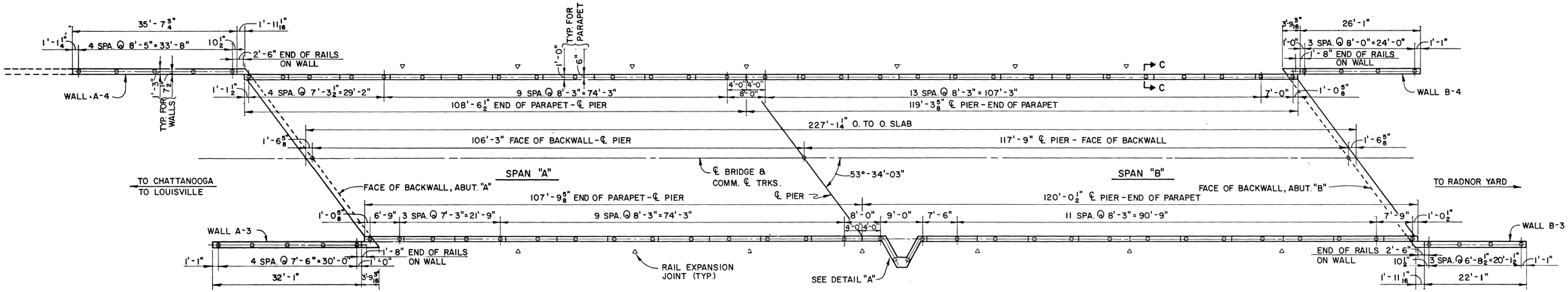
STRUCTURE DRAINAGE DETAILS

L & N R.R. OVER I-440
STATION 425 + 83.71
DAVIDSON COUNTY
1981

CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

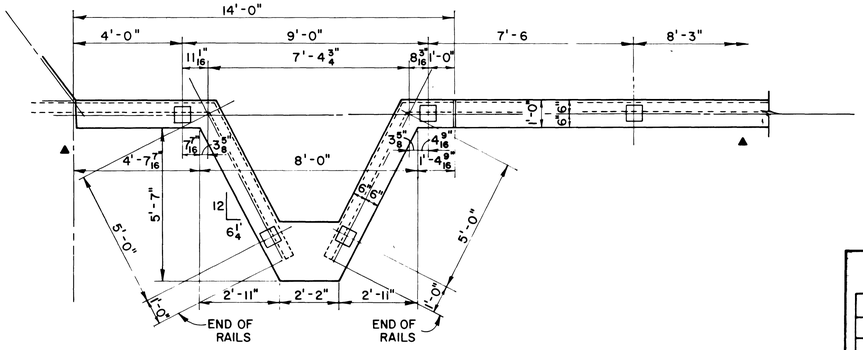
R.R. M.P. BA-188.38
M-94-149

MICROFILMED



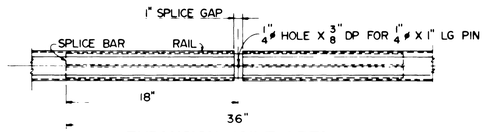
HANDRAIL POST SPACING

SCALE: 3/32" = 1'-0"



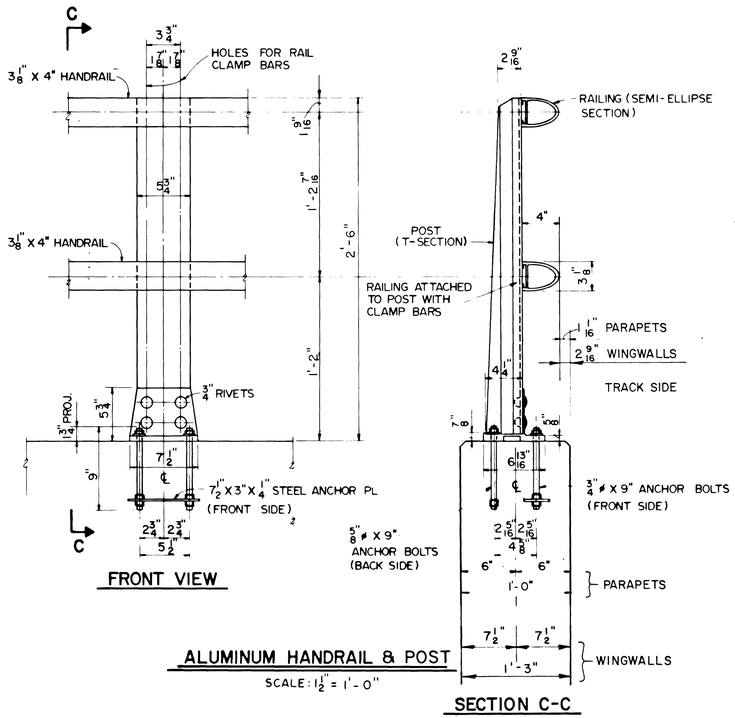
DETAIL "A"

SCALE: 3/8" = 1'-0"



EXPANSION JOINT DETAIL

SCALE: 1 1/2" = 1'-0"



ALUMINUM HANDRAIL & POST

SCALE: 1 1/2" = 1'-0"

NOTES FOR RAILING

1. ALUMINUM HANDRAIL TO BE RAIL POST AND SEMI-ELLISPE RAILING
2. JOINTS IN RAILING (SPLICE GAP) SHALL BE LOCATED AS SHOWN IN POST SPACING PLAN.
3. ALUMINUM POST, RAILING, SPLICE BAR AND CLAMP BAR TO BE ASTM B221, ALLOY 6061-T6.
4. END PLUG CASTINGS TO BE ASTM B-108, ALLOY SG70B-T6.
5. STAINLESS STEEL BOLTS, CAP SCREWS, AND NUTS TO BE ASTM A-276 TYPE 304. STAINLESS STEEL WASHERS TO BE ASTM A-276 TYPE 302
6. POST TO BE SET PERPENDICULAR TO TOP OF CURB AND RAILS SHALL BE PLACED PARALLEL TO THE GRADE OF THE BRIDGE
7. BOTTOM OF RAIL POST SHALL BE THOROUGHLY COATED WITH ALUMINUM IMPREGNATED CAULKING COMPOUND OF APPROVED QUALITY
8. CERTIFIED MILL REPORTS ARE REQUIRED FOR RAIL AND POST SHOP INSPECTION IS NOT REQUIRED.
9. THE LENGTH OF METAL RAIL TO BE PAID FOR SHALL BE THE CONTINUOUS LENGTH MEASURED FROM END TO END OF RAIL.
10. AFTER ANCHOR BOLT NUTS HAVE BEEN TIGHTENED, THREADS SHALL BE NICKED TO LOCK NUTS

PROJECT NO.	YEAR	SHEET NO.
I-440 ~~4(15)208~~ 4(45)212	1981	13

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

METAL RAILING DETAILS (1)

L & N R.R. OVER I-440

STATION 425+83.71

DAVIDSON COUNTY

1981

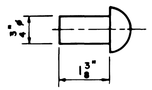
CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

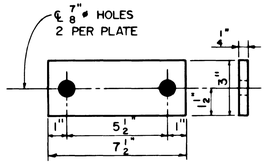
R.R. W.P. BA-188.38

M-94-150

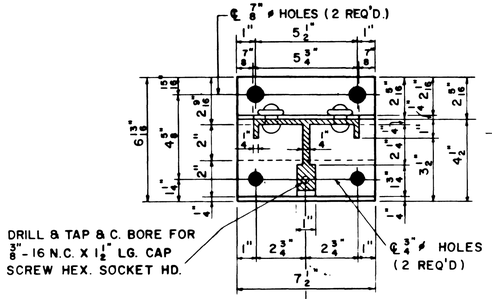
MICROFILMED



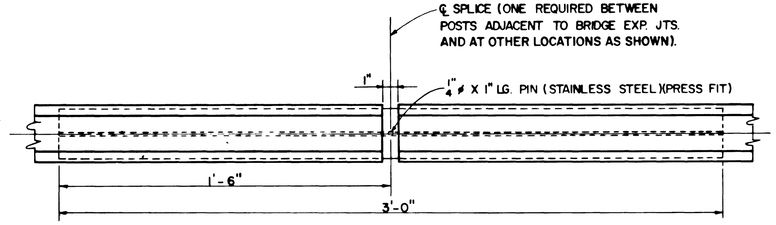
POST RIVET DETAIL
(4 PER POST)
SCALE: 6" = 1'-0"



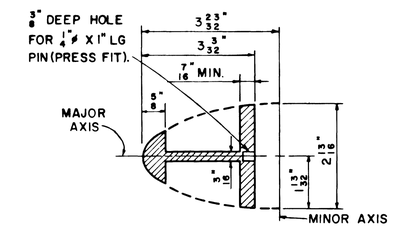
ANCHOR PLATE DETAIL
SCALE: 3" = 1'-0"



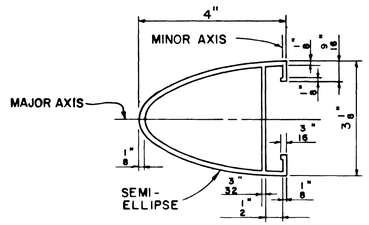
SECTION A - A



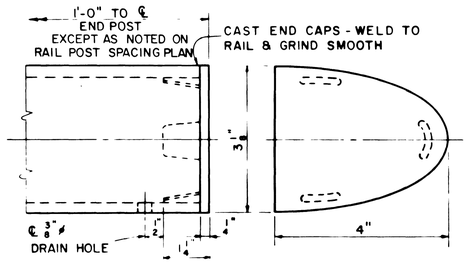
SPLICE DETAIL AT EXP. AND SPLICE JOINT
SCALE: 3" = 1'-0"



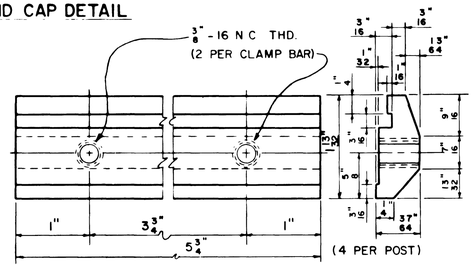
SPLICE BAR DETAIL
SCALE: 6"-1'-0"



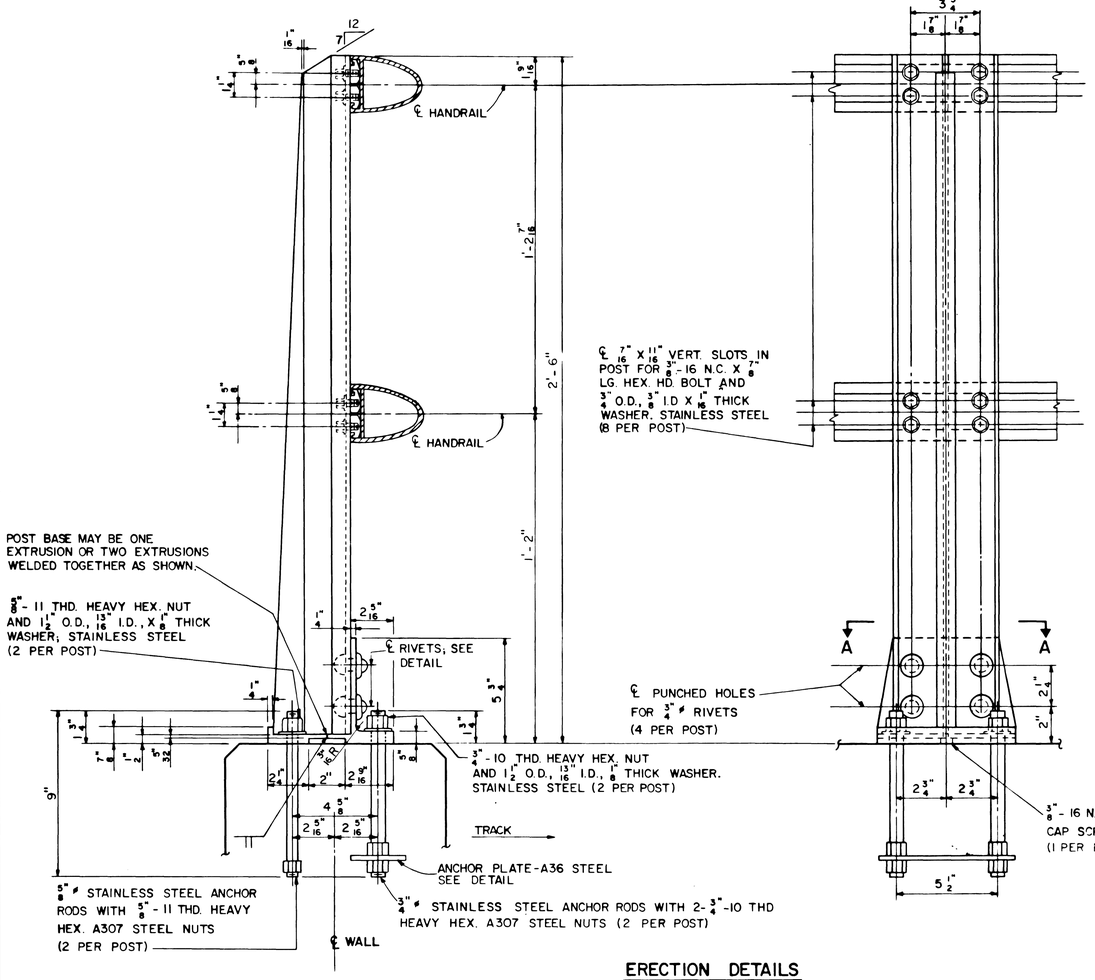
HAND RAIL DETAIL
SCALE: 6"=1'-0"



END CAP DETAIL



CLAMP BAR DETAILS
SCALE: 12" =1'-0"



ERECTION DETAILS
SCALE: 3" =1'-0"

NOTE: THE UNIT PRICE BID FOR ALUMINUM RAILING SHALL INCLUDE ALL THAT PORTION OF THE RAILING ABOVE THE PARAPET WALL, AND ALSO INCLUDE THE ANCHOR BOLT ASSEMBLIES.

MATERIAL:

RAILS, POST, POST BASE, SPLICE BARS, AND CLAMP BARS SHALL CONFORM TO A.S.T.M. SPEC. B221 ALLOY 6061-T6.

END CAPS SHALL CONFORM TO A.S.T.M. SPEC. B108 ALLOY SG70B CONDITION T-6.

RIVETS SHALL CONFORM TO A.S.T.M. SPEC. B316 ALLOY 6061-T6. RIVETS TO BE BUTTON HEAD AND CONE POINT AND SHALL BE COLD DRIVEN.

CLAMP BAR BOLTS, CAP SCREWS. AND WASHERS ARE TO BE STAINLESS STEEL AND CONFORM TO A.S.T.M. A276, TYPE 302 OR 304.

ANCHOR PLATES SHALL BE STEEL CONFORMING TO A.S.T.M. SPEC. A36.

ANCHOR RODS SHALL CONFORM TO A.S.T.M. SPEC. A276 TYPE 302, OR 304, STAINLESS STEEL, AND THREADS ROLLED NOT CUT.

UPPER ANCHOR ROD NUTS SHALL BE HEAVY HEX. NUTS, PER A.S.T.M. A276 TYPE 302, OR 304 STAINLESS STEEL.

LOWER ANCHOR ROD NUTS SHALL BE HEAVY STEEL HEX. NUTS, PER A.S.T.M. SPEC. A307.

NOTES:

POST TO BE SET PERPENDICULAR TO TOP OF PARAPET.
RAILS SHALL BE PARALLEL TO THE TOP OF THE PARAPET. RAIL TO BE CONTINUOUS FOR LENGTH OF BRIDGE WITH NO OPEN JOINTS AND MUST BE OF SUFFICIENT LENGTH TO BE ATTACHED TO A MINIMUM OF 2 POSTS WITH NO SPLICE BETWEEN.

THE CENTER LINE OF ANY SPLICE AND/OR EXPANSION JOINT IS TO BE LOCATED AT LEAST 2'-0" AWAY FROM CENTERLINE OF POST. EXPANSION AND/OR SPLICE JOINTS FOR EACH RAIL OF TWO RAILING ARE TO BE PLACED IN THE SAME LOCATION AND IN THE SAME PANEL.

WELDING SHALL BE IN ACCORDANCE WITH, "A PROPOSED SPECIFICATION FOR THE WELDING OF ALUMINUM ALLOYS FOR HIGHWAY STRUCTURES" BY THE BUREAU OF PUBLIC ROADS IN CIRCULAR MEMORANDUM DATED JULY 25, 1966.

PROJECT NO.	YEAR	SHEET NO.
I-440-~~4(15)209~~ 4(45)212	1981	14

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

METAL RAILING DETAILS (2)

L & N RR OVER I-440

STATION 425+83.71

DAVIDSON COUNTY

1981

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF ENGINEERING

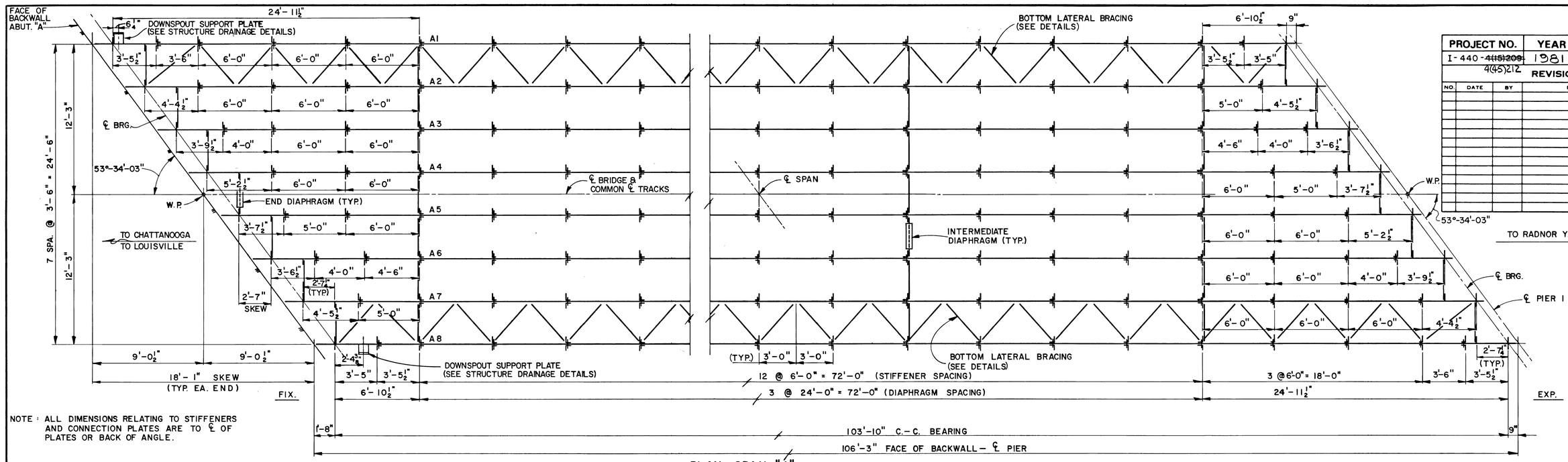
R.R. M.P. BA-188.38

M-184-68

PROJECT NO.	YEAR	SHEET NO.
I-440-~~4(15)208~~ 4(45)212	1981	15

REVISIONS

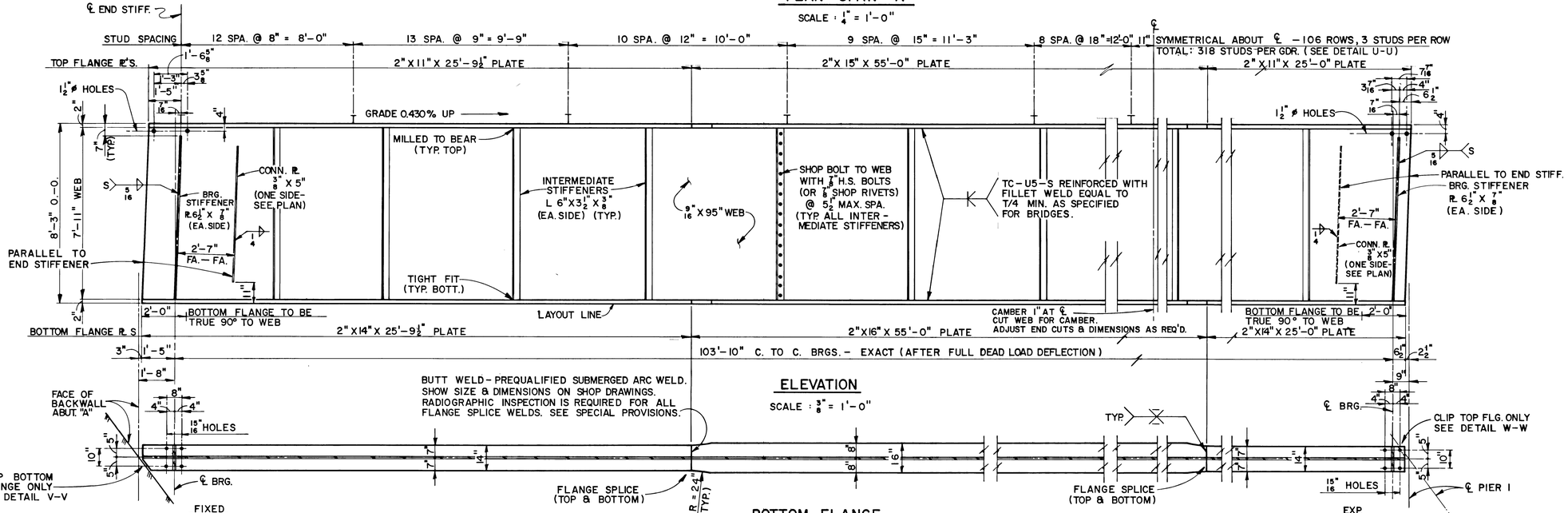
NO.	DATE	BY	BRIEF DESCRIPTION



NOTE : ALL DIMENSIONS RELATING TO STIFFENERS AND CONNECTION PLATES ARE TO ℄ OF PLATES OR BACK OF ANGLE.

PLAN - SPAN "A"

SCALE : 1" = 1'-0"

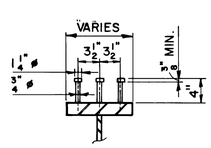


ELEVATION

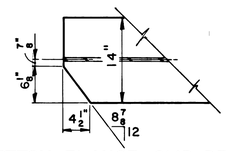
SCALE : ⅜" = 1'-0"

BOTTOM FLANGE

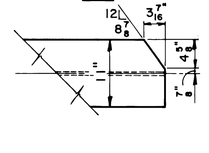
SCALE : ⅜" = 1'-0"



DETAIL U-U



BOTTOM FLANGE CLIP DETAIL V-V



TOP FLANGE CLIP DETAIL W-W

DESIGNED BY GGS DATE
DRAWN BY RON W. DATE
SUPERVISED BY DATE
CHECKED BY ACS, RHB DATE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

STRUCTURAL STEEL - SPAN "A"

L & N R.R. OVER I-440

STATION 425 + 83.71

DAVIDSON COUNTY

1981

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

R.R. M.P. BA-188.38

M-94-152

MICROFILMED

PROJECT NO.	YEAR	SHEET NO.
I-440 ~~4(18)208~~ 4(45)212	1981	16

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION

NOTCH SUPPORT ℄ AROUND STIFF.

℄ PIER 1

DOWNSPOUT SUPPORT PLATE (SEE STRUCTURE DRAINAGE DETAILS)

INTERMEDIATE DIAPHRAGMS

℄ BRG.

53°-34'-03"

W.P.

TO CHATTANOOGA
TO LOUISVILLE

END DIAPHRAGM (TYP.)

2'-7" SKEW

7 SPA. @ 3'-6" = 24'-6"

B1 B2 B3 B4 B5 B6 B7 B8

INTERMEDIATE DIAPHRAGM (TYP.)

℄ BRIDGE & COMM. ℄ TRACKS

BOTTOM LATERAL BRACING (SEE DETAILS)

BOTTOM LATERAL BRACING (SEE DETAILS)

DOWNSPOUT SUPPORT PLATE (SEE STRUCTURE DRAINAGE DETAILS)

18'-1" (TYP. EA. END)

EXP.

12 @ 6'-0" = 72'-0" (STIFFENER SPACING)

3 @ 24'-0" = 72'-0" (DIAPHRAGM SPACING)

3 @ 6'-0" = 18'-0"

18'-0"

30'-8½"

12'-8½"

W.P.

53°-34'-03"

TO RADNOR YARD

FACE OF BACKWALL ABUT. "B"

℄ BRG.

INTERMEDIATE DIAPHRAGMS

FIX.

115'-4" C. TO C. BEARINGS

117'-9" ℄ PIER TO FACE OF BACKWALL

NOTE : ALL DIMENSIONS RELATING TO STIFFENERS AND CONNECTION PLATES ARE TO ℄ OF PLATES OR BACK OF ANGLE.

PLAN - SPAN "B"

SCALE: 1/4" = 1'-0"

STUD SPACING 5" | 15 SPA. @ 8" = 10'-0" | 15 SPA. @ 9" = 11'-3" | 12 SPA. @ 12" = 12'-0" | 6 SPA. @ 18" = 9'-0" | 8 SPA. @ 21" = 14'-0" | 12"

SYMMETRICAL ABOUT ℄ – 114 ROWS, 3 STUDS PER ROW
TOTAL 342 STUDS PER GDR. (SEE DETAIL U-U)

TOP FLANGE PLATES

2"X 15"X 27'-9" PLATE

2"X 20"X 61'-0" PLATE

2"X15"X 28'-6½" PLATE

1½"ø HOLES

GRADE 0.430 % UP

MILLED TO BEAR (TYP. TOP)

PARALLEL TO END STIFF.

CONN. PL. ⅜" X 5" (ONE SIDE SEE PLAN)

BRG. STIFFENER PL 7½" X ⅞" (EA. SIDE)

8'-3" O-O.

7'-11" WEB

2'-7" FA.-FA.

INTERMEDIATE STIFFENERS L6" X 3½" X ⅜" (EA. SIDE) (TYP.)

9/16" X 95" WEB

SHOP BOLT TO WEB WITH ⅞" H.S. BOLTS (OR ⅞" SHOP RIVETS) @ 5½" MAX. SPA. (TYP. ALL INTERMEDIATE STIFFENERS)

TC-U5-S REINFORCED WITH FILLET WELD EQUAL TO T/4 MIN. AS SPECIFIED FOR BRIDGES.

TIGHT FIT (TYP. BOTT.)

LAYOUT LINE

CONN. PL. ⅜" X 5" (ONE SIDE SEE PLAN)

PARALLEL TO END STIFF.

BRG. STIFFENER PL 7½" X ⅞" (EA. SIDE)

2'-7" FA.-FA.

BOTTOM FLANGE PLATES

2'-0" BOTTOM FLANGE TO BE TRUE 90° TO WEB

2"X 16" X 27'-9" PLATE

2"X 21" X 61'-0" PLATE

2"X 16" X 28'-6½" PLATE

BOTTOM FLANGE TO BE TRUE 90° TO WEB 2'-0"

115'-4" C.TO C. BRGS. EXACT. (AFTER FULL DEAD LOAD DEFLECTION)

℄ PIER 1

℄ BRG.

BUTT WELD - PREQUALIFIED SUBMERGED ARC WELD. SHOW SIZE & DIMENSIONS ON SHOP DRAWINGS. RADIOGRAPHIC INSPECTION IS REQUIRED FOR ALL FLANGE SPLICE WELDS. SEE SPECIAL PROVISIONS.

ELEVATION

SCALE: ⅜" = 1'-0"

CAMBER 1⅜". CUT WEB FOR CAMBER ADJUST END CUTS AND DIMENSIONS AS REQUIRED.

℄ BRG.

CLIP BOTTOM FLANGE ONLY SEE DETAIL X-X

15/16" ø HOLES

CLIP TOP FLANGE ONLY SEE DETAIL Y-Y

EXP.

FLANGE SPLICE (TOP & BOTTOM)

R=324" (TYP.)

FLANGE SPLICE (TOP & BOTTOM)

FIXED

FACE OF BACKWALL ABUT. "B"

BOTTOM FLANGE

SCALE : ⅜" = 1'-0"

BOTTOM FLANGE CLIP - DETAIL X-X

TOP FLANGE CLIP - DETAIL Y-Y

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

STRUCTURAL STEEL-SPAN "B"

L & N R.R. OVER I-440

STATION 425 + 83.71

DAVIDSON COUNTY

1981

DESIGNED BY GGS DATE
DRAWN BY RON W. DATE
SUPERVISED BY DATE
CHECKED BY ACS, RHB DATE

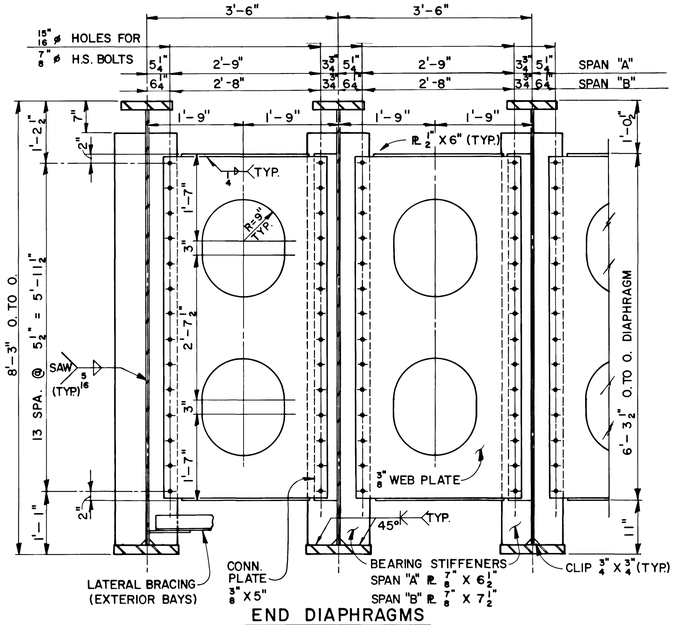
CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

R.R.M.P. BA-188.38

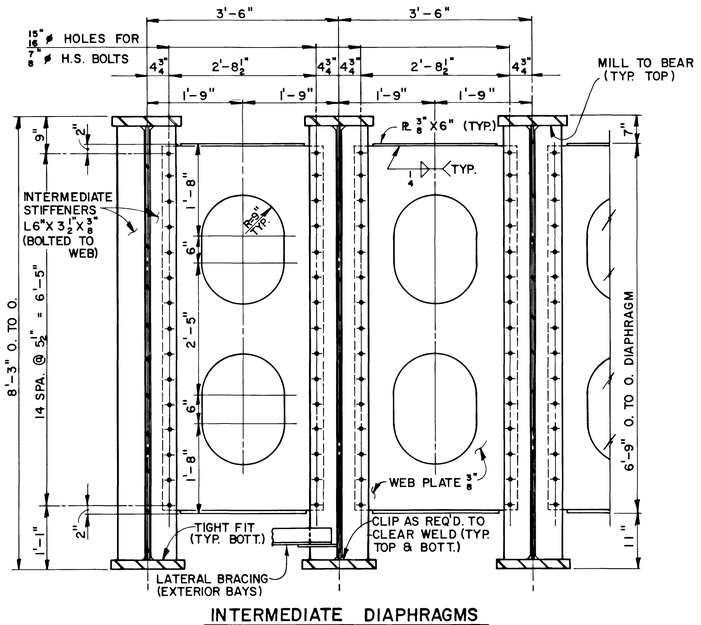
M-94-153

MICROFILMED



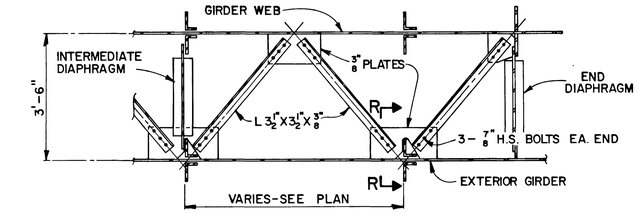
END DIAPHRAGMS

SCALE : 3/4" = 1'-0"

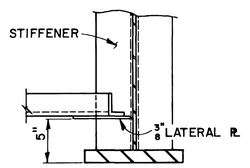


INTERMEDIATE DIAPHRAGMS

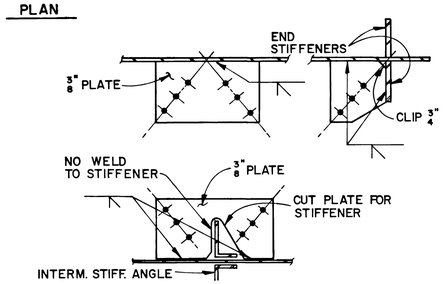
SCALE : 3/4" = 1'-0"



PLAN



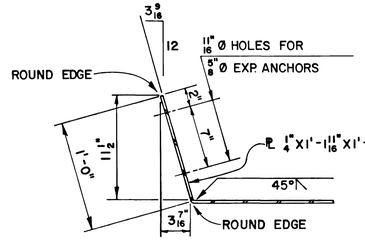
SECTION R-R



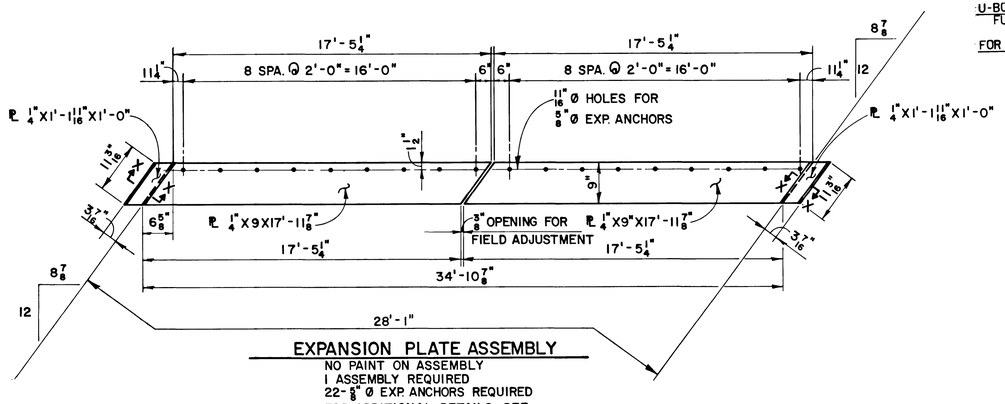
PLAN-LATERAL PLATE DETAILS

BOTTOM LATERAL BRACING DETAILS

NO SCALE



SECTION X-X



EXPANSION PLATE ASSEMBLY

NO PAINT ON ASSEMBLY
1 ASSEMBLY REQUIRED
22- 5/8" ø EXP. ANCHORS REQUIRED
FOR ADDITIONAL DETAILS, SEE EXP. JOINT IN DECK SLAB.

GIRDER DESIGN STRESSES

LOADING	GIRDERS	HORIZ. LENGTH C-C BRGS	END SHEAR (K) D.L.	L.L.	IMPACT	TOTAL	MAXIMUM MOMENT (K-FT.) D.L.	L.L.	IMPACT	TOTAL	MAXIMUM BENDING STRESS (KSI)
E-65 NON.COMP.	A1 - A8	103'-10"	89.8	124.6	43.2	257.6	2308	2779	964	6051	19.66
	B1 - B8	115'- 4"	104.3	135.8	45.7	285.8	2980	3443	1159	7582	19.60
E-80 COMP.	A1 - A8	103'- 10"	89.8	153.4	53.2	296.4	2308	3421	1186	6915	19.10
	B1 - B8	115'- 4"	104.3	167.1	56.2	327.6	2980	4238	1427	8645	19.66

PROJECT NO.	YEAR	SHEET NO.
I-440-~~4(15)289~~ 4(15)212	1981	17

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

NOTES FOR STRUCTURAL STEEL

MATERIAL: STRUCTURAL STEEL SHALL CONFORM TO ASTM A-36 WITH SUPPLEMENTARY REQUIREMENT S2 FOR MATERIALS OF THICKNESS GREATER THAN 3/4". MATERIALS 3/4" THICK OR LESS SHALL MEET SUPPLEMENTARY REQUIREMENT S1. BEARING ASSEMBLIES SHALL MEET SUPPLEMENTARY REQUIREMENT S1 ONLY. IN ADDITION, GIRDER TENSION FLANGE PLATES AND GIRDER WEBS SHALL MEET LONGITUDINAL CHARPY V-NOTCH TEST REQUIREMENTS OF 15 FT. LBS. AT 40°F. SAMPLING AND TESTING PROCEDURES SHALL BE IN ACCORDANCE WITH ASTM A673 WITH THE (H) FREQUENCY OF TESTING USED. EXPANSION PLATES SHALL BE STAINLESS STEEL A666, TYPE 304. HIGH STRENGTH BOLTS, NUTS, AND WASHERS TO BE ASTM A-325.

SPECIFICATIONS: CURRENT AREA SPECIFICATIONS FOR FABRICATION AND ERECTION. WELDING TO BE IN ACCORDANCE WITH CURRENT AWS STRUCTURAL WELDING CODE D1.1 WITH EXCEPTIONS AS SHOWN ON PLANS AND IN SPECIAL PROVISIONS.

SHOP DRAWINGS: SHOP DRAWINGS SHALL BE REVIEWED BY THE ENGINEER OF BRIDGES, L & N RAILROAD COMPANY, JACKSONVILLE, FLORIDA.

MILL TEST REPORTS: L & N RAILROAD COMPANY SHALL BE FURNISHED COPIES OF MILL TEST REPORTS FOR ALL MATERIALS EXCEPT MISCELLANEOUS PLATES AND SHAPES. REPORTS SHALL INDICATE COMPLIANCE WITH ALL SPECIFIED REQUIREMENTS.

APPROVAL OF MATERIALS: NO FABRICATION SHALL BE STARTED UNTIL THE MATERIALS INVOLVED HAVE BEEN APPROVED BY THE L & N RAILROAD WITH A COPY OF THE TEST REPORTS ALSO GOING TO THE TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF MATERIALS AND TEST.

INSPECTION: SHOP INSPECTION BY TENNESSEE DEPARTMENT OF TRANSPORTATION. IF AN INSPECTION AGENCY IS USED, APPROVAL SHALL BE OBTAINED FROM L & N RAILROAD COMPANY. (SEE SPECIAL PROVISIONS FOR ADDITIONAL WELDING INSPECTION FOR FLANGE TO WEB PLATE WELDS).

SHOP WELDED WEB SPLICES WILL BE PERMITTED EXCEPT WITHIN CENTER 1/3 OF GIRDER. IF USED, SHOW LOCATION AND DETAIL ON SHOP DRAWINGS. RADIOGRAPHIC OR ULTRASONIC INSPECTION REQUIRED FOR BOTTOM 8 INCHES AND 25 PERCENT OF REMAINING DEPTH. ELECTROSLAG WELDING NOT PERMITTED.

CAMBER GIRDERS AS NOTED ON PLANS.

SHOP AND FIELD PAINT: INORGANIC ZINC-RICH PRIMER, BROWN VINYL TOP COAT IN ACCORDANCE WITH TENNESSEE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS. (FED COLOR STD. 595A, COLOR NO. 20140.)

HOLES: OPEN HOLES AS NOTED.

FIELD CONNECTIONS SHALL BE 7/8" DIA. HIGH TENSILE STRENGTH BOLTS ASTM A-325 UNLESS OTHERWISE SHOWN. ALL HIGH STRENGTH BOLTED CONNECTIONS ARE FRICTION TYPE.

ANCHOR BOLTS: SHALL BE GROUTED IN DRILLED HOLES, WITH AN APPROVED EPOXY, AFTER GIRDERS ARE ERECTED. ANCHOR BOLTS SHALL BE STAINLESS STEEL CONFORMING TO ASTM A276, TYPE 316 OR 304.

U-BOLTS, NUTS, LOCK WASHERS & PIPE SUPPORT PLATES FOR STRUCTURE DRAINAGE SYSTEM TO BE FURNISHED AS A STRUCTURAL STEEL ITEM.

FOR GENERAL NOTES, SEE DRAWING M-94-143.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

STRUCTURAL STEEL DETAILS

L. & N. R R OVER I-440
STATION 425+83.71
DAVIDSON COUNTY
1981

DESIGNED BY GGS DATE
DRAWN BY RON W., LGH DATE
SUPERVISED BY DATE
CHECKED BY ACS, RHB DATE

CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

R.R. M.P. BA-188.38

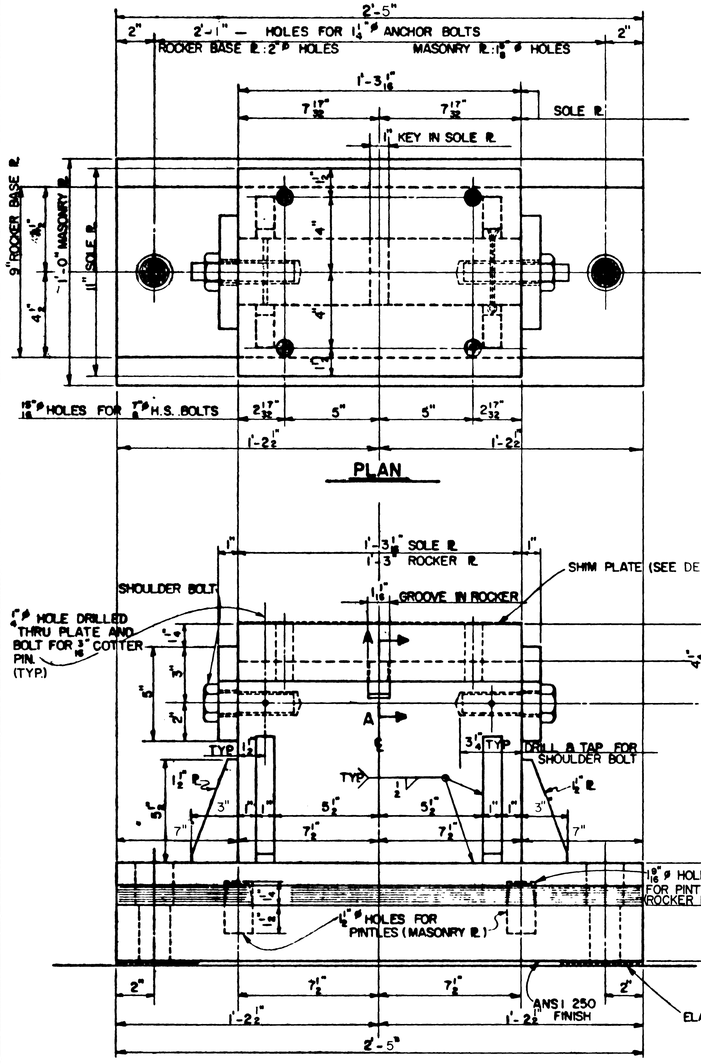
M-94-154

MICROFILMED

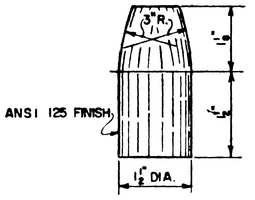
PROJECT NO.	YEAR	SHEET NO.
I-440 ~~-1(18)200~~ 4(45)212	1981	18

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION

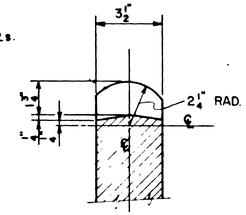


PLAN



PINTLES TO HAVE DRIVING FIT IN MASONRY R's.

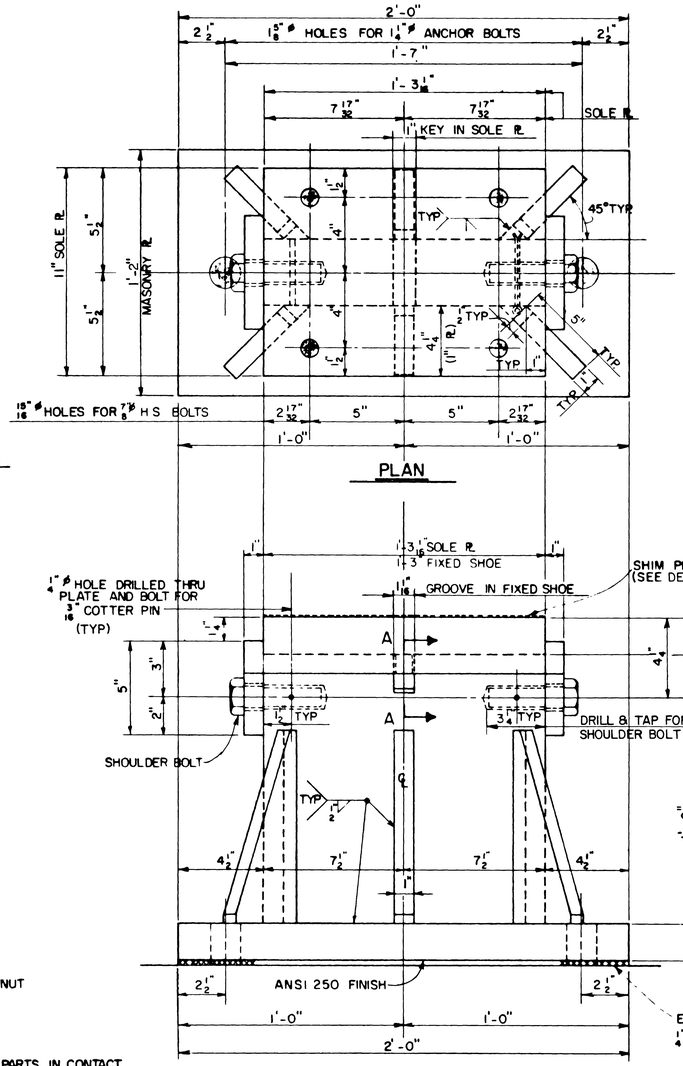
PINTLE DETAIL



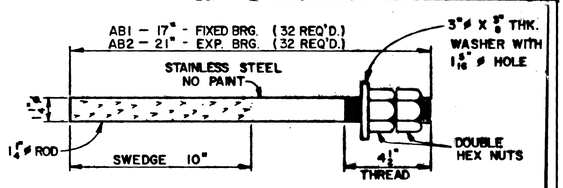
SECTION A-A

SHOWING GROOVE IN FIXED SHOE & ROCKER

SCALE: 3" = 1'-0"



PLAN



DETAIL OF ANCHOR BOLTS

ELEVATION

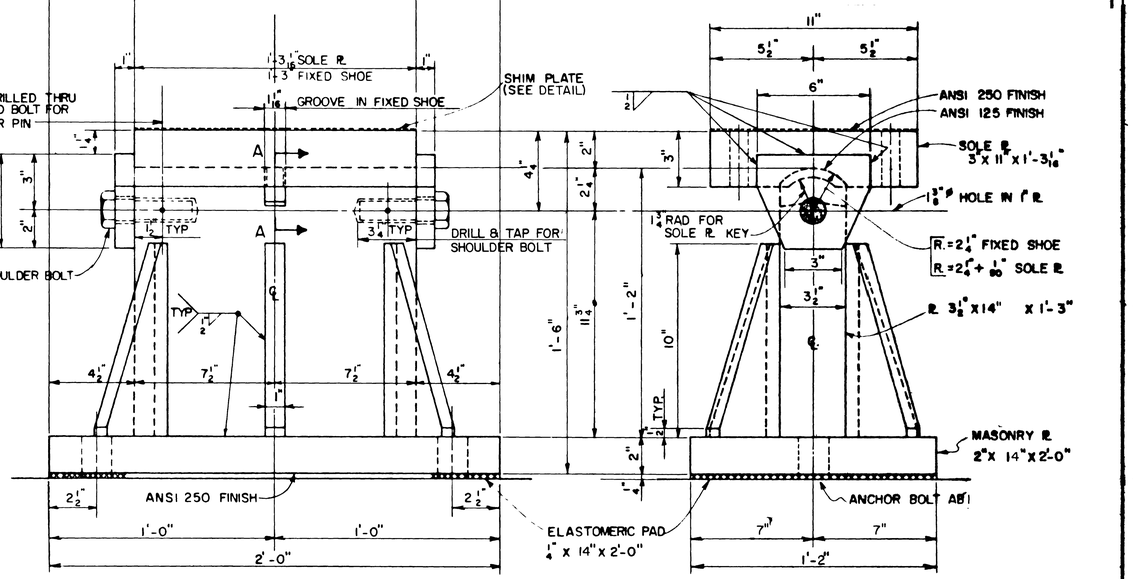
END VIEW

EXPANSION BEARING ASSEMBLY

SCALE: 3" = 1'-0"

16 REQUIRED
(8 EA SPAN)

ALL STEEL PARTS IN CONTACT TO HAVE ANSI 250 FINISH UNLESS OTHERWISE NOTED.



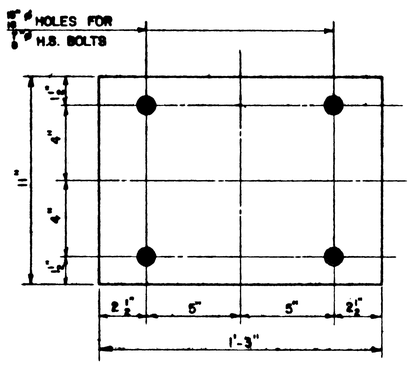
ELEVATION

END VIEW

FIXED BEARING ASSEMBLY

SCALE: 3" = 1'-0"

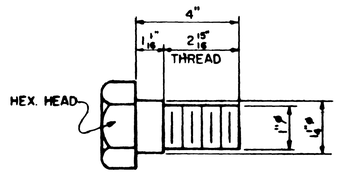
16 REQUIRED
(8 EA SPAN)



SHIM PLATE DETAIL

SCALE: 3" = 1'-0"

SHIM PLATE THICKNESS					
THICKNESS	TOTAL NUMBER REQ'D	SPAN A		SPAN B	
		FIX	EXP	EXP	FIX
1"	3	A2	A2	-	B2
¼"	3	A3	A3	-	B3
⅜"	3	A4	A4	-	B4
1"	3	A5	A5	-	B5
⅝"	3	A6	A6	-	B6
¾"	3	A7	A7	-	B7
⅞"	3	A8	A8	-	B8
1"	1	-	-	B1	-
1 1/16"	1	-	-	B2	-
1⅛"	1	-	-	B3	-
1 3/16"	1	-	-	B4	-
1¼"	1	-	-	B5	-
1⅜"	1	-	-	B6	-
1½"	1	-	-	B7	-
1⅝"	1	-	-	B8	-
		ABUT. A	PIER 1		ABUT. B



SHOULDER BOLT

64 REQUIRED

NOTES:

ALL WELDING SHALL BE DONE IN SUCH SEQUENCE AS TO PREVENT WARPING OF COMPONENT PARTS, AND TO ASSURE BEARING OF STEEL ON STEEL WITH NO FORCE BEING TRANSMITTED BY WELDS

ALL WELDS OF MAIN PARTS TO BE STRESS RELIEVED BY HEAT TREATING (AFTER WELDING AND BEFORE MACHINING OF CURVED SURFACES) IN ACCORDANCE WITH ARTICLE 4.4 OF THE AWS SPECIFICATIONS

ELASTOMERIC BEARING PADS SHALL BE 60 DUROMETER HARDNESS AND CONFORM TO CHAPTER 8, PART 18 OF THE AREA SPECIFICATIONS

FOR STRUCTURAL STEEL NOTES, SEE DWG. M-94-154.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

BEARING DETAILS

L & N R.R. OVER I-440
STATION 425+83.71
DAVIDSON COUNTY
1981

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

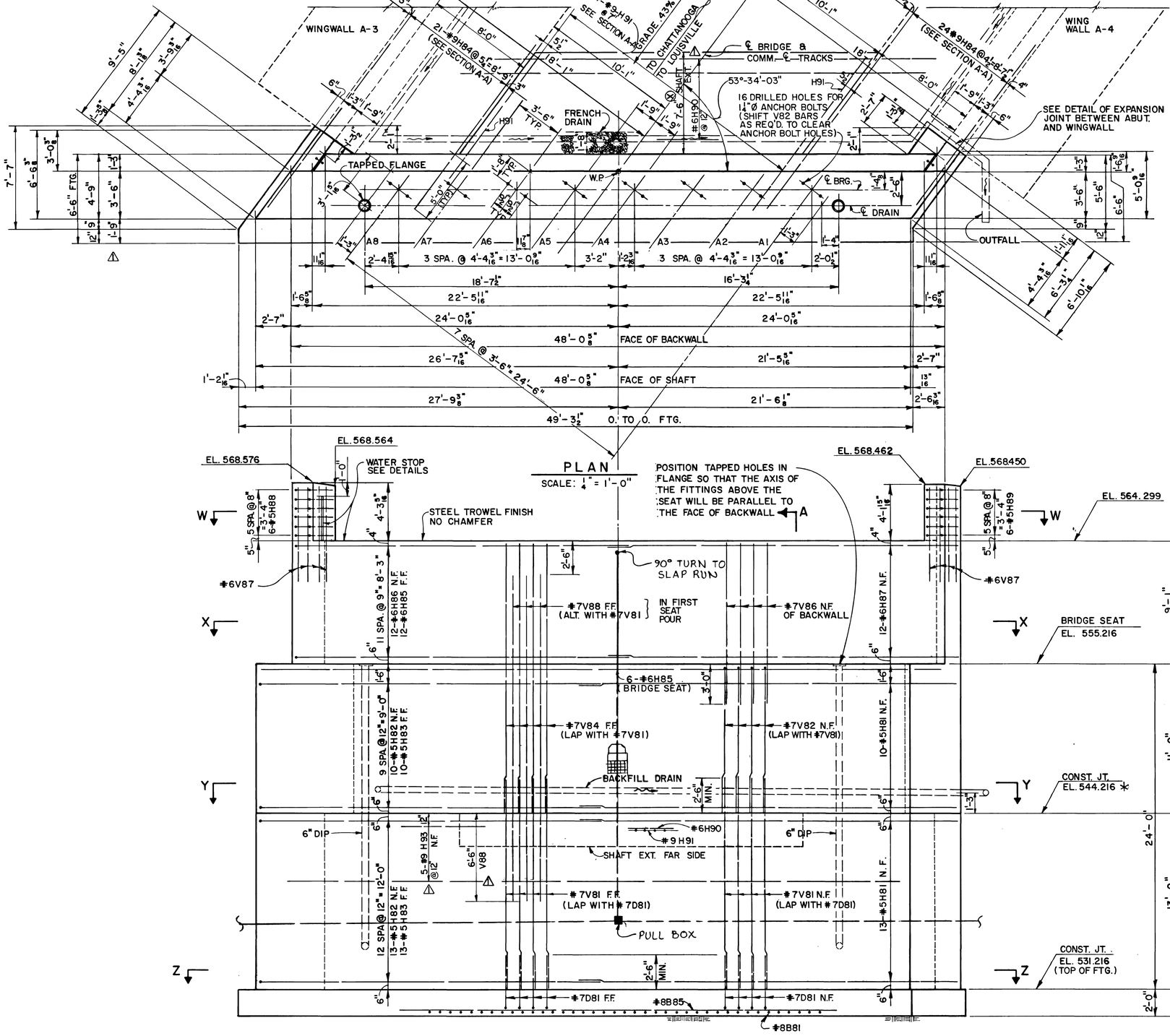
R.R. M.P. BA-188.38

M-94-155

PROJECT NO.	YEAR	SHEET NO.
I-440-~~4(115)209~~ 4(45)212	1981	19

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	3-3-82	ACS	SHAFT EXTENSION
			LENGTHENED BARS V88
			NOTE
			SHIFT FOOTING
			BARS H93
2	1-24-83	F.C.	CONDUIT



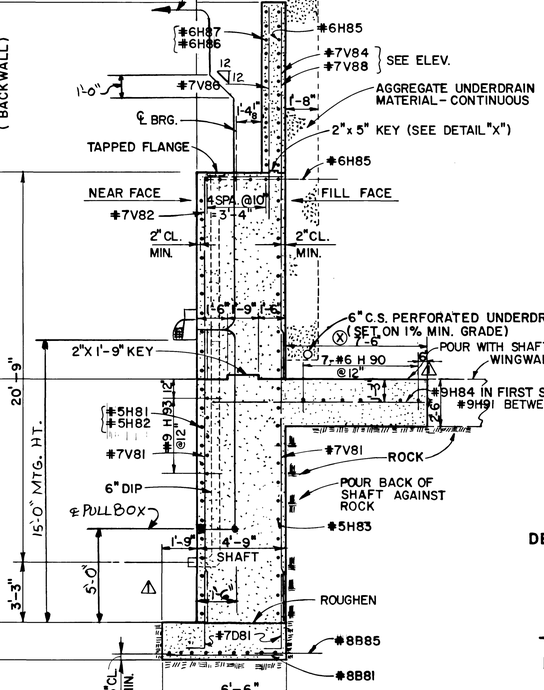
PLAN

SCALE: 1/4" = 1'-0"

ELEVATION ⚠

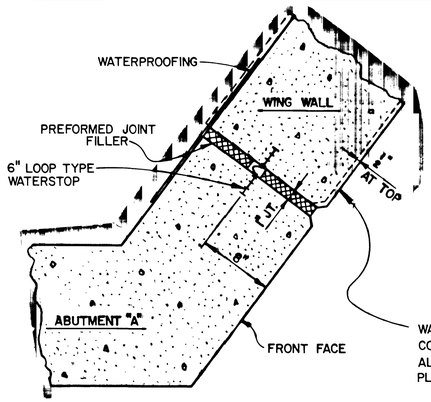
SCALE: 1/4" = 1'-0"

NOTE: FOR VERTICAL BAR SPACING, SEE FOOTING PLAN SHEET



SECTION A-A ⚠

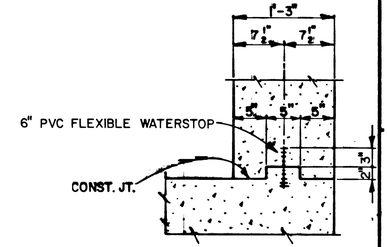
SCALE: 1/4" = 1'-0"



WALL IS MORE FLEXIBLE THAN ABUTMENT. WHEN WALL IS CONSTRUCTED, FRONT FACE AT TOP TO BE SET BACK TO ALLOW FOR FORWARD DEFLECTION WHEN EMBANKMENT IS PLACED BEHIND WALL.

TYPICAL DETAIL OF EXPANSION JOINT BETWEEN ABUTMENT & WING WALL

SCALE: 1½" = 1'-0"



DETAIL "X"

NO SCALE

⚠ * NOTE:
SHOULD TOP OF WINGWALL FOOTING ELEVATION FALL BELOW ELEV. 544.22, CONTRACTOR SHALL NOTIFY ENGINEER OF STRUCTURES BEFORE FURTHER CONSTRUCTION.
AFTER EXCAVATING TO THE PLAN FOOTING ELEVATION, THE ENGINEER OF STRUCTURES SHALL BE NOTIFIED BEFORE PLACING ANY ABUTMENT CONCRETE.

⚠ⓧ NOTE:
SHAFT EXTENSION TO REST ON 7'-6" WIDTH OF UNDISTURBED ROCK (SOUND, UNFRACTURED ROCK). INCREASE WIDTH AND LENGTHEN BAR H91 AS REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

ABUTMENT "A" DETAILS (1)

L & N R.R. OVER I-440

STATION 425 + 83.71

DAVIDSON COUNTY
1981

DESIGNED BY DDS DATE
DRAWN BY DLV, EFD DATE
SUPERVISED BY DATE
CHECKED BY ACS DATE

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

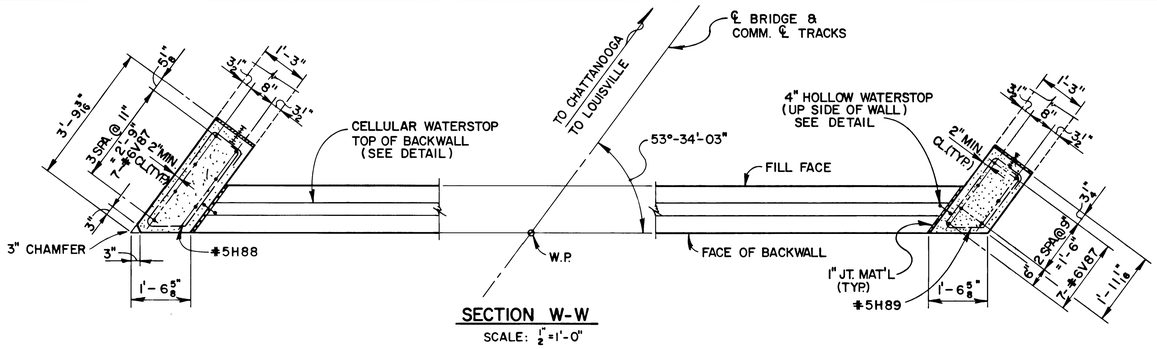
R.R. M.P. BA-188.38

M-94-156

PROJECT NO.	YEAR	SHEET NO.
I-440-~~4(11)209~~ 4(45)212	1981	20

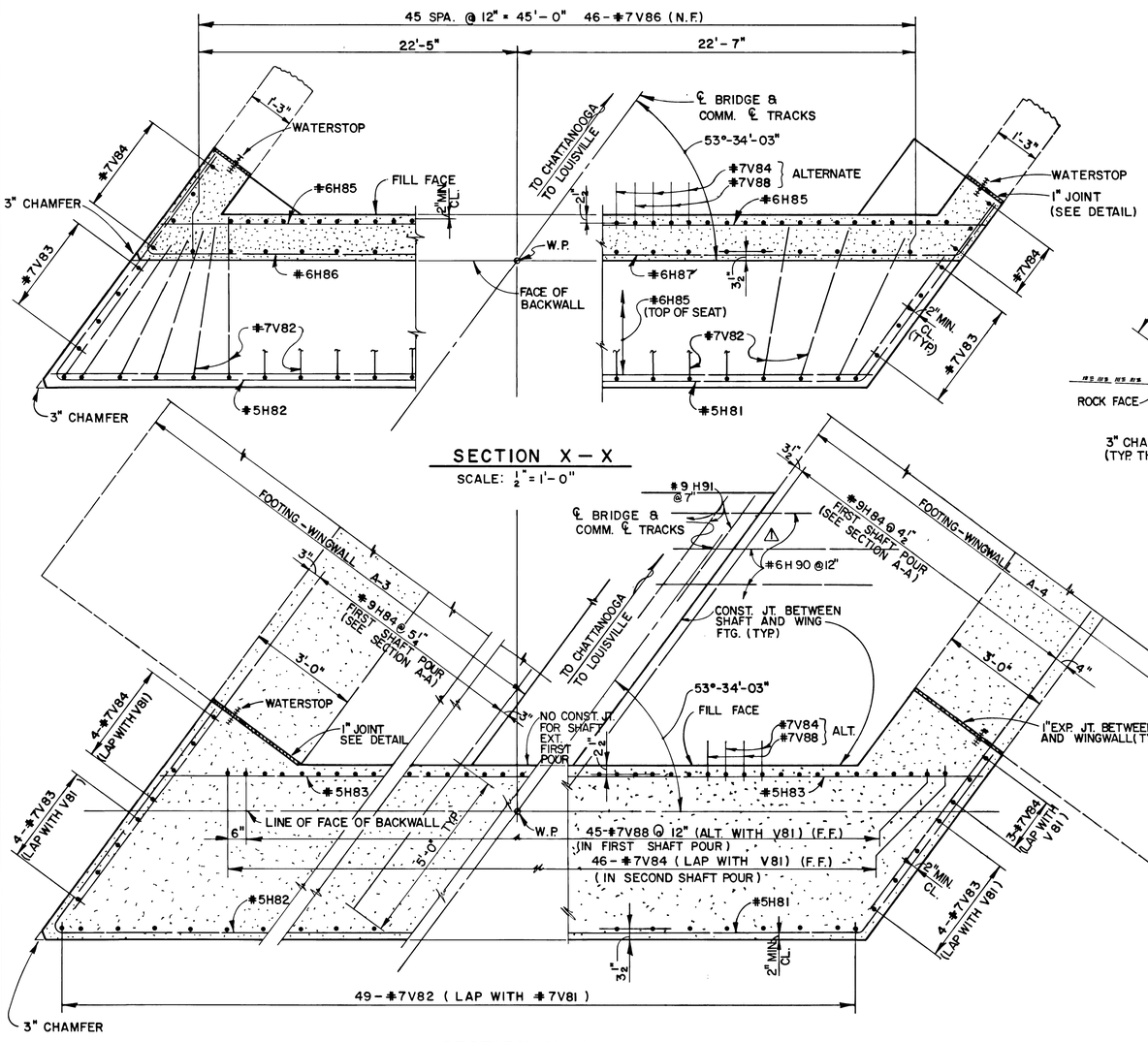
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	3-3-82	ACS	BARS H 90 & H91 AND MISC. SHIFT FOOTING BARS H93



SECTION W-W

SCALE: 1/2"=1'-0"

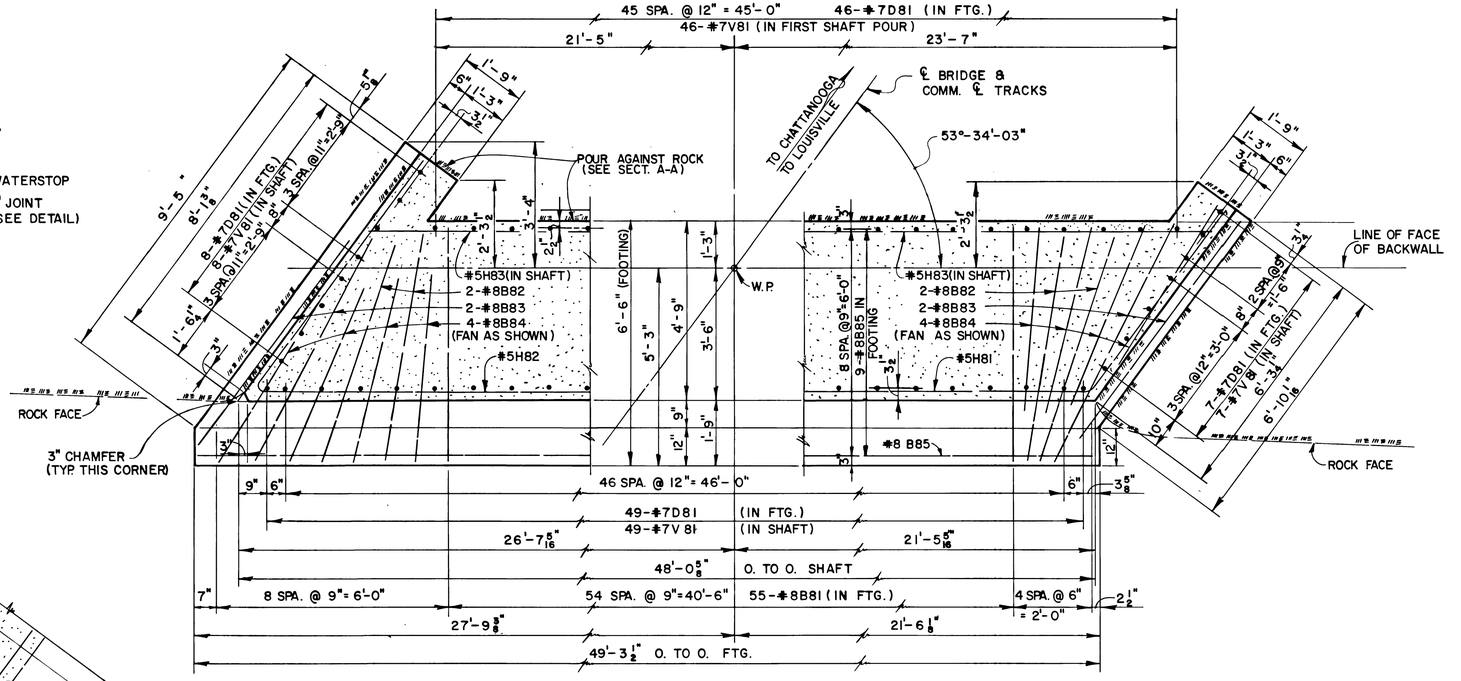


SECTION X-X

SCALE: 1/2"=1'-0"

SECTION Y-Y

SCALE: 1/2"=1'-0"



SECTION Z-Z

SCALE: 1/2" = 1'-0"

DESIGNED BY DDS DATE
DRAWN BY DLV DATE
SUPERVISED BY DATE
CHECKED BY ACS DATE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

ABUTMENT "A" DETAILS (2)

L & N R.R. OVER I-440

STATION 425+83.71

DAVIDSON COUNTY
1981

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

R.R. M.P. BA-188.38

M-94-157

BILL OF REINFORCING

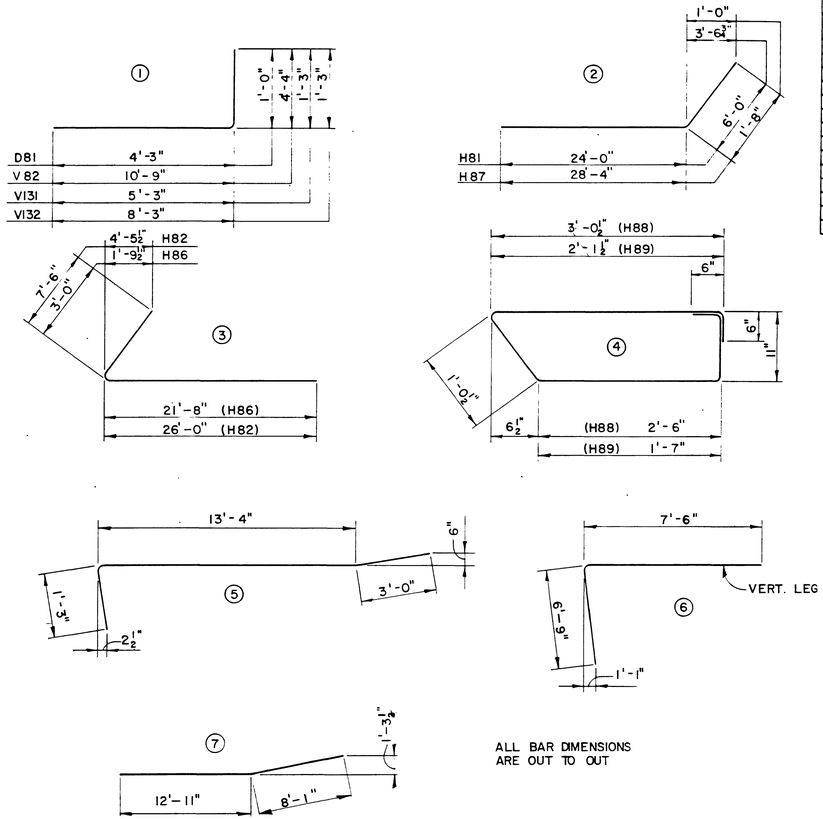
ABUTMENTS A & B AND WALLS A-3, A-4, B-3 & B-4

MARK	NO. OF BARS ABUT "A"	ABUT "B"	WALL A-3	WALL A-4	WALL B-3	WALL B-4	TOTAL	SIZE	TYPE	LENGTH
B 81	55	55					110	#8	STR.	⚠ 6'-2"
B 82	4	4					8	↕	↕	6'-0"
B 83	4	4					8			6'-6"
B 84	8	8					16			5'-0"
B 85	9	9			⚠		18	#8		48'-9"
B101			28	35			63	#7		7'-6"
B102			28	36			64	#7		9'-6"
B103			28	36			64	#6		14'-6"
B104			9				9	#6		32'-3"
B105			4				4	#8		32'-4"
B106			4				4	↕		30'-10"
B107			4				4			29'-4"
B108			4				4	#8		27'-10"
B109			1				1	#6		14'-0"
B110			1				1	↕		12'-8"
B111			1				1			11'-3"
B112			1				1	↕		10'-0"
B113			1				1	#6		8'-8"
B114			2				2	#7		9'-0"
B115			2				2	#7		7'-9"
B121				4			4	#8		41'-5"
B122				4			4	↕		40'-0"
B123				4			4			38'-6"
B124				4			4	#8		37'-0"
B125				9			9	#6		35'-3"
B126				12			12	#6		7'-6"
B131					45	49	94	#5		6'-0"
B132					45	49	94	↕		8'-6"
B133					8		8			3'-6"
B134					6		6	#5		4'-0"
B135					7		7	#7		22'-1"
B136					4		4	#7		23'-9"
B137					4		4	#7		25'-1"
B116			2				2	#7		6'-6"
B141						2	2	#7		24'-8"
B142						2	2	↕		25'-6"
B143						2	2			26'-3"
B144						9	9	#7		26'-1"
B145						2	2	#5		4'-0"
B146						2	2			5'-0"
B147						2	2			6'-6"
B148						2	2	#5	STR.	8'-0"
D 81	110	110					220	#7	①	5'-3"
D101			32	36			68	#5	STR	4'-0"
H 93	5	4					9	#9	STR.	45'-0"
H 81	23	25					48	#5	②	30'-0"
H 82	23	25					48	#5	③	33'-6"
H 83	23	25					48	#5	STR.	47'-6"
H 84	45	20	⚠				65	#9	STR.	15'-0"
H 85	18	18					36	#6	STR.	47'-6"
H 86	12	12					24	#6	③	24'-8"
H 87	12	12					24	#6	②	30'-0"
H 88	6	6					12	#5	④	8'-6"
H 89	6	6					12	#5	④	6'-8"
H 90	7	–					7	#6	STR	34'-0"
H 91	34						34	#9	STR	14'-0"
H 92	–	13					13	#6	STR	56'-10"
H 93	–	19					19	#9	STR	44'-0"
H 94	–	18					18	#9	STR	30'-0"
H 95	–	9					9	#9	STR	22'-0"
H 96	–	9					9	#9	STR	18'-0"
H 97	–	16					16	#6	STR	41'-6"
H 98	–	3					3	#6	STR	50'-0"

MARK	NO. OF BARS ABUT "A"	ABUT "B"	WALL A-3	WALL A-4	WALL B-3	WALL B-4	TOTAL	SIZE	TYPE	LENGTH
H101			50				50	#5	STR.	31'-8"
H111				50			50	#5	STR.	35'-2"
H131					28		28	#5	STR	21'-6"
H141						28	28	#5	STR.	25'-6"
V 81	110						110	#7	STR.	15'-6"
V 82	49	49					98	↕	①	15'-1"
V 83	8	8					16		STR.	10'-9"
V 84	53	53					106		↕	19'-11"
V 85		45					45			12'-1"
V 86	46	46					92	#7	↕	11'-10"
V 87	14	14					28	#6	STR.	7'-0"
V 91		110					110	#7	STR.	17'-6"
V101			32	36			68	#11	⑤	17'-7"
V102			32	35			67	#9	⑥	14'-3"
V103			32	36			68	#7	STR.	7'-0"
V104			32	35			67	#6	⑦	21'-0"
V105			32	36			68	#5	STR.	23'-11"
V88	45						45	#7	STR.	24'-1"
V131					22	26	48	#8	①	6'-6"
V132					22	26	48	#7	①	9'-6"
V133					22	26	48	#5	STR.	8'-3"
V134					22		22	#5	STR.	13'-2"
V141						26	26	#5	STR.	13'-1"

DESIGNED BY DDS DATE
DRAWN BY LGH, RWR DATE
SUPERVISED BY DATE
CHECKED BY ACS DATE

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

PROJECT NO.	YEAR	SHEET NO.
I-440-~~4(15)209~~ 4(45)212	1981	21

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION
1	3-3-82	ACS	BARS H90, H91, H92, H93 LENGTHENED BARS V85, V88 H84
⚠ 6-6-83		HALL	FOOTING REVISION

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

BILL OF REINFORCING - ABUTMENTS & WINGWALLS

L. & N. R R OVER I 440
STATION 425+83.71
DAVIDSON COUNTY
1981

CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

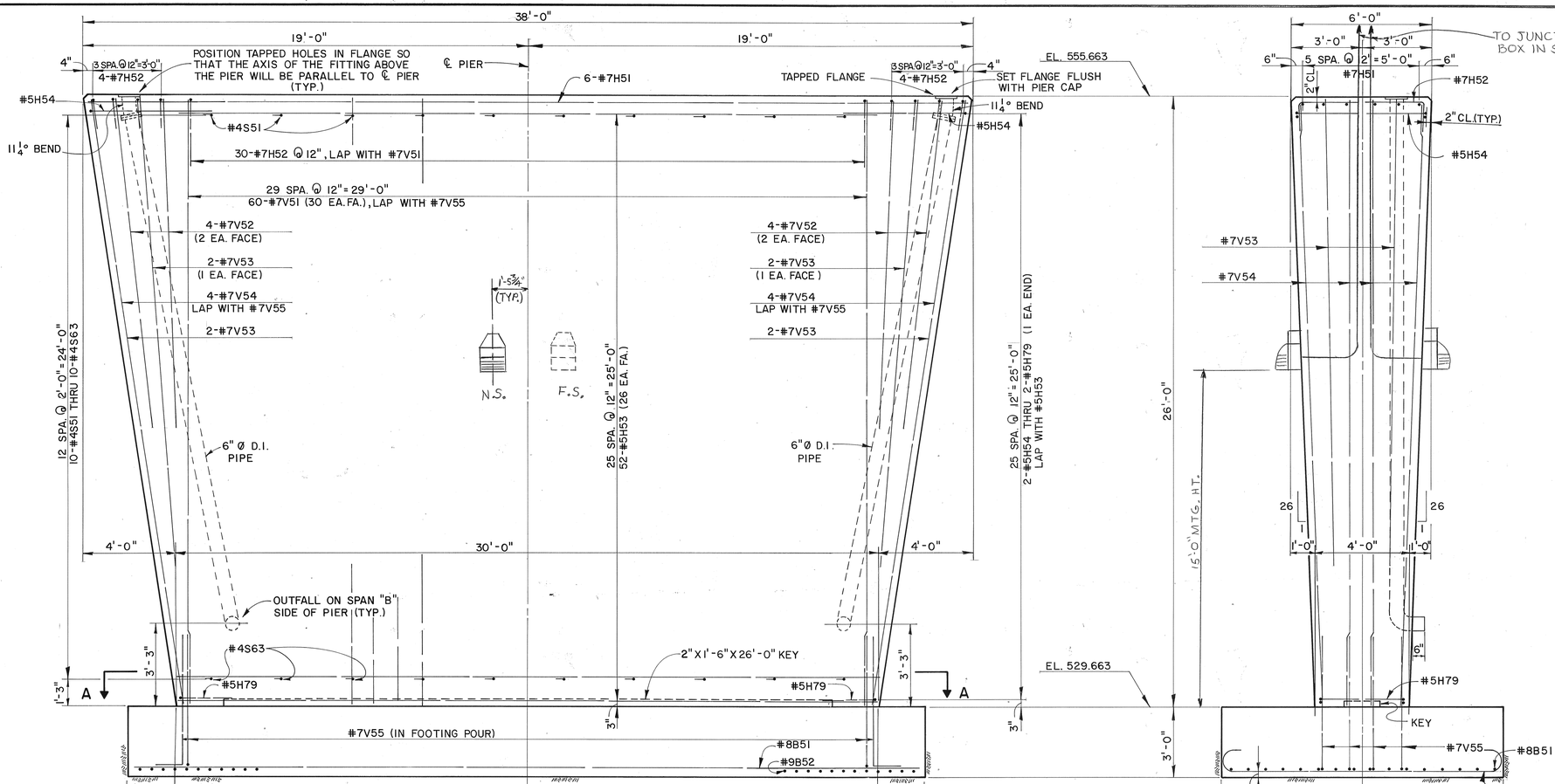
R R M.P BA-188.38

M-94-158

PROJECT NO.	YEAR	SHEET NO.
I-440-~~4(15)209~~ 4(45)212	1981	22

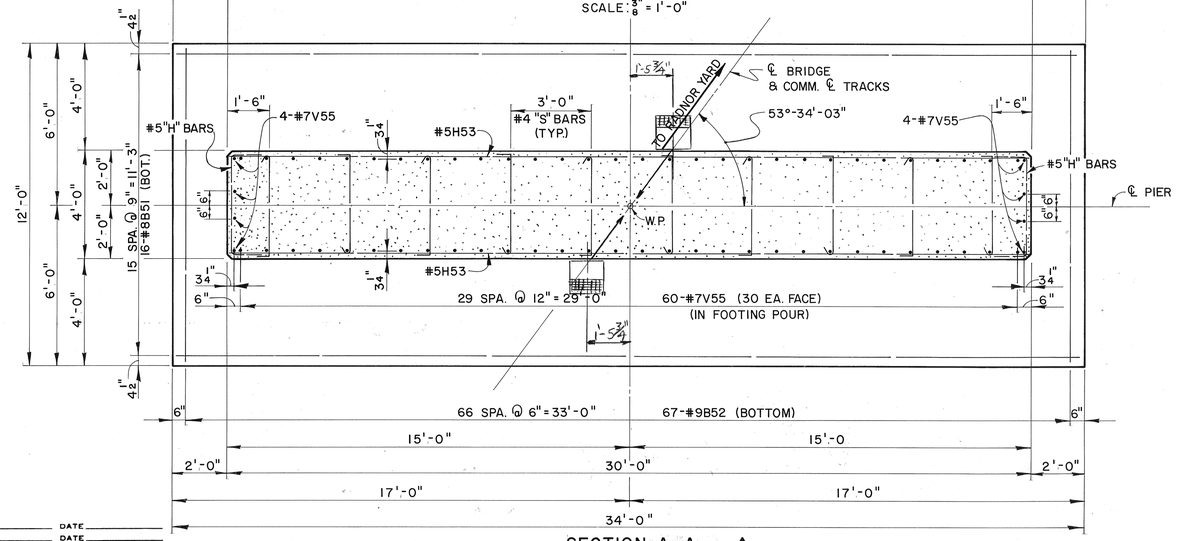
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	1-24-83	F.C.	LIGHTING



TO JUNCTION BOX IN SLAB

DENOTE: F.S. = FAR SIDE
N.S. = NEAR SIDE



DESIGNED BY DDS DATE
DRAWN BY LGH DATE
SUPERVISED BY DATE
CHECKED BY RHB, ACS DATE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

PIER I DETAILS(I)

L & N R.R. OVER I-440

STATION 425 + 83.71

DAVIDSON COUNTY

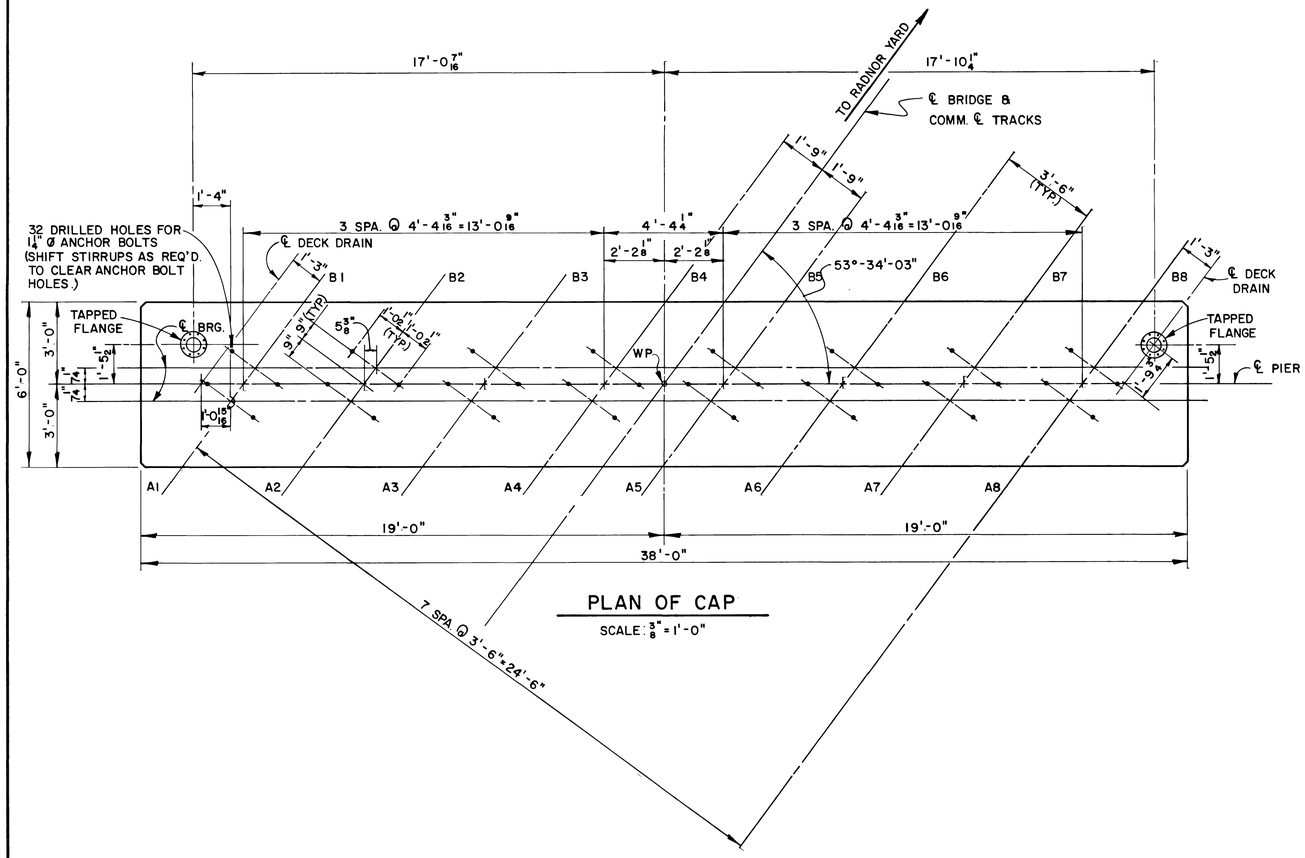
1981

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

R.R. M.P. BA-188.38

M-94-159



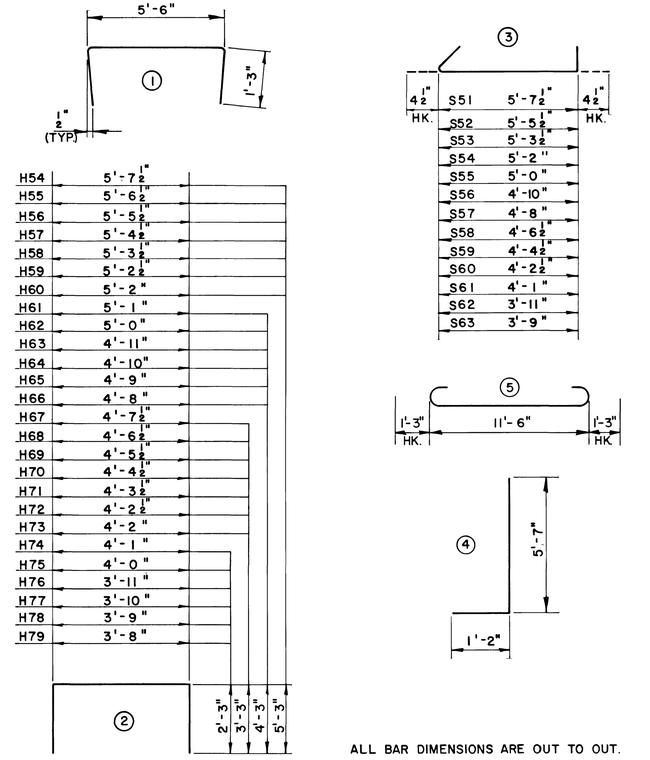
PLAN OF CAP

SCALE: 3/8" = 1'-0"

BILL OF REINFORCING-PIER I

BAR	NO	SIZE	TYPE	LENGTH	BAR	NO.	SIZE	TYPE	LENGTH
B51	16	#8	STR.	33'-6"	H78	2	#5	②	8'-3"
B52	67	#9	⑤	14'-0"	H79	2	#5	②	8'-2"
H51	6	#7	STR.	37'-6"	S51	10	#4	③	6'-4 1/2"
H52	38	#7	①	8'-0"	S52	↑	↑	↑	6'-2 1/2"
H53	52	#5	STR.	29'-8"	S53				6'-0 1/2"
H54	2	↑	②	16'-1 1/2"	S54				5'-11"
H55	↑		↑	16'-0 1/2"	S55				5'-9"
H56				15'-11 1/2"	S56				5'-7"
H57				15'-10 1/2"	S57				5'-5"
H58				15'-9 1/2"	S58				5'-3 1/2"
H59				15'-8 1/2"	S59				5'-1 1/2"
H60				15'-8"	S60				4'-11 1/2"
H61				13'-7"	S61				4'-10"
H62				13'-6"	S62	↓	↓	↓	4'-8"
H63				13'-5"	S63	10	#4	③	4'-6"
H64				13'-4"					
H65				13'-3"					
H66				13'-2"					
H67				11'-1 1/2"					
H68				11'-0 1/2"	V51	60	#7	STR.	25'-9"
H69				10'-11 1/2"	V52	8	↑	↑	14'-0"
H70				10'-10 1/2"	V53	8			20'-0"
H71				10'-9 1/2"	V54	8		STR.	26'-1"
H72				10'-8 1/2"	V55	68	#7	④	6'-9"
H73				10'-8"					
H74				8'-7"					
H75				8'-6"					
H76	↓	↓	↓	8'-5"					
H77	2	#5	②	8'-4"					

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

PROJECT NO.	YEAR	SHEET NO.
I-440-~~4(15)209~~ 4(45)212	1981	23

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

DESIGNED BY DDS DATE
DRAWN BY LGH DATE
SUPERVISED BY DATE
CHECKED BY RHB, ACS DATE

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

PIER I DETAILS (2)

L & N R.R. OVER I-440

STATION 425 + 83.71

DAVIDSON COUNTY

1981

R.R. M.P. BA-188.38

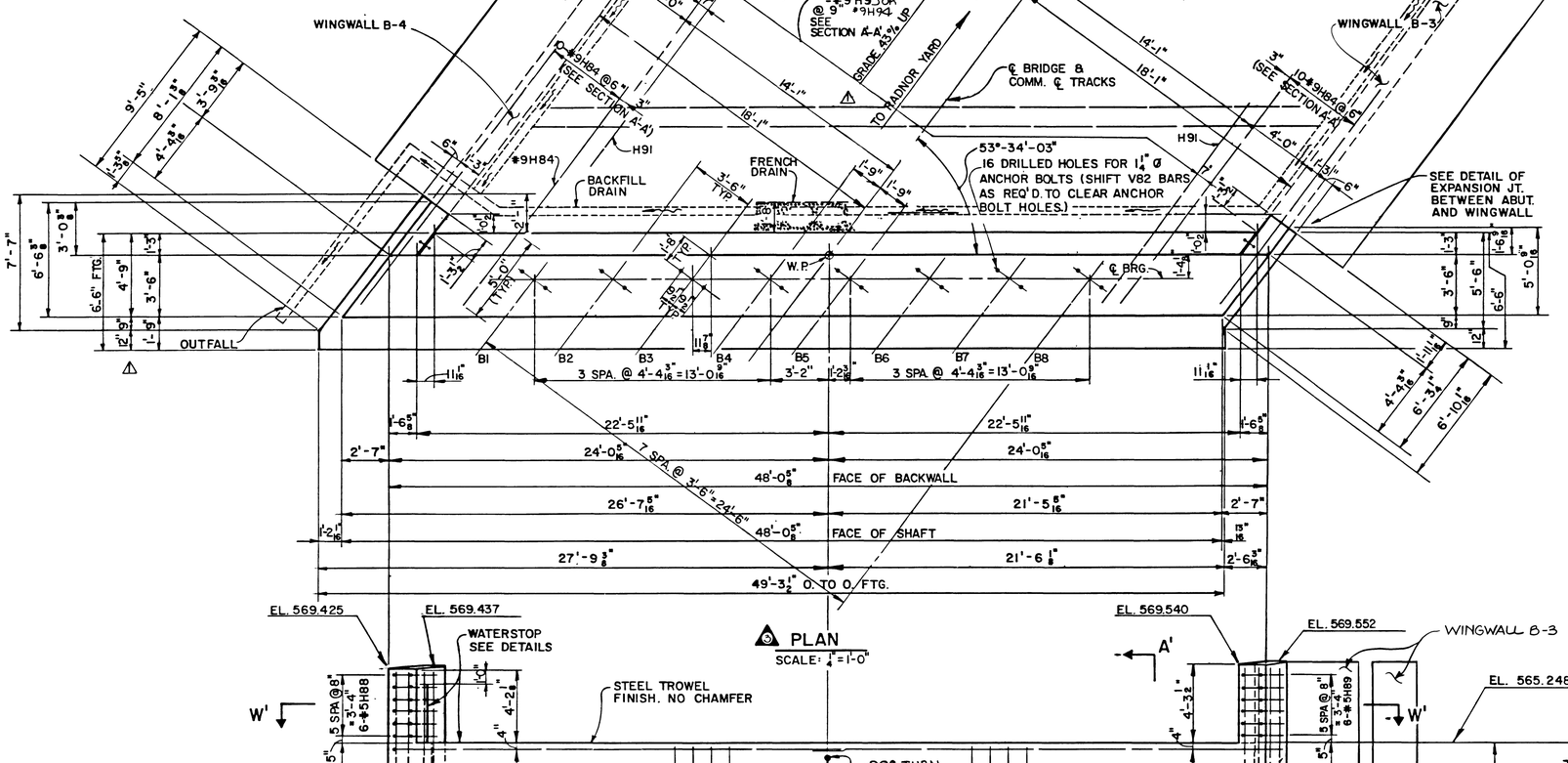
M-94-160

MICROFILMED

PROJECT NO.	YEAR	SHEET NO.
I-440-~~4(15)209~~ 4(45)212	1981	24

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION
1	3-3-82	ACS	SHAFT EXTENSION
			LENGTHENED BARS V85
			NOTE
			SHIFT FOOTING
			BARS H93
2	1-24-83	F.S	CONDUIT
3	6-6-83	GH	FOOTING REVISION

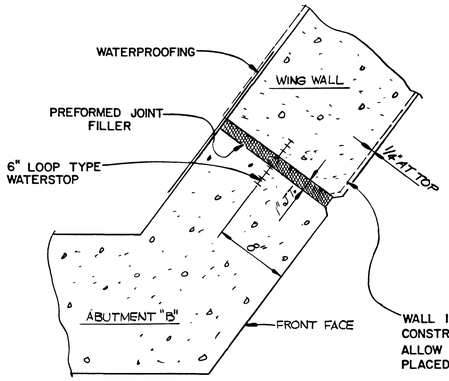


ELEVATION
SCALE: 1/4" = 1'-0"

PLAN
SCALE: 1/4" = 1'-0"

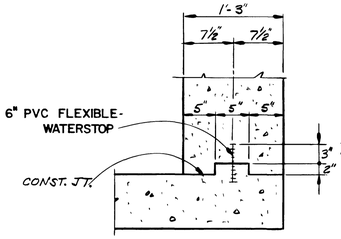
SECTION A'-A'
SCALE: 1/4" = 1'-0"

NOTE: FOR VERTICAL BAR SPACING, SEE FOOTING PLAN SHEET.



WALL IS MORE FLEXIBLE THAN ABUTMENT. WHEN WALL IS CONSTRUCTED, FRONT FACE AT TOP TO BE SET BACK TO ALLOW FOR FORWARD DEFLECTION WHEN EMBANKMENT IS PLACED BEHIND WALL.

TYPICAL DETAIL OF EXPANSION JOINT BETWEEN ABUTMENT & WINGWALL
SCALE: 1 1/2" = 1'-0"



DETAIL "X"
NO SCALE

⚠ * NOTE:
SHOULD TOP OF WINGWALL FOOTING ELEVATION FALL BELOW ELE. 556.17, CONTRACTOR SHALL NOTIFY ENGINEER OF STRUCTURES BEFORE FURTHER CONSTRUCTION.
AFTER EXCAVATING TO THE PLAN FOOTING ELEVATION, THE ENGINEER OF STRUCTURES SHALL BE NOTIFIED BEFORE PLACING ABUTMENT CONCRETE.

⚠⊗ NOTE:
SHAFT EXTENSION TO REST ON UNDISTURBED ROCK (SOUND, UNFRACTURED ROCK).

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

ABUTMENT "B" DETAILS (1)

L & N R.R. OVER I-440

STATION 425 + 83.71

DAVIDSON COUNTY
1981

R.R. M.P. BA-188.38

DESIGNED BY DDS DATE
DRAWN BY RWR DATE
SUPERVISED BY DATE
CHECKED BY ACS DATE

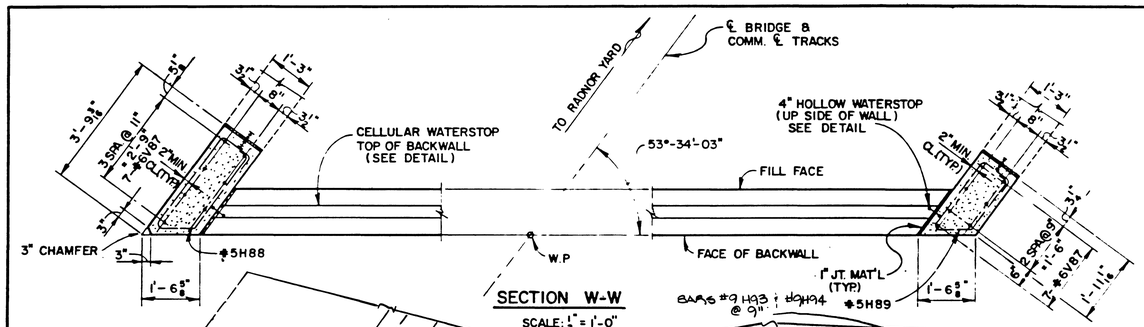
CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

M-94-161

PROJECT NO.	YEAR	SHEET NO.
I-440-~~4(15)209~~ 4(65)212	1981	25

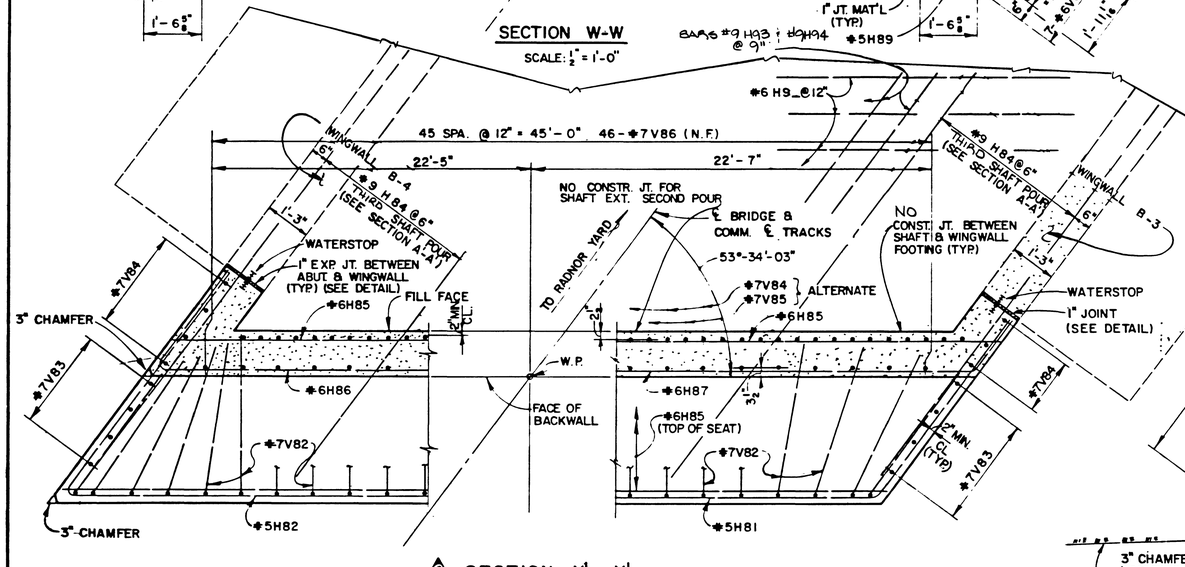
REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION
1	3-3-82	ACS	BARS H91 & H92 MISC SHIFT FOOTING
2	~~6-6-83~~	HALL	FOOTING REVISION



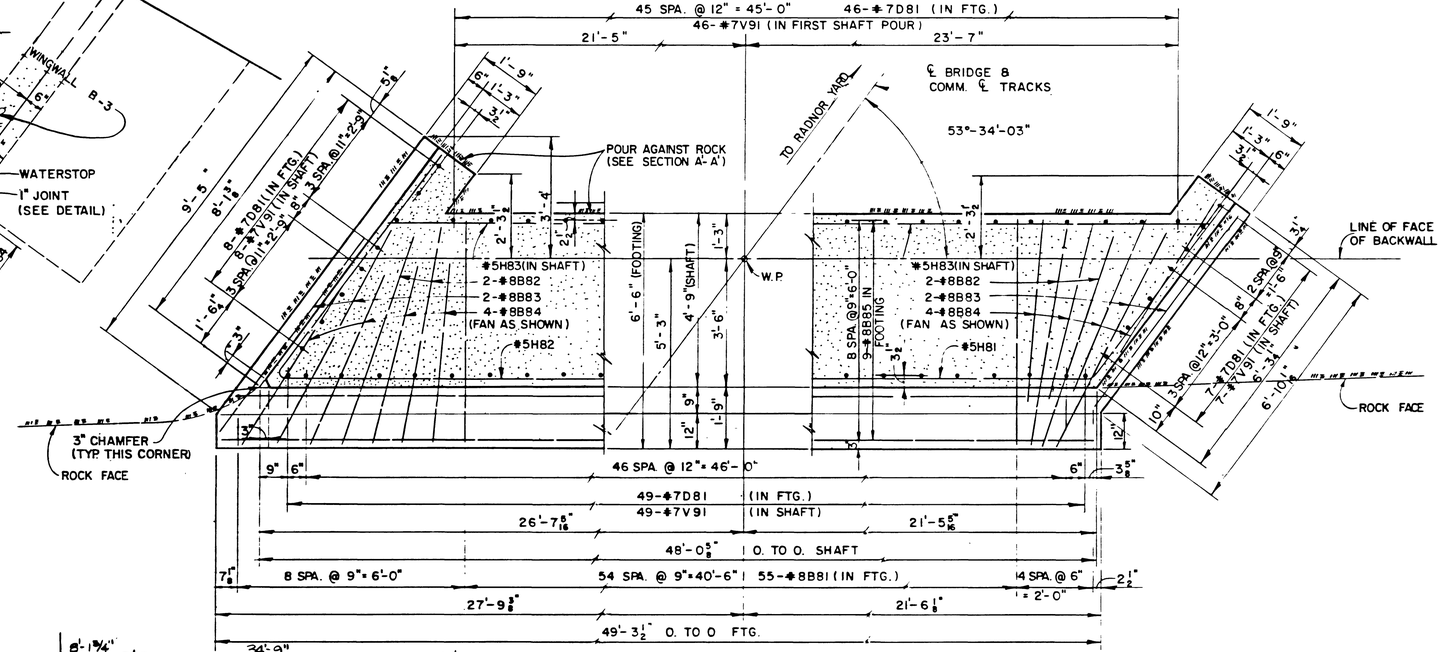
SECTION W-W

SCALE: 1/2" = 1'-0"



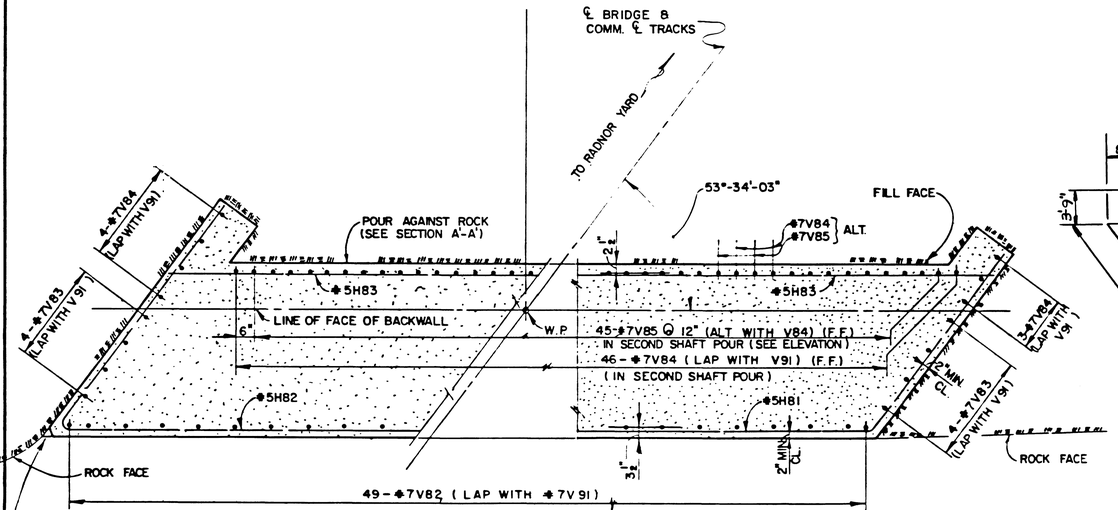
SECTION X'-X'

SCALE: 1/2" = 1'-0"



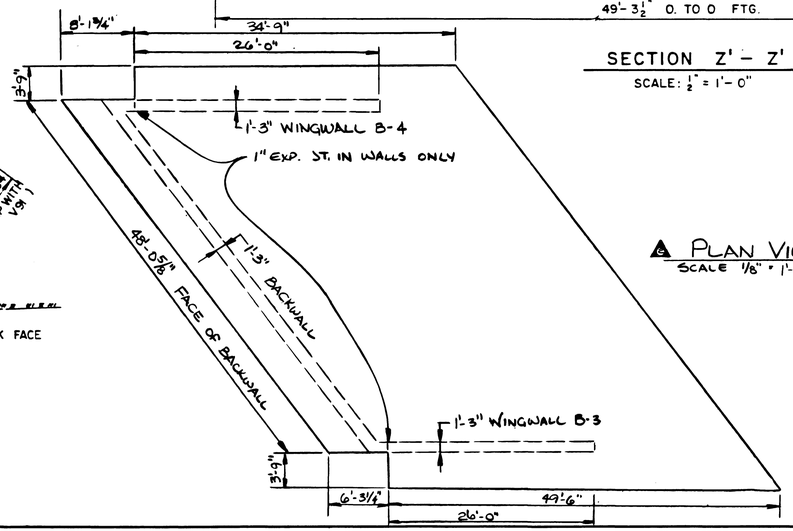
SECTION Z'-Z'

SCALE: 1/2" = 1'-0"



SECTION Y'-Y'

SCALE: 1/2" = 1'-0"



PLAN VIEW

SCALE 1/8" = 1'-0"

DESIGNED BY DDS DATE
DRAWN BY DLV DATE
SUPERVISED BY DATE
CHECKED BY ACS DATE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

ABUTMENT "B" DETAILS (2)

L & N R.R. OVER I-440

STATION 425+83.71

DAVIDSON COUNTY
1981

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

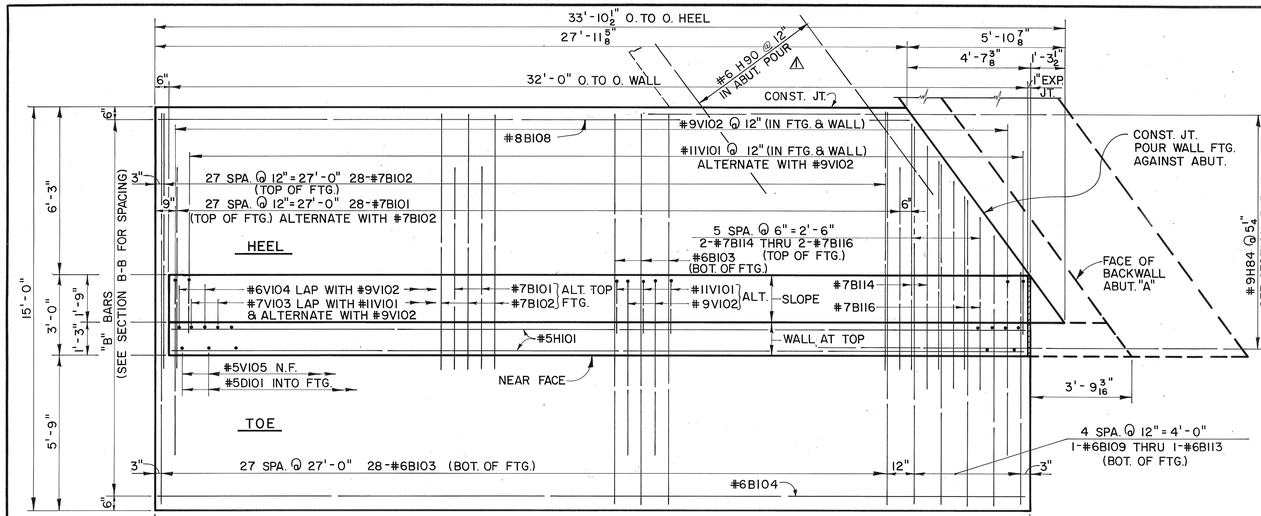
R.R. M.P. BA-188.38

M-94-162

PROJECT NO.	YEAR	SHEET NO.
I-440-~~4(11)209~~ 4(45)212	1981	20

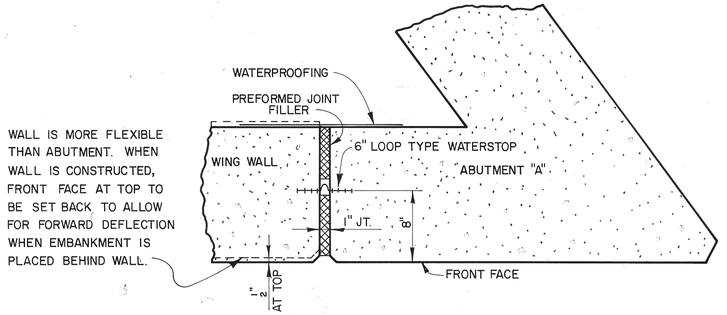
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	2-11-82	ACS	BARS H90 & MISC.



PLAN

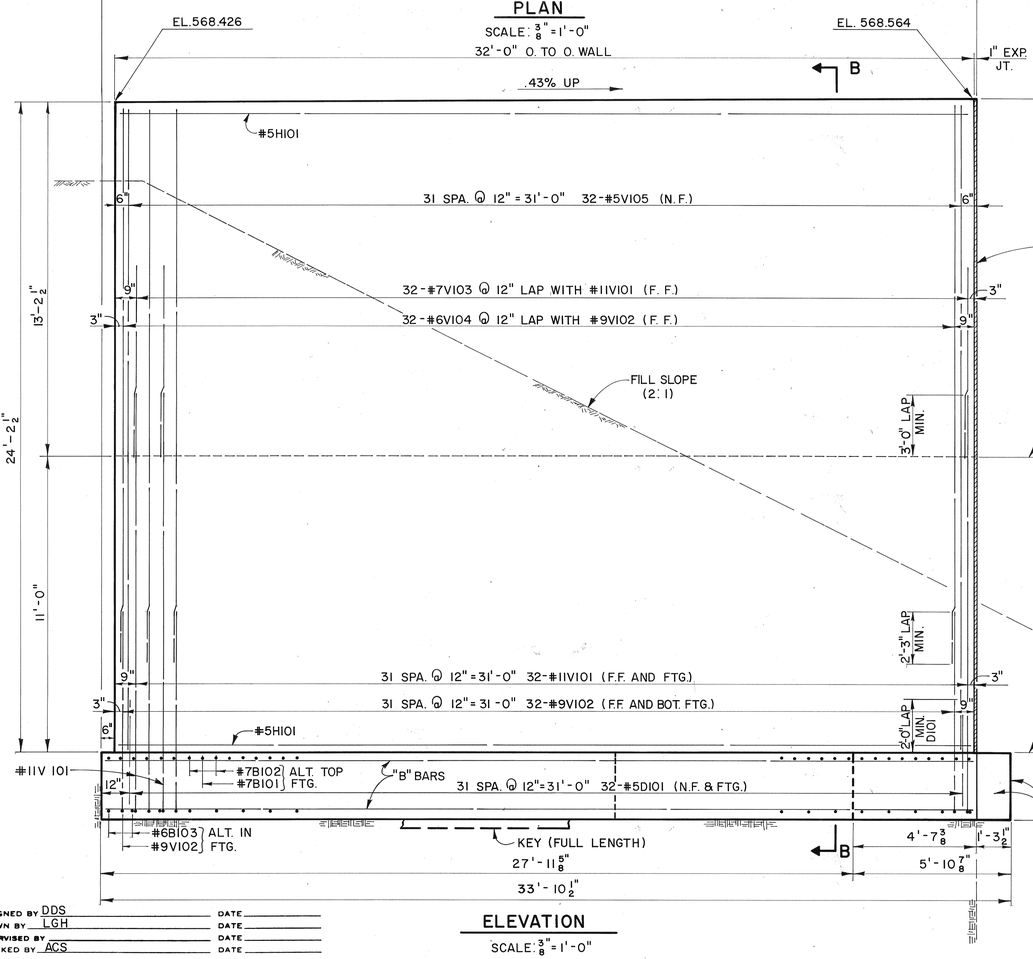
SCALE: $\frac{3}{8}$"=1'-0"



WALL IS MORE FLEXIBLE THAN ABUTMENT. WHEN WALL IS CONSTRUCTED, FRONT FACE AT TOP TO BE SET BACK TO ALLOW FOR FORWARD DEFLECTION WHEN EMBANKMENT IS PLACED BEHIND WALL.

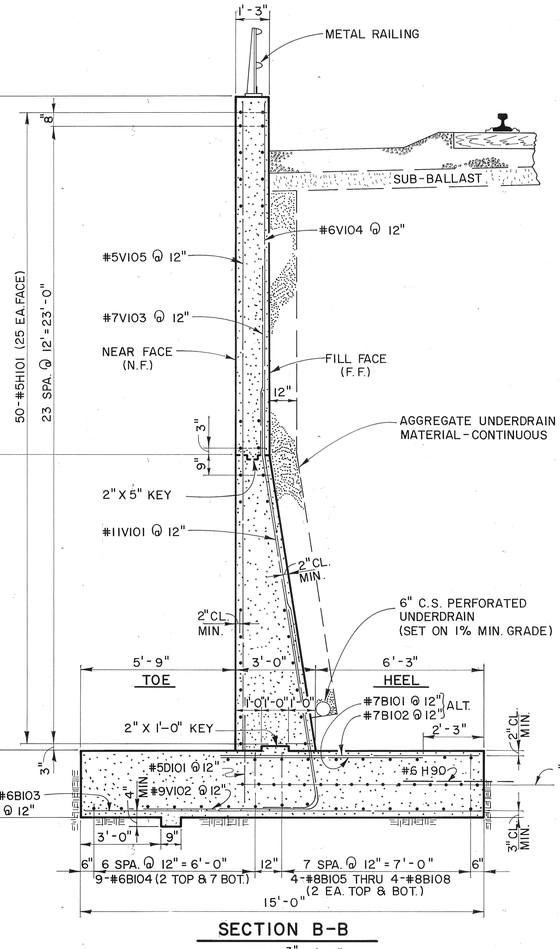
TYPICAL DETAIL OF EXPANSION JOINT BETWEEN ABUTMENT & WING WALL

SCALE: 1½"=1'-0"



ELEVATION

SCALE: $\frac{3}{8}$"=1'-0"



SECTION B-B

SCALE: $\frac{3}{8}$"=1'-0"

DESIGNED BY DDS DATE
DRAWN BY LGH DATE
SUPERVISED BY DATE
CHECKED BY ACS DATE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

WINGWALL A-3 DETAILS

L & N R.R. OVER I-440

STATION 425+83.71

DAVIDSON COUNTY
1981

R.R. M.P. BA-188.38

CORRECT _____ ENGINEER OF STRUCTURES

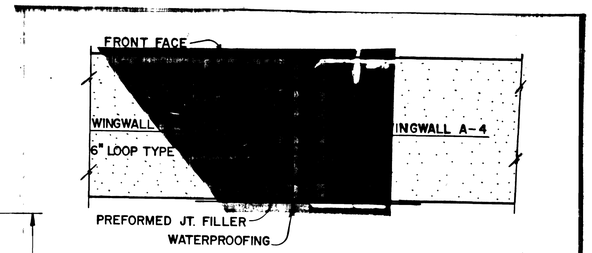
APPROVED _____ DIRECTOR OF HIGHWAYS

M-94-163

PROJECT NO.	YEAR	SHEET NO.
I-440-~~4(13)208~~ 4(45)212	1981	27

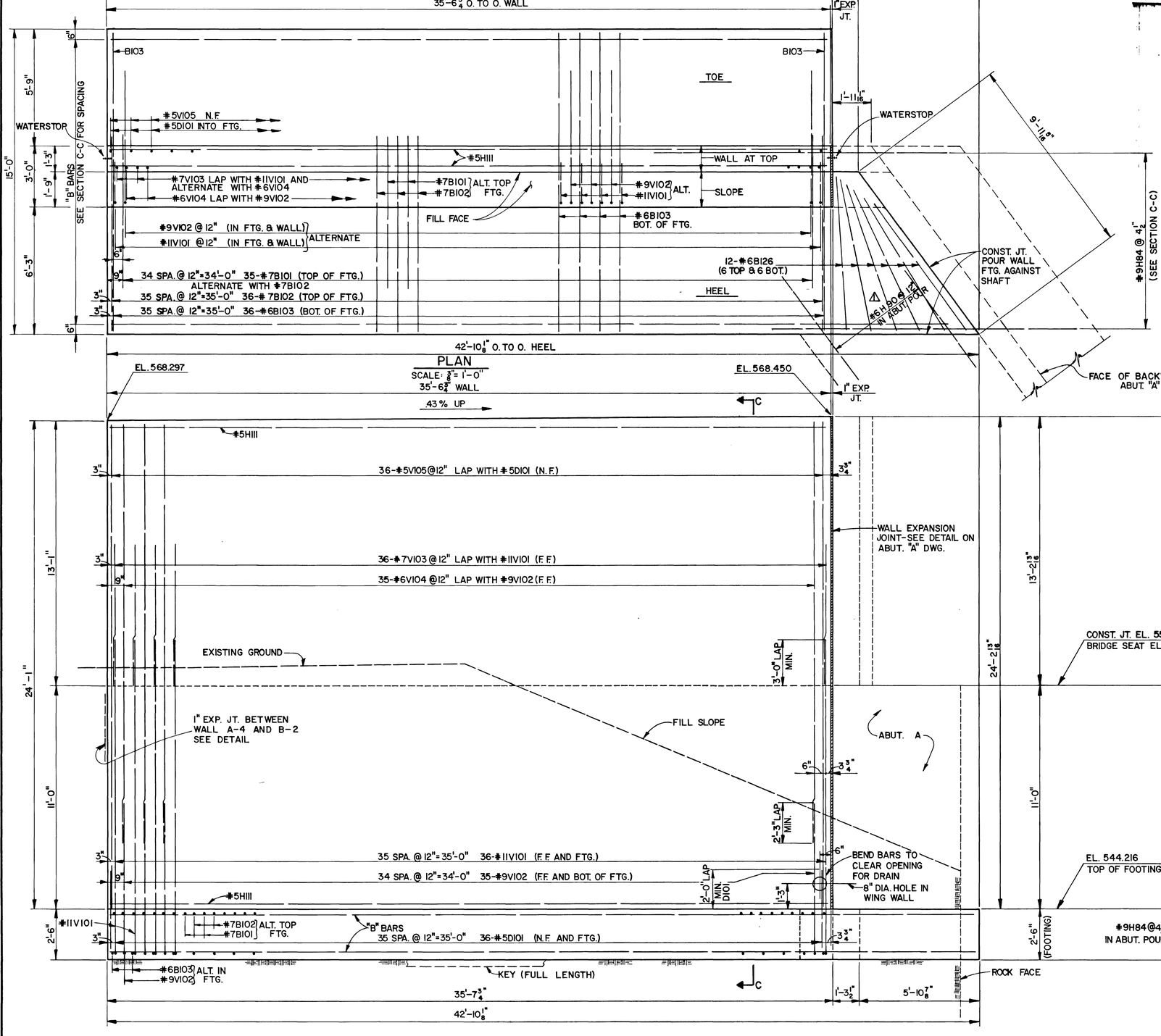
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	2-11-82	ACS	BARS H90 & MISC.



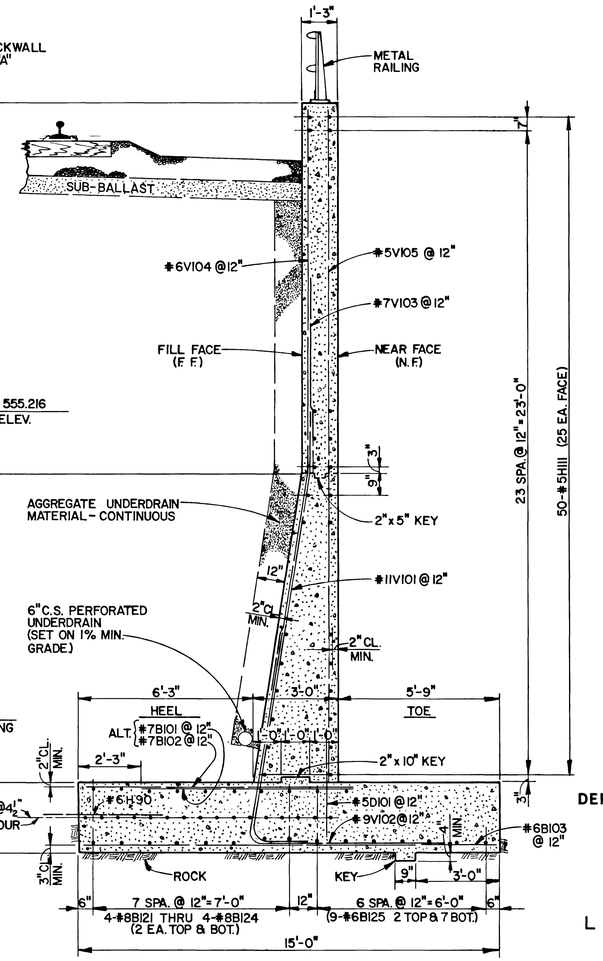
TYPICAL DETAIL OF EXPANSION JOINT BETWEEN WINGWALL B-2 AND A-4

SCALE: 1½" = 1'-0"



ELEVATION

SCALE: ⅜" = 1'-0"



SECTION C-C

SCALE: ⅜" = 1'-0"

DESIGNED BY DDS DATE
DRAWN BY RWR DATE
SUPERVISED BY DATE
CHECKED BY ACS DATE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

WINGWALL A-4 DETAILS

L & N R.R. OVER I-440

STATION 425 + 83.71

DAVIDSON COUNTY

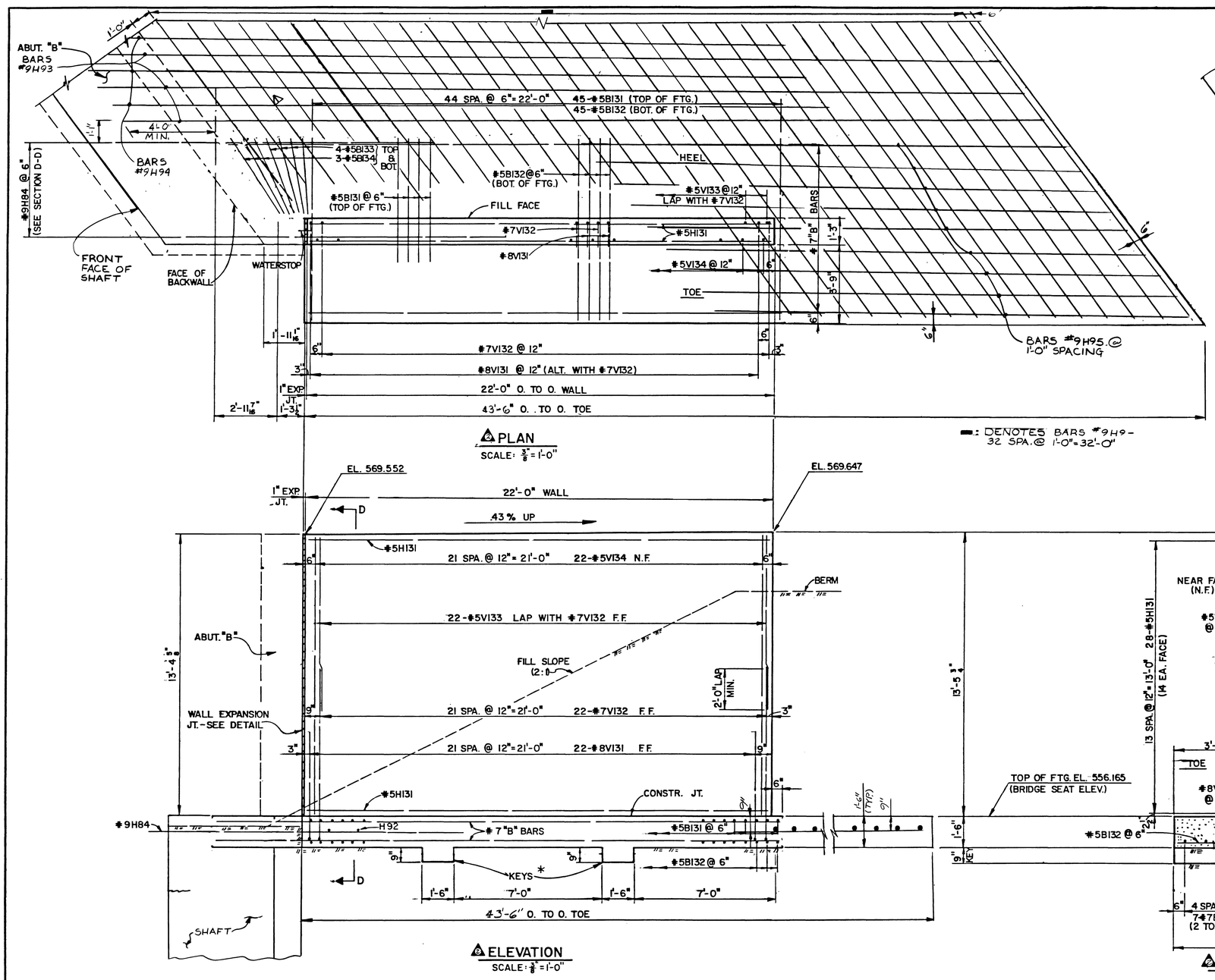
1981

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

R.R. M.P. BA-188.38

M-74-164

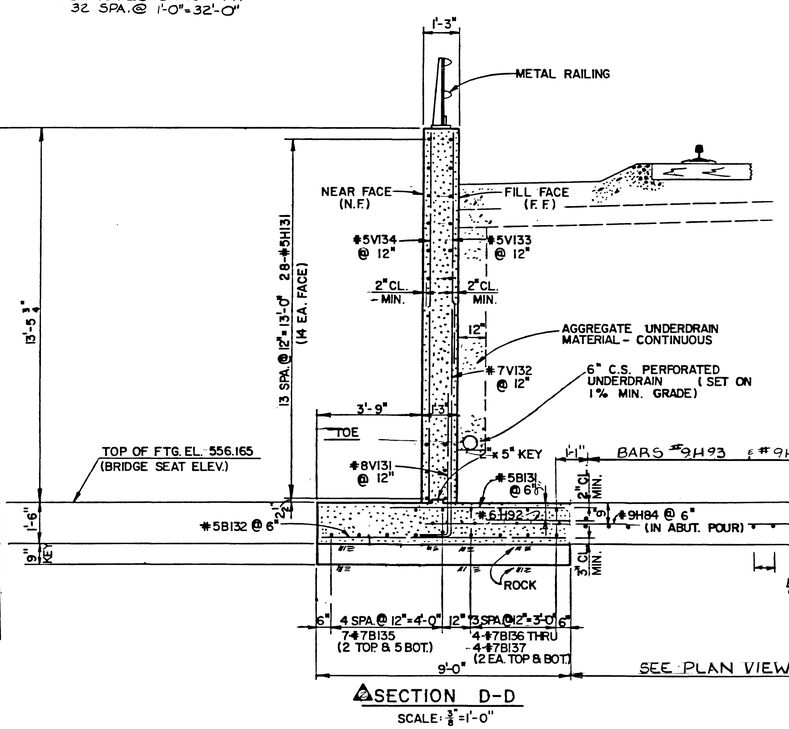


PLAN
SCALE: 3/8"=1'-0"

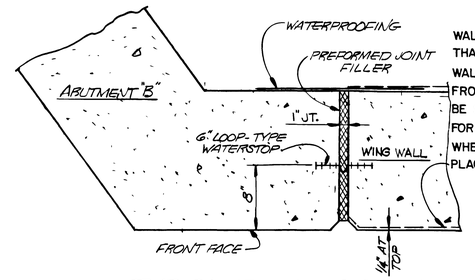
■: DENOTES BARS #9H9- 32 SPA. @ 1'-0"=32'-0"

ELEVATION
SCALE: 3/8"=1'-0"

⚠ * NOTE: CARE SHALL BE TAKEN WHEN CONSTRUCTING KEYS AS THIS IS CRITICAL TO THE STABILITY OF THE ABUTMENT.



SECTION D-D
SCALE: 3/8"=1'-0"



WALL IS MORE FLEXIBLE THAN ABUTMENT. WHEN WALL IS CONSTRUCTED, FRONT FACE AT TOP TO BE SET BACK TO ALLOW FOR FORWARD DEFLECTION WHEN EMBANKMENT IS PLACED BEHIND WALL.

TYPICAL DETAIL OF EXPANSION JOINT BETWEEN ABUTMENT & WINGWALL
SCALE 1 1/2" = 1'-0"

PROJECT NO.	YEAR	SHEET NO.
I-440 ~~4(15)209~~ 4(45)212	1981	28

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	2-11-82	ACS	BARS H92 & MISC NOTE
2	6-6-83	HALL	FOOTING REVISIONS

DESIGNED BY DDS DATE
DRAWN BY RWR DATE
SUPERVISED BY DATE
CHECKED BY ACS DATE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

WING WALL B-3 DETAILS

L & N R.R. OVER I-440

STATION 425 + 83.71

DAVIDSON COUNTY

1981

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

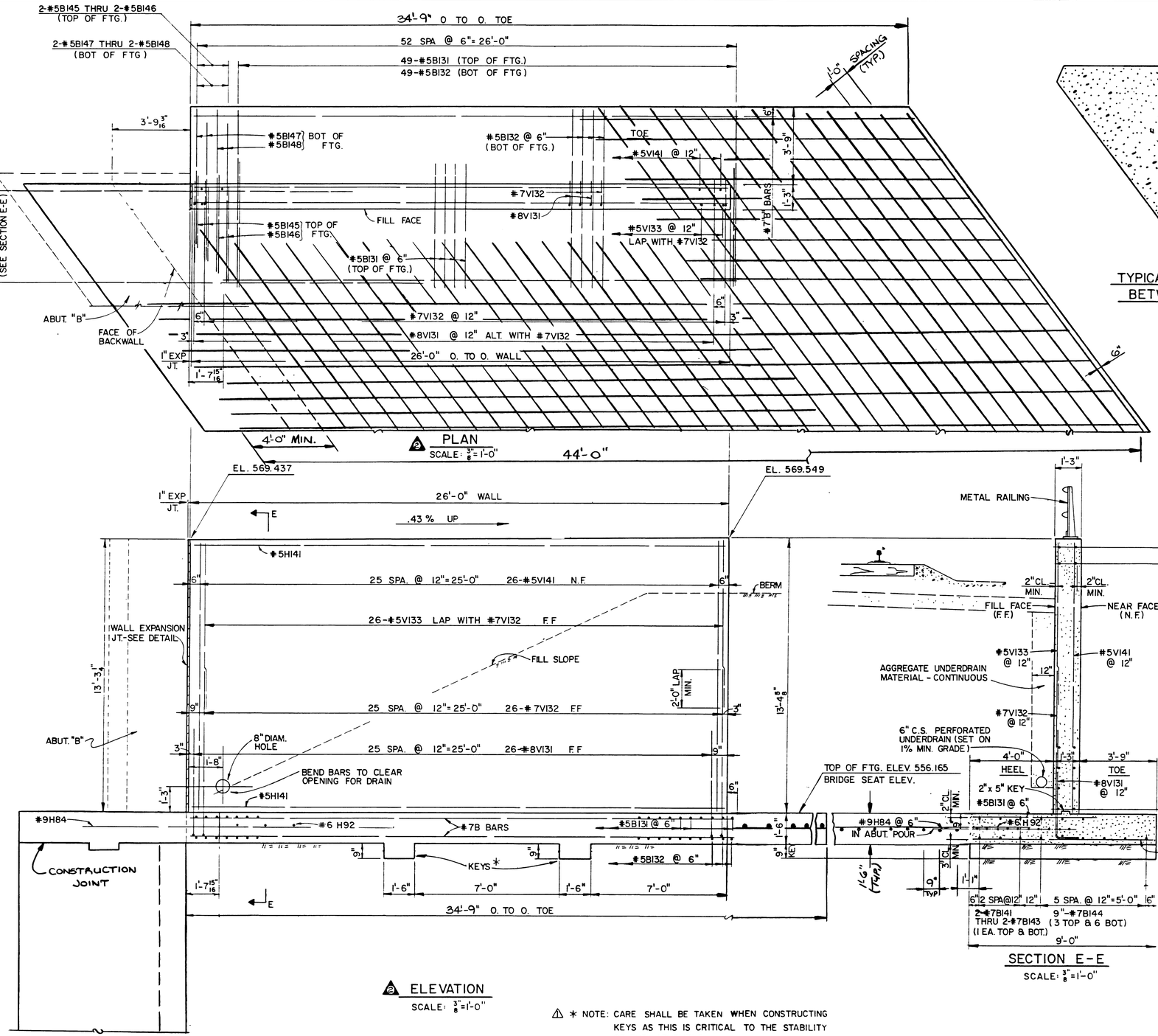
R.R. M.P. BA-188.38

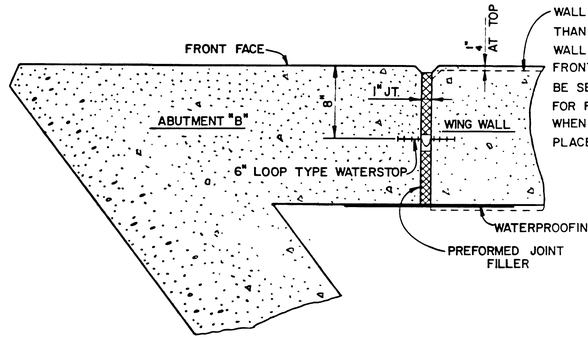
M-94-165

PROJECT NO.	YEAR	SHEET NO.
I-440-~~4(15)209~~ 4(45)212	1981	29

REVISIONS

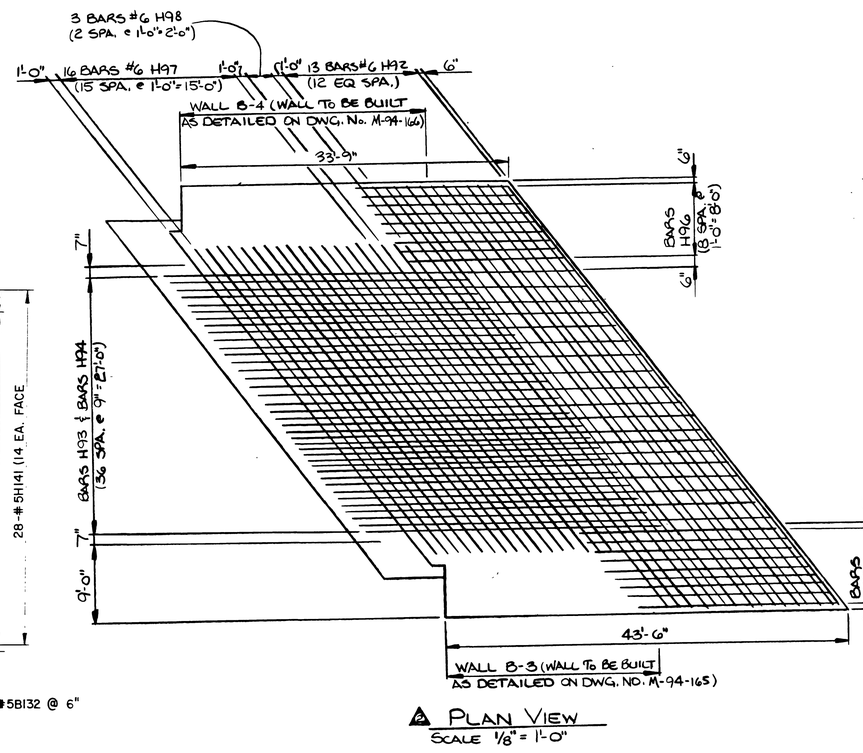
NO	DATE	BY	BRIEF DESCRIPTION
1	2-11-82	ACS	BARS H92 & MISC. NOTE
2	6-6-83	HALL	FOOTING REVISION





TYPICAL DETAIL OF EXPANSION JOINT BETWEEN ABUTMENT & WINGWALL

SCALE: 1 1/2"=1'-0"



PLAN VIEW

SCALE 1/8"=1'-0"

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

WING WALL B-4 DETAILS

L & N R.R. OVER I-440

STATION 425+83.71

DAVIDSON COUNTY
1981

DESIGNED BY DDS DATE
DRAWN BY RWR DATE
SUPERVISED BY DATE
CHECKED BY ACS DATE

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

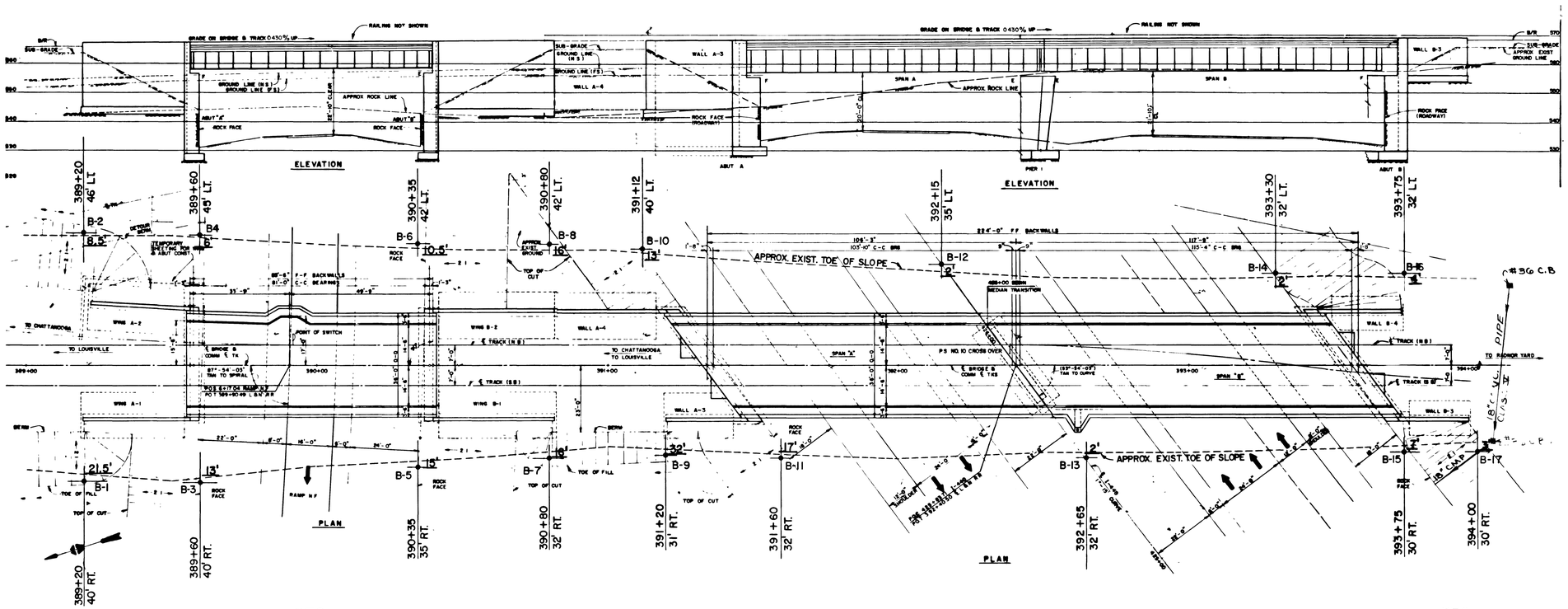
R.R. M.P. BA-188.38

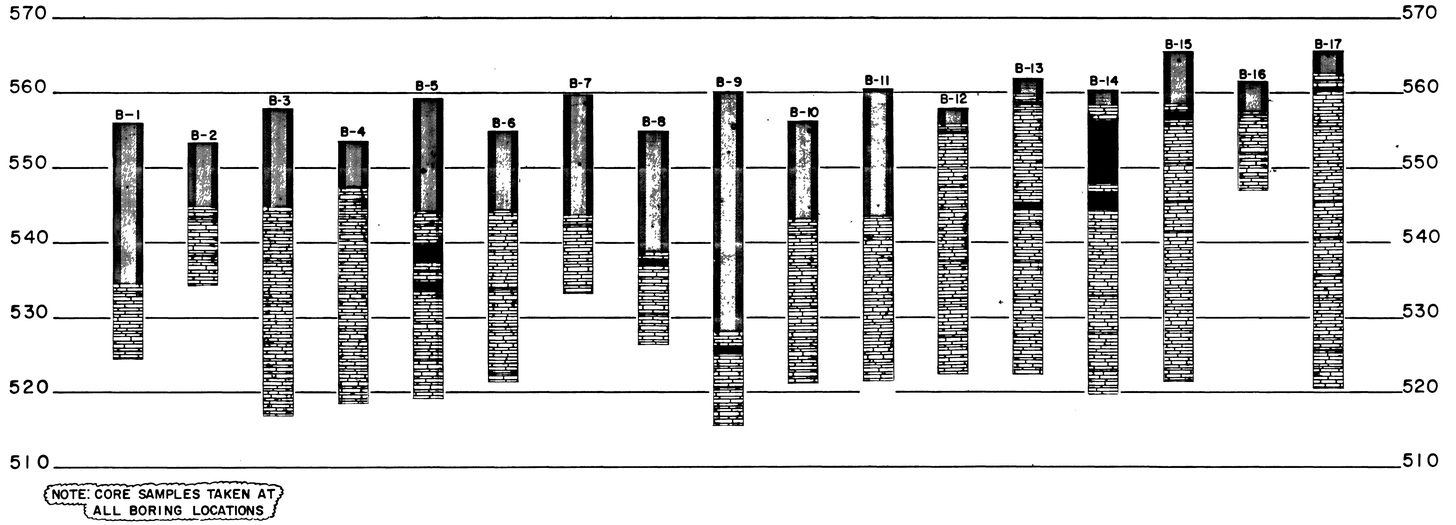
M-94-166

PROJECT NO.	YEAR	SHEET NO.
I-440-~~4(18)208~~ 4(65)212	1981	30

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION





NOTE: CORE SAMPLES TAKEN AT ALL BORING LOCATIONS

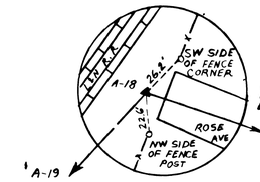
- LEGEND -

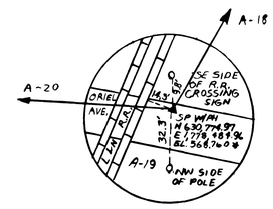
SILTY CLAY (3 TONS/FT.²)

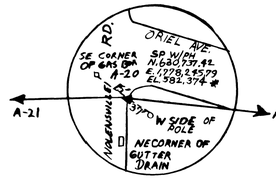
CAVITY

LIMESTONE (20 TONS/FT.²)

CORE B-1 21.5 — DEPTH AUGERED TO REFUSAL; HOLE NO.







STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

INTERSTATE 440

FOUNDATION DATA

L. & N. R.R. OVER I 440 & RAMP "N.F."
STA. 425+83.71 (I-440) & STA. 6+17.04 (RAMP N.F.)
DAVIDSON COUNTY
1981

DESIGNED BY _____ DATE _____
DRAWN BY RON W. DATE _____
SUPERVISED BY _____ DATE _____
CHECKED BY RHB. AGS DATE _____

CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

R.R. M.P. BA-188.34
R.R. M.P. BA-188.38

M-94-167