

FOR TRAFFIC CONTROL SEE SHEET NO. 3, 7, 8 & 9.

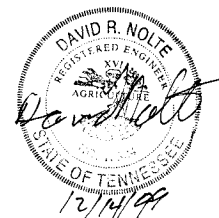
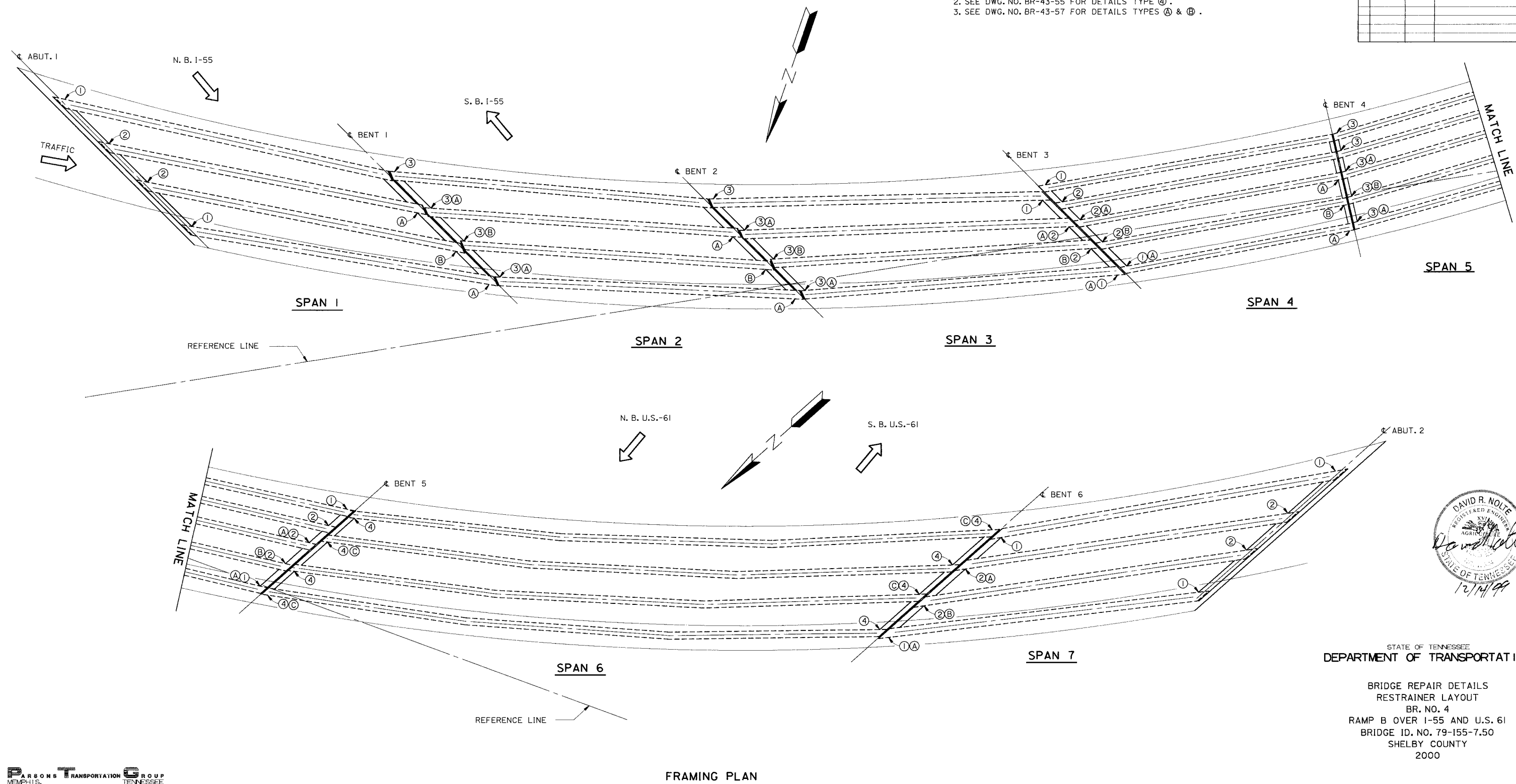
[illegible]

- | | | | | |
|---|---------|--------|---------|------------|
| ① | DENOTES | TYPE ① | SEISMIC | RESTRAINER |
| ② | DENOTES | TYPE ② | SEISMIC | RESTRAINER |
| ③ | DENOTES | TYPE ③ | SEISMIC | RESTRAINER |
| ④ | DENOTES | TYPE ④ | SEISMIC | RESTRAINER |
| Ⓐ | DENOTES | TYPE Ⓐ | SEISMIC | RESTRAINER |
| Ⓑ | DENOTES | TYPE Ⓑ | SEISMIC | RESTRAINER |
| Ⓒ | DENOTES | TYPE Ⓒ | SEISMIC | RESTRAINER |

<u>LIST OF BRIDGE DRAWINGS</u>		
<u>DWG. NO.</u>	<u>DATE OF LAST REVISION</u>	<u>TITLE</u>
BR-43-52		RESTRAINER LAYOUT
BR-43-53		TYPICAL SECTION - SHEET 1 OF 2
BR-43-54		TYPICAL SECTION - SHEET 2 OF 2
BR-43-54		SEISMIC RESTRAINER DETAILS - TYPES ①, ②, ③, ④, & ⑤
BR-43-55		SEISMIC RESTRAINER DETAILS - TYPES ①, ②, & ③
BR-43-56		SEISMIC RESTRAINER DETAILS - TYPE ④ AND ⑤

NOTES:

1. SEE DWG. NOS. BR-43-55 & 56 FOR DETAILS TYPES ①, ②, & ③.
2. SEE DWG. NO. BR-43-55 FOR DETAILS TYPE ④.
3. SEE DWG. NO. BR-43-57 FOR DETAILS TYPES (A) & (B).



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
RESTRAINER LAYOUT
BR. NO. 4
RAMP B OVER I-55 AND U.S. 61
BRIDGE ID. NO. 79-I55-7.50
SHELBY COUNTY
2000

PARSONS **T**RANSPORTATION **G**ROUP
MEMPHIS, TENNESSEE

DESIGNED BY J. C. ETHERTON DATE 8-99
 DRAWN BY J. C. ETHERTON DATE 8-99
 SUPERVISED BY D. R. NOLTE DATE 8-99
 CHECKED BY D. R. NOLTE DATE 8-99

TN. D.O.T. ENGINEERING SUPERVISOR : M. LAWSON.

FRAMING PLAN

BR-43-52

GENERAL NOTES

- SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION. (MARCH 1, 1995 EDITION).
- LOADING: AS SHOWN ON EXISTING PLANS
- DESIGN SPECIFICATIONS: AASHTO 1996 EDITION WITH ADDENDA.
- GROUTED BARS IN DRILLED HOLES: HORIZONTALLY DRILLED HOLES SHALL BE DRILLED 1/2" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH NON-SHRINK GROUT AND THE BAR ROTATED (NOT DRIVEN) TO ITS SEAT. VERTICALLY DRILLED HOLES SHALL BE DRILLED 1/4" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH EPOXY GROUT AND THE BAR SHALL BE DRIVEN TO ITS SEAT. ALL GROUTING MATERIAL SHALL BE APPROVED BY T.O.O.T. MATERIALS AND TESTS.
- SHOP DRAWINGS: SHALL BE SUBMITTED ACCORDING TO SPECIAL PROVISION NO. 105A. EXCEPT SHOP DRAWINGS SHALL BE SUBMITTED TO THE HEADQUARTERS BRIDGE INSPECTION AND REPAIR OFFICE IN LIEU OF THE DIVISION OF STRUCTURES.
- APPROVAL OF MATERIALS: NO FABRICATION SHALL BE STARTED UNTIL THE MATERIALS INVOLVED HAVE BEEN APPROVED BY THE TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF MATERIALS AND TESTS, WITH A COPY OF THE TEST REPORTS ALSO GOING TO THE TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF MATERIALS AND TESTS.
- STRUCTURAL STEEL: SHALL CONFORM TO AASHTO M270 (ASTM A709) GRADE 36 UNLESS OTHERWISE NOTED. SEE SECTION 602 OF THE STANDARD SPECIFICATIONS.
- NEW STEEL SHALL BE ASTM A709 (GRADE 36) MATERIAL GALVANIZED TO ASTM A123 STANDARD.
- WELDING: SHALL BE IN ACCORDANCE WITH ANSI/AASHTO/AWS D1.5-88 BRIDGE WELDING CODE AND THE STANDARD SPECIFICATIONS.
- 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 FOR PAY ITEMS.
- FIELD VERIFICATIONS: THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL MEASUREMENTS AND DIMENSIONS IN ORDER TO FABRICATE THE SEISMIC RESTRAINER DEVICES. SHOP DRAWINGS SHALL BE SUBMITTED TO THE HEADQUARTERS BRIDGE INSPECTION AND REPAIR OFFICE FOR REVIEW BEFORE FABRICATION BEGINS. A COPY OF THE LETTER TRANSMITTING THE SHOP DRAWINGS TO THE HEADQUARTERS BRIDGE INSPECTION AND REPAIR OFFICE SHALL BE FURNISHED TO THE PROJECT ENGINEER. SHOP DRAWING SUBMITTAL SHALL BE IN ACCORDANCE WITH SPECIAL PROVISION NO. 105A. THE SEISMIC RESTRAINERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS SHOWN ON THE SHOP DRAWINGS.
- DISPOSAL OF MATERIALS: ALL MATERIALS NOT USED IN THE COMPLETED STRUCTURE NOR TO BE FURNISHED TO THE DOT SHALL BE DISPOSED OF OFF SITE BY THE CONTRACTOR.
- SPECIAL NOTE TO CONTRACTOR: CONTRACTOR SHALL USE EXTREME CARE AND TAKE ANY MEASURE NECESSARY TO INSURE THAT NO DEBRIS IS DROPPED INTO ROADWAY BELOW. ANY DEBRIS WHICH IS ALLOWED TO DROP BELOW THE BRIDGE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. COST OF REMOVING AND DISPOSING OF DEBRIS SHALL BE INCLUDED IN ITEMS BID ON.
- WIRE ROPE SHALL BE AS SPECIFIED IN AASHTO DESIGNATION M277-81 (1990).
- WIRE ROPE CLIPS: EACH CONNECTION SHALL HAVE A MINIMUM OF 4 WIRE ROPE CLIPS, AND CUMULATIVELY DEVELOP 125 PERCENT OF THE YIELD STRESS OF THE WIRE ROPE. CLIPS SHALL BE CROSBY G-450 OR EQUAL.
- WIRE ROPE THIMBLES SHALL BE CROSBY G-414 OR EQUAL.

UTILITIES NOTE

THE LOCATIONS OF UTILITIES SHOWN WITHIN PLANS ARE APPROXIMATE ONLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY CONTACTING THE UTILITY COMPANIES INVOLVED.

UNLESS OTHERWISE NOTED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR ITS REPRESENTATIVE. THE CONTRACTOR AND THE UTILITY OWNERS WILL BE REQUIRED TO CO-OPERATE WITH EACH OTHER IN ORDER TO EXPEDITE THE WORK REQUIRED BY THIS CONTRACT.

THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING THE UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT WILL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.

THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR CONTACTING ALL AFFECTED UTILITIES PRIOR TO SUBMITTING HIS BID IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF THE WORK FOR THE PROJECT. SOME UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS, WHILE SOME WORK MAY BE REQUIRED "AROUND" UTILITY FACILITIES THAT WILL REMAIN IN PLACE. IT IS UNDERSTOOD AND AGREED THAT THE CONTRACTOR WILL RECEIVE NO ADDITIONAL COMPENSATION FOR ANY DELAYS OR INCONVENIENCE CAUSED BY THE UTILITY ADJUSTMENTS.

THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF THE UTILITIES. PRIOR TO COMMENCING THE WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY.

SOME UTILITIES CAN BE LOCATED BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC. AT 1-800-351-1111.

PARSONS TRANSPORTATION GROUP
MEMPHIS, TENNESSEE

DESIGNED BY: J.R. PEGG DATE 8-92
DRAWN BY: J.R. PEGG DATE 8-92
SUPERVISED BY: M. BRYANT DATE 8-92
CHECKED BY: D.R. NOLTE DATE 8-92

TN. D.O.T. ENGINEERING SUPERVISOR : M. LAWSON.

LIST OF SPECIAL PROVISIONS

SPECIAL PROVISION NUMBER	DATE OF LAST REV.	REGARDING
105A	12-15-97	APPROVAL OF SHOP DRAWINGS
1. 79I00550043 & 044		
2. 79I00550045 & 046		
3. 79I00550047 & 048		
4. 79I00550055		
5. 79I00550061		
6. 79I00550067 & 068		
7. 79I00550069		
8. 79I00550071 & 072		

LIST OF STANDARD DRAWINGS

DWG. NO.	DATE OF LAST REV.	TITLE
T-FAB-1	5-27-97	FLASHING YELLOW ARROW BOARD
T-PBR-1	1-19-96	INTERCONNECTED PORTABLE BARRIER RAIL
T-PBR-2		DETAIL FOR VERTICAL PANELS
T-WZ-10		ADVANCE ROAD WORK SIGNING ON HIGHWAYS AND FREEWAYS
* T-WZ-11		ONE LANE CLOSURE DETAIL ON DIVIDED HIGHWAYS
* T-WZ-12		ONE LANE CLOSURE DETAIL FOR BRIDGES ON DIVIDED HIGHWAYS
* T-WZ-18		SHOULDER CLOSURE DETAIL FOR FREEWAYS AND DIVIDED HIGHWAYS

* TO BE PRINTED WITH PLANS

LEGEND:

BRIDGE NO. 1	=	BRIDGE ID. NO. 79-155-6.48
BRIDGE NO. 2	=	BRIDGE ID. NO. 79-155-6.67
BRIDGE NO. 3	=	BRIDGE ID. NO. 79-155-6.71
BRIDGE NO. 4	=	BRIDGE ID. NO. 79-155-7.50
BRIDGE NO. 5	=	BRIDGE ID. NO. 79-2842-5.20
BRIDGE NO. 6	=	BRIDGE ID. NO. 79-155-8.78
BRIDGE NO. 7	=	BRIDGE ID. NO. 79-155-8.80
BRIDGE NO. 8	=	BRIDGE ID. NO. 79-155-8.92

NOTE: ANY DISTURBED AREAS ALONG ROADWAYS TO BE SEEDED AND MULCHED. COST TO BE INCLUDED IN COST OF ITEMS BID ON.

NOTE: ALL STRUCTURAL STEEL FOR SEISMIC RESTRAINERS AND LATERAL RESTRAINERS, EXCEPT FOR NON-CORROSIVE WIRE ROPE AND THIMBLES, SHALL BE FABRICATED BY ATSC, SIMPLE SPAN BRIDGES CATEGORY, CERTIFIED SHOP.

PROJECT NO.	YEAR	SHEET NO.
79005-4153-04	2000	2
REVISIONS		
NO.	DATE	BY
1	1-31-00	DRN
2	1-31-00	DRN
3	2-7-00	DRN

ESTIMATED TRAFFIC CONTROL QUANTITIES TYPE 'A' AND TYPE 'B'

ITEM	DESCRIPTION	UNIT	BRIDGE NO. 1	BRIDGE NO. 2	BRIDGE NO. 3	BRIDGE NO. 4	BRIDGE NO. 5	BRIDGE NO. 6	BRIDGE NO. 7	BRIDGE NO. 8	TOTAL
705-08.62	GUARDRAIL ENERGY ABSORBING TERMINAL (PORTABLE)	EACH				1					1
712-01	TRAFFIC CONTROL	L.S.	.1	.2	.1	.3	.2			.1	1
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	1810	1820	1810	1420	1085			245	9190
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	30	55	30	86	49			38	288
712-05.03	WARNING LIGHTS (TYPE C)	EACH	17	18	17	47	26			18	143
712-06.01	VERTICAL PANELS	S.F.	48	48	48	58	36			12	250
712-06.10	NEW SIGNS (CONSTRUCTION)	S.F.	201	328	201	609	399			318	2055
712-08.03	ARROW BOARD (TYPE C)	EACH	1	2	1	6	4			2	16
713-16.03	CHANGEABLE MESSAGE SIGN	EACH	-	-	-	3	-			-	3
717-01	MOBILIZATION	L.S.	.1	.2	.1	.3	.2			.1	1

NOTE: PLACEMENT OF FLEXIBLE DRUMS TO BE DESIGNATED BY ENGINEER.
NOTE: FOR TRAFFIC CONTROL DETAILS SEE SHEET NOS. 3 THRU 12.

ESTIMATED QUANTITIES - BRIDGE NOS. 1 - 8

ITEM	DESCRIPTION	UNIT	BRIDGE NO. 1	BRIDGE NO. 2	BRIDGE NO. 3	BRIDGE NO. 4	BRIDGE NO. 5	BRIDGE NO. 6	BRIDGE NO. 7	BRIDGE NO. 8	TOTAL
602-10.39	STRUCTURAL STEEL BRIDGE (REPAIRS)	EACH	-	36	-	30	48	38		32	184
604-03.60	BRIDGE JOINT SEISMIC MODIFICATION	EACH	104	98	90	51	90	82	24	48	587

- INCLUDES THE COST OF LABOR, GALVANIZING, DRILLING, WELDING, ANCHOR BOLTS, PLATES, AND ANY OTHER MISCELLANEOUS MATERIALS REQUIRED TO INSTALL STRUCTURAL STEEL LATERAL RESTRAINERS SEE INDIVIDUAL BRIDGE FOR DETAILS.
- INCLUDES THE COST OF LABOR, GALVANIZING, DRILLING, ANCHOR BOLTS, STEEL ROPE AND ITS ACCESSORIES, PLATES, H.S. BOLTS AND ANY OTHER MISCELLANEOUS MATERIALS REQUIRED TO INSTALL SEISMIC RESTRAINERS SEE INDIVIDUAL BRIDGE FOR DETAILS.
- THE CONSTRUCTION ZONE GUARDRAIL ENERGY ABSORBING TERMINAL SHALL BE A PORTABLE ENERGY ABSORBABLE TERMINAL MEETING THE REQUIREMENTS OF NCHRP 350 FOR TEST LEVEL 3.
- 250 S.F. VERTICAL PANELS INCLUDE 142 S.F. VP-1R AND 108 S.F. VP-1L.

FOR ACCESS TO BRIDGE NUMBERS 6 & 7
CALL RICK SANDEE AT (901) 947-8312

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS

GENERAL NOTES AND ESTIMATED QUANTITIES

SHELBY COUNTY
2000

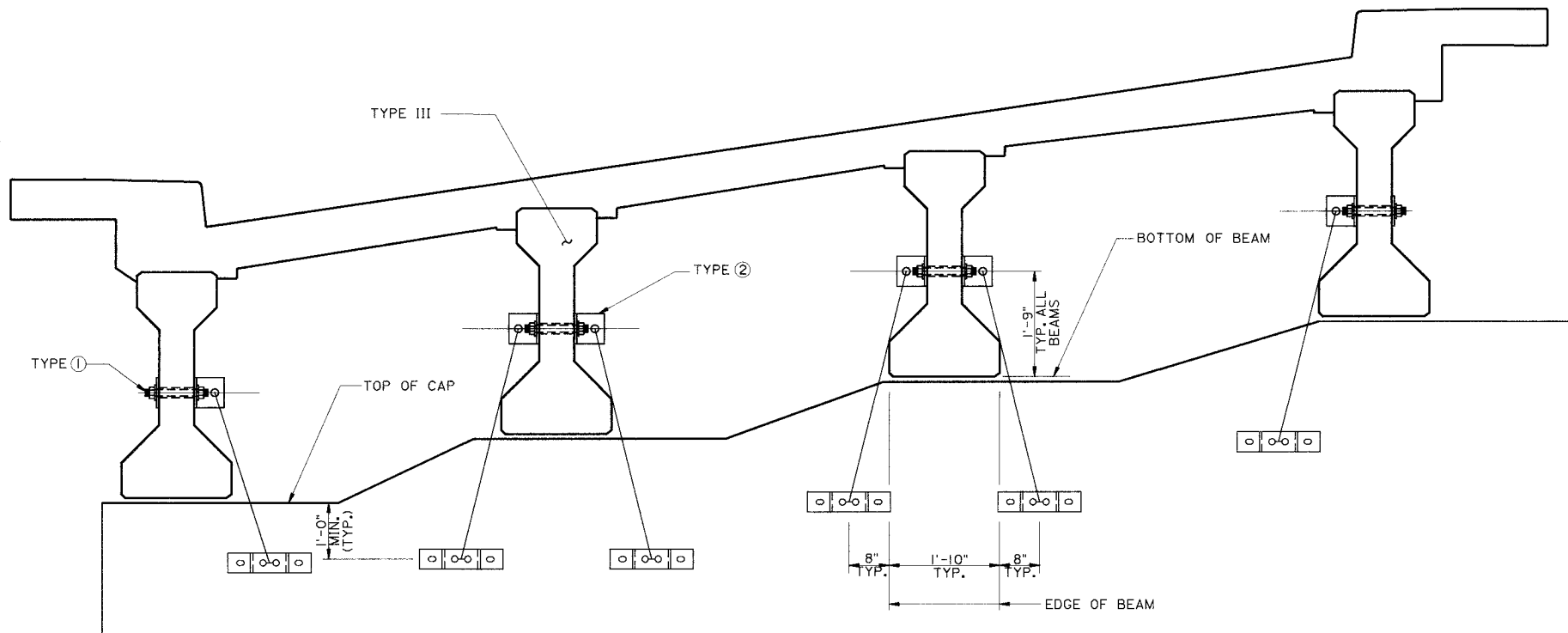
NOT FOUND - DRAWING NO. NOT
KNOWN

ITEM	DESCRIPTION	UNIT	QUANTITY
602-10.39	STRUCTURAL STEEL BRIDGE (REPAIRS)	EACH	30
604-03.60	BRIDGE JOINT SEISMIC MODIFICATION	EACH	51

THE COST OF ALL LABOR, GALVANIZING AND MATERIALS REQUIRED FOR COMPLETE INSTALLATION OF SEISMIC RESTRAINTERS TYPES ②, ③, & ④ ARE TO BE INCLUDED IN THE PRICE BID FOR ITEM NO. 604-03.60 BRIDGE JOINT SEISMIC MODIFICATION, EACH. A PAIR OF STEEL ROPES AND ACCOMPANYING PLATES, BOLTS, NUTS, AND WASHERS IS CONSIDERED ONE ASSEMBLY.

THE COST OF ALL LABOR, GALVANIZING AND MATERIALS REQUIRED FOR COMPLETE INSTALLATION OF SEISMIC RESTRAINERS TYPES ① AND ② IS TO BE INCLUDED IN THE PRICE BID FOR ITEM NO. 604-03.60 BRIDGE JOINT SEISMIC MODIFICATION, EACH. A SINGLE OF STEEL ROPE AND ACCOMPANYING PLATES, BOLTS, NUTS, AND WASHERS IS CONSIDERED ONE ASSEMBLY.

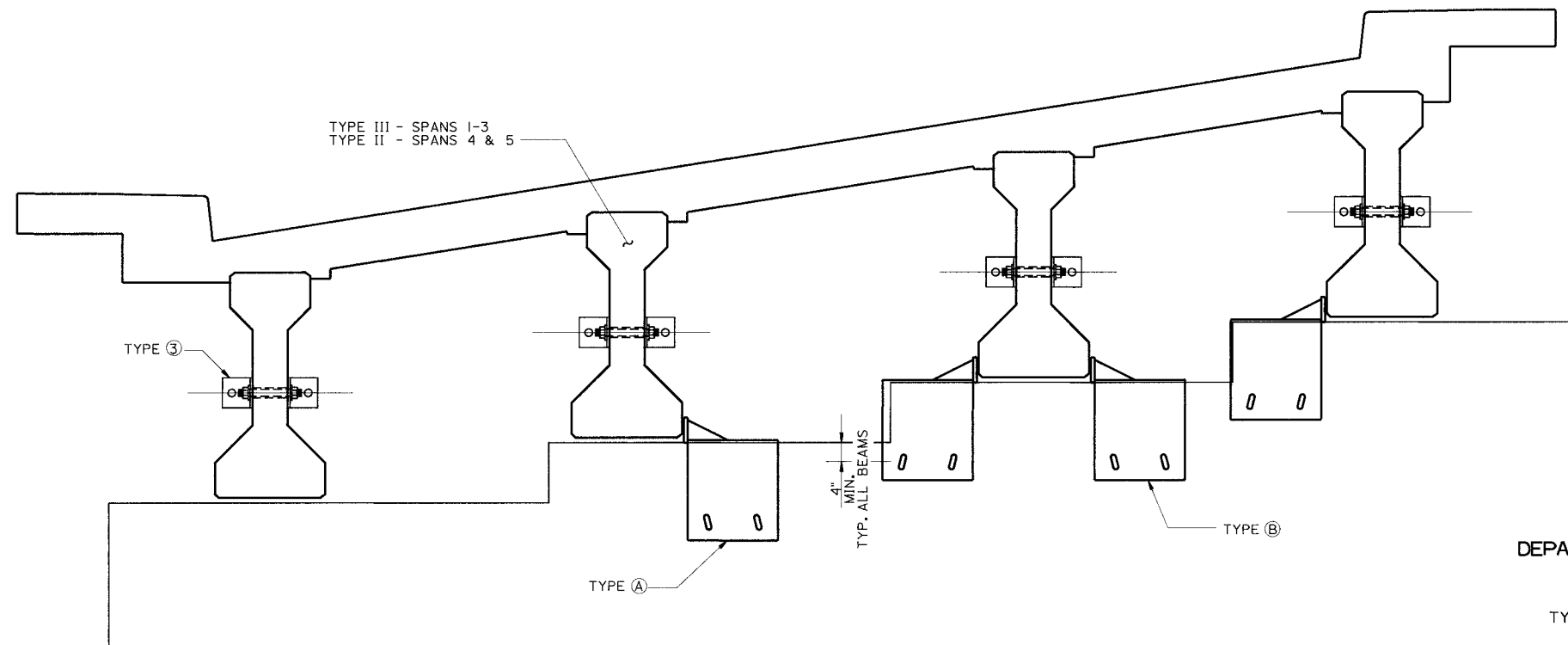
THE COST OF LABOR, CONCRETE REMOVAL, NON-SHRINK GROUT, GALVANIZING, DRILLING, WELDING, ANCHOR BOLTS, PLATES, ANGLES, AND ANY OTHER MISCELLANEOUS MATERIALS REQUIRED TO INSTALL STRUCTURAL STEEL LATERAL RESTRAINTS TYPES (A) AND (B) IS TO BE INCLUDED IN THE PRICE BID FOR ITEM NO. 602-10.39, STRUCTURAL STEEL BRIDGE (REPAIRS), EACH.

[illegible]

* NOT DRAWN TO SCALE

(SPANS 1 & 7)

1. SEE DWG. NOS. BR-43-55 AND BR-43-56 FOR ADDITIONAL DETAILS TYPES ①, ②, ③.
2. SEE DWG. NO. BR-43-57 FOR ADDITIONAL DETAILS TYPES Ⓐ & Ⓑ.
3. SEE DWG. NO. BR-43-41 FOR STEEL ROPE DETAILS.
4. SEE DWG. NO. BR-43-52 FOR LOCATION OF RESTRAINERS.

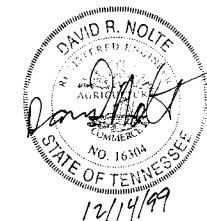


(SPANS 1 - 5)
(SPANS 1 - 3 SHOWN)
(SPANS 4 & 5 SIMILAR)

PARSONS **T**RANSPORTATION **G**ROUP
MEMPHIS, TENNESSEE

DESIGNED BY J. C. ETHERTON DATE 8-99
 DRAWN BY J. C. ETHERTON DATE 8-99
 SUPERVISED BY D. R. NOLTE DATE 8-99
 CHECKED BY D. R. NOLTE DATE 8-99

TN. D.O.T. ENGINEERING SUPERVISOR : M. LAWSON.

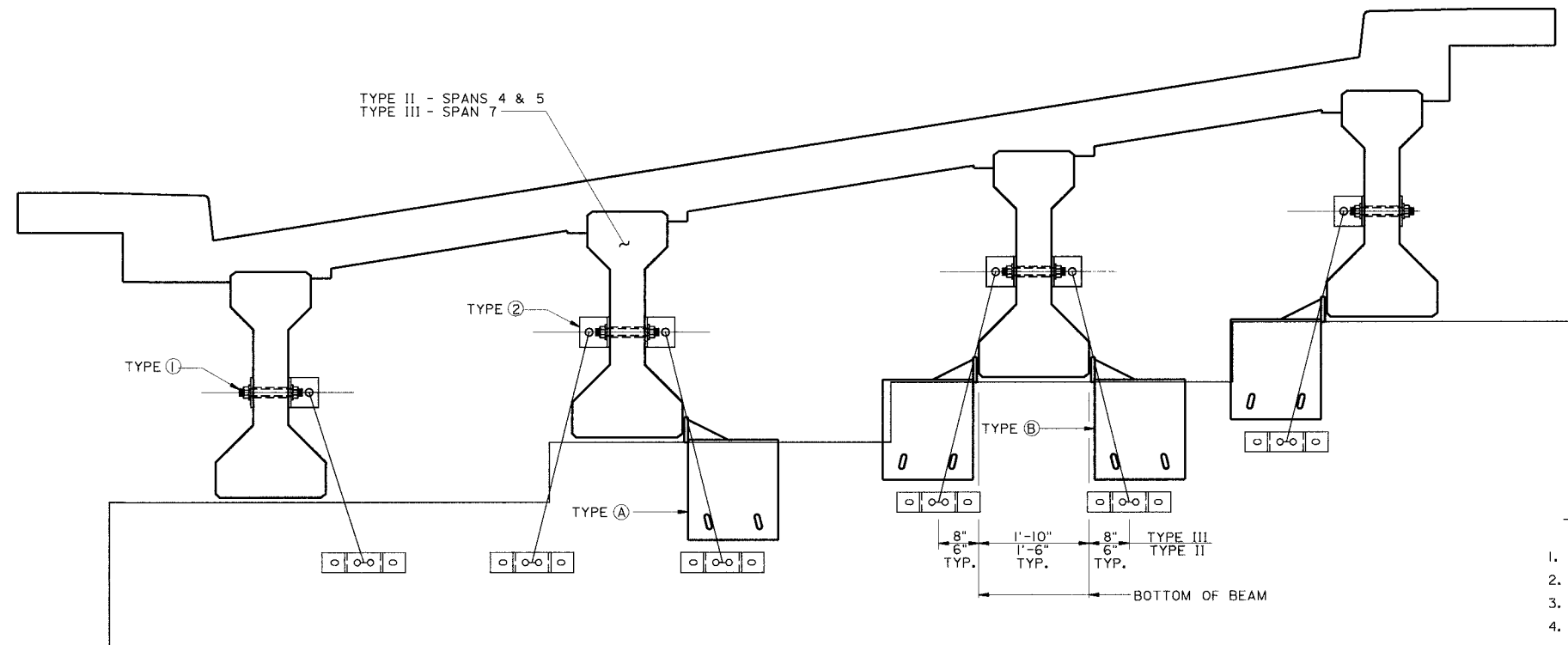


STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
TYPICAL SECTION - SHEET 1 OF 2
BR. NO. 4
RAMP B OVER I-55 & US-61
BRIDGE ID. NO. 79-I-55-7.50
SHELBY COUNTY
2000

PROJECT NO.		YEAR	SHEET NO.
79005-4153-04		2000	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

* NOT DRAWN TO SCALE

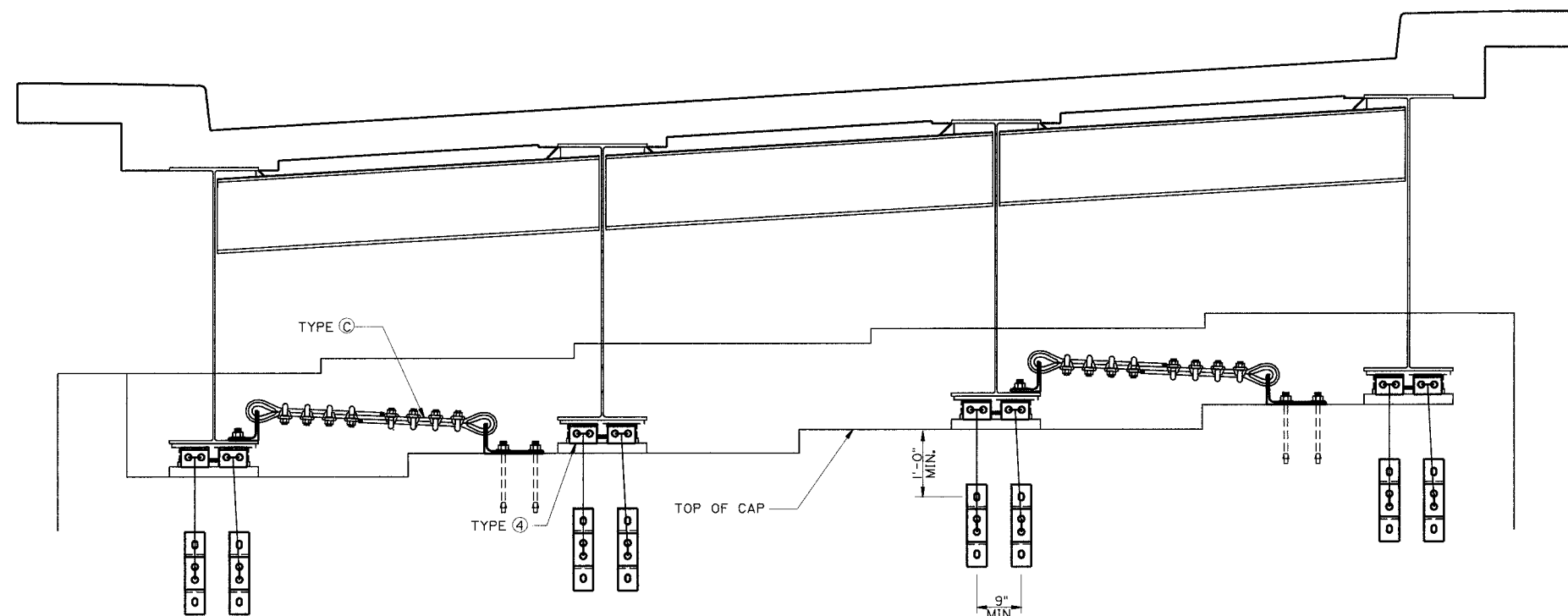


NOTES:

1. SEE DWG. NOS. BR-43-55 AND BR-43-56 FOR ADDITIONAL DETAILS TYPES ①, ②, ③.
2. SEE DWG. NO. BR-43-55 FOR ADDITIONAL DETAILS TYPE ④.
3. SEE DWG. NO. BR-43-41 FOR STEEL ROPE DETAILS.
4. SEE DWG. NO. BR-43-52 FOR LOCATION OF RESTRAINERS.

BENTS 3, 5, & 6

(SPANS 4, 5, & 7)
(SPAN 7 SHOWN)
(SPANS 4 & 5 SIMILAR)



BENTS 5 & 6

(SPAN 6)



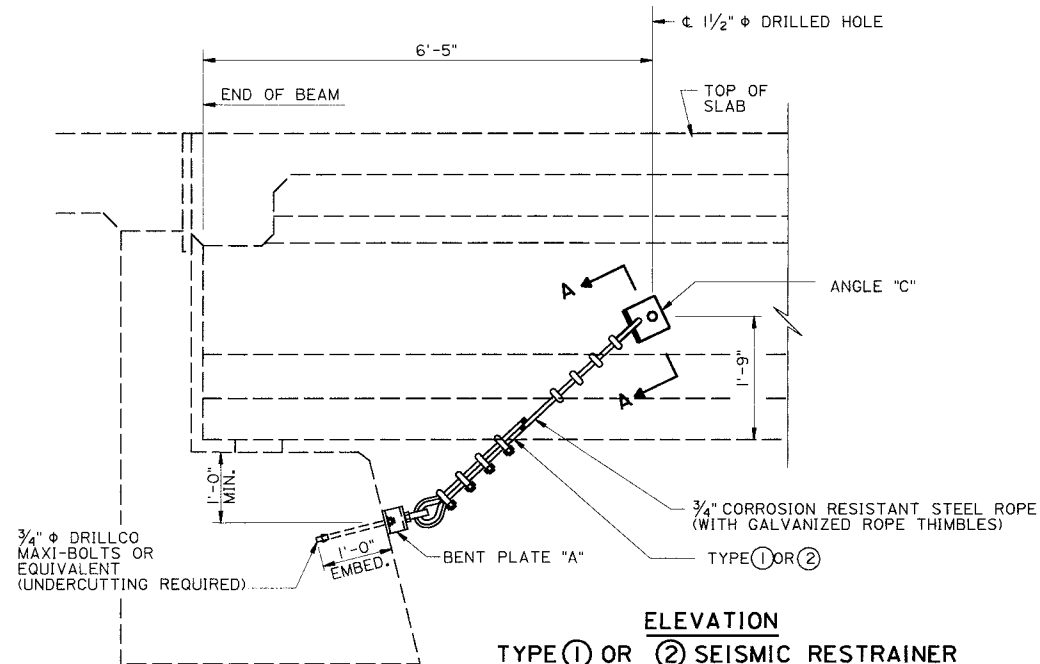
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
TYPICAL SECTION - SHEET 2 OF 2
BR. NO. 4
RAMP B OVER I-55 AND U.S. 61
BRIDGE ID. NO. 79-155-7.50
SHELBY COUNTY
2000

PARSONS TRANSPORTATION GROUP
MEMPHIS, TENNESSEE

DESIGNED BY: J. C. ETHERTON DATE: 8-99
DRAWN BY: J. C. ETHERTON DATE: 8-99
SUPERVISED BY: D. R. NOLTE DATE: 8-99
CHECKED BY: D. R. NOLTE DATE: 8-99

TN. D.O.T. ENGINEERING SUPERVISOR : M. LAWSON.

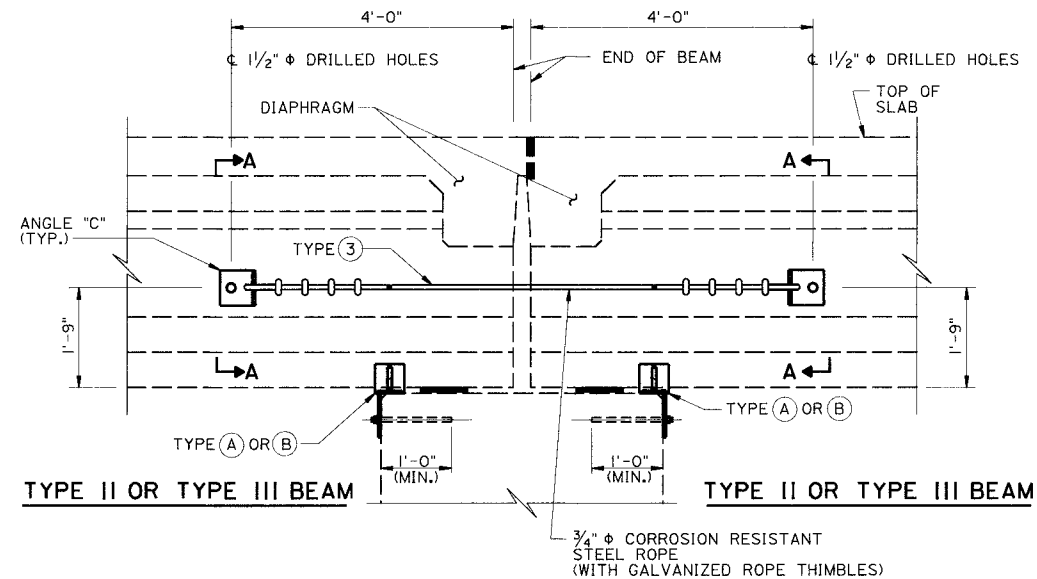


ELEVATION
TYPE ① OR ② SEISMIC RESTRAINER

(ABUT. SHOWN)
(BENTS 3, 5, & 6 SIMILAR)
(12 REQ'D - TYPE ①)
(14 REQ'D - TYPE ②)

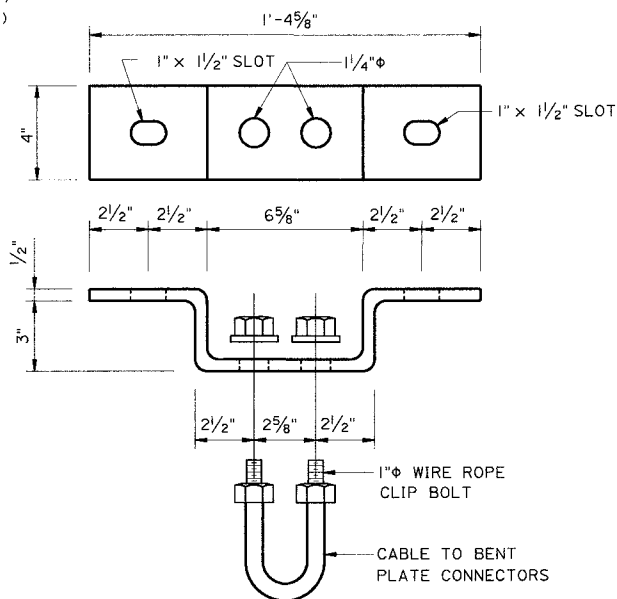
NOTE:

A PAIR OF STEEL ROPES FOR TYPES ② AND ④,
FOUR STEEL ROPES FOR TYPE ③, AND A SINGLE
STEEL ROPE FOR TYPE ①, ACCOMPANYING
PLATES, BOLTS, NUTS, AND WASHERS IS
CONSIDERED ONE ASSEMBLY.



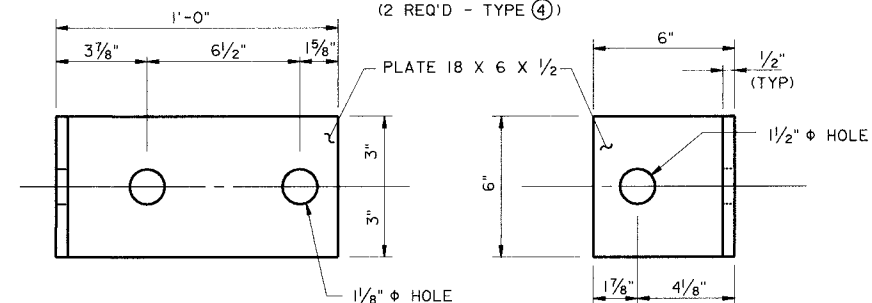
ELEVATION
TYPE ③ SEISMIC RESTRAINER

(BENTS 1, 2, & 4)
(13 REQ'D - TYPE ③)
(20 REQ'D - TYPE ④)
(10 REQ'D - TYPE ⑤)



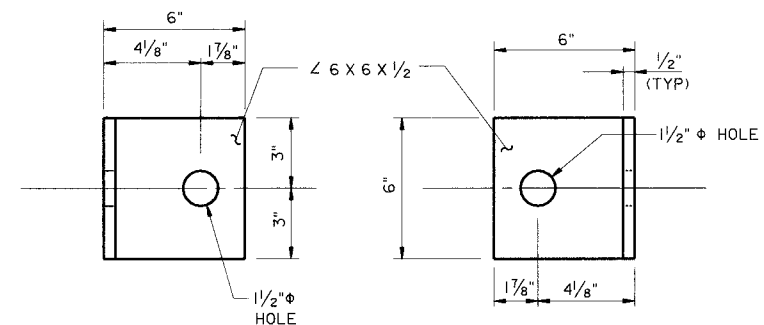
BENT PLATE "A"

(1 REQ'D - TYPE ①)
(2 REQ'D - TYPE ②)
(2 REQ'D - TYPE ④)



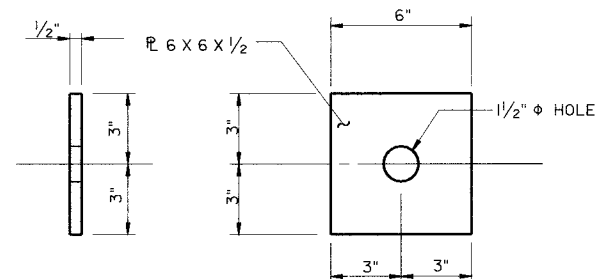
BENT PLATE "B" DETAILS

(1 REQ'D - TYPE ③)



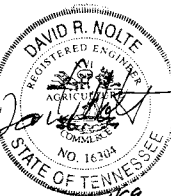
ANGLE "C" DETAILS

(1 REQ'D - TYPE ①)
(2 REQ'D - TYPE ②)
(4 REQ'D - TYPE ③)
(2 REQ'D - TYPE ④)
(1 REQ'D - TYPE ⑤)



STEEL PLATE DETAIL

(1 REQ'D - TYPE ①)



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
SEISMIC RESTRAINER DETAILS - TYPES ①, ②, ③, ④, & ⑤
BR. NO. 4
RAMP B OVER I-55 AND US-61
BRIDGE ID. NO. 79-155-7.50
SHELBY COUNTY
2000

TYPES ④ & ⑤ SEISMIC RESTRAINERS

(8 REQ'D -- TYPE ④)
(4 REQ'D -- TYPE ⑤)

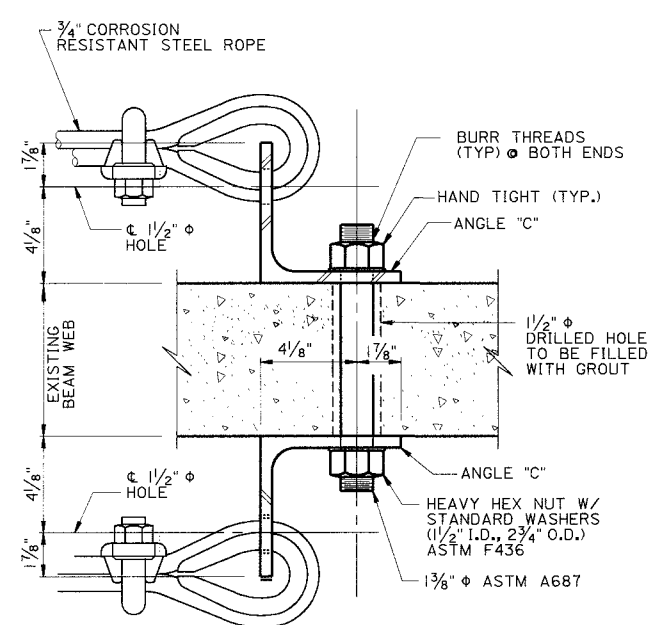
TN. D.O.T. ENGINEERING SUPERVISOR : M. LAWSON.

PARSONS TRANSPORTATION GROUP
MEMPHIS, TENNESSEE

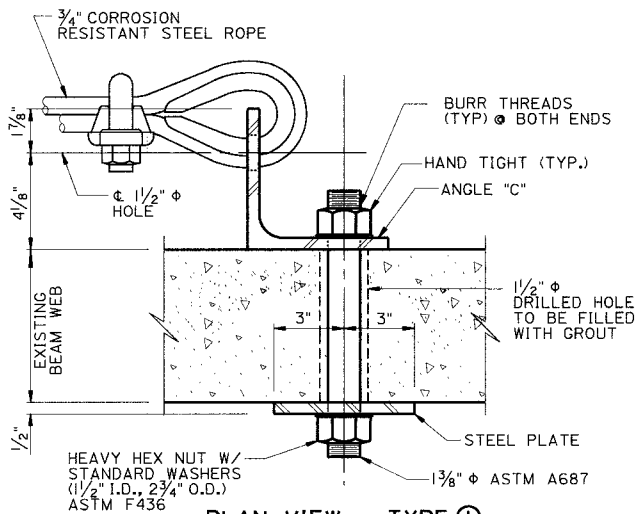
DESIGNED BY: J. C. ETHERTON
DRAWN BY: J. C. ETHERTON
SUPERVISED BY: D. R. NOLTE
CHECKED BY: D. R. NOLTE

DATE 8-99
DATE 8-99
DATE 8-99
DATE 8-99

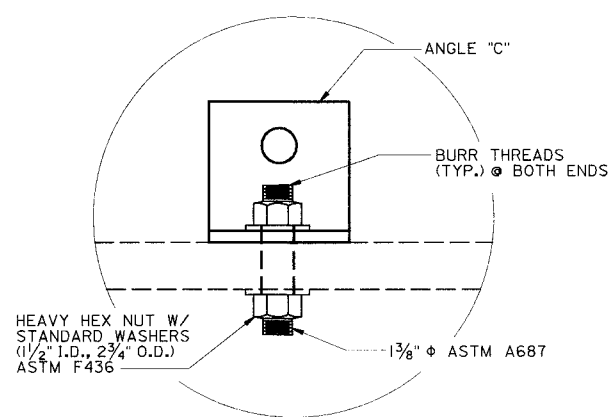
PROJECT NO.	YEAR	SHEET NO.	
79005-4153-04	2000		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
</			



PLAN VIEW - TYPES ② AND ③
(ANGLE "C")

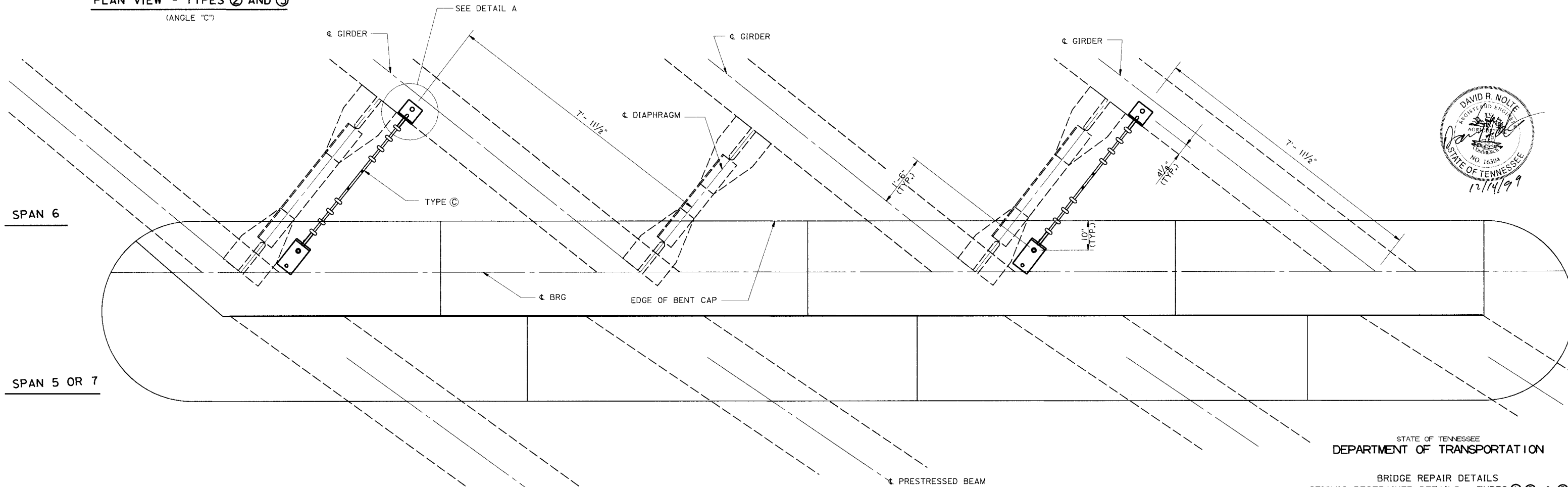


PLAN VIEW - TYPE ①
(ANGLE "C")

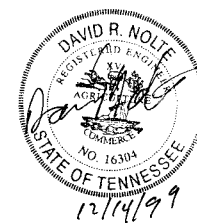


DETAIL A - TYPE ③

- NOTES:
1. TYPES ① AND ③ -- A SINGLE STEEL ROPE, ACCOMPANYING PLATES, BOLTS, NUTS, ANGLES, AND WASHERS IS CONSIDERED ONE ASSEMBLY.
 2. TYPE ② -- A PAIR OF STEEL ROPE, ACCOMPANYING PLATES, BOLTS, NUTS, ANGLES, AND WASHERS IS CONSIDERED ONE ASSEMBLY.
 3. SEE DWG. NO. BR-43-40 FOR GENERAL NOTES AND BR-43-41 FOR INSTALLATION OF ANCHOR BOLTS.



PLAN VIEW TYPE ③
BENTS 5 & 6



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
SEISMIC RESTRAINER DETAILS - TYPES ①, ②, & ③
BR. NO. 4
RAMP B OVER I-55 & US-61
BRIDGE ID. NO. 79-155-7.50
SHELBY COUNTY
2000

PARSONS TRANSPORTATION GROUP
MEMPHIS, TENNESSEE

DESIGNED BY J. C. ETHERTON
DRAWN BY J. C. ETHERTON
SUPERVISED BY D. R. NOLTE
CHECKED BY D. R. NOLTE

DATE 3-99
DATE 3-99
DATE 3-99
DATE 3-99

TN. D.O.T. ENGINEERING SUPERVISOR : M. LAWSON.

PROJECT NO.	YEAR	SHEET NO.	
79005-4153-04	2000		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

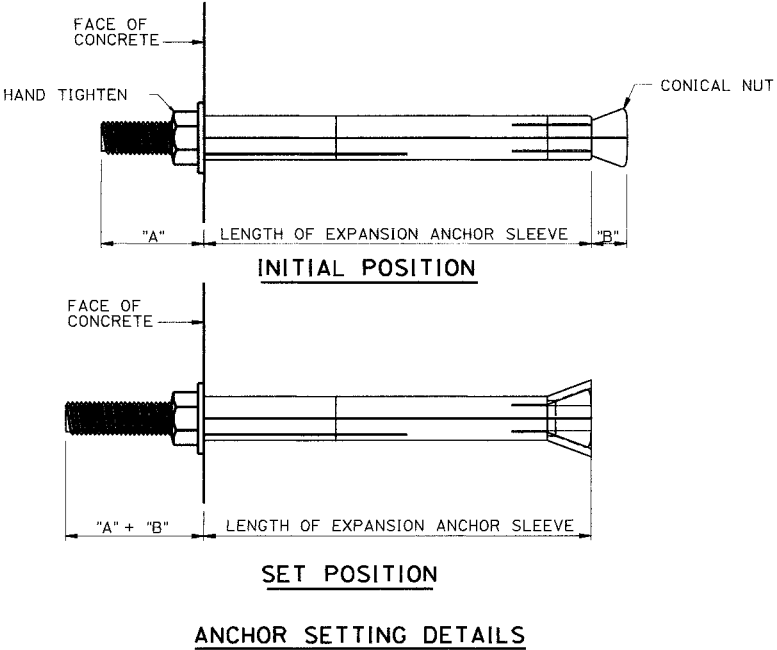
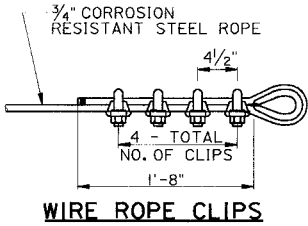
PROCEDURE FOR INSTALLATION OF ANCHOR BOLTS:

(3/4" ϕ DRILLCO MAXI-BOLT OR WILLIAMS BOLTS)(UNDERCUTTING REQUIRED)

- LOCATE PLACEMENT OF EXISTING REBAR IN VICINITY OF ANCHORS WITH A REBAR LOCATING DEVICE AND MAKE NECESSARY CORRECTIONS IN LOCATIONS OF ANCHORS ON CONCRETE. ANCHOR LOCATION MAY VARY PLUS OR MINUS 3 INCHES IN ANY DIRECTION BUT THE HOLE SHALL BE DRILLED WITHIN 6 DEGREES OF PERPENDICULAR TO THE NOMINAL CONCRETE SURFACE. CUTTING OF REBAR WILL BE ALLOWED.
- HOLES SHALL BE DRILLED WITH A CARBIDE PERCUSSION DRILL BIT, A "REBAR EATER" BIT OR A DIAMOND CORE BIT.
- THE DRILL BIT DIAMETER AND HOLE DEPTHS ARE SPECIFIED AS FOLLOWS:
 - THE MAXIMUM DRILL BIT DIAMETER SHALL NOT EXCEED 1.172 INCH DIAMETER.
 - THE HOLE DEPTH SHALL NOT BE LESS THAN THE ANCHOR EMBEDMENT PLUS 1 1/2 INCHES BUT MAY EXCEED THE SPECIFIED HOLE DEPTH BY NOT MORE THAN 1 INCH.
- IF AN ANCHOR MUST BE RELOCATED AND A NEW HOLE DRILLED, THE OLD HOLE SHALL BE REPAIRED WITH A NON-SHRINKAGE PACK GROUT.
- UNDERCUT IN PRIMARY HOLE SHALL BE AS SPECIFIED BY THE MANUFACTURER OF THE UNDERCUTTING TOOL.
- CLEAN THE HOLE OF CONCRETE DUST AND DEBRIS USING OIL FREE COMPRESSED AIR OR BY VACUUMING. PLACE BEARING SLEEVE FLUSH WITH THE CONCRETE SURFACE.
- THE EXPANSION SLEEVE IS TO EXPAND INTO THE UNDERCUT CREATED BY THE UNDERCUTTING TOOL THEREFORE THE ANCHOR TUBE MUST TERMINATE AT THE BASE OF THE UNDERCUT SECTION.
- TO SET THE ANCHOR, IT IS NECESSARY TO DRAW THE CONICAL NUT OF THE STUD BOLT INTO THE ANCHOR SLEEVE, AFTER THE ASSEMBLY IS INSERTED INTO THE DRILLED HOLE, THE ANCHOR WILL BE CONSIDERED SET WHEN THE DIMENSION "A" (SEE ANCHOR SETTING DETAILS) HAS INCREASED BY AN AMOUNT EQUAL TO DIMENSION "B". AFTER THE STEEL PLATES ARE IN PLACE THE CONTRACTOR SHALL TAKE STEPS TO ENSURE THAT NO LOOSING OCCURS, BY ADDING A LOCKING NUT OR BY ANY OTHER METHOD APPROVED BY THE ENGINEER.
- BECAUSE OF CLOSE TOLERANCE BETWEEN CONICAL NUT O.D. AND HOLE I.D. IT MAY BE NECESSARY TO LIGHTLY HAMMER THE ANCHOR INTO THE HOLE. IF HAMMERING IS NECESSARY, STEPS SHALL BE EMPLOYED WHICH WILL PREVENT DAMAGE TO THE STUD BOLT THREADS.
- INSTALLATION PROCEDURES REQUIRED BY THE ANCHOR MANUFACTURER IN ADDITION TO THE INSTRUCTIONS LISTED ABOVE SHALL BE FOLLOWED.
- BENT PLATES SHALL BE ASTM A709 (GRADE 36) MATERIAL GALVANIZED TO ASTM A123 STANDARD.
- POSITION OF PLATE OR ANGLE ON BEAM:

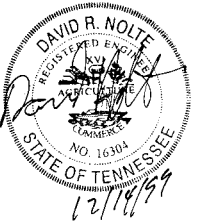
ABUTMENTS: THE PLATE OR ANGLE SHALL BE POSITIONED ON THE BEAM WITH CABLE IN THE FULL EXTENDED POSITION AND PLATE OR ANGLE POSITION MARKED. THE PLATE OR ANGLE SHALL THEN BE SHIFTED TOWARD THE ABUTMENT 3" AND THE ANCHOR BOLT LOCATIONS MARKED THROUGH THE PLATE OR ANGLE ANCHOR HOLES.

BENTS (BEAM TO BEAM): AFTER ONE ANCHOR HAS BEEN ATTACHED THE ANGLE OF THE OTHER SHALL BE POSITIONED ON THE BEAM WITH CABLE IN THE FULL EXTENDED POSITION ANGLE POSITION MARKED. THE PLATE OR ANGLE SHALL THEN BE SHIFTED TOWARD THE BENT 3" AND THE ANCHOR BOLT LOCATIONS MARKED THROUGH THE ANGLE ANCHOR HOLE.



NOTE CONCERNING HILTI BOLTS.:

HILTI BOLTS SHALL BE HILTI KWIK BOLT II EXPANSION ANCHOR'S, SIZE AND EMBEDMENT LENGTH SHALL BE AS SHOWN IN THE PLANS. ANY SUBSTITUTIONS MUST BE APPROVED BY THE TENNESSEE DEPARTMENT OF TRANSPORTATION'S DIVISION OF MATERIAL AND TESTS.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS

MISCELLANEOUS SEISMIC
RESTRAINER DETAILS

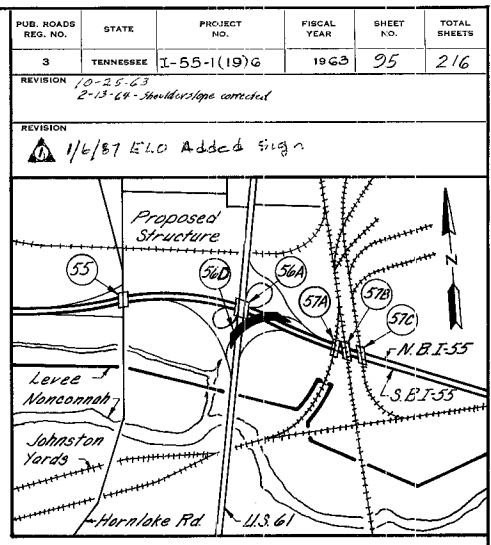
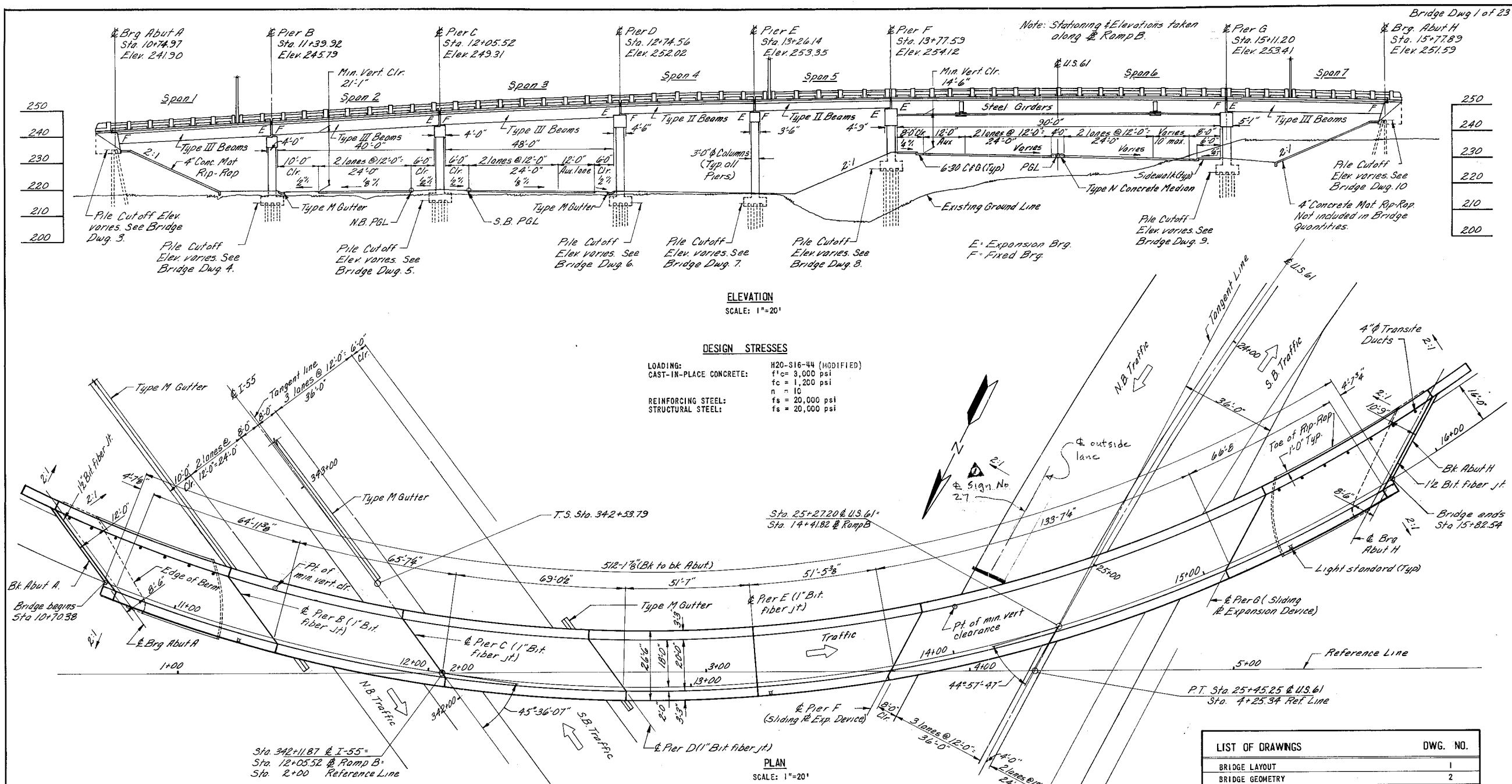
SHELBY COUNTY
2000

PARSONS TRANSPORTATION GROUP
MEMPHIS, TENNESSEE

DESIGNED BY J.R. PEGG DATE 1-98
DRAWN BY J.R. PEGG DATE 1-98
SUPERVISED BY C.H. BRYANT DATE 1-98
CHECKED BY D.R. NOLTE DATE 1-98

TN. D.O.T. ENGINEERING SUPERVISOR : M. LAWSON.

BR-43-41



GENERAL NOTES

- SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF HIGHWAYS.
- CAST-IN-PLACE CONCRETE SHALL BE CLASS A. SEE SPECIFICATIONS.
- REINFORCING STEEL: SEE SPECIFICATIONS. INTERMEDIATE OR HARD GRADE SHALL BE USED. ALL DIMENSIONS ARE TO THE CENTER OF BARS UNLESS OTHERWISE INDICATED. ALL BARS SHALL HAVE A MINIMUM COVER OF 3 INCHES IN FOOTINGS, 2 INCHES IN ABUTMENT WALLS, PIER CAPS AND COLUMNS, AND 1 INCH IN SLABS EXCEPT AS OTHERWISE NOTED.
- NOTES ON DETAILING REINFORCING STEEL: ABBREVIATIONS USED THROUGHOUT. FF - FAR FACE; NF - NEAR FACE; EF - EACH FACE. EXAMPLE: 8-#5@12" - 8 BARS, #5 BAR SIZE, 12" SPACING. H - HORIZONTAL; a - LOCATION IN ABUTMENT A. 3 - THIRD BAR IN SERIES.
- FORMS & FINISH: SEE SPECIFICATIONS.
- FILL: ALL FILL SHALL BE PLACED AND COMPACTED BEFORE PILES ARE DRIVEN.
- PILES SHALL BE PRECAST OR PRESTRESSED CONCRETE AS SHOWN ON TENNESSEE STANDARD DWG. H-5-111. MINIMUM BEARING CAPACITIES SHALL BE AS SHOWN ON BRIDGE DWG. 2.
- PRESTRESSED CONCRETE PILES: SEE SPECIAL PROVISIONS.
- TEST PILES: BEFORE ANY PILES ARE ORDERED TEST PILES SHALL BE DRIVEN IN THE LOCATION AS SHOWN ON THESE PLANS. FROM THE RESULTS ALL PILES SHALL BE ORDERED OF SUCH LENGTHS AS TO PROVIDE THE MINIMUM BEARING CAPACITIES SHOWN. TEST PILES SHALL BE DRIVEN IN FINAL LOCATIONS IN FOOTINGS.
- BEARING ELEVATIONS ARE GIVEN TO THE BOTTOM OF THE NEOPRENE BEARING PADS OR LEAD PLATES AT LOCATIONS ON THE PIERS AND ABUTMENTS. THESE ELEVATIONS MAY BE OBTAINED BY STEPPING THE PIER CAP OR ABUTMENT, OR BY OTHER APPROVED METHODS.
- NEOPRENE BEARING PADS: SEE SPECIAL PROVISIONS.
- PRESTRESSED BEAM CONCRETE: SEE SPECIFICATIONS.
- PRESTRESSED BEAM REINFORCEMENT: SEE SPECIFICATIONS.
- BRIDGE JOINT SEALER: CLASS A OR B SEE SPECIAL PROVISIONS.
- STRUCTURAL STEEL CONNECTIONS SHALL BE MADE USING 7/8" DIAMETER HIGH STRENGTH BOLTS IN ACCORDANCE WITH AASHTO SPECIFICATIONS ART. 2.10.20 WITH AMENDMENTS THERETO.
- SHEAR CONNECTORS SHALL BE 3/4" DIAMETER WELDED STUDS AS SHOWN ON BRIDGE DWG. 14. SEE SPECIAL PROVISIONS REGARDING STUD WELDING.
- CORROSION RESISTANT STEEL: SEE SPECIAL PROVISIONS.
- WELDED STRUCTURES: SEE SPECIAL PROVISIONS.

LIST OF DRAWINGS	DWG. NO.
BRIDGE LAYOUT	1
BRIDGE GEOMETRY	2
ABUTMENT A	3
PIER B	4
PIER C	5
PIER D	6
PIER E	7
PIER F	8
PIER G	9
ABUTMENT H	10
FRAMING PLAN, SPANS 1-5, 7	11
PRESTRESSED BEAMS, SPANS 1-3, 7	12
PRESTRESSED BEAMS, SPANS 4 & 5	13
STEEL FRAMING PLAN, SPAN 6	14
STEEL DETAIL	15
SUPERSTRUCTURE SLAB, SPAN 1	16
SUPERSTRUCTURE SLAB, SPAN 2	17
SUPERSTRUCTURE SLAB, SPAN 3	18
SUPERSTRUCTURE SLAB, SPAN 4	19
SUPERSTRUCTURE SLAB, SPAN 5	20
SUPERSTRUCTURE SLAB, SPAN 6	21
SUPERSTRUCTURE SLAB, SPAN 7	22
HANDRAIL, LIGHTING & DRAINAGE DETAILS	23
STD. HANDRAIL DETAILS, TENN. STD. H-5-110 SHT. 189 OF 216	
STD. PILE DETAILS, TENN. STD. H-5-111 SHT. 188 OF 216	

SUMMARY OF ESTIMATED QUANTITIES									
ITEM	UNIT	DRY EXCAVATION (BRIDGES)	CLASS A CONCRETE	STEEL BAR REINFORCEMENT	STEEL STRUCTURES	PRESTRESSED CONCRETE BEAMS TYPE II	PRESTRESSED CONCRETE BEAMS TYPE III	PRECAST CONCRETE TEST PILES	PRECAST CONCRETE PILING SIZE I
		CU. YDS.	CU. YDS.	LBS.	LUMP SUM	EACH	EACH	LIN. FT.	LIN. FT.
SUPERSTRUCTURE	SPAN 1	57.7	13,020				4		
	SPAN 2	54.1	10,890				4		
	SPAN 3	56.3	11,450				4		
	SPAN 4	44.1	8,450			5			
	SPAN 5	44.0	8,260			5			
	SPAN 6	98.5	20,560		1				
	SPAN 7	58.8	13,360				4		
SUBSTRUCTURE	ABUTMENT A	42.9	3,070						
	PIER B	66	6,44	6,920					
	PIER C	34	484	5,780					
	PIER D	44	530	6,210					
	PIER E	17	42.9	5,990					
	PIER F	63	67.8	8,380					
	PIER G	84	83.8	8,840					
TOTAL		308	860.7	134,410	1	10	16	320	2900
									1097

- NOTES ON QUANTITIES
- ALL EXCAVATION SHALL BE CONSIDERED DRY EXCAVATION (BRIDGES)
 - ALL BRIDGE JOINT MATERIALS AND TRANSITE DRAINS SHALL BE CONSIDERED INCIDENTAL TO CLASS A CONCRETE FOR PAYMENT.
 - STEEL BAR REINFORCEMENT QUANTITIES INCLUDE 197 LBS OF W.W.F.
 - THE COST OF FURNISHING, ERECTING AND PAINTING 244,640 LBS. OF STRUCTURAL STEEL SHALL BE A LUMP SUM AND SHALL INCLUDE THE FOLLOWING:
MAIN GIRDERS A36 190,120
CROSSFRAMES, BRACING AND SPLICES A36 37,990
C.R.S. 4,510
ROADWAY EXPANSION DEVICES A36 1,160
HIGH STRENGTH BOLTS A325 5,730
SHEAR CONNECTORS A108 1,080
BEARINGS A36 3,940
LEAD 130
 - LENGTHS OF PRESTRESSED BEAMS VARY. PAYMENT FOR ALL BEARINGS, THREADED DOWELS, AND ALL ITEMS CAST INTO THE BEAMS SHALL BE CONSIDERED INCIDENTAL TO THE UNIT PRICE BID FOR FURNISH AND PLACE PRESTRESSED BEAMS TYPE II OR III. REQUIRED FOR BEARINGS FOR THIS STRUCTURE ARE 20 SQ. FT. OF 3/4" THICK NEOPRENE AND 40 SQ. FT. OF 1" THICK NEOPRENE PAD.
 - THE CONTRACTOR SHALL FURNISH AND INSTALL LIGHT STANDARDS, CONDUITS, CONDULETS, HANGERS, PULLBOXES, GROUNDING WIRE AND AUXILIARY EQUIPMENT.

BRIDGE NO. 56D

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
INTERSTATE HIGHWAY SYSTEM
MEMPHIS AND SHELBY COUNTY

HARLAND BARTHOLOMEW AND ASSOCIATES
AND
CLARK, DAILY AND DIETZ

RAMP B OVER I-55 & U.S. 61

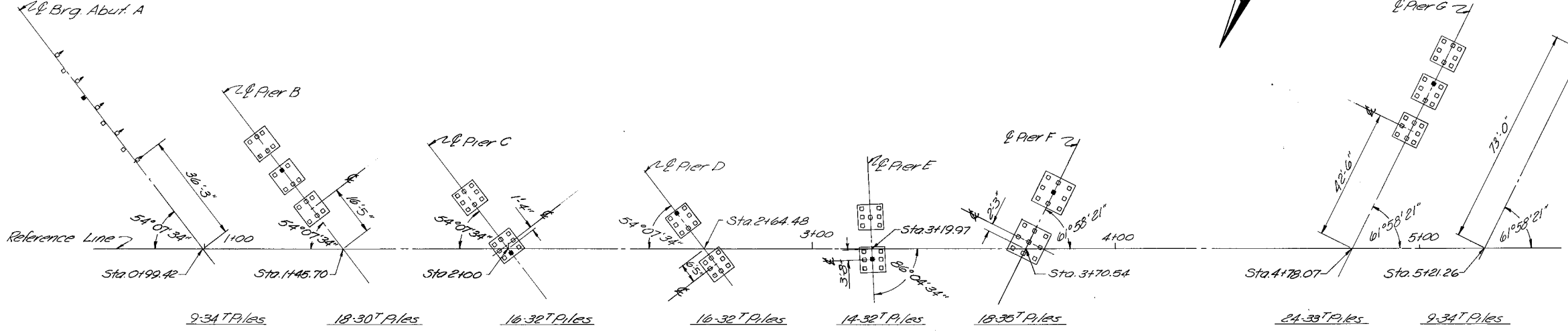
BRIDGE LAYOUT

DATE: Nov. 1962 DESIGNED BY: RLK DRAWN BY: LAL CHECKED BY: RLK IN CHARGE: MFT SCALE: As noted

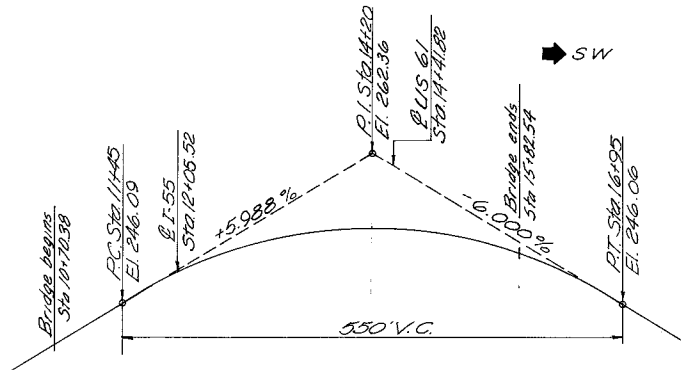
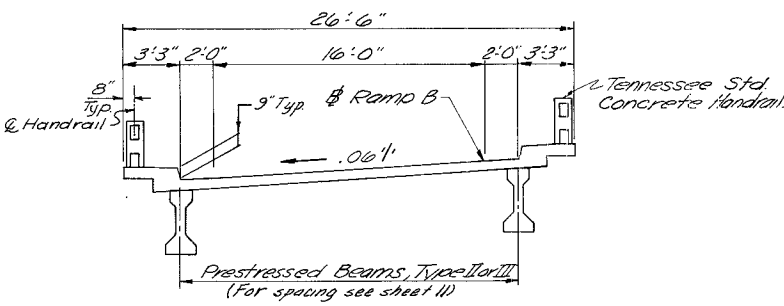
JOB NO. 429C

PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	I-55-1(19)6	1963	96	216
REVISION 10-25-63					
REVISION					

LEGEND
□ Vertical Pile
▤ Batter Pile 3:12
■ Test Pile

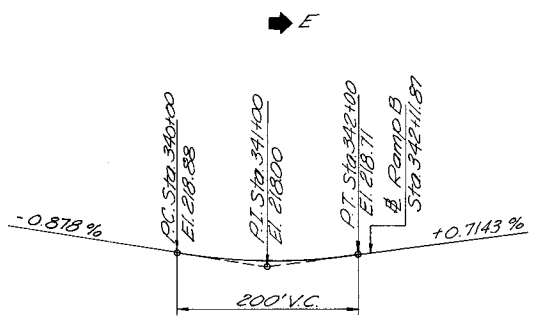


PILE LOCATION DIAGRAM
SCALE: 1"=20'-0"



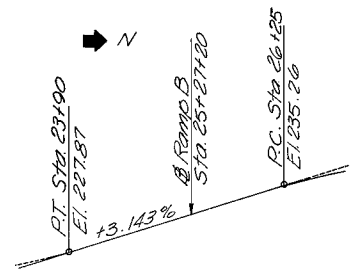
PROFILE RAMP B
SCALE: HORIZ: 1"=100'
VERT: 1"=10'

RAMP B CURVE DATA
P.I. = STA. 16+50.88
 $\Delta = 117^\circ-14'-37''$
Dc = 10°-30'
R = 545.67'
L = 1116.60'
T = 894.72'
P.C. = STA. 7+56.16
P.T. = STA. 18+72.76



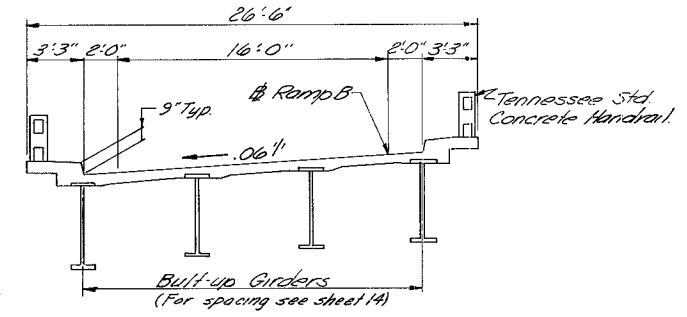
PROFILE I-55
SCALE: HORIZ: 1"=100'
VERT: 1"=5'

I-55 CURVE DATA
P.I. = STA. 343+30.85
 $\Delta = 18^\circ-39'-52.5''$
 $\theta_s = 5^\circ-00'$
Ls = 400'
Ts = 577.06'
 $\Delta_c = 8^\circ-39'-52.5''$
Dc = 2°-30'-00"
Rc = 2291.83'
Lc = 346.58'
e = 0.05'/1'



PROFILE U.S. 61
SCALE: HORIZ: 1"=100'
VERT: 1"=10'

U.S. 61 CURVE DATA
P.I. = STA. 23+97.24
 $\Delta = 11^\circ-53'-01''$
D = 4°-00"
R = 1432.39'
L = 297.09'
T = 149.08'
P.C. = STA. 22+48.16
P.T. = STA. 25+45.25



BRIDGE NO. 56D

STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS INTERSTATE HIGHWAY SYSTEM MEMPHIS AND SHELBY COUNTY					
HARLAND BARTHOLOMEW AND ASSOCIATES AND CLARK, DAILY AND DIETZ					
RAMP B OVER I-55 AND U.S. 61 BRIDGE GEOMETRY					
DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE:
Nov. 1962	FLK	AJB	RLK	MFT	As noted

REPRODUCTION
JOB NO. 429C

1. SEE BRIDGE DWG. 2 FOR CURVE DATA.
2. SEE BRIDGE DWG. 23 FOR HANDRAIL AND LIGHTING DETAILS.
3. THE CONCRETE ABOVE THE CONSTRUCTION JOINT SHALL BE
POURED AFTER THE SUPERSTRUCTURE SLAB HAS BEEN FINISHED
SO THAT THE TOP OF THE ABUTMENT MAY BE FINISHED TO
THE PROPER GRADE AND ELEVATION.

BAR	SIZE	NO.	LENGTH	SHAPE	LOCATION
Ho1	"8	11	48'-6"	—	Seat
Ho2	"4	6	44'-6"	—	Parapet
Ho3	"4	6	4'-6"	—	Parapet
Ho4	"4	4	13'-6"	—	S. Curb
Ho5	"4	4	3'-6"	┘	Parapet
Ho6	"4	19	4'-9"	┘	Curb
Ho7	"4	2	6'-0"	┘	N. Wingwall
Ho8	"4	1 set	68'-4"	—	N. Wingwall
Ho9	"4	1 set	102'-0"	—	N. Wingwall
Ho10	"4	1 set	123'-4"	—	S. Wingwall
Ho11	"4	1 set	136'-0"	—	S. Wingwall
Ho12	"4	3	14'-9"	—	N. Wingwall
Ho13	"4	12	4'-0"	┘	S. Wingwall
Val	"4	40	14'-10"	▢	Seat
Val2	"4	35	9'-8"	▢	Parapet
Val3	"4	60	7'-9"		Pp't'l. h. wall
Val4	"4	16	8'-6"		Pp't'l. h. wall

[illegible]

SET	NO. OF BARS	MINIMUM LENGTH	MAXIMUM LENGTH	INCREMENT
H08	5	12'-8"	14'-8"	6"
H09	8	11'-0"	14'-6"	6"
H010	8	13'-8"	17'-8"	6"
H011	8	15'-3"	18'-9"	6"

Bar Ho7 or Ho11

Ho5, Ho13, Ho5 or Ho11

1'-2" x 1'-3"

1'-10" x 2'-0"

1'-0" x 1'-0"

ITEM	UNIT	QUANTITY
CLASS "A" CONCRETE	CU. YDS.	42.9
STEEL BAR REINFORCEMENT	LBS.	3070

STATE OF KENTUCKY					
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS					
INTERSTATE HIGHWAY SYSTEM					
MEMPHIS AND SHELBY COUNTY					
HARLAND BARTHOLOMEW AND ASSOCIATES					
AND CLARK, DAILY AND DIETZ					
<u>RAMP B OVER I-55 & U.S. 71</u>					
ABUTMENT A					
DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE:
Nov. 1962	YNG	LAL	YNG	MFT	As noted

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

This elevation view shows the bridge structure with the following details:

- Dimensions and Spacing:**
 - 35'-4 1/2" @ 12"
 - 4'-4 1/2" @ 12"
 - 10'
 - 4'-5 1/2" @ 11" Typ. Unit
 - 10'
- Structural Elements:**
 - 2-#4V6A (See Detail @ North Wingwall)
 - 6-#4V6B (See Detail @ N. Wingwall)
 - 2-#4H63 (1 EF)
 - 6-#4H6B (3 EF)
 - 12-#4H613 (6 EF Lap w/ #4H62 #8)
 - 40-#4V61 (8 Units of 5 @ 11")
- Elevations:**
 - El. 237.75
 - El. 236.64
 - El. 235.68
 - El. 234.60
 - El. 234.87
 - El. 231.99
 - El. 230.41
- Other Features:**
 - Roadway Surface
 - Top of Barm
 - 3'-0" Formed Opening for 2'-0" Lighting Conduit
 - 11-#8H61 (See Sec A-A)
 - 1'-0"
 - 1'-9"
 - 1'-4"
 - 1'-0"
 - 10"
 - 10"
- Notes:**
 - Note: Pile Cut off elevations vary. Interpolate linearly between given elevations.
 - Note: Hand in Elevation

Technical drawing of a mechanical part, likely a bracket or support, showing dimensions and labels:

- Overall width: 3'-3"
- Top horizontal dimensions: 1", 1'-11", 1'-3"
- Vertical dimensions on the left: 1'-9", 1'-9", 1'-4"
- Internal horizontal dimensions: 4'-4", 1'-7"
- Labels: "A404", "A403", "1'-3" Key", "Level"
- Bottom horizontal dimension: 8"

1 1/2" Bit. fiber jt.

#4Ho6

17-#4Ho3 (13 @ 12" + 4 flared bars)

1/2" Bridge Jt. Sealer

#4Ho4

#4Ho6

EI. 238.61

1" Bit. fiber jt.

Ground Line

Const. Jt. See Note 3

Field bend to fit

EI. 230.41 Level

8'-10"

1st of 8-#4Ho 10 @ 12 (NF)

1st of 8-#4Ho 11 @ 12 (FF)

[illegible]

PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	I-55-1(19)G	1963	98	216
REVISION 10-25-63					
REVISION					

NOTES

1. SPIRAL REINFORCEMENT: IN LIEU OF #4 BAR SPIRALS AS SHOWN, THE CONTRACTOR MAY SUBSTITUTE COLD DRAWN STEEL WIRE, ASTM A-82-C17, WITH NO ADJUSTMENT IN QUANTITY OR UNIT PRICE FOR STEEL BAR REINFORCEMENT. THE WIRE SHALL BE A.S. & W. GAGE 0000 AT 2 1/2" PITCH. ALL SPIRALS SHALL HAVE 1 1/2 EXTRA TURNS AT EACH END. SPLICES SHALL BE MADE EITHER BY WELDING OR LAPPING 1 1/2 TURNS.

BILL OF STEEL

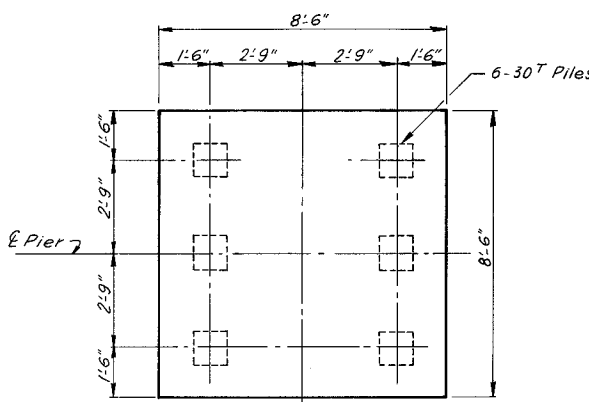
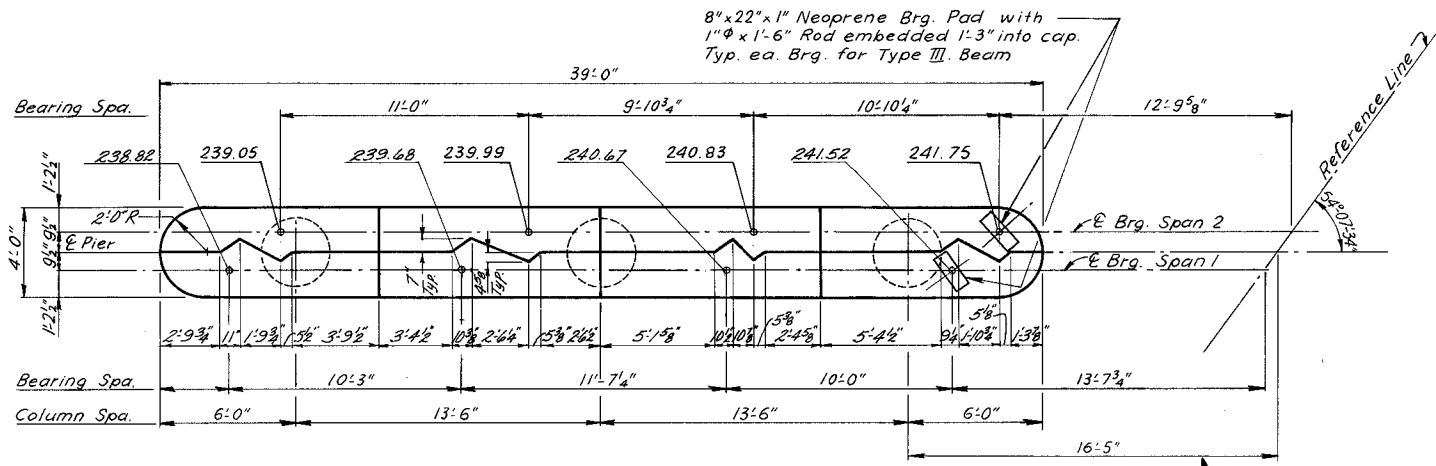
BAR	SIZE	NUMBER	LENGTH	SHAPE	LOCATION
Hb1	#8	2	35'-6"	—	Cap
Hb2	#8	4	37'-6"	—	Cap
Hb3	#8	3	10'-6"	—	Cap
Hb4	#8	5	24'-0"	—	Cap
Hb5	#6	4	35'-6"	—	Cap
Hb6	#6	3	7'-6"	—	Cap
Hb7	#6	3	7'-1"	—	Cap
Hb8	#4	8	9'-9"	—	Cap
Hb9	#4	8	11'-0"	—	Cap
Hb10	#4	1	682'-0"	Spiral	Column
Hb11	#4	1	728'-0"	Spiral	Column
Hb12	#4	1	774'-0"	Spiral	Column
Hb13	#3	6	9'-0"	○	Footing
Vb1	#4	14	8'-6"	□	Cap
Vb2	#4	18	15'-6"	□	Cap
Vb3	#7	51	5'-9"	L	Footing-Col.
Vb4	#7	17	20'-0"	I	Column
Vb5	#7	17	21'-3"	I	Column
Vb6	#7	17	22'-6"	I	Column
Fb1	#6	66	8'-0"	—	Footing

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
CLASS A CONCRETE	CU. YDS.	64.4
STEEL BAR REINFORCEMENT	LBS.	6920

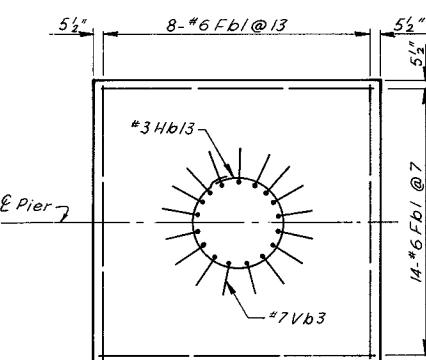
BRIDGE NO. 56D

STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS INTERSTATE HIGHWAY SYSTEM MEMPHIS AND SHELBY COUNTY					
HARLAND BARTHOLOMEW AND ASSOCIATES AND CLARK, DAILY AND DIETZ					
RAMP B OVER I-55 & U.S. 61 PIER B					
DATE	DESIGNED BY	CHECKED BY	IN CHARGE	SCALE	
Oct. 62	YNG	ZT	RLK	MFT	As noted



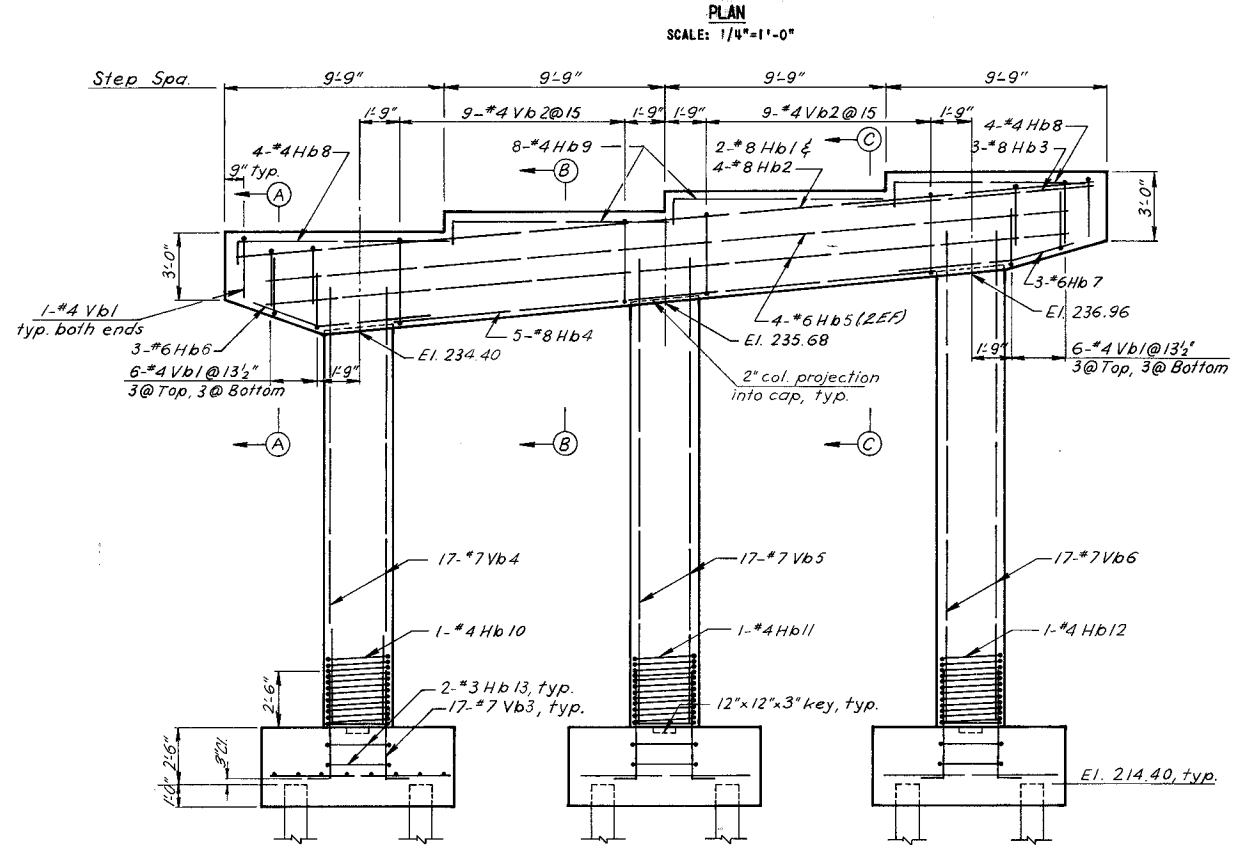
TYPICAL FOOTING SHOWING DIMENSIONS

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



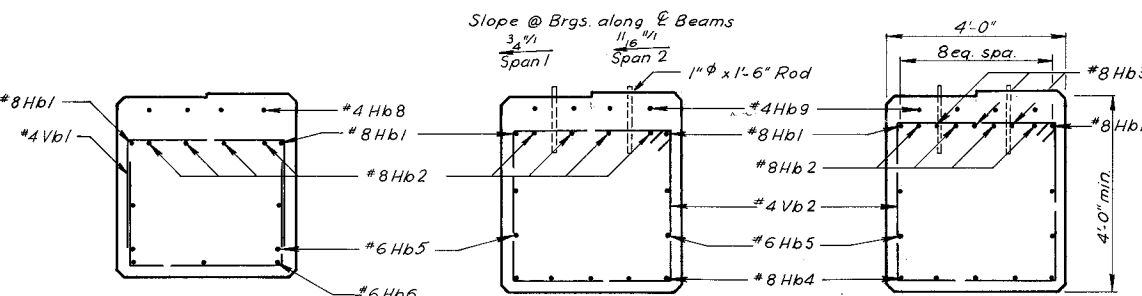
TYPICAL FOOTING SHOWING REINFORCEMENT

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



ELEVATION

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



SECTION A-A

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

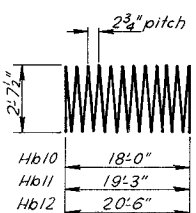
SECTION B-B

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

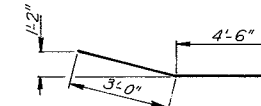
SECTION C-C

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

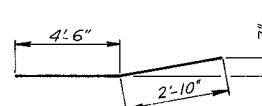
Note: All horizontal reinforcement shall be equally spaced.



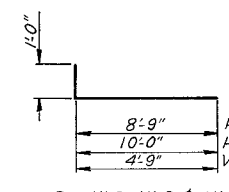
Spirals Hb10, Hb11 & Hb12



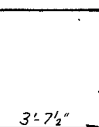
Bar Hb6



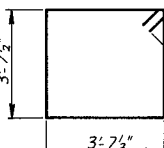
Bar Hb7



Bar Hb8, Hb9 & Vb3



Bar Vb1



Bar Vb2

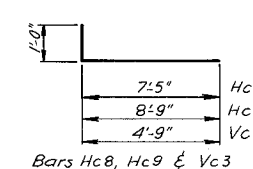
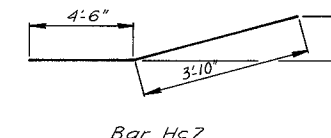
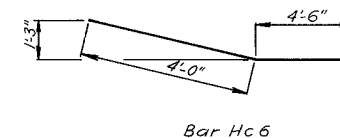
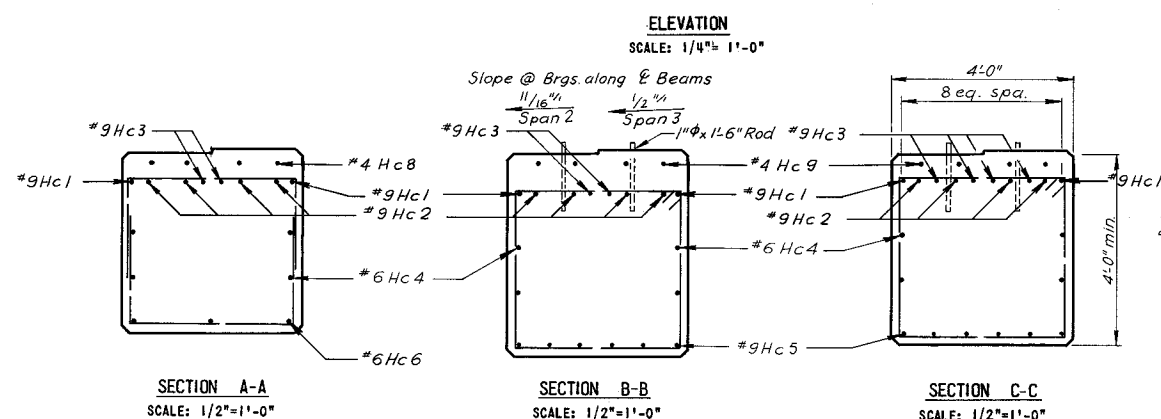
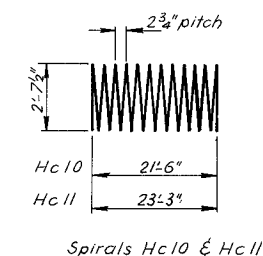
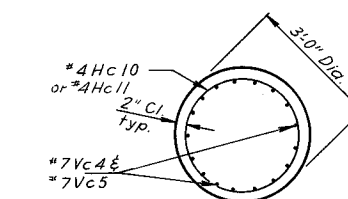
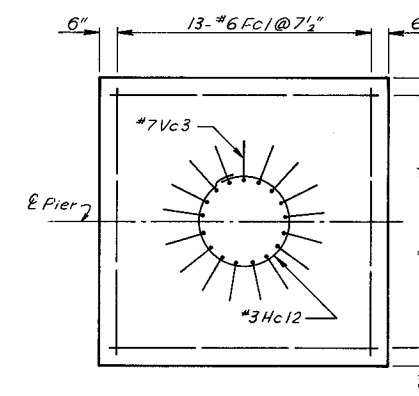
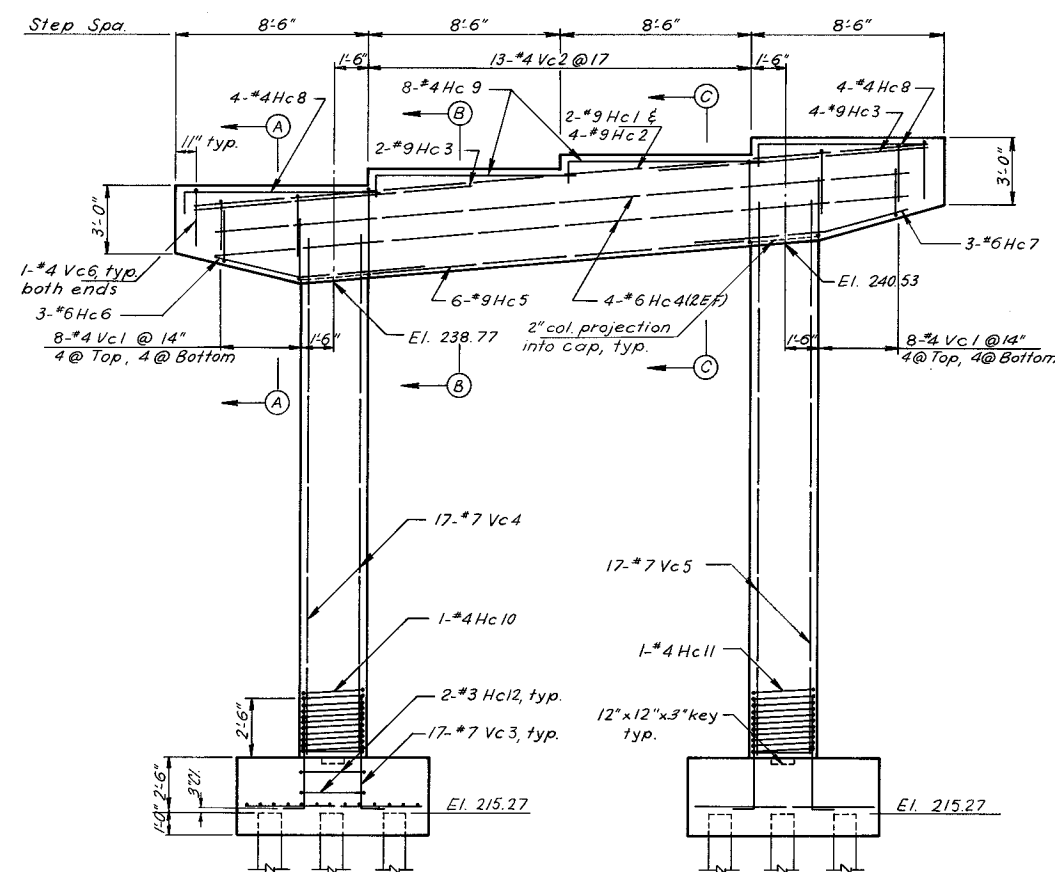
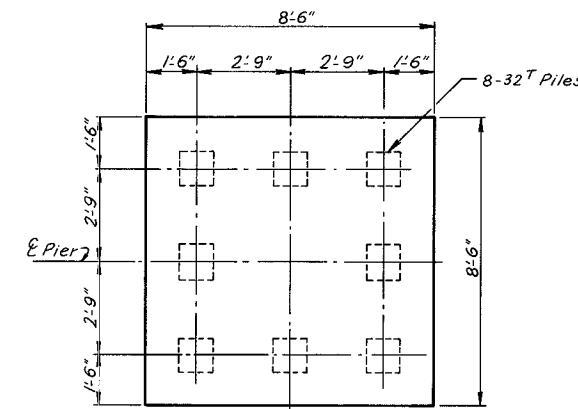
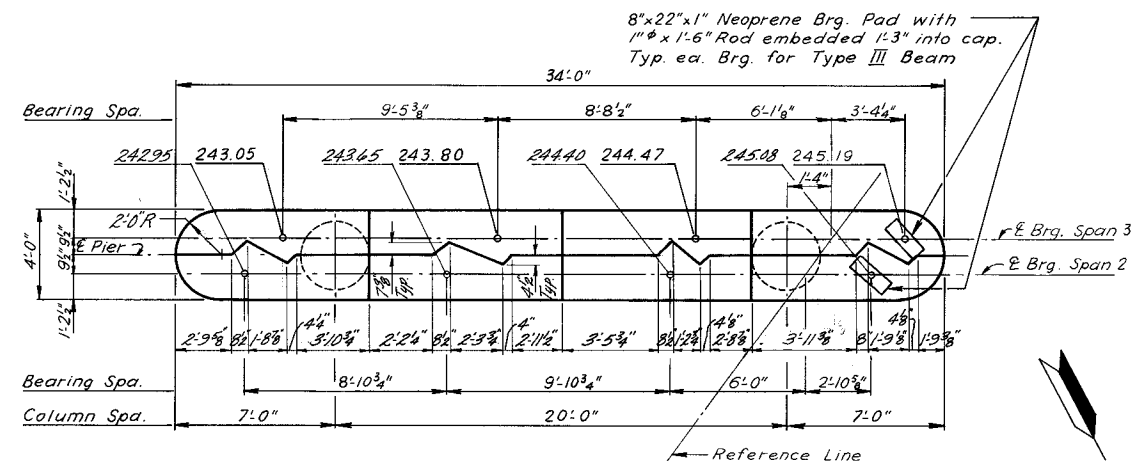


Bar Hb13

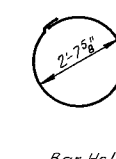
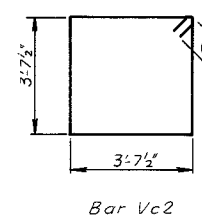
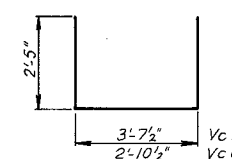
PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	I-55-1(19)G	1963	99	216
REVISION 10-25-63					
REVISION					

NOTES

1. SEE NOTES ON BRIDGE DWG. 4.



All Horizontal bars are equally spaced.



Note: All horizontal reinforcement shall be equally spaced.

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
CLASS A CONCRETE	CU. YDS.	43.4
STEEL BAR REINFORCEMENT	LBS.	5780

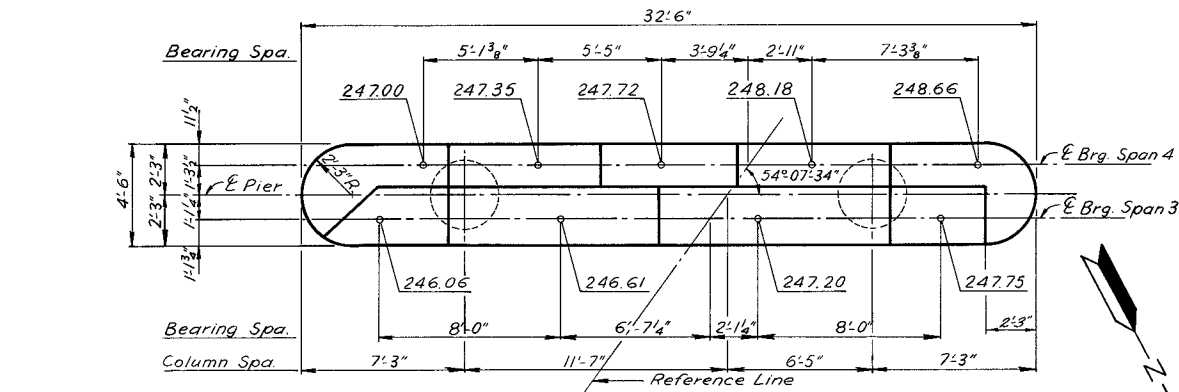
BRIDGE NO. 56D

STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS INTERSTATE HIGHWAY SYSTEM MEMPHIS AND SHELBY COUNTY					
HARLAND BARTHOLOMEW AND ASSOCIATES AND CLARK, DAILY AND DIETZ					
RAMP B OVER I-55 & U.S. 61 PIER C					
DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE:
Oct. 62	YNG	ZT	RLK	MFT	As noted

PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	I-55-1(19)G	1963	100	216
REVISION 10-25-63					
REVISION					

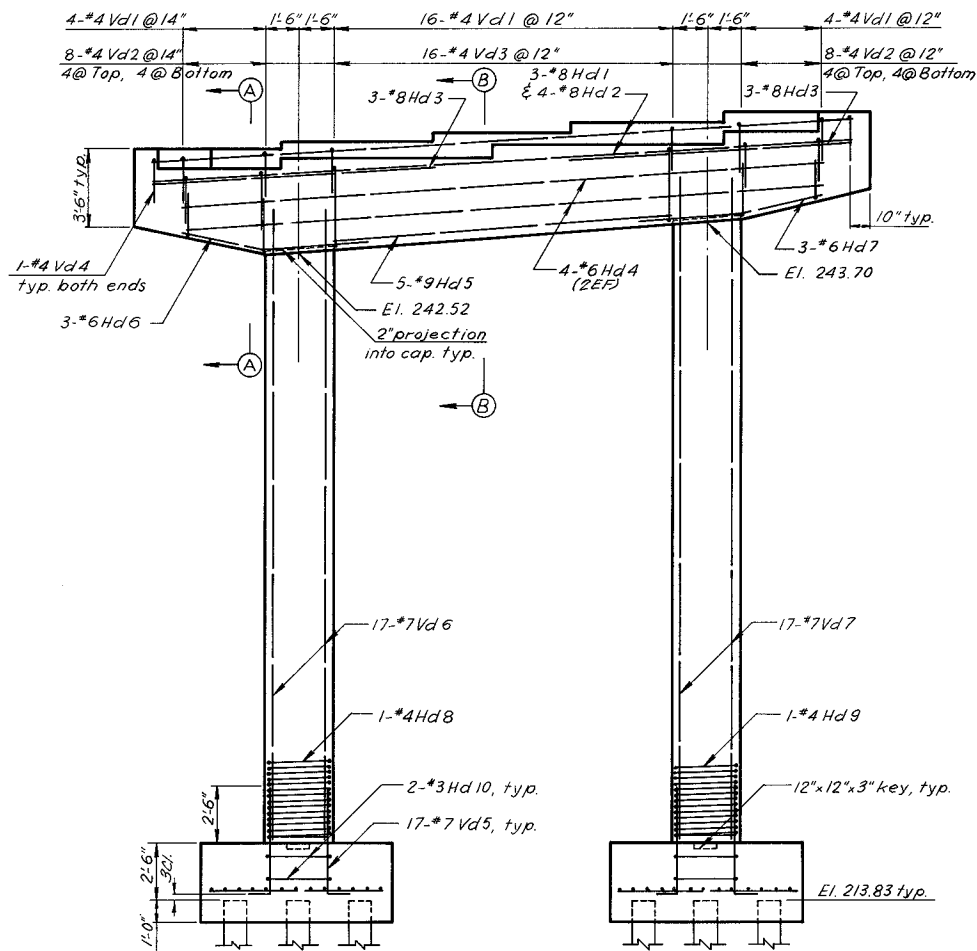
NOTES

1. SEE NOTES ON BRIDGE DWG. 4.

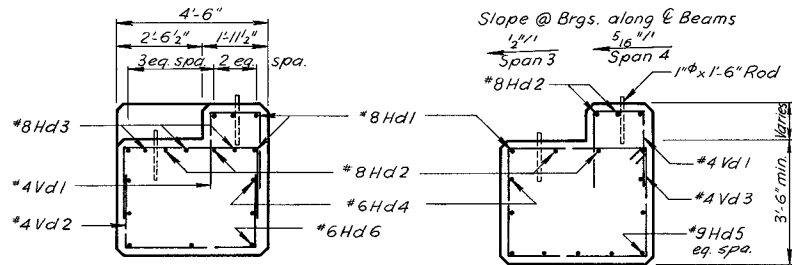


Note: Steps to be placed halfway between bearings

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



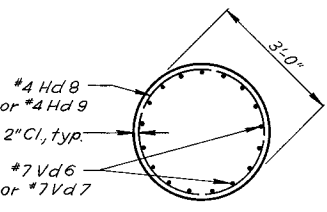
ELEVATION
SCALE: 1/4"=1'-0"



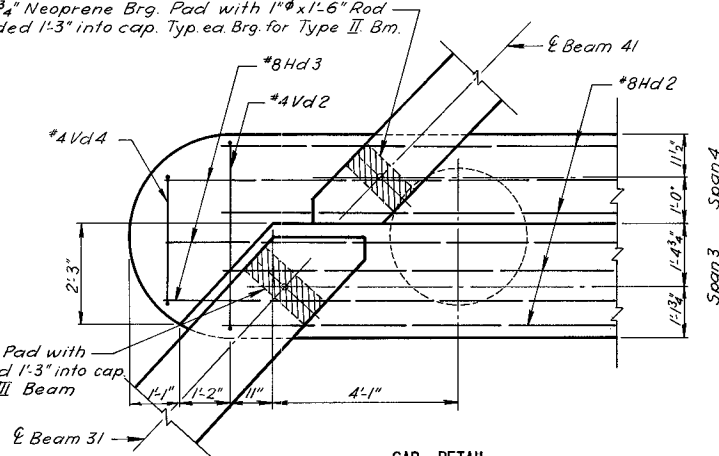
SECTION A-A
SCALE: 3/8"=1'-0"

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

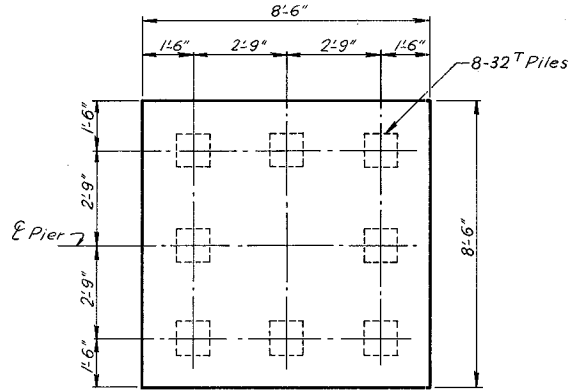
Note: All horizontal reinforcement shall be equally spaced.



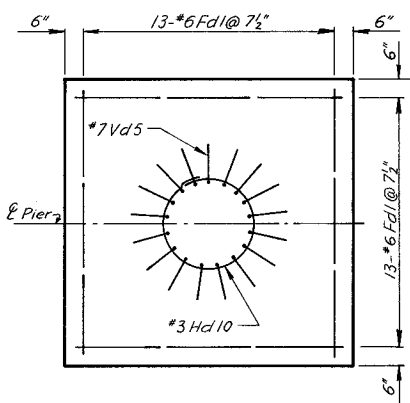
8"x22"x1" Neoprene Brg. Pad with 1" x 1.6" Rod embedded 1'-3" into cap. Typ. ea. Brg. for Type III Beam



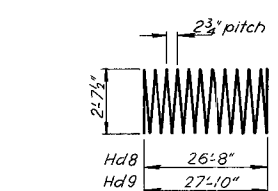
CAP DETAIL
SCALE: 1/2"=1'-0"



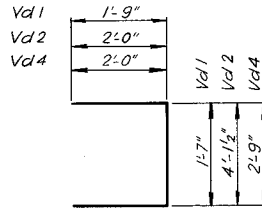
TYP. FOOTING SHOWING DIMENSIONS
SCALE: 3/8"=1'-0"



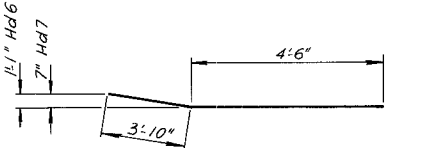
TYP. FOOTING SHOWING REINFORCEMENT
SCALE: 3/8"=1'-0"



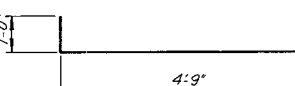
Spirals Hd8 & Hd9



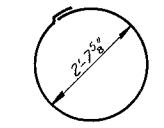
Bars Vd1, Vd2 & Vd4



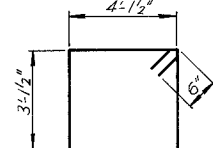
Bars Hd6 & Hd7



Bar Vd5



Bar Hd10



Bar Vd3

BILL OF STEEL

BAR	SIZE	NO.	LENGTH	SHAPE	LOCATION
Hd1	#8	3	28'-6"	—	Cap
Hd2	#8	4	31'-0"	—	Cap
Hd3	#8	6	12'-6"	—	Cap
Hd4	#6	4	28'-6"	—	Cap
Hd5	#9	5	15'-0"	—	Cap
Hd6	#6	3	8'-4"	—	Cap
Hd7	#6	3	8'-4"	—	Cap
Hd8	#4	1	1000'-0"	Spiral	Column
Hd9	#4	1	1042'-0"	Spiral	Column
Hd10	#3	4	9'-0"	○	Footling
Vd1	#4	24	5'-1"	□	Cap
Vd2	#4	16	8'-2"	□	Cap
Vd3	#4	16	15'-6"	□	Cap
Vd4	#4	2	6'-9"	□	Cap
Vd5	#7	34	5'-9"	L	Fig. - Col.
Vd6	#7	17	28'-9"	—	Column-Cap
Vd7	#7	17	30'-0"	—	Column-Cap
Fd1	#6	52	8'-0"	—	Footling

ESTIMATED QUANTITIES

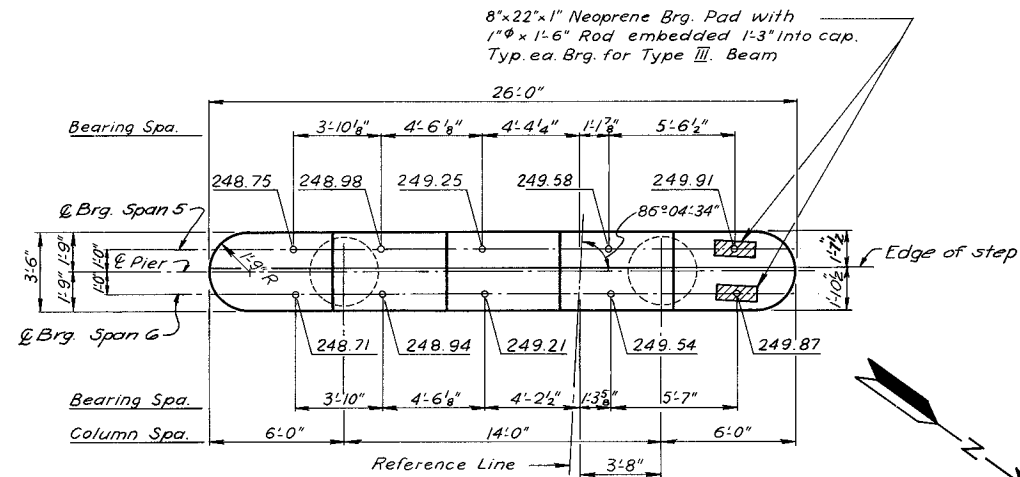
ITEM	UNIT	QUANTITY
CLASS A CONCRETE	CU. YDS.	530
STEEL BAR REINFORCEMENT	LBS.	6210

BRIDGE NO. 56D

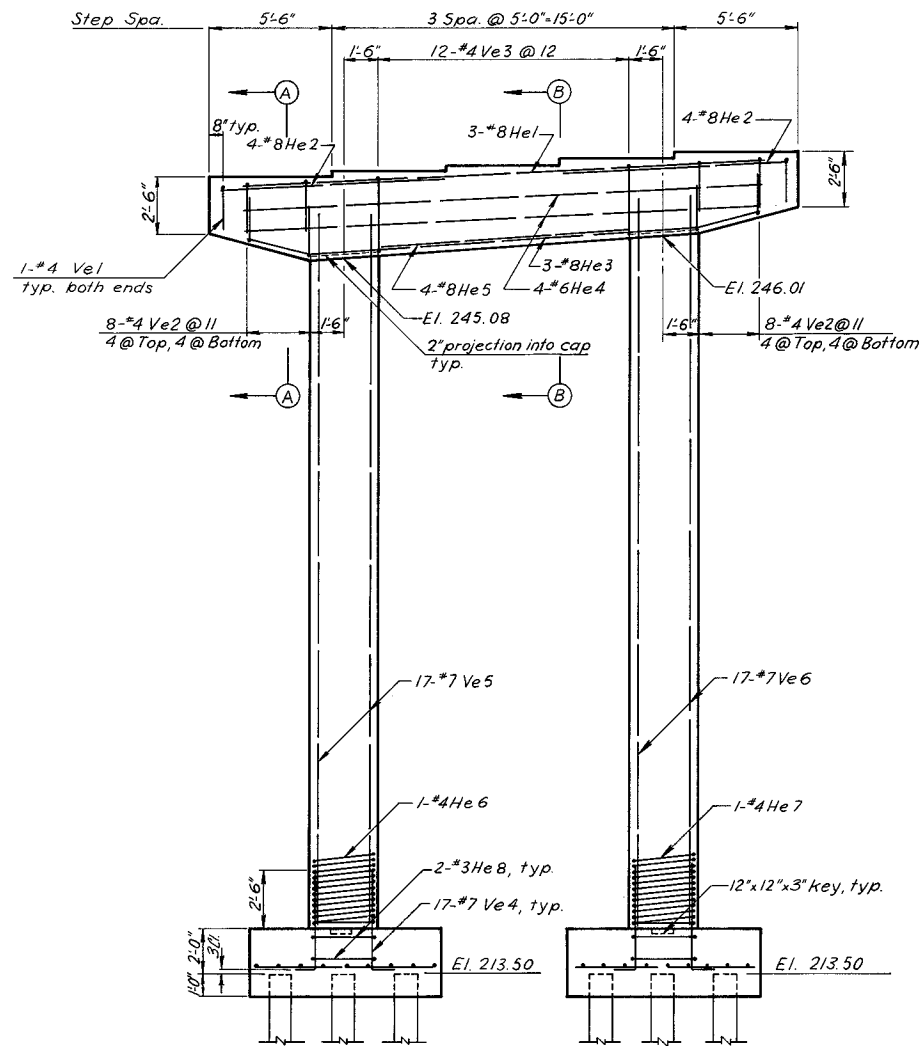
STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS INTERSTATE HIGHWAY SYSTEM MEMPHIS AND SHELBY COUNTY					
HARLAND BARTHOLOMEW AND ASSOCIATES AND CLARK, DAILY AND DIETZ					
RAMP B OVER I-55 & U.S. 61 PIER D					
DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE:
Nov. 62	YNG	ZT	RLK	MFT	As noted

PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	I-55-1(19)6	1963	101	216
REVISION 10-25-63					
REVISION					

NOTES
1. SEE NOTES ON BRIDGE DWG. 4.

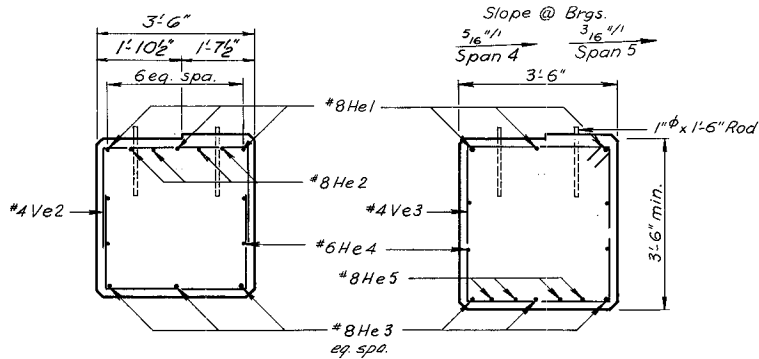


PLAN
SCALE: 1/4"=1'-0"



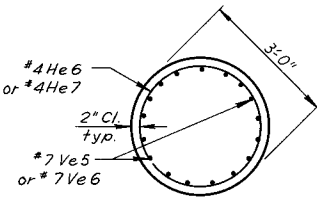
ELEVATION
SCALE: 1/4"=1'-0"

Note: All horizontal reinforcement shall be equally spaced.

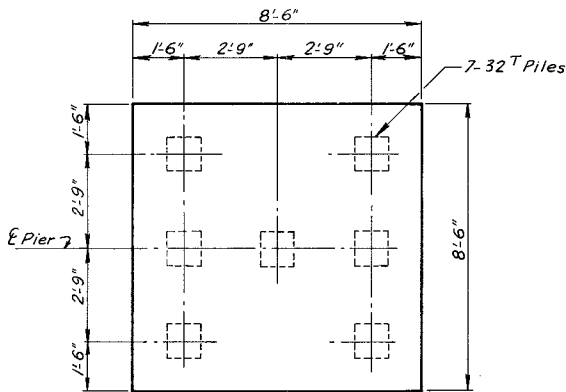


SECTION A-A
SCALE: 1/2"=1'-0"

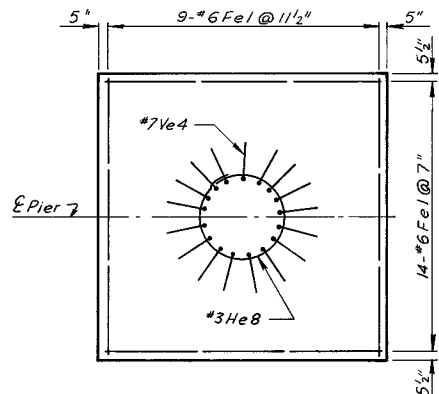
SECTION B-B
SCALE: 1/2"=1'-0"



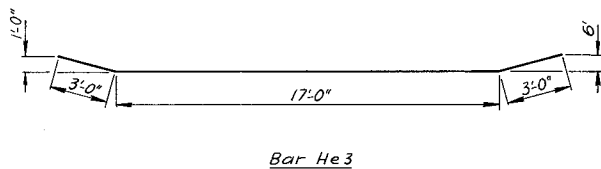
TYPICAL COLUMN SECTION
SCALE: 1/2"=1'-0"



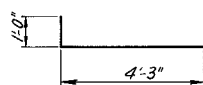
TYP. FOOTING SHOWING DIMENSIONS
SCALE: 3/8"=1'-0"



TYP. FOOTING SHOWING REINFORCEMENT
SCALE: 3/8"=1'-0"



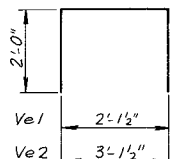
Bar He3



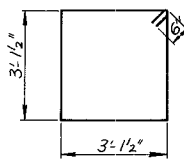
Bar Ve4



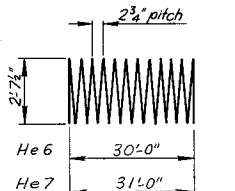
Bar He8



Bars Ve1 & Ve2



Bar Ve3



Spirals He6 & He7

BILL OF STEEL

BAR	SIZE	NO.	LENGTH	SHAPE	LOCATION
He1	#8	3	23'-0"	—	Cap
He2	#8	8	10'-0"	—	Cap
He3	#8	4	23'-0"	—	Cap
He4	#6	4	23'-0"	—	Cap
He5	#8	4	11'-0"	—	Cap
He6	#4	1	1120'-0"	Spiral	Column
He7	#4	1	1155'-0"	Spiral	Column
He8	#3	4	9'-0"	○	Footings
Ve1	#4	2	6'-2"	□	Cap
Ve2	#4	16	7'-2"	□	Cap
Ve3	#4	12	13'-6"	□	Cap
Ve4	#7	34	5'-3"	L	Ftg.-Col.
Ve5	#7	17	32'-0"	I	Column
Ve6	#7	17	33'-0"	I	Column
Fel	#6	46	8'-0"	—	Footings

ESTIMATED QUANTITIES

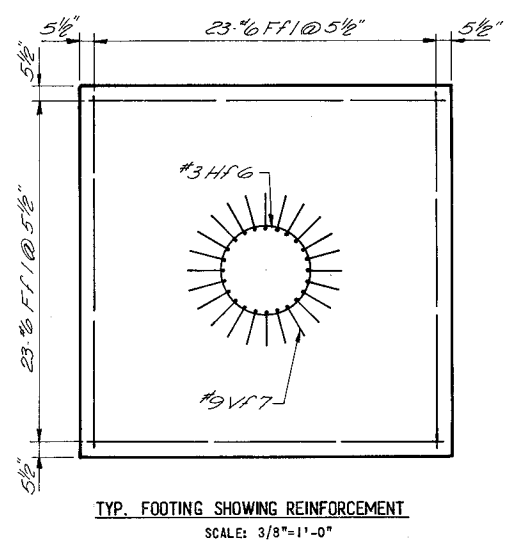
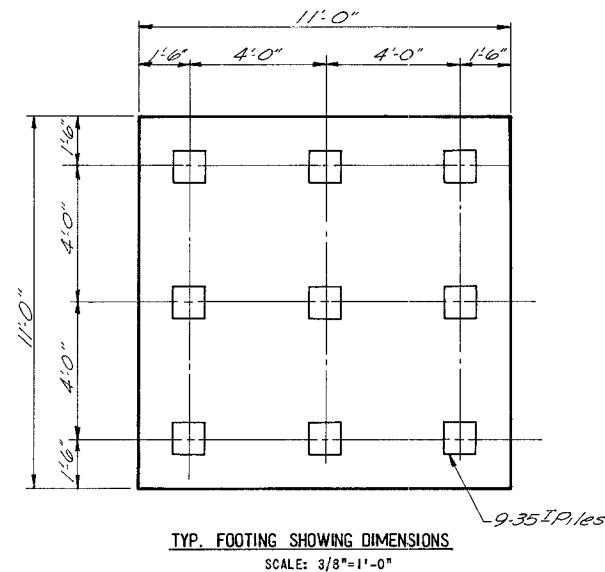
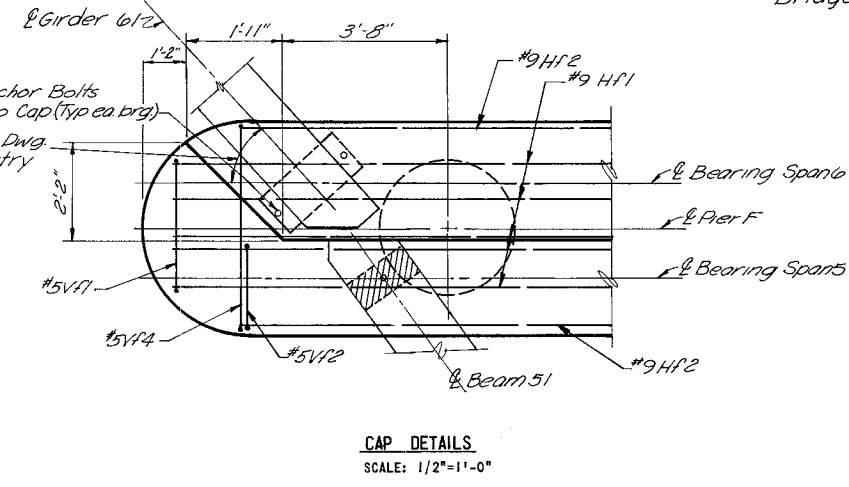
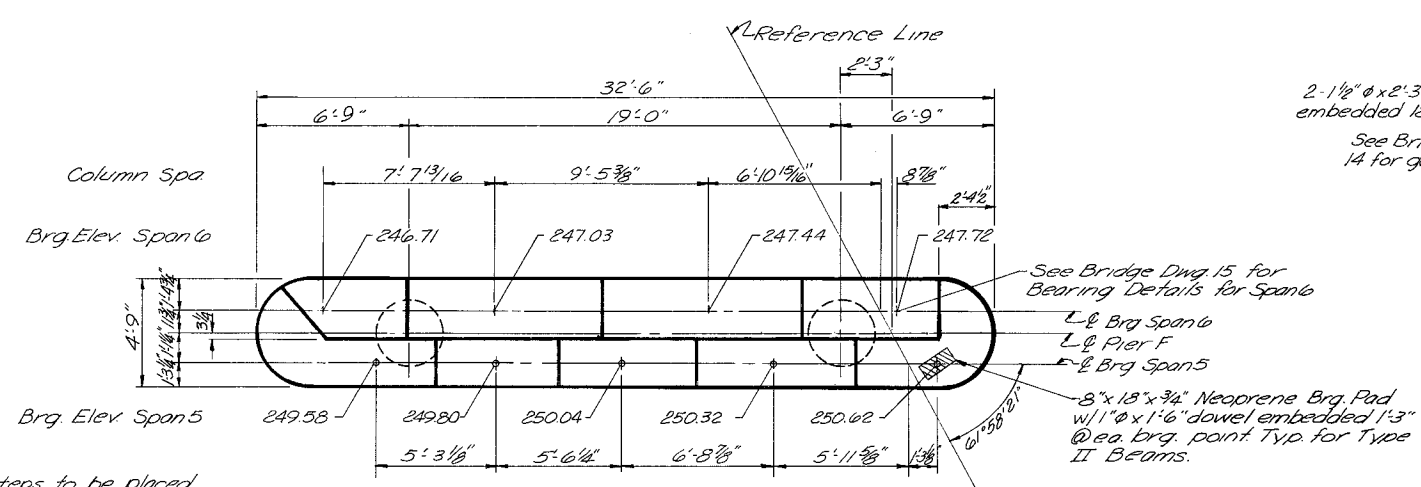
ITEM	UNIT	QUANTITY
CLASS A CONCRETE	CU. YDS.	42.9
STEEL BAR REINFORCEMENT	LBS.	5990

BRIDGE NO. 56D

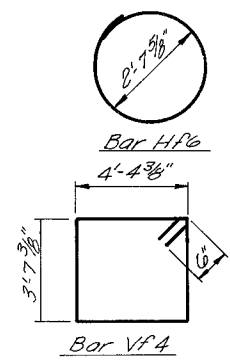
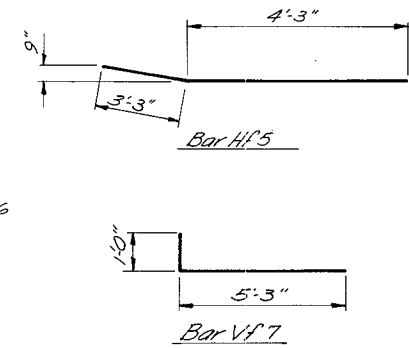
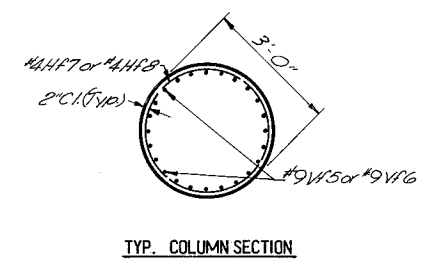
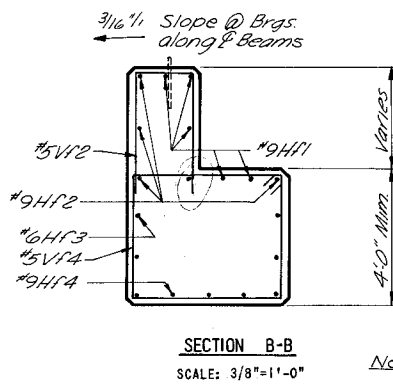
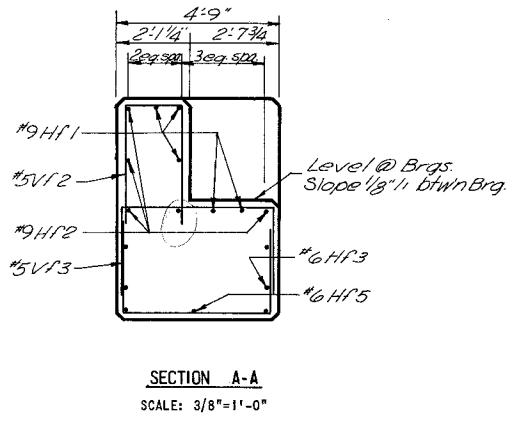
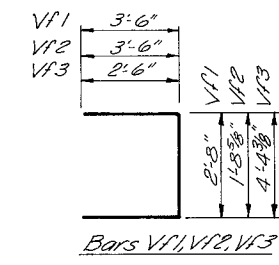
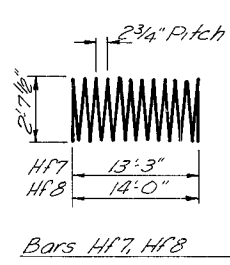
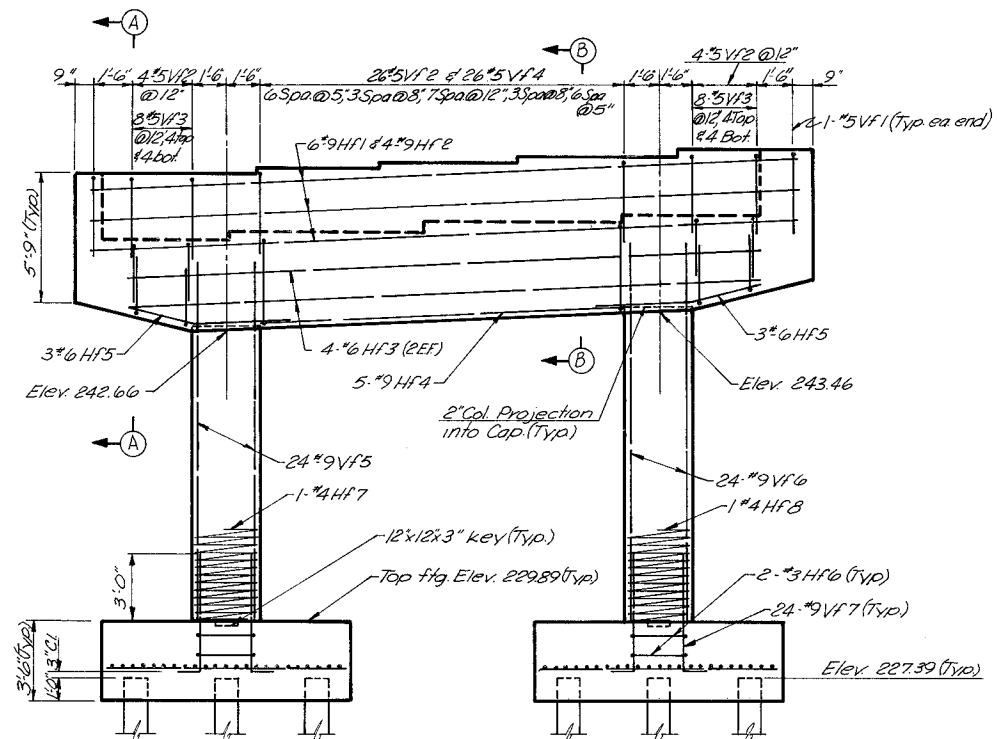
STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS INTERSTATE HIGHWAY SYSTEM MEMPHIS AND SHELBY COUNTY HARLAND BARTHOLOMEW AND ASSOCIATES AND CLARK, DAILY AND DIETZ					
RAMP B OVER I-55 & U.S. 61					
PIER E					
DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE:
Nov. 62	YNG	ZT	RLK	MFT	As noted

PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	I-55-1(19)G	1963	102	216
REVISION 10-25-63					
REVISION					

NOTES:
1. SEE NOTES ON BRIDGE DWG. 4.



BILL OF STEEL					
BAR	SIZE	NO.	LENGTH	SHAPE	LOCATION
HF1	#9	6	31'-3"	—	Cap
HF2	#9	4	28'-3"	—	"
HF3	#6	4	28'-3"	—	"
HF4	#9	5	16'-0"	—	"
HF5	#6	6	7'-6"	—	"
HF6	#3	4	9'-0"	○	Column
HF7	#4	1	509'-0"	Spiral	"
HF8	#4	1	536'-0"	Spiral	"
VF1	#5	2	9'-8"	□	Cap
VF2	#5	34	8'-9"	□	"
VF3	#5	16	9'-5"	□	"
VF4	#5	26	17'-0"	□	"
VF5	#9	24	15'-9"	—	Column
VF6	#9	24	16'-7"	—	"
VF7	#9	48	6'-3"	—	"
FF1	#6	92	10'-6"	—	Footing



Note: All horizontal reinforcement shall be equally spaced.

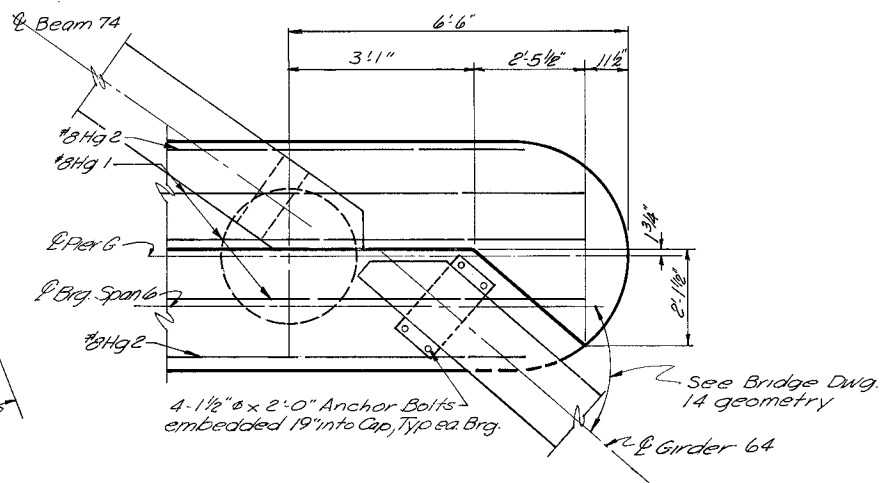
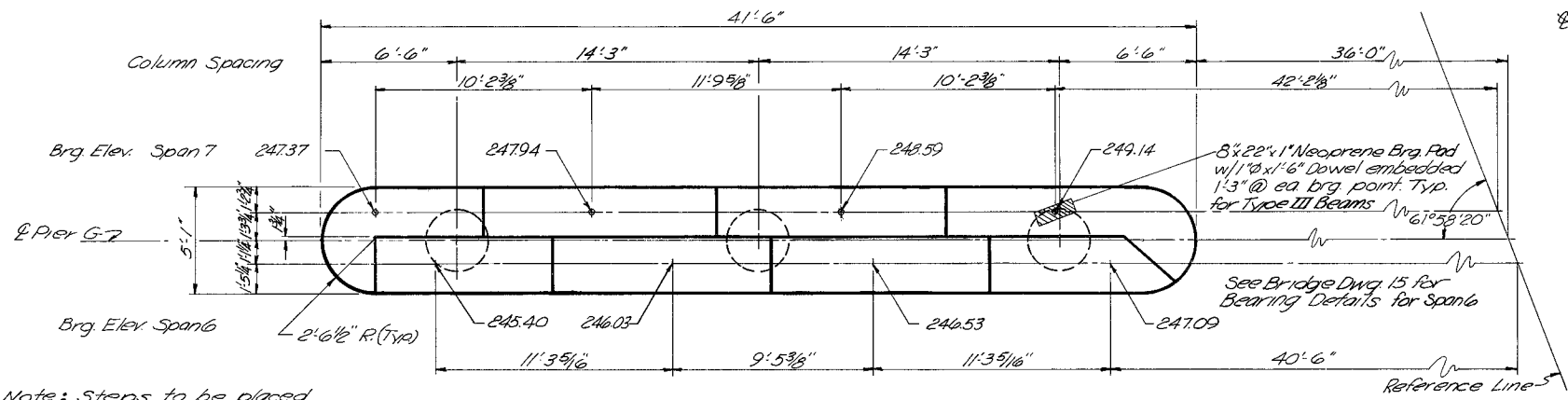
ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
CLASS A CONCRETE	CU. YDS.	67.8
STEEL BAR REINFORCEMENT	LBS.	83,300

BRIDGE NO. 56D					
STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS INTERSTATE HIGHWAY SYSTEM MEMPHIS AND SHELBY COUNTY					
HARLAND BARTHOLOMEW AND ASSOCIATES AND CLARK, DAILY AND DIETZ					
RAMP B OVER I-55 & U.S. 61 PIER F					
DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE:
Nov, 1962	YNG	AJB	RLK	MFT	As noted

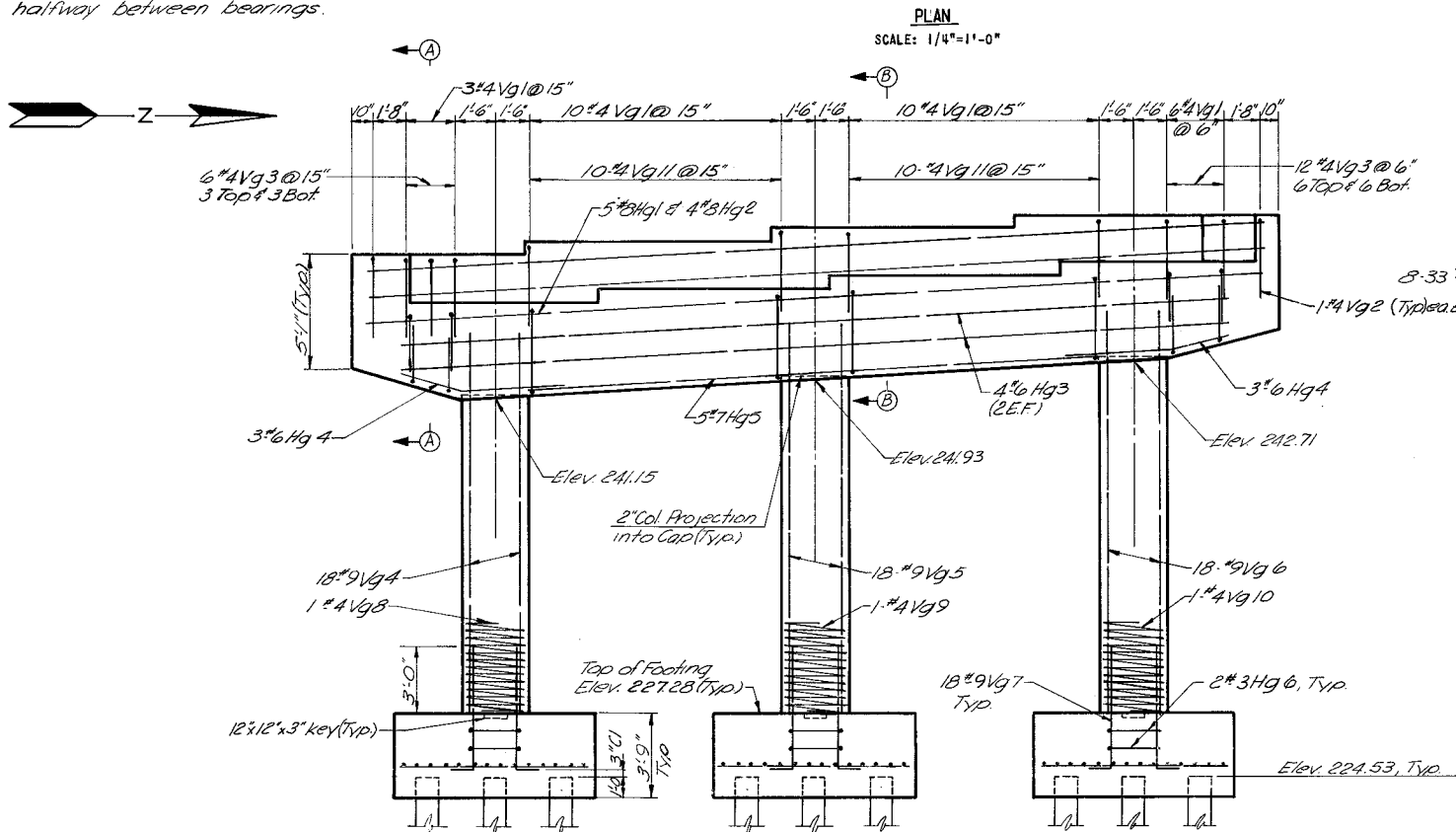
PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	I-55-1(19)6	1963	103	216
REVISION 10-25-63					
REVISION					

NOTES:

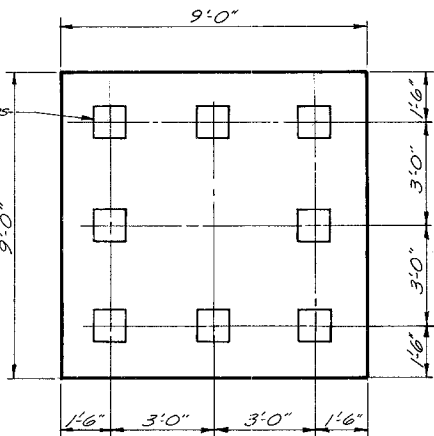
1. SEE NOTES ON BRIDGE DWG. 4.



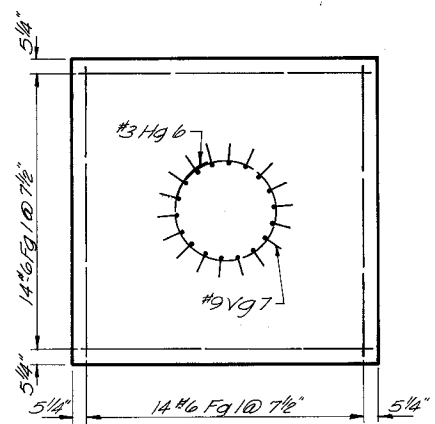
CAP DETAIL
SCALE: 1/2"=1'-0"



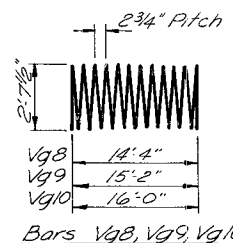
ELEVATION
SCALE: 1/4"=1'-0"



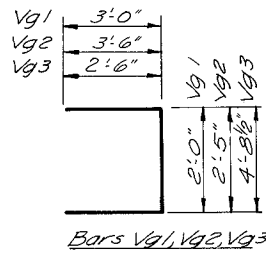
TYP. FOOTING SHOWING DIMENSIONS
SCALE: 3/8"=1'-0"



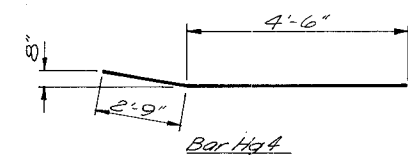
TYP. FOOTING SHOWING REINFORCEMENT
SCALE: 3/8"=1'-0"



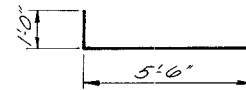
Bars Vg8, Vg9, Vg10



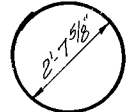
Bars Vg1, Vg2, Vg3



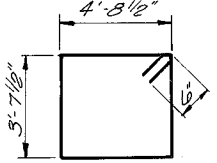
Bar Hg4



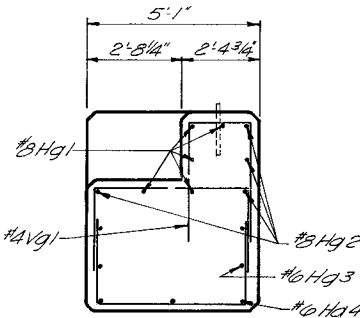
Bar Vg7



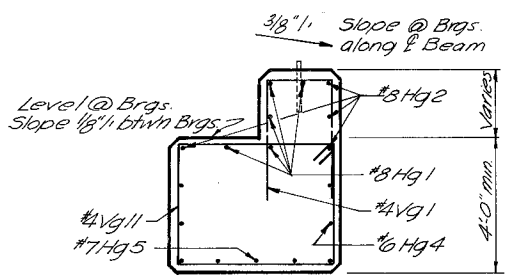
Bar Hg6



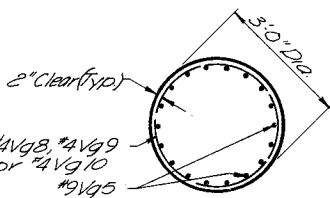
Bar Vg11



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



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



TYP. COLUMN SECTION

Note: All horizontal reinforcement shall be equally spaced.

BILL OF STEEL

BAR	SIZE	NO.	LENGTH	SHAPE	LOCATION
Vg1	#4	29	8'-0"	□	Cap
Vg2	#4	2	9'-5"	□	"
Vg3	#4	18	9'-9"	□	"
Vg4	#9	18	17'-0"	□	Column
Vg5	#9	18	17'-9"	□	"
Vg6	#9	18	18'-6"	□	"
Vg7	#9	54	6'-6"	□	"
Vg8	#4	1	548'-0"	Spiral	"
Vg9	#4	1	579'-0"	Spiral	"
Vg10	#4	1	610'-0"	Spiral	"
Vg11	#4	20	17'-8"	□	Cap
Hg1	#8	5	40'-0"	—	Cap
Hg2	#8	4	37'-0"	—	"
Hg3	#6	4	37'-0"	—	"
Hg4	#6	6	7'-3"	—	"
Hg5	#7	5	25'-6"	—	"
Hg6	#3	6	9'-0"	○	Column
Fg1	#6	84	8'-6"	—	Footing

ESTIMATED QUANTITIES

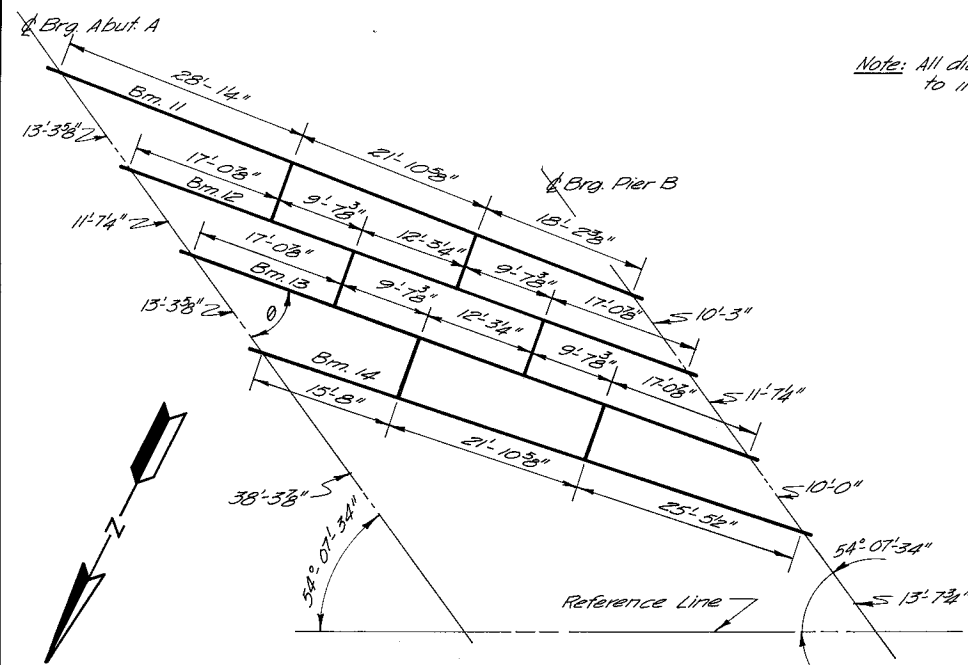
ITEM	UNIT	QUANTITY
CLASS A CONCRETE	CU. YDS.	83.8
STEEL BAR REINFORCEMENT	LBS.	2840

BRIDGE NO. 560

STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS INTERSTATE HIGHWAY SYSTEM MEMPHIS AND SHELBY COUNTY					
HARLAND BARTHOLOMEW AND ASSOCIATES AND CLARK, DAILY AND DIETZ					
RAMP B OVER I-55 & U. S. 61					
PIER G					
DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE:
Nov, 1962	YNG	AJB	RLK	MFT	As noted

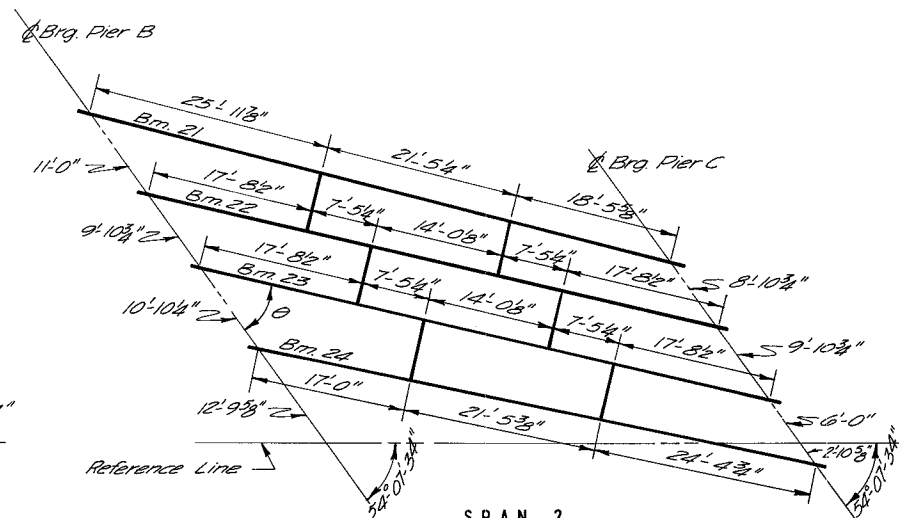
PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	I-55-1(19)G	1963	105	216
REVISION					
REVISION					

Note: All diaphragms are perpendicular to interior beams.



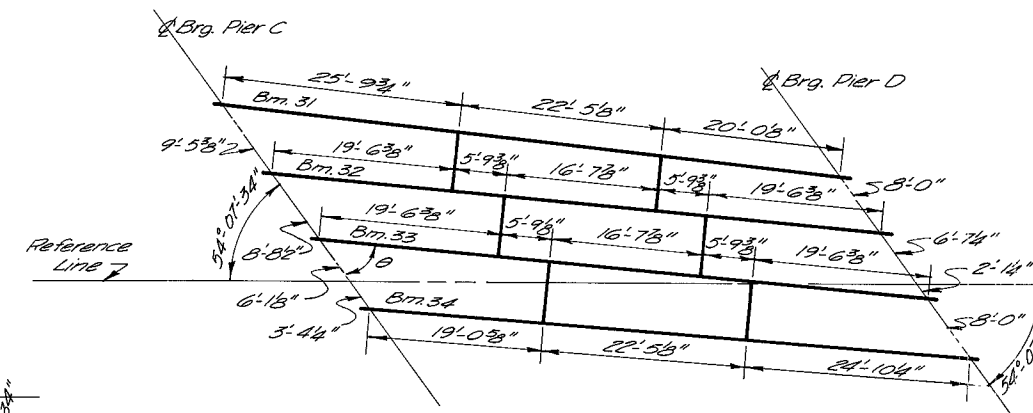
SPAN 1

Beam	Length @ Brg. @ Brg.	θ	Roadway Elevations		
			@ Brg. Abt. A	@ Beam	@ Brg. Pier B
11	68'-2 1/2"	32° 34'	239.08	241.13	243.30
12	65'-7 3/4"	34° 00'	240.18	242.12	244.18
13	65'-7 3/4"	34° 00'	241.14	243.10	245.17
14	63'-0 6"	35° 38'	242.25	244.07	246.02



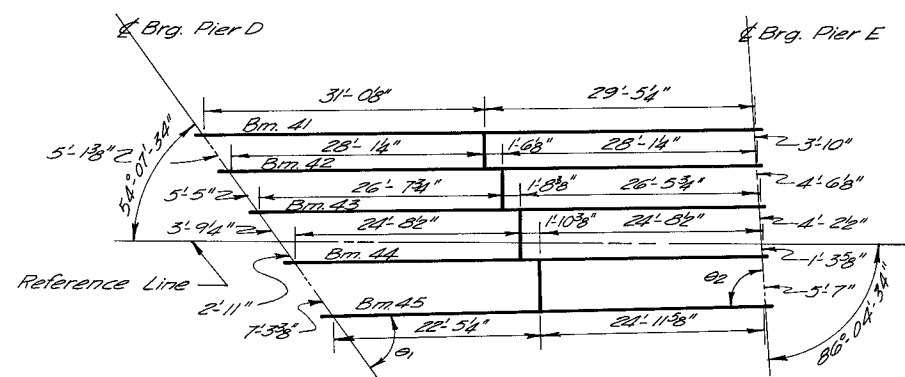
SPAN 2

Beam	Length @ Brg. @ Brg.	θ	Roadway Elevations		
			@ Brg. Pier B	@ Beam	@ Brg. Pier C
21	65'-10 3/4"	40° 04'	243.47	245.45	247.37
22	64'-3 3/8"	41° 16'	244.41	246.28	248.07
23	64'-3 3/8"	41° 16'	245.25	247.09	248.82
24	62'-10 6"	42° 27'	246.17	247.89	249.50



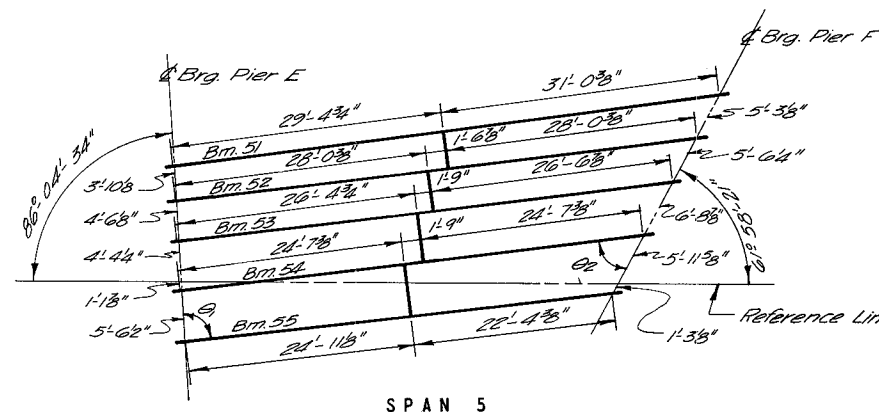
SPAN 3

Beam	Length @ Brg. @ Brg.	θ	Roadway Elevations		
			@ Brg. Pier C	@ Beam	@ Brg. Pier D
31	68'-3"	47° 32'	247.47	249.05	250.48
32	67'-3 3/8"	48° 28'	248.22	249.70	251.03
33	67'-3 3/8"	48° 28'	248.89	250.32	251.62
34	66'-4"	49° 23'	249.61	250.94	252.17



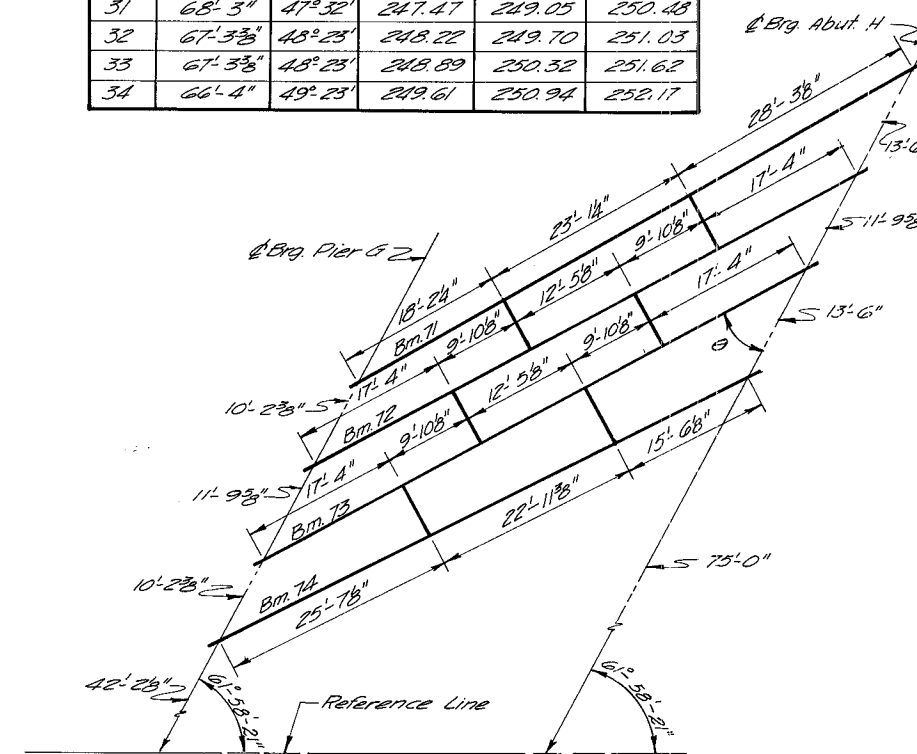
SPAN 4

Beam	Length @ Brg. @ Brg.	θ ₁	θ ₂	Roadway Elevations		
				@ Brg. Pier D	@ Beam	@ Brg. Pier E
41	60'-5 3/8"	54° 58'	86° 55'	250.60	251.51	252.31
42	57'-8 3/8"	55° 19'	87° 16'	250.95	251.79	252.54
43	54'-9 3/8"	55° 19'	87° 16'	251.32	252.11	252.81
44	51'-3 3/8"	55° 19'	87° 16'	251.78	252.49	253.14
45	47'-4 3/8"	55° 49'	87° 46'	252.26	252.89	253.47



SPAN 5

Beam	Length @ Brg. @ Brg.	θ ₁	θ ₂	Roadway Elevations		
				@ Brg. Pier E	@ Beam	@ Brg. Pier F
51	60'-5 3/8"	86° 18'	54° 21'	252.35	252.83	253.18
52	57'-7 3/8"	86° 42'	54° 45'	252.58	253.04	253.40
53	54'-8 3/8"	86° 42'	54° 45'	252.85	253.30	253.64
54	51'-1 3/4"	86° 42'	54° 45'	253.18	253.59	253.92
55	47'-3 3/8"	87° 09'	55° 12'	253.51	253.90	254.22



SPAN 7

Beam	Length @ Brg. @ Brg.	θ	Roadway Elevations		
			@ Brg. Pier G	@ Beam	@ Brg. Abt. H
71	69'-6 3/8"	31° 57'	251.79	250.66	249.04
72	66'-9 3/8"	33° 27'	252.36	251.38	250.27
73	66'-9 3/8"	33° 27'	253.01	252.07	251.01
74	64'-0 3/8"	35° 05'	253.56	252.74	251.83

BRIDGE NO. 56D

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
INTERSTATE HIGHWAY SYSTEM
MEMPHIS AND SHELBY COUNTY

HARLAND BARTHOLOMEW AND ASSOCIATES
AND
CLARK, DAILY AND DIETZ

RAMP B OVER I-55 AND U.S. 61

FRAMING PLAN, SPANS 1-5: 7

DATE	DESIGNED BY	DRAWN BY	CHECKED BY	IN CHARGE	SCALE
10-25-62	JJP	JWN	JJP	MFT	1/4"=1'-0"

PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	I-55-1(19) G	1963	106	216
REVISION					
REVISION					

NOTES

- ALL PRESTRESSING STRANDS ARE TO BE 7/16" Ø 7-WIRE, UNCOATED, STRESS-RELIEVED, PRESTRESSED CONCRETE STRANDS. HOWEVER, THE CONTRACTOR MAY SUBSTITUTE 1/2" Ø STRANDS PROVIDED THE ECCENTRICITY AND TOTAL INITIAL FORCE REMAIN THE SAME.
- AN INITIAL FORCE OF 18,900 LBS. SHALL BE APPLIED TO EA. 7/16" Ø STRAND IN ALL BEAMS.
- TOP OF BEAM SHALL BE ROUGHLY FLOATED. AT APPROXIMATELY THE TIME OF INITIAL SET THE TOP OF THE BEAM SHALL BE SCRUBBED TRANSVERSELY WITH A COARSE WIRE BRUSH TO REMOVE ALL LAITANCE AND TO PRODUCE A ROUGH FINISH.
- ALL BEARING PADS, THREADED DIAPHRAGM DOWELS, AND ALL ITEMS CAST INTO THE BEAMS SHALL BE CONSIDERED INCIDENTAL TO THE UNIT PRICE BID FOR "FURNISH AND PLACE PRESTRESSED BEAMS, TYPE III.
- ALL BEAMS ARE AASHTO - PCI STANDARD TYPE III.

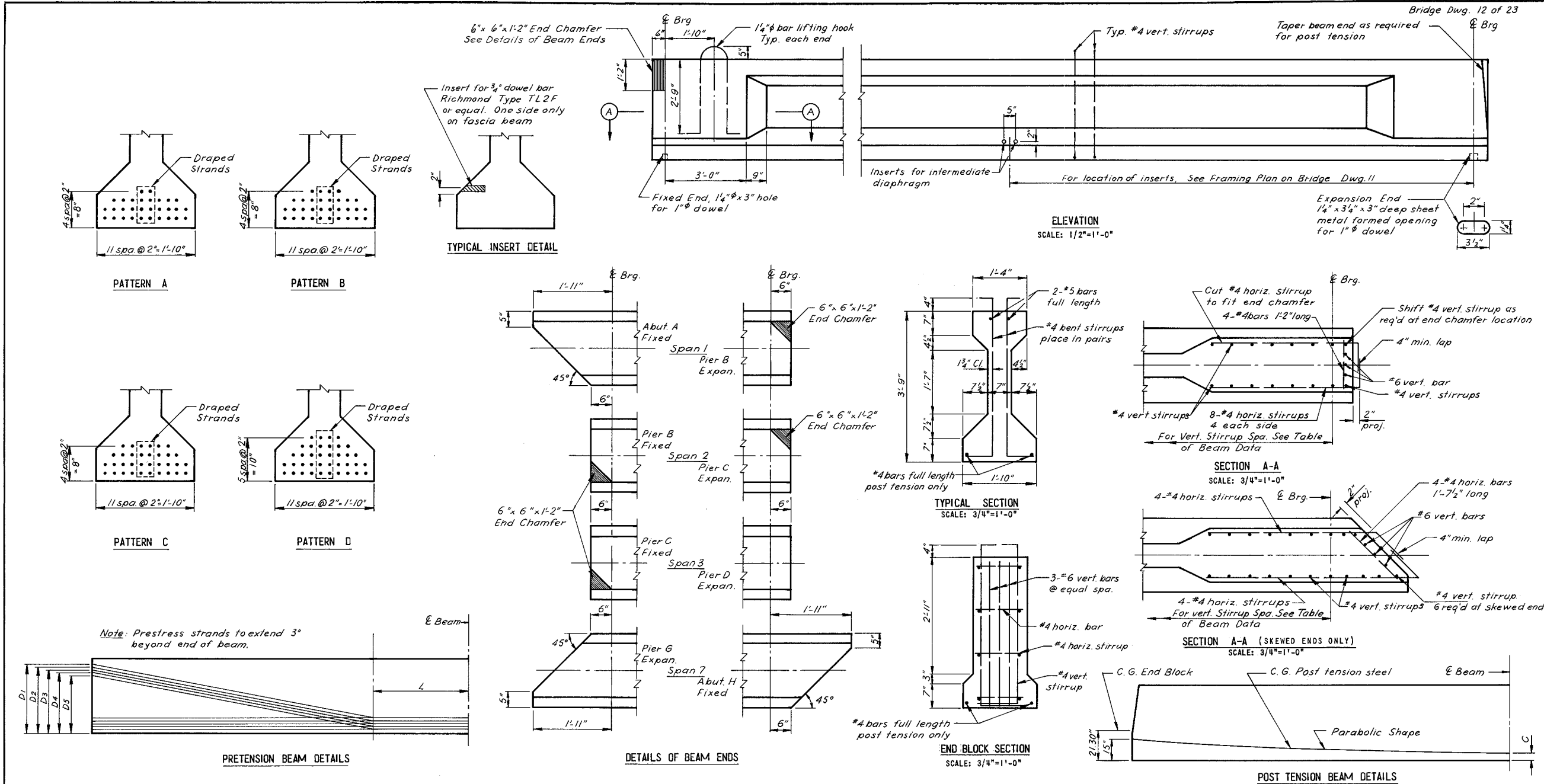


TABLE OF BEAM DATA

BEAM	TOTAL LENGTH (ALONG C)	LENGTH C BRG. TO B.RG.	PRETENSION BEAM DATA									BEAM DESIGN DATA					STIRRUPS					POST TENSION BEAM DATA			ESTIMATED QUANTITIES		
			PATTERN	TOTAL NO. OF 7/16" Ø STRANDS	INITIAL PRESTRESS FORCE, LBS.	DIMENSIONS FOR DRAPED STRANDS					BENDING MOMENTS @ C BEAM, ft. kips.				TOTAL SHEAR @ C BRG., kips	SPACING C BRG. TO C BRG.				TOTAL NO REQ'D., C BRG. TO C BRG.	DIM. C.	FINAL PRESTRESS FORCE, LBS.	INITIAL PRESTRESS FORCE, LBS.	PRECAST CONCRETE, CU. YDS.	MILD REIN- FORCING STEEL, LBS.	PRESTRESS STEEL, 7/16" Ø STRANDS LIN. FT.	
						D1	D2	D3	D4	D5	L	D.L. BEAM	S.D.L. (1)	S.D.L. (2)													L.L. + IMP
11	70'-14"	68'-2 1/4"	C	34	643,000	42	40	38	36	—	7'-0"	338	461	116	416	83.2	5@6" 1@10" 41@18"	1@10 1/4"	5@6"	108	4 5/8"	502,000	620,000	10.6	682	2401	
12 & 13	67'-6 3/4"	65'-7 3/4"	D	38	718,000	42	40	38	36	34	6'-6"	314	356	108	678	97.4	5@6" 40@18"	1@7 3/4"	5@6"	104	5 1/8"	560,000	691,000	10.2	664	2587	
14	64'-11 1/8"	63'-0 1/8"	A	30	567,000	42	40	38	36	—	6'-3"	290	417	100	409	82.6	6@6" 38@18"	1@6 1/2"	5@6"	102	4 1/8"	443,000	547,000	9.8	652	1963	
21	66'-10 3/4"	65'-10 3/4"	B	32	605,000	42	40	38	36	—	6'-6"	316	432	109	400	80.4	5@6" 40@18"	1@10 3/4"	5@6"	104	4 3/8"	473,000	584,000	10.0	640	2157	
22 & 23	65'-3 5/8"	64'-3 5/8"	D	38	718,000	42	40	38	36	34	6'-6"	302	343	103	661	94.2	5@6" 39@18"	1@9 5/8"	5@6"	102	5 1/8"	560,000	691,000	9.8	630	2500	
24	63'-10 1/8"	62'-10 1/8"	A	30	567,000	42	40	38	36	—	6'-3"	288	415	99	406	81.3	5@6" 39@18"	1@10 1/2"	5@6"	102	4 1/8"	443,000	547,000	9.6	627	1930	
31	69'-3"	68'-3"	C	34	643,000	42	40	38	36	—	7'-0"	340	463	117	415	82.2	5@6" 1@10" 41@18"	1@11"	5@6"	108	4 5/8"	502,000	620,000	10.4	658	2372	
32 & 33	68'-3 3/8"	67'-3 3/8"	D	38	718,000	42	40	38	36	34	6'-9"	330	373	113	698	95.4	5@6" 41@18"	1@9 3/8"	5@6"	106	5 1/8"	560,000	691,000	10.3	649	2614	
34	67'-4"	66'-4"	B	32	605,000	42	40	38	36	—	6'-9"	320	454	110	431	82.9	6@6" 40@18"	1@10"	5@6"	106	4 3/8"	473,000	584,000	10.1	647	2171	
71	72'-4 1/2"	69'-6 3/8"	D	38	718,000	42	40	38	36	34	7'-0"	352	479	121	425	85.1	6@6" 42@18"	1@6 5/8"	6@6"	112	5 1/8"	560,000	691,000	10.9	722	2770	
72 & 73	69'-7 3/8"	66'-9 3/8"	D	38	718,000	42	40	38	36	34	6'-9"	325	367	112	691	97.8	6@6" 40@18"	1@9 1/2"	6@6"	108	5 1/8"	560,000	691,000	10.5	703	2665	
74	66'-10 5/8"	64'-0 5/8"	B	32	605,000	42	40	38	36	—	6'-6"	298	428	103	416	84.2	5@6" 39@18"	1@6 3/8"	5@6"	102	4 3/8"	473,000	584,000	10.1	678	2157	

- Superimposed dead load includes diaphragms and slab.
- Superimposed dead load includes handrail and future wearing surface.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
PRESTRESSED CONCRETE BEAMS, TYPE III	EACH	16

BRIDGE NO. 56D

STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS INTERSTATE HIGHWAY SYSTEM MEMPHIS AND SHELBY COUNTY					
HARLAND BARTHOLOMEW AND ASSOCIATES AND CLARK, DAILY AND DIETZ					
RAMP B OVER I-55 & U.S. 61 PRESTRESSED BEAMS, SPANS 1, 2, 3 & 7					
DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE:
Oct. 62	Z T	YNG	MFT		

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	I-55-1(19)G	1963	107	216
REVISION					
REVISION					

NOTES

- ALL PRESTRESSING STRANDS ARE TO BE 7/16" Ø 7-WIRE, UNCOATED, STRESS-RELIEVED, PRESTRESSED CONCRETE STRANDS. HOWEVER, THE CONTRACTOR MAY SUBSTITUTE 1/2" Ø STRANDS PROVIDED THE ECCENTRICITY AND TOTAL INITIAL FORCE REMAIN THE SAME.
- AN INITIAL FORCE OF 18,900 LBS. SHALL BE APPLIED TO EA. 7/16" Ø STRAND IN ALL BEAMS.
- TOP OF BEAM SHALL BE ROUGHLY FLOATED. AT APPROXIMATELY THE TIME OF INITIAL SET THE TOP OF THE BEAM SHALL BE SCRUBBED TRANSVERSELY WITH A COARSE WIRE BRUSH TO REMOVE ALL LAITANCE AND TO PRODUCE A ROUGH FINISH.
- ALL BEARING PADS, THREADED DIAPHRAGM DOWELS, AND ALL ITEMS CAST INTO THE BEAMS SHALL BE CONSIDERED INCIDENTAL TO THE UNIT PRICE BID FOR "FURNISH AND PLACE PRESTRESSED BEAMS, TYPE II."
- ALL BEAMS ARE AASHTO - PCI STANDARD TYPE II.

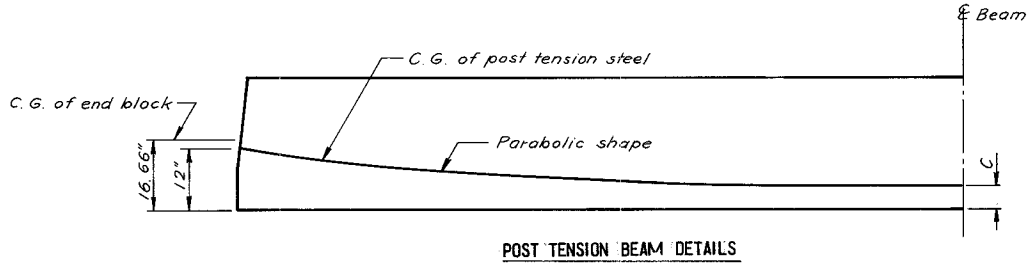
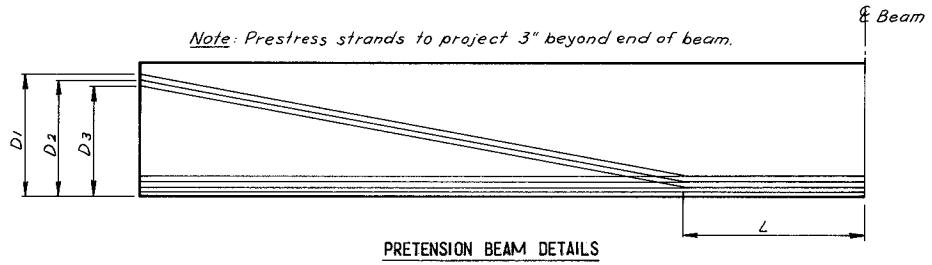
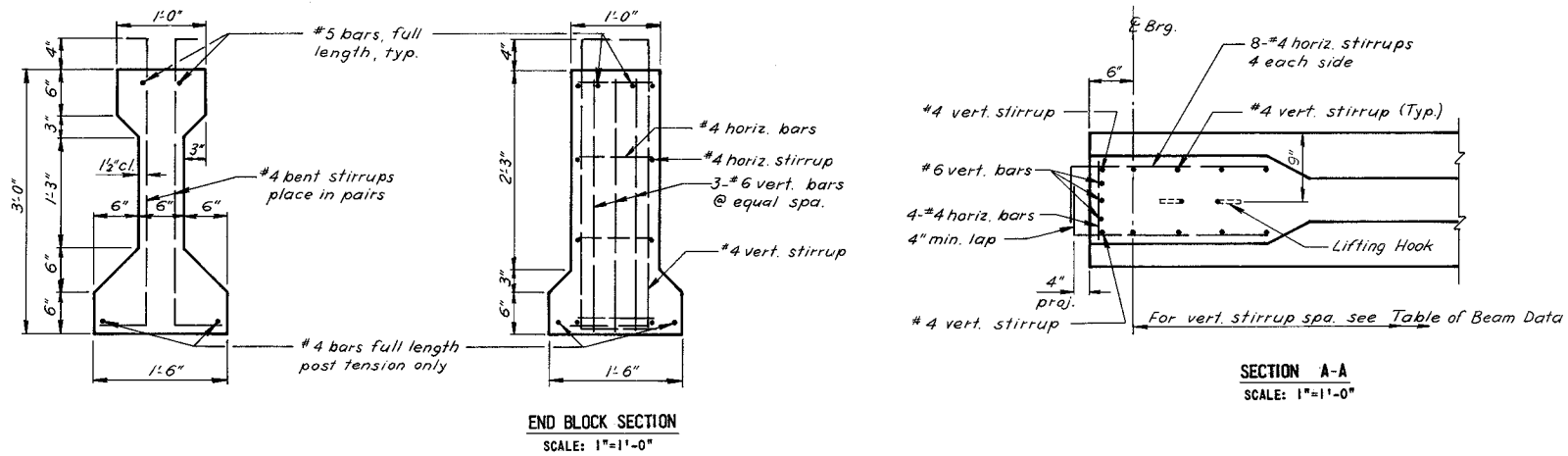
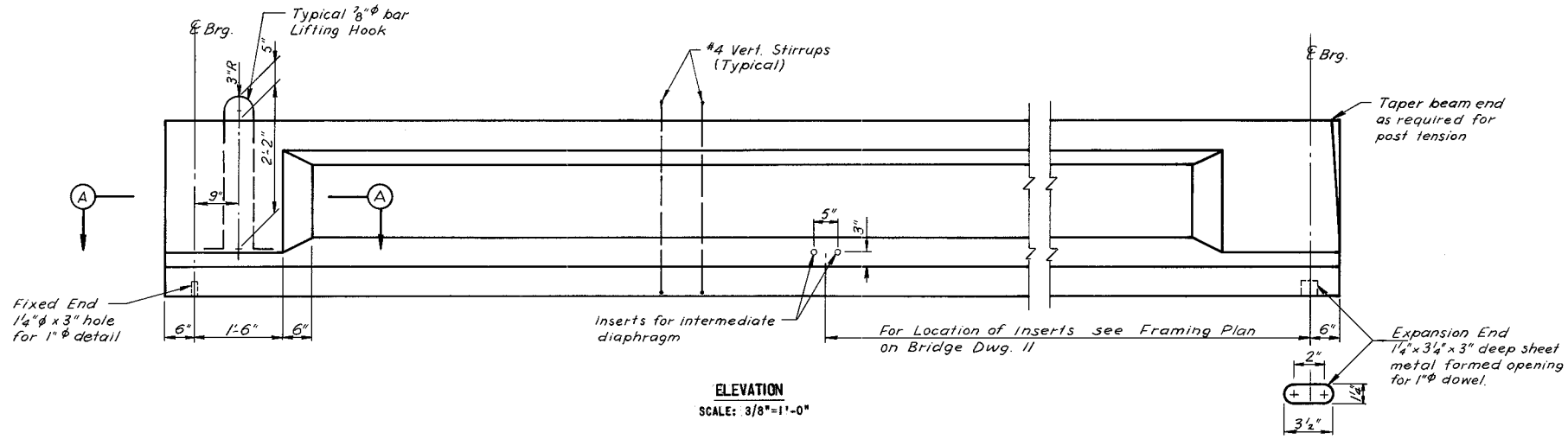
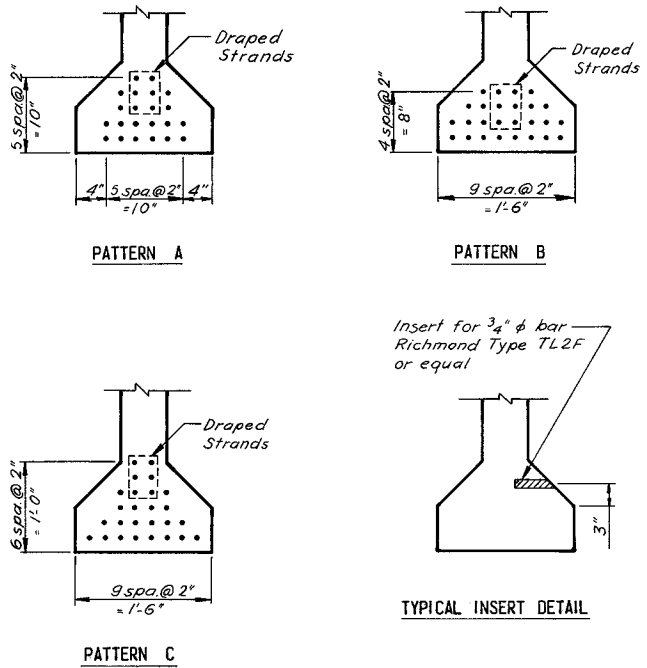


TABLE OF BEAM DATA																									
BEAM	TOTAL LENGTH (ALONG C)	LENGTH C. BRG. TO C. BRG.	PRETENSION BEAM DATA							BEAM DESIGN DATA					STIRRUPS				POST TENSION BEAM DATA			ESTIMATED QUANTITIES			
			PATTERN	TOTAL NO. OF 7/16" Ø STRANDS	INITIAL PRESTRESS FORCE, LBS.	DIMENSIONS FOR DRAPED STRANDS				BENDING MOMENTS @ C. BEAM, ft. kips.				TOTAL SHEAR @ C. BRG. (kip)	SPACING, C. BRG. TO C. BRG.			TOTAL NO. REQ'D C. BRG. TO C. BRG.	DIM.C.	FINAL PRE- STRESS FORCE, LBS.	INITIAL PRESTRESS FORCE, LBS.	PRECAST CONCRETE, CU. YDS.	MILD REIN- FORCING STEEL, LBS.	PRESTRESS STEEL, 7/16" STRANDS, LIN. FT.	
						D1	D2	D3	L	D.L. BEAM	S.D.L. (1)	S.D.L. (2)	L.L. + IMP.												
41	61'-5 3/8"	60'-5 3/8"	B	26	492,000	33	31	29	7'-0"	176	292	92	259	56.1	4@6"	56@12"	1@11 3/8"	3@6"	130	4 1/2"	384,000	474,000	6.0	564	1611
42	58'-8 5/8"	57'-8 5/8"	B	26	492,000	33	31	29	6'-6"	160	160	83	378	57.3	3@6"	54@12"	1@8 5/8"	3@6"	124	4 1/2"	384,000	474,000	5.7	542	1540
43	55'-9 1/8"	54'-9 1/8"	B	26	492,000	33	31	29	6'-0"	144	172	75	415	63.1	3@6"	51@12"	1@9 1/2"	3@6"	118	4 1/2"	384,000	474,000	5.4	519	1464
44	52'-3 3/8"	51'-3 3/8"	C	26	492,000	33	31	29	5'-9"	126	172	66	433	67.4	4@6"	47@12"	1@9 3/8"	3@6"	112	5 3/8"	384,000	474,000	5.1	495	1372
45	48'-4 7/8"	47'-4 7/8"	A	22	416,000	33	31	29	5'-3"	108	204	56	285	59.6	4@6"	43@12"	1@10 3/8"	3@6"	104	5 1/8"	325,000	401,000	4.7	465	1076
51	61'-5 1/8"	60'-5 1/8"	B	26	492,000	33	31	29	7'-0"	176	292	92	259	56.1	4@6"	56@12"	1@9 1/4"	3@6"	130	4 1/2"	384,000	474,000	6.0	564	1616
52	58'-7 5/8"	57'-7 5/8"	B	26	492,000	33	31	29	6'-6"	160	160	83	378	57.3	3@6"	54@12"	1@7 5/8"	3@6"	124	4 1/2"	384,000	474,000	5.7	541	1538
53	55'-8 5/8"	54'-8 5/8"	B	26	492,000	33	31	29	6'-0"	144	172	75	415	63.1	3@6"	51@12"	1@8 5/8"	3@6"	118	4 1/2"	384,000	474,000	5.4	519	1462
54	52'-1 3/4"	51'-1 3/4"	C	26	492,000	33	31	29	5'-9"	126	172	66	433	67.4	4@6"	47@12"	1@7 3/8"	3@6"	112	5 3/8"	384,000	474,000	5.1	495	1369
55	48'-3 1/2"	47'-3 1/2"	A	22	416,000	33	31	29	5'-3"	108	204	56	285	59.6	4@6"	43@12"	1@7 1/2"	3@6"	104	5 1/8"	325,000	401,000	4.7	465	1073

- (1) Superimposed dead load includes diaphragm and slab.
(2) Superimposed dead load includes handrail and future wearing surface.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
PRESTRESSED CONCRETE BEAMS, TYPE II	EACH	10

BRIDGE NO. 56D

STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS INTERSTATE HIGHWAY SYSTEM MEMPHIS AND SHELBY COUNTY					
HARLAND BARTHOLOMEW AND ASSOCIATES AND CLARK, DAILY AND DIETZ					
RAMP B OVER I-55 & U.S. 61 PRESTRESSED BEAMS, SPANS 4 & 5					
DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE:
Oct. 62	JJP	Z T	YNG	MFT	As noted

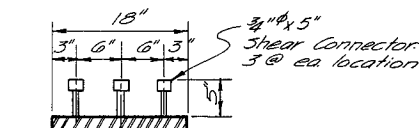
PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	I-55-1(19) 6	1963	108	216
REVISION 10-25-63					
REVISION					

TABLE OF FILLET WELD SIZES

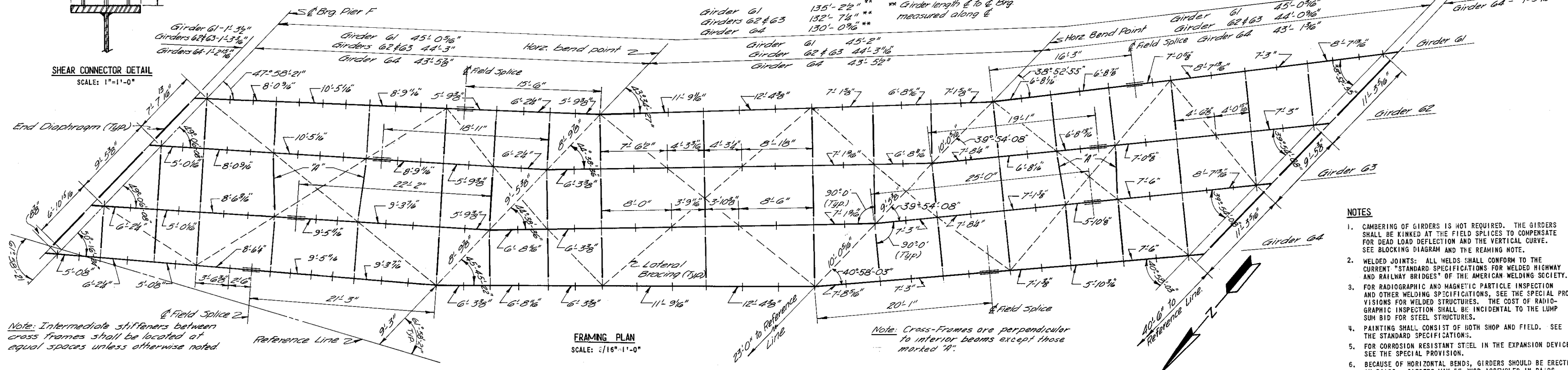
FLANGE PLATE THICKNESS	FILLET WELD SIZE
0" to 3/4"	1/4"
1 1/4" to 1 1/2"	5/16"
1 3/4" to 2 1/4"	3/8"
Over	1/2"

Note: Horizontal bends in girder web may be made by bending the web & horizontal bends in girder flanges shall be made by butt welding the flanges @ horizontal bend points.

Note: @ Brgs. and Horizontal Bend Lines are parallel.

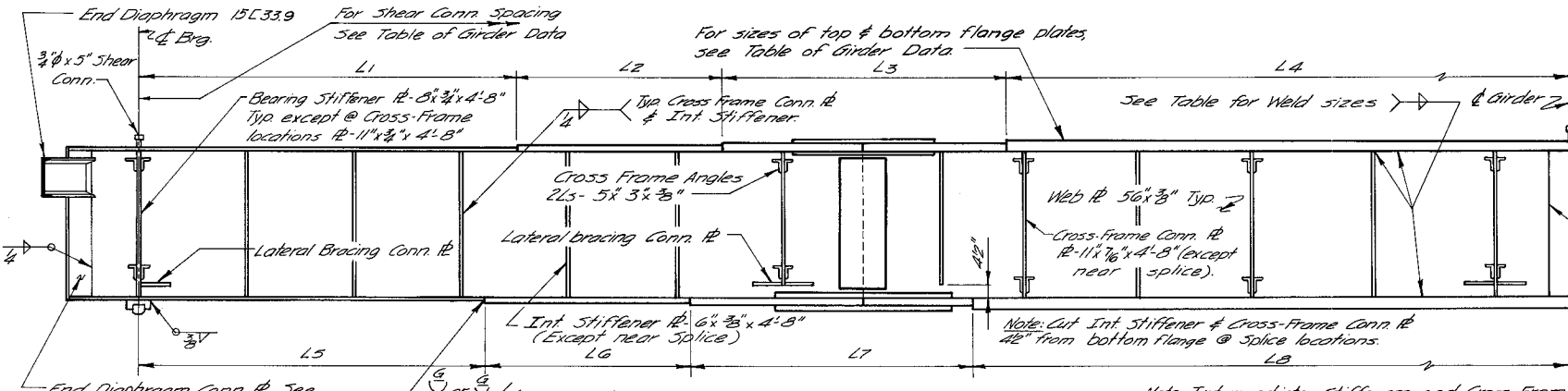


SHEAR CONNECTOR DETAIL
SCALE: 1"=1'-0"



NOTES

- CAMBERING OF GIRDERS IS NOT REQUIRED. THE GIRDERS SHALL BE KINKED AT THE FIELD SPLICES TO COMPENSATE FOR DEAD LOAD DEFLECTION AND THE VERTICAL CURVE. SEE BLOCKING DIAGRAM AND THE REAMING NOTE.
- WELDED JOINTS: ALL WELDS SHALL CONFORM TO THE CURRENT "STANDARD SPECIFICATIONS FOR WELDED HIGHWAY AND RAILWAY BRIDGES" OF THE AMERICAN WELDING SOCIETY.
- FOR RADIOGRAPHIC AND MAGNETIC PARTICLE INSPECTION AND OTHER WELDING SPECIFICATIONS, SEE THE SPECIAL PROVISIONS FOR WELDED STRUCTURES. THE COST OF RADIOGRAPHIC INSPECTION SHALL BE INCIDENTAL TO THE LUMP SUM BID FOR STEEL STRUCTURES.
- PAINTING SHALL CONSIST OF BOTH SHOP AND FIELD. SEE THE STANDARD SPECIFICATIONS.
- FOR CORROSION RESISTANT STEEL IN THE EXPANSION DEVICES, SEE THE SPECIAL PROVISION.
- BECAUSE OF HORIZONTAL BENDS, GIRDERS SHOULD BE ERECTED IN PAIRS. GIRDERS MAY BE SHOP ASSEMBLED IN PAIRS.

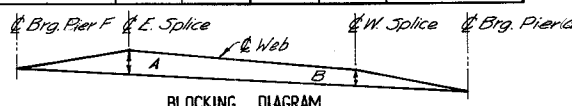


ELEVATION HALF GIRDER
SCALE: 3/8"=1'-0"

TABLE OF GIRDER DATA

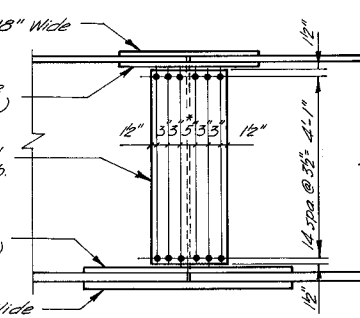
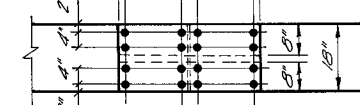
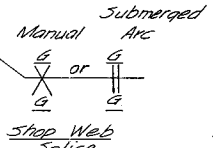
GIRDER	FLANGE PLATE DATA								FLANGE WIDTH 18" CONSTANT		SHEAR CONNECTOR SPACING (@ Brg. to @ Beam)	Roadway Elevations & Blocking Information				
	L1	L2	L3	L4	L5	L6	L7	L8				@ Brg. Pier F	@ East Splice	@ West Splice	@ Brg. Pier G	
	Length/Thick	Length/Thick	Length/Thick	Length/Thick	Length/Thick	Length/Thick	Length/Thick	Length/Thick	Roadway	Rdwy.		A	Rdwy.	B	Roadway	
61	15'4 1/2" 3/4"	8'9" 1/2"	8'0" 1/2"	35'6" 2"	8'10 1/2" 3/4"	5'6" 1/2"	8'9" 2"	44'6" 2 3/4"	1 @ 74", 20 @ 9", 21 @ 12", 10 @ 18" & 8 @ 24"	253.20	253.24	8 1/2"	252.49	7 1/2"	251.89	
62	18'3 3/8" 3/4"	10'6" 1/2"	37'0" 1 1/2"	—	10'6 3/8" 3/4"	7'3" 1/2"	10'6" 2 1/4"	38'0" 2 1/2"	1 @ 6 3/8", 25 @ 9", 14 @ 12", 10 @ 18" & 9 @ 24"	253.52	253.61	7 1/2"	252.98	7"	252.52	
63	15'3 3/8" 3/4"	11'0" 1/2"	40'0" 2"	—	9'3 3/8" 3/4"	5'0" 1/2"	11'0" 2 1/4"	41'0" 2 3/4"	1 @ 6 3/8", 25 @ 9", 14 @ 12", 10 @ 18" & 9 @ 24"	253.93	254.02	5 3/8"	253.36	4 1/2"	253.02	
64	12'0 1/2" 3/4"	6'6" 1/2"	9'0" 2"	37'6" 2 3/4"	11'0 1/2" 1 1/2"	6'6" 2"	9'0" 2 3/4"	38'6" 3 1/4"	1 @ 64", 20 @ 9", 20 @ 12", 9 @ 18" & 8 @ 24"	254.25	254.38	4 3/8"	253.98	5"	253.62	

FLANGE PLATE DATA AND SHEAR CONNECTOR SPACING ARE SYMMETRICAL ABOUT @ GIRDERS. THE BLOCKING DIAGRAM INCLUDES THE EFFECT OF DEAD LOAD DEFLECTION OF GIRDER & SLAB AND ALSO THE EFFECT OF THE VERTICAL CURVE.



*Nominal dimension which may vary due to vertical kinking of girders of splices. See Blocking Diagram.

			<u>Thick.</u>	<u>Length</u>
12" 6 @ 3"	5" 6 @ 3"	Girders 61 & 63	3 1/2"	3' 7"
12" 5 @ 3"	5" 5 @ 3"	Girder 62	3"	3' 7"
12" 8 @ 3"	8" 8 @ 3"	1/2" Girder 64	7 1/2"	4' 7"



Note: Splice to be sub-punched or sub-drilled (See Specifications) 1/4" smaller, reamed to size and match marked while assembled in the shop.

4" smaller, reamed to size and match marked while assembled in the shop.

	@ Thick	@ Length
12" 10 5/8 @ 3" 4" 10 5/8 @ 3" 12" Girder 61 & 64	12"	5' 7"
12" 8 3/4 @ 3" 4" 8 3/4 @ 3" 12" Girder 62 & 63	14"	4' 7"

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

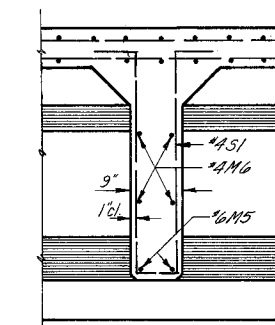
BILL OF MATERIAL

ITEM	MATERIAL	UNIT	QUANTITY
MAIN GIRDERS	A-36	LBS.	190,120
CROSS FRAMES, END DIAPHRAGMS	A-36	LBS.	37,990
BRACING & SPLICE PLATES	A-36	LBS.	—
ROADWAY EXP. DEVICES	CORR. REST. STL.	LBS.	4,510
	A-36	LBS.	1,160
SHEAR CONNECTORS	A-108	LBS.	1,060
BEARINGS	A-36	LBS.	3,940
	LEAD	LBS.	130
HIGH STRENGTH STEEL BOLTS	A-325	LBS.	5,730
TOTAL		LBS.	244,640

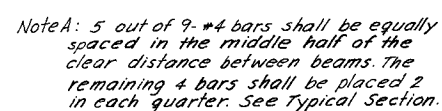
BRIDGE NO. 56D

STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS INTERSTATE HIGHWAY SYSTEM MEMPHIS AND SHELBY COUNTY			
HARLANO BARTHOLOMEW AND ASSOCIATES AND CLARK, DAILY AND DIETZ			
RAMP B OVER I-55 & U.S. 61 STEEL FRAMING PLAN, SPAN 6			
DATE: Nov 1962	DESIGNED BY: JJP	DRAWN BY: JWH	CHECKED BY: YNG
			IN CHARGE: MFT
			SCALE: As noted

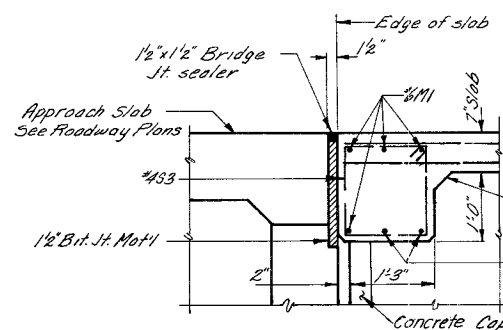
1. THE SLAB SHALL BE CONSTRUCTED ON CURVE CONCENTRIC WITH THE 10°-30' HORIZONTAL CURVE OF THE PROFILE GRADE LINE.
2. SEE BRIDGE DWG. 23 FOR LOCATION AND DETAILS OF DROP-THRU DRAINS, HANDRAIL, AND SLAB THICKENING FOR LIGHTING STANDARDS.
3. SEE BRIDGE DWG. 22 FOR BEARING AND CONCRETE CAP DETAILS AT ABUTMENT.
4. SEE BRIDGE DWG. 17 FOR JOINT DETAILS AT PIER B.
5. SEE BRIDGE DWG. 18 FOR FILLET DETAILS, CAMBER AND FILLET NOTES; AND BEARING AND MORTAR CAP DETAILS.



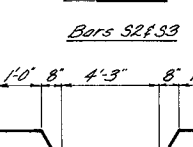
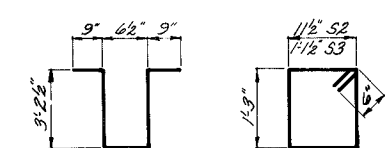
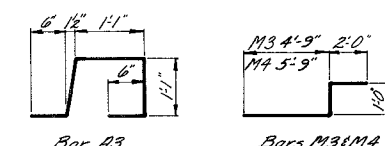
INTERMEDIATE DIAPHRAGM SECTION
SCALE: $3/4" = 1'-0"$



Note: Concrete handrail reinforcement (not shown on this sheet) shall be placed before sidewalk is poured. See Tenn. Std. Sht. H-5-110. Quantities for handrail concrete & reinforcement are shown on Bridge Dwg. 23



END DIAPHRAGM SECTION AT ABUT. A
SCALE: $3/4"=1'-0"$



BENDING DIAGRAM

BAR	SIZE	NUMBER	LENGTH	SHAPE	LOCATION
A1	#5	398	22'-9"	—	Slab
A2	#4	149	3'-4"	┐	Curb
A3	#4	149	4'-3"	┐	Curb
B1	#4	50	36'-9"	—	Slab/Curb
B2	#4	70	35'-3"	—	Slab/Curb
M1	#6	4	40'-3"	—	Slab
M2	#6	4	34'-0"	—	Slab
M3	#6	12	7'-9"	┐	End Diaph.
M4	#6	12	8'-9"	┐	End Diaph.
M5	#6	12	4'-8"	—	Int. Diaph.
M6	#4	24	5'-0"	—	Int. Diaph.
M23	#4	2	8'-9"	┐	Slab Thick
M24	#4	10	2'-10"	—	Slab Thick
S1	#4	36	8'-6"	┐	Int. Diaph.
S2	#4	25	5'-5"	☒	End Diaph.
S3	#4	31	3'-9"	☒	End Diaph.
3 x 3 x ¹⁰ / ₁₆ WNF			95 sq. ft.	Conc. Cap.	

① For location of these bars, see Bridge Dwg. 23.

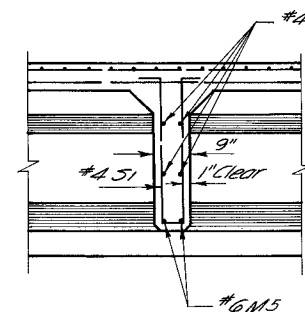
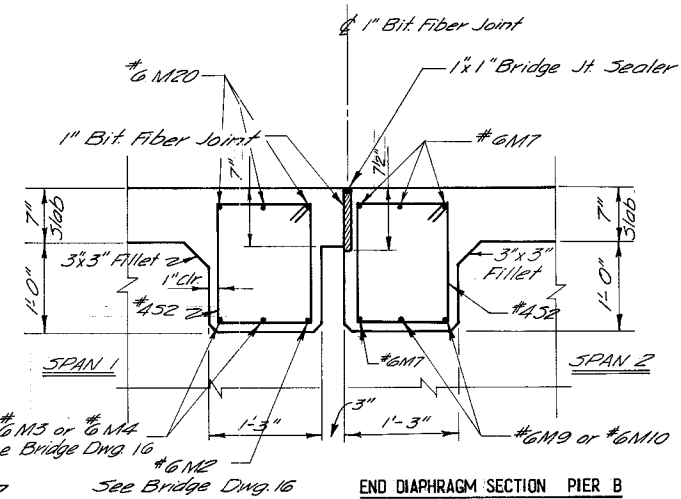
ITEM	UNIT	QUANTITY
CLASS A CONCRETE	CU. YDS.	57.7
STEEL BAR REINFORCEMENT	LBS.	13,020

* Includes 38 lbs 3x3x10 WNF, does not include the reinforcement for handrail to be placed in the Slab.

STATE OF TENNESSEE			
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS			
INTERSTATE HIGHWAY SYSTEM			
MEMPHIS AND SHELBY COUNTY			
HARLAND BARTHOLOMEW AND ASSOCIATES AND CLARK, DAILY AND DIETZ			
RAMP B OVER I-55 AND U.S. 61 SUPERSTRUCTURE SLAB, SPAN 1			
DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY: IN CHARGE: SCALE:
Nov, 1962	RLK	LAL	JJP MFT As noted

	DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE:
Bridge Dwg 16 of 23	Nov, 1962	RLK	LAL	JJP	MFT	As noted

1. THE SLAB SHALL BE CONSTRUCTED ON CURVES CONCENTRIC WITH THE 10°-30' HORIZONTAL CURVE OF THE PROFILE GRADE LINE.
2. SEE BRIDGE DWG. 18 FOR BEARING AND CONCRETE CAP DETAILS AND JOINT DETAILS AT PIERS B & C.
3. SEE BRIDGE DWG. 18 FOR FILLET DETAILS, CAMBER AND FILLET NOTES.

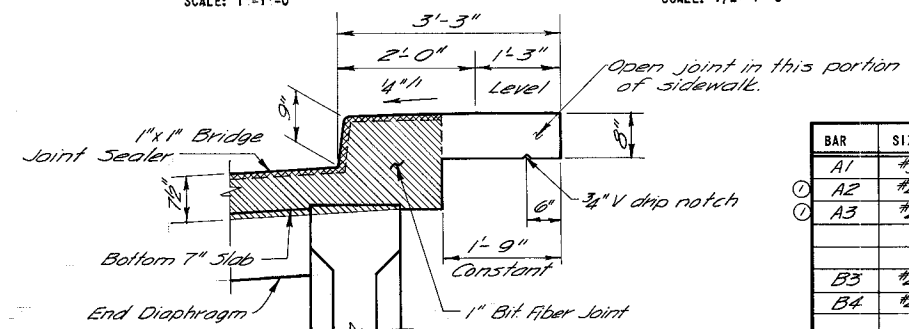


INTERMEDIATE DIAPHRAGM SECTION
SCALE: 1/2"=1'-0"

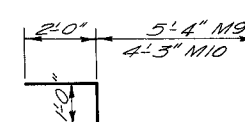
SECTION NEAR $\frac{1}{4}$ SPAN

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

SECTION NEAR BEARING



TYPICAL SECTION NEAR 1" JOINT
SCALE: 3/4"=1'-0"



Bars M9 & M10

BAR	SIZE	NUMBER	LENGTH	SHAPE	LOCATION
A1	#5	262	22'-9"	—	Slab
A2	#4	138	3'-4"	┐	Curb
A3	#4	138	4'-3"	┐	Curb
B3	#4	52	34'-6"	—	Slab & Curb
B4	#4	68	33'-10"	—	Slab & Curb
M5	#6	12	4'-8"	—	Int. Diaph.
M6	#4	24	5'-0"	—	Int. Diaph.
M7	#6	4	33'-5"	—	End Diaph.
M8	#6	4	29'-2"	—	End Diaph.
M9	#6	12	8'-4"	┐	End Diaph.
M10	#6	12	7'-3"	┐	End Diaph.
S1	#4	36	8'-6"	U	Int. Diaph.
S2	#4	48	5'-5"	□	End Diaph.
3x3 x 10 WNF			75 sq ft	Concrete Cap	

ITEM	UNIT	QUANTITY
CLASS A CONCRETE	CU. YDS.	54.1
STEEL BAR REINFORCEMENT	LBS.	10,890

BRIDGE NO. 560

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
INTERSTATE HIGHWAY SYSTEM
MEMPHIS AND SHELBY COUNTY

RAMP B OVER I-55 AND U.S. 61

DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE:
9-8-62	RLK	JWN	JJP	MFT	As noted

K-30-35

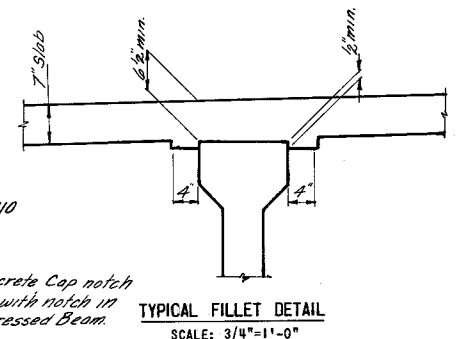
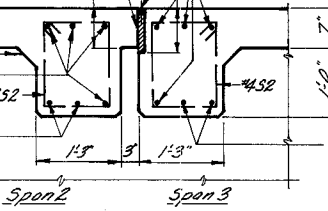
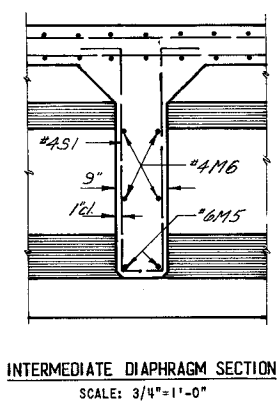
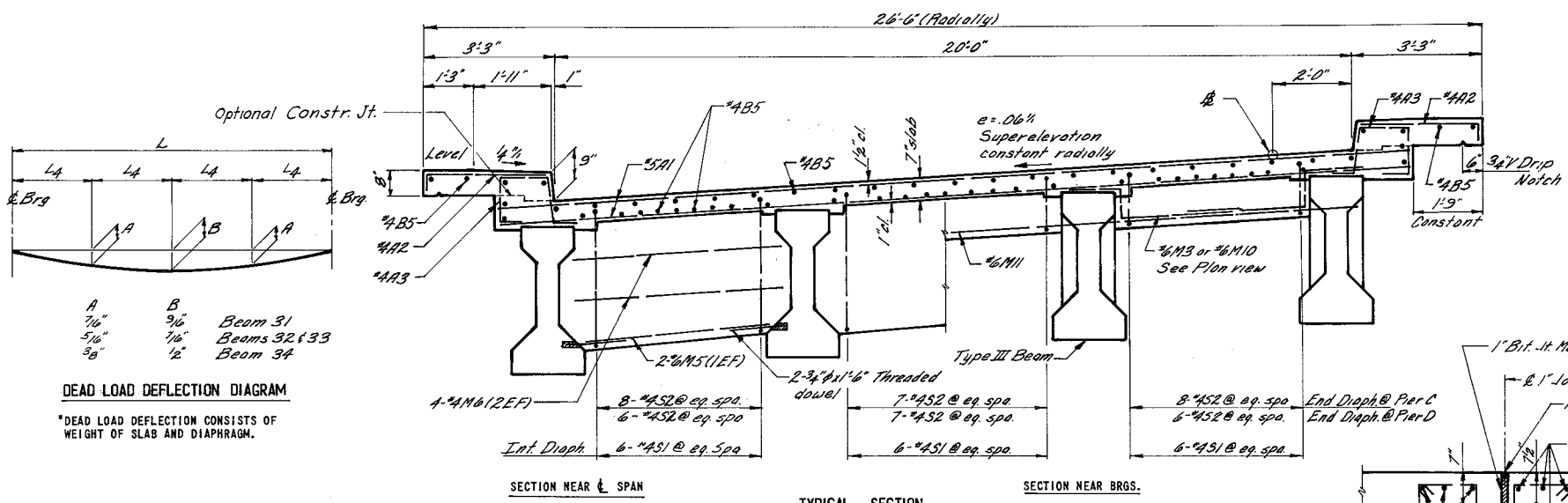
PUR. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	I-55-1(19)6	1963	112	216
REVISION 10-25-63					
REVISION					

NOTES

- THE SLAB SHALL BE CONSTRUCTED ON CURVES CONCENTRIC WITH THE 10°-30° HORIZONTAL CURVE OF THE PROFILE GRADE LINE.
- SEE BRIDGE DWG 19 FOR BEARING AND CONCRETE CAP DETAILS AT PIER D.
- SEE BRIDGE DWG. 17 FOR BIT. JOINT DETAILS AT PIERS C & D.

CAMBER AND FILLET NOTES

- THE FOLLOWING PROCEDURE SHALL BE USED IN FORMING THE SLAB FILLETS:
 - AFTER THE BEAMS ARE IN PLACE, THE CONTRACTOR SHALL FIELD MEASURE ELEVATIONS AT THE ENDS AND CENTER POINT OF EACH PRESTRESSED BEAM.
 - THIS FIELD ELEVATION SUBTRACTED FROM THE FINISHED ROADWAY ELEVATION (SEE BRIDGE DWG. 11) PLUS THE DEAD LOAD DEFLECTION OF THE SLAB MINUS THE SLAB THICKNESS WILL EQUAL THE REQUIRED FILLET THICKNESS ABOVE THE BEAM.
- THE CONTRACTOR MAY UTILIZE THE DEAD LOAD DEFLECTION DIAGRAM FOR DETERMINING THE REQUIRED FILLET THICKNESS OF INTERMEDIATE POINTS.



BILL OF STEEL

BAR	SIZE	NUMBER	LENGTH	SHAPE	LOCATION
A1	#5	278	22'9"	—	Slab
A2	#4	145	5'	—	Curb
A3	#4	145	4'3"	—	Curb
B5	#4	120	35'9"	—	Slab & Curb
M3	#6	12	7'8"	—	End Diaph
M5	#6	12	4'8"	—	Int. Diaph
M6	#4	24	5'0"	—	Int. Diaph
M8	#6	4	29'2"	—	End Diaph
M10	#6	12	7'3"	—	End Diaph
M11	#6	4	26'2"	—	End Diaph
S1	#4	96	8'6"	—	Int. Diaph
S2	#4	42	5'5"	—	End Diaph
3x3x1/4 W.W.F. 87 sq ft Concrete Cap					

- See Bar Bending Diagrams on Bridge Dwg. 16.
- See Bar Bending Diagrams on Bridge Dwg. 17.

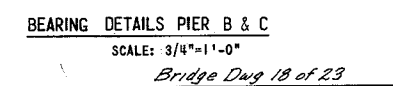
ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
CLASS A CONCRETE	CU. YDS.	56.3
STEEL BAR REINFORCEMENT	LBS.	11450

* Includes 36 lbs 3x3x1/4 W.W.F. does not include the reinforcement for handrail to be placed in the slab.

BRIDGE NO. 56D

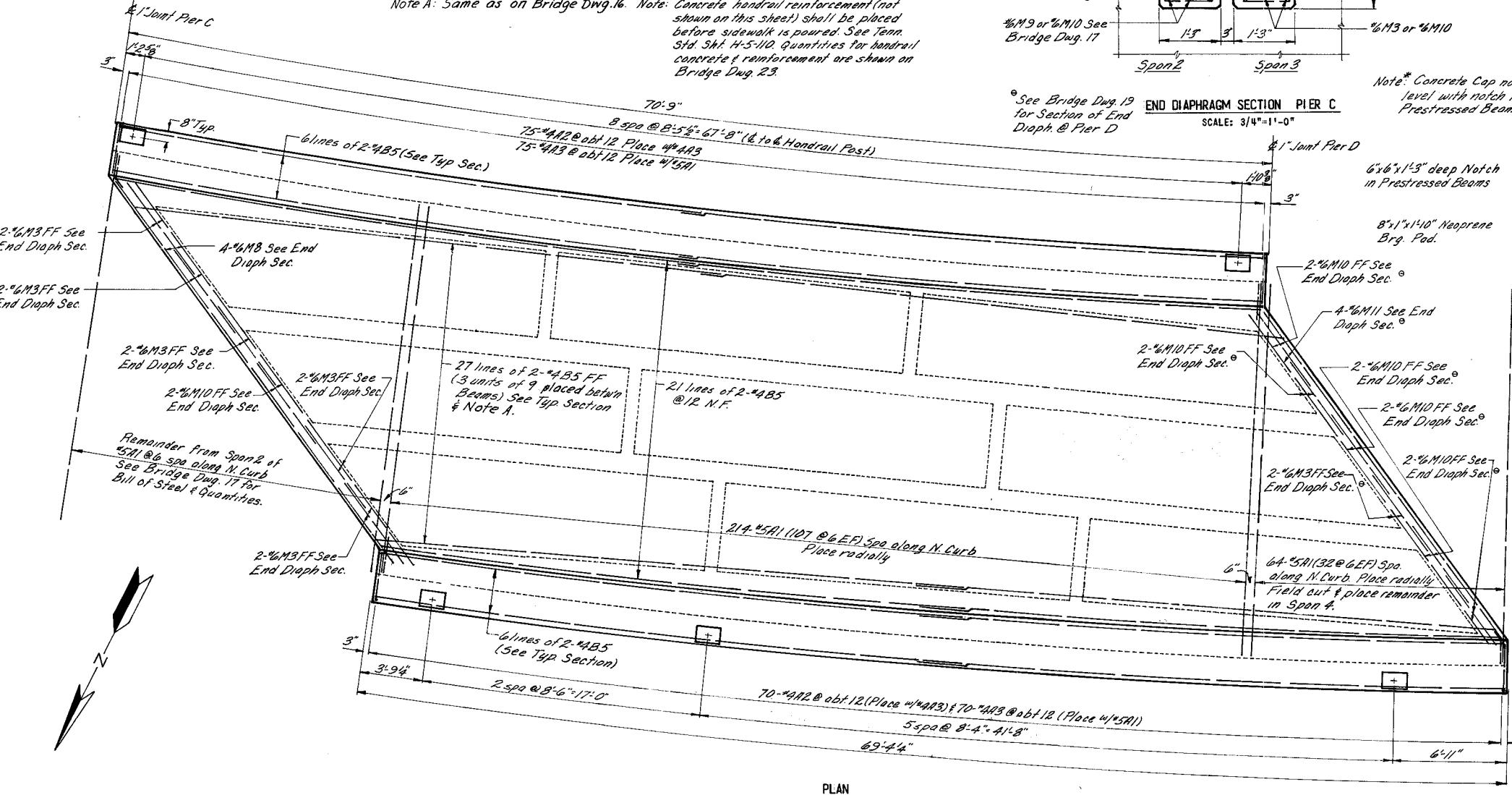
STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS INTERSTATE HIGHWAY SYSTEM MEMPHIS AND SHELBY COUNTY					
HARLAND BARTHOLOMEW AND ASSOCIATES AND CLARK, DAILY AND DIETZ					
RAMP B OVER I-55 AND U.S. 61 SUPERSTRUCTURE SLAB, SPAN 3					
DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE:
Oct 1962	RLK	LAL	JJP	MFT	As Noted

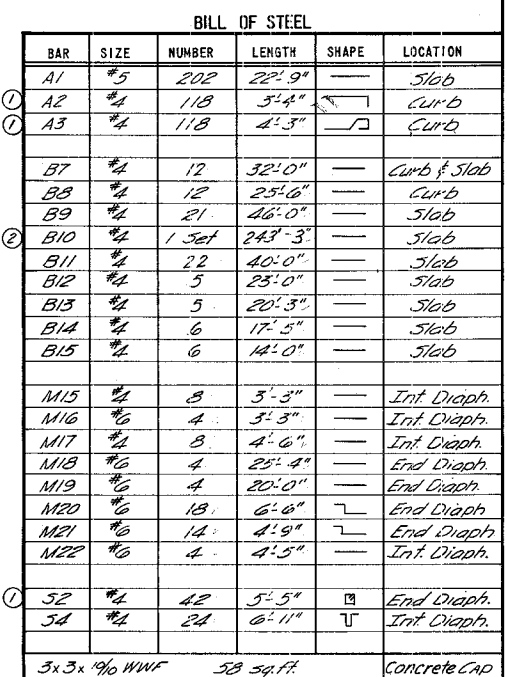
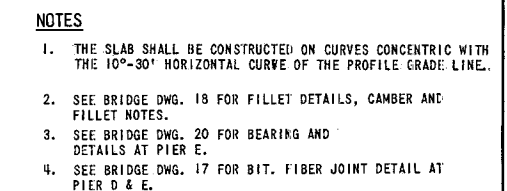


See Note A on Bridge Dwg. 20 for fastening 3x3x1/4 W.W.F. to Beam ends.

PLAN

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



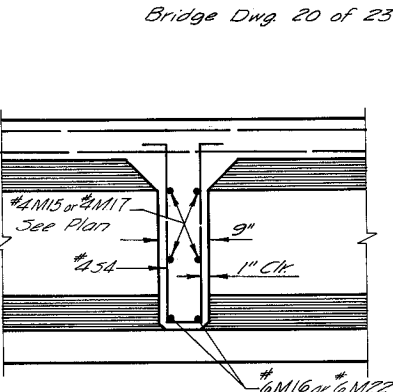
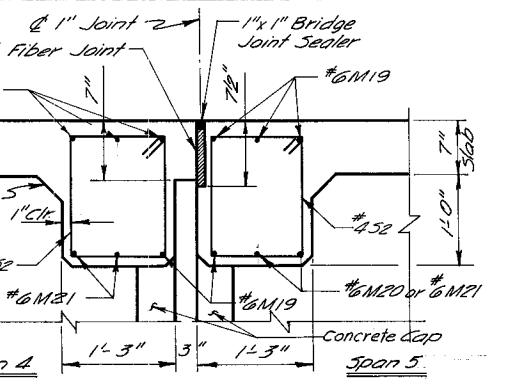
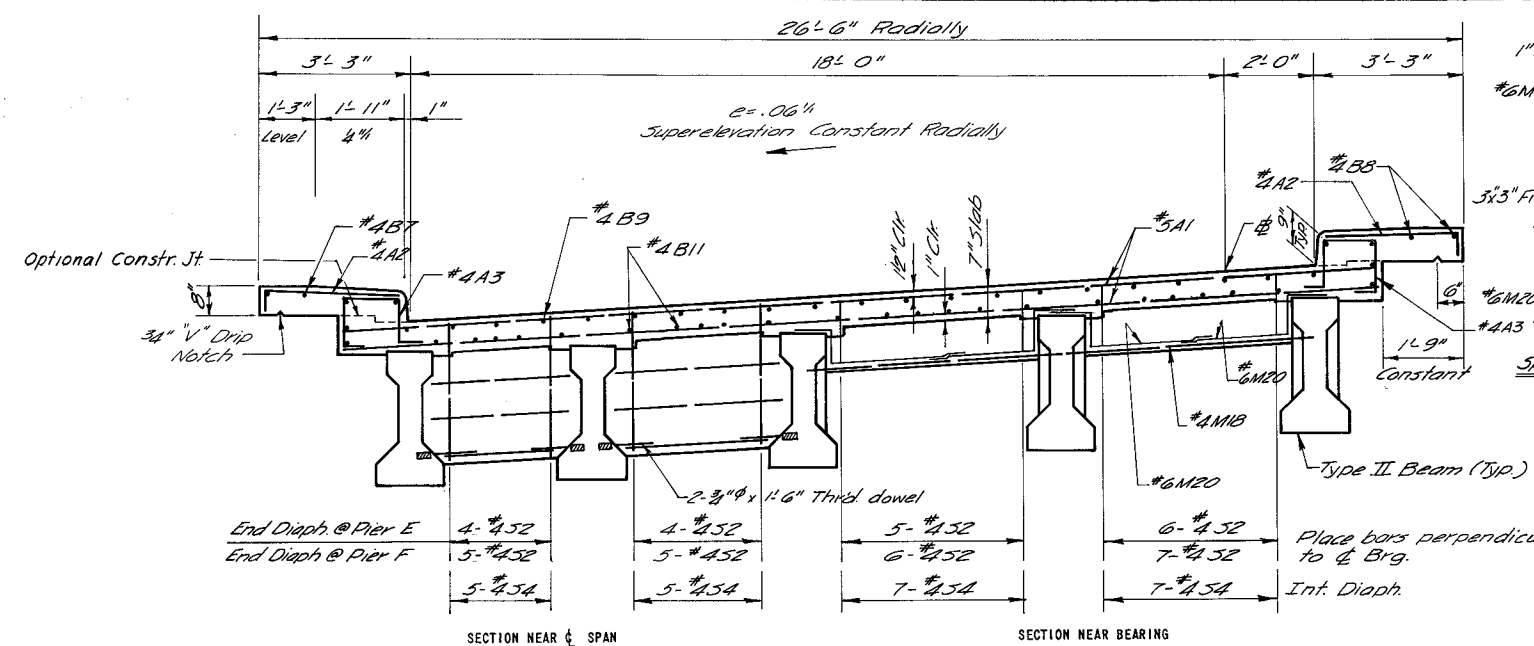


ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
CLASS A CONCRETE	CU. YDS.	42.1
STEEL BAR REINFORCEMENT	LBS.	5450

BRIDGE NO. 560					
STATE OF TENNESSEE					
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS					
INTERSTATE HIGHWAY SYSTEM					
MEMPHIS AND SHELBY COUNTY					
HARLAND BARTHOLOMEW AND ASSOCIATES					
AND					
CLARK, DAILY AND DIETZ					
<u>RAMP B OVER I-55 AND U.S. 61</u>					
<u>SUPERSTRUCTURE SLAB, SPAN 4</u>					
DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE:
Oct 1962	RLK	JWW	JJP	MFT	As noted

PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	I-55-1(19)-6	1963	114	216
REVISION 10-25-63					
REVISION					

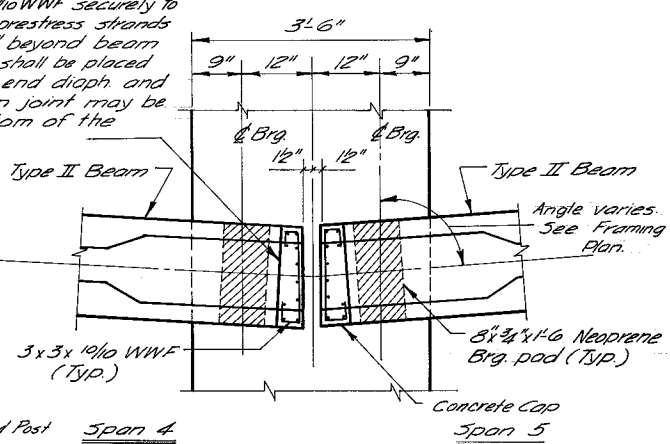
- NOTES**
- THE SLAB SHALL BE CONSTRUCTED ON CURVES CONCENTRIC WITH THE 10°-30' HORIZONTAL CURVE OF THE PROFILE GRADE LINE.
 - SEE BRIDGE DWG. 18 FOR FILLET DETAILS, CAMBER AND FILLET NOTES.
 - SEE BRIDGE DWG. 17 FOR BIT. FIBER JOINT DETAIL AT PIER E.
 - SEE BRIDGE DWG. 15 FOR DETAILS OF SLIDING PLATE EXPANSION DEVICE AT PIER F.
 - SEE BRIDGE DWG. 23 FOR DETAILS OF SLAB THICKENING FOR LIGHTING STANDARDS.



END DIAPHRAGM SECTION, PIER E
SCALE: 1/4"=1'-0"

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

NOTE: A. Fasten the 3x3x1/4 WWF securely to the splayed ends of the prestress strands & hardware projecting 3" beyond beam ends. The concrete cap shall be placed monolithically with the end diaphragm and slab or a construction joint may be provided at the bottom of the end diaphragm.



BEARING DETAIL PIER E
SCALE: 3/4"=1'-0"

BILL OF STEEL					
BAR	SIZE	NUMBER	LENGTH	SHAPE	LOCATION
A1	#5	194	22'-9"		Slab
A2	#4	115	3'-4"		Curbs
A3	#4	117	4'-3"		Curbs
B7	#4	12	52'-0"		Curbs & Slab
B8	#4	12	25'-6"		Curbs
B9	#4	21	46'-0"		Slab
B10	#4	1 Set	243'-3"		Slab
B11	#4	22	40'-0"		Slab
B12	#4	5	23'-0"		Slab
B13	#4	5	20'-3"		Slab
B14	#4	6	17'-5"		Slab
B15	#4	6	14'-0"		Slab
S2	#4	42	5'-5"		End Diaph.
S4	#4	24	6'-11"		Int. Diaph.
M15	#4	8	3'-3"		Int. Diaph.
M16	#4	4	3'-3"		Int. Diaph.
M17	#4	8	4'-6"		Int. Diaph.
M18	#4	4	25'-4"		End Diaph.
M19	#4	4	20'-0"		End Diaph.
M20	#4	16	6'-6"		End Diaph.
M21	#4	14	4'-9"		End Diaph.
M22	#4	4	4'-5"		Int. Diaph.
M23	#4	2	8'-9"		Slab Thkn.
M24	#4	10	2'-10"		Slab Thkn.
3x3x1/4 WWF			58 sq. ft.		Concrete Cap

- Set consists of 21 bars, Length 4'-11" min. to 18'-3" max. @ 8" increments.
- See Bending Diagram on Bridge Dwg. 16.
- See Bending Diagram on Bridge Dwg. 19.
- For location of these bars see Bridge Dwg. 23. See Bending Diagram on Bridge Dwg. 16.

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
CLASS A CONCRETE	CU. YDS.	44.0
STEEL BAR REINFORCEMENT	LBS.	8260

* Includes 24 lbs of 3x3x1/4 WWF Does not include handrail reinf. to be placed in slab.

BRIDGE NO. 56D

STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS INTERSTATE HIGHWAY SYSTEM MEMPHIS AND SHELBY COUNTY					
HARLAND BARTHOLOMEW AND ASSOCIATES AND CLARK, DAILY AND DIETZ					
RAMP B OVER I-55 AND U.S. 61 SUPERSTRUCTURE SLAB, SPAN 5					
DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE:
Oct 1962	RLK	JWN	JJP	MFT	As noted

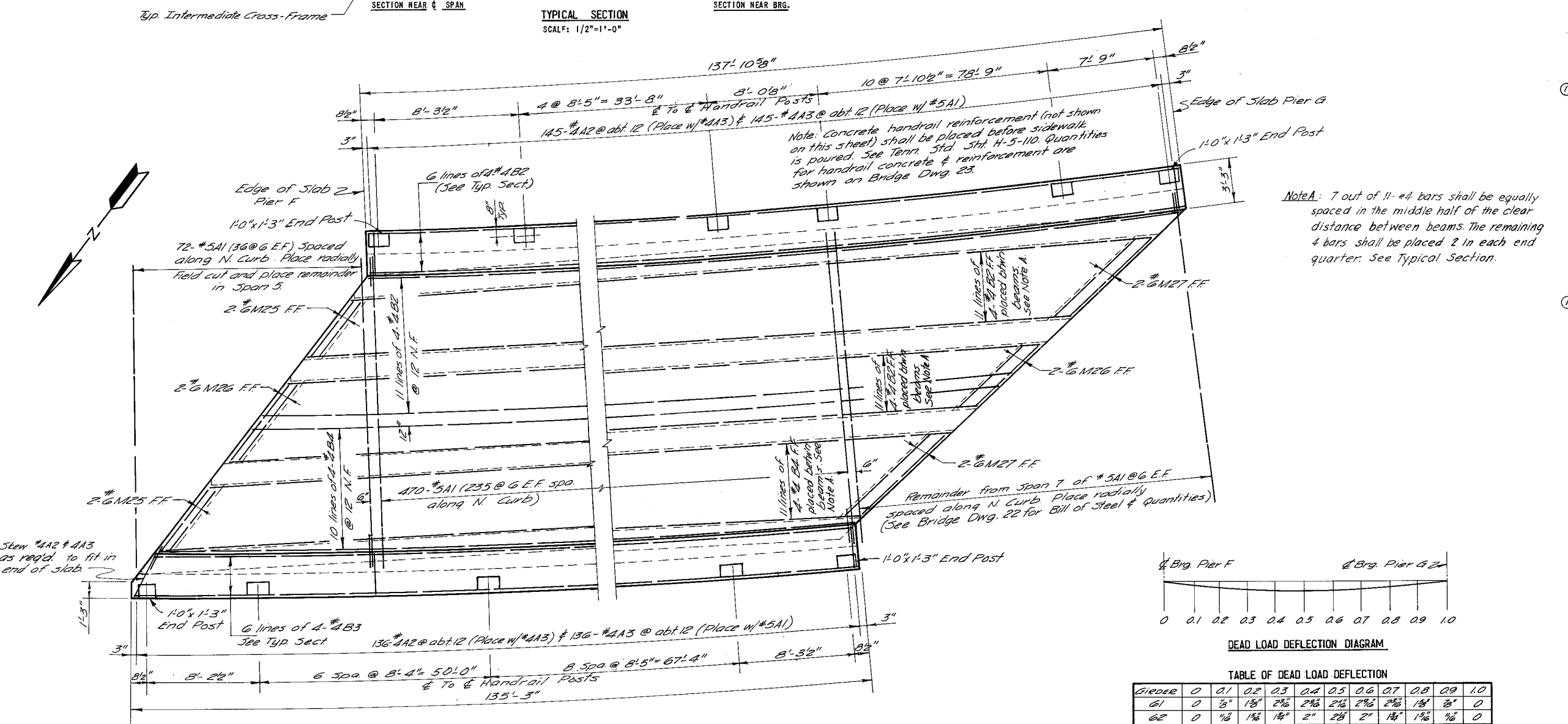
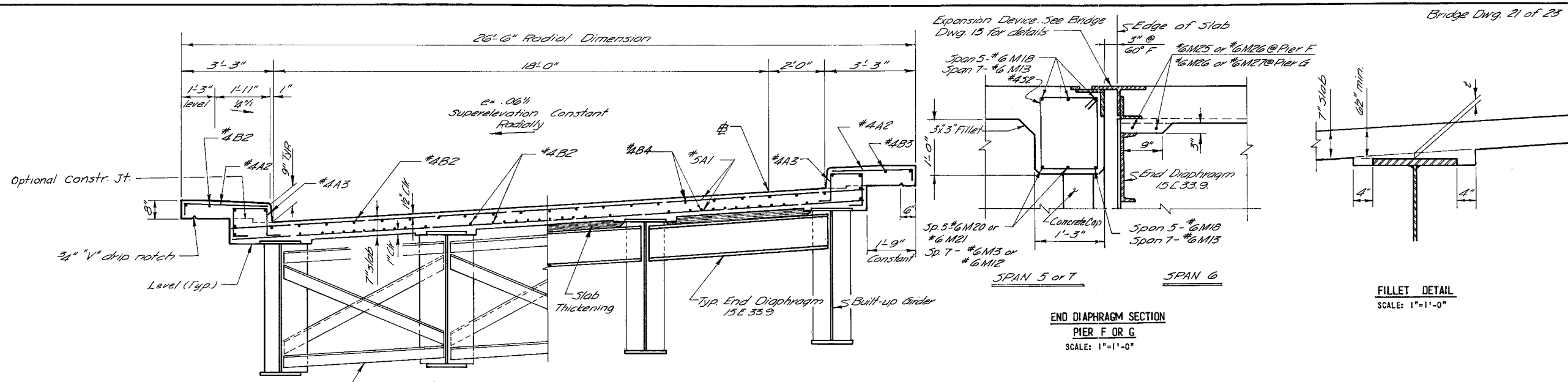
DEAD LOAD DEFLECTION DIAGRAM **

A	B	Beam
1/4"	1/8"	Beam 51
1/4"	1/8"	Beams 52 & 53
1/4"	1/8"	Beam 54
1/4"	1/8"	Beam 55

** Dead load deflection consists of weight of slab and diaphragm.

Bridge Dwg. 20 of 23

JOB NO. 429C



PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	I-55-1(19) G	1965	115	216
REVISION 10-25-63					
REVISION					

- NOTES**
- THE SLAB SHALL BE CONSTRUCTED ON CURVES CONCENTRIC WITH THE 10°-30' HORIZONTAL CURVE OF THE PROFILE GRADE LINE.
- FILLET NOTES**
- THE FOLLOWING PROCEDURE SHALL BE USED IN FORMING THE SLAB FILLET.
 - AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED THE CONTRACTOR SHALL FIELD MEASURE ELEVATIONS OF THE TOP FLANGE OF THE BEAMS AT THE TENTH POINTS.
 - THESE FIELD ELEVATIONS, SUBTRACTED FROM THE FINISHED ROADWAY ELEVATION, PLUS THE DEAD LOAD DEFLECTION OF THE SLAB, MINUS THE SLAB THICKNESS, WILL EQUAL THE REQUIRED FILLET THICKNESS "t" ABOVE THE BEAM.
 - IN ALL CASES, PROVIDE MINIMUM CLEARANCE OF 1/2" BETWEEN TRANSVERSE SLAB REINFORCEMENT AND THE TOP FLANGE OF THE BEAM.

BILL OF STEEL

BAR	SIZE	NUMBER	LENGTH	SHAPE	LOCATION
A1	#5	542	22'-9"	—	Slab
A2	#4	281	3'-4"	—	Curb
A3	#4	281	4'-3"	—	Curb
B2	#4	156	35'-3"	—	Slab & Curb
B3	#4	24	34'-6"	—	Curb
B4	#4	84	33'-10"	—	Slab
MP5	#6	4	4'-4"	—	Slab Thinning
MP6	#6	4	6'-2"	—	Slab Thinning
MP7	#6	4	9'-4"	—	Slab Thinning

① See Bending Diagram on Bridge Dwg. 16.

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
CLASS A CONCRETE	CU. YDS.	29.5
STEEL BAR REINFORCEMENT	LBS.	20,560

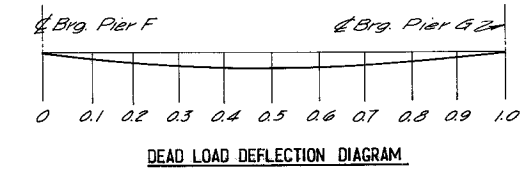


TABLE OF DEAD LOAD DEFLECTION

GIRDER	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
61	0	1/8"	1 3/8"	2 1/8"	2 3/8"	2 1/2"	2 1/8"	2 1/8"	1 3/8"	1/8"	0
62	0	1/8"	1 3/8"	1 3/8"	2"	2 3/8"	2"	1 3/8"	1 3/8"	1/8"	0
63	0	1/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	0
64	0	1/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	0

Dead load deflection consists of weight of slab.

BRIDGE NO. 560

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
INTERSTATE HIGHWAY SYSTEM
MEMPHIS AND SHELBY COUNTY

HARLAND BARTHOLOMEW AND ASSOCIATES
AND
CLARK, DAILY AND DIETZ

**RAMP B OVER I-55 AND U.S. 61
SUPERSTRUCTURE SLAB, SPAN 6**

DATE: Nov 1962 DESIGNED BY: RLK DRAWN BY: JWN CHECKED BY: JJP IN CHARGE: MFT SCALE: As noted

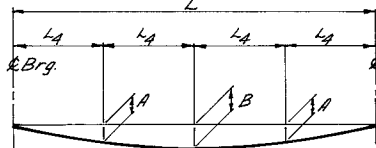
JOB NO. 429C

PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	I-55-1(19)G	1963	116	216
REVISION 10-25-63					
REVISION					

NOTES

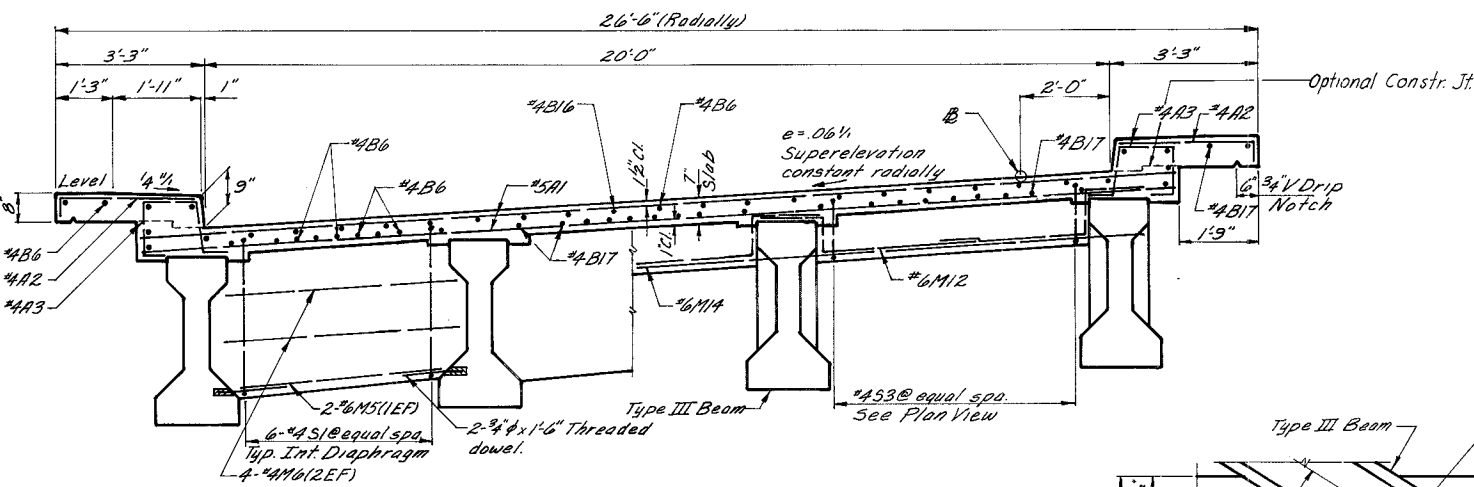
- THE SLAB SHALL BE CONSTRUCTED ON CURVES CONCENTRIC WITH THE 10°-30° HORIZONTAL CURVE OF THE PROFILE GRADE LINE.
- SEE BRIDGE DWG. 18 FOR FILLET DETAILS, CAMBER AND FILLET NOTES.
- SEE BRIDGE DWG. 15 FOR DETAILS OF SLIDING PLATE EXPANSION DEVICE AT PIER G.
- SEE BRIDGE DWG. 23 FOR LOCATION AND DETAILS OF DROP-THRU DRAINS, HANDRAIL AND SLAB THICKENING FOR LIGHTING STANDARDS.

Dead load deflection consists of weight of slab & diaphragms



A 30" 4" 5/16
B 12" 30" 30"
Beam 71
Beams 72 & 73
Beam 74

DEAD LOAD DEFLECTION DIAGRAM

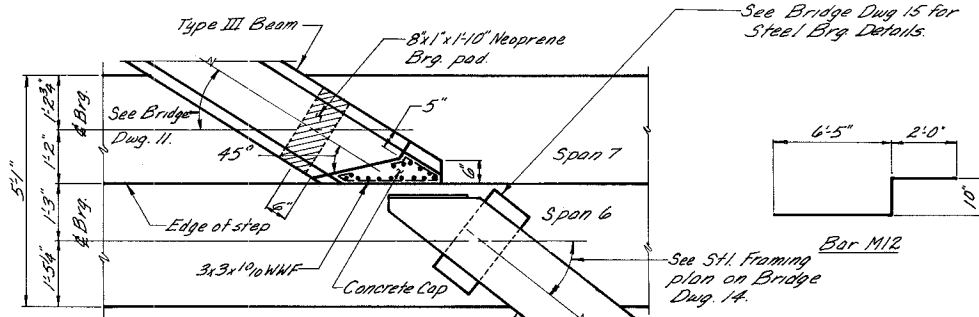


SECTION NEAR & SPAN

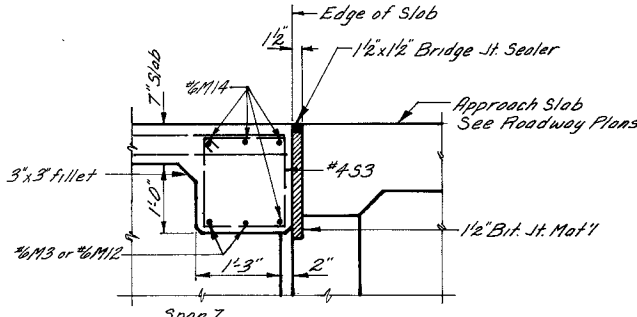
TYPICAL SECTION
SCALE: 1/2"=1'-0"

SECTION NEAR BEARING

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



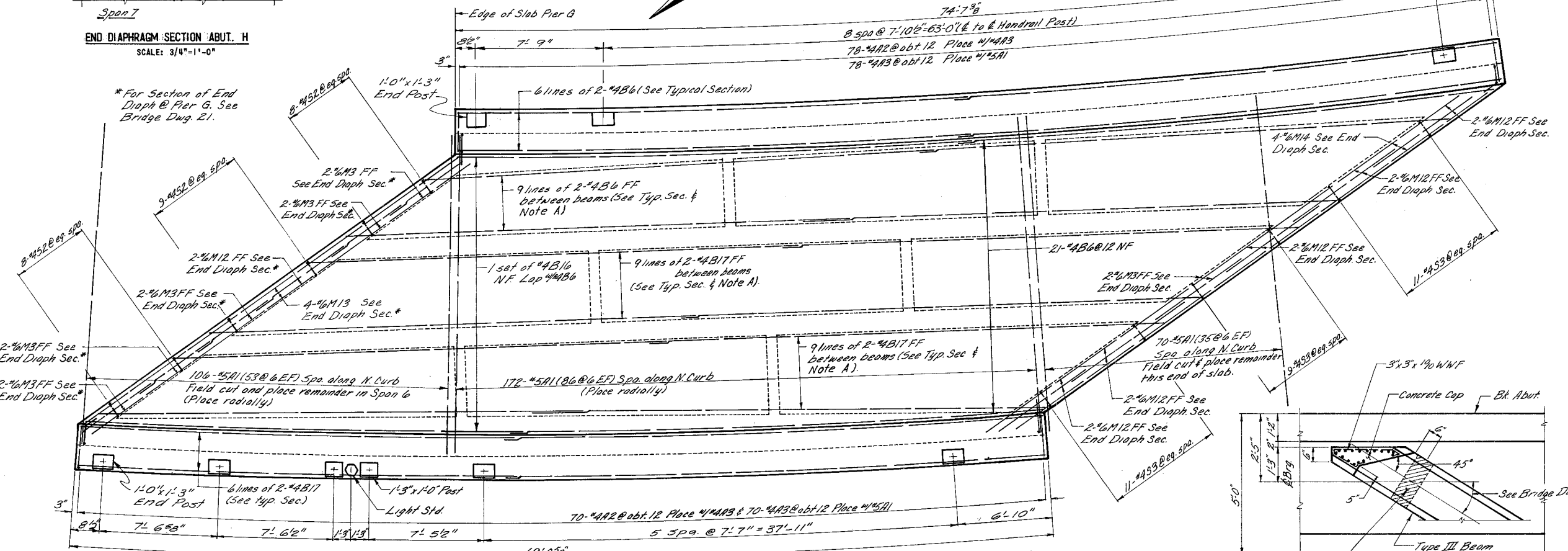
BEARING DETAIL PIER G
SCALE: 1/2"=1'-0"



END DIAPHRAGM SECTION ABUT. H
SCALE: 3/4"=1'-0"

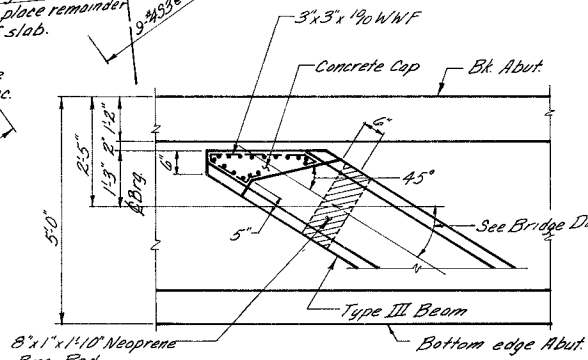
Note: Concrete handrail reinforcement (not shown on this sheet) shall be placed before sidewalk is poured. See Tenn Std Sht. H-5-110. Quantities for handrail concrete reinforcement are shown on Bridge Dwg. 23.

Note A: Same as on Bridge Dwg. 16.



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

See Note A on Bridge Dwg. 20 for fastening to 3x3x10 W/F to beams



BEARING DETAIL ABUT. A & H

BILL OF STEEL

BAR	SIZE	NUMBER	LENGTH	SHAPE	LOCATION
A1	5	348	22'-9"		Slab
A2	4	148	3'-4"		Curb
A3	4	148	4'-9"		Curb
B6	4	51	37'-8"		Slab & Curb
B16	4	Set	78'-0"		Slab
B17	4	48	30'-0"		Slab & Curb
M3	6	12	7'-9"		End Diaph.
M5	6	12	4'-8"		Int. Diaph.
M6	4	24	5'-0"		Int. Diaph.
M12	6	12	9'-5"		End Diaph.
M13	6	4	34'-5"		End Diaph.
M14	6	4	40'-10"		End Diaph.
M23	4	2	8'-9"		Slab Thick.
M24	4	10	2'-10"		Slab Thick.
S1	4	36	8'-6"		Int. Diaph.
S2	4	25	5'-5"		End Diaph.
S3	4	31	5'-9"		End Diaph.
3x3x10 W/F			110 sq. ft.		Concrete Cap

- Set consists of 21 Bars, Length 37'-6" max to 32'-6" min. @ 3" increments.
- See Bar Bending Diagram on Bridge Dwg. 16.
- For location of bars, see Bridge Dwg. 23.

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
CLASS A CONCRETE	CU. YDS.	58.8
STEEL BAR REINFORCEMENT	LBS.	13,360

* Includes 44 lbs of 3x3x10 W/F, does not include the reinforcement for handrail to be placed in the slab.

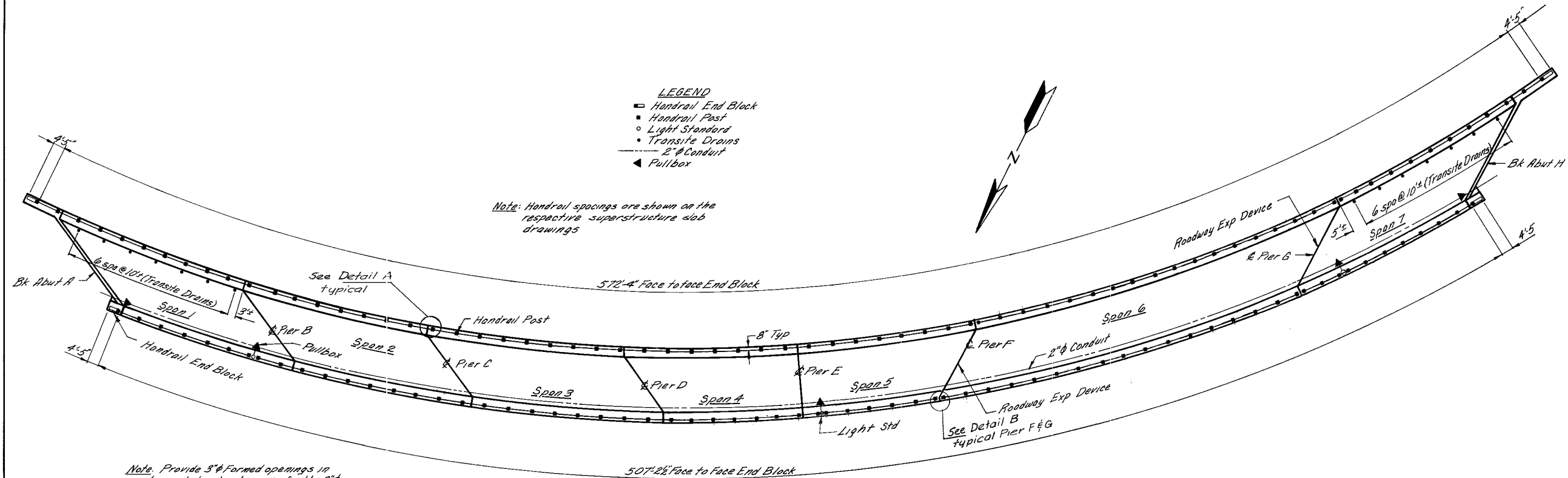
BRIDGE NO. 56D

STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS INTERSTATE HIGHWAY SYSTEM MEMPHIS AND SHELBY COUNTY			
HARLAND BARTHOLOMEW AND ASSOCIATES AND CLARK, DALLY AND DIETZ			
RAMP B OVER I-55 AND U.S. 61 SUPERSTRUCTURE SLAB, SPAN 7			
DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:
Nov 1962	RLK	LAL	JJP
			MFT
			As noted

PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	I-55-1(19)G	1963	117	216
REVISION 10-25-63					
REVISION					

NOTES

- HANDRAIL: POSTS ADJACENT TO LIGHT STANDARDS AND ADJACENT TO THE EXPANSION DEVICE AT PIERS F & G SHALL BE 1'-3"x1'-0" AS DETAILED ON THIS DRAWING. ALL OTHER DETAILS SHALL BE IN ACCORDANCE WITH TENNESSEE DEPT. OF HIGHWAYS AND PUBLIC WORKS STD. DWG. H-5-110.
- PULLBOXES SHALL BE THOMAS & BETTS FLANGED CAST IRON JUNCTION BOXES, SIZE 8"x8"x6", CAT. NO. 10904, OR EQUAL. THEY SHALL BE MADE WATERTIGHT WITH COVER GASKET AND EVER-DUR HEX. HEAD CAP SCREWS. BOXES SHALL BE DRILLED AND TAPPED FOR CONDUIT CALLED OUT ON PLANS.
- CONDUIT SHALL BE GALVANIZED RIGID STEEL, SIZES AS SHOWN. CONDUIT SHALL BE SECURED TO THE STRUCTURE WITH SUCH MATERIALS AS TO PREVENT BI-METALLIC ACTION. CONNECTIONS TO PULLBOXES SHALL BE REINFORCED WITH BUSHING AND LOCKNUT. HANGERS AND SPACING SHALL BE APPROVED BY THE ENGINEER.
- GROUNDING: THE 1" CONDUIT FROM EACH PULLBOX UP TO THE LOCATION OF THE BASE OF THE LIGHTING STANDARD SHALL BE EXTENDED 3" ABOVE THE SIDEWALK AND TERMINATED WITH A GROUNDING BUSHING. THE GROUNDING BUSHING SHALL BE CONNECTED TO THE GROUNDING NUT FURNISHED WITH THE LIGHTING STANDARD WITH PROPER LENGTH OF 6 GAGE BARE COPPER WIRE.
- CONDUITS: THE CONTRACTOR SHALL FURNISH CONDUITS AS REQUIRED TO FACILITATE THE WIRING.
- LIGHT STANDARDS SHALL PROVIDE A 35' NOMINAL MOUNTING HEIGHT OF THE LUMINAIRE ABOVE THE PAVEMENT WITH A 6'-0" BRACKET SPREAD. THEY SHALL BE AMERICAN CONCRETE CORPORATION CATALOG NO. 810-P326-AK6 OR AN APPROVED EQUAL. AS AN ALTERNATE, STEEL LIGHT STANDARD (KERRIGAN CAT. NO. AP-3460000) OR ALUMINUM LIGHT STANDARD (KERRIGAN CAT. NO. AP-3450000) OR AN APPROVED EQUAL MAY BE USED. ALL BRACKETS SHALL HAVE 2" SLIP FITTER AND THE POLES SHALL HAVE A HAND HOLE LOCATED RADIALLY BELOW THE BRACKET.

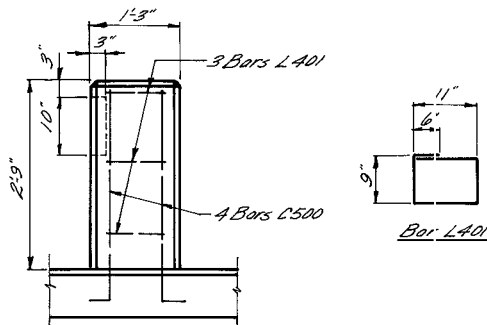
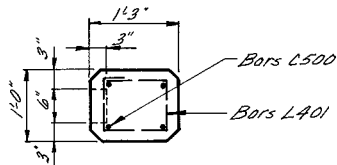


PLAN

SCALE: 1"=20'

Note: Provide 3" formed openings in intermediate diaphragms for the 2" electrical conduit. Provide 3" formed opening in Abutments (See Bridge Dwg 3 of 10 for location). Extend conduit 3" in back of Abutments and cap.

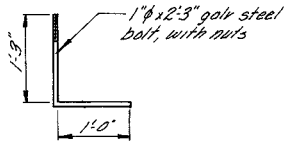
Note: Provide 2" flexible conduit at each pier and abutment across expansion joints.



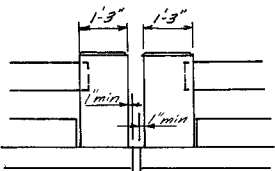
1'-3" X 1'-0" POST DETAILS

(6 REQUIRED)

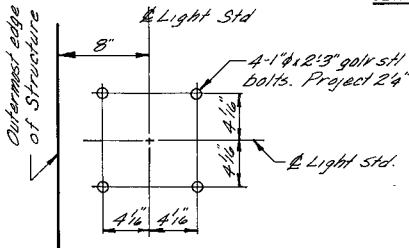
QUANTITIES: 21.6 LBS. STEEL
PER POST: 0.12 CU. YDS. CONCRETE



*Note 1 1/4" dimension based on use of Appleton 1-screw clamp & back to support conduit (Graybar Cat. 17255 & 27155)

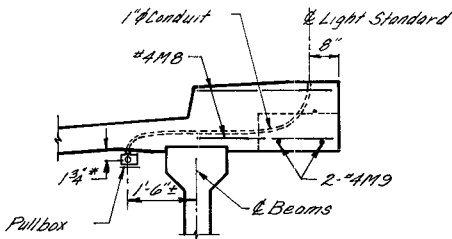


DETAIL B



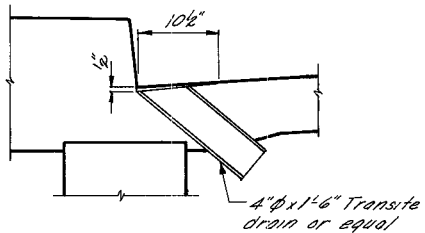
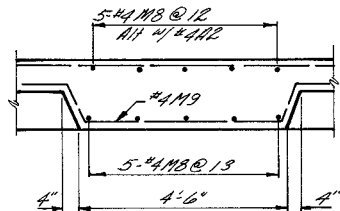
ANCHOR BOLT DETAILS

(For Concrete Standard)



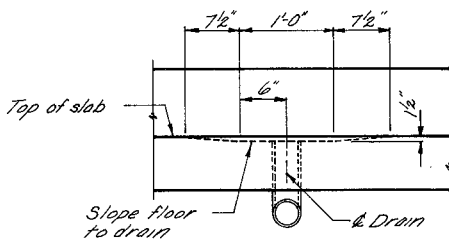
SLAB THICKENING DETAILS FOR LIGHT STANDARD

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



TRANSITE DRAIN DETAILS

SCALE: 1"=1'-0"



BILL OF MATERIAL

ITEM	UNIT	QUANTITY
LIGHTING STANDARDS	EACH	3
PULLBOXES	EACH	5
2" CONDUIT	LIN. FT.	500
1" CONDUIT	LIN. FT.	18
2" FLEXIBLE CONDUIT	LIN. FT.	50

* THE CONTRACTOR SHALL FURNISH AND INSTALL IN ADDITION TO THE ABOVE BILL OF MATERIALS, SUCH INCIDENTAL ITEMS AS GROUNDING WIRE, CONDUIT CAPS, CONDUIT HANGERS, ETC. WITH NO INCREASE IN COMPENSATION ABOVE THE CONTRACT LUMP SUM BID FOR FURNISH AND INSTALL LIGHT STANDARDS, CONDUIT, PULLBOXES AND AUXILIARY EQUIPMENT. SEE THE SPECIAL PROVISIONS.

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
CONCRETE HANDRAIL	LIN. FT.	1097
LIGHTING SYSTEM	LUMP SUM	1

* QUANTITY INCLUDES 49.4 CU. YDS. OF CONCRETE AND 8950 LBS. OF STEEL

BRIDGE NO. 56D

STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS INTERSTATE HIGHWAY SYSTEM MEMPHIS AND SHELBY COUNTY					
HARLAND BARTHOLOMEW AND ASSOCIATES AND CLARK, DAILY AND DIETZ					
RAMP B OVER I-55 & U.S. 61 HANDRAIL, LIGHTING & DRAINAGE DETAILS					
DATE	DESIGNED BY	DRAWN BY	CHECKED BY	IN CHARGE	SCALE
Nov 1962	RLK	LRL	FLK	MFT	As noted