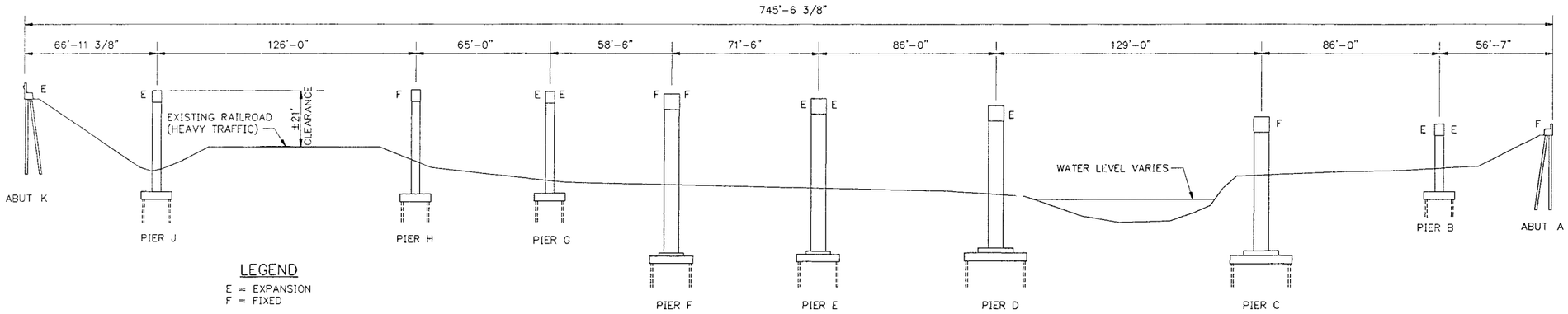
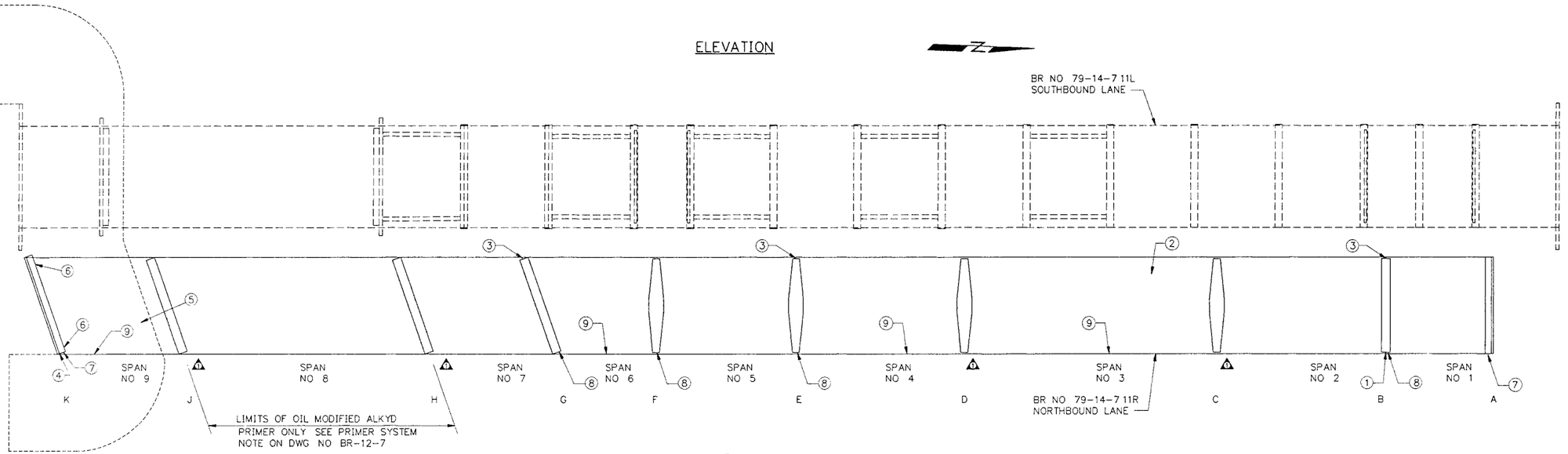
PROJECT NO.	YEAR	SHEET NO.
79022-4221-04	1994	

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION
1	6/2/94	TLJ	CHG. REV. DATES ELIM. UPLIFT RESTRAINTS AT BENTS
			AND SEISMIC RESTRAINTS AT BENTS C,D,H & J



ELEVATION



PLAN

SCOPE OF WORK

1. RESET EXISTING TILTED BEARINGS AT BENT NO B FOR NOTES AND DETAILS SEE DWG NO BR-12-10
2. REMOVE EXISTING ASPHALT OVERLAY AND PROVIDE NEW 3 1/4" NEW ASPHALT OVERLAY WITH MEMBRANE DECK SEALANT SEE NOTES AND DETAILS ON DWG NO BR-12-16
3. INSTALL TYPE "C" STRIP SEAL EXPANSION JOINT AT PIER B, PIER E, AND PIER G FOR NOTES AND DETAILS, SEE DWG NO BR-12-11 FOR NOTES AND DETAILS
4. INSTALL TYPE "A" STRIP SEAL EXPANSION JOINT AT ABUTMENT K FOR NOTES AND DETAILS, SEE DWG NO BR-12-11
5. ADD FILL AT ABUTMENT K SLOPE TO FILL EROSION CUTS ALL WORK MUST MEET THE FULL APPROVAL OF ENGINEER
6. EPOXY INJECT CRACKS AT ABUTMENT "K" FOR NOTES AND DETAILS, SEE DWG NO BR-12-12
7. INSTALL LONGITUDINAL AND UPLIFT RESTRAINTS AT ABUTMENT A AND K FOR NOTES AND DETAILS SEE DWG NO BR-12-15
8. INSTALL LONGITUDINAL RESTRAINTS AT PIERS B, E, F AND G FOR NOTES AND DETAILS, SEE DWG NO BR-12-15
9. REPLACE MISSING RAILS AT SPANS 3 AND 6 REPAIR EXISTING POSTS AT SPANS 4, 6, AND 9 FOR NOTES AND DETAILS SEE DWG NO BR-12-13
10. CLEAN AND PAINT EXISTING STRUCTURAL STEEL FOR NOTES, SEE DWG NO BR-12-7

REPAIR LEGEND

NOTES

FOR LOCATION OF REPAIRS LISTED IN THE GENERAL SCOPE OF WORK SEE CORRESPONDING NUMBERS ON THE PLAN VIEW THIS SHEET

LIST OF DRAWINGS

DWG NO	LAST REV DATE	DRAWING
BR-12-5	6/2/94	LAYOUT OF BRIDGE TO BE REPAIRED
BR-12-6	6/2/94	LAYOUT OF BRIDGE TO BE REPAIRED
BR-12-7	6/2/94	ESTIMATED QUANTITIES AND GENERAL NOTES
BR-12-8		BRIDGE REPAIR DETAILS
BR-12-9		BRIDGE REPAIR DETAILS
BR-12-10		BRIDGE REPAIR DETAILS
BR-12-11		BRIDGE REPAIR DETAILS
BR-12-12		BRIDGE REPAIR DETAILS
BR-12-13		BRIDGE REPAIR DETAILS
BR-12-14	6/2/94	BRIDGE REPAIR DETAILS
BR-12-15	6/2/94	BRIDGE REPAIR DETAILS
BR-12-16		BRIDGE REPAIR DETAILS

LIST OF SPECIAL PROVISIONS

NO	LAST REV DATE	REGARDING
100	**	REVISIONS AND ADDITIONS TO STANDARD SPECIFICATIONS
105A	**	APPROVAL OF SHOP DRAWINGS
209	**	PROJECT EROSION AND SILTATION CONTROL
602	**	SECTION 602 STEEL STRUCTURES
603A	**	PAINTING
603B	**	CONTAINMENT AND DISPOSAL OF LEAD AND OTHER HAZARDOUS PAINT WASTES
604	**	CONCRETE STRUCTURES
604CX	**	CONTRACTOR - MIX DESIGN AND TESTING STRUCTURAL CONCRETE
604S	**	STRIP SEAL EXPANSION JOINTS
907A	**	EPOXY COATED REINFORCING STEEL

** DENOTES CURRENT REVISION DATE AS PER CONTRACT DOCUMENTS

LIST OF REFERENCE DRAWINGS ⓓ

DWG NO	LAST REV DATE	DRAWING
K-30-42		BRIDGE LAYOUT
K-30-43		GENERAL NOTES AND QUANTITIES
K-30-44		ABUTMENT A
K-30-45		ABUTMENT K
K-30-46		PIERS B, G, H AND J
K-30-47		PIERS C AND D
K-30-48		PIERS E AND F
K-30-49		STEEL FRAMING PLAN
K-30-50		EXPANSION DEVICE AND DIAPHRAGM DETAILS
K-30-51		BEARING AND SPLICE DETAILS
K-30-52		SUPERSTRUCTURE SLAB PLANS 1 - 5
K-30-53		SUPERSTRUCTURE SLAB PLANS 6 - 9
K-30-54		SUPERSTRUCTURE SLAB DETAILS - HANDRAIL AND DRAINAGE DETAILS
H-5-110		STANDARD CONCRETE HANDRAIL

ⓓ ALL REFERENCE DRAWINGS TO BE PRINTED WITH THE PLANS

DESIGNED BY A.J. KHAIRI DATE DECEMBER 1993
DRAWN BY A.J. KHAIRI DATE DECEMBER 1993
SUPERVISED BY T. JOHNSON DATE DECEMBER 1993
CHECKED BY T. JOHNSON DATE DECEMBER 1993

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

LAYOUT OF BRIDGE REPAIR TO BE REPAIRED
STATE ROUTE 14 OVER
NONCONNAH CREEK AND RAILROAD
BRIDGE NO 79-14-7 11R
SHELBY COUNTY

1994

TERRY L. JOHNSON REGISTERED ENGINEER No. 23171 STATE OF TENNESSEE

BR-12-6

TLJ/NDT SHLB-7 0.1738\003 6/2/94 2 1=1

BRIDGE REPAIR QUANTITIES

	ITEM	DESCRIPTION	UNIT	7.11L	7.11R	TOTAL
(1)	203-03	BORROW EXCAVATION (UNCLASSIFIED)	C Y	25	30	55
(2)	209-08 01	TEMPORARY FILTER BARRIER	L F	50	50	100
	307-03 15	BITUMINOUS PLANT MIX BASE (HOT MIX) GRADE "B" MOD	TON	376		376
	403-01	BITUMINOUS MATERIAL FOR TACK COAT	TON	1	1	2
	407-02 06	COLD PLANING OF BITUMINOUS PAVEMENT	C Y	54	54	108
	407-02 09	SALVAGE VALUE OF COLD PLANING	C Y	54	54	108
	411-01 01	MIN AGGR FOR ASPH CONC SUR <ACS> GRADE "D"	TON	305	293	598
	411-01 02	ASPH CEM FOR ASPH CONC SUR <ACS> GRADE "D"	TON	20	19	39
	411-02 01	MIN AGGR FOR ASPH CONC SUR <ACS> GRADE "E"	TON	389	370	759
	411-02 02	ASPH CEM FOR ASPH CONC SUR <ACS> GRADE "E"	TON	25	24	49
(3)	602-10 01	STRUCTURAL STEEL REPAIR	L S		1	1
(4)	603-02 01	REPAINTING EXISTING STEEL STRUCTURES	L S	5	5	1
(16)	603-05 21	CONTAINMENT AND DISPOSAL OF PAINT WASTE (BR NO 79-14-7 11)	L S	5	5	1
(5)	604-03 21	BRIDGE JOINT SEISMIC MODIFICATION	EACH	192 △1	80 △1	240 △1
(6)	604-10 06	CONCRETE HANDRAIL REPAIR	L F		35	35
(7)	604-10 14	REMOVE EXISTING WEARING SURFACE	L S	0 5	0 5	1
(8)	604-10 30	BRIDGE DECK REPAIR (FULL DEPTH OF SLAB)	S Y	132	125	257
(9)	604-10 32	EXPANSION JOINT REPAIR (TYPE "A")	L F		53	53
(9)	604-10 35	EXPANSION JOINT REPAIR (TYPE 'C")	L F	58		58
(9)	604-10 40	EXPANSION JOINT REPAIR (TYPE "D")	L F		152	152
(10)	604-10 50	BRIDGE DECK REPAIR (PARTIAL DEPTH OF SLAB)	S Y	525	497	1,022
(11)	604-10 54	CONCRETE REPAIRS	S F	541		541
(12)	604-10 62	EPOXY INJECTION REPAIRS (COMPLETE AND IN-PLACE)	L F	50	15	65
(13)	617-01	BRIDGE DECK SEALANT	S Y	3744	3,332	7076
	712-01	TRAFFIC CONTROL	L S	0 5	0 5	1
	712-02 02	INTERCONNECTED PORTABLE BARRIER RAIL	L F	2,536	2,452	4,988
	712-04 01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	41	79	120
	712-05 01	WARNING LIGHTS (TYPE A)	EACH	20	4	24
	712-05 03	WARNING LIGHTS (TYPE C)	EACH	41	79	120
	712-06	SIGNS (CONSTRUCTION)	S F	467	153	620
(14)	712-06 01	VERTICAL PANELS	S F	68	68	136
	712-08 03	FLASHING ARROW BOARD (TYPE C)	EACH	2	1	3
	712-09 01	REMOVABLE PAVEMENT MARKING LINE	L F	9,990	9,184	19,174
(15)	716-02 01	PLASTIC PAVEMENT MARKING (LINE)	L M	0 56	0 54	1 10
	717-01	MOBILIZATION	L S	0 5	0 5	1

(1) INCLUDES THE COST OF ALL LABOR AND MATERIALS FOR FURNISHING, HAULING, PLACING AND COMPACTING BORROW MATERIAL ON THE EXISTING ABUTMENT SLOPES AS NECESSARY TO FILL EROSION CUTS AT THE SOUTH ABUTMENTS THE ENGINEER MAY INCREASE, DECREASE, OR ELIMINATE THE QUANTITY FOR THIS ITEM

(2) INCLUDES THE COST OF ALL LABOR AND MATERIALS FOR FURNISHING AND INSTALLING THE TEMPORARY FILTER BARRIER WHERE LOCATED BY THE ENGINEER, AND REMOVAL UPON PROJECT COMPLETION SEE STD DWG ESC-STR-3 THE ENGINEER MAY INCREASE, DECREASE OR ELIMINATE THE QUANTITY FOR THIS ITEM

(3) INCLUDES ALL COSTS TO RESET EIGHT (8) EXPANSION BEARINGS FOR DETAILS, SEE DWG NO BR-12-10

(4) INCLUDES COST OF CLEANING AND PAINTING OF ALL STRUCTURAL STEEL, INCLUDING CAST SHOES, ON BOTH LEFT AND RIGHT BRIDGES, EXCEPT FOR THE THE PORTIONS OF THE TRUSS OVER THE RAILROAD TRACK THAT ARE ENCASED IN CONCRETE, WHICH SHALL NOT BE DISTURBED SEE PAINT NOTE ON THIS DRAWING ESTIMATED QUANTITY OF STRUCTURAL STEEL TO BE PAINTED IS 150 TONS (BR NO 79-14-7 11L) AND 740 TONS (BR NO 79-14-7 11R)

△1 (5) INCLUDES THE COST OF ALL LABOR AND MISCELLANEOUS MATERIALS NECESSARY TO INSTALL THIRTY-TWO (32) LONGITUDINAL RESTRAINTS AT PIERS B E F & G AND SIXTEEN (16) LONGITUDINAL AND UPLIFT RESTRAINTS AT ABUTMENTS A AND K AT BRIDGE NO 79-14-7 11R FOR NOTES AND DETAILS, SEE DWG NO BR-12-15 THIS ITEM ALSO INCLUDES THE COST OF ALL LABOR AND MATERIALS NECESSARY TO PERFORM THE FOLLOWING AT BRIDGE NO 79-14-7 11L (1) PROVIDE SEISMIC RESTRAINTS AT SPAN 2, INCLUDING ALL STRUCTURAL STEEL, 1"ø A325 BOLTS, AND 1 1/2' ø ANCHOR RODS, NUTS, AND WASHERS (4 LOCATIONS), (2) INSTALL TWENTY-ONE (21) BARS A700 EACH AT ABUTS 1 AND 2 AND BENTS 1 AND 2 (84 TOTAL), (3) PROVIDE HORIZONTAL SEISMIC RESTRAINTS AT BENTS 3-13 AND PIERS 1 AND 2, INCLUDING STRUCTURAL STEEL ANGLES AND 1 1/4" ø ANCHOR RODS (104 LOCATIONS) FOR NOTES AND DETAILS SEE DWG NO BR-12-14 THIS ITEM WILL INCLUDE ALL COSTS ASSOCIATED WITH PAINTING ALL STEEL REQUIRED FOR SEISMIC RETRO-FITTING

(6) INCLUDES ALL COSTS TO REMOVE AND REPLACE CONCRETE HANDRAILS AND POSTS FOR LOCATIONS AND DETAILS, SEE DWG NO BR-12-13

(7) INCLUDES ALL COSTS TO REMOVE EXISTING WEARING SURFACE FROM BRIDGE DECK

(8) INCLUDES ALL COSTS TO PERFORM FULL DEPTH DECK REPAIRS SEE DECK REPAIR NOTES AND DETAILS ON DWG NO BR-12-12

(9) INCLUDES THE COST OF ALL LABOR AND MATERIALS FOR REMOVING AND REPOURING CONCRETE, EPOXY COATED REINFORCING STEEL, MECHANICAL THREADED CONNECTORS, COUPLER BARS, REMOVAL AND REPLACEMENT OF SIDEWALK PLATES, AND STRIP SEAL EXPANSION JOINT ASSEMBLIES OF THE TYPE INDICATED FOR NOTES AND DETAILS, SEE DWG NO'S BR-12-10 AND BR-12-11

(10) INCLUDES ALL COSTS TO PERFORM PARTIAL DEPTH DECK REPAIRS SEE DECK REPAIR NOTES AND DETAILS ON DWG NO BR-12-12

(11) INCLUDES ALL COSTS TO PERFORM SPALL REPAIRS ON BENTS, DIAPHRAGMS, TOPS OF EXISTING HANDRAILS ON BRIDGE NO 79-14-7 11L, AND BEAMS SEE SPALL REPAIR NOTES AND DETAILS ON DWG NOS BR-12-12 AND BR-12-13

(12) INCLUDES ALL LABOR AND MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE EPOXY INJECTION OF EXISTING CONCRETE CRACKS THE ENGINEER WILL DETERMINE THE LOCATIONS OF CRACKS THAT REQUIRE INJECTION THE QUANTITY MAY BE INCREASED, DECREASED OR ELIMINATED BY ENGINEER

(13) INCLUDES THE COST OF ALL LABOR AND MATERIALS NECESSARY FOR PLACING BRIDGE DECK SEALANT MEMBRANE FOR FULL WIDTH AND LENGTH OF BRIDGES, 2'-0' PAST BEGINNING AND END OF BOTH BRIDGES WHERE REQUIRED, AND 3' WIDTH AT DESIGNATED TRANSVERSE JOINTS IT ALSO INCLUDES THE COST OF ALL LABOR AND MISCELLANEOUS MATERIALS NECESSARY TO CLEAN AND SEAL JOINTS SEE NOTES AND DETAILS ON DWG NO'S BR-12-12 AND BR-12-16

(14) INCLUDES 68 S F OF VP-1L AND 68 S F OF VP-1R

(15) PERMANENT PAVEMENT MARKING SHALL BE THERMOPLASTIC ONLY

(16) INCLUDES ALL COST FOR CONTAINMENT AND DISPOSAL OF PAINT WASTES SEE PAINT NOTES THIS DWG

DESIGNED BY N TINER DATE DECEMBER 1993
DRAWN BY N TINER DATE DECEMBER 1993
SUPERVISED BY T JOHNSON DATE DECEMBER 1993
CHECKED BY T JOHNSON DATE DECEMBER 1993

TLJ SHLB-2 911738/003 5/3/94 2 1=1

GENERAL NOTES

SPECIFICATIONS STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION (MARCH 1981 EDITION)

DESIGN SPECIFICATIONS AASHTO 1992 EDITION WITH ADDENDA

STRUCTURAL STEEL SHALL CONFORM TO AASHTO M270 GRADE 36 (ASTM A709 GRADE 36) UNLESS OTHERWISE NOTED

REINFORCING STEEL TO BE ASTM A615 GRADE 60 STANDARD CRSI HOOK DETAILS APPLY UNLESS OTHERWISE NOTED ON BILL OF STEEL SPACING DIMENSIONS ARE CENTER TO CENTER AND COVER DIMENSIONS ARE CLEAR DISTANCE UNLESS OTHERWISE NOTED PLACING TOLERANCES ARE ±1/2" FOR SPACING AND -1/8" OR +3/8" FOR COVER (THE SUFFIX E FOR BARS SO MARKED, DENOTES EPOXY COATED REINFORCEMENT) SEE SPECIAL PROVISION 907A

MECHANICAL BAR SPLICERS MUST BE APPROVED BY THE DIVICION OF MATERIALS AND TESTS A SPLICED SAMPLE OF EACH SIZE BAR APPROXIMATELY TWO FEET (2') IN LENGTH SHALL BE SUBMITTED TO THE DIVISION OF MATERIALS AND TESTS THE SAMPLES MUST BE MADE IN THE PRESENCE OF THE ENGINEER BY THE SAME PERSONNEL AND EQUIPMENT THAT WILL BE MAKING THE PRODUCTION SPLICES THE BAR SPLICER SHALL MEET AASHTO STANDARD SPECIFICATIONS FOR MECHANICAL CONNECTION WHEN EPOXY COATING IS REQUIRED, THE EXPOSED THREADS SHALL BE REPAIRED AFTER SPLICING ACCORDING TO SPECIAL PROVISION 907A THE COST OF FURNISHING BAR SPLICERS (AND EPOXY COATING WHEN REQUIRED), INCLUDING ALL LABOR AND MATERIALS NECESSARY FOR COMPLETE INSTALLATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM NO 604-10 18, LBS

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

BOLTS SHALL BE HIGH TENSILE STRENGTH BOLTS (ASTM-A325), UNLESS OTHERWISE NOTED SIZE TO BE AS NOTED ON PLANS SEE AASHTO SPECIFICATIONS, ARTICLE 11 5 6, DIVISION II EXISTING CONTACT SURFACES SHALL BE CLEANED TO SSPC-10 SPECIFICATIONS PRIOR TO ATTACHMENT OF NEW MEMBERS

HIGH EARLY STRENGTH CONCRETE THE MIX SHALL MEET THE REQUIREMENTS OF SPECIAL PROVISION NO 604CX, CLASS "A", EXCEPT THE CEMENT CONTENT SHALL BE A MINIMUM OF 714 LBS, THE WATER CEMENT RATIO SHALL BE A MAXIMUM OF 0 40, NO FLY ASH REPLACEMENT WILL BE PERMITTED AND THE MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 3,500 P S I TRAFFIC SHALL NOT BE PERMITTED ON ON ANY OF THE REPAIR AREAS UNTIL TEST SPECIMENS ATTAIN A COMPRESSIVE STRENGTH OF 3000 P S I MINIMUM AND THE CONCRETE HAS BEEN IN PLACE A MINIMUM OF TEN (10) DAYS

BRIDGE DECK SURFACE FINISH TO BE IN ACCORDANCE WITH NOTE (A), SHEET 5, OF SPECIAL PROVISION NO 604

CONCRETE CURING ALL CONCRETE IN REPAIR AREAS SHALL BE CURED ACCORDING TO SPECIAL PROVISION NO 604

WELDING ANSI/AASHTO/AWS D1 5-88 BRIDGE WELDING CODE SPECIAL PROVISION NO 602

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 THE PAY ITEMS

SPECIAL NOTE TO IMPROVE THE FLOWABILITY OF THE CONCRETE, THE CONTRACTOR MAY USE ADMIXTURES, (SUPERPLASTICIZERS) IN ACCORDANCE WITH SPECIAL PROVISION NO 604CX CONCRETE ADMIXTURES (SUPERPLASTICIZERS) USED SHALL BE APPROVED BY THE TENNESSEE DEPARTMENT OF TRANSPORTATION MATERIALS AND TEST DIVISION PRIOR TO USE COARSE AGGREGATE FOR THE CONCRETE USED IN THE REPAIR AREAS SHALL BE SIZE 67 STONE

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 DRIVEN TO ITS SEAT VERTICALLY DRILLED HOLES SHALL BE DRILLED 1/4" IN DIAMETER LARGER THAN THE BAR CLEANED, PACKED WITH EPOXY GROUT AND DRIVEN TO ITS SEAT ALL GROUTING MATERIAL SHALL BE APPROVED BY T D O T MATERIAL AND TESTS

DEMOLITION THE CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ANY PARTS OF THE STRUCTURE THAT ARE NOT TO BE REMOVED SPECIFICALLY, THE CONTRACTOR IS NOT ALLOWED TO USE A HYDRAULIC RAM MOUNTED ON A BACKHOE (COMMONLY CALLED A HOE RAM) OR OTHER SIMILARLY HEAVY EQUIPMENT FOR CONCRETE REMOVAL DEMOLITION HAMMER WEIGHT SHALL BE LIMITED TO 30 LB OR LESS ALL DEVICES PROPOSED FOR CONCRETE DEMOLITION SHALL MEET WITH APPROVAL OF THE ENGINEER SAWING OR CUTTING OF CONCRETE SHALL BE ACCEPTABLE AS LONG AS SUFFICIENT SPLICE LENGTHS OF EXISTING REBAR ARE MAINTAINED

SPECIAL NOTE CONCERNING CONCRETE REMOVAL AND WORK PERFORMED UNDER THIS CONTRACT THE CONTRACTOR SHALL COMPLY FULLY WITH ANY REQUIREMENTS ESTABLISHED BY THE CORPS OF ENGINEERS, U S COAST GUARD, AND ANY AGENCIES WHICH MAY HAVE JURISDICTION RELATIVE TO CONSTRUCTION WORK OVER A NAVIGABLE STREAM WHICH IS APPLICABLE TO THIS CONTRACT, AND WHICH MAY NOT BE COVERED BY EXISTING PERMITS

FOR ADDITIONAL GENERAL NOTES APPLICABLE TO STRIP SEAL EXPANSION JOINTS, SEE STANDARD DRAWING NO BR-2-115 ALSO SEE SPECIAL PROVISION NO 604S REGARDING STRIP SEAL EXPANSION JOINTS

UTILITY NOTES

THE LOCATION OF UTILITIES SHALL BE FIELD LOCATED BY THE CONTRACTOR, AND BY CONTACTING THE UTILITY COMPANIES INVOLVED

UNLESS OTHERWISE NOTED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR ITS REPRESENTATIVE THE CONTRACTOR AND 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 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 OWNER OF HIS PLAN OF OPERATION IN THE AREA OF UTILITIES PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT OWNERS AND REQUEST THEM TO PROPERLY RELOCATE THEIR RESPECTIVE UTILITY ON THE GROUND THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY

CONST. WORK ZONE TRAFFIC CONTROL

ADVANCED WARNING SIGNS SHALL NOT BE DISPLAYED MORE THAN FORTY-EIGHT (48) HOURS BEFORE PHYSICAL CONSTRUCTION BEGINS SIGNS MAY BE ERECTED UP TO ONE WEEK BEFORE NEEDED, IF THE SIGN FACE IS FULLY COVERED

IF THE CONTRACTOR MOVES OFF THE PROJECT, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AS DIRECTED BY THE ENGINEER COSTS OF REMOVAL, COVERING, AND REINSTALLING SIGNS SHALL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT ALL COSTS SHALL BE INCLUDED IN THE ORIGINAL UNIT PRICE BID FOR ITEM NO 712-01, TRAFFIC CONTROL, LUMP SUM

A LONG TERM BUT SPORADIC USE WARNING SIGN, SUCH AS FLAGGER SIGNS, MAY REMAIN IN PLACE WHEN NOT REQUIRED PROVIDED THE SIGN FACE IS FULLY COVERED

TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR ERECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING

USE OF BARRICADES, PORTABLE BARRIER RAILS, VERTICAL PANELS, AND DRUMS SHALL BE LIMITED TO THE IMMEDIATE AREAS OF CONSTRUCTION WHERE A HAZARD IS PRESENT THESE DEVICES SHALL NOT BE STORED ALONG THE ROADWAY WITHIN THIRTY (30) FEET OF THE TRAVELED WAY BEFORE OR AFTER USE UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES THESE DEVICES SHALL BE REMOVED FROM THE CONSTRUCTION WORK ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS THIRTY (30) FEET SETBACK, THE ENGINEER SHALL APPROVE ALTERNATE LOCATIONS

THE CONTRACTOR WILL NOT BE PERMITTED TO PARK ANY VEHICLES OR CONSTRUCTION EQUIPMENT DURING PERIODS OF INACTIVITY, WITHIN THIRTY (30) FEET OF THE EDGE OF PAVEMENT WHEN THE LANE IS OPEN TO TRAFFIC, UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES PRIVATELY OWNED VEHICLES SHALL NOT BE ALLOWED TO BE PARKED WITHIN THIRTY (30) FEET OF AN OPEN TRAFFIC LANE AT ANY TIME UNLESS PROTECTED AS DESCRIBED ABOVE WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS THIRTY (30) FEET SETBACK, THE ENGINEER SHALL APPROVE ALTERNATE LOCATIONS

SURFACE PREPARATION AND PAINTING OF EXISTING STEEL

(APPLICABLE TO ALL EXISTING, EXPOSED STRUCTURAL STEEL)

SURFACE PREPARATION

(APPLICABLE TO ALL STRUCTURAL STEEL TO BE PAINTED)

1) ANY OIL OR GREASE SHALL BE REMOVED BY MEANS OF SOLVENT CLEANING IN ACCORDANCE WITH SSPC-SP1 SOLVENTS SHALL BE SAFE AND BIODEGRADABLE ALL CHALK, LOOSE COATINGS AND OTHER CONTAMINANTS SHALL BE REMOVED WITH HIGH PRESSURE WATER WASH HIGH PRESSURE WATER WASH IS DEFINED AS USING PRESSURES FROM 3,000 TO 6000 P S I AT 8 TO 10 G P M WATER VOLUME

2) A HAND OR POWER TOOL CLEANING, IN ACCORDANCE WITH TENNESSEE STANDARD SPECIFICATIONS, SUB SECTION 603 05(a), SHALL BE APPLIED TO ALL AREAS THROUGHOUT THE BRIDGE THAT HAVE VISIBLE RUST OR EXPOSED STEEL THE ENGINEER SHALL DESIGNATE ALL AREAS THAT ARE TO RECEIVE THE HAND OR POWER TOOL CLEANING ALL HAND OR POWER TOOL CLEANING SHALL BE DONE TO THE COMPLETE SATISFACTION OF THE ENGINEER ALL EXPOSED STRUCTURAL STEEL WITHIN THESE AREAS SHALL BE SPOT PRIMED IMMEDIATELY AFTER CLEANING

PAINTING SYSTEM

(TO BE APPLIED OVER ALL EXISTING STRUCTURAL STEEL, EXCEPT AS NOTED)

THE PAINTING SYSTEM SHALL BE A HIGH PERFORMANCE, TWO COAT SYSTEM CONSISTING OF AN UNIVERSAL PRIMER, AND A HIGH BUILD ALIPHATIC POLYURETHANE FINISH COAT THE FINISH COAT SHALL COMPLY WITH TENNESSEE SPECIAL PROVISION NO 603A, AND SHALL DISPLAY COMPATIBILITY WITH AND ADHESION TO THE CURED UNIVERSAL PRIMER WHEN APPLIED DIRECTLY OVER THE UNIVERSAL PRIMER IN ACCORDANCE WITH THE MANUFACTURERS CURRENT PRINTED INSTRUCTIONS COLOR OF THE URETHANE FINISH COAT SHALL COMPLY WITH FEDERAL STANDARD NO 595A, 24110 BRIGHT GREEN SEE SECTIONS 603 AND 910 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION

SPECIAL PRIMER SYSTEM

(APPLIES TO BRIDGE NO 79-14-7 11R, SPAN 8 STRUCTURAL STEEL ONLY)

THE PRIMER SYSTEM SHALL BE A ONE (1) COAT SINGLE PACKAGE, OIL MODIFIED ALKYD, THAT IS LEAD FREE THE PAINT SHALL DISPLAY COMPATIBILITY WITH AND ADHESION TO THE SPOT PRIMER AND THE PRESENT RED LEAD AND ALUMINIUM PAINT SYSTEM WHEN APPLIED DIRECTLY OVER THE PRESENT PAINT, IN ACCORDANCE WITH THE MANUFACTURERS CURRENT PRINTED INSTRUCTION SEE SECTION 603 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION

PRIMER SYSTEM DESCRIPTION

(TO BE APPLIED OVER BRIDGE 79-14-7 11R, SPAN 8 ONLY)

THE COATING SYSTEM SPECIFIED HERE-IN SHALL BE APPLIED IN ORDER TO MEET THE FOLLOWING REQUIREMENTS

1) SURFACE PREPARATION (SEE NOTES ABOVE)
   - A) SPOT PRIMER CARBOLINE GRID GUARD 2600 FD AT 2 MILS MINIMUM DRY FILM THICKNESS
   - B) FINISH CARBOLINE GRID GUARD 2600 FD AT 2 TO 4 MILS MINIMUM DRY FILM THICKNESS

2) PRODUCTS
   - A) SHALL BE CARBOLINE GRID GUARD 2600 AND CARBOLINE GRID GUARD 2600
   - B) ALL PRODUCTS USED IN THIS COATING SYSTEM, INCLUDING THINNERS, MUST BE SUPPLIED BY SAME MANUFACTURERS

APPLICATION

THE COATING APPLICATOR SHALL FOLLOW THE MANUFACTURERS PRINTED INSTRUCTIONS,AND SHALL HAVE THESE INSTRUCTIONS ON SITE DURING THE COURSE OF WORK

COATING SYSTEM DESCRIPTION

(TO BE APPLIED OVER ALL STRUCTURAL STEEL WITH THE EXCEPTION OF THE PRIMER SYSTEM ON 79-14-7 11R, SPAN 8 ONLY, AND PORTION OF BOTTOM TRUSS ON 79-14-7 11L)

THE COATING SPECIFIED HERE-IN SHALL BE APPLIED IN ORDER TO MEET THE FOLLOWING REQUIREMENTS

1) SURFACE PREPARATION (SEE NOTES ABOVE)
   - A) SPOT PRIMER UNIVERSAL AT 3 MILS MINIMUM DRY FILM THICKNESS
   - B) PRIMER UNIVERSAL AT 3 MILS MINIMUM DRY FILM THICKNESS
   - C) FINISH TWO COMPONENT HIGH BUILD ALIPHATIC POLYURETHANE A[illegible] 2 MILLS DRY FILM THICKNESS

2) PRODUCTS
   - A) THE UNIVERSAL PRIMFRS SHALL BE BE DAVIS PAINT P87 BLOX METAL PRIMER, CARBOLINE RUST BOND 8HB PRIMER, OR DEVOE BAR-OX P-50, OR AN APPROVED EQUAL

     FOR ACCEPTABLE BRANDS OF POLYURETHANE PAINTS SEE TENNESSEE DEPARTMENT OF TRANSPORTATION'S QUALIFIED PRODUCT LIST FOR PAINT THE HIGH BUILD ALIPHATIC POLYURETHANE SHALL BE IN ACCORDANCE WITH SPECIAL PROVISION NO 603A
   - B) ALL PRODUCTS USED IN THIS COATING SYSTEM INCLUDING THINNERS, MUST BE SUPPLIED BY THE SAME MANUFACTURER

APPLICATION

THE COATING APPLICATOR SHALL FOLLOW MANUFACTURERS PRINTED INSTRUCTIONS AND SHALL HAVE THESE INSTRUCTIONS ON SITE DURING THE COURSE OF THE WORK

PROTECTION OF PROPERTY

EXTREME CARE SHALL BE TAKEN WHEN PAINTING THESE STRUCTURES TO PROTECT THE GENERAL PUBLIC AND THE SURROUNDING ENVIRONMENT

CONTAINMENT

THE EXISTING PAINT SYSTEM CONTAINS RED LEAD PAINT WHICH HAS BEEN DESIGNATED AS A HAZARDOUS MATERIAL THE CONTRACTOR IS RESPONSIBLE FOR CONTAINMENT, HANDLING, AND DISPOSAL OF THE RED LEAD PRINT, REMOVED AS INDICATED ON THE PLANS, IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL LAWS THIS MATERIAL IS TO BE PREVENTED FROM ENTERING THE ENVIRONMENT THE CONTRACTOR SHALL CONTAIN AND DISPOSE OF ALL PAINT REMOVAL WASTE IN ACCORDANCE WITH SPECIAL PROVISION NO 603B PLANS, ETC, REGARDING THE ABOVE ARE TO BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL ALL COSTS TO BE INCLUDED IN ITEMS BID ON

PAINTING NEW STEEL

PAINTING THE NEW STRUCTURAL STEEL FOR THE SEISMIC RETRO-FIT PAINT SHALL BE SYSTEM "B" - INORGANIC ZINC-PAINT SYSTEM, EXCEPT A URETHANE FINISH COAT SHALL BE USED IN LIEU OF VINYL FINISH COAT COLOR OF THE URETHANE FINISH COAT SHALL COMPLY WITH FEDERAL STANDARD NO 595A, 24110 BRIGHT GREEN SEE SECTIONS 603 AND 910 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION AN INTERMEDIATE TIE COAT SHALL BE USED SEE SPECIAL PROVISION NO 603A, REGARDING PAINTING

PROJECT NO.	YEAR	SHEET NO.
79022-4221-04	1994	2

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION
△1	6/2/94	TLJ	REV ITEM NO 604-03 21 QUANTITIES AND NOTE 5

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED QUANTITIES AND GENERAL NOTES
STATE ROUTE 14 OVER
NONCONNAH CREEK AND RAILROAD
BR NOS 79-14-7 11 L & R
SHELBY COUNTY

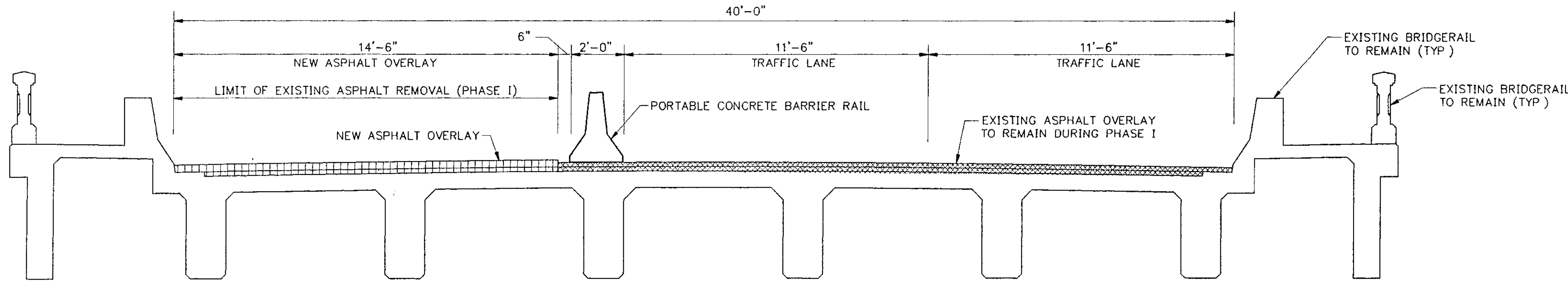
1994

BR-12-7

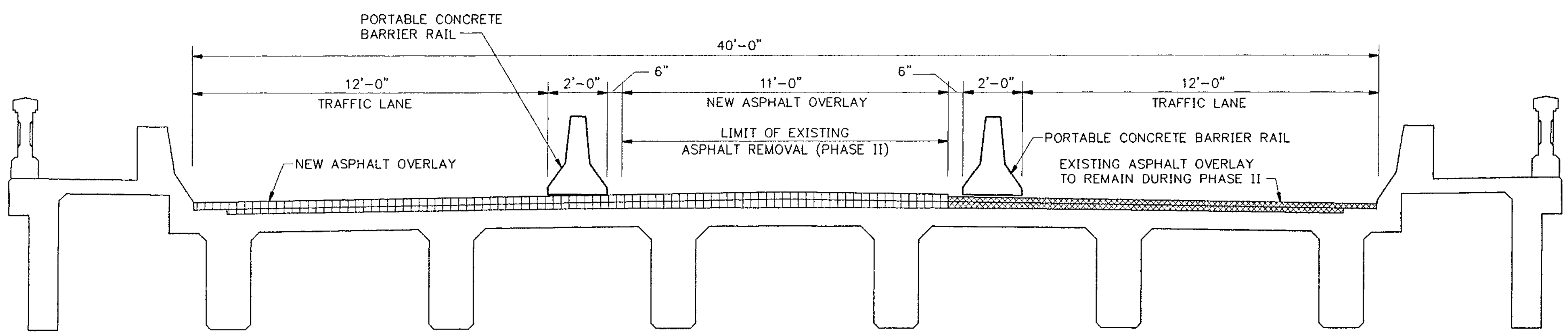
PROJECT NO.	YEAR	SHEET NO.
79022 4221-04	1994	

REVISIONS

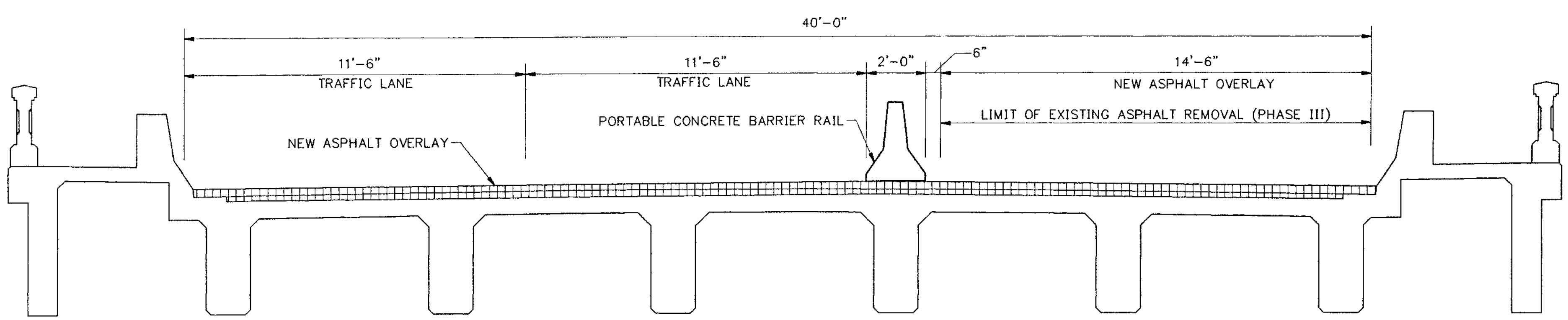
NO	DATE	BY	BRIEF DESCRIPTION



TYPICAL SECTION
(SHOWING PHASE I OF TRAFFIC CONTROL)
(LOOKING IN THE DIRECTION OF TRAFFIC)
BRIDGE NO 79-14-7 11L



TYPICAL SECTION
(SHOWING PHASE II OF TRAFFIC CONTROL)
(LOOKING IN THE DIRECTION OF TRAFFIC)
BRIDGE NO 79-14-7 11L



TYPICAL SECTION
(SHOWING PHASE III OF TRAFFIC CONTROL)
(LOOKING IN THE DIRECTION OF TRAFFIC)
BRIDGE NO 79-14-7 11L

NOTES

ALL COST ASSOCIATED WITH INTERCONNECTED PORTABLE BARRIER RAIL SHALL BE INCLUDED UNDER ITEM NO 712-02 02

ALL COST ASSOCIATED WITH ASPHALT REMOVAL SHALL BE INCLUDED UNDER ITEM NO 604-10 14, REMOVE EXISTING WEARING SURFACE, L S

FOR DETAILS ON NEW ASPHALT OVERLAY, SEE DWG NO BR-12-16

AT EACH PHASE, THE CONTRACTOR SHALL REMOVE EXISTING ASPHALT OVERLAY AND REPLACE IT WITH NEW 3 1/4" ASPHALT OVERLAY BEFORE STARTING A NEW PHASE THE LIMITS OF ASPHALT REMOVAL AND REPLACEMENT PER PHASE ARE SHOWN ON THE DETAILS OF THIS DWG

FOR MORE DETAILS ON TRAFFIC CONTROL, SEE SHEETS NO'S 3, 4, AND 5

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
STATE ROUTE 14 OVER
NONCONNAH CREEK AND RAILROAD
BR. NOS. 79-14-7 11 L
SHELBY COUNTY

1994

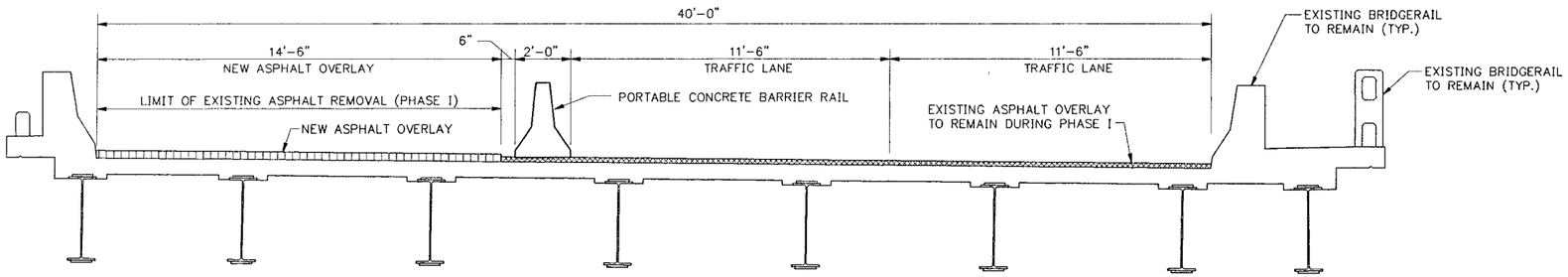
DESIGNED BY A J KHAIRI DATE DECEMBER 1993
DRAWN BY A J KHAIRI DATE DECEMBER 1993
SUPERVISED BY T JOHNSON DATE DECEMBER 1993
CHECKED BY T JOHNSON DATE DECEMBER 1993

BR-12-8

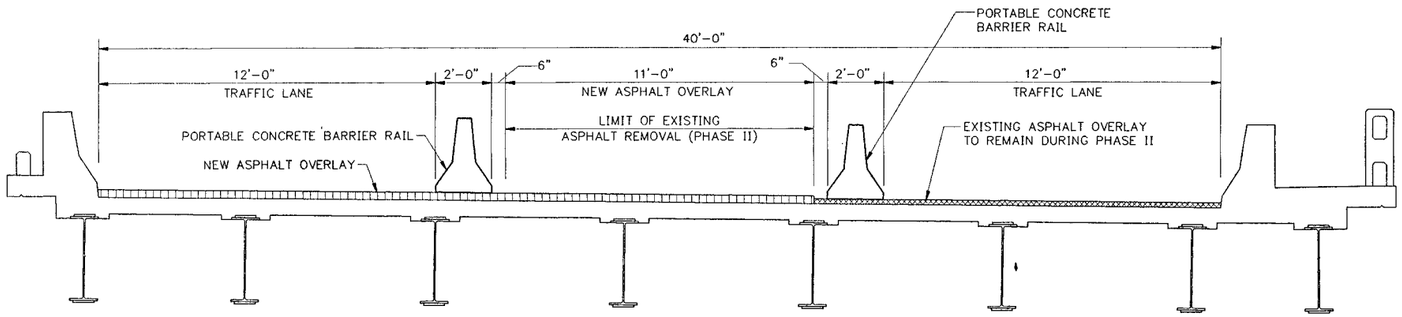
PROJECT NO.	YEAR	SHEET NO.
79022-4221-04	1994	

REVISIONS

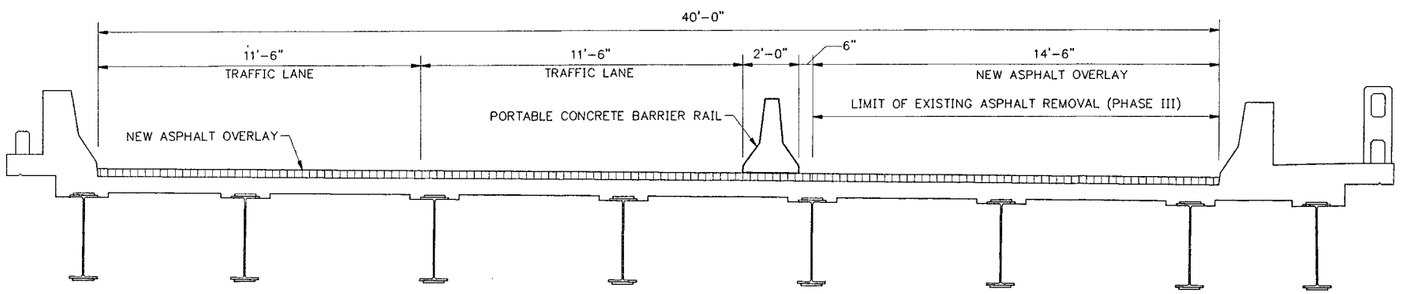
NO	DATE	BY	BRIEF DESCRIPTION



TYPICAL SECTION
(SHOWING PHASE I OF TRAFFIC CONTROL)
(LOOKING IN THE DIRECTION OF TRAFFIC)
BRIDGE NO. 79-14-7.11R



TYPICAL SECTION
(SHOWING PHASE II OF TRAFFIC CONTROL)
(LOOKING IN THE DIRECTION OF TRAFFIC)
BRIDGE NO. 79-14-7.11R



TYPICAL SECTION
(SHOWING PHASE III OF TRAFFIC CONTROL)
(LOOKING IN THE DIRECTION OF TRAFFIC)
BRIDGE NO. 79-14-7.11R

NOTES:

ALL COST ASSOCIATED WITH INTERCONNECTED PORTABLE BARRIER RAIL SHALL BE INCLUDED UNDER ITEM NO. 712-02.02.

ALL COST ASSOCIATED WITH ASPHALT REMOVAL SHALL BE INCLUDED UNDER ITEM NO. 604-10.14, REMOVE EXISTING WEARING SURFACE, L.S.

FOR DETAILS ON NEW ASPHALT OVERLAY, SEE DWG. NO BR-12-16.

AT EACH PHASE, THE CONTRACTOR SHALL REMOVE EXISTING ASPHALT OVERLAY AND REPLACE IT WITH NEW 3 1/4" ASPHALT OVERLAY BEFORE STARTING A NEW PHASE. THE LIMITS OF ASPHALT REMOVAL AND REPLACEMENT PER PHASE ARE SHOWN ON THE DETAILS OF THIS DWG.

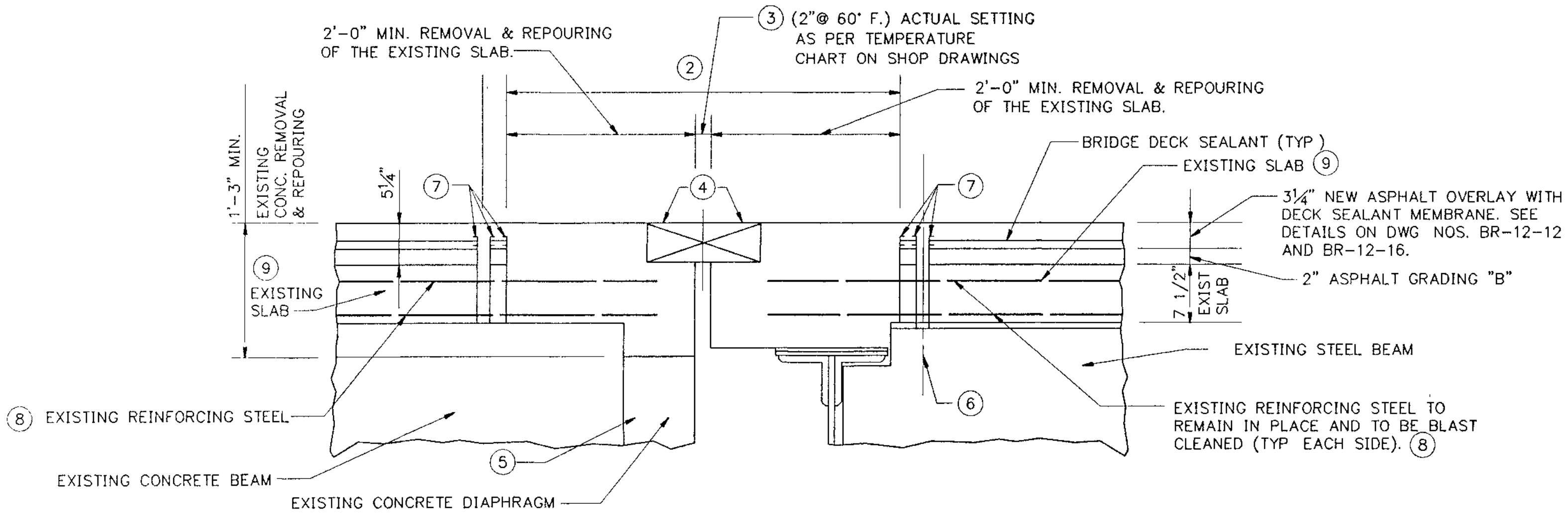
FOR MORE DETAILS ON TRAFFIC CONTROL, SEE SHEETS NO'S. 3, 4, AND 5.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
STATE ROUTE 14 OVER
NONCONNAH CREEK AND RAILROAD
BR. NOS. 79-14-7.11 R
SHELBY COUNTY

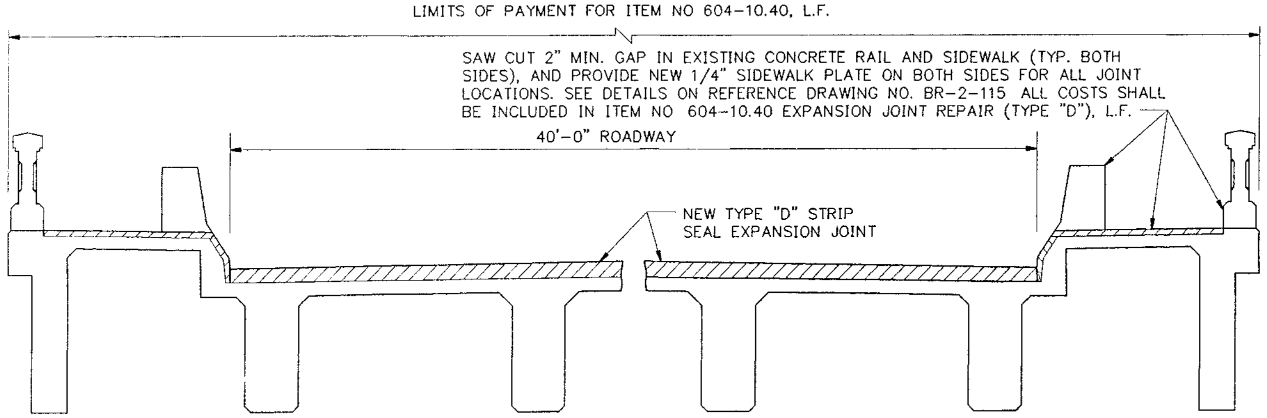
1994

DESIGNED BY A.J. KHAIRI DATE DECEMBER 1993
DRAWN BY A.J. KHAIRI DATE DECEMBER 1993
SUPERVISED BY T. JOHNSON DATE DECEMBER 1993
CHECKED BY T. JOHNSON DATE DECEMBER 1993



EXPANSION JOINT REPLACEMENT DETAIL

TYPE "D" (ITEM NO. 604-10.40)
(SEE EXPANSION JOINT REPLACEMENT DETAILS TYPE "D" ON STD DWG NO. BR-2-118)
(TYPICAL AT BENT NO. 1 BRIDGE NO 79-14-7.11L)



EXISTING CONCRETE RAIL AND SIDEWALK SHALL BE SAW CUT AS NECESSARY TO PROVIDE 3" GAP BETWEEN SPANS.

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

THE CONTRACTOR SHALL USE MECHANICAL THREADED CONNECTORS TO SPLICE TRANSVERSE REINFORCEMENT BETWEEN CONSTRUCTION OF EACH PHASE. SEE BAR CONNECTOR DETAIL ON THIS DWG. FOR NOTES AND DETAILS.

NOTES:

1. ALL CONCRETE POURS SHALL BE WELL CONSOLIDATED BEHIND AND AROUND THE EXPANSION JOINT STEEL RETAINER.
2. SEE EXPANSION JOINT REPLACEMENT DETAIL, TYPE "D" ON STANDARD DRAWING NO. BR-2-118. FOR FURTHER DETAILS AND NOTES, SEE STANDARD DRAWING NO'S. BR-2-115, BR-2-116, AND SPECIAL PROVISION NO. 604S.
3. SET ALL EXPANSION JOINT REPLACEMENTS 2" (TWO INCHES) AT MID-TEMPERATURE OF 60° F., WITH A TOTAL MOVEMENT REQUIRED OF 4" (FOUR INCHES). ACTUAL SETTING AS PER TEMPERATURE CHART ON EXPANSION JOINT SHOP DRAWINGS.
4. SEE TYPE "X" MEMBRANE RETAINER AND NOTES ON STANDARD DRAWING NO. BR-2-116. FOR ADDITIONAL DETAILS AND NOTES, SEE STANDARD DRAWING NO'S. BR-2-115, AND BR-2-118.
5. FOR LEVELING BOLT ASSEMBLIES NOT SHOWN, SEE DETAILS ON STANDARD DRAWING NOS. BR-2-116, AND BR-2-118
6. CONTRACTOR TO DRILL A 1½"ø HOLE NEAR FACE OF CURB AT LOW POINT AT EACH SIDE OF BRIDGE.
7. MASTIC AS RECOMMENDED BY MANUFACTURER OF MEMBRANE. SEE STANDARD SPECIFICATIONS, ARTICLE 906.04
8. EXTREME CARE SHALL BE TAKEN WHEN REMOVING CONCRETE SLAB SO AS NOT TO DAMAGE THE EXISTING LONGITUDINAL REINFORCING STEEL. ALL EXISTING LONGITUDINAL REINFORCING STEEL SHALL BE BLAST CLEANED AND INCORPORATED WITH NEW REINFORCING STEEL. ALL WORK MUST MEET WITH FULL SATISFACTION OF THE ENGINEER.
9. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR SUPPORTING THE PORTIONS OF THE SLAB WHICH ARE NOT TO BE REMOVED WHEN MAKING REPAIRS WHICH REQUIRE THE REMOVAL OF THE END SUPPORT OF A SLAB SPAN. DETAILS OF THE SUPPORT SYSTEM SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. COST OF THE SUPPORT SYSTEM TO BE INCLUDED IN ITEMS BID ON.
10. CONCRETE FOR ALL EXPANSION JOINT REPAIR AREAS TO BE HIGH EARLY STRENGTH CONCRETE, $f'c$ = 3500 PSI @ 28 DAYS.
11. COST OF REMOVING CONCRETE FOR THE LIMITS SHOWN, REPOURING WITH HIGH EARLY STRENGTH CONCRETE, EPOXY COATED REINFORCING STEEL, MECHANICAL THREADED CONNECTORS, COUPLER BARS, REMOVAL AND REPLACEMENT OF SIDEWALK PLATES, AND EXPANSION JOINT ASSEMBLIES SHALL BE PAID FOR UNDER ITEM NO. 604-10.40, EXPANSION JOINT REPAIR (TYPE "D"), L.F.
12. COST OF INCIDENTALS SUCH AS WELDING, BLAST CLEANING, SAW CUTTING, DRILLING, ETC. AND MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE INSTALLATION OF THE NEW EXPANSION JOINTS AT BENT NO. 1 BRIDGE NO. 79-14-7.11L, SHALL BE INCLUDED UNDER ITEMS BID ON.

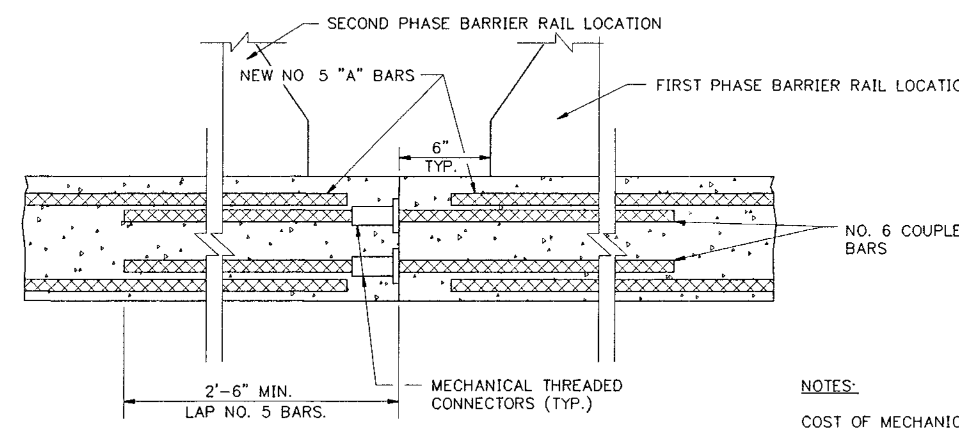
DESIGNED BY	A.J. KHAIRI	DATE	DECEMBER 1993
DRAWN BY	A.J. KHAIRI	DATE	DECEMBER 1993
SUPERVISED BY	T. JOHNSON	DATE	DECEMBER 1993
CHECKED BY	T. JOHNSON	DATE	DECEMBER 1993

7.11L

PROJECT NO.	YEAR	SHEET NO.
79022-4221-04	1994	

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION



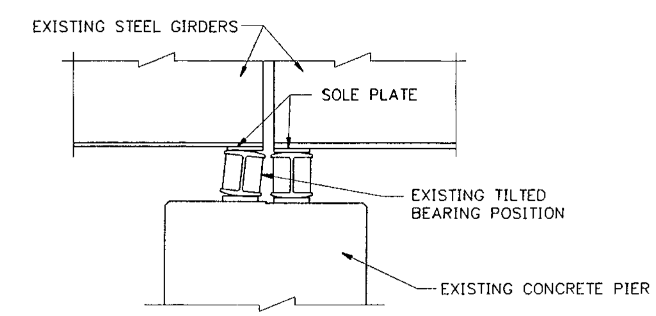
BAR CONNECTOR DETAIL

SHOWING TRANSVERSE REINFORCING STEEL SPLICING WITH MECHANICAL THREADED CONNECTORS

NOTES:

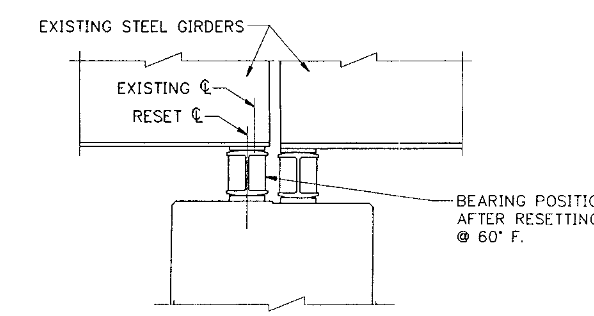
COST OF MECHANICAL THREADED CONNECTORS WITH COUPLER BARS TO BE INCLUDED IN ITEMS BID ON. INSTALLATION MUST MEET WITH THE FULL APPROVAL OF THE ENGINEER.

MECHANICAL THREADED CONNECTORS WITH COUPLER BARS ARE TO BE USED WITH NEW NO. 5 "A" BARS IN THE EXPANSION JOINT REPLACEMENT. SEE STD. DWG. NOS BR-2-117 AND BR-2-118 FOR LOCATION OF "A" BARS.



EXISTING EXPANSION BEARINGS

EXISTING EIGHT (8) TILTED EXPANSION BEARINGS AT PIER E OF BRIDGE 79-14-7.11R



RESET EXPANSION BEARING

NOTES:

BEARING DEVICES ARE TO BE SET TO A VERTICAL POSITION AT 60 DEGREES FAHRENHEIT. AT TEMPERATURES OTHER THAN 60 DEGREES FAHRENHEIT, BEARING SHALL BE SET AS INSTRUCTED BY THE ENGINEER. TEMPERATURE SHALL BE BEAM TEMPERATURE. ALL WORK MUST MEET WITH THE FULL SATISFACTION OF ENGINEER.

COST OF RESETTING EIGHT (8) EXPANSION BEARINGS AT BRIDGE NO. 79-14-7.11R, INCLUDING ALL JACKING, REMOVING THE EXISTING SOLE PLATE AND REWELDING TO THE BOTTOM FLANGE OF THE GIRDER, TOUCH-UP PAINTING, LABOR, AND ANY MISCELLANEOUS MATERIALS NEEDED TO COMPLETE THE REPAIRS TO BE PAID FOR UNDER ITEM NO. 602-10.01, STRUCTURAL STEEL REPAIRS, L.S.

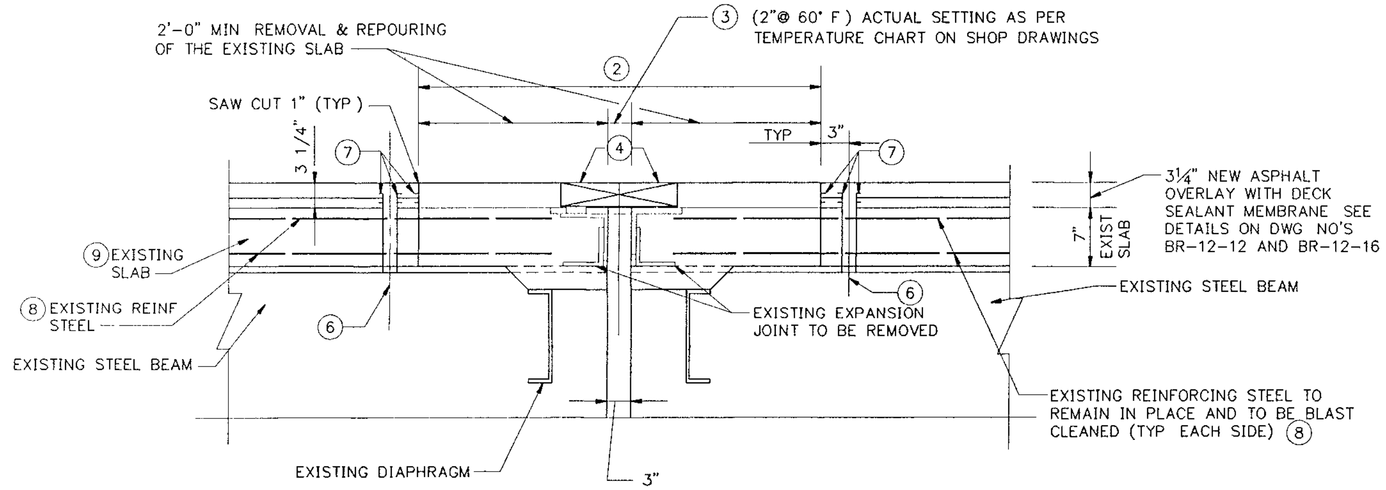
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
STATE ROUTE 14 OVER
NONCONNAH CREEK AND RAILROAD
BR. NOS. 79-14-7.11 L & R
SHELBY COUNTY

1994

7.11R

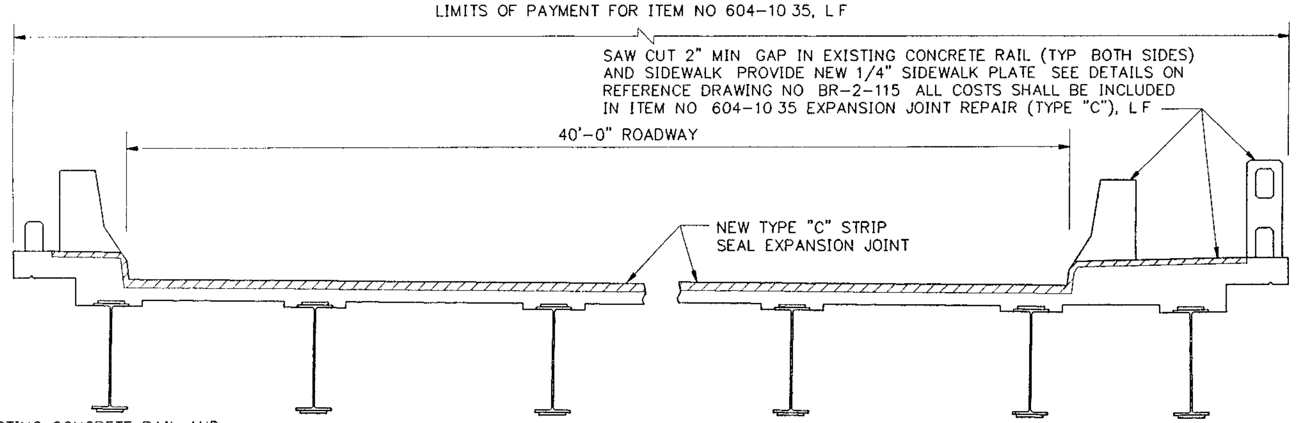
BR-12-10



NOTE
FOR ADDITIONAL DETAILS OF EXISTING EXPANSION JOINT, SEE REFERENCE DWG NO K-30-50

EXPANSION JOINT REPLACEMENT DETAIL

TYPE "C" (ITEM NO 604-10 35)
(SEE EXPANSION JOINT REPLACEMENT DETAILS TYPE "C" ON STD DWG NO BR-2-118)
(TYPICAL AT PIER B, PIER E, PIER G BRIDGE NO 79-14-7 11R)



EXISTING CONCRETE RAIL AND SIDEWALK SHALL BE SAW CUT AS NECESSARY TO PROVIDE 3" GAP BETWEEN SPANS

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

THE CONTRACTOR SHALL USE MECHANICAL THREADED CONNECTORS TO SPLICE TRANSVERSE REINFORCEMENT BETWEEN CONSTRUCTION OF EACH PHASE SEE BAR CONNECTOR DETAIL ON DWG NO BR-12-10 FOR NOTES AND DETAILS

NOTES:

(1) ALL CONCRETE POURS SHALL BE WELL CONSOLIDATED BEHIND AND AROUND THE EXPANSION JOINT STEEL RETAINER

(2) SEE EXPANSION JOINT REPLACEMENT DETAIL, TYPE "C" ON STANDARD DRAWING NO BR-2-118 FOR FURTHER DETAILS AND NOTES, SEE STANDARD DRAWING NO BR-2-115, BR-2-116, AND SPECIAL PROVISION NO 604S

(3) SET ALL EXPANSION JOINT REPLACEMENTS 3" (THREE INCHES) AT MID-TEMPERATURE OF 60° F, WITH A TOTAL MOVEMENT REQUIRED OF 6" (SIX INCHES) ACTUAL SETTING AS PER TEMPERATURE CHART ON EXPANSION JOINT SHOP DRAWINGS

(4) SEE TYPE "X" MEMBRANE RETAINER AND NOTES ON STANDARD DRAWING NO BR-2-116 FOR ADDITIONAL DETAILS AND NOTES, SEE STANDARD DRAWING NOS BR-2-115, AND BR-2-118

(5) FOR LEVELING BOLT ASSEMBLIES NOT SHOWN, SEE DETAILS ON STANDARD DRAWING NOS BR-2-116 AND BR-2-118 AT STEEL GIRDERS, TYPE "C" EXPANSION SUPPORTS WILL BE REQUIRED (2 PLACES PER EXPANSION JOINT)

(6) CONTRACTOR TO DRILL A 1½"ø HOLE NEAR FACE OF CURB AT LOW POINT AT EACH SIDE OF BRIDGE

(7) MASTIC AS RECOMMENDED BY MANUFACTURER OF MEMBRANE SEE STANDARD SPECIFICATIONS, ARTICLE 906 04

(8) EXTREME CARE SHALL BE TAKEN WHEN REMOVING CONCRETE SLAB SO AS NOT TO DAMAGE THE EXISTING LONGITUDINAL REINFORCING STEEL ALL EXISTING LONGITUDINAL REINFORCING STEEL SHALL BE BLAST CLEANED AND INCORPORATED WITH NEW REINFORCING STEEL ALL WORK MUST MEET WITH FULL SATISFACTION OF THE ENGINEER

(9) THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR SUPPORTING THE PORTIONS OF THE SLAB WHICH ARE NOT TO BE REMOVED WHEN MAKING REPAIRS WHICH REQUIRE THE REMOVAL OF THE END SUPPORT OF A SLAB SPAN DETAILS OF THE SUPPORT SYSTEM SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW COST OF THE SUPPORT SYSTEM TO BE INCLUDED IN ITEMS BID ON

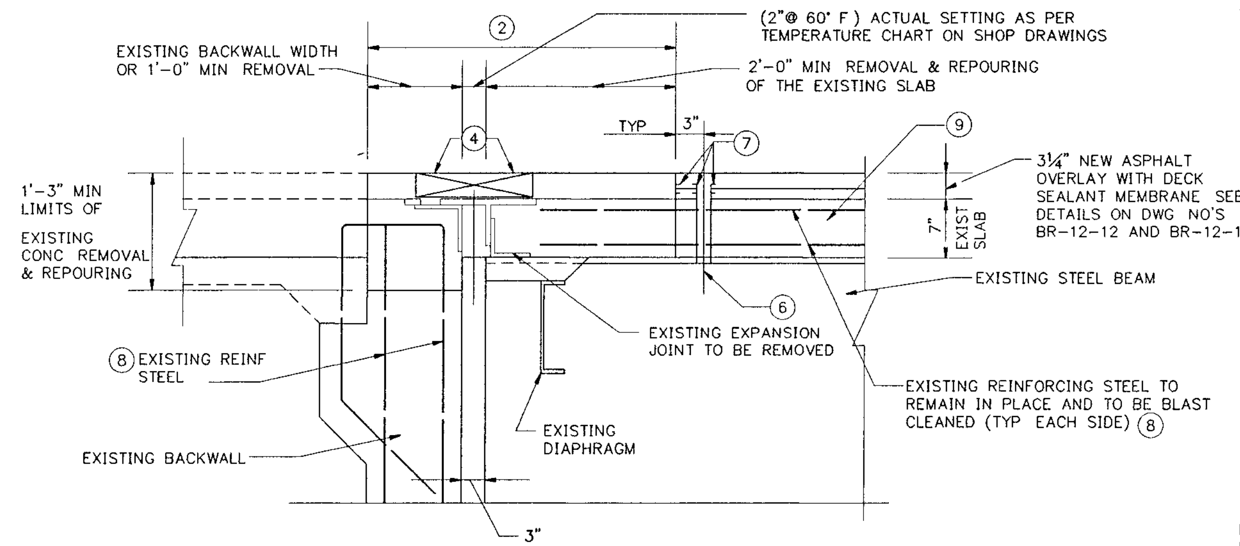
(10) CONCRETE FOR ALL EXPANSION JOINT REPAIR AREAS TO BE HIGH EARLY STRENGTH CONCRETE, f'c = 3500 PSI @ 28 DAYS

(11) COST OF REMOVING CONCRETE FOR THE LIMITS SHOWN, REPOURING WITH HIGH EARLY STRENGTH CONCRETE, EPOXY COATED REINFORCING STEEL, MECHANICAL THREADED CONNECTORS, COUPLER BARS, REMOVAL AND REPLACEMENT OF SIDEWALK PLATES, AND EXPANSION JOINT ASSEMBLIES SHALL BE PAID FOR UNDER ITEM NO 604-10 35, EXPANSION JOINT REPAIR (TYPE "C"), L F

(12) COST OF INCIDENTALS SUCH AS WELDING, BLAST CLEANING, SAW CUTTING, DRILLING, ETC AND MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE INSTALLATION OF THE NEW EXPANSION JOINTS AT PIER B, PIER E, AND PIER G AT BRIDGE NO 79-14-7 11R, SHALL BE INCLUDED UNDER ITEMS BID ON

DESIGNED BY	A J KHAIRI	DATE	DECEMBER 1993
DRAWN BY	A J KHAIRI	DATE	DECEMBER 1993
SUPERVISED BY	T JOHNSON	DATE	DECEMBER 1993
CHECKED BY	T JOHNSON	DATE	DECEMBER 1993

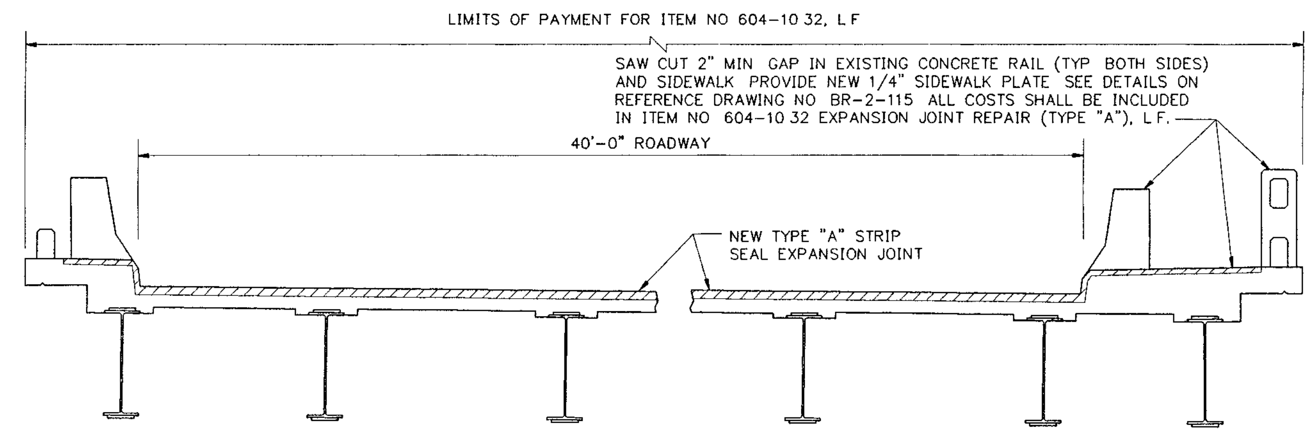
7 11R



NOTE
FOR ADDITIONAL DETAILS OF EXISTING EXPANSION JOINT, SEE REFERENCE DWG NO K-30-50

EXPANSION JOINT REPLACEMENT DETAIL

TYPE "A" (ITEM NO 604-10 32)
(SEE EXPANSION JOINT REPLACEMENT DETAILS TYPE "A" ON STD DWG NO BR-2-117)
(TYPICAL AT ABUTMENT K BRIDGE NO 79-14-7 11R)



EXISTING CONCRETE RAIL AND SIDEWALK SHALL BE SAW CUT AS NECESSARY TO PROVIDE 3" GAP BETWEEN SPANS

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

THE CONTRACTOR SHALL USE MECHANICAL THREADED CONNECTORS TO SPLICE TRANSVERSE REINFORCEMENT BETWEEN CONSTRUCTION OF EACH PHASE SEE BAR CONNECTOR DETAIL ON DWG NO BR-12-10 FOR NOTES AND DETAILS

NOTES:

(1) ALL CONCRETE POURS SHALL BE WELL CONSOLIDATED BEHIND AND AROUND THE EXPANSION JOINT STEEL RETAINER

(2) SEE EXPANSION JOINT REPLACEMENT DETAIL, TYPE "A" ON STANDARD DRAWING NO BR-2-117 FOR FURTHER DETAILS AND NOTES, SEE STANDARD DRAWING NO BR-2-115, BR-2-116, AND SPECIAL PROVISION NO 604S

(3) SET ALL EXPANSION JOINT REPLACEMENTS 3" (THREE INCHES) AT MID-TEMPERATURE OF 60° F, WITH A TOTAL MOVEMENT REQUIRED OF 6" (SIX INCHES) ACTUAL SETTING AS PER TEMPERATURE CHART ON EXPANSION JOINT SHOP DRAWINGS

(4) SEE TYPE "X" MEMBRANE RETAINER AND NOTES ON STANDARD DRAWING NO BR-2-116 FOR ADDITIONAL DETAILS AND NOTES, SEE STANDARD DRAWING NOS BR-2-115 AND BR-2-117

(5) FOR LEVELING BOLT ASSEMBLIES NOT SHOWN, SEE DETAILS ON STANDARD DRAWING NOS BR-2-116, AND BR-2-117

(6) CONTRACTOR TO DRILL A 1½"ø HOLE NEAR FACE OF CURB AT LOW POINT AT EACH SIDE OF BRIDGE

(7) MASTIC AS RECOMMENDED BY MANUFACTURER OF MEMBRANE SEE STANDARD SPECIFICATIONS, ARTICLE 906 04

(8) EXTREME CARE SHALL BE TAKEN WHEN REMOVING CONCRETE SLAB SO AS NOT TO DAMAGE THE EXISTING LONGITUDINAL REINFORCING STEEL ALL EXISTING LONGITUDINAL REINFORCING STEEL SHALL BE BLAST CLEANED AND INCORPORATED WITH NEW REINFORCING STEEL ALL WORK MUST MEET WITH FULL SATISFACTION OF THE ENGINEER

(9) THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR SUPPORTING THE PORTIONS OF THE SLAB WHICH ARE NOT TO BE REMOVED WHEN MAKING REPAIRS WHICH REQUIRE THE REMOVAL OF THE END SUPPORT OF A SLAB SPAN DETAILS OF THE SUPPORT SYSTEM SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW COST OF THE SUPPORT SYSTEM TO BE INCLUDED IN ITEMS BID ON

(10) CONCRETE FOR ALL EXPANSION JOINT REPAIR AREAS TO BE HIGH EARLY STRENGTH CONCRETE, f'c = 3500 PSI @ 28 DAYS

(11) COST OF REMOVING CONCRETE FOR THE LIMITS SHOWN, REPOURING WITH HIGH EARLY STRENGTH CONCRETE, EPOXY COATED REINFORCING STEEL, MECHANICAL THREADED CONNECTORS, COUPLER BARS, REMOVAL AND REPLACEMENT OF SIDEWALK PLATES, AND EXPANSION JOINT ASSEMBLIES SHALL BE PAID FOR UNDER ITEM NO 604-10 32, EXPANSION JOINT REPAIR (TYPE "A"), L F.

(12) COST OF INCIDENTALS SUCH AS WELDING, BLAST CLEANING, SAW CUTTING, DRILLING, ETC AND MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE INSTALLATION OF THE NEW EXPANSION JOINTS AT ABUTMENT K BRIDGE NO 79-14-7 11R, SHALL BE INCLUDED UNDER ITEMS BID ON

PROJECT NO.	YEAR	SHEET NO.
79022-4221-04	1994	

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION

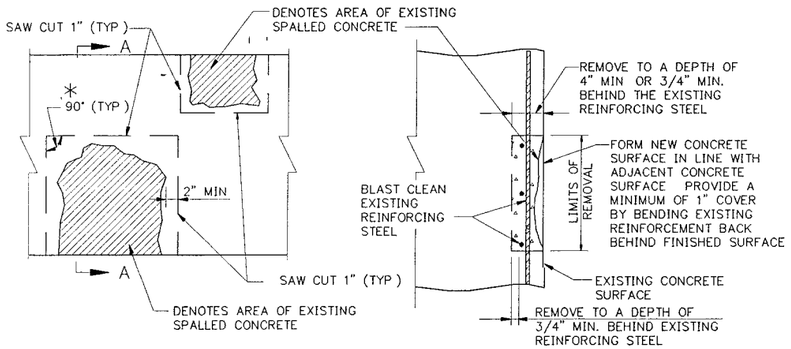
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
STATE ROUTE 14 OVER
NONCONNAH CREEK AND RAILROAD
BR NOS. 79-14-7 11 L & R
SHELBY COUNTY

7.11R

1994

BR-12-11



SPALL REPAIR DETAILS

NOTES

* SAW CUT EXISTING CONCRETE SO AS TO OBTAIN A RECTANGULAR AREA

COST OF CUTTING, REMOVING SPALLED CONCRETE, BLAST CLEANING, NEW EPOXY GROUT, LABOR, AND ANY MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS AS SHOWN SHALL BE INCLUDED IN ITEM NO 604-10 54, CONCRETE REPAIRS, S F

APPROXIMATELY 541 SQ FOR LOCATIONS SEE TABLES THIS SHEET FOR LOCATONS OTHER LOCATIONS MAY BE DESIGNATED BY ENGINEER

PATCHING MATERIAL SHALL BE POLYMER-MODIFIED CEMENTITIOUS NON-SAG, PATCHING MATERIAL, SUCH AS SIKATOP 122 OR EQUAL

SPALL REPAIRS (BENTS/PIERS)

BRIDGE NO 79-14-7 11L

LOCATIONS	AREA (SQ FT)
BENT 2	43
BENT 3	68
BENT 4	29
BENT 5	6
BENT 6	32
BENT 7	22
BENT 8	79
BENT 9	23
BENT 10	73
BENT 11	18
BENT 12	40
BENT 13	57
PIER 1	15
PIER 2	7
TOTAL	512

SPALL REPAIRS (GIRDERS)

BRIDGE NO 79-14-7 11L

SPAN	GIRDER (NO)	AREA (SQ FT)
15	A	2
16	E	2
17	A	2
17	H	2
	TOTAL	8

SPALL REPAIRS (HANDRAILS)

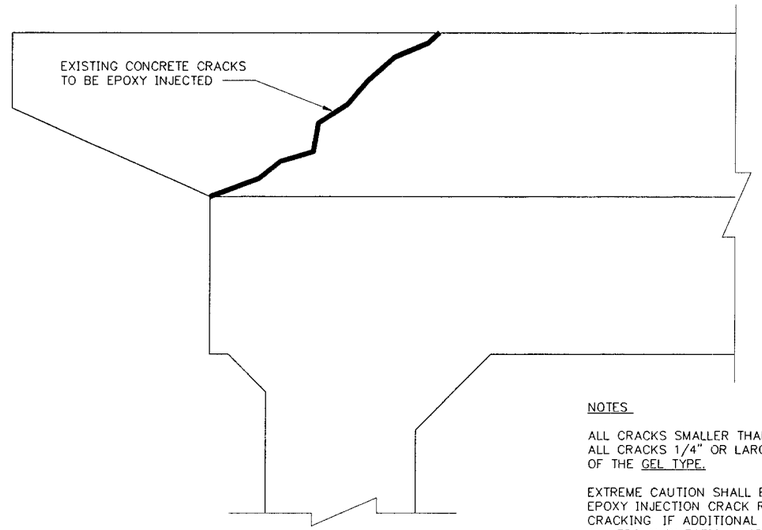
BRIDGE NO 79-14-7 11L

LOCATION	AREA (SQ FT)
SPAN 14	11

SPALL REPAIRS (DIAPHRAGMS)

BRIDGE NO 79-14-7 11L

LOCATION	AREA (SQ FT)
BENT 4	10



EPOXY INJECTION DETAIL

BR NO 79-14-7 11L, BENT 1 SHOWN

NOTES

ALL CRACKS SMALLER THAN 1/4" SHALL BE INJECTED WITH AN APPROVED EPOXY RESIN ADHESIVE ALL CRACKS 1/4" OR LARGER SHALL BE INJECTED WITH AN APPROVED EPOXY RESIN ADHESIVE OF THE GEL TYPE.

EXTREME CAUTION SHALL BE TAKEN WHEN SELECTING A PRESSURE NECESSARY TO COMPLETE THE EPOXY INJECTION CRACK REPAIR SO NOT TO DAMAGE THE STRUCTURE BY CAUSING ADDITIONAL CRACKING IF ADDITIONAL DAMAGE OCCURS, THE CONTRACTOR SHALL BEAR FULL RESPONSIBILITY ALL EPOXY INJECTION WORK SHALL MEET THE FULL APPROVAL OF THE ENGINEER

ALL EPOXY INJECTION CONTRACTORS AND/OR SUBCONTRACTORS SHALL BE APPROVED BY TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF MATERIALS AND TESTS

COST OF ALL LABOR AND MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE EPOXY INJECTION REPAIRS TO EXISTING CONCRETE CRACKS SHALL BE INCLUDED UNDER ITEM NO 604-10 62, EPOXY INJECTION REPAIRS (COMPLETE AND IN PLACE) L F

PROJECT NO.	YEAR	SHEET NO.
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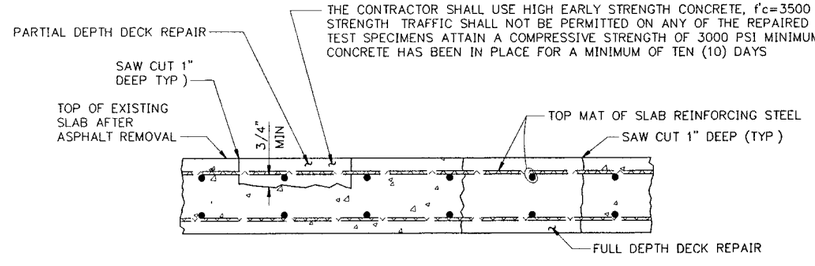
REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION

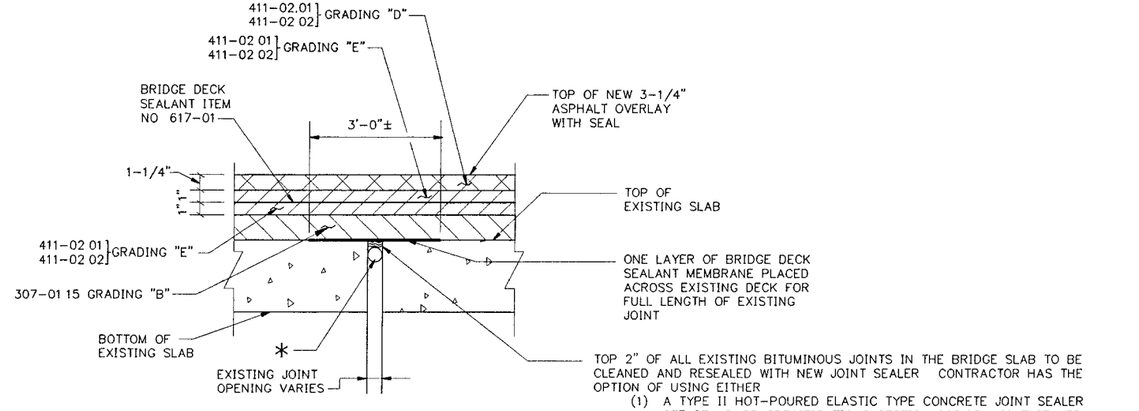


DETAIL SHOWING FULL AND PARTIAL DEPTH DECK REPAIR

REMOVE CONCRETE IN ALL DELAMINATED AREAS TO A DEPTH OF 3/4" BELOW THE TOP BAR OF THE TOP MAT OF REINFORCING STEEL ALL REINFORCING STEEL IN AREAS OF DECK REPAIR SHALL BE BLAST CLEANED AREAS OF CONCRETE REMOVAL SHALL BE DESIGNATED BY PERSONNEL FROM THE HEADQUARTERS, BRIDGE INSPECTION AND REPAIR OFFICE DECK REPAIR WILL BE PAID FOR UNDER ITEM NO. 604-10 50, BRIDGE DECK REPAIR (PARTIAL DEPTH OF SLB), AND ITEM NO 604-10 30, BRIDGE DECK REPAIR (FULL DEPTH OF SLAB) DURING PARTIAL DEPTH REPAIRS, SHOULD DETERIORATED CONCRETE BE ENCOUNTERED WHICH APPEARS TO RUN FULL DEPTH IN THE SLAB, THE ENGINEER MAY DESIGNATE THESE AREAS TO BE REPAIRED UNDER ITEM NO 604-10 30 POWER DRIVEN HAND TOOLS USED FOR THE REMOVAL OF UNSOUND CONCRETE IN MAKING PARTIAL DEPTH REPAIRS ARE SUBJECT TO THE FOLLOWING RESTRICTIONS 1) PNEUMATIC HAMMERS HEAVIER THAN NOMINAL 35 POUND CLASS SHALL NOT BE USED, 2) CHIPPING HAMMERS OF THE 15 POUND CLASS SHALL BE USED TO REMOVE CONCRETE FROM BENEATH ANY REINFORCING STEEL

NOTE:

ITEM NO 604-10 30 AND 604-10 50 SHALL BE BID WITH THE CONTINGENCY THAT THESE ITEMS MAY BE INCREASED, DECREASED, OR ELIMINATED AS DIRECTED BY THE ENGINEER



* THE MOVEMENT GAP SHALL BE CAULKED WITH A BACKER ROD OF SUITABLE DIAMETER THE ROD SHALL BE PLACED AT A DEPTH TO ENSURE THE CONCRETE WIDTH/DEPTH RATIO OF THE EXISTING BRIDGE JOINT SYSTEM BACKER ROD AND CAULK SHALL BE AS PER JOINT MANUFACTURER

EXISTING BITUMINOUS JOINT REPAIR DETAIL

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

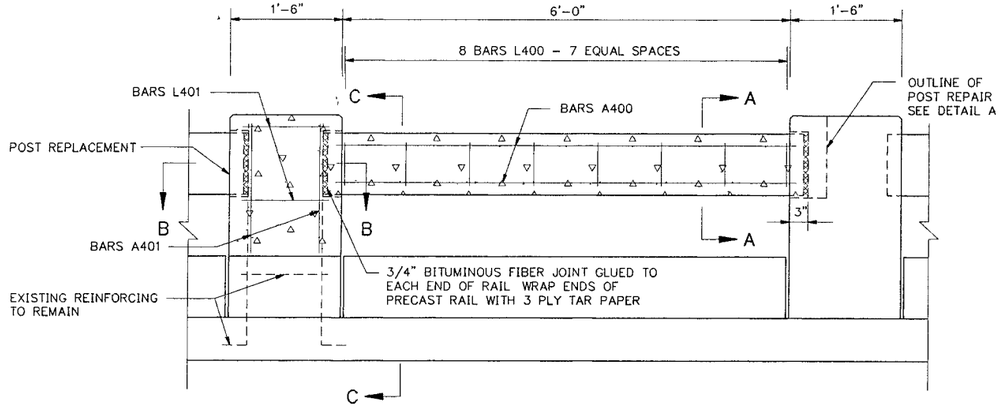
BRIDGE REPAIR DETAILS
STATE ROUTE 14 OVER
NONCONNAH CREEK AND RAILROAD
BR. NOS. 79-14-7.11 L & R
SHELBY COUNTY

1994

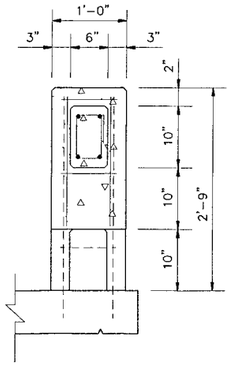
DESIGNED BY A J KHAIRI DATE DECEMBER 1993
DRAWN BY A J KHAIRI DATE DECEMBER 1993
SUPERVISED BY T JOHNSON DATE DECEMBER 1993
CHECKED BY T JOHNSON DATE DECEMBER 1993

BR-12-12

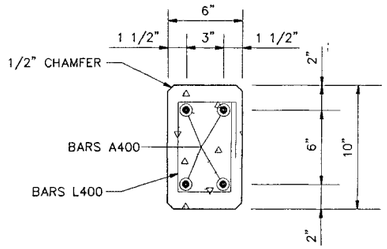
A:\ND* SHLB-12 9-1738\003 2/3/94 2 1=1 11 1 cm



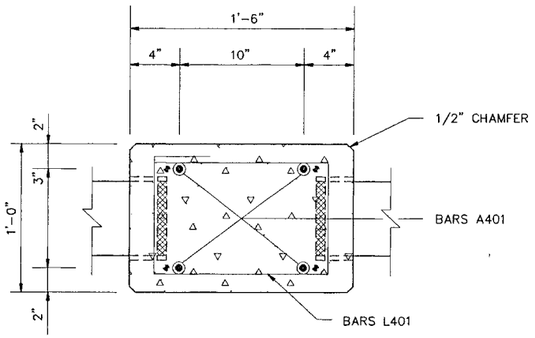
TYPICAL ELEVATION OF CONCRETE HANDRAIL



SECTION C-C



SECTION A-A



SECTION B-B

NOTES.

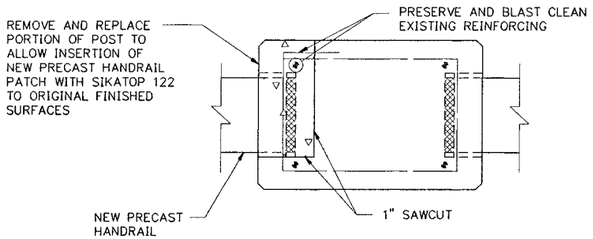
ALL COSTS ASSOCIATED WITH THE REMOVAL AND REPLACEMENT OF THE CONCRETE HANDRAIL AND POST AND POST REPAIR SHALL BE INCLUDED IN THE COST FOR ITEM NO 604-10 06, CONCRETE HANDRAIL REPAIR, L F MEASUREMENT SHALL BE BETWEEN CENTER LINES OF POSTS ON EACH SIDE OF RAIL TO BE REPLACED

CONCRETE FOR NEW HANDRAIL AND POST SHALL BE HIGH EARLY STRENGTH CONCRETE, f'c = 3,500 PSI AT 28 DAY STRENGTH

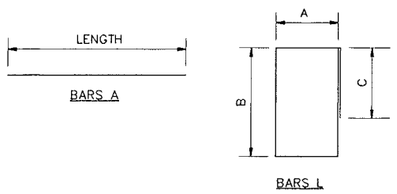
REMOVE AND REPLACE ONE RAIL EACH ON SPANS 3 AND 6, REPLACE ONE MISSING RAIL EACH ON SPANS 4 AND 6, REPLACE ONE POST ON SPAN 6, REPAIR TWO POSTS ON SPAN 9, AS WELL AS OTHER LOCATIONS AS MAY BE DESIGNATED BY ENGINEER

POST REPAIR WHERE NOTED, POST REPAIR NECESSARY TO INSTALL PRECAST CONCRETE GUARDRAIL SECTIONS, AND POST REPLACEMENT IN SPAN 6 WILL NOT BE PAID FOR SEPARATELY ALL COSTS SHALL BE INCLUDED IN THE COST FOR ITEM NO 604-10 06, CONCRETE HANDRAIL REPAIR, L F

ALL DIMENSIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING REINFORCEMENT



DETAIL A
PLAN OF POST REPAIR



BARS A

BARS L

BILL OF STEEL

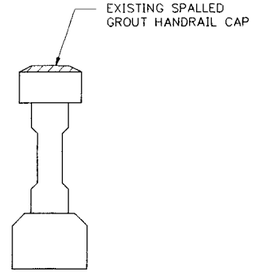
BAR	SIZE	NO REQD	BENDING DIMENSIONS A	B	C	D	LENGTH
CONCRETE RAIL AND POST REINFORCEMENT							
A400	4	4					6'-2"
A401	4	4					1'-9"
L400	4	8	4"	7"	4 1/2"		2'-2 1/2"
L401	4	2	9"	1'-2"	4 1/2"		4'-2 1/2"

ALL BAR DIMENSIONS ARE OUT TO OUT
NUMBER OF BARS SHOWN IS FOR ONE RAIL AND ONE POST ONLY

7.11R

DESIGNED BY N TINER DATE DECEMBER 1993
DRAWN BY N TINER DATE DECEMBER 1993
SUPERVISED BY T JOHNSON DATE DECEMBER 1993
CHECKED BY T JOHNSON DATE DECEMBER 1993

AJ/AJ SHLB-13 911738\003 2/3/94 2 1=1 11 10 a m

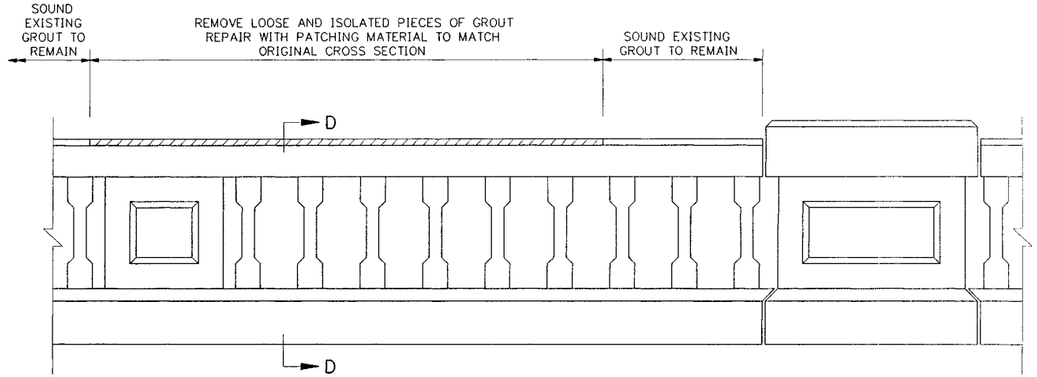


SECTION D-D

PROJECT NO.	YEAR	SHEET NO.
79022-4221-04	1994	

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION



TYPICAL ELEVATION OF CONCRETE HANDRAIL

NOTES

ALL COSTS ASSOCIATED WITH REPAIRING THE HANDRAIL AT BRIDGE NO 79-14-7 11L INCLUDING COST OF REMOVING SPALLED CONCRETE, NEW PATCHING MATERIAL, LABOR, AND ANY MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS AS SHOWN SHALL BE INCLUDED IN ITEM NO 604-10 54, CONCRETE REPAIRS, S F SEE DWG NO BR-12-12 FOR SPALL REPAIR DETAILS

APPROXIMATELY 11 SQ FT OF SPALL REPAIR ALONG ORIGINAL HANDRAIL ON BRIDGE 79-14-7 11L, AS WELL AS OTHER LOCATIONS AS MAY BE DESIGNATED BY ENGINEER SEE DWG NO BR-12-5 FOR SPAN LOCATIONS

PATCHING MATERIAL SHALL BE POLYMER-MODIFIED CEMENTITIOUS PATCHING MATERIAL, SUCH AS SIKATOP 122 OR EQUAL

7.11L

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
STATE ROUTE 14 OVER
NONCONNAH CREEK AND RAILROAD
BR. NOS 79-14-7 11 L & R
SHELBY COUNTY

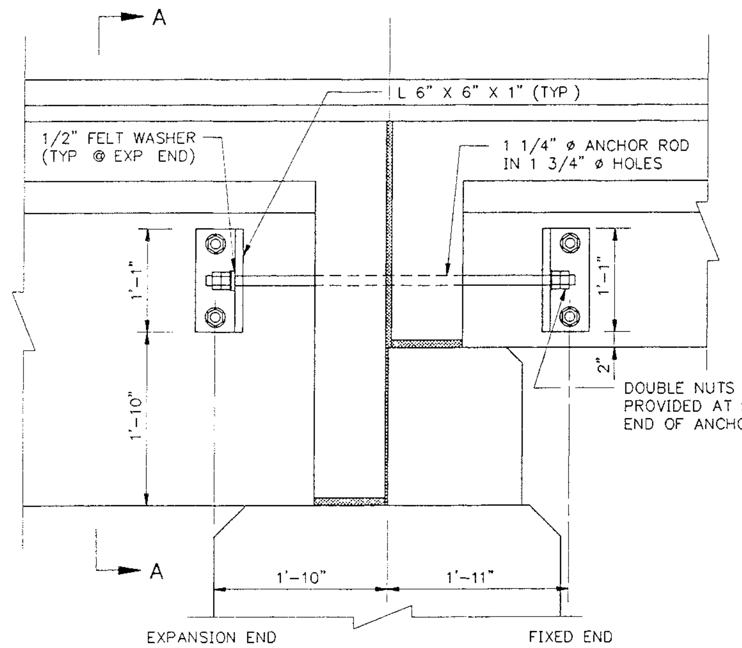
,1994

BR-12-13

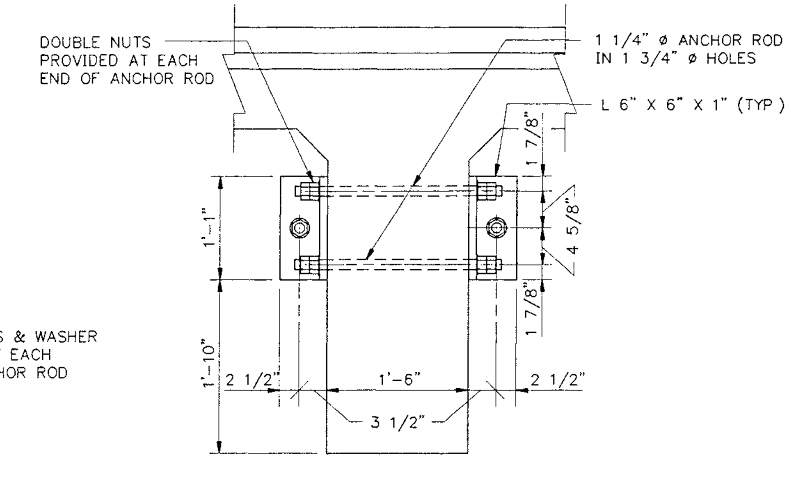
PROJECT NO.	YEAR	SHEET NO.
79022-4221-04	1994	

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION
1	6/2/94	NDT	CHANGED SEISMIC DETAILS FOR CONCRETE BEAMS



SEISMIC RESTRAINT FOR CONCRETE BEAMS
(BENT NO 5 SHOWN, OTHER BENTS ARE SIMILAR)
SCALE 1" = 1'-0"



SECTION A-A
SCALE 1" = 1'-0"

NOTES

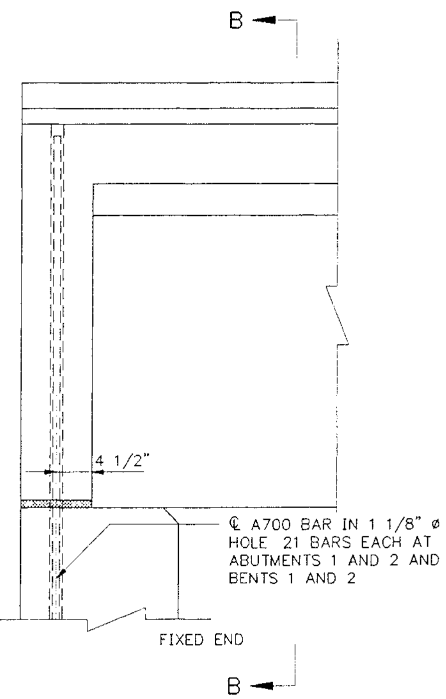
1. PROVIDE 1 1/4" ø ANCHOR RODS AT EACH CONCRETE BEAM AT BENT NOS 3-13 AND PIERS 1 AND 2 (104 LOCATIONS, 2 LONGITUDINAL AND 4 TRANSVERSE ANCHOR RODS PER LOCATION) PROVIDE TWENTY-ONE (21) BARS A700 EACH AT ABUTMENTS 1 AND 2, BENT NOS 1 AND 2 (84 TOTAL)

HOLES FOR GROUTED BARS SHALL BE DRILLED WITH HIGH SPEED DRILL THE DRILL BIT SHALL BE CAPABLE OF DRILLING THROUGH REINFORCING BARS AND CONCRETE THE HORIZONTAL DRILLED HOLE SHALL BE 1/2" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH NON-SHRINK GROUT, AND THE BAR DRIVEN TO ITS SEAT THE VERTICAL DRILLED HOLE SHALL BE DRILLED 1/4" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH NON-SHRINK GROUT, AND THE BAR DRIVEN TO ITS SEAT A LIST OF APPROVED GROUTS MAY BE OBTAINED FROM THE TENNESSEE DEPARTMENT OF TRANSPORTATION DIVISION OF MATERIAL AND TESTS

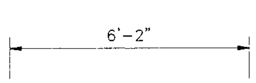
1. STRUCTURAL STEEL ANGLES FOR SEISMIC RESTRAINT FOR CONCRETE BEAMS SHALL BE GRADE 36 STEEL 1 1/4" ø ANCHOR RODS SHALL BE ASTM A325

1. ALL COSTS ASSOCIATED WITH FURNISHING AND INSTALLING BARS A700 SHALL BE PAID FOR UNDER ITEM NO 604-03 21, BRIDGE JOINT SEISMIC MODIFICATION, EACH

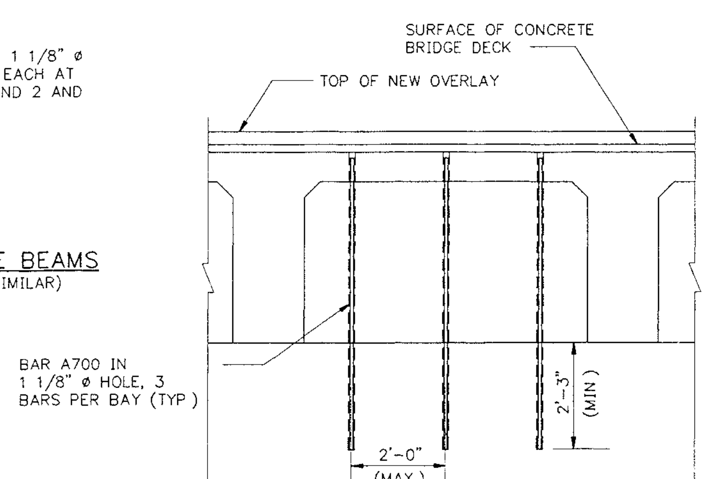
1. ALL COSTS ASSOCIATED WITH FURNISHING AND INSTALLING 1 1/4" ø ANCHOR RODS AND ANGLES SHALL BE PAID FOR UNDER ITEM NO 604-03 21, BRIDGE JOINT SEISMIC MODIFICATION, EACH



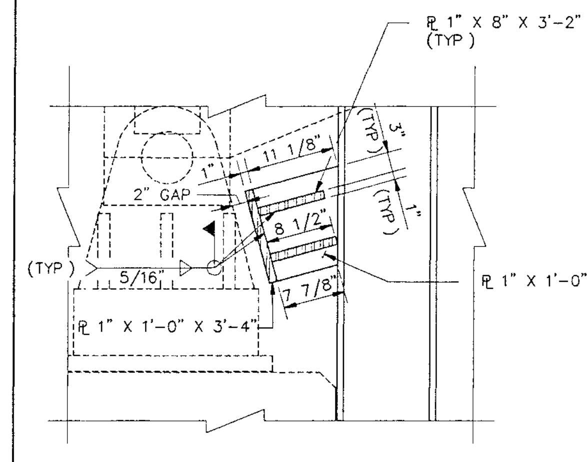
SEISMIC RESTRAINT FOR CONCRETE BEAMS
(ABUT 1 SHOWN, ABUT 2 AND BENTS 1 & 2 SIMILAR)
SCALE 1" = 1'-0"



BAR A700



SECTION B-B
(SHOWING DIAPHRAGM AT ABUTMENTS AND BENTS 1 AND 2)
SCALE 1/2" = 1'-0"



SECTION "D"
SCALE 1" = 1'-0"

NOTES

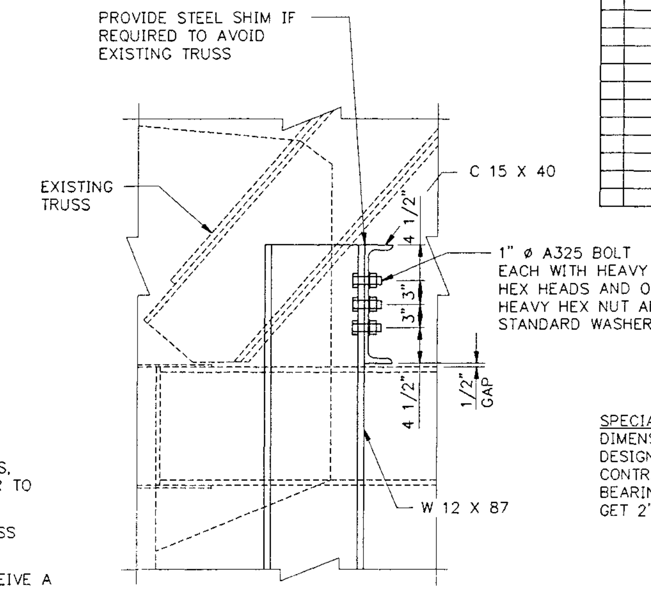
CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO HEADQUARTERS, BRIDGE INSPECTION AND REPAIR OFFICE FOR APPROVAL, PRIOR TO SHOP FABRICATION

ALL NEW STRUCTURAL STEEL FOR SEISMIC RESTRAINT FOR TRUSS SPAN SHALL BE GRADE 50

ALL NEW STRUCTURAL STEEL MEMBERS AND PLATES SHALL RECEIVE A SHOP PRIMER COAT OF 2 1/2 MILS MINIMUM DRY FILM THICKNESS OF INORGANIC ZINC

HOLES IN CONCRETE SHALL BE DRILLED WITH A HIGH SPEED DRILL THE DRILL BIT SHALL BE CAPABLE OF DRILLING THROUGH REINFORCING BARS AND CONCRETE

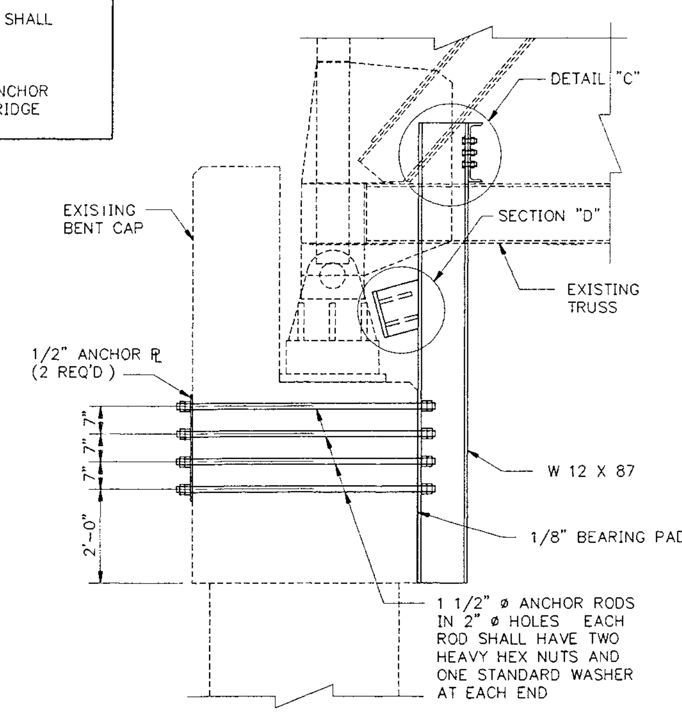
ALL COSTS ASSOCIATED WITH SEISMIC RESTRAINT AT THE TRUSS SPAN SHALL BE PAID FOR UNDER ITEM NO 604-03 21, BRIDGE JOINT SEISMIC MODIFICATION, EACH



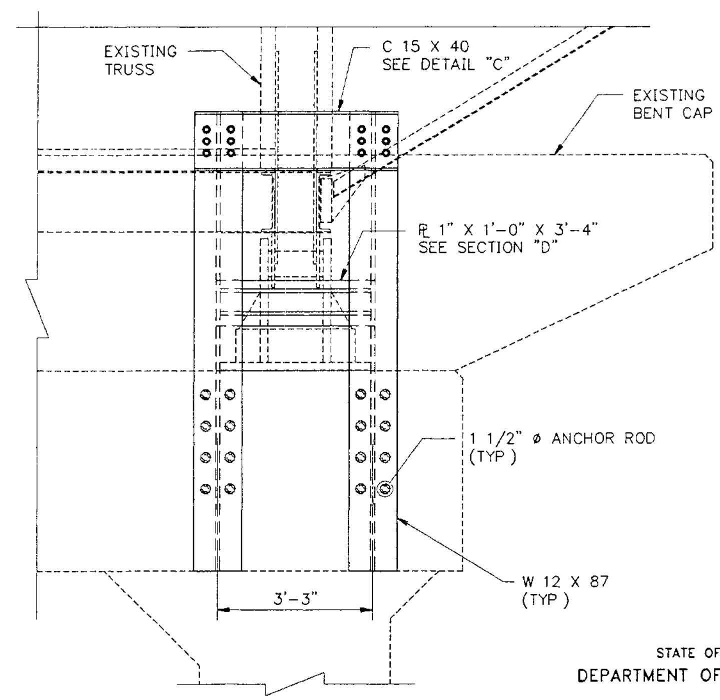
DETAIL "C"
SCALE 1" = 1'-0"

SPECIAL NOTE TO CONTRACTOR
DIMENSIONS SHOWN ARE BASED ON ORIGINAL DESIGN DRAWINGS AND ARE APPROXIMATE CONTRACTOR SHALL FIELD MEASURE EXISTING BEARINGS AND SIZE PLATES AS REQUIRED TO GET 2" GAP SHOWN

NOTE
HOLES IN ANCHOR PLATES AND W12X87 BEAMS SHALL NOT BE DRILLED UNTIL HOLES ARE DRILLED THROUGH THE CONCRETE CAP



END ELEVATION



FRONT ELEVATION

SEISMIC RESTRAINT FOR TRUSS SPAN
(BENT NO 1 SHOWN, BENT NO 2 IS SIMILAR)
SCALE 1/2" = 1'-0"

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
STATE ROUTE 14 OVER
NONCONNAH CREEK AND RAILROAD
BR NOS 79-14-711 L & R
SHELBY COUNTY

1994

DESIGNED BY	N TINER	DATE	DECEMBER 1993
DRAWN BY	N TINER	DATE	DECEMBER 1993
SUPERVISED BY	T JOHNSON	DATE	DECEMBER 1993
CHECKED BY	T JOHNSON	DATE	DECEMBER 1993

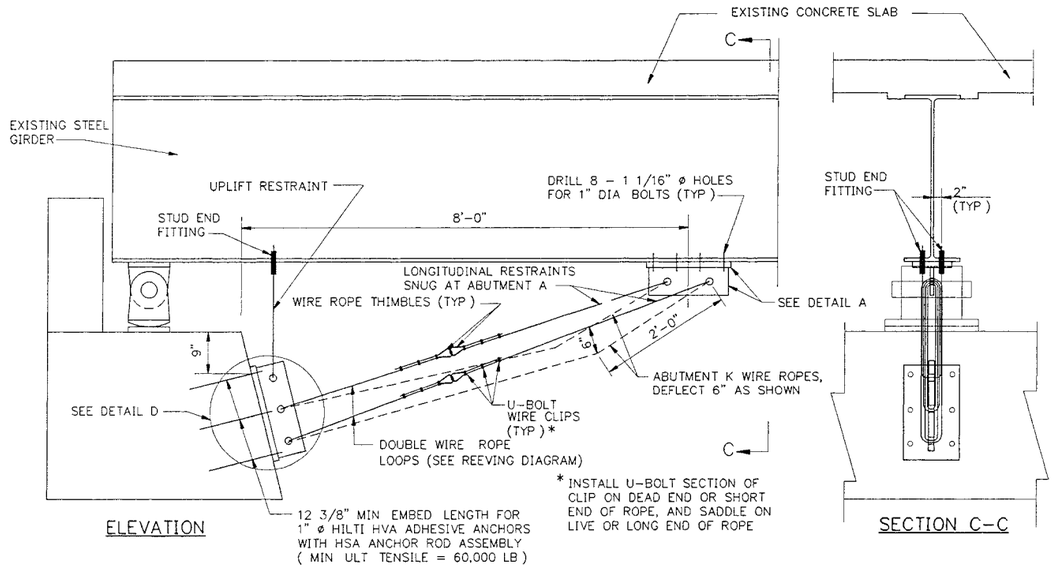
NDT/AJ SHLB-14 911/38\003 6/1/94 2 1=1 4 57 pm

BR-12-14

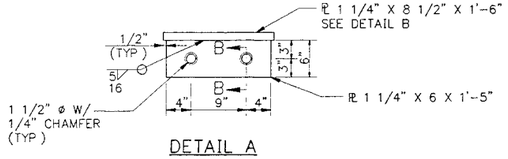
PROJECT NO.	YEAR	SHEET NO.
79022-4221-04	1994	

REVISIONS

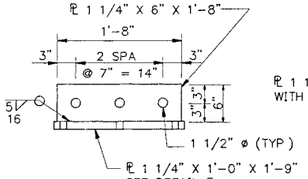
NO	DATE	BY	BRIEF DESCRIPTION
1	6/2/94	NDT	REV CABLE RESTRAINTS AT ABUTS. ADDED
			ROD RESTRAINTS AT BENTS



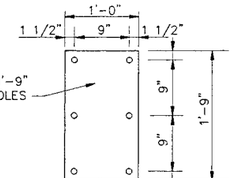
LONGITUDINAL AND UPLIFT RESTRAINTS @ ABUTMENTS (RIGHT BRIDGE)



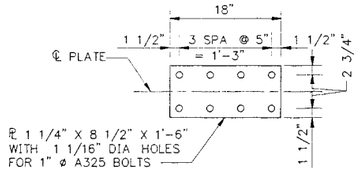
DETAIL A



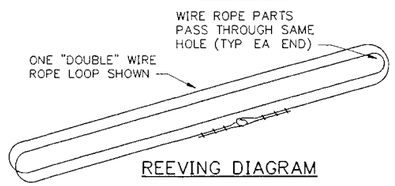
DETAIL D



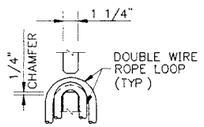
DETAIL E



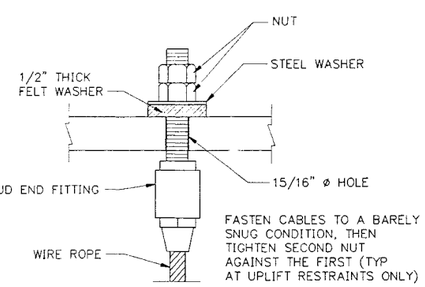
DETAIL B



REEVING DIAGRAM



SECTION B-B



STUD END FITTING DETAIL

GENERAL NOTES

WIRE ROPE SHALL BE 5/8" GALVANIZED IMPROVED PLOW STEEL WIRE ROPE, FIBER CORE, 30,000 LBS BREAKING STRENGTH

ROPE FITTINGS SHALL BE 7/8" THREADED END, FORGED, HEAVY DUTY STUD END FITTINGS FOR 5/8" WIRE ROPE, GALVANIZED STEEL FITTING SHALL MEET OR EXCEED CABLE BREAKING STRENGTH

EXPANSION ANCHORS SHALL BE SIMILAR AND EQUAL TO HILTI KWIK BOLT II 12" LONG ANCHORS, 28000 LBS ULTIMATE LOAD CAPACITY

WIRE ROPE CLIPS SHALL BE FORGED STEEL, GALVANIZED, U-BOLT WIRE ROPE CLIPS

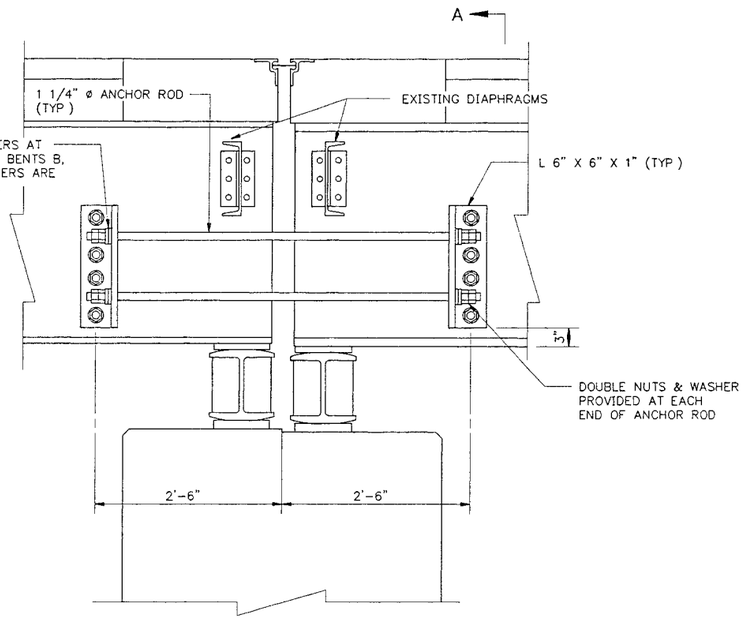
WIRE ROPE THIMBLES SHALL BE GALVANIZED CARBON STEEL STANDARD PATTERN THIMBLES FOR 5/8" WIRE ROPE

WIRE ROPES AND FITTINGS MAY BE OBTAINED FROM McMASTER-CARR SUPPLY COMPANY, (404) 346-700, OR OTHERS

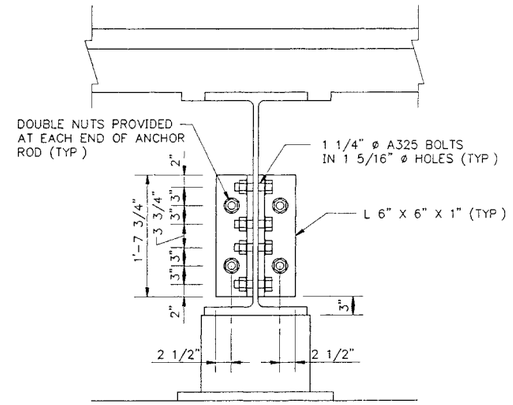
ALL COSTS ASSOCIATED WITH THE INSTALLATION OF LONGITUDINAL AND UPLIFT RESTRAINTS ON ONE BEAM LINE AT ABUTMENTS SHALL BE INCLUDED UNDER ITEM NO 604-03 21, BRIDGE JOINT SEISMIC MODIFICATION, EACH THIS WILL INCLUDE THE COST OF WIRE ROPES, ROPE FITTINGS, ROPE CLIPS, WIRE ROPE THIMBLES, STEEL PLATES, WELDING, DRILLING, 1" DIA EXPANSION ANCHORS, AND ALL LABOR AND MATERIALS NECESSARY TO INSTALL THE LONGITUDINAL JOINT RESTRAINTS AS SHOWN ON THESE DETAILS

THE UPLIFT AND LONGITUDINAL RESTRAINTS ARE REQUIRED AT ABUT A AND K EIGHT RESTRAINTS ARE REQUIRED FOR EACH ABUTMENT

DESIGNED BY	A J KHAIRI	DATE DECEMBER 1993
DRAWN BY	A J KHAIRI	DATE DECEMBER 1993
SUPERVISED BY	T JOHNSON	DATE DECEMBER 1993
CHECKED BY	T JOHNSON	DATE DECEMBER 1993



⚠ SEISMIC RESTRAINT FOR STEEL GIRDERS
SCALE 1" = 1'-0"



⚠ SECTION A-A
SCALE 1" = 1'-0"

⚠ NOTES

PROVIDE 1 1/4" ø ANCHOR RODS AT EACH STEEL GIRDER AT PIERS B, E, F, AND G (32 LOCATIONS, 4 LONGITUDINAL ANCHOR RODS PER LOCATION)

STRUCTURAL STEEL ANGLES FOR SEISMIC RESTRAINT FOR STEEL GIRDERS SHALL BE GRADE 36 STEEL 1 1/4" ℄ ANCHOR RODS SHALL BE A325

ALL COSTS ASSOCIATED WITH FURNISHING AND INSTALLING 1 1/4" ø ANCHOR RODS, BOLTS AND ANGLES SHALL BE PAID FOR UNDER ITEM NO 604-03 21, BRIDGE JOINT SEISMIC MODIFICATION, EACH

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
STATE ROUTE 14 OVER
NONCONNAH CREEK AND RAILROAD
BR NOS 79-14-7 11 L & R
SHELBY COUNTY

1994

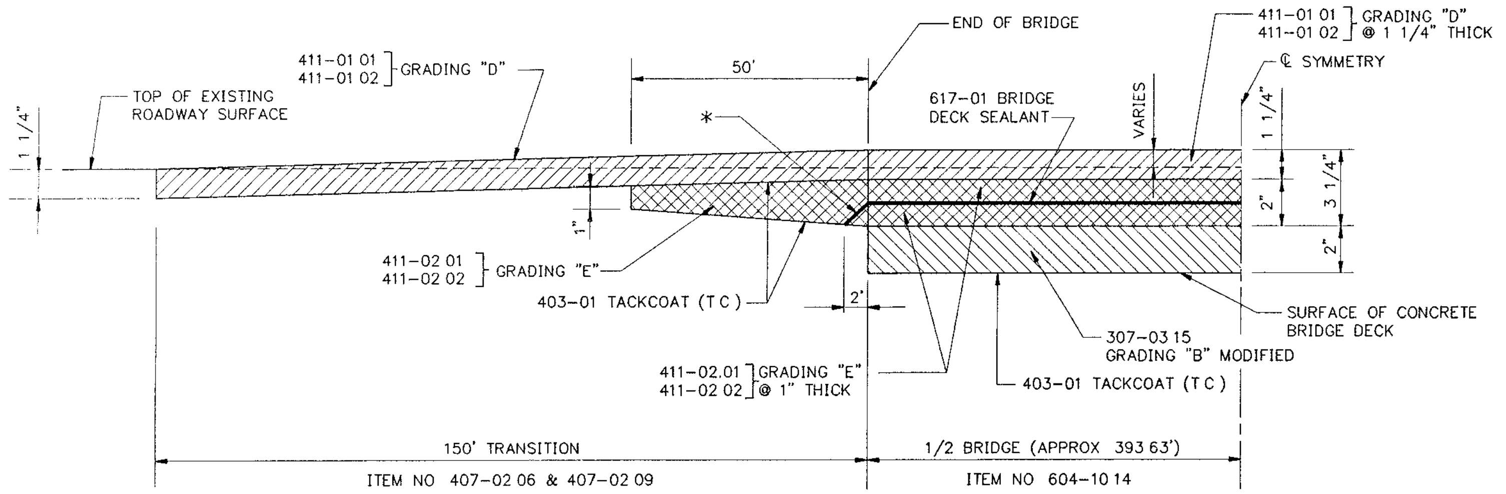
BR-12-15

NDT/AJ SHEB-15 91178\003 6/2/94 2 1=1

PROJECT NO.	YEAR	SHEET NO.
79022-4221-04	1994	

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION



* BRIDGE DECK SEALANT TO EXTEND 2'-0" BEYOND END OF BRIDGE

COST OF ALL LABOR AND MATERIALS FOR PLACING BRIDGE DECK SEALANT FOR THE FULL WIDTH AND LENGTH OF BRIDGE, 2' PAST THE BEGINNING AND END OF BRIDGE, AND 3' WIDTH AT REQUIRED TRANSVERSE JOINTS, SHALL BE INCLUDED UNDER ITEM NO 617-01 BRIDGE DECK SEALANT, S Y

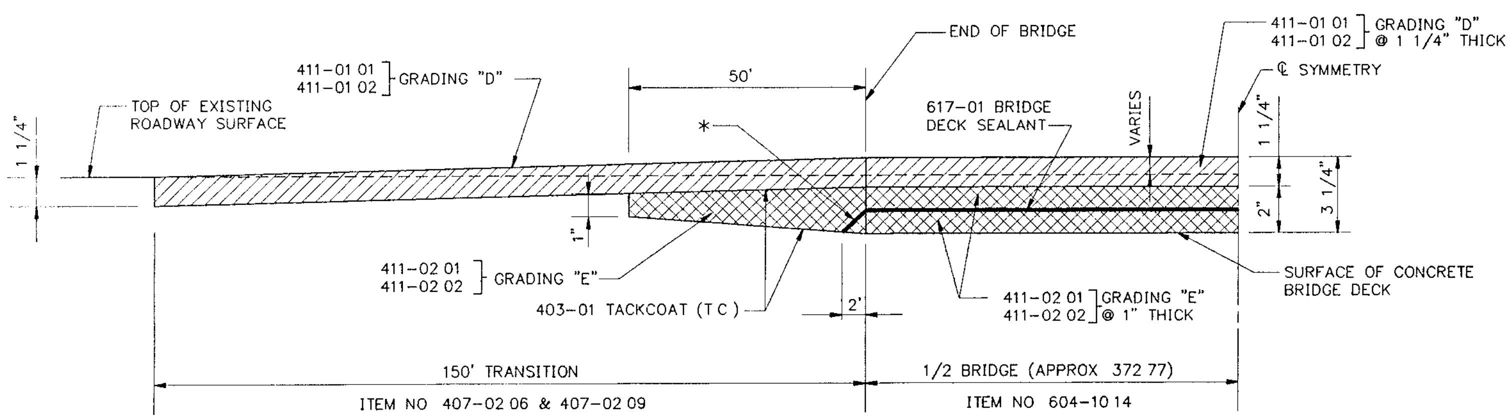
BRIDGE DECK SEALANT AND AND PAVEMENT TRANSITION PROFILE

(BRIDGE NO 79-14-7 11L)
SCALE NONE

NOTES.

SEE SECTION 617 AND 906 OF THE TENNESSEE STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION

ASPHALT FOR TEMPORARY RAMPS WILL BE PAID FOR AS ITEM NO 411-01

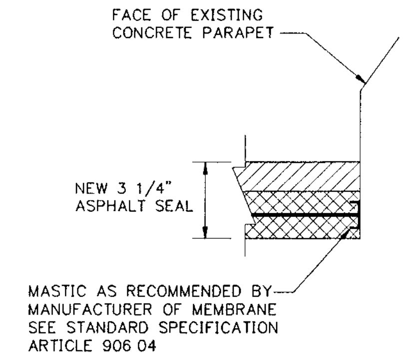


* BRIDGE DECK SEALANT TO EXTEND 2'-0" BEYOND END OF BRIDGE AT FIXED END (ABUTMENT A) OMIT THE 2'-0" LENGTH OF BRIDGE DECK SEALANT IN THE PAVING TRANSITION AREA AT EXPANSION END (ABUTMENT K)

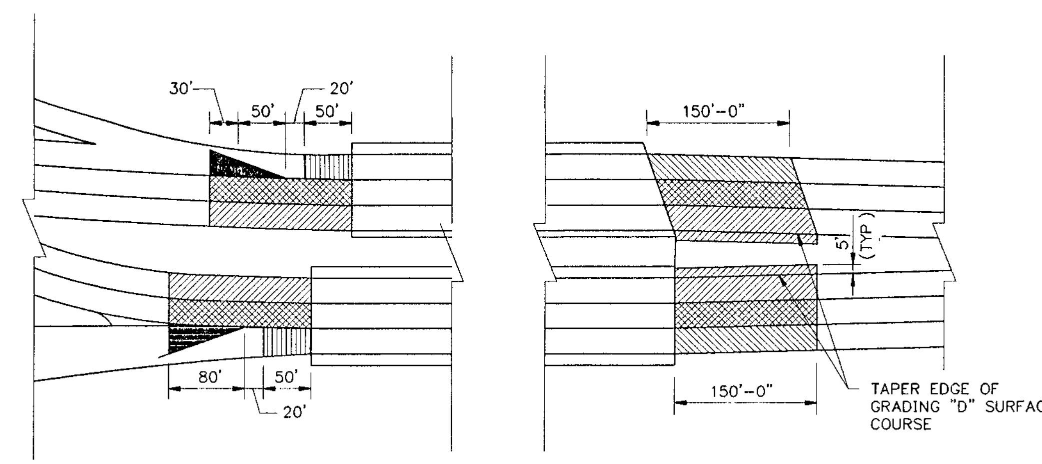
COST OF ALL LABOR AND MATERIALS FOR PLACING BRIDGE DECK SEALANT FOR THE FULL WIDTH AND LENGTH OF BRIDGE, 2'-0" PAST ABUTMENT A, SHALL BE INCLUDED UNDER ITEM NO 617-01 BRIDGE DECK SEALANT, S Y

BRIDGE DECK SEALANT AND AND PAVEMENT TRANSITION PROFILE

(BRIDGE NO 79-14-7 11R)
SCALE· NONE



OVERLAY DETAIL AT GUARDRAIL



PLAN OF PAVEMENT TRANSITION AT BRIDGE ENDS

(BRIDGE NOS 79-14-7 11 L & R)
SCALE NONE

LEGEND

- GRADING "D" & GRADING "E" TO BE COMPLETED DURING PHASE I
- GRADING "D" & GRADING "E" TO BE COMPLETED DURING PHASE II
- GRADING "D" & GRADING "E" TO BE COMPLETED DURING PHASE III
- GRADING "E" ONLY TO BE COMPLETED DURING PHASE III
- TEMPORARY RAMP PROVIDED DURING PHASE III

DESIGNED BY	N TINER	DATE	DECEMBER 1993
DRAWN BY	N TINER	DATE	DECEMBER 1993
SUPERVISED BY	T JOHNSON	DATE	DECEMBER 1993
CHECKED BY	T JOHNSON	DATE	DECEMBER 1993

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
STATE ROUTE 14 OVER
NONCONNAH CREEK AND RAILROAD
BR. NOS 79-14-7.11 L & R
SHELBY COUNTY

994

BR-12-16

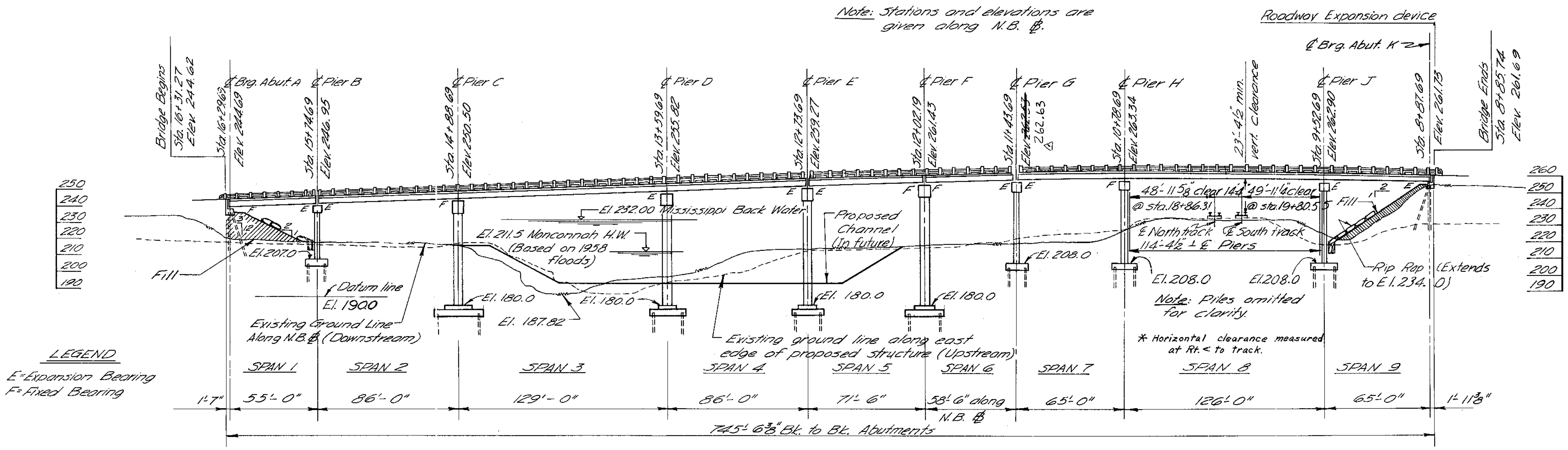
PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	F-014-1(2)	1963	34	51

REVISION 10-25-63

REVISION

Bridge Dwg. 1 of 13

Note: Stations and elevations are given along N.B. ℄.



LEGEND

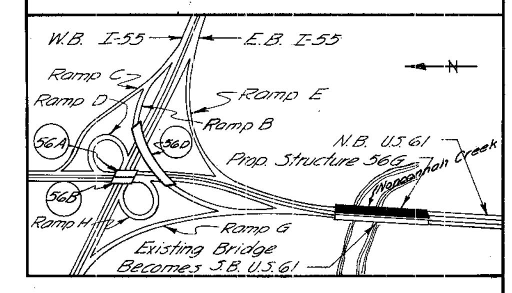
E=Expansion Bearing

F=Fixed Bearing

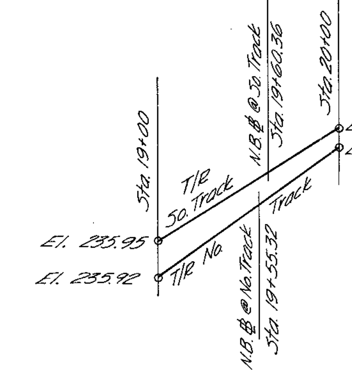
ELEVATION

SCALE: 1"=40'

NOTE: The excavation for the construction of Piers H + J will have to be sheeted and braced in order to protect the railroad tracks and their embankment. Plans for this sheeting and bracing must be submitted in quadruplicate to this office for handling with the Railroad Company. No work shall be started on this excavation until the Contractor has been notified that his procedure has been approved by the Railroad Company.

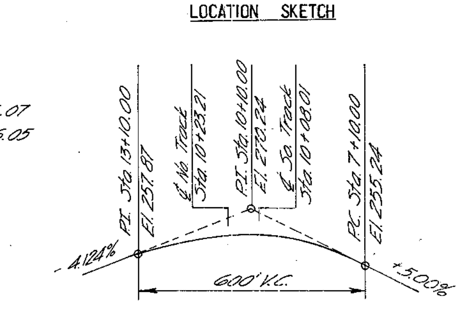


LOCATION SKETCH



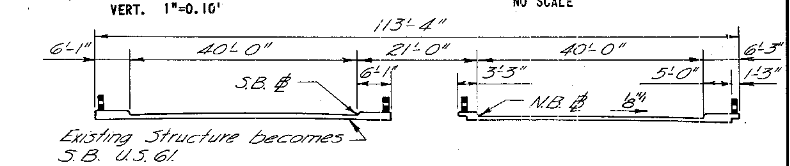
PROFILE I.C.R.R.

SCALE: HORIZ. 1"=50' VERT. 1"=0.10'



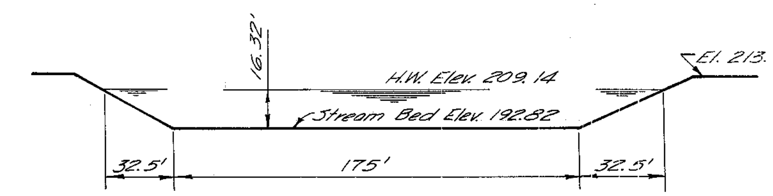
PROFILE N.B. ℄ U.S. 61

NO SCALE



TYPICAL CROSS SECTION OF U.S. 61

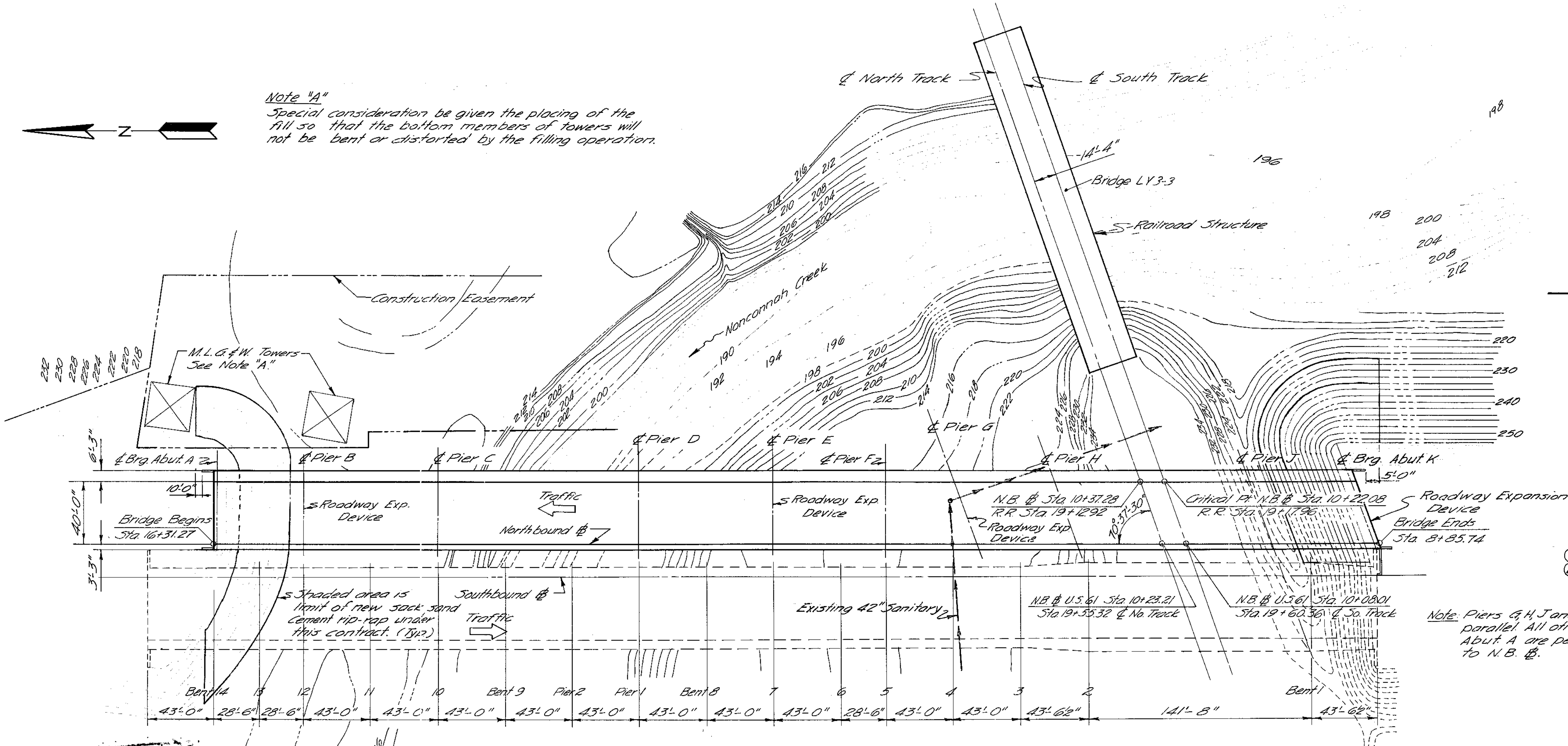
SCALE: 1/16"=1'-0"



PROPOSED CHANNEL

Note "A"

Special consideration be given the placing of the fill so that the bottom members of towers will not be bent or distorted by the filling operation.



PLAN

SCALE: 1"=40'

Note: Piers G, H, J and Abut. K are parallel. All other Piers & Abut. A are perpendicular to N.B. ℄.

WATERWAY DATA

	PRESENT ①	FUTURE ②
DRAINAGE AREA	175.3 SQ. MILES	175.3 SQ. MILES
FLOOD DISCHARGE	17,900 CU. FT./SEC.	28,500 CU. FT./SEC.
WATERWAY OPENING	2,200 SQ. FT.	3,384 SQ. FT.
MEAN VELOCITY	8.1 FT./SEC.	8.6 FT./SEC.
HIGH WATER LEVEL	211.5 FT.	209.14 FT.

① Based on 1958 Flood Level.

② Based on full anticipated development of the Basin.

40'-0" Rdwy. with 3'-3" Safety curb on West side and 5'-0" Sidewalk on East side.

BRIDGE NO. 56G

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

N.B. U.S. 61 OVER NONCONNAH CREEK
BRIDGE LAYOUT

DATE:	DESIGNED BY	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE
Jan. 1963	G.N.	JWN	GN	MFT	As noted

Bridge Dwg. 1 of 13

K-30-42

JOB NO. A29C

Revised 1-24-64 ... Revised 3-25-64 - Datum Line
Rev. 3/28/63.
Rev. 8-7-63
Rev. 7-31-63

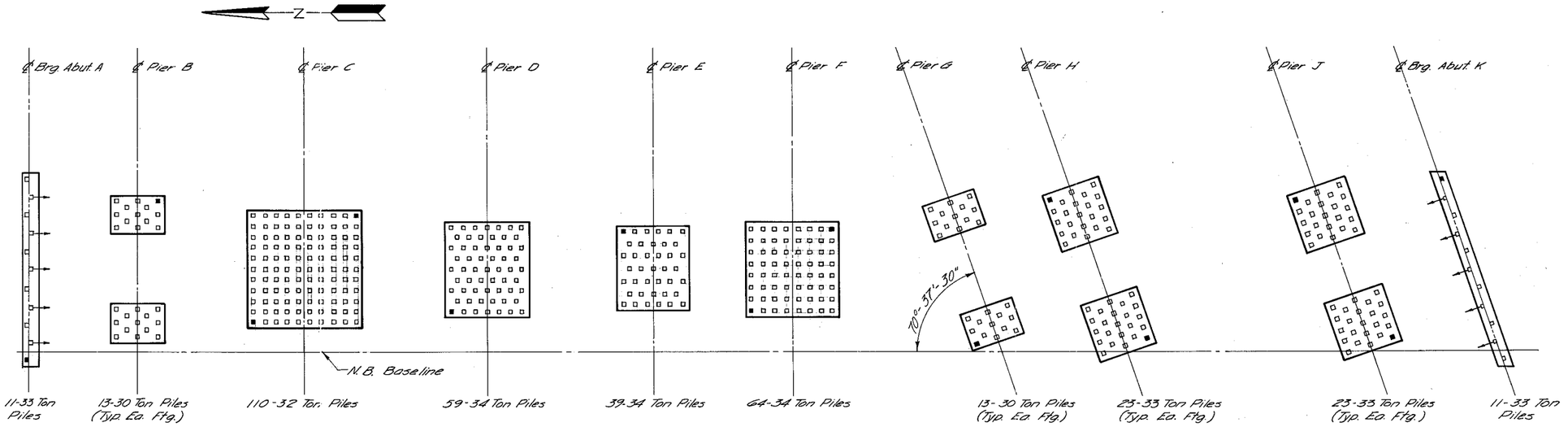
MICROFILMED

CAMPBELL BLUE PRINT CO., K&E PB 100

PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	F-014-1(2)	1963	35	51

REVISION 10-25-63 - 11-14-63.

REVISION



LEGEND
- □ Vertical Pile
- ←□ Batter Pile (3:12)
- ■ Test Pile (40' long)

PILE LOCATION SKETCH
NO SCALE:

Note: Piers G, H, J and Abut K are parallel. All other Piers and Abut A are perpendicular to N.B. ℄.

DESIGN STRESSES

LOADING:	H20-S16-44
CAST-IN-PLACE CONCRETE:	f'c = 3000 psi fc = 1200 PSI n = 10
REINFORCING STEEL: (INTERMEDIATE GRADE)	fs = 20,000 PSI

GENERAL NOTES

1. SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF HIGHWAYS & PUBLIC WORKS.
2. CAST-IN-PLACE CONCRETE SHALL BE CLASS A. SEE SPECIFICATIONS.
3. * 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.
4. NOTES ON DETAILING REINFORCING STEEL: STANDARD ABBREVIATIONS USED THROUGHOUT.
   FF - FAR FACE; NF - NEAR FACE; EF - EACH FACE
   EXAMPLE: 8-#5Ha 3@12
   8-NUMBER OF BARS; #5 - BAR SIZE
   Ha- POSITION AND LOCATION; 12- SPACING.
   3-THIRD BAR IN SERIES
5. PILES SHALL BE PRECAST OR PRESTRESSED CONCRETE AS SHOWN ON TENNESSEE STANDARD DWG. H-5-111. MINIMUM BEARING CAPACITY SHALL BE AS SHOWN ON BRIDGE DWG. 2.
6. TEST PILES: BEFORE ANY PILES ARE ORDERED TEST PILES SHALL BE DRIVEN IN THE LOCATION SHOWN ON BRIDGE DWG. 2. 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.
7. PRESTRESSED CONCRETE PILES: SEE SPECIAL PROVISIONS.
8. FILL: ALL FILL SHALL BE PLACED AND COMPACTED BEFORE PILES ARE DRIVEN.
9. BRIDGE JOINT SEALER: CLASS A OR B SEE SPECIAL PROVISIONS.
10. STRUCTURAL STEEL: BEARING PINS SHALL BE A.S.T.M. A-235. ALL OTHER STEEL SHALL BE A-36.
11. STUDS: SHALL BE FLUX FILLED. FOR STUDS AND WELDING TO BEAMS SEE THE SPECIAL PROVISIONS.
12. UTILITIES: IT IS INTENDED THAT THE COST OF THE 12" DIA. WATER LINE AND ALL INCIDENTAL MATERIAL AND LABOR NECESSARY FOR THE COMPLETE INSTALLATION OF THIS UTILITY SHALL BE BORNE BY OTHERS AND SHALL NOT BE PAID FOR AS A PART OF THIS CONTRACT.
    THE CONTRACTOR SHALL CO-OPERATE WITH NO ADDITIONAL COMPENSATION ALLOWED THE CONTRACTOR AS A RESULT.
13. STRUCTURAL STEEL CONNECTIONS SHALL BE MADE USING 7/8" DIAMETER HIGH STRENGTH BOLTS IN ACCORDANCE WITH AASHO SPECIFICATIONS ART. 2.10.20 WITH AMENDMENTS THERETO.
14. SEE SPECIAL PROVISIONS FOR WELDED STRUCTURES.

* Reinforcing bars 14S and 18S shall conform to ASTM Specification 408 and shall be furnished full length. If the Contractor prefers any other method, he shall submit sketches and method for splicing these bars to the Highway Department for approval.
No lap-splices will be allowed.

SUMMARY OF ESTIMATED QUANTITIES

ITEM	DRY EXCAVATION ①	WET EXCAVATION ①	CLASS A CONCRETE ②	STEEL BAR REINFORCEMENT	PRECAST CONCRETE PILE SIZE I	TEST PILES	STRUCTURAL STEEL ③	CONCRETE HANDRAIL ④	GRAY IRON CASTINGS	6" WROUGHT IRON PIPE	PIP RAP	
UNIT	CU. YDS.	CU. YDS.	CU. YDS.	LBS.	LIN. FT.	LIN. FT.	Lump Sum	LIN. FT.	LBS.	LIN. FT.	CU. YDS.	
SUPERSTRUCTURE			930.3	220,040								
SUBSTRUCTURE												
ABUTMENT A			30.9	2,690							229	
PIER B	188		102.0	15,260								
PIER C	1188	534	309.4	85,230								
PIER D	199	323	236.7	64,650								
PIER E	474	229	221.1	39,250								
PIER F	729	351	255.1	47,090								
PIER G	188		120.1	19,120								
PIER H	546		151.7	48,160								
PIER J	498		151.4	48,160								
ABUTMENT K			41.9	3,520							164	
TOTAL	4010	1,437	2550.6	593,170	10,600	560	Lump Sum	1491	4400	253	393	

① ALL EXCAVATION SHALL BE CONSIDERED WET OR DRY (BRIDGES)
② ALL JOINT MATERIALS SHALL BE CONSIDERED INCIDENTAL TO CLASS A CONCRETE FOR PAYMENT.

③ THE COST OF FURNISHING, ERECTING AND PAINTING 472,370 STRUCTURAL STEEL SHALL BE A LUMP SUM AND SHALL INCLUDE 297,640 BEAMS, 32,030 BEARINGS, 100,660 DIAPHRAGMS AND SPLICES, 13,960 EXPANSION DEVICES, 3,150 SHEAR CONNECTORS, AND 24,900 HIGH STRENGTH STEEL BOLTS, AND ALL OTHER INCIDENTALS NECESSARY FOR COMPLETING THE WORK.

④ 1491 LIN. FT. OF HANDRAIL INCLUDES 66.8 CU. YDS. OF CONC. AND 12,270 LBS. OF REIN. STEEL.

LIST OF DRAWINGS

JOB NO. 429C

BRIDGE NO. 56G

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

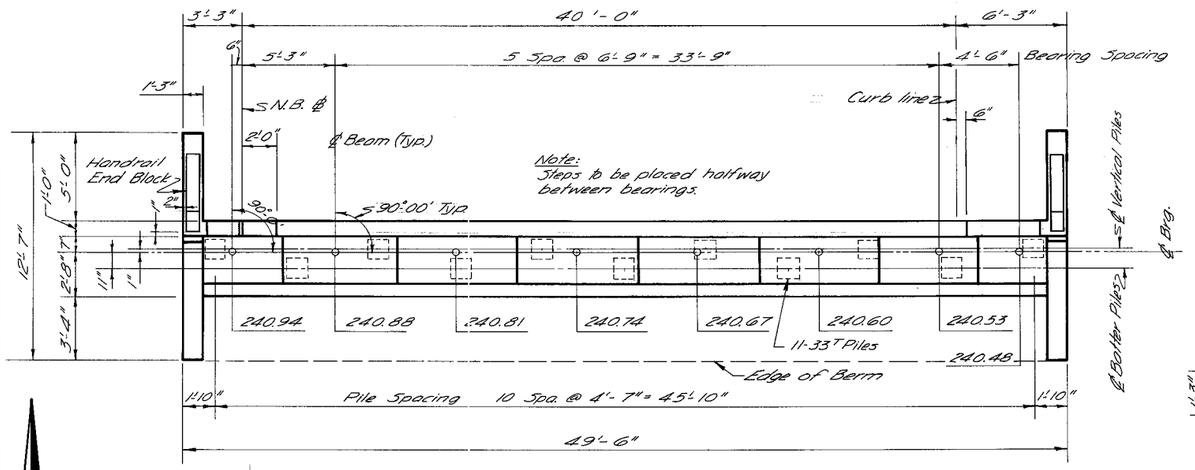
N.B. U.S. 61 OVER NONCONNAH CREEK
GENERAL NOTES & QUANTITIES

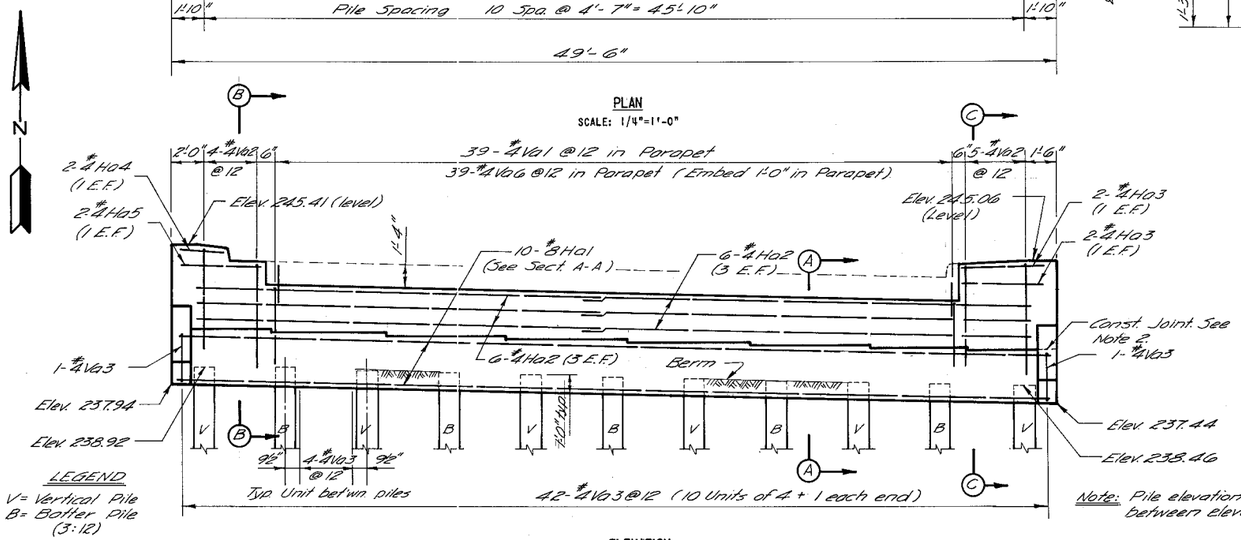
DATE:	DESIGNED BY	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE
Jan. 1963	RGB	JWN	GN	MFT	None

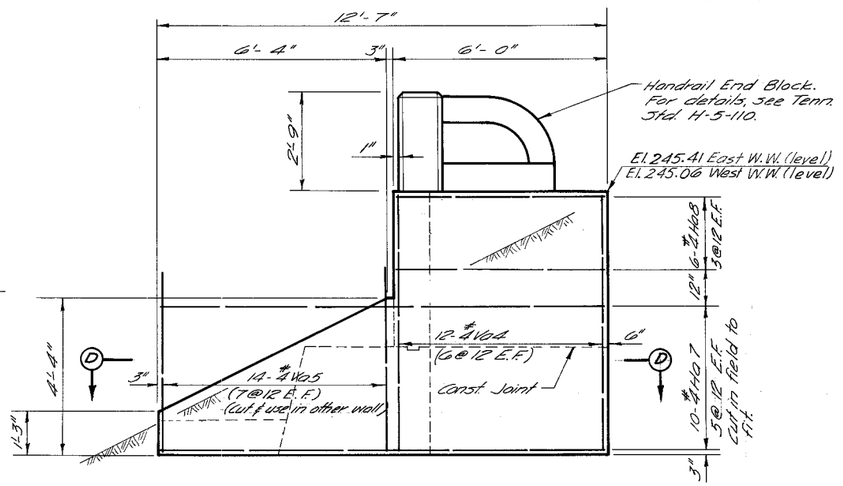
K-30-43

CAMPBELL BLUE PRINT CO., K&E PB 166

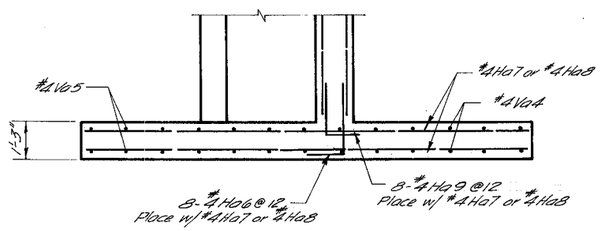
PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	F-014-1(2)	1963	36	51
REVISION 10-25-63					
REVISION					







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



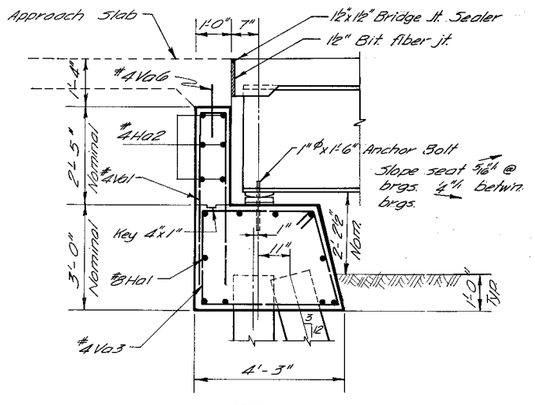
SECTION D-D
SCALE: 1/2"=1'-0"

NOTES

1. SEE TENN. STD. H-5-110 FOR REINFORCEMENT FOR HANDRAIL END BLOCK TO BE PLACED IN WINGWALL BEFORE CONCRETE IS POURED.
2. 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 PROPER GRADE AND ELEVATION.
3. CLASS A CONCRETE AND STEEL BAR REINFORCEMENT QUANTITIES FOR HANDRAIL END BLOCKS ARE INCLUDED IN THE ESTIMATED QUANTITIES SHOWN ON BRIDGE DWG. 13.
4. BEARING ELEVATIONS ARE GIVEN TO THE BOTTOM OF THE 1/8" LEAD PLATES.

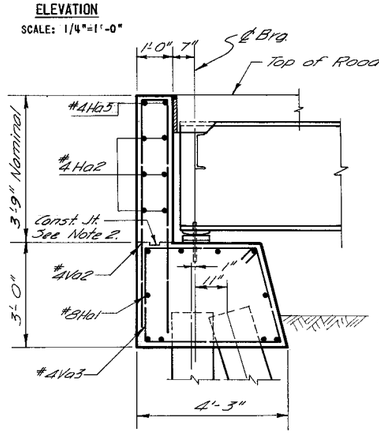
BILL OF STEEL

BAR	SIZE	NO.	LENGTH	SHAPE	LOCATION
Ha1	#8	10	48'-6"	——	Seat
Ha2	#4	12	22'-3"	——	Parapet
Ha3	#4	4	4'-6"	——	Parapet
Ha4	#4	2	2'-0"	——	Parapet
Ha5	#4	2	4'-0"	——	Parapet
Ha6	#4	16	2'-9"	L	Parapet
Ha7	#4	20	12'-0"	——	Wingwall
Ha8	#4	12	5'-6"	——	Wingwall
Ha9	#4	16	2'-3"	L	Wingwall
Va1	#4	39	10'-2"	⊓	Parapet
Va2	#4	9	13'-8"	⊓	Parapet
Va3	#4	42	13'-0"	□	Seat
Va4	#4	24	7'-1"	I	Wingwall
Va5	#4	14	4'-11"	I	Wingwall
Va6	#4	39	2'-0"	I	Parapet

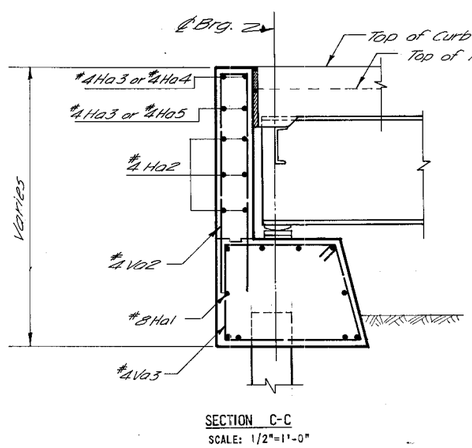


SECTION A-A
SCALE: 1/2"=1'-0"

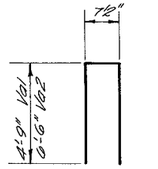
ELEVATION
SCALE: 1/4"=1'-0"



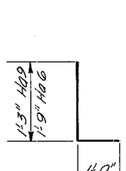
SECTION B-B
SCALE: 1/2"=1'-0"



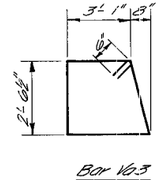
SECTION C-C
SCALE: 1/2"=1'-0"



Bars Va1 & Va2



Bars Ha9 & Ha6

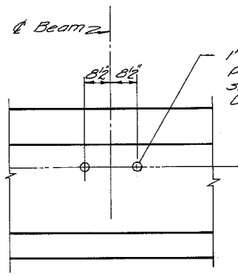


Bar Va3

BAR BENDING DIAGRAMS

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
CLASS A CONCRETE	CU. YDS.	30.9
STEEL BAR REINFORCEMENT	LBS.	2690



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

BRIDGE NO. 56G

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

N. B. U. S. 61 OVER NONCONNAH CREEK
ABUTMENT A

DATE:	DESIGNED BY	DRAWN BY	CHECKED BY:	IN CHARGE:	SCALE
Jan 1963	RGB	JWN	RGB	MFT	As noted

MISPLACED
JOB NO. 4230

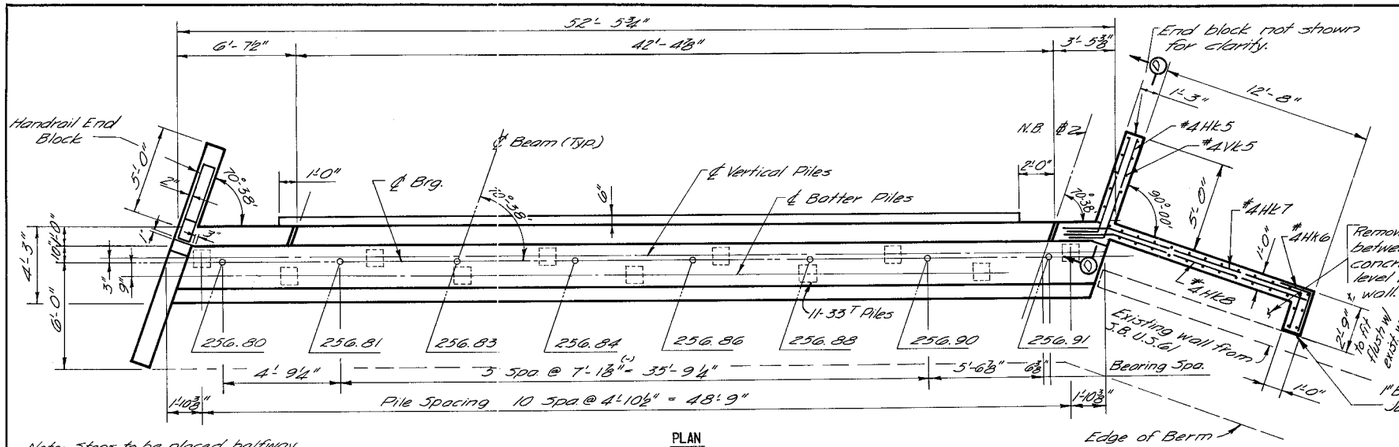
CAMPBELL BLUE PRINT CO., K&E PB 166

K-30-44

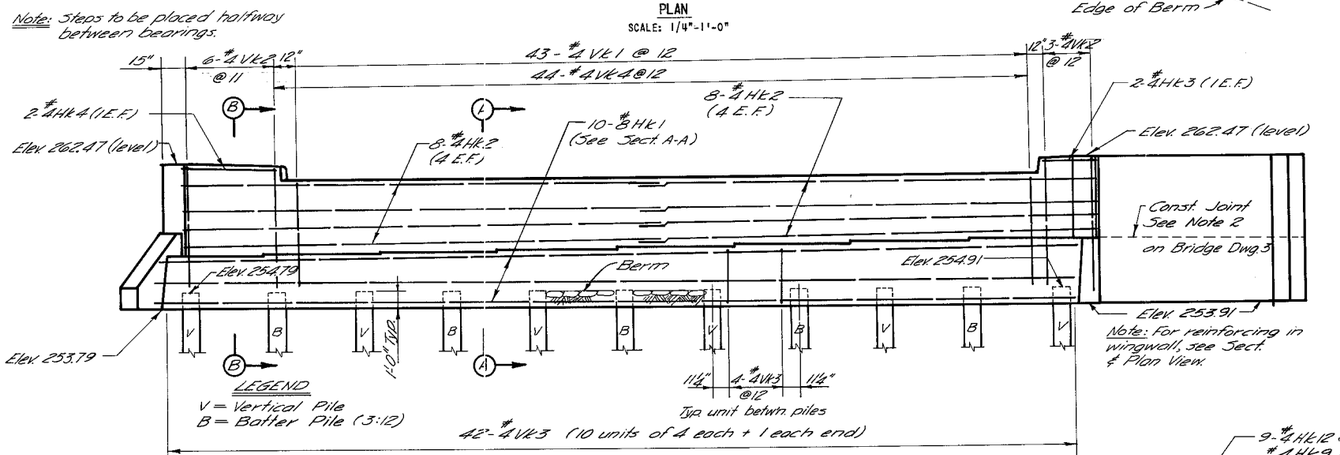
FUD. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	F-014-1(2)	1963	37	51
REVISION 10-25-63					
REVISION					

NOTES

1. THE SAME NOTES THAT ARE ON BRIDGE DWG. 3 APPLY TO THIS SHEET.

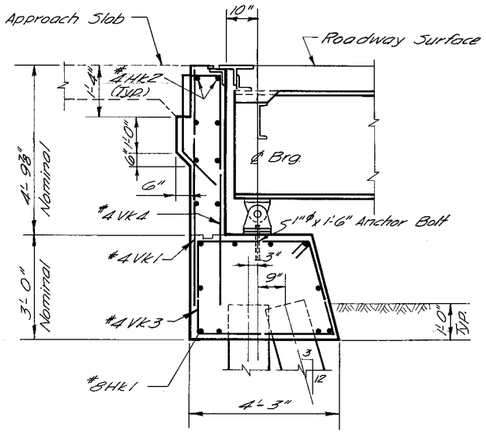


PLAN
SCALE: 1/4"=1'-0"

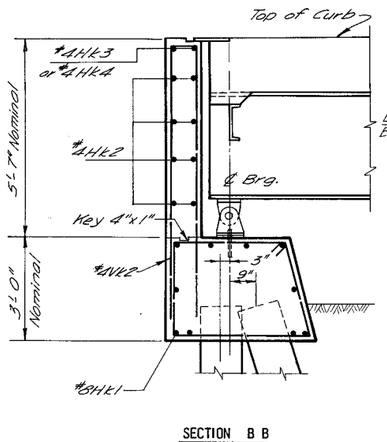


ELEVATION
SCALE: 1/4"=1'-0"

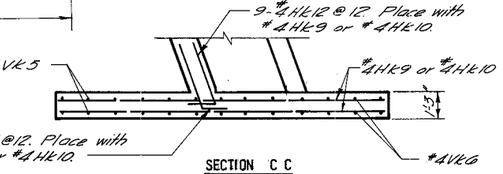
Note: Pile elevations vary linearly between elevations given.



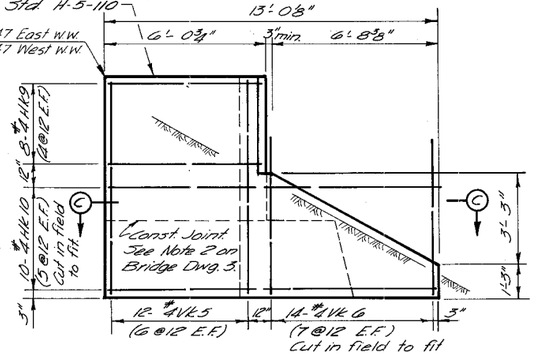
SECTION A A
SCALE: 1/2"=1'-0"



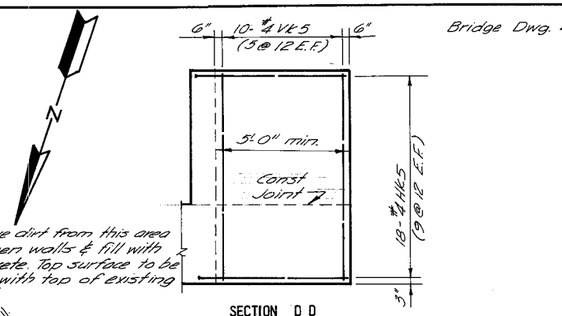
SECTION B B
SCALE: 1/2"=1'-0"



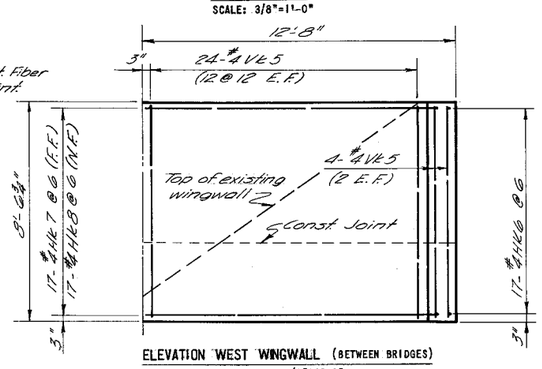
SECTION C C
SCALE: 3/8"=1'-0"



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



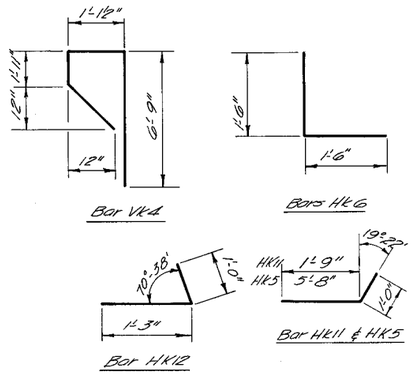
SECTION D D
SCALE: 3/8"=1'-0"



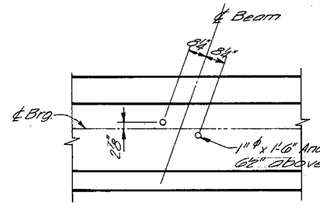
ELEVATION WEST WINGWALL (BETWEEN BRIDGES)
SCALE: 3/8"=1'-0"

BILL OF STEEL

BAR	SIZE	NO.	LENGTH	SHAPE	LOCATION
HK1	#8	10	52'-0"	—	Seat
HK2	#4	16	25'-9"	—	Parapet
HK3	#4	2	3'-0"	—	Parapet
HK4	#4	2	5'-6"	—	Parapet
HK5	#4	18	6'-8"	⌐—	Wingwall
HK6	#4	17	3'-0"	⌐	Wingwall
HK7	#4	17	16'-1"	⌐/	Wingwall
HK8	#4	17	18'-3"	⌐/	Wingwall
HK9	#4	8	5'-6"	—	Wingwall
HK10	#4	10	12'-8"	—	Wingwall
HK11	#4	9	2'-9"	—	Wingwall
HK12	#4	9	2'-3"	⌐	Wingwall
VK1	#4	43	6'-9"	I	Parapet
VK2	#4	9	16'-8"	⊏	Parapet
VK3	#4	42	13'-0"	⊟	Seat
VK4	#4	44	11'-3"	⊐	Parapet
VK5	#4	46	8'-3"	I	Wingwall



BAR BENDING DIAGRAMS



BEARING DETAIL

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
CLASS A CONCRETE	CU. YDS.	41.9
STEEL BAR REINFORCEMENT	LBS.	3520

BRIDGE NO. 56G

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

N.B. U.S. 61 OVER NONCONNAH CREEK
ABUTMENT K

DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE:
Jan. 1963	RSB	JWN	RSB	MFT	As Noted

MICROFILMED
JOB NO. 429C

CAMPBELL BLUE PRINT CO., K&E PR 196

K-30-45

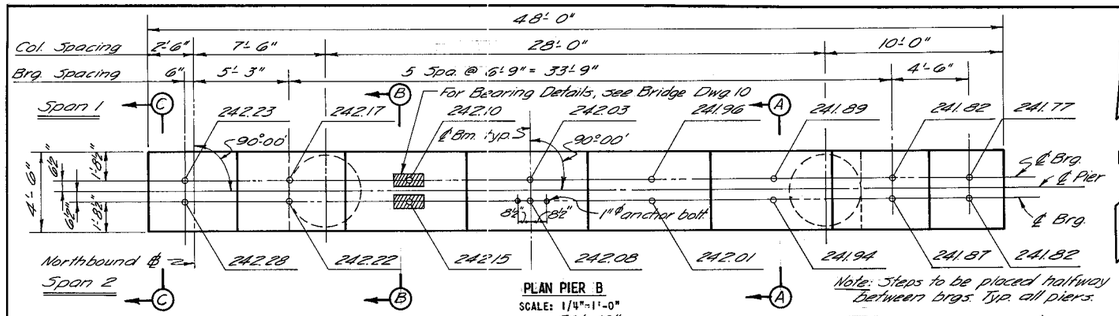
PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	F-014-1(2)	19 63	38	51
REVISION 11-14-63					
REVISION					

NOTES

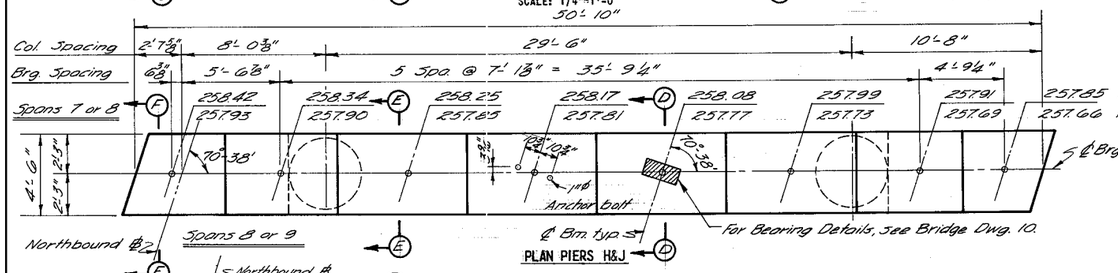
1. BRG. ELEVATIONS ARE GIVEN TO THE BOTTOM OF THE 1/8" PLATES.

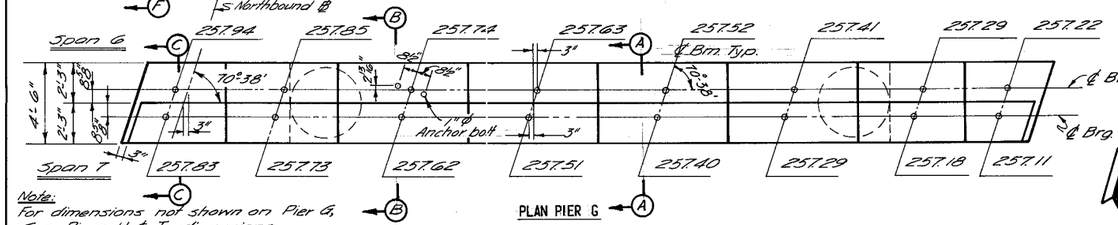
BILL OF STEEL

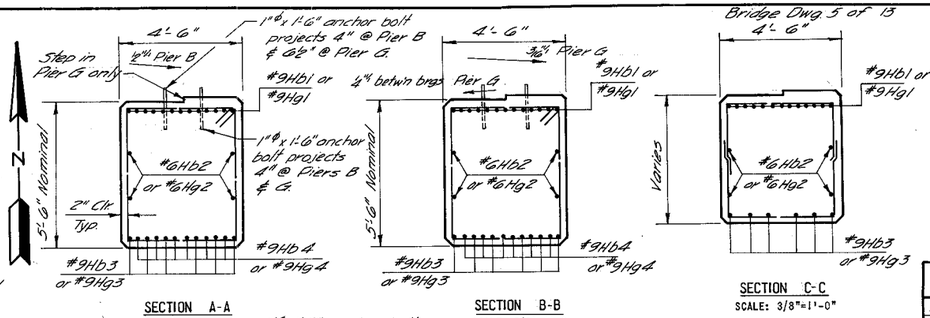
BAR	SIZE	NUMBER (PIER) B	G	H	J	LENGTH	SHAPE	LOCATION
Hb1	#9	13				47'-8"	—	Cap
Hb2	#6	4				47'-8"	—	Cap
Hb3	#9	6				47'-9"	⌣	Cap
Hb4	#9	6				28'-0"	—	Cap
Hb5	#5	2				1628-3"	Spiral	Column
Hb6	#3	6	6	6	6	12'-10"	○	Ftg.
Hg1	#9		12	13	13	50'-6"	—	Cap
Hg2	#6		4	4	4	50'-6"	—	Cap
Hg3	#9		6			30'-7"	⌣	Cap
Hg4	#9		6			29'-6"	—	Cap
Hg5	#5		2	2	2	2837-6"	Spiral	Column
Hh1	#9			26	26	14'-0"	—	Cap
Hh2	#10			8	8	50'-7"	⌣	Cap
Hh3	#10			6	6	29'-6"	—	Cap
Vb1	#5	17	18	53	53	13'-6"	□	Cap
Vb2	#5	24	28	80	80	10'-6"	⊓	Cap
Vb3	#9	40				33'-6"	|	Column
Vb4	#9	40	40			6'-0"	L	Ftg.
Vg1	#9		40			48'-0"	|	Column
Vh1	#14S			64	64	57'-3"	L	Column
Fb1	#9	26	26			12'-6"	—	Ftg.
Fb2	#7	38	38			8'-0"	—	Ftg.
Fh1	#10			120	120	14'-6"	—	Ftg.

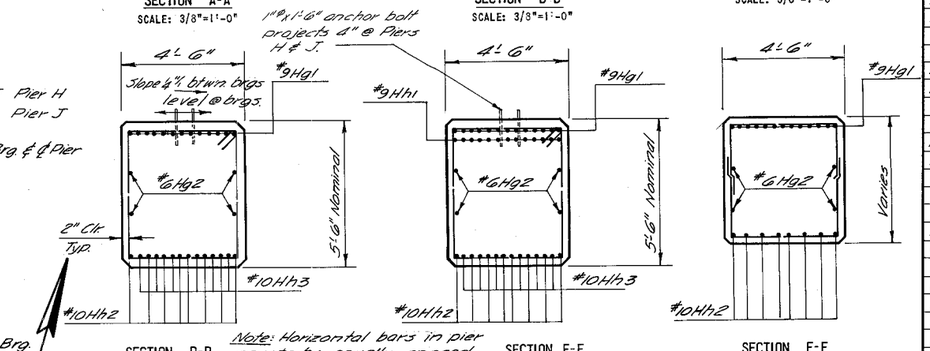


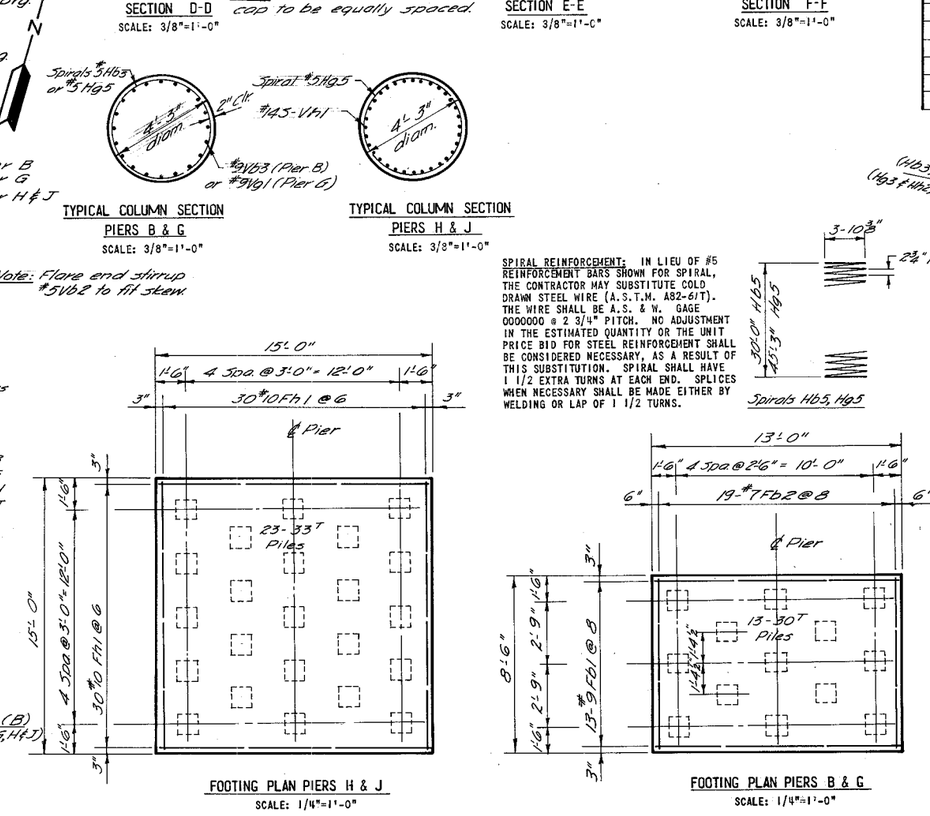
Note: Steps to be placed halfway between brgs. Typ. all piers.



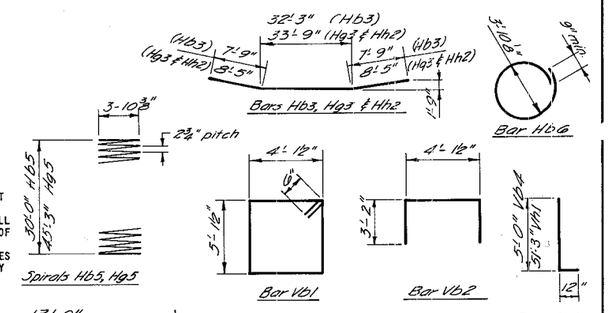








SPIRAL REINFORCEMENT: IN LIEU OF #5 REINFORCEMENT BARS SHOWN FOR SPIRAL, THE CONTRACTOR MAY SUBSTITUTE COLD DRAWN STEEL WIRE (A.S.T.M. A82-61T). THE WIRE SHALL BE A.S. & W. GAGE 0000000 @ 2 3/4" PITCH. NO ADJUSTMENT IN THE ESTIMATED QUANTITY OR THE UNIT PRICE BID FOR STEEL REINFORCEMENT SHALL BE CONSIDERED NECESSARY, AS A RESULT OF THIS SUBSTITUTION. SPIRAL SHALL HAVE 1 1/2 EXTRA TURNS AT EACH END. SPLICES WHEN NECESSARY SHALL BE MADE EITHER BY WELDING OR LAP OF 1 1/2 TURNS.



BAR BENDING DIAGRAMS

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY PIER B	PIER G	PIER H	PIER J
CLASS A CONCRETE	CU. YDS.	102.0	120.1	151.7	151.4
STEEL BAR REINFORCEMENT	LBS.	15,260	19,120	48,160	48,160

BRIDGE NO. 56G

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

N.B. U.S. 61 OVER NONCONNAH CREEK

PIERS B, G, H & J

DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE
Jan. 1963	RGB	JWN	RGB	MFT	As Noted

Bridge Dwg. 5 of 13

BRIDGE FILMED

JOB NO. 423C

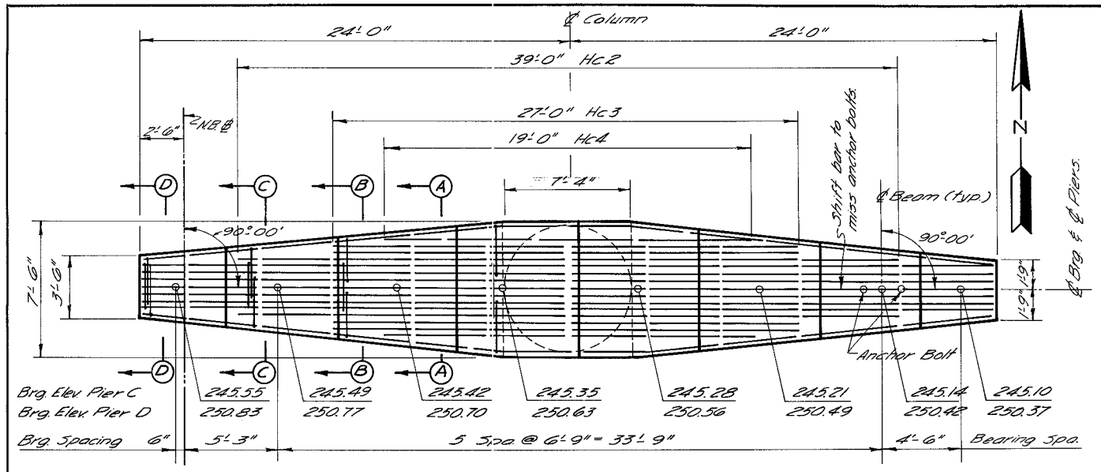
K-30-46

CAMPBELL BLUE PRINT CO., K&E PB 166

PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	F-014-1(2)	1963	39	51

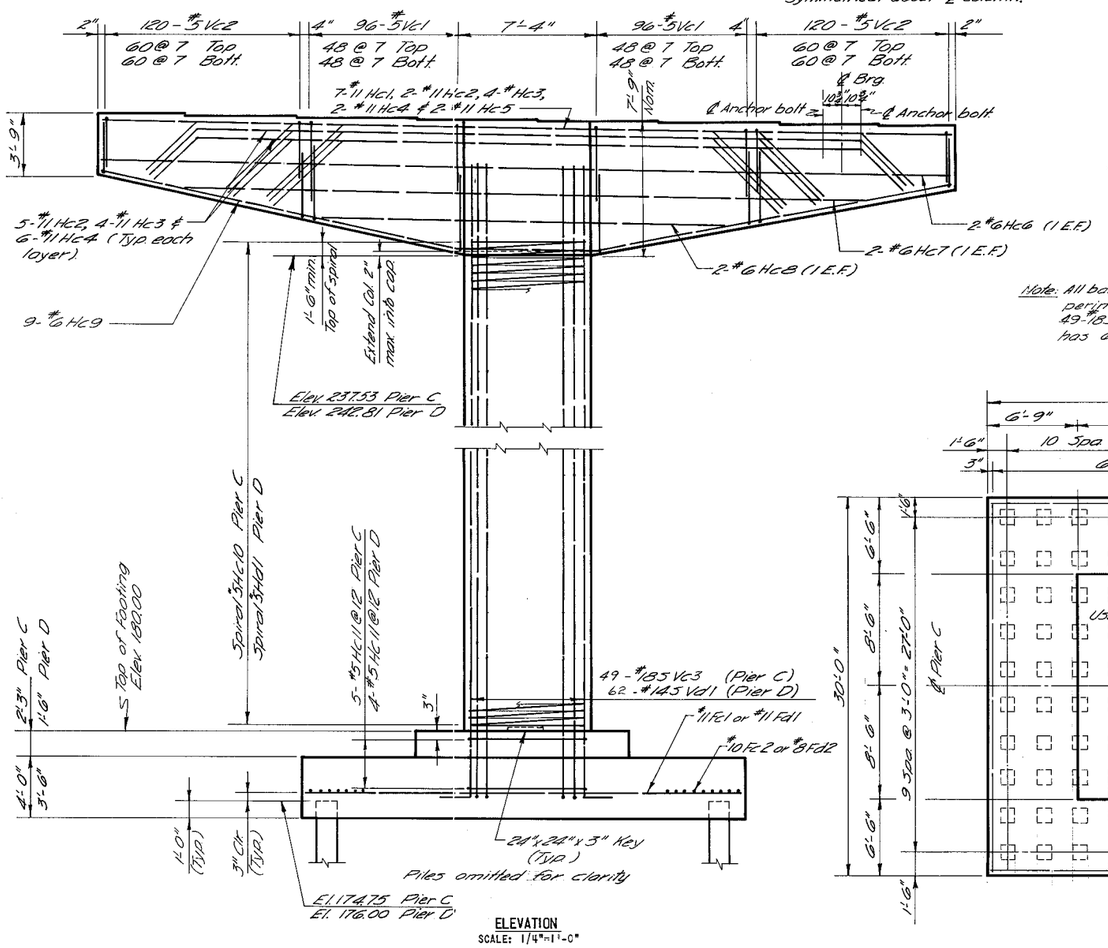
REVISION 11-15-63

REVISION

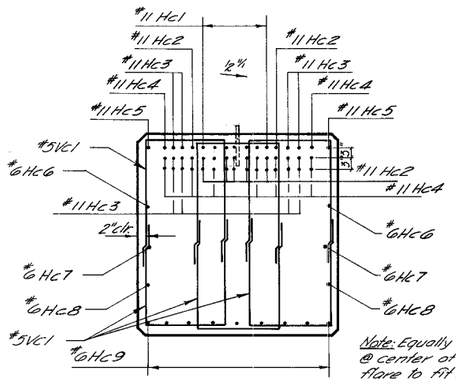


Note: Place steps halfway between bearing points.

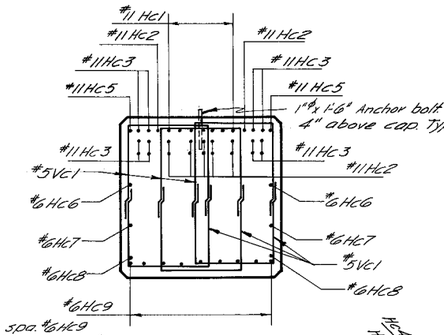
PLAN
SCALE: 1/4"=1'-0"



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

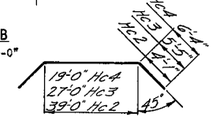


SECTION A-A
SCALE: 3/8"=1'-0"

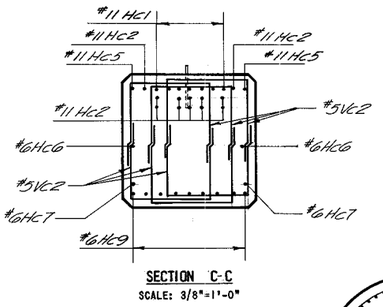


Note: Equally spa. #6 Hc9 @ center of piers and flare to fit cap.

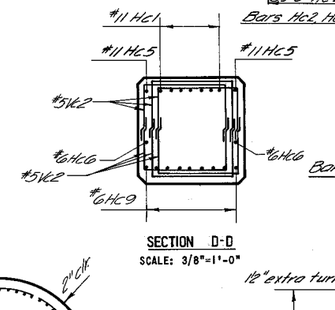
SECTION B-B
SCALE: 3/8"=1'-0"



Bars Hc2, Hc3 & Hc4



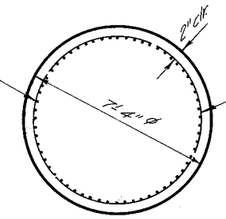
SECTION C-C
SCALE: 3/8"=1'-0"



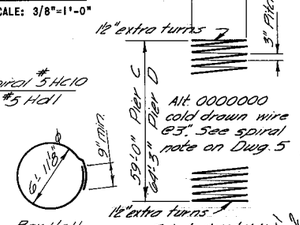
Bars Vc3

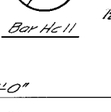
SECTION D-D
SCALE: 3/8"=1'-0"

Note: All bars are placed in one perimeter. Pier C has 49 - #185 bars and Pier D has 62 - #145 bars.

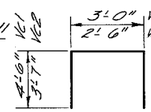


TYPICAL COLUMN SECTION
SCALE: 3/8"=1'-0"

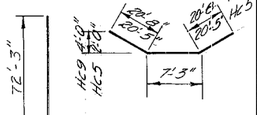




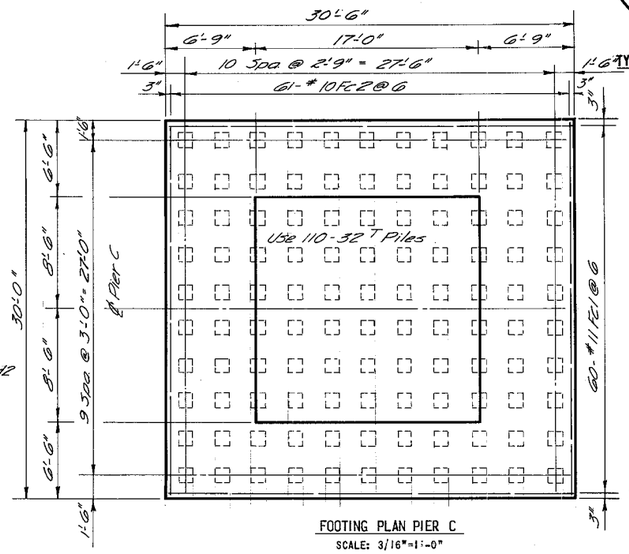
Bar Hc11

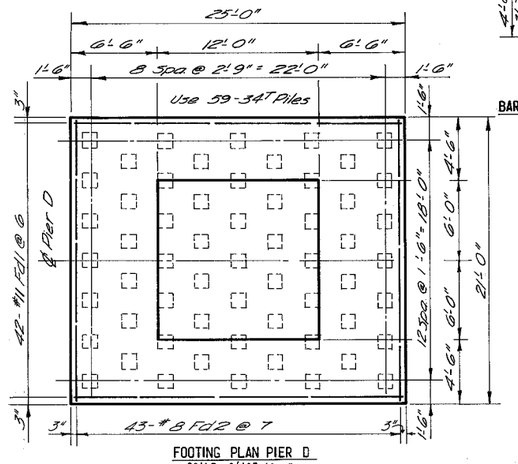


Bars Vc1 & Vc2



Bar Hc9 or Bar Hc5





BAR BENDING DIAGRAMS

NOTES

1. COLUMNS SHALL BE POURED AT SUCH TIME INTERVALS THAT NO CONSTRUCTION JOINTS SHALL BE REQUIRED. (MONOLITHIC COLUMNS).
2. BEARING ELEVATIONS ARE GIVEN TO THE BOTTOM OF THE 1/8" LEAD PLATE.

BILL OF STEEL

BAR	SIZE	NO. PIER C	NO. PIER D	LENGTH	SHAPE	LOCATION
Hc1	#11	7	7	47'-8"	——	Cap
Hc2	#11	12	12	47'-2"	⌒	Cap
Hc3	#11	12	12	37'-10"	⌒	Cap
Hc4	#11	14	14	31'-8"	⌒	Cap
Hc5	#11	2	2	43'-1"	⌒	Cap
Hc6	#6	2	2	47'-8"	——	Cap
Hc7	#6	2	2	38'-0"	——	Cap
Hc8	#6	2	2	22'-6"	——	Cap
Hc9	#6	9	9	48'-7"	⌒	Cap
Hc10	#5	1	——	5217'-0"	Spiral	Column
Hc11	#5	5	4	22'-6"	○	Footing
Hd1	#5	——	1	3617'-6"	Spiral	Column
Vc1	#5	192	192	12'-0"	⊓	Cap
Vc2	#5	240	240	9'-8"	⊓	Cap
Vc3	#185	49	——	69'-9"	L	Column
Vd1	#145	——	62	73'-3"	L	Column
Fe1	#11	60	——	30'-0"	——	Footing
Fe2	#10	61	——	29'-6"	——	Footing
Fd1	#11	——	42	24'-6"	——	Footing
Fd2	#8	——	43	20'-6"	——	Footing

*Spirals may be spliced @ Contractors option. 12 extra turns shall be provided @ each splice with no additional compensation.

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY PIER C	QUANTITY PIER D
CLASS A CONCRETE	CU. YDS.	309.4	236.7
STEEL BAR REINFORCEMENT	LBS.	85,230	64,650

BRIDGE NO. 56G

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

N. B. U. S. 61 OVER NONCONNAH CREEK
PIERS C & D

DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE:
Jan. 1963	RGB	JWN	RGB	MFT	As noted

MICROFILMED
JOB NO. 2622

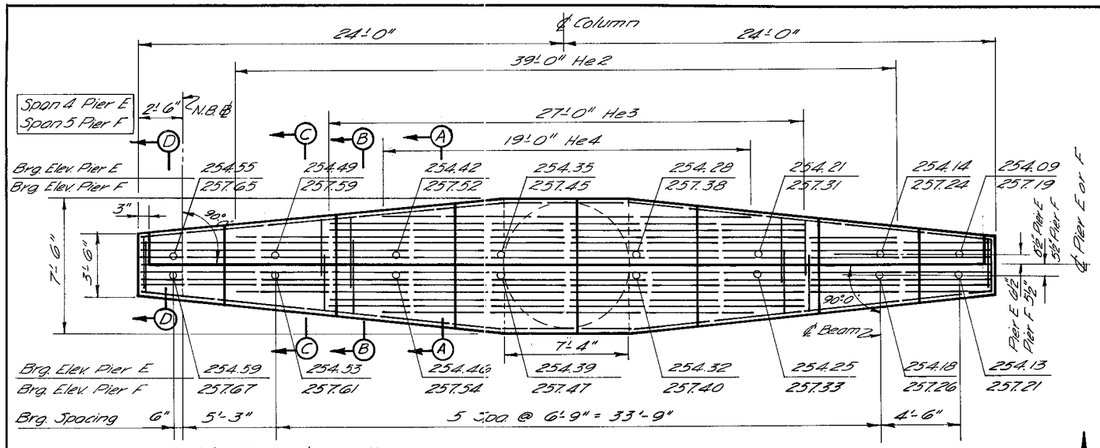
CAMPBELL BLUE PRINT CO., K&E PB 166

K-30-47

PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	F-014-1(2)	1963	40	51
REVISION 11-15-63					
REVISION					

NOTES

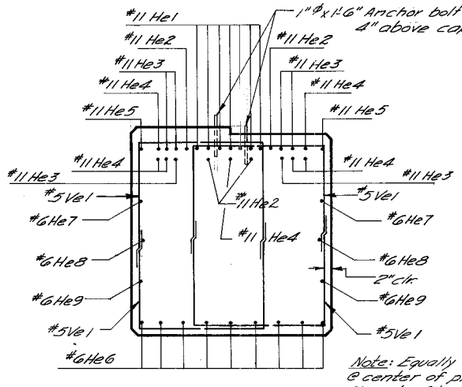
1. THE SAME NOTES THAT APPEAR ON BRIDGE DWG. 6 APPLY HERE.



Note: Place steps halfway between bearing points.

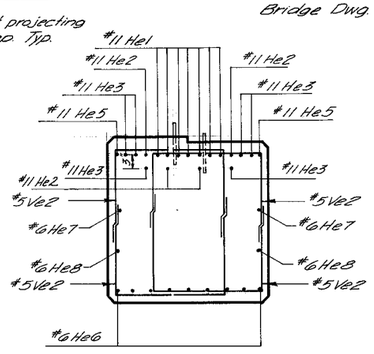
PLAN
SCALE: 1/4"=1'-0"

Note: All bars in pier cap to be symmetrical about ℄ Column.

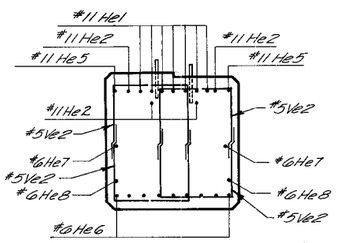


Note: Equally space #6 He10 @ center of piers and flare to fit cap.

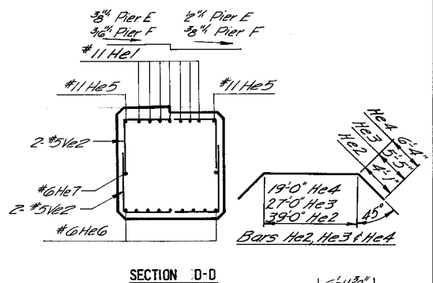
SECTION A-A
SCALE: 3/8"=1'-0"



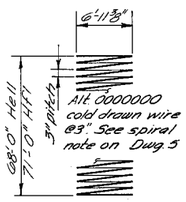
SECTION B-B
SCALE: 3/8"=1'-0"



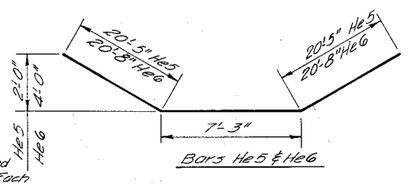
SECTION C-C
SCALE: 3/8"=1'-0"



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



Bars He11 & HFf

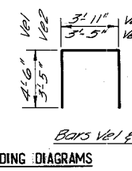


Bars He5 & He6

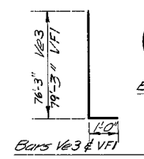
BILL OF STEEL

BAR	SIZE	NO. PIER E	NO. PIER F	LENGTH	SHAPE	LOCATION
He1	#11	7	7	47'-9"	——	Cap
He2	#11	4	4	47'-2"	⌐¬	Cap
He3	#11	6	6	37'-10"	⌐¬	Cap
He4	#11	7	7	31'-8"	⌐¬	Cap
He5	#11	2	2	48'-1"	◡	Cap
He6	#6	9	9	48'-7"	◡	Cap
He7	#6	2	2	47'-8"	——	Cap
He8	#6	2	2	38'-0"	——	Cap
He9	#6	2	2	22'-6"	——	Cap
He10	#5	4	4	22'-6"	○	Footing
He11	#5	1	——	6003'-0"	Spiral	Column
HFf	#5	——	1	6264'-3"	Spiral	Column
	1					
Ve1	#5	48	48	12'-11"	⊓	Cap
Ve2	#5	64	64	10'-5"	⊓	Cap
Ve3	#145	33	——	77'-3"	L	Column
VFf	#145	——	33	80'-3"	L	Column
Fe1	#11	33	——	20'-6"	——	Footing
Fe2	#8	36	——	16'-3"	——	Footing
FFf	#11	——	96	23'-6"	——	Footing

Spirals may be spliced at contractors option. 1½ extra turns shall be provided @ each splice with no additional compensation.



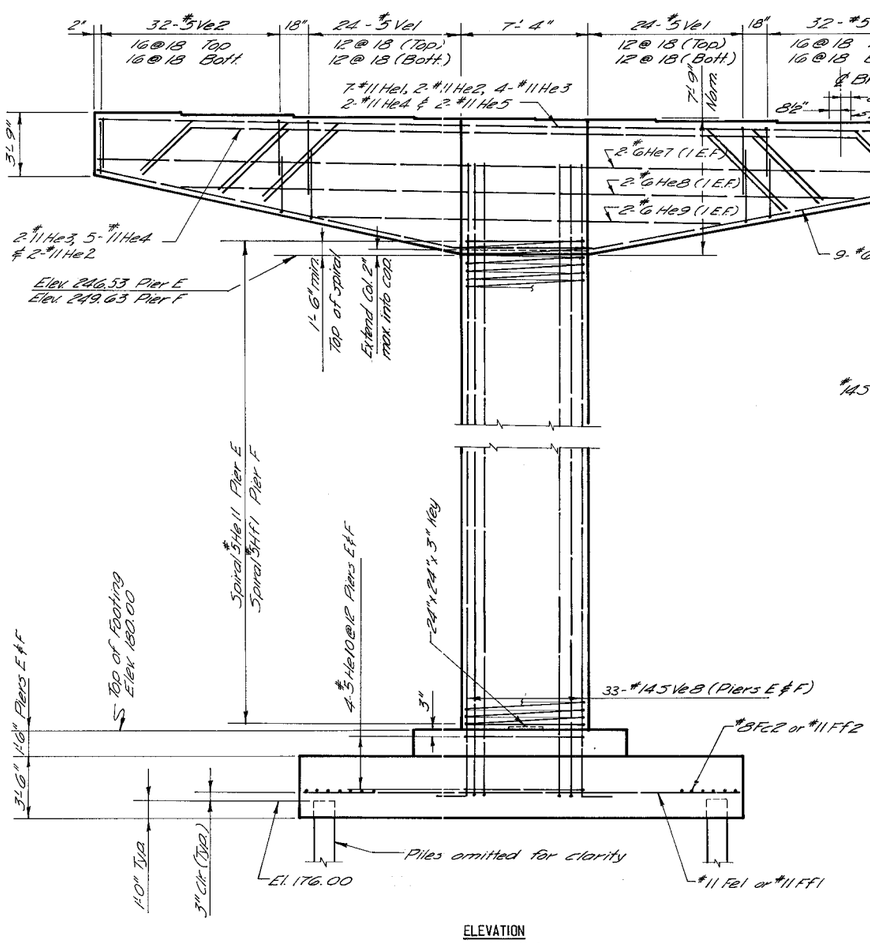
Bars Ve1 & Ve2



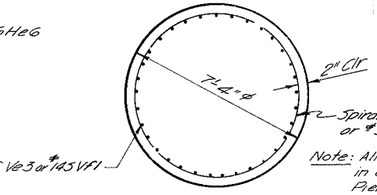
Bars Ve3 & VFf

Bar He10

BAR BENDING DIAGRAMS

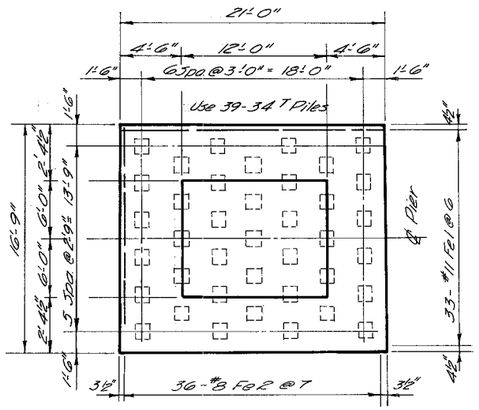


ELEVATION
SCALE: 1/4"=1'-0"

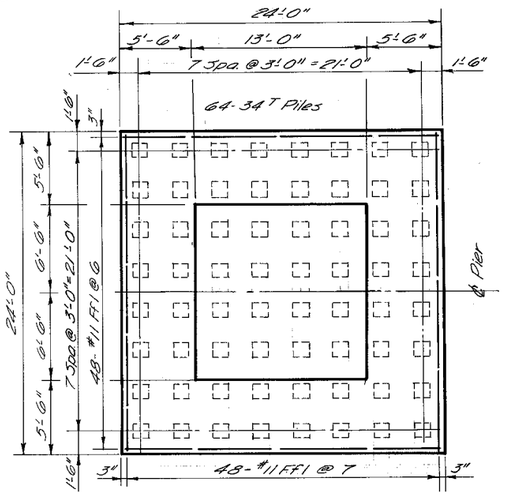


Note: All bars are placed in one perimeter. Each Pier has 33-#145 bars.

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



FOOTING PLAN PIER E
SCALE: 3/16"=1'-0"



FOOTING PLAN PIER F
SCALE: 3/16"=1'-0"

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY PIER E	QUANTITY PIER F
CLASS A CONCRETE	CU. YDS.	227.1	255.1
STEEL BAR REINFORCEMENT	LBS.	39,250	47090

BRIDGE NO. 56G

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

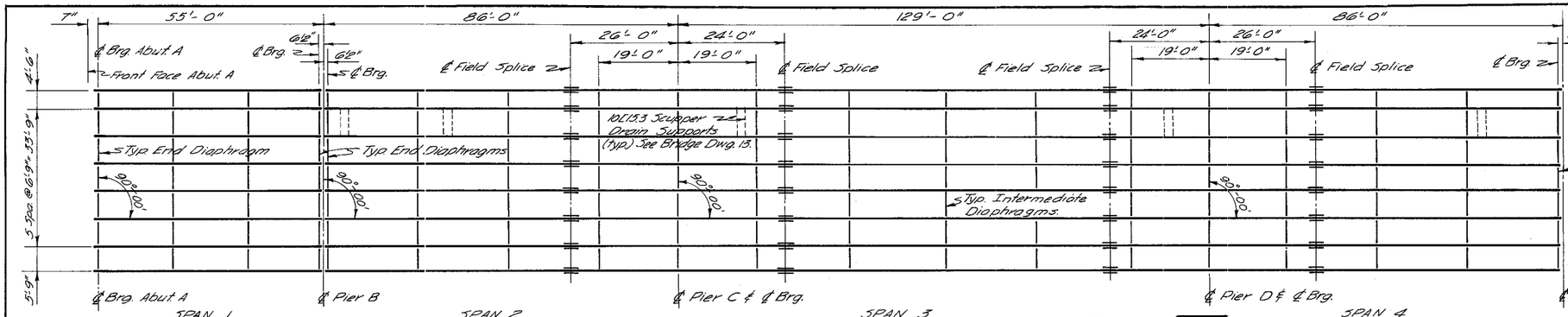
N.B. U.S. 61 OVER NONCONNAH CREEK
PIERS E & F

DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE:
Jan. 1963	RGB	JWN	RGB	MFT	As Noted

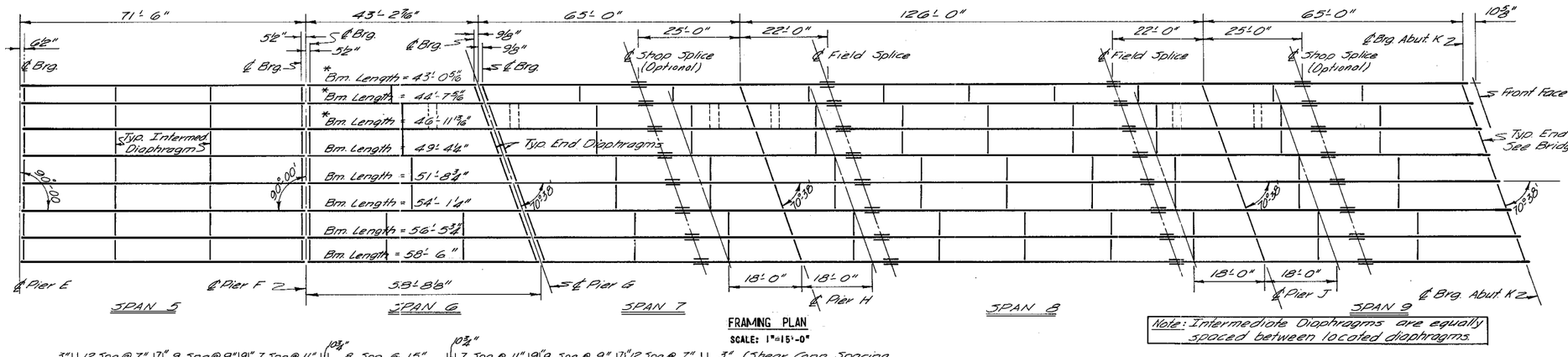
JOB NO. 4202

CAMPBELL BLUE PRINT CO., K&E PB 160

K-30-48

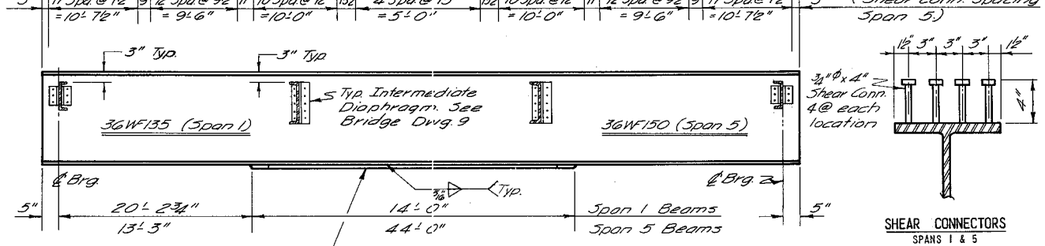


FRAMING PLAN
SCALE: 1"=15'-0"



FRAMING PLAN
SCALE: 1"=15'-0"

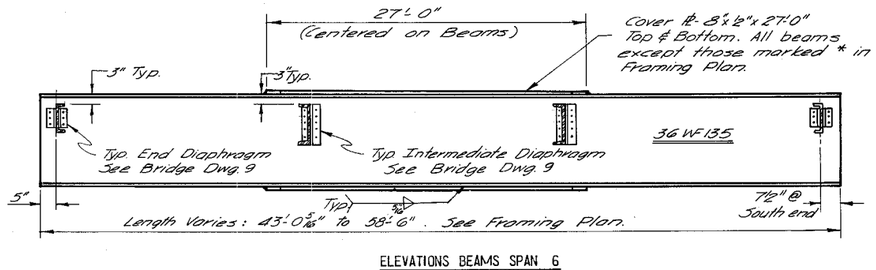
Note: Intermediate Diaphragms are equally spaced between located diaphragms.



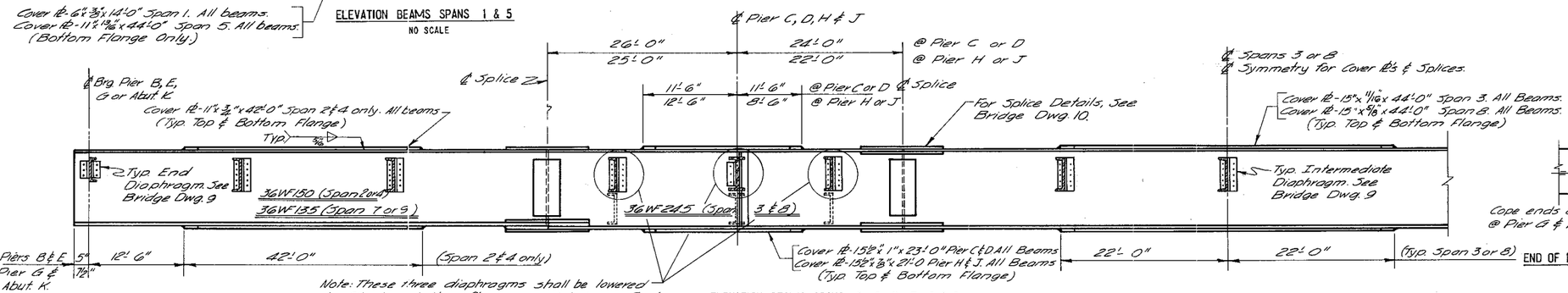
Cover Pl. 6"x ⅜"x 14'-0" Span 1. All beams.
Cover Pl. 11"x 1⅜"x 44'-0" Span 5. All beams.
(Bottom Flange Only)

ELEVATION BEAMS SPANS 1 & 5
NO SCALE

SHEAR CONNECTORS
SPANS 1 & 5

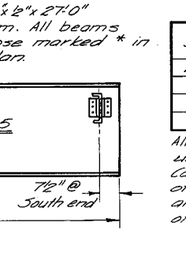


ELEVATIONS BEAMS SPAN 6

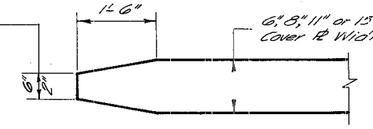


Note: These three diaphragms shall be lowered to 6" above bottom flange except between East fascia & first interior beam, which shall be 3" below top flange as shown.

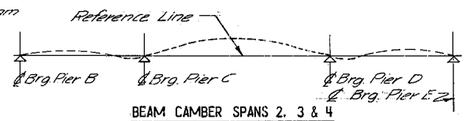
ELEVATION BEAMS SPANS 2, 3, 4, 7, 8 & 9
NO SCALE



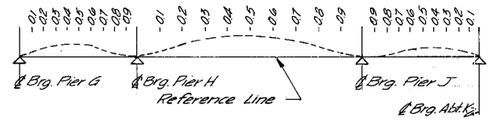
END OF BEAM SKEWED PIERS OR ABUTS.



TYPICAL END OF COVER PLATE
NO SCALE



BEAM CAMBER SPANS 2, 3 & 4



BEAM CAMBER SPANS 7, 8 & 9

BEAM CAMBER

BEAM	CAMBER @ CENTER
Span 1	1⅞"
Span 5	2¾"
Span 6	1¾"

Camber values based on deflection due to weight of beam, weight of diaphragms, weight of slab and wearing surface & weight of handrail.

SPAN	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
2 or 4	⅜"	⅝"	13/16"	15/16"	1 1/16"	1⅛"	¼"	1/16"	- 1/16"	0
3	⅜"	1 3/16"	2 7/16"	3"	3 3/16"	3"	2 1/16"	1 3/16"	⅜"	0
8	2"	4"	5 3/16"	6 3/16"	6 7/16"	6 3/16"	5 1/16"	4"	2"	0
7 or 9	⅜"	⅜"	15/16"	1 5/16"	1 3/16"	1 1/16"	1"	5/16"	5/16"	0

All camber offsets given are maximum to be used.
Camber values based on deflection due to weight of beam, weight of diaphragms, weight of slab and wearing surface, weight of handrail & an effect of vertical curve profile of U.S. 61

NOTES

1. THE NOTES ON BRIDGE DWG. 9 APPLY TO THIS SHEET.
2. SEE BRIDGE DWG. 9 FOR DIAPHRAGM AND EXPANSION DEVICE DETAILS.
3. ALL LENGTHS OF BEAMS AND LENGTHS CENTER TO CENTER PIERS ARE MEASURED ALONG A HORIZONTAL LINE.
4. WELDING SPECIFICATIONS: SEE SPECIAL PROVISIONS FOR WELDED STRUCTURES.

PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	F-014-1(2)	1963	41	51

REVISION 10-25-63, 11-14-63

REVISION

BRIDGE NO. 56G

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

N. B. U. S. 61 OVER NONCONNAH CREEK

STEEL FRAMING PLAN

DATE:	DESIGNED BY	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE
Jan. 1963	R.G.B.	JWW	RGB	MFT	As noted

Bridge Dwg. 8 of 13

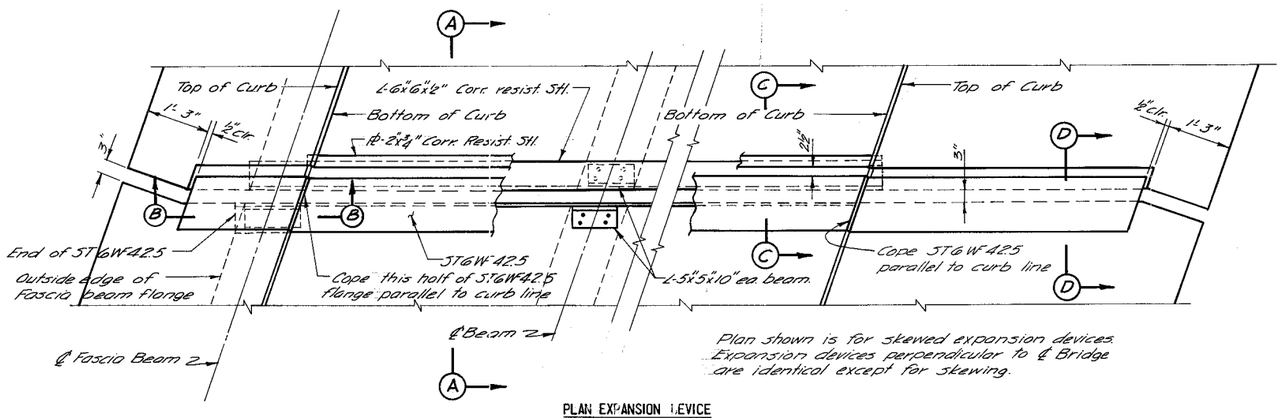
K-30-49

JOB NO. 429C

MICROFILMED

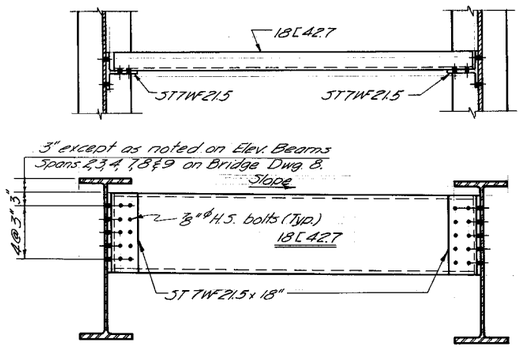
CAMPBELL BLUE PRINT CO., K&E PB 166

PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	F-014-1 (2)	1963	42	51
REVISION	10-25-63				
REVISION					



Plan shown is for skewed expansion devices. Expansion devices perpendicular to ℄ Bridge are identical except for skewing.

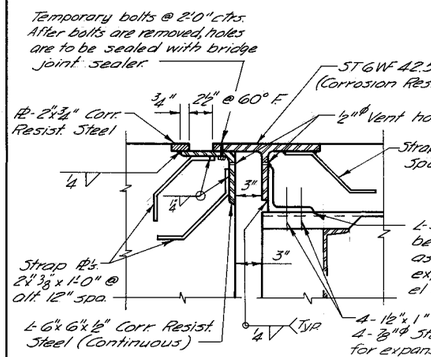
PLAN EXPANSION DEVICE
SCALE: 3/4"=1'-0"



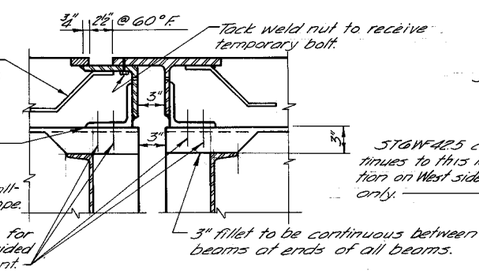
TYPICAL INTERMEDIATE DIAPHRAGM
SCALE: 3/4"=1'-0"

NOTES

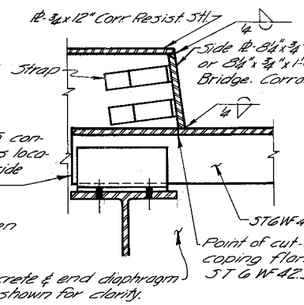
1. ALL BEAMS SHALL BE CAMBERED TO THE DEAD LOAD DEFLECTIONS GIVEN ON BRIDGE DWG. 8.
2. ALL WELDS, WELDING AND WELDED STEEL SHALL CONFORM TO THE CURRENT "STANDARD SPECIFICATIONS FOR WELDED HIGHWAY AND RAILWAY BRIDGES" OF THE AMERICAN WELDING SOCIETY.
3. PAINTING SHALL CONSIST OF BOTH SHOP & FIELD. SEE THE STANDARD SPECIFICATIONS.
4. CORROSION RESISTANT STEEL IN EXPANSION DEVICES. SEE SPECIAL PROVISIONS.
5. 7/8" DIAMETER HIGH STRENGTH BOLTS SHALL BE USED IN ALL DIAPHRAGMS AND SPLICE CONNECTIONS.



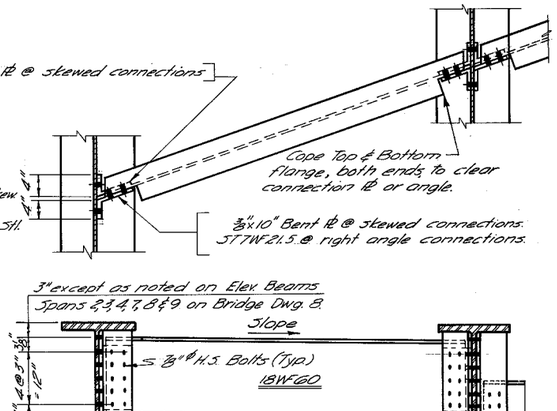
SECTION A-A (AT ABUT. K)
SCALE: 1 1/2"=1'-0"

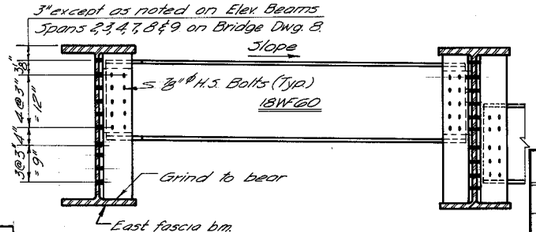


SECTION A-A (AT PIERS B, E & G)
SCALE: 1 1/2"=1'-0"



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



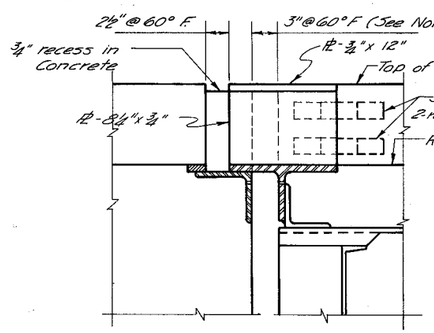


TYPICAL DIAPHRAGM (AT ℄ PIERS C, D, H & J)
SCALE: 3/4"=1'-0"

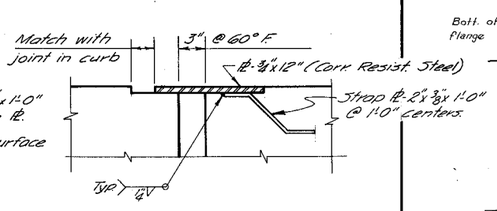
ESTIMATED QUANTITIES

ITEM	MATERIAL	UNIT	QUANTITY
MAIN BEAMS	A-36	LBS.	1,297,640
DIAPHRAGMS AND SPLICE PLATES	A-36	LBS.	100,640
ROADWAY EXPANSION DEVICE	CORR. RESIST. STL.	LBS.	12,480
	A-36	LBS.	1,480
SHEAR CONNECTORS	A-108	LBS.	3,150
BEARINGS	A-36	LBS.	31,230
	LEAD	LBS.	140
	A-235	LBS.	510
HIGH STRENGTH STEEL BOLTS	A-325	LBS.	24,900
TOTAL		LBS.	1,472,370

Note "A": Temperature correction for expansion opening is ⅛" per 10°F. Dimension set for 60°F.



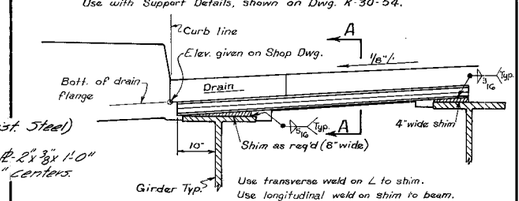
SECTION C-C (AT ABUT. K)
SCALE: 1 1/2"=1'-0"

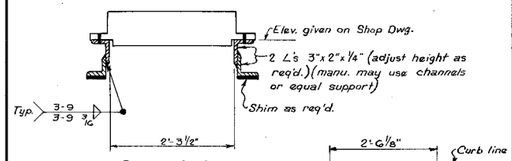


SECTION D-D
SCALE: 1 1/2"=1'-0"

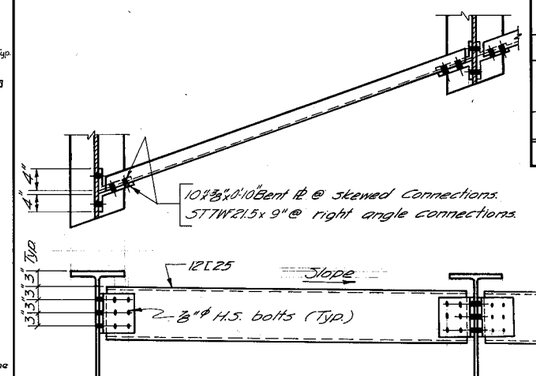
REVISED DRAIN SUPPORT DETAILS

Use with Support Details, shown on Dwg. K-30-54.





PLAN OF DRAIN



TYPICAL END DIAPHRAGM (AT END OF BEAMS)
SCALE: 3/4"=1'-0"

BRIDGE NO. 56G

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

N. B. U. S. 61 OVER NONCONNAH CREEK

EXPANSION DEVICE & DIAPHRAGM DETAILS

DATE:	DESIGNED BY	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE
Jan. 1963	R.G.B.	JWN	RGB	MFT	As noted

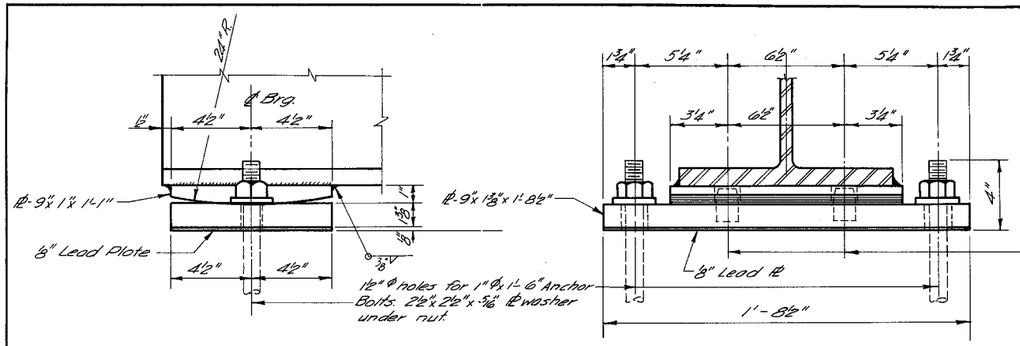
Bridge Dwg. 9 of 13

K-30-50

JOB NO. 4292C
Revised 6-12-64 Drain Support Details added

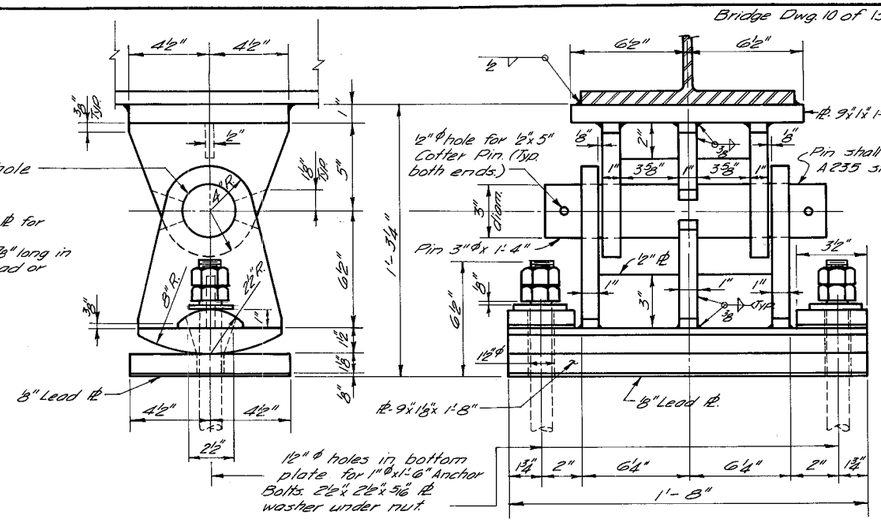
CAMPBELL BLUE PRINT CO., K&E PB 166

PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	F-014-1(2)	1968	43	51
REVISION 10-25-67					
REVISION					



FIXED BEARING ABUTMENT A & PIER F

SCALE: 3"=1'-0"

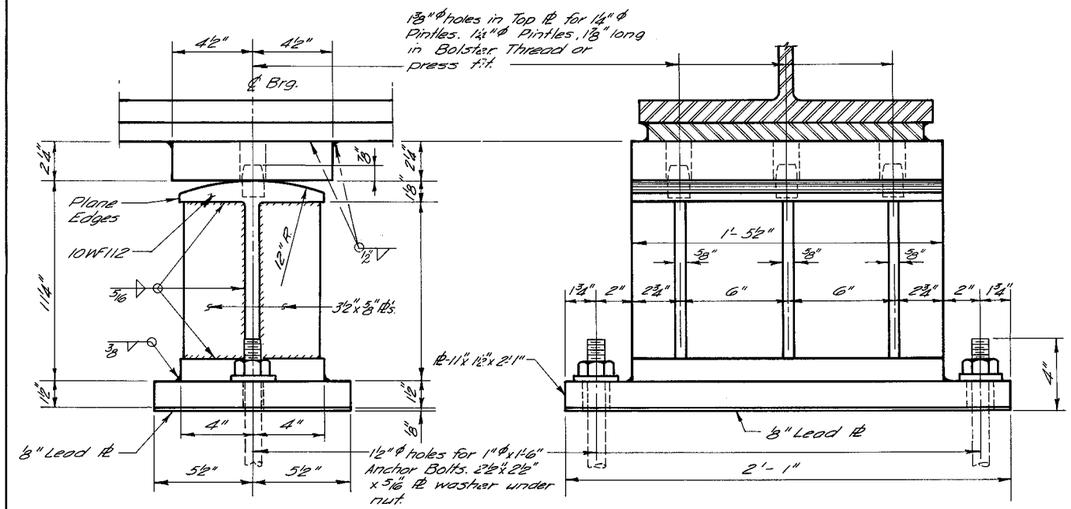


EXPANSION BEARING PIER G (SPAN 7) & ABUTMENT K

SCALE: 3"=1'-0"

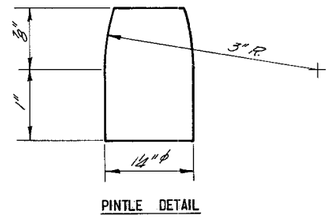
NOTES

1. THE NOTES ON BRIDGE DWG. 9 APPLY TO THIS SHEET
2. ALL ROUNDED SURFACES FOR BEARINGS SHALL HAVE A FINISH AS SMOOTH AS ASA 125.
3. ALL ANCHOR BOLTS SHALL BE SWEDGED.
4. SPLICES TO BE SUB-PUNCHED OR SUB-DRILLED (SEE SPECIFICATIONS) 1/4" SMALLER, REAMED TO SIZE AND MATCH MARKED WHILE ASSEMBLED IN THE SHOP.
5. BEARING WELDMENTS SHALL BE STRESS RELIEVED IN ACCORDANCE WITH AWS SPECIFICATIONS.

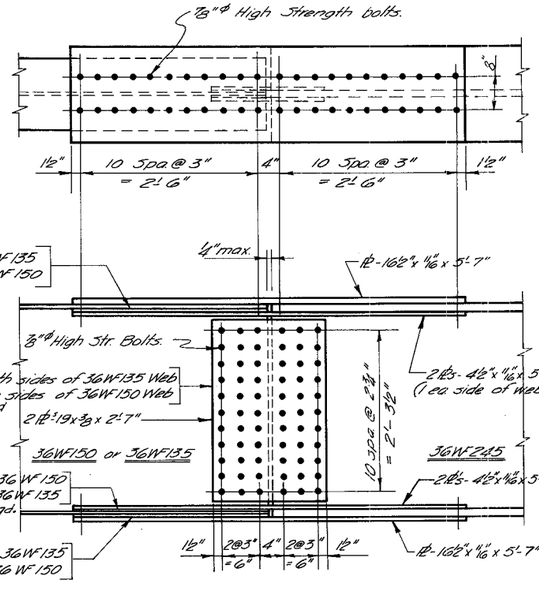


FIXED BEARING PIERS C & H

SCALE: 3"=1'-0"

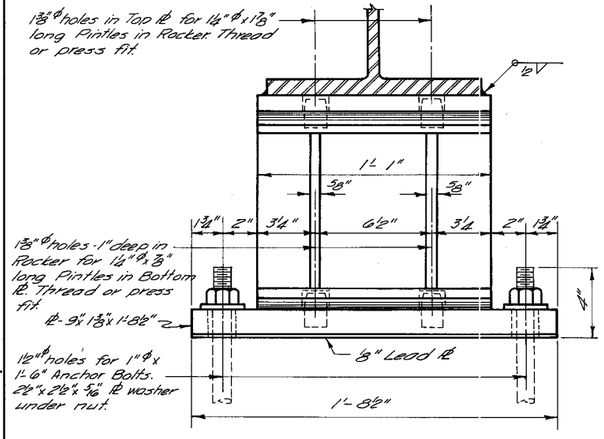


PINTLE DETAIL



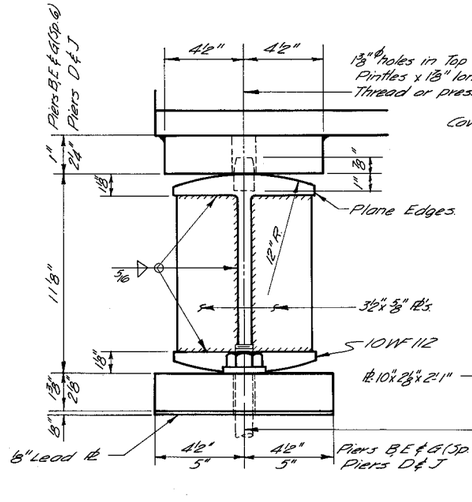
TYPICAL SPLICE DETAIL

SCALE: 1"=1'-0"



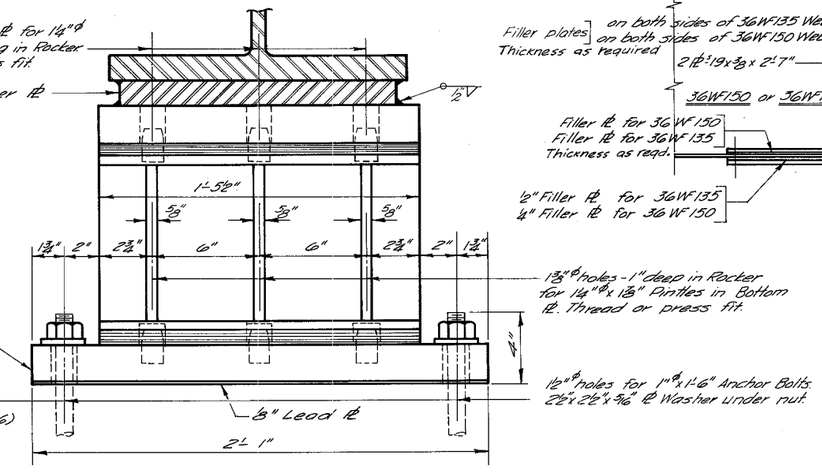
EXPANSION BRG. PIERS B, E, & G (SPAN 6)

SCALE: 3"=1'-0"



EXPANSION BEARING PIERS B, D, E, G (SPAN 6) & J

SCALE: 3"=1'-0"



EXPANSION BRG. PIERS D & J

BRIDGE NO. 56G

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

N. B. U. S. 61 OVER NONCONNAH CREEK

BEARING & SPLICE DETAILS

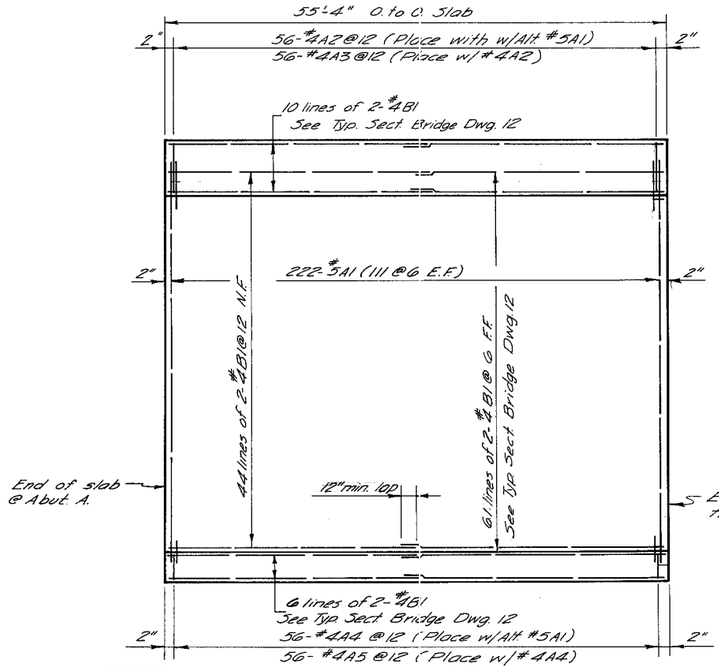
DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE
Jan. 1963	G.N.	JWN	RGB	MFT	As noted

K-30-51

JOB NO. 4920

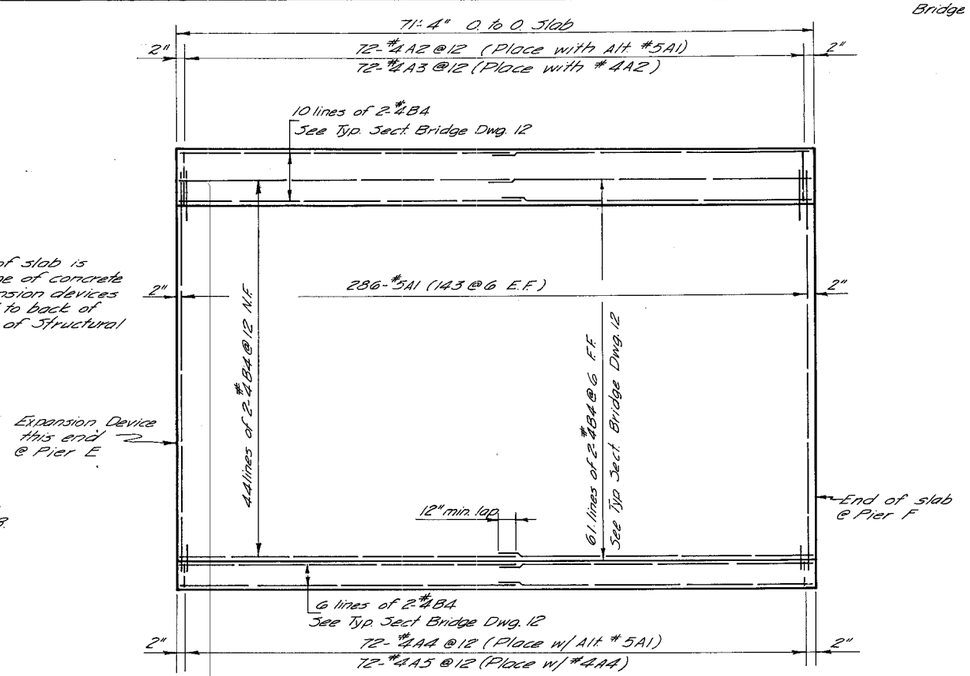
CAMPBELL BLUE PRINT CO., K&E PB 166

PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	F-014-1(2)	1965	44	51
REVISION 10-25-63					
REVISION					

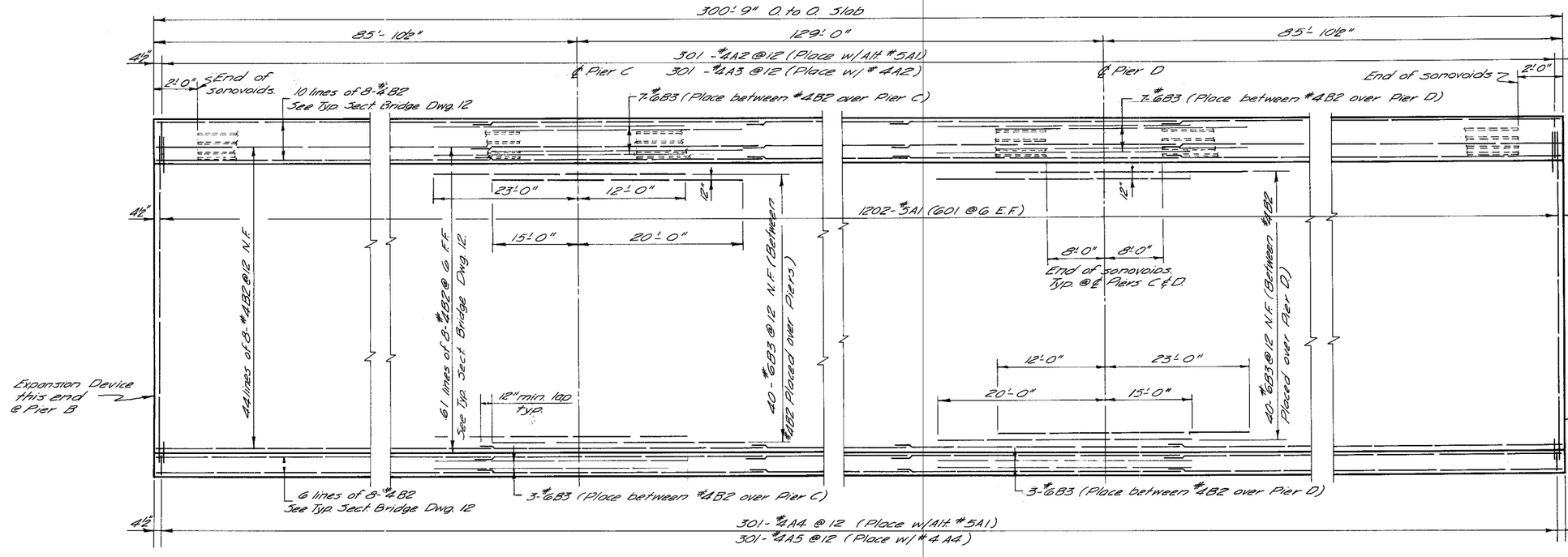


PLAN SPAN 1
SCALE: 1/8"=1'-0"

Note: Out to out of slab is measured to edge of concrete except at expansion devices if is measured to back of angles or back of structural Tee web.



PLAN SPAN 5
SCALE: 1/8"=1'-0"



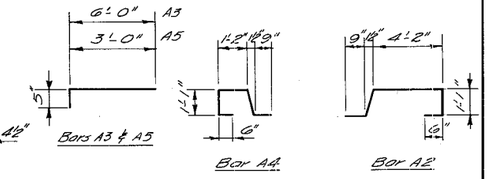
PLAN SPANS 2, 3 & 4
SCALE: 1/8"=1'-0"

NOTES

1. SEE BRIDGE DWG. 2 FOR GENERAL NOTES AND DESIGN STRESSES.
2. SEE BRIDGE DWG. 13 FOR SLAB DETAILS AND LOCATION OF HANDRAIL POSTS.
3. CONCRETE HANDRAIL REINFORCEMENT, NOT SHOWN ON THIS DWG. SHALL BE PLACED BEFORE SIDEWALK IS POURED. SEE STD. HANDRAIL SHEET H-S-110. QUANTITIES FOR HANDRAIL CONCRETE AND REINFORCEMENT ARE SHOWN ON BRIDGE DWG. 13.
4. SEE BRIDGE DWG. 9 FOR SLAB THICKENING AT END DIAPHRAGMS AND FOR EXPANSION DEVICE DETAILS.

BILL OF STEEL

BAR	SIZE	NO.	LENGTH	SHAPE	LOCATION
A1	#5	1710	4'-6"	——	Slab
A2	#4	429	7'-3"	⌐¬	Curb-Slab
A3	#4	429	6'-5"	⌐	Curb
A4	#4	429	4'-8"	⌐¬	Curb-Slab
A5	#4	429	3'-5"	⌐	Curb
B1	#4	242	28'-3"	——	Curb & Slab
B2	#4	968	38'-3"	——	Curb & Slab
B3	#6	100	35'-0"	——	Curb & Slab
B4	#4	242	36'-0"	——	Curb & Slab
		242			



BAR BENDING DIAGRAMS

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
CLASS A CONCRETE	CU. YDS.	550.5
STEEL BAR REINFORCEMENT	LBS.	127,900

BRIDGE NO. 56G

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

N.B. U.S. 61 OVER NONCONNAH CREEK
SUPERSTRUCTURE SLAB SPANS 1-5

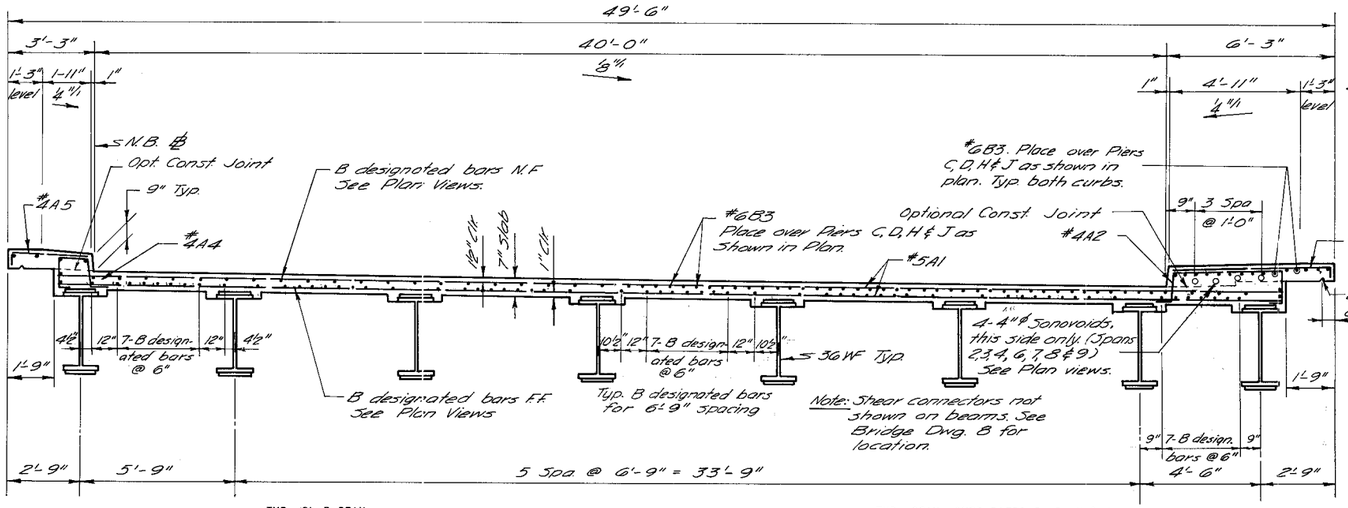
DATE:	DESIGNED BY	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE
Jan. 1963	GN	JWN	RGB	MFT	As noted

K-30-52

JOB NO. 422

CAMPBELL BLUE PRINT CO., K&E PB 166

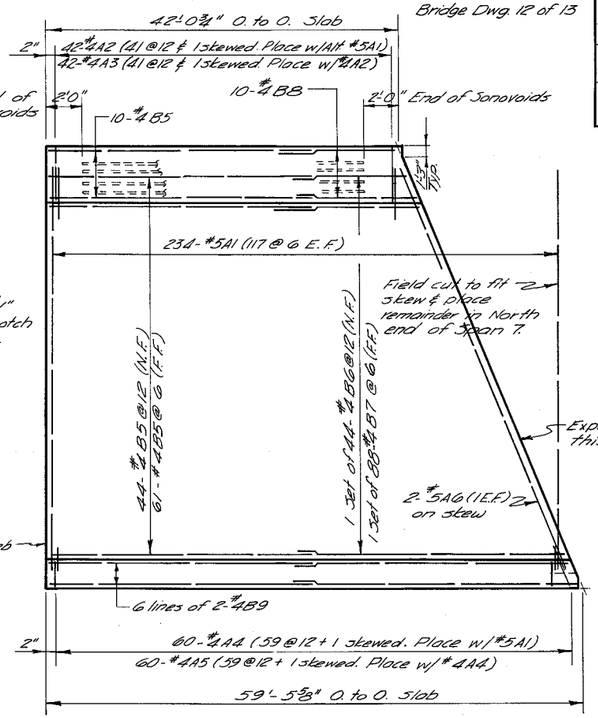
PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	F-014-1(2)	1963	45	51
REVISION 10-25-63					
REVISION					



TYP. SLAB REIN.

TYP. REIN. OVER PIERS C, D, H & J

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



PLAN SPAN 6
SCALE: 1/8"=1'-0"

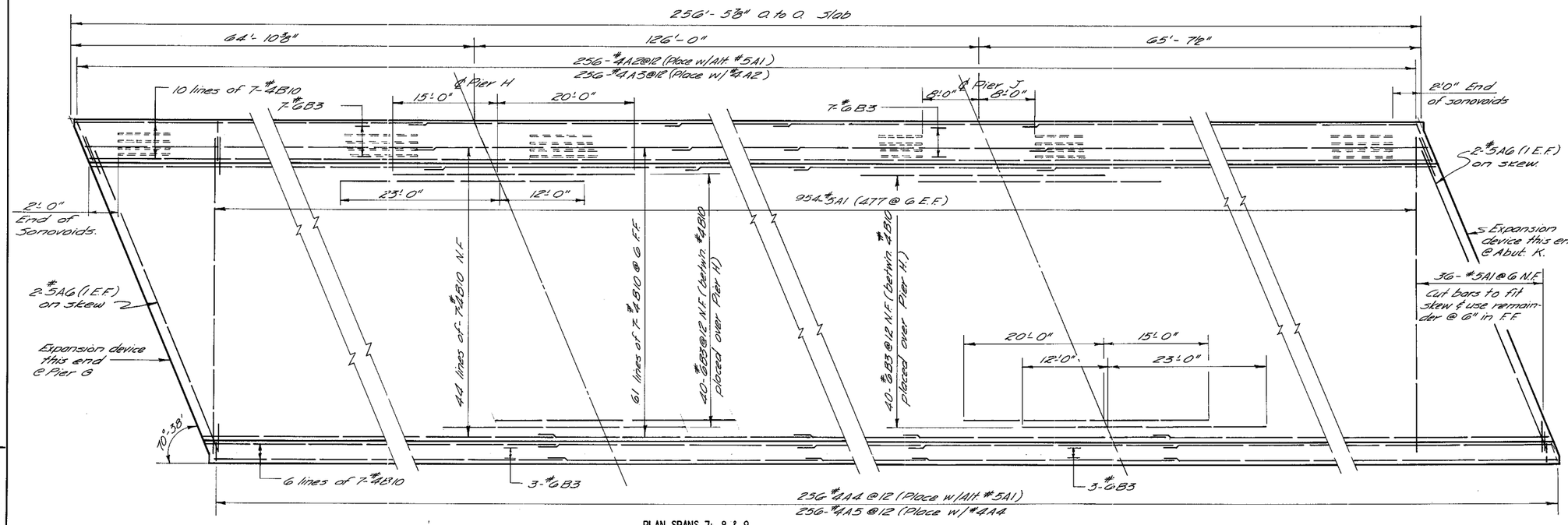
NOTES

1. THE SAME NOTES THAT ARE ON BRIDGE DWG. 11 APPLY TO THIS SHEET.

BILL OF STEEL

	BAR	SIZE	NO.	LENGTH	SHAPE	LOCATION
	A1	#5	1188	45'-6"	——	Slab
(1)	A2	#4	298	7'-8"	⌐¬	Slab-Curb
(1)	A3	#4	298	6'-5"	⌐	Curb
(1)	A4	#4	316	4'-8"	⌐	Slab-Curb
(1)	A5	#4	316	3'-5"	⌐	Curb
	A6	#5	6	48'-3"	——	Slab
	B5	#4	115	30'-0"	——	Curb & Slab
(2)	B6	#4	1 Set	281'-10"	——	Slab
(3)	B7	#4	1 Set	1998'-0"	——	Slab
	B8	#4	10	15'-0"	——	Curb
	B9	#4	12	30'-6"	——	Curb
	B10	#4	847	37'-3"	——	Curb & Slab
	B3	#6	100	35'-0"	——	Curb & Slab

(1) See Bridge Dwg. 11 for bar bending diagrams.
(2) 1 Set of 44 bars. Lengths vary linearly from 15'-2" to 89'-6" max. in 4" increments.
(3) 1 Set of 88 bars. Lengths vary linearly from 15'-0" min. to 29'-6" max. in 2" increments.



PLAN SPANS 7: 8 & 9
SCALE: 1/8"=1'-0"

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
CLASS A CONCRETE	CU. YDS.	379.8
STEEL BAR REINFORCEMENT	LBS.	92,140

BRIDGE NO. 56G

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

N.B. U.S. 61 OVER NONCONNAH CREEK

SUPERSTRUCTURE SLAB SPANS 6 – 9

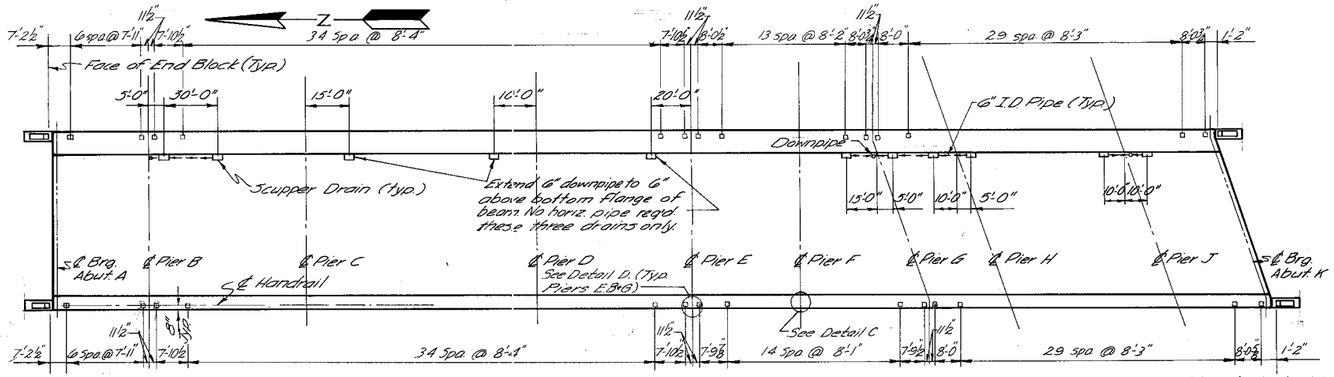
DATE:	DESIGNED BY	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE
Jan. 1963	GN	JWN	RGB	MFT	As Noted

K-30-53

JOB NO. 4726

CAMPBELL BLUE PRINT CO., K&E PB 166

PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	F-014-1(2)	1963	46	51
REVISION 10-28-63					
REVISION					



HANDRAIL AND DRAINAGE LAYOUT

NO SCALE

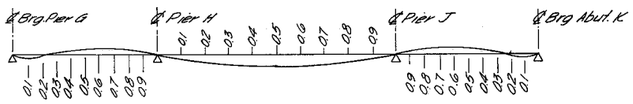
Note: All bottom rails of handrail shall be cut @ joints in slab & shall provide the same expansion as the slab.

SLAB DEAD LOAD DEFLECTION DIAGRAMS

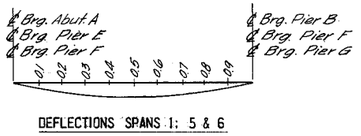
Span	Beam	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
Span 1	East Fascia	4"	7/16"	9/16"	11/16"	3/4"	11/16"	9/16"	7/16"	4"	0
	W. Fascia & Int.	3/16"	5/16"	7/16"	1/2"	1/2"	1/2"	7/16"	5/16"	3/16"	0
Spans 2 & 4	East Fascia	3/16"	1/2"	5/8"	11/16"	3/16"	1/16"	3/16"	1/8"	-1/16"	0
	W. Fascia & Int.	4"	7/16"	9/16"	9/16"	1/2"	3/8"	5/16"	1/16"	-1/16"	0
Span 3	East Fascia	1/2"	1 1/4"	2"	2 7/16"	2 5/8"	2 7/16"	2"	1 1/4"	1/2"	0
	W. Fascia & Int.	7/16"	1 1/16"	1 1/16"	2 1/16"	2 1/4"	2 1/16"	1 1/16"	1 1/16"	7/16"	0
Span 5	East Fascia	1/2"	1 5/16"	1 1/4"	1 1/2"	1 9/16"	1 1/2"	1 1/4"	1 5/16"	1/2"	0
	W. Fascia & Int.	5/16"	5/8"	7/8"	1 1/16"	1 1/8"	1 1/16"	7/8"	5/8"	5/16"	0
* Span 6	East Fascia	1/2"	3/16"	1/4"	5/16"	5/16"	5/16"	1/4"	3/16"	1/2"	0
	East 1st Int.	1/16"	1/2"	5/16"	1/4"	1/4"	1/4"	3/16"	1/2"	1/16"	0
	West 1st Int.	3/16"	3/8"	1/2"	5/8"	11/16"	5/8"	1/2"	3/8"	3/16"	0
	West Fascia	4"	1/2"	1 1/16"	3/4"	13/16"	1/4"	1 1/16"	1/2"	1/4"	0
Spans 7 & 9	East Fascia	0	0	0	-1/16"	-1/8"	-1/4"	-1/4"	-1/4"	-1/2"	0
	W. Fascia & Int.	0	0	0	-1/16"	-1/8"	-3/16"	-3/16"	-3/16"	-1/2"	0
Span 8	East Fascia	3/8"	1 1/16"	2 1/16"	2 1/16"	2 1/8"	2 1/16"	2 1/16"	1 1/16"	3/8"	0
	W. Fascia & Int.	9/16"	1 1/4"	1 7/8"	2 5/16"	2 1/16"	2 5/16"	1 7/8"	1 1/4"	9/16"	0

* Interpolate between East 1st Interior & West 1st Interior to obtain other beam deflections.
(1) Loads used for computing deflections include all dead load except for weight of structural steel.

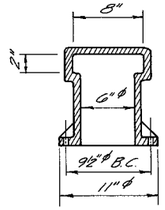
DEFLECTION SPANS 2: 3 & 4



DEFLECTION SPANS 7: 8 & 9

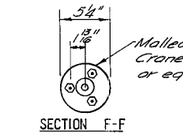


DEFLECTIONS SPANS 1: 5 & 6

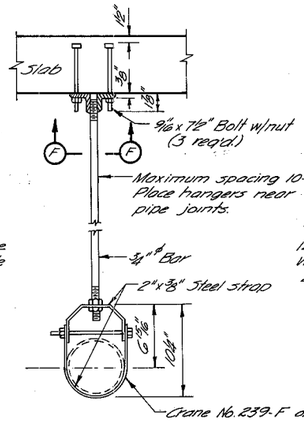


SECTION C-C

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



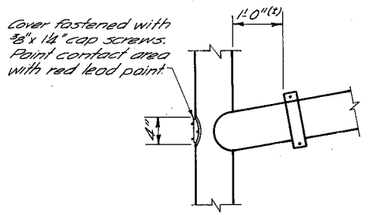
SECTION F-F



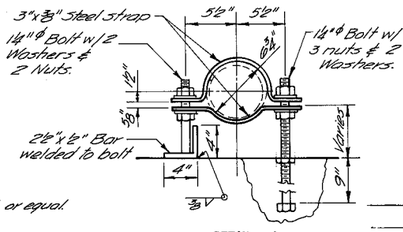
DETAIL B

(HORIZONTAL PIPE HANGER (DRAINS)

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



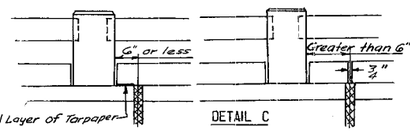
CLEAN OUT DETAIL FOR NON STANDARD JOINTS



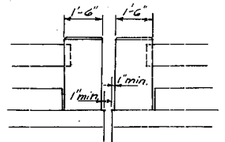
DETAIL A

PIPE HANGER (DRAINS)

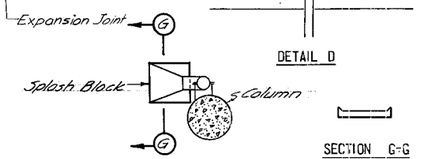
SCALE: 1 1/2"=1'-0"



DETAIL C

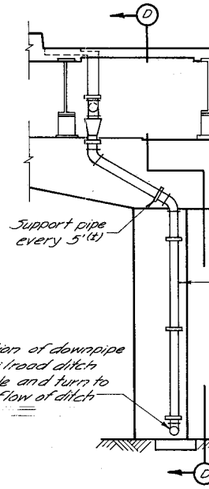


DETAIL D



SECTION E-E

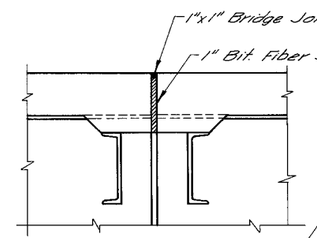
SECTION G-G



SECTION D-D

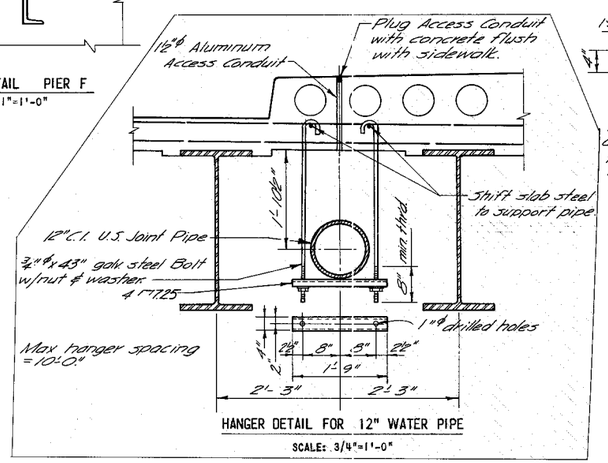
TYPICAL DRAIN PIPE INSTALLATION

NO SCALE



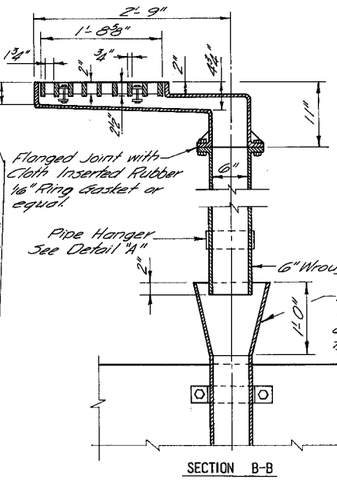
TYPICAL JT. DETAIL PIER F

SCALE: 1"=1'-0"



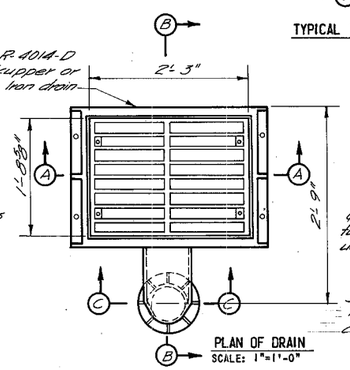
HANGER DETAIL FOR 12" WATER PIPE

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



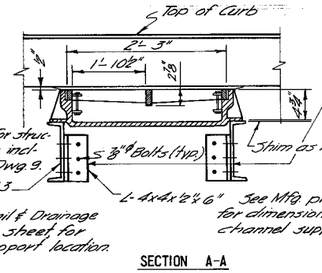
SECTION B-B

SCALE: 1"=1'-0"



PLAN OF DRAIN

SCALE: 1"=1'-0"



SECTION A-A

SCALE: 1"=1'-0"

Bridge Dwg. 13 of 13

NOTES

1. UNIT PRICE BID FOR DRAINAGE PIPE SHALL INCLUDE HANGERS, REDUCERS, SPLASH BLOCKS AND ALL OTHER APPURTENANCES.
2. DRAIN CASTINGS HAVE A TOTAL WEIGHT OF 400 LBS. PER CASTING.
3. ALL DRAINAGE PIPE JOINTS SHALL BE MECHANICAL OR THREADED.
4. ALL UTILITIES & UTILITY HANGERS SHALL BE PAINTED IN ACCORDANCE WITH THE TENNESSEE HIGHWAY DEPARTMENT SPECIFICATIONS.

FILLET NOTES

1. AFTER THE STEEL BEAMS ARE IN PLACE, THE CONTRACTOR SHALL FIELD MEASURE ELEVATIONS AT THE ENDS AND CENTERS OF SIMPLE SUPPORT BEAMS AND SHALL MEASURE ELEVATIONS AT TENTH PTS. OF CONTINUOUS SPAN BEAMS.
2. THIS FIELD ELEVATION SUBTRACTED FROM THE FINISHED ROADWAY ELEVATION PLUS THE DEAD LOAD DEFLECTION OF THE SLAB MINUS SLAB THICKNESS WILL EQUAL THE REQUIRED FILLET THICKNESS ABOVE THE BEAM.

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
6" WROUGHT IRON PIPE	LIN. FT	253
GRAY IRON CASTINGS (GRADE 1)	LBS.	4,400

For revised drain support details, see Dwg. K-30-50

BRIDGE NO. 56G

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

N. B. U. S. 61 OVER NONCONNAH CREEK

SUPER. SLAB DETAILS, HANDRAIL & DRAINAGE DETAILS

DATE:	DESIGNED BY	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE:
Jan 1963	R&B	JWN	R&B	MFT	As Noted

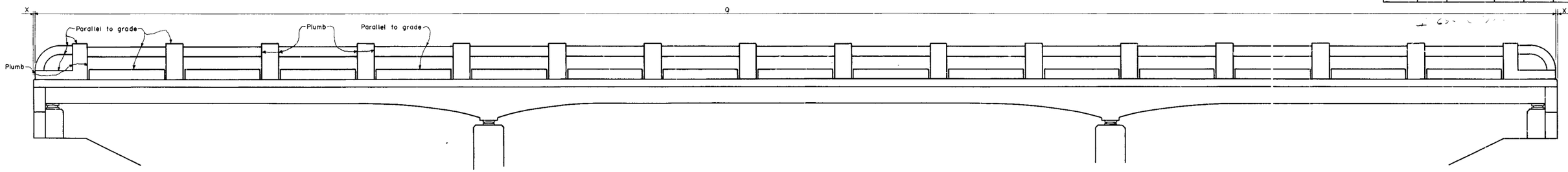
K-30-54

JOB NO. 4291C

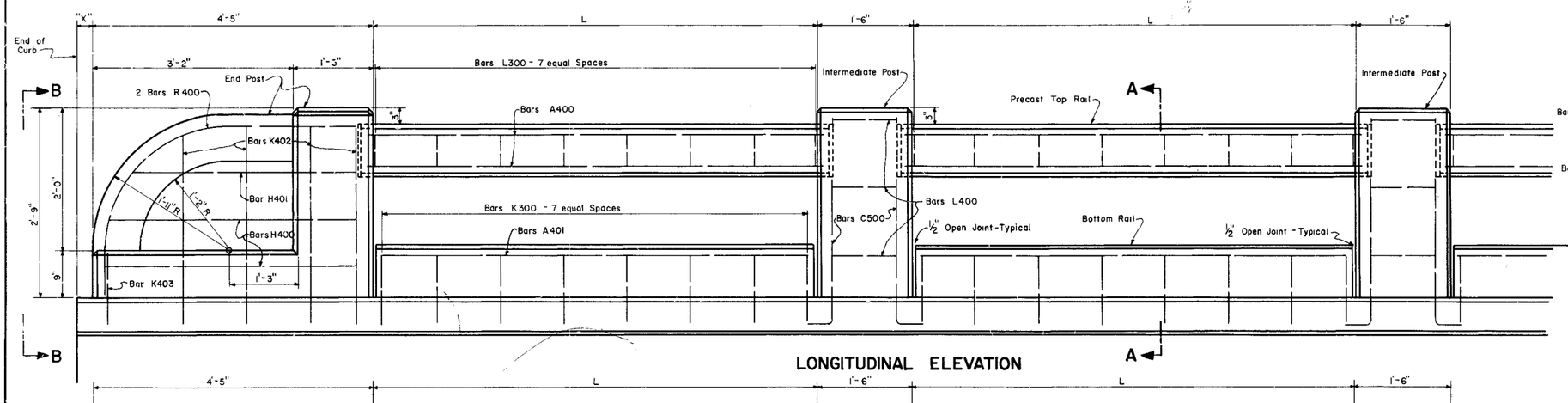
Revised 6-12-64 Note for revised drain support added

CAMPBELL BLUE PRINT CO., K.B.K. PB 166

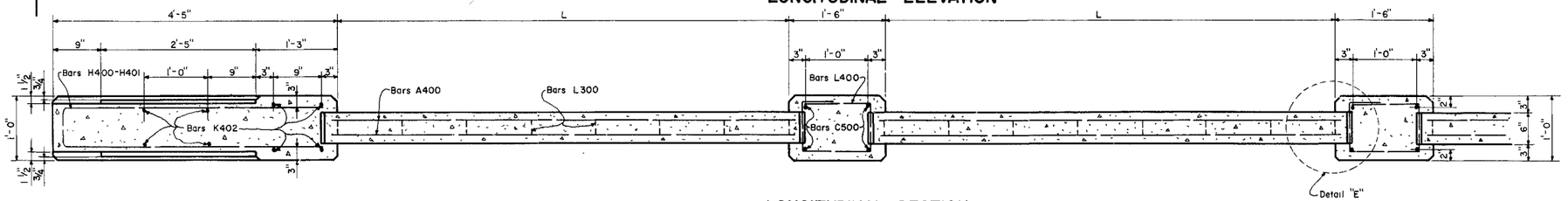
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19		



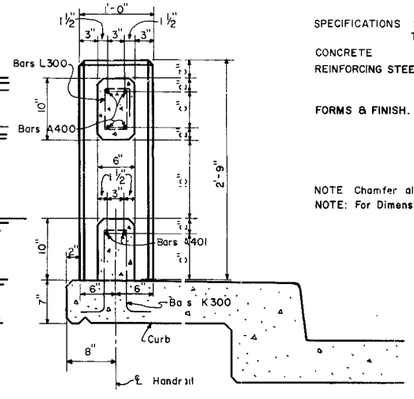
TYPICAL ELEVATION



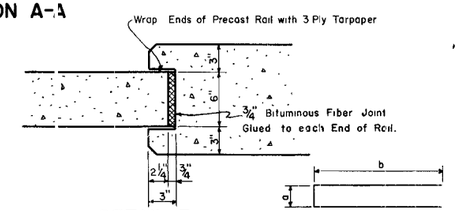
LONGITUDINAL ELEVATION



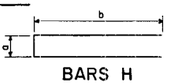
LONGITUDINAL SECTION



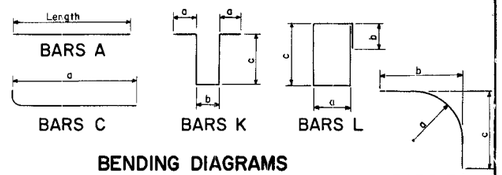
SECTION A-A



DETAIL E



BARS H



BENDING DIAGRAMS

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

GENERAL NOTES

SPECIFICATIONS Standard Road & Bridge Specifications of the Tennessee Department of Highways.

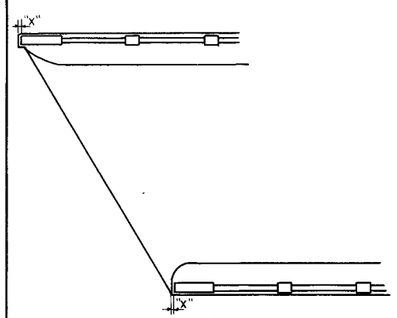
CONCRETE To be Class "A".

REINFORCING STEEL. See Specifications. To be intermediate or hard grade with Standard Hook Details as recommended by C R S I.

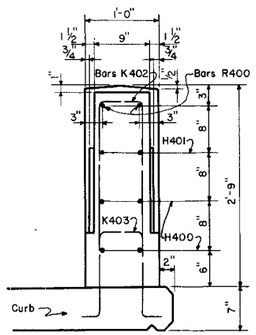
FORMS & FINISH. See Specifications

NOTE Chamfer all edges on Handrail Posts and Rails ½".

NOTE: For Dimensions X, Q, & L See Bridge Layout Sheet.



HANDRAIL ON SKEWED DECK



ELEV. B-B

END POST-LIST OF MATERIALS-EACH

Bar	Size	No Req'd	Bending Dimensions a	b	c	d	Length	Quantities Steel Lbs.	Conc. Cu. Yd.
H400	4	2	0'-6"	4'-0"			8'-6"	45.0	0.37
H401	4	1	0'-6"	3'-7"			7'-8"		
K402	4	4	0'-3"	0'-7"	2'-11"		6'-11"		
K403	4	1	0'-3"	0'-7"	1'-2"		3'-5"		
R400	4	2	1'-9"	4'-0"	2'-6"		5'-9"		

INTERMEDIATE POST LIST OF MATERIALS-EACH

Bar	Size	No Req'd	Bending Dimensions a	b	c	d	Length	Quantities Steel Lbs.	Conc. Cu. Yd.
C500	5	4	3'-0"				3'-4"	22.6	0.15
L400	4	3	0'-9"	0'-6"	1'-2"		4'-4"		

TOP RAIL-LIST OF MATERIALS-EACH

L	Bar	Size	No Req'd	Bending Dimensions a	b	c	d	Length	Quantities Steel Lbs.	Conc. Cu. Yd.
6'-0" to 6'-1"	A400	4	4					6'-2"	23.6	0.10
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		
6'-1" to 6'-2"	A400	4	4					6'-3"	23.8	0.10
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		
6'-2" to 6'-3"	A400	4	4					6'-4"	24.1	0.10
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		
6'-3" to 6'-4"	A400	4	4					6'-5"	24.3	0.10
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		
6'-4" to 6'-5"	A400	4	4					6'-6"	24.5	0.10
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		
6'-5" to 6'-6"	A400	4	4					6'-7"	24.7	0.11
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		
6'-6" to 6'-7"	A400	4	4					6'-8"	25.0	0.11
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		
6'-7" to 6'-8"	A400	4	4					6'-9"	25.2	0.11
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		
6'-8" to 6'-9"	A400	4	4					6'-10"	25.4	0.11
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		
6'-9" to 6'-10"	A400	4	4					6'-11"	25.6	0.11
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		
6'-10" to 6'-11"	A400	4	4					7'-0"	25.9	0.11
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		
6'-11" to 7'-0"	A400	4	4					7'-1"	26.1	0.11
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		

BOTTOM RAIL-LIST OF MATERIALS-EACH

L	Bar	Size	No Req'd	Bending Dimensions a	b	c	d	Length	Quantities Steel Lbs.	Conc. Cu. Yd.
6'-0" to 6'-1"	A401	4	2					5'-8"	17.7	0.09
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		
6'-1" to 6'-2"	A401	4	2					5'-9"	17.8	0.09
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		
6'-2" to 6'-3"	A401	4	2					5'-10"	17.9	0.09
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		
6'-3" to 6'-4"	A401	4	2					5'-11"	18.1	0.10
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		
6'-4" to 6'-5"	A401	4	2					6'-0"	18.2	0.10
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		
6'-5" to 6'-6"	A401	4	2					6'-1"	18.3	0.10
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		
6'-6" to 6'-7"	A401	4	2					6'-2"	18.4	0.10
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		
6'-7" to 6'-8"	A401	4	2					6'-3"	18.5	0.10
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		
6'-8" to 6'-9"	A401	4	2					6'-4"	18.6	0.10
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		
6'-9" to 6'-10"	A401	4	2					6'-5"	18.7	0.10
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		
6'-10" to 6'-11"	A401	4	2					6'-6"	18.8	0.10
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		
6'-11" to 7'-0"	A401	4	2					6'-7"	19.0	0.11
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		

Wrap Ends of Precast Rail with 3 Ply Tarpaper

DESIGNED BY ..... DATE .....
DRAWN BY J.L. Parkes DATE .....
RETRACED BY R. Reagan DATE 4-4-63
CHECKED BY ..... DATE .....

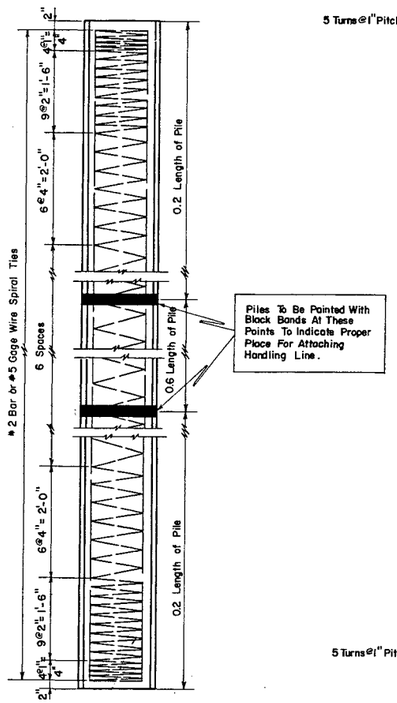
Revised: 1- June - 1962
Revised: 8- September - 1960

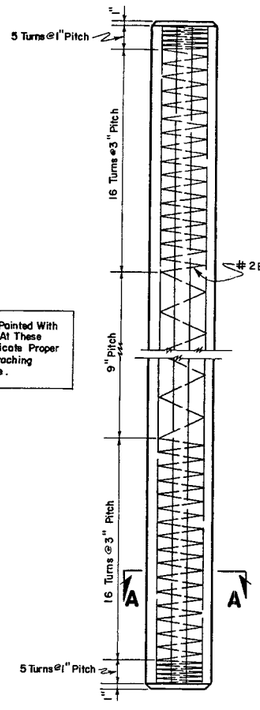
CORRECT Thad Greene
BRIDGE ENGINEER
APPROVED Cecil Paige
STATE HIGHWAY ENGINEER

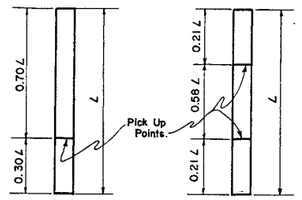
STANDARD CONCRETE HANDRAIL 1960

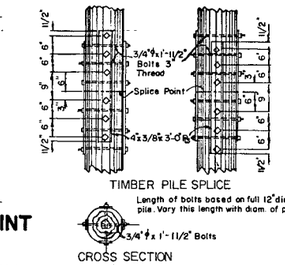
H-5-110

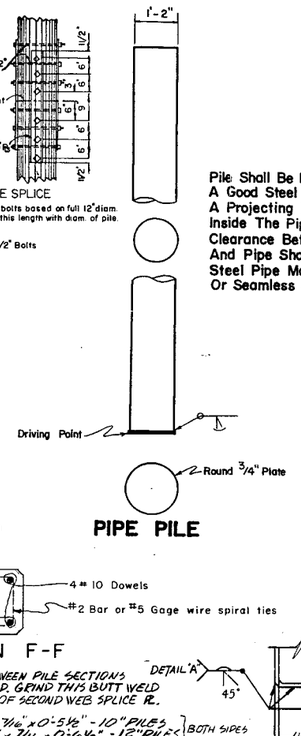
2 Copies

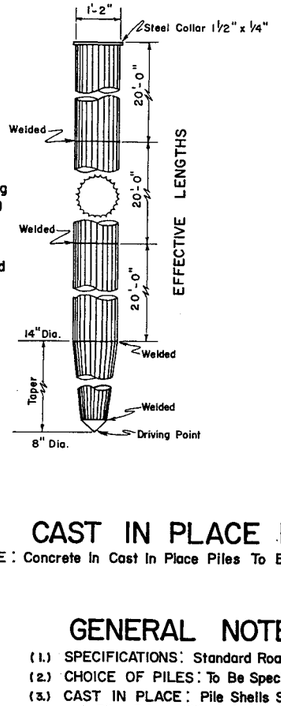


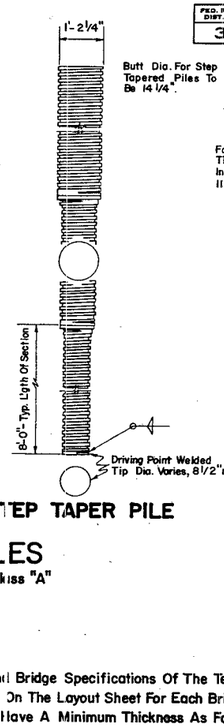


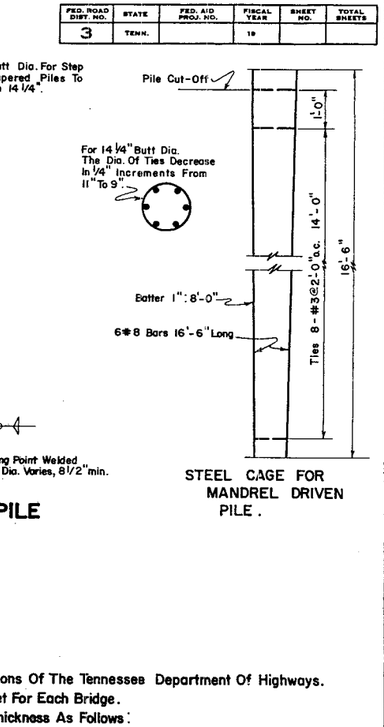


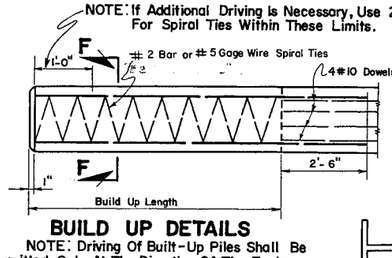












FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19		

Piles To Be Pointed With Black Bands At These Points To Indicate Proper Place For Attaching Handling Line.

PRECAST CONCRETE PILE

SINGLE POINT PICK-UP

DOUBLE POINT PICK-UP

NOTES : (1.) Maximum Length Single Pick Up Point - 60'-0"
(2.) Maximum Length Double Pick Up Point - 85'-0"
(3.) Piles To Be Marked At These Points To Indicate Proper Place For Attaching Handling Lines.
(4.) For Greater Lengths Three Point Pick-up Is Required.

TIMBER PILE SPLICE

Length of bolts based on full 12" diam. pile. Vary this length with diam. of pile.

Pile Shall Be Driven With A Good Steel Head Having A Projecting Ring Fitting Inside The Pipe. Clearance Between Ring And Pipe Should Be 1/4". Steel Pipe May Be Welded Or Seamless Steel.

PIPE PILE

CAST IN PLACE PILES

NOTE : Concrete In Cast In Place Piles To Be Class "A"

NOTE: If Additional Driving Is Necessary, Use 2" Pitch For Spiral Ties Within These Limits.

BUILD UP DETAILS

NOTE: Driving Of Built-Up Piles Shall Be Permitted Only At The Direction Of The Engineer.

PRESTRESSED CONCRETE PILE

For Lengths Up To 40' **For Lengths From 41' To 50'** **For Lengths From 51' To 60'**

NOTE : If It Becomes Necessary To Use Size 2 Piles The Contractor Will Be Allowed An Increase In The Size 1 Bid Of 25 %.

* NOTE: End reinforcement required at tip end and driving end for all piles with circular strand patterns.

** NOTE: Subject to the approval of the Engineer of Structures, alternate strand sizes and arrangements of equivalent total force may be substituted.

STEEL PILES

DETAIL OF PILE SPLICE

Length Of Of Pile	Longitudinal Reinforcing	Weight Of Steel Per Ft.	Weight Of Pile Per Ft.
Up To 35'	4 #7 Bars	9.6 #	205.3 #
36' To 40'	4 #8 Bars	12.2 #	205.3 #
41' To 45'	4 #9 Bars	15.1 #	265.3 #
46' To 50'	4 # 10 Bars	18.8 #	265.3 #
51' To 55'	8 # 9 Bars	28.9 #	265.3 #
56' To 60'	8 # 10 Bars	36.2 #	265.3 #

NOTE: In Handling The Piles, They Shall Be Supported At The Points Indicated. Piles To Be Picked Up By Pulling On Both Lines Uniformly. End Of Pile Not To Touch Ground Unless Piles Inclined 1:2 Or Steeper.

NOTE: When "H" Is 10' Or More Bracing For Bents Is Required.

HALF BENT HALF ABUTMENT

CASE I

STEEL FOR PRECAST CONCRETE

SECTION X-X

NOTE: Wrap Pile With American Welded Fabric 2"x 2" No. 10 Wire. Cost of Wire Fabric to be included in Unit Price Bid for Class "A" Concrete

DETAIL "A"

Welds Typical For All End Joints And Intersections.

HALF BENT HALF ABUTMENT

CASE II

PRECAST CONCRETE FOR STEEL

TYPICAL DETAILS

When The Substitution Of Steel For Precast Concrete Piles Or Precast Concrete For Steel Piles Is Permitted The Details Will Be As Shown Above. The Substitution Does Not Permit Changing The Number Of Piles In Either Case. Should The Contractor, When Permitted, Elect To Make The Substitution Of Case I, The Cost Of Encasing Blocks At Ground Lines And Bracing If Required Shall Be Included In The Price Per Lin. Ft. Of Piles.

GENERAL NOTES

(1.) SPECIFICATIONS: Standard Road And Bridge Specifications Of The Tennessee Department Of Highways.

(2.) CHOICE OF PILES: To Be Specified On The Layout Sheet For Each Bridge.

(3.) CAST IN PLACE: Pile Shells Shall Have A Minimum Thickness As Follows:
1. Piles Driven Without Mandrel - 7 Gage.
2. Piles Driven With Mandrel Shall Be Of Sufficient Strength And Thickness To Hold Its Original Form And Show No Sign Of Distortion After The Core Has Been Withdrawn.
3. Steel Pipe Shall Be Welded Or Seamless Steel Conforming To ASTM Designation A-252 Grade 2 Welded And Seamless Steel Pipe Piles.
Steel Cage For All Mandrel Driven Piles Will Be Required.

The Contractor Shall Maintain On The Job At All Time Prior To And During The Filling Of The Shells, A Light Suitable For Their Inspection. Improperly Driven, Broken Or Otherwise Defective Shells Shall Be Removed And Replaced Or Otherwise Corrected To The Satisfaction Of The Engineer By Removal And Replacement Or The Driving Of An Additional Pile At No Extra Cost.

(4.) PRESTRESSED CONCRETE PILES: 1. Concrete Shall Have A Minimum 28 Day Strength Of 5000 PSI With A Release Strength Of 3500 PSI For 3/8"⌀ Strands.
2. Spiral Ties Shall Be Tied To Corner Strands At Intervals Adequate To Prevent Excessive Movement During Vibration. They May Be Manufactured From Stock Meeting Any Grade Of Reinforcing Steel Or Hard Drawn Wire.

(5.) PILE POINTS: All Cast In Place Piles Shall Be Equipped With A Steel Driving Point. Driving Points Shall Be Mill Welded To The Pile Shell. Driving Points May Be Either Structural Steel, Forged Steel Or Cast Steel. Steel Piles Shall Have A Square Cut End Only. No Driving Point Is Required Unless Shown On The Bridge Plans.

(6.) SPLICES: Splice Details For Cast In Place Piles Shall Be Made In Accordance With The Manufacturers Recommendations, Subject To The Approval Of The Engineer. Splice Details For Steel And Prestressed Concrete Piles Shall Be In Accordance With The Details Shown On This Sheet.

(7.) DRIVING FORMULA: Piles Shall Be Driven To A Minimum Capacity As Specified On The Layout Sheet As Determined By The Driving Formulas Stipulated In The Specifications.

(8.) MILL TEST REPORTS: Notarized Mill Test Reports Will Be Required For All Steel Piles And Cast In Place Pile Shells.

(9) WELDING SPECIFICATIONS: AWS for Bridges.

(10) STRUCTURAL STEEL: Structural Steel conforming to ASTM A-7 or ASTM A-36-62T will be acceptable.

Pile	2 ℞s	4 Ls
10"	6" x 1/2"	3 1/2" x 3 1/2" x 1/2"
12"	7" x 1/2"	4" x 4" x 1/2"
14"	8" x 1/2"	5" x 5" x 1/2"

DETAIL OF PILE DRIVING POINT

NOTE Cost of driving point to be included in the unit price bid for steel piles

DESIGNED BY________ DATE________
DRAWN BY J.W. SOUTHERLAND DATE 5-27-60
RETRACED BY JOE B. CANTRELL JR. DATE 2-6-62
CHECKED BY________ DATE________

REV. - FEB. 6, 1962
REV. - MAR. 1, 1961 BATTER ON PRESTRESSED PILE
REV. - DEC. 8, 1960
REV. - OCT. 27, 1960
REV. - SEPT. 27, 1960 DELETE PILE SUBSTITUTIONS
REV. - JULY 25, 1960
REV. - DEC. 14, 1964 SPIRAL TIES
REV. - JAN. 22, 1964 COST OF WIRE FABRIC
REV. - FEB. 24, 1966 TIMBER PILE SPLICE, DETAIL OF PILE DRIVING POINT
REV. - NOV. 27, 1973 ADDED ALT. SECTION A-A
REV. - NOV. 12, 1982 DETAIL OF PILE SPLICE

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

STANDARD PILE DETAILS

VOID

CORRECT Fred Green
BRIDGE ENGINEER
APPROVED C. W. Long
STATE HIGHWAY ENGINEER

H-5-111

SEE Std-5-1 & 5-2