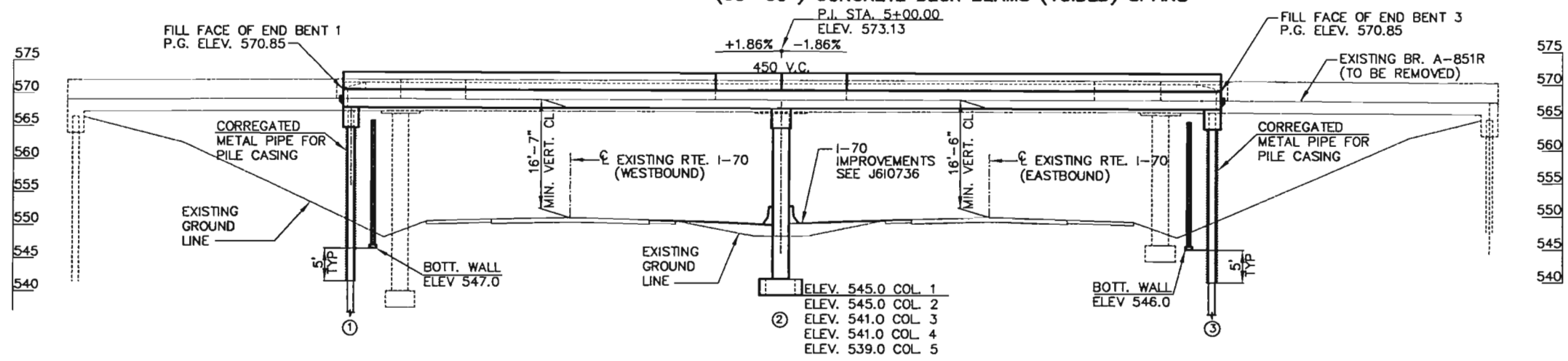


MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION
(66'-66") CONCRETE DECK BEAMS (VOIDED) SPANS

STATE	PROJ. NO.	SHEET NO.
MO.	J610736C	B1
SEC./SUR	26 TWP 47N	RGE 2E



GENERAL ELEVATION

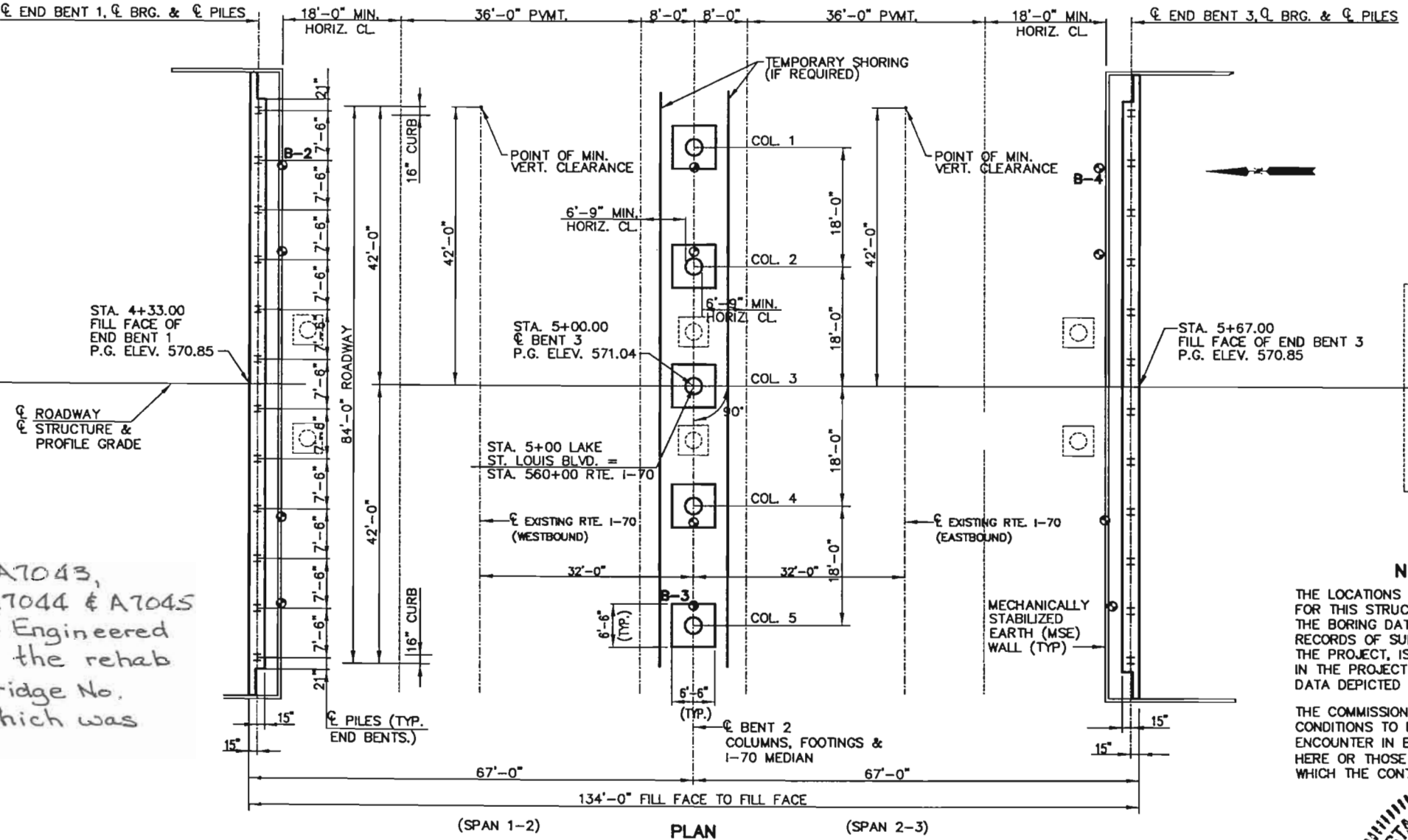
EXISTING STRUCTURE
A-851R 50'-59'-58'-50' CONTINUOUS CONCRETE VOIDED SLAB (TO BE REMOVED).

BENCHMARK #7-83
"□" ON N.W. CORNER OF CONCRETE ABUTMENT, S END OF BR. A-851R, BRIDGE OVER I-70 @ LAKE ST. LOUIS BLVD. EXIT. STA. 559+85, ELEV. 569.71

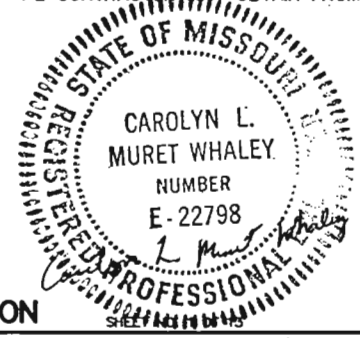
NOTES:
"⊙" INDICATES LOCATION OF BORINGS.
FOR GENERAL NOTES, ESTIMATED QUANTITIES, AND PILE AND FOOTING DATA, SEE SHEET NO. 2.
ROADWAY FILL SHALL BE COMPLETED TO THE FINAL ROADWAY SECTION AND UP TO THE ELEVATION OF THE BOTTOM OF THE CONCRETE BEAM WITHIN THE LIMITS OF THE STRUCTURE AND FOR NOT LESS THAN 25' IN BACK OF THE FILL FACE OF THE END BENTS BEFORE PILES ARE DRIVEN FOR ANY BENTS FALLING WITHIN THE EMBANKMENT SECTION.
PLAN DIMENSIONS SHOWN ARE HORIZONTAL DIMENSIONS

NOTICE AND DISCLAIMER REGARDING BORING LOG DATA
THE LOCATIONS OF ALL SUBSURFACE BORINGS FOR THIS STRUCTURE ARE SHOWN ON THE BRIDGE PLAN SHEET(S) FOR THIS STRUCTURE. BORING DATA FOR THE NUMBERED LOCATIONS IS SHOWN ON SHEET 3 OF 19. THE BORING DATA FOR ALL LOCATIONS INDICATED, AS WELL AS ANY OTHER BORING LOGS OR OTHER FACTUAL RECORDS OF SUBSURFACE DATA AND INVESTIGATIONS PERFORMED BY THE DEPARTMENT FOR THE DESIGN OF THE PROJECT, IS AVAILABLE FROM THE PROJECT CONTACT UPON WRITTEN REQUEST AS OUTLINED IN THE PROJECT SPECIAL PROVISIONS. NO GREATER SIGNIFICANCE OR WEIGHT SHOULD BE GIVEN TO THE BORING DATA DEPICTED ON THE PLAN SHEETS THAN TO SUBSURFACE DATA AVAILABLE FROM THE DISTRICT OR ELSEWHERE.
THE COMMISSION DOES NOT REPRESENT OR WARRANT THAT ANY SUCH BORING DATA ACCURATELY DEPICTS THE CONDITIONS TO BE ENCOUNTERED IN CONSTRUCTING THIS PROJECT. A CONTRACTOR ASSUMES ALL RISKS IT MAY ENCOUNTER IN BASING ITS BID PRICES, TIME OR SCHEDULE OF PERFORMANCE ON THE BORING DATA DEPICTED HERE OR THOSE AVAILABLE FROM THE DISTRICT, OR ON ANY OTHER DOCUMENTATION NOT EXPRESSLY WARRANTED, WHICH THE CONTRACTOR MAY OBTAIN FROM THE COMMISSION.

Bridge No A7043, Wall Nos. A7044 & A7045 were Value-Engineered to replace the rehab work on Bridge No. A08512 which was removed



PLAN



PLAN AND GENERAL ELEVATION

BRIDGE OVER RTE. I-70
LAKE ST. LOUIS BOULEVARD
STATE ROAD RTE. I-70
ABOUT 3.4 MILES EAST OF RTE. 61
PROJECT NO. STA. 560+00
JOB NO. J610736C RTE. I-70
ST. CHARLES COUNTY

STD. 609.00
STD. 706.35
A7043

STATE	PROJ. NO.	SHEET NO.
MO.	J610736C	B2

ESTIMATED QUANTITIES				
ITEM	UNIT	SUBSTR.	SUPERSTR.	TOTAL
REMOVAL OF BRIDGES	LUMP SUM	1	—	1
CLASS 1 EXCAVATION	CU. YD.	105	—	105
TEMPORARY SHORING	LUMP SUM	1	—	1
BRIDGE APPROACH SLAB (BRIDGE)	SQ. YD.	—	464	464
STRUCTURAL STEEL PILES (12")	LIN. FT.	600	—	600
PILE POINT REINFORCEMENT	EACH	12	—	12
CLASS B CONCRETE (SUBSTR.)	CU. YD.	121.5	—	121.5
CLASS B2 CONCRETE (SUPSTR. CONC. ON BOX GIRDER)	CU. YD.	—	230.8	230.8
SAFETY BARRIER CURB	LIN. FT.	—	268	268
PLAIN NEOPRENE BEARING PADS	EACH	—	88	88
PRESTRESSED CONCRETE BOX GIRDER (66FT SPAN)	EACH	—	42	42
REINFORCING STEEL (BRIDGES)	LBS.	—	17,990	17,990
CONDUIT SYSTEM ON STRUCTURE	LUMP SUM	—	1	1
REINFORCING STEEL (EPOXY COATED)	LBS.	—	28,450	28,450

NOTES:

ALL CONCRETE ABOVE THE LOWER CONSTRUCTION JOINT IN THE END BENTS IS INCLUDED WITH THE SUPERSTRUCTURE QUANTITIES.
 ALL REINFORCEMENT IN THE END BENTS IS INCLUDED WITH THE SUPERSTRUCTURE QUANTITIES.
 * SAFETY BARRIER CURB SHALL BE CAST-IN-PLACE OPTION OR SLIP-FORM OPTION.
 COST OF 3/4" DIAMETER DIAPHRAGM RODS IN BOX GIRDER IS INCLUDED IN THE CONTRACT UNIT PRICE FOR CLASS B2 CONCRETE.
 THE COST OF FURNISHING, FABRICATING, AND INSTALLING NEOPRENE BEARING PADS, COMPLETE-IN-PLACE, INCLUDING DOWEL RODS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR PLAIN NEOPRENE BEARING PADS PER EACH.

GENERAL NOTES:

DESIGN SPECIFICATIONS:
 A.A.S.H.T.O.—1996 LOAD FACTOR DESIGN AND INTERIMS THRU 2002.
 SEISMIC PERFORMANCE CATEGORY A.
 LOAD FACTOR DESIGN

DESIGN LOADING:
 HS20—MODIFIED MILITARY 24,000# TANDEM AXLE
 MILITARY 24,000# TANDEM AXLE
 35#/SQ. FT. FUTURE WEARING SURFACE.
 EARTH 120#/CU.FT., EQUIVALENT FLUID PRESSURE 45#/CU.FT.
 SUPERSTRUCTURE: SIMPLY-SUPPORTED, NON COMPOSITE FOR DEAD AND LIVE LOAD.

DESIGN UNIT STRESSES:
 CLASS B CONCRETE (SUBSTRUCTURE) $f_c=3000$ PSI
 CLASS B1 CONCRETE (SAFETY BARRIER, CURB) $f_c=4000$ PSI.
 CLASS B2 CONCRETE (SUPERSTRUCTURE, EXCEPT PRESTRESSED BOX GIRDERS AND SAFETY BARRIER) $f_c=4000$ PSI.
 REINFORCING STEEL (GRADE 60) $f_y=60,000$ PSI.
 STEEL PILE (ASTM A709 GRADE 36) $f_b=9,000$ PSI.
 FOR PRESTRESSED GIRDER STRESSES SEE SHEET NOS. 6 & 7.

BEARING PADS:
 BEARINGS SHALL BE 60 DUROMETER NEOPRENE PADS. THE NEOPRENE PAD SHALL BE BONDED TO THE BEARING SEAT WITH AN EPOXY ADHESIVE AS APPROVED BY THE BEARING MANUFACTURER FOR BONDING NEOPRENE TO CONCRETE.

JOINT FILLER:
 ALL JOINT FILLER SHALL MEET THE REQUIREMENTS OF STD. SPEC. 1057.2.4, EXCEPT AS NOTED.

REINFORCING STEEL:
 MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1 1/2", UNLESS OTHERWISE SHOWN.

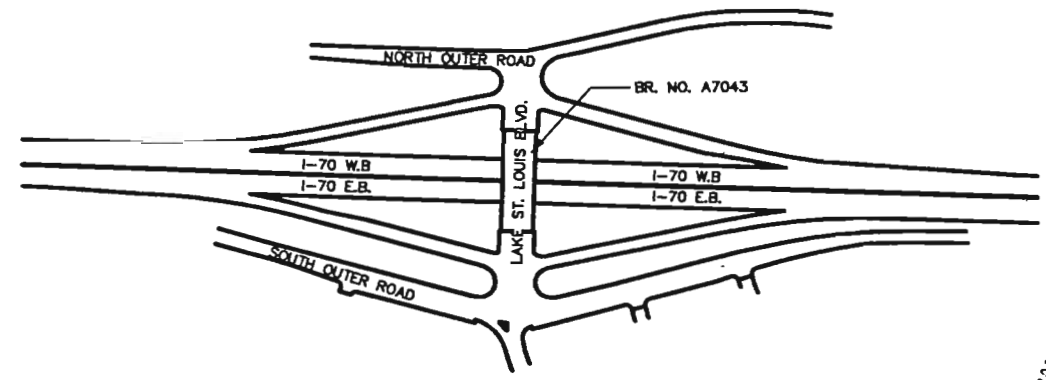
CONSTRUCTION CLEARANCES:
 A MINIMUM VERTICAL CLEARANCE OF 16'-0" FROM THE CROWN OF THE EXISTING LANES AND A MINIMUM LATERAL CLEARANCE OF 40' CENTERED ON THE EXISTING LANES SHALL BE MAINTAINED DURING CONSTRUCTION.

REMOVAL OF BRIDGE:
 A DEMOLITION PLAN IS REQUIRED FOR THE REMOVAL OF THE EXISTING BRIDGE. THE DEMOLITION PLAN SHALL ANALYZE THE STABILITY OF THE STRUCTURE DUE TO THE REDISTRIBUTION OF FORCES DURING THE DEMOLITION PROCESS.

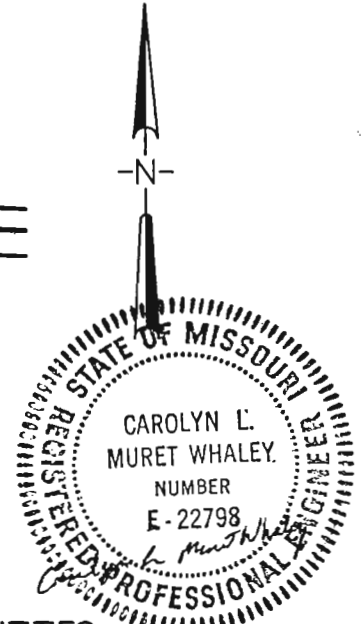
PILE AND FOOTING DATA				
BEARING PILE	BENT NO.	1	2	3
		PILE TYPE AND SIZE	HP12x53	
	NUMBER	12		12
	APPROXIMATE LENGTH (FT.)	29		21
	DESIGN BEARING (TONS)	62		62
	HAMMER ENERGY REQ'D (FT.-LBS.)	13800		13800
SPREAD FOOTING	FOUNDATION MATERIAL	—	LIMESTONE	—
	DESIGN BEARING (TONS/SQFT)	—	7.7	—

NOTES:

MINIMUM ENERGY REQUIREMENT OF HAMMER BASED ON PLAN LENGTH AND DESIGN BEARING VALUE OF PILES.
 ALL PILES SHALL BE DRIVEN TO PRACTICAL REFUSAL
 MANUFACTURED PILE POINT REINFORCEMENT SHALL BE USED ON ALL PILES AT BENT 1. SEE SPECIAL PROVISIONS.



LOCATION SKETCH

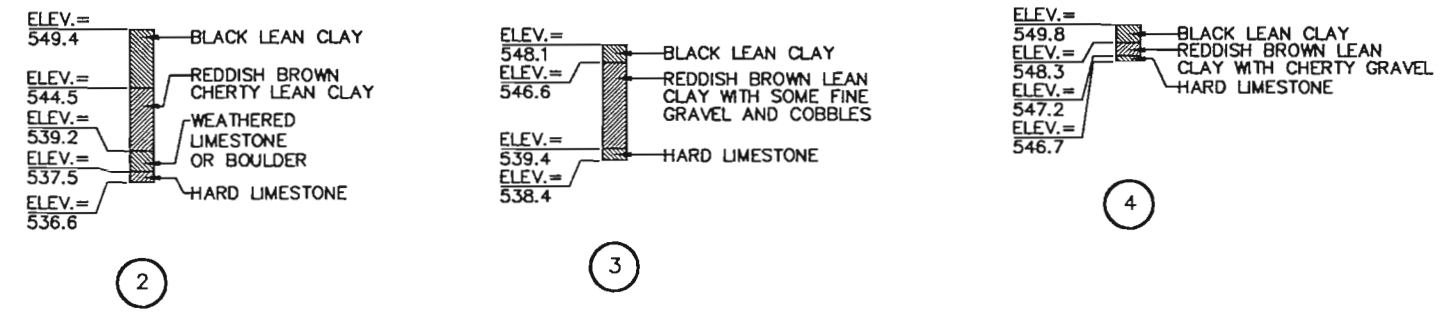
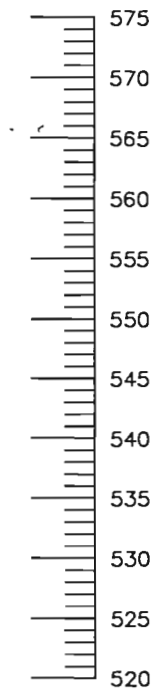


ESTIMATED QUANTITIES,
 GENERAL NOTES, PILE AND
 FOOTING DATA
 JUL 31 2003

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

CAD DWG. TITLE: 80120AUN.DWG
 JOB NO.: 200222/LAKE ST. LOUIS BLVD. OVER RITE. I-70

STATE	PROJ. NO.	SHEET NO.
MO.	J610736C	83



BORING DATA



JUL 31 2003

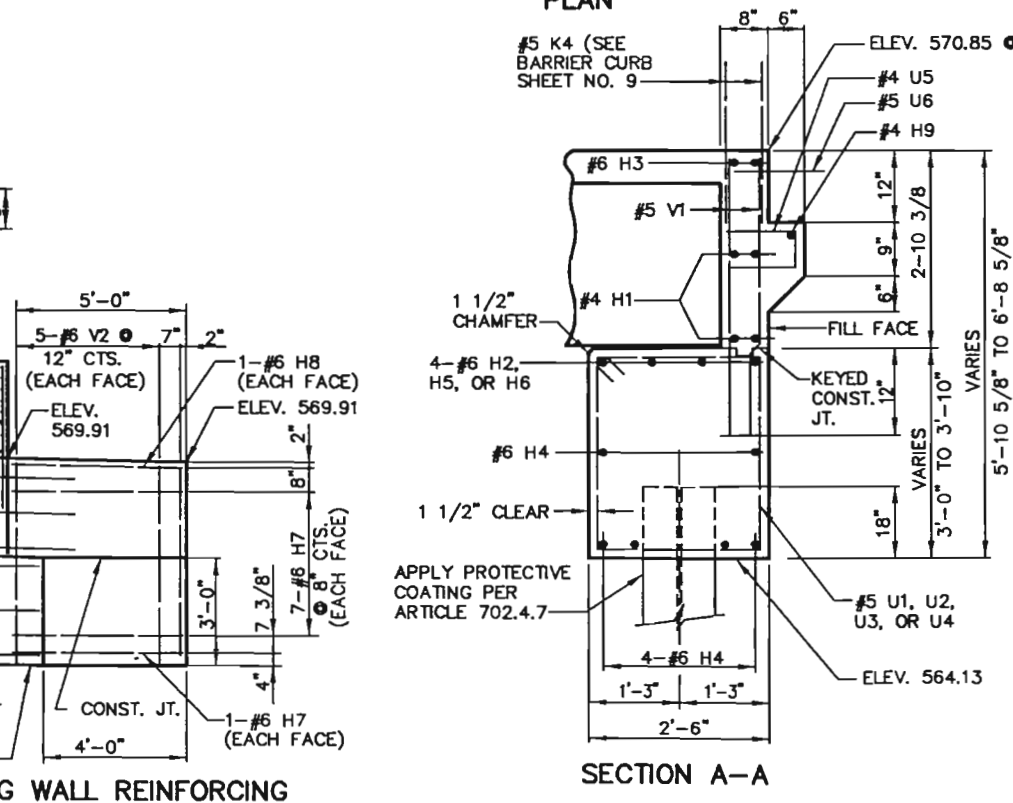
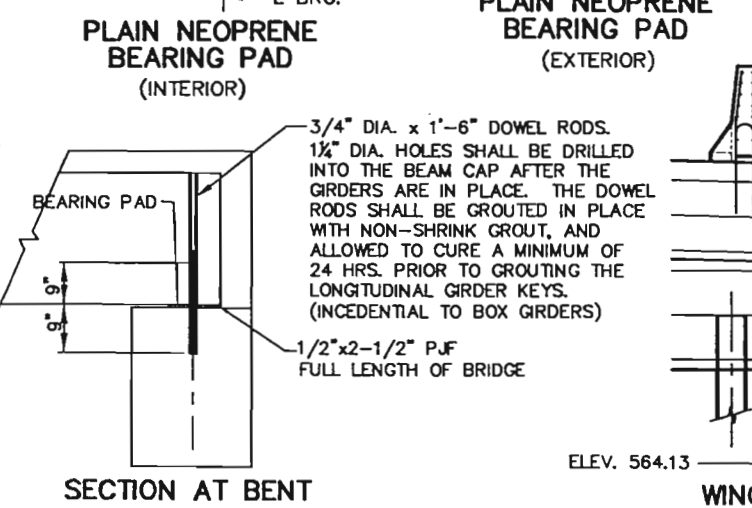
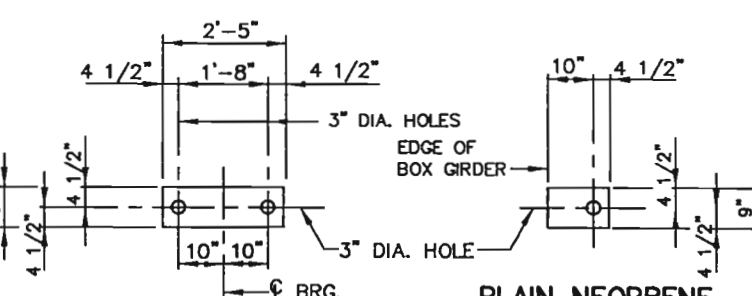
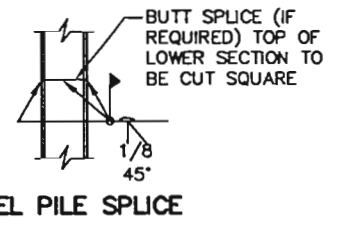
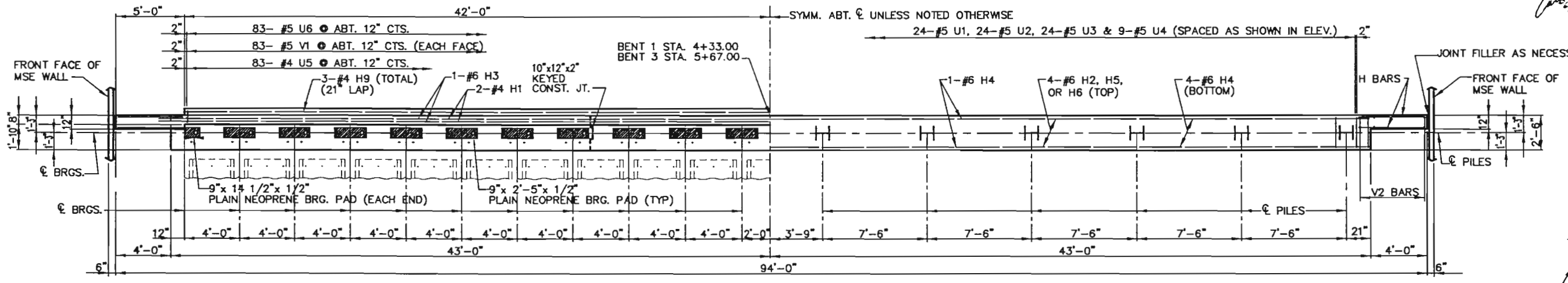
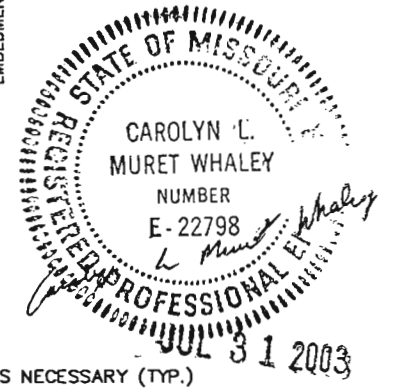
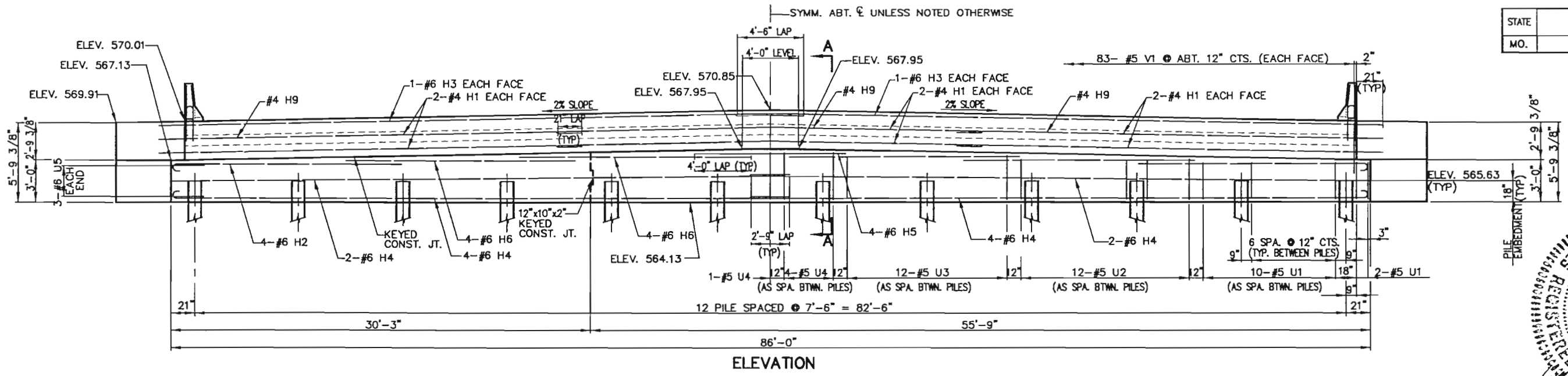
NOTE:
FOR LOCATION OF BORINGS, SEE SHEET 1.

BORING DATA
ST. CHARLES COUNTY

A7043

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

JOB NO.: 200222/LAKE ST. LOUIS BLVD. OVER RTE. I-70
 CAD DWG. TITLE: 851280.DWG



SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 1

ITEM	QUANTITY
STRUCTURAL STEEL PILES (12 IN)	LIN FT 348
CLASS B CONCRETE (SUBSTR)	CU YD 28.2
REINFORCING STEEL (BRIDGES)	LBS 3060
REINFORCING STEEL (EPOXY COATED)	LBS 1460

SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 3

ITEM	QUANTITY
STRUCTURAL STEEL PILES (12 IN)	LIN FT 252
CLASS B CONCRETE (SUBSTR)	CU YD 28.2
REINFORCING STEEL (BRIDGES)	LBS 3060
REINFORCING STEEL (EPOXY COATED)	LBS 1460

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 2.

NOTES:

THE BACKWALL AND TOP OF WINGS SHALL BE POURED AFTER THE DECK BEAMS ARE IN PLACE AT THE SAME TIME DECK IS POURED.

ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.

FOR REINFORCEMENT OF THE SAFETY BARRIER CURB SEE SHEET NO. 9.

ALL VERTICAL REINFORCING BARS IN THE SUBSTRUCTURE BEAMS OR CAPS SHALL BE FIELD ADJUSTED TO CLEAR PILES BY AT LEAST 1-1/2"

ALL CONCRETE IN THE END BENT ABOVE TOP OF BEAM AND BELOW TOP OF SLAB SHALL BE CLASS B-2.

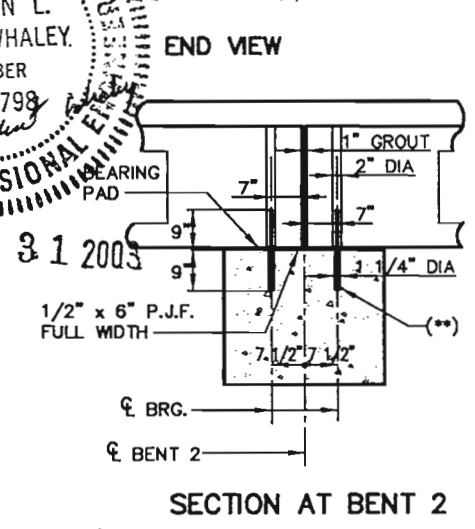
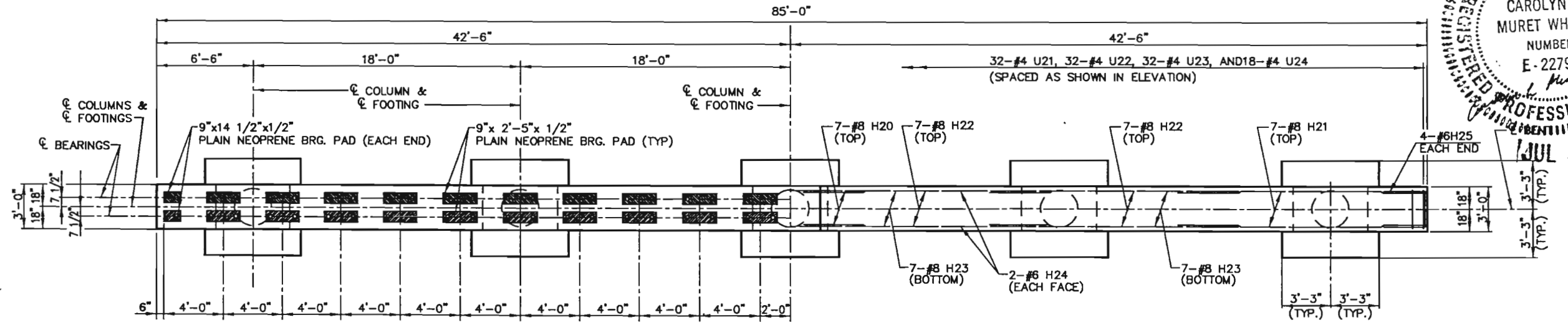
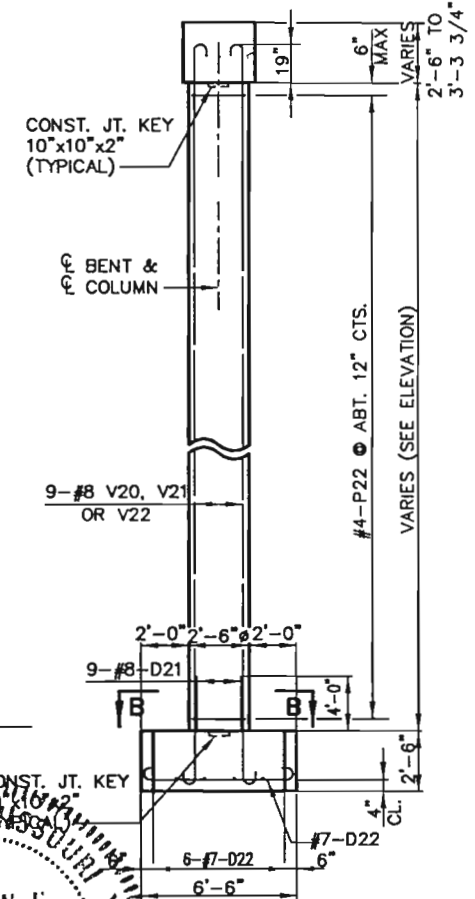
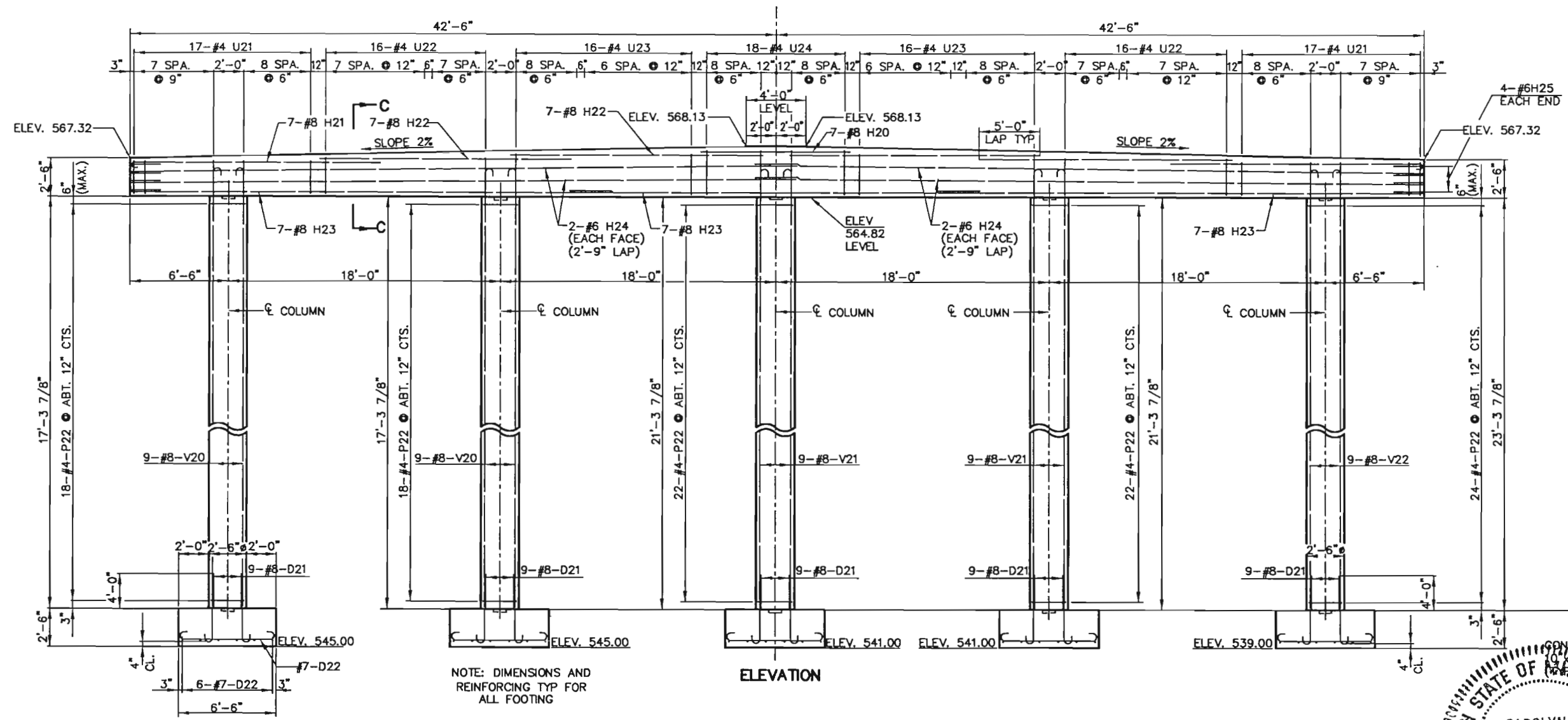
JOINT FILLER SHALL BE PLACED BETWEEN BOX GIRDERS AND WINGS IF NECESSARY.

PJF = PREFORMED JOINT FILLER

END BENT 1 AND 3

Note: This drawing is not to scale. Follow dimensions.

CRD JOB NO.: 200315 LSLBLVDRED
 DATE: 5/03
 Crd DWG.: wallayov

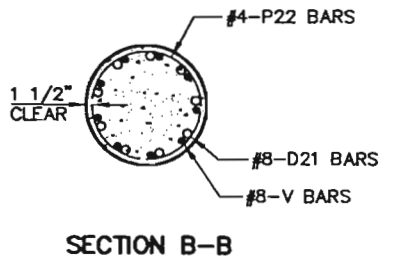
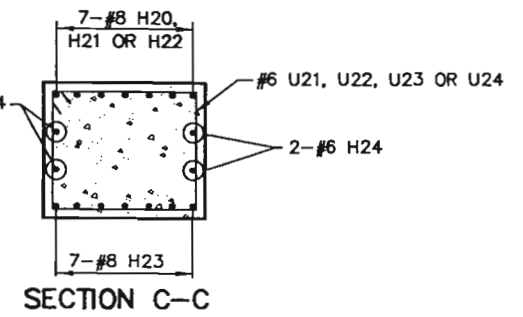


STATE OF MISSOURI
 REGISTERED PROFESSIONAL ENGINEER
 CAROLYN L. MURET WHALEY
 NUMBER E-22798
 JUL 31 2003

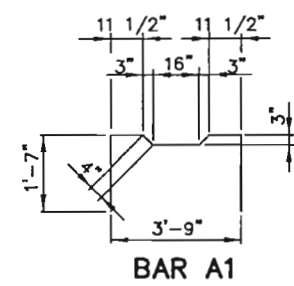
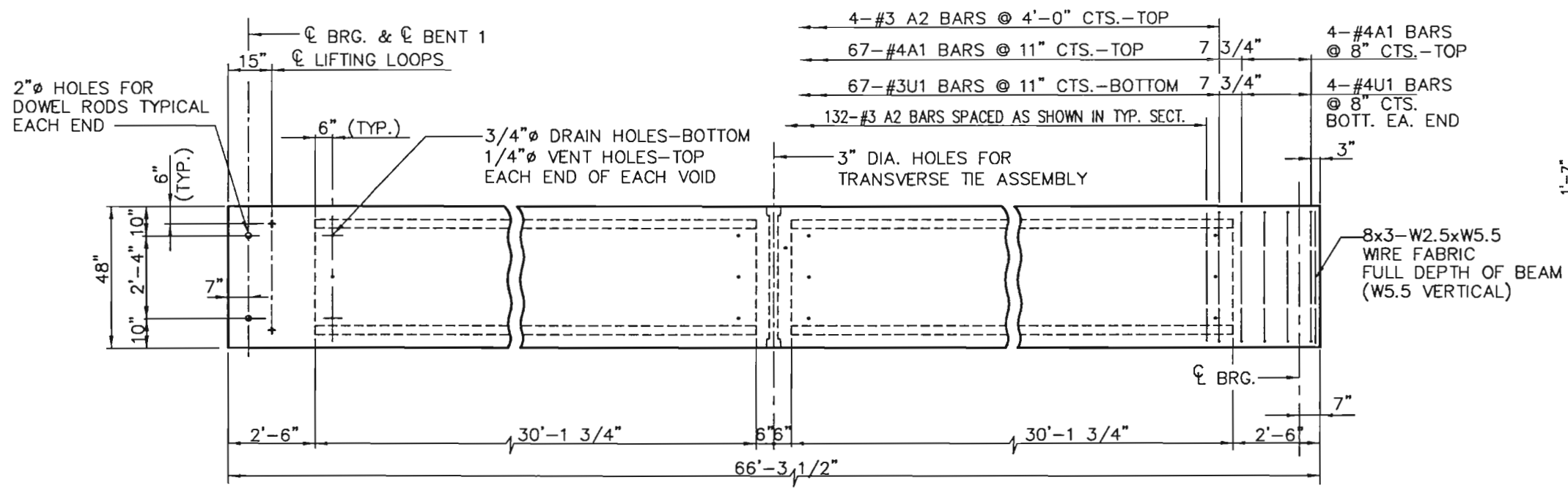
ITEM	QUANTITY
CLASS 1 EXCAVATION	CU. YDS. 105
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS. 65.1
REINFORCING STEEL	LBS. 11870

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 2.

NOTES:
 AT THE CONTRACTOR'S OPTION, THE HOOKS OF V-BARS EMBEDDED IN THE BEAM CAP MAY BE ORIENTED INWARD OR OUTWARD FOR SEISMIC CATEGORY A.
 FOR BEARING PAD DETAILS SEE SHEET NO. 4.



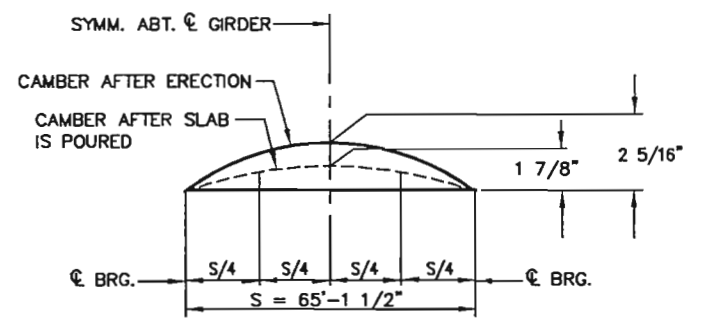
CAD DWG. TITLE: BENT2.DWG
 DATE: 2/7/03
 DRAWN BY: JMM
 CHECKED BY: JMM
 DWG. SCALE: 1/4" = 1'-0"
 JOB NO.: 200315/SAKE ST. LOUIS BLVD. OVER RTE 1-70



BILL OF REINFORCING				
EACH GIRDER				
NO.	SIZE	MARK	ACTUAL LENGTH	SHAPE
75	#4	A1	7'-0"	30
140	#3	A2	3'-8"	20
5	#5	B1	66'-0"	20
8	#5	B2	13'-0"	20
4	#4	B3	66'-0"	20
8	#4	U1	7'-0"	10
67	#3	U2	7'-1"	10

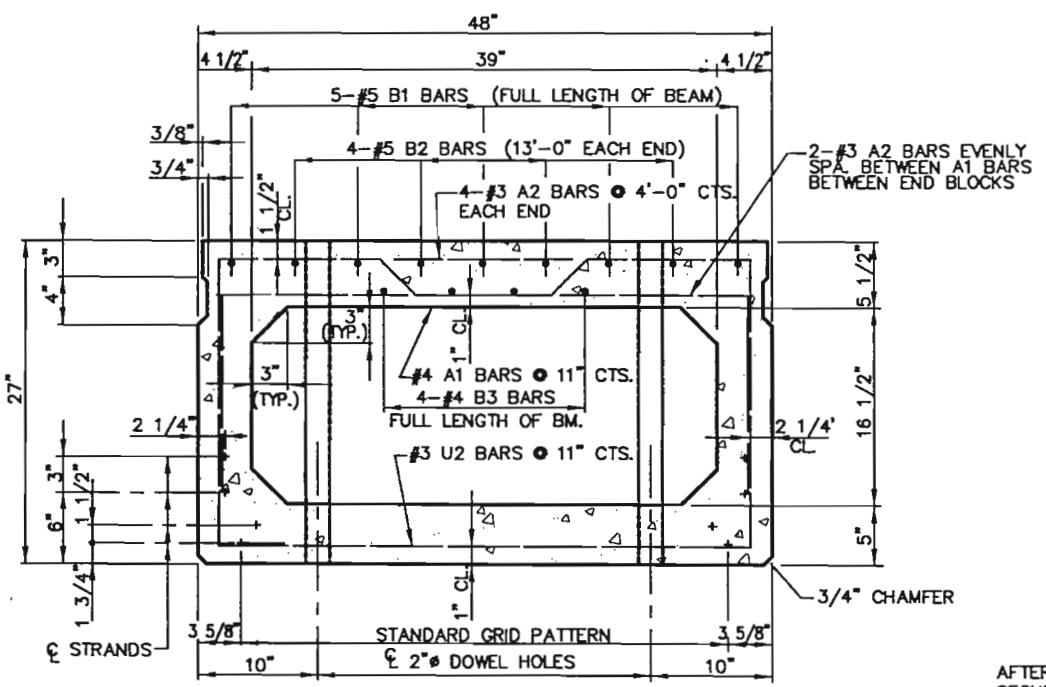
NOTES:
 ALL DIMENSIONS ARE OUT TO OUT.
 HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE CRSI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, STIRRUPS AND TIE DIMENSIONS.
 ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE OF BAR TO THE NEAREST INCH.
 ALL REINFORCING STEEL SHALL BE GRADE 60.

TYPICAL PLAN OF INTERIOR BOX GIRDERS

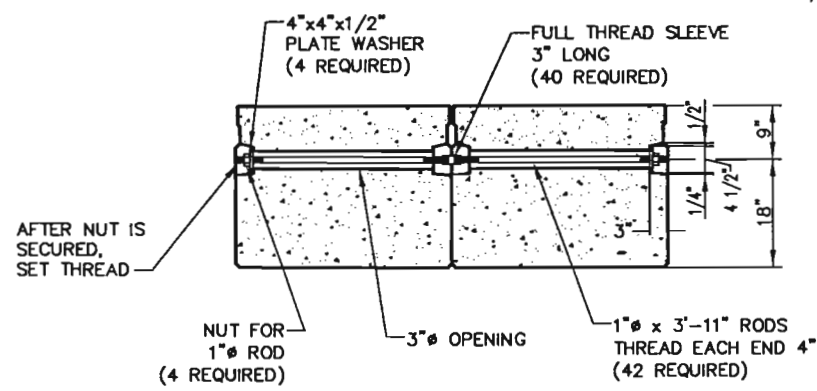


GIRDER CAMBER DIAGRAM
 CONVERSION FACTORS FOR GIRDER CAMBER:
 0.25 PT. = 0.7125 x 0.5 PT.

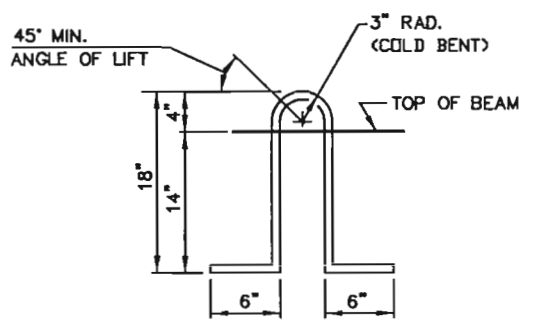
NOTES:
 CONCRETE FOR PRESTRESSED GIRDERS SHALL BE CLASS A-1 WITH $f_c = 6,000$ PSI AND $f_{ci} = 5,000$ PSI.
 (+) INDICATES PRESTRESSING STRAND.
 USE 28 STRANDS WITH AN INITIAL PRESTRESS FORCE OF 868 KIPS.
 PRESTRESSING STEEL SHALL BE UNCOATED, SEVEN-WIRE, LOW-RELAXATION STRANDS, CONFORMING TO AASHTO M203, GRADE 270. SEE SECTION 705.4.8 OF THE MISSOURI STANDARD SPECIFICATIONS.
 THE NOMINAL DIAMETER SHALL BE 1/2" AND THE NOMINAL CROSS-SECTION AREA SHALL BE 0.153 SQ. IN.
 THE LIFTING LOOPS SHALL BE 3/4" DIAMETER 6x25 CLASS WIRE ROPE WITH FIBER CORE AND SHALL HAVE A MINIMUM ULTIMATE TENSILE STRENGTH OF 46,000 LBS. OR 3 - 1/2" 270 KSI STRANDS, AS SHOWN.



TYPICAL SECTION (BEAM "A")
 (12 STRANDS-1 3/4" UP, 12 STRANDS-3 1/4" UP, 2 STRANDS-6" UP, 2 STRANDS 9" UP) STRESSED TO 31,000 LBS EACH PLACE STRANDS SYMMETRICALLY ABOUT C.G. BEAM USE STANDARD GRID PATTERNS



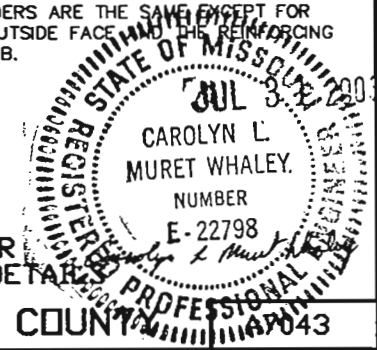
TRANSVERSE TIE ASSEMBLY



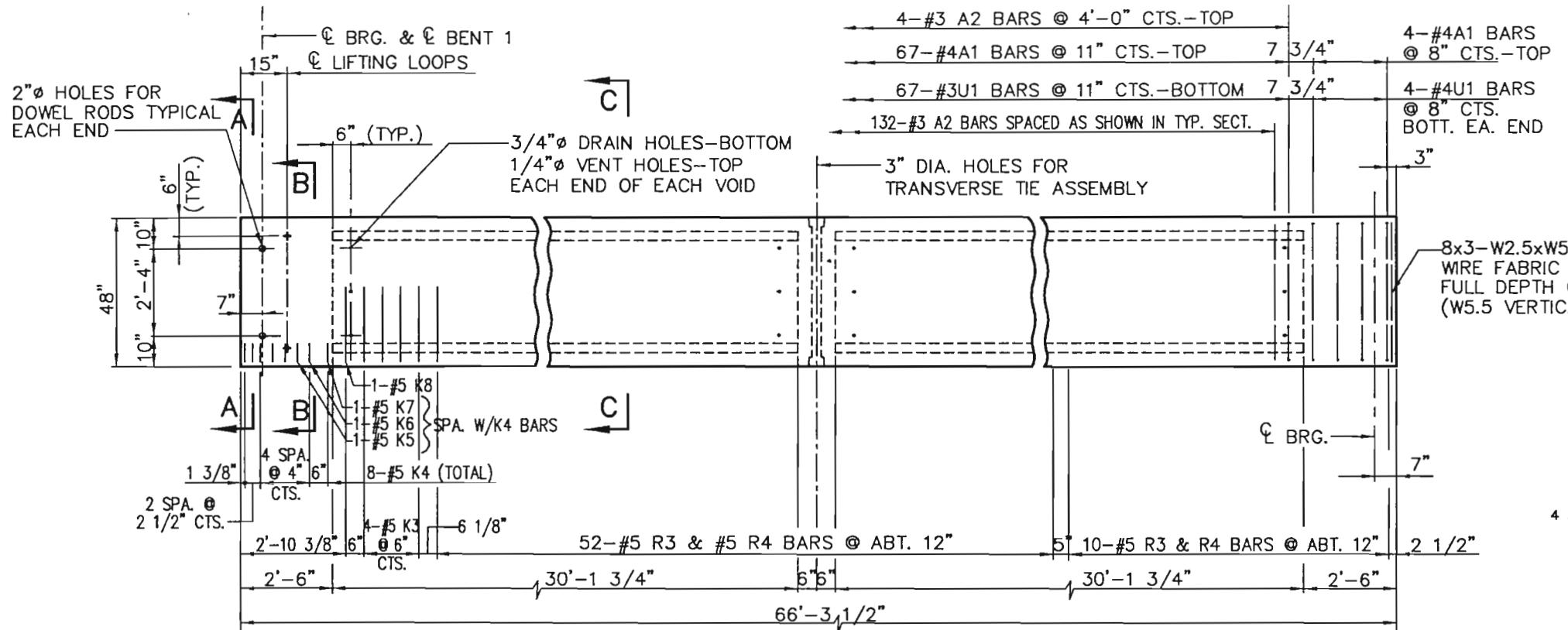
LIFTING LOOP DETAIL
 LIFTING LOOPS SHALL BE BURNED OFF BEFORE SLAB IS POURED.

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
PRESTRESSED CONCRETE		
BOX GIRDER- 66'-0" SPAN	EACH	38

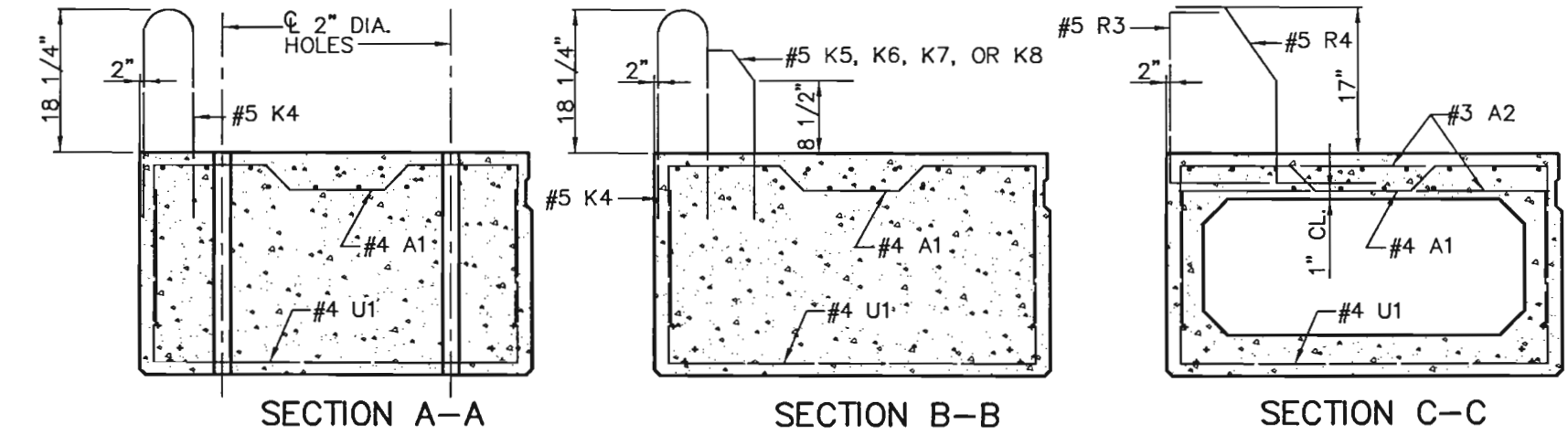
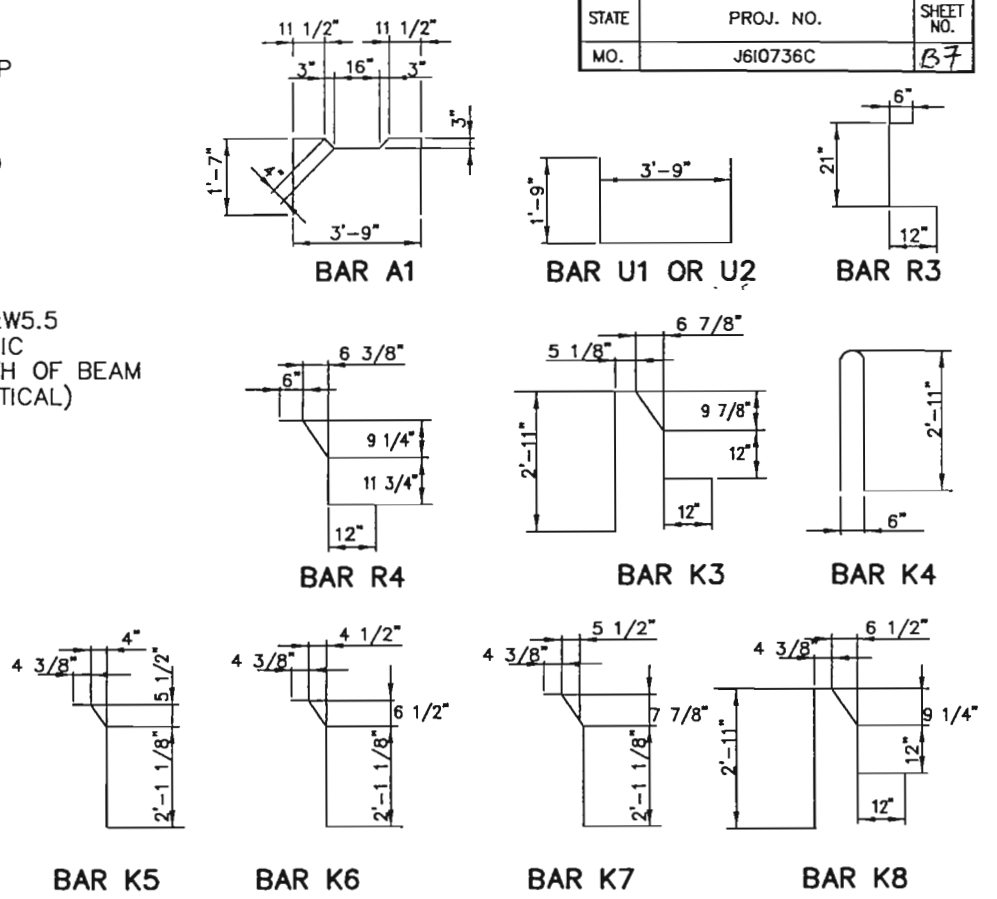
KEYWAY SURFACES SHALL BE CLEANED TO REMOVE FORM OIL OR OTHER BOND BREAKING MATERIAL PRIOR TO SHIPMENT OF THE BEAMS. CLEANING SHALL BE DONE BY SANDBLASTING THE KEYWAY AREAS BETWEEN TOP OF THE BEAM AND THE BOTTOM EDGE OF THE KEY.
 REINFORCEMENT BARS SHALL CONFORM TO AASHTO M-31, M-42 OR M-53, GRADE 60.
 COST OF FURNISHING AND INSTALLING THE PREFABRICATED JOINT FILLER, TIE ASSEMBLIES, NON-SHRINK GROUT AND ALL REINFORCEMENT SHALL BE INCLUDED IN THE PRICE BID FOR PRESTRESSED CONCRETE BOX GIRDER, PER EACH.
 VENT HOLES AND DRAIN HOLES SHALL BE CAST. DRILLING IS NOT ALLOWED.
 EXTERIOR AND INTERIOR GIRDERS ARE THE SAME EXCEPT FOR THE OMITTED KEY ON THE OUTSIDE FACE AND THE REINFORCING BARS FOR THE BARRIER CURB.



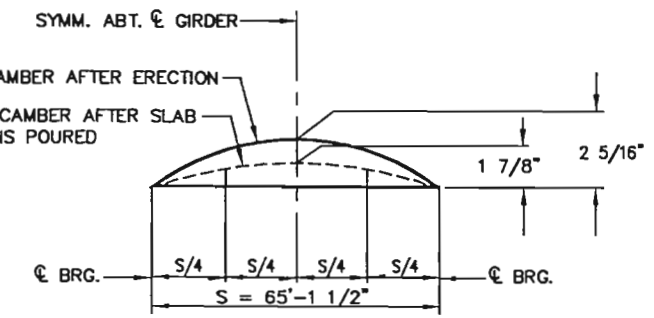
INTERIOR BOX GIRDER DETAILS
 ST. CHARLES COUNTY



TYPICAL PLAN OF EXTERIOR BOX GIRDER
(RIGHT EXTERIOR BOX GIRDER (SPAN 1-2) SHOWN, OTHER EXTERIOR GIRDERS SIMILIAR.)



FOR DETAILS, DIMENSIONS AND REINFORCING NOT SHOWN
SEE INTERIOR BEAM SHEET NO. 7



GIRDER CAMBER DIAGRAM
CONVERSION FACTORS FOR GIRDER CAMBER:
0.25 PT. = 0.7125 x 0.5 PT.

BILL OF REINFORCING				
EACH GIRDER				
NO.	SIZE	MARK	ACTUAL LENGTH	SHAPE
75	#4	A1	7'-0"	30
140	#3	A2	3'-8"	20
5	#5	B1	66'-0"	20
8	#5	B2	13'-0"	20
4	#4	B3	66'-0"	20
4	#5	K3	6'-1"	27
8	#5	K4	6'-2"	7
1	#5	K5	3'-0"	25
1	#5	K6	3'-1"	25
1	#5	K7	3'-3"	25
1	#5	K8	6'-0"	27
62	#5	R3	3'-0"	19
62	#5	R4	3'-3"	27
8	#4	U1	7'-0"	10
67	#3	U2	7'-1"	10

NOTES:
CONCRETE FOR PRESTRESSED GIRDERS SHALL BE CLASS A-1 WITH $f_c = 6,000$ PSI AND $f_{ci} = 5,000$ PSI.
(+) INDICATES PRESTRESSING STRAND.
USE 28 STRANDS WITH AN INITIAL PRESTRESS FORCE OF 868 KIPS.
PRESTRESSING STEEL SHALL BE UNCOATED, SEVEN-WIRE, LOW-RELAXATION STRANDS, CONFORMING TO AASHTO M203, GRADE 270. SEE SECTION 705.4.8 OF THE MISSOURI STANDARD SPECIFICATIONS.
THE NOMINAL DIAMETER SHALL BE 1/2" AND THE NOMINAL CROSS-SECTION AREA SHALL BE 0.153 SQ. IN.
THE LIFTING LOOPS SHALL BE 3/4" DIAMETER 6x25 CLASS WIRE ROPE WITH FIBER CORE AND SHALL HAVE A MINIMUM ULTIMATE TENSILE STRENGTH OF 46,000 LBS. OR 3 - 1/2" 270 KSI STRANDS, AS SHOWN.
KEYWAY SURFACES SHALL BE CLEANED TO REMOVE FORM OIL OR OTHER BOND BREAKING MATERIAL PRIOR TO SHIPMENT OF THE BEAMS. CLEANING SHALL BE DONE BY SANDBLASTING THE KEYWAY AREAS BETWEEN TOP OF THE BEAM AND THE BOTTOM EDGE OF THE KEY.
REINFORCEMENT BARS SHALL CONFORM TO AASHTO M-31, M-42 OR M-53, GRADE 60.
COST OF FURNISHING AND INSTALLING THE PREFABRICATED JOINT FILLER, TIE ASSEMBLIES, NON-SHRINK GROUT AND ALL REINFORCEMENT SHALL BE INCLUDED IN THE PRICE BID FOR PRESTRESSED CONCRETE BOX GIRDER, PER EACH.
VENT HOLES AND DRAIN HOLES SHALL BE CAST. DRILLING IS NOT ALLOWED.

NOTES:
ALL DIMENSIONS ARE OUT TO OUT.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE CRSI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, STIRRUPS AND TIE DIMENSIONS.
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE OF BAR TO THE NEAREST INCH.
ALL REINFORCING STEEL SHALL BE GRADE 60.
ALL K-BARS AND R-BARS SHALL BE EPOXY COATED.

JUL 31 2003

STATE OF MISSOURI REGISTERED PROFESSIONAL ENGINEER

CAROLYN L. MURET WHALEY
NUMBER E-22798

ESTIMATED QUANTITIES

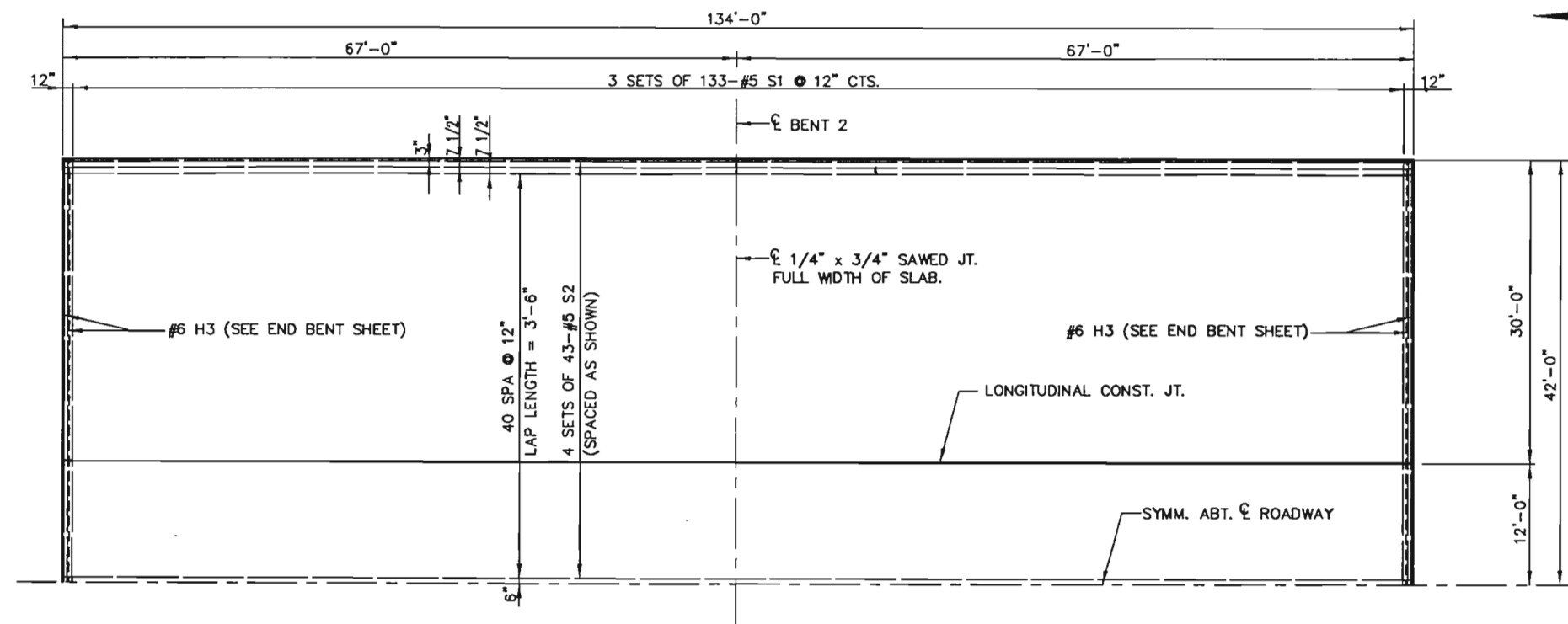
ITEM	UNIT	QUANTITY
PRESTRESSED CONCRETE	EACH	4
BOX GIRDER- 66'-0" SPAN		

Note: This drawing is not to scale. Follow dimensions.

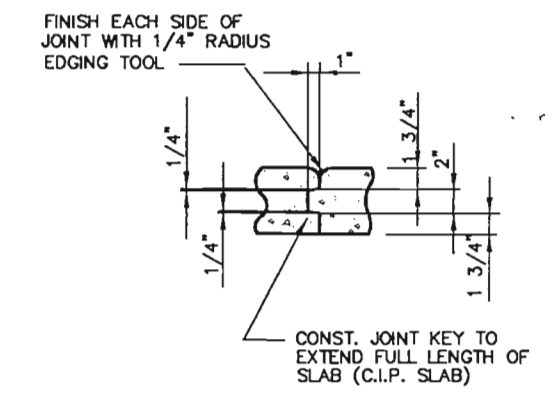
Sheet No. 7 of 13

Crd. DWG.: wallidw
 DATE: 5/03
 CRD JOB NO.: 200315 LSLBLVDRED

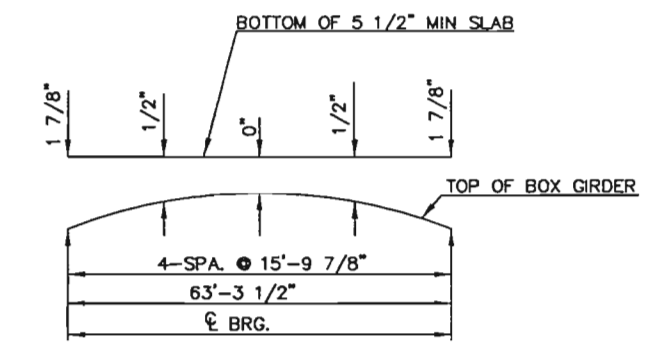
STATE	PROJ. NO.	SHEET NO.
MO.	J610736C	88



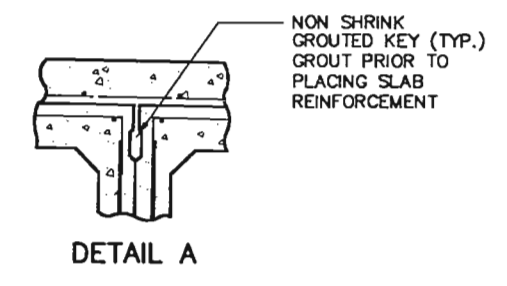
PLAN SHOWING SLAB REINFORCING



TYPICAL C. I. P. CONST. JOINT



EXTRA SLAB THICKNESS DIAGRAM



DETAIL A

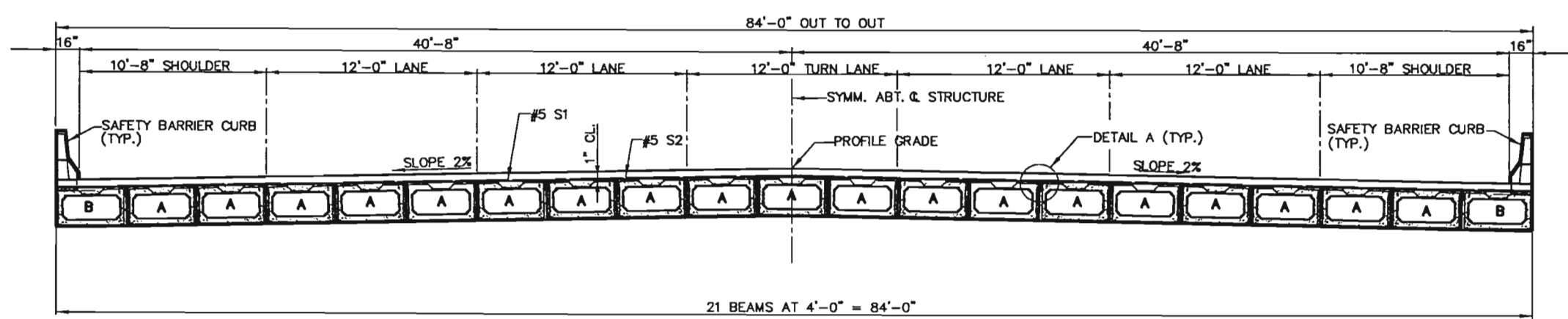
NOTES:
 IF GIRDER CAMBER IS DIFFERENT FROM THAT SHOWN IN THE CAMBER DIAGRAM, IT SHALL BE NECESSARY TO INCREASE THE SLAB THICKNESS OR RAISE THE GRADE UNIFORMLY THROUGHOUT THE STRUCTURE. NO PAYMENT WILL BE MADE FOR ADDITIONAL LABOR OR MATERIALS REQUIRED FOR VARIATION IN SLAB THICKNESS OR GRADE ADJUSTMENT.

CONCRETE IN THE SLAB IS INCLUDED IN THE ESTIMATED QUANTITIES AS CLASS B-2 CONCRETE.

THE SLAB IS TO BE BUILT PARALLEL TO GRADE AND TO A MINIMUM THICKNESS OF 5 1/2".

SEE BOX GIRDER SHEET FOR GIRDER CAMBER DIAGRAM.

SEE BOX GIRDER SHEET FOR SPACING OF REINFORCEMENT.

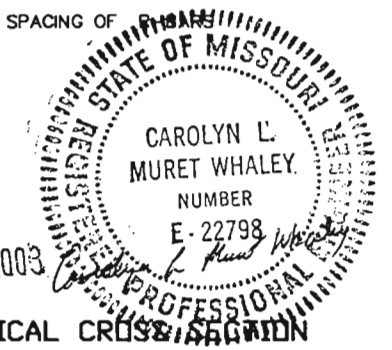


CROSS SECTION

SLAB POURING NOTES:
 THE CONTRACTOR SHALL POUR AND SATISFACTORILY FINISH THE SLAB FROM END TO END OF BRIDGE AT A MINIMUM RATE OF POUR OF 25 CU. YDS PER HOUR. RETARDER SHALL BE AN APPROVED TYPE AND RETARD THE SET OF CONCRETE TO 2.5 HOURS.

THE LONGITUDINAL CONSTRUCTION JOINT MAY BE OMITTED WITH THE APPROVAL OF THE ENGINEER. WHEN THE LONGITUDINAL CONSTRUCTION JOINT IS OMITTED THE MINIMUM RATE OF POUR SHALL BE 29 CU. YD. PER HOUR.

Note: This drawing is not to scale. Follow dimensions.



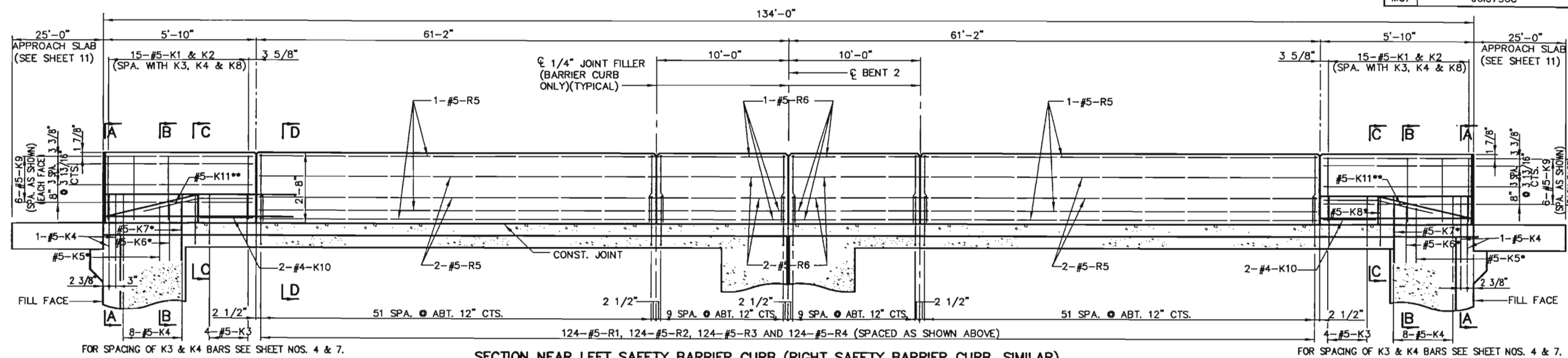
SLAB AND TYPICAL CROSS SECTION

ST. CHARLES COUNTY

A7043

CRD JOB NO.: 200315 LSIBLVDRD
 DATE: 5/03

STATE	PROJ. NO.	SHEET NO.
MO.	J610736C	69

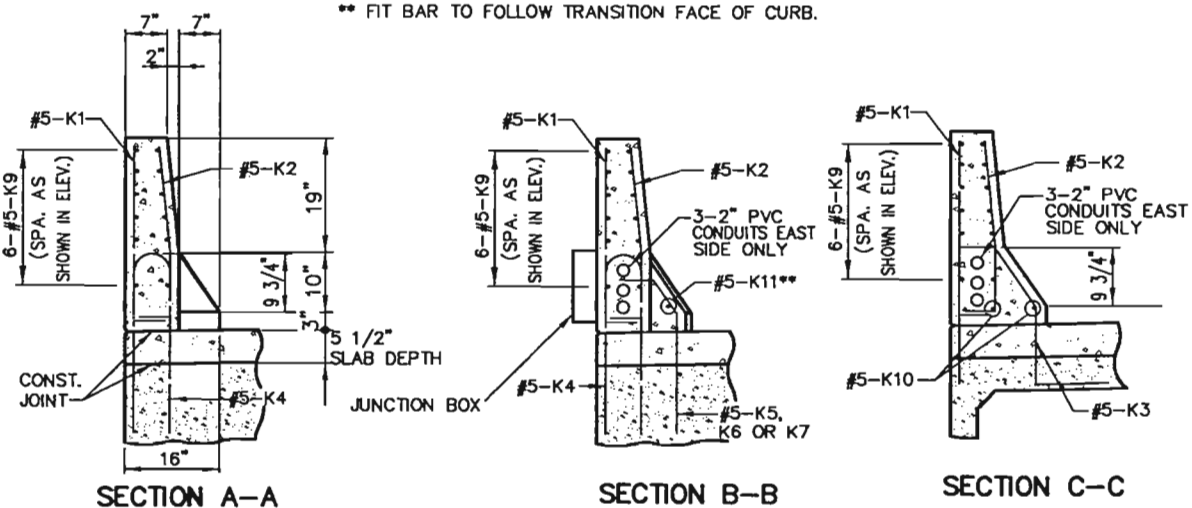


SECTION NEAR LEFT SAFETY BARRIER CURB (RIGHT SAFETY BARRIER CURB, SIMILAR)

FOR SPACING OF K3 & K4 BARS SEE SHEET NOS. 4 & 7.

FOR SPACING OF K3 & K4 BARS SEE SHEET NOS. 4 & 7.

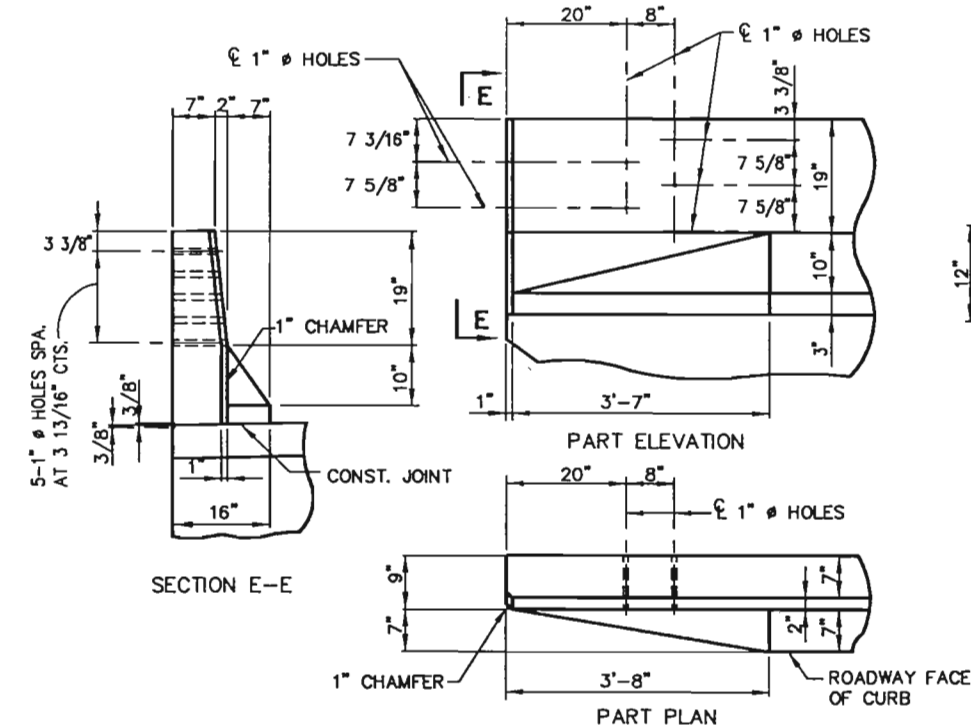
- * SPACED WITH #5-K4 BARS.
- ** FIT BAR TO FOLLOW TRANSITION FACE OF CURB.



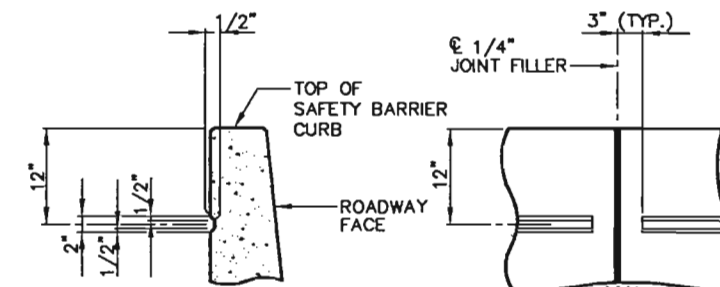
SECTION A-A

SECTION B-B

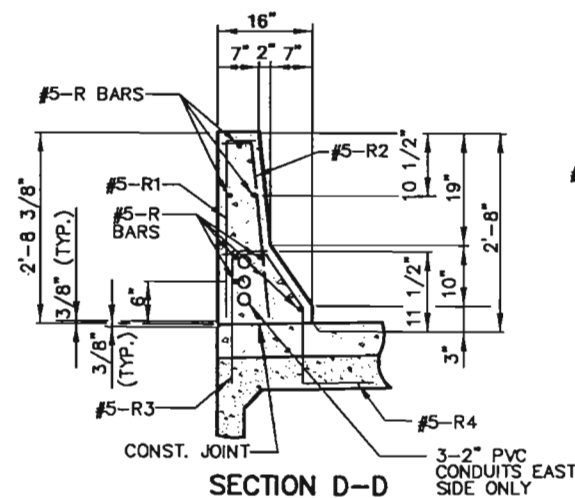
SECTION C-C



DETAILS FOR GUARDRAIL ATTACHMENT AND BRIDGE ANCHOR SECTION

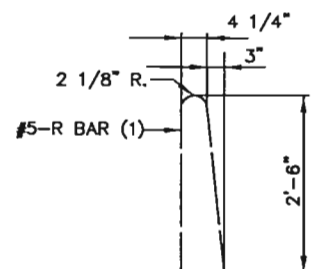


RUSTICATION DETAIL



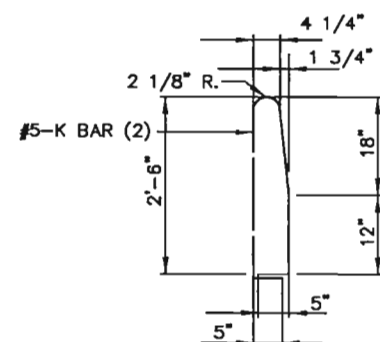
SECTION D-D

USE A MINIMUM LAP OF 35" FOR #5 HORIZONTAL SAFETY BARRIER CURB BARS.
THE CROSS-SECTIONAL AREA FOR EACH CURB ABOVE THE SLAB = 2.28 SQ. FT.



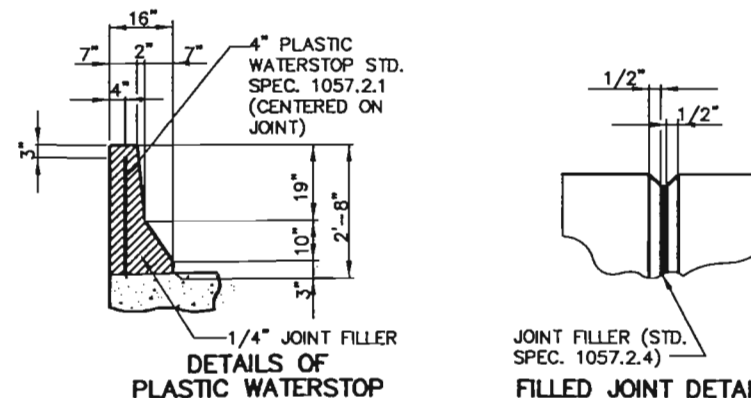
R-BAR PERMISSIBLE ALTERNATE SHAPE

(1) THE R1 AND R2 BAR COMBINATION MAY BE FURNISHED AS ONE BAR, AS SHOWN, AT THE CONTRACTOR'S OPTION. (ALL DIMENSIONS ARE OUT TO OUT.)

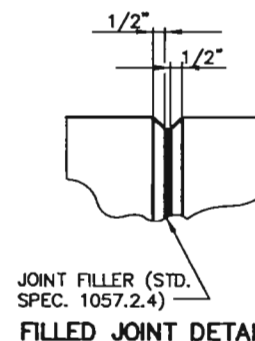


K-BAR PERMISSIBLE ALTERNATE SHAPE

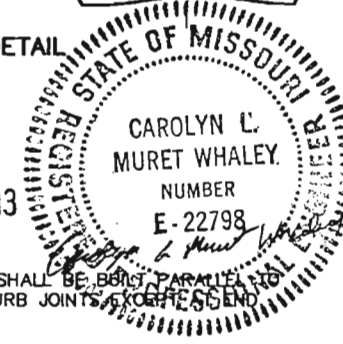
(2) THE K1 AND K2 BAR COMBINATION MAY BE FURNISHED AS ONE BAR, AS SHOWN, AT THE CONTRACTOR'S OPTION. (ALL DIMENSIONS ARE OUT TO OUT.)



DETAILS OF PLASTIC WATERSTOP



JOINT FILLER (STD. SPEC. 1057.2.4) FILLED JOINT DETAIL



NOTES:
TOP OF SAFETY BARRIER CURB SHALL BE BUILT PARALLEL TO GRADE WITH SAFETY BARRIER CURB JOINTS COMPRESSED AND BENTS NORMAL TO GRADE.

ALL EXPOSED EDGES OF SAFETY BARRIER CURB SHALL HAVE EITHER A 1/2" RADIUS OR A 3/8" BEVEL, UNLESS OTHERWISE NOTED.

WHEN THE SAFETY BARRIER CURB IS BID BY LINEAR FEET, THE CONTRACT UNIT PRICE SHALL INCLUDE THE COST OF ALL CONCRETE AND ALL K1, K2, K9, K10, K11, R1, R2, R5, AND R6 REINFORCING BARS, COMPLETE-IN-PLACE.

CONCRETE IN THE SAFETY BARRIER CURB SHALL BE CLASS B-1.

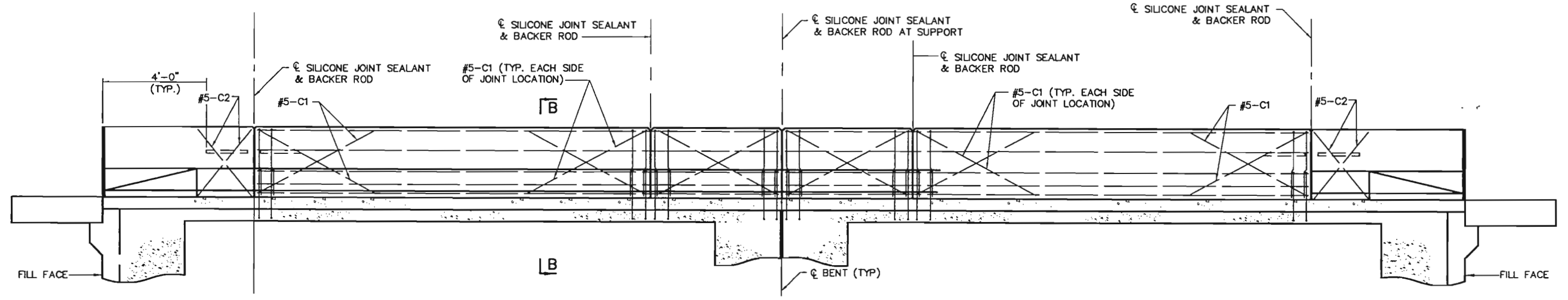
MEASUREMENT OF SAFETY BARRIER CURB IS TO THE NEAREST LINEAR FOOT MEASURED ALONG THE OUTSIDE TOP OF SLAB FROM FILL FACE TO FILL FACE.

LONGITUDINAL DIMENSIONS ARE HORIZONTAL DIMENSIONS.
FOR DETAILS OF TYPICAL CONDUIT SYSTEM SEE SHEET 10.

SAFETY BARRIER CURB DETAILS

CRD JOB NO.: 200315 LSLBLVDRED
DATE: 5/03

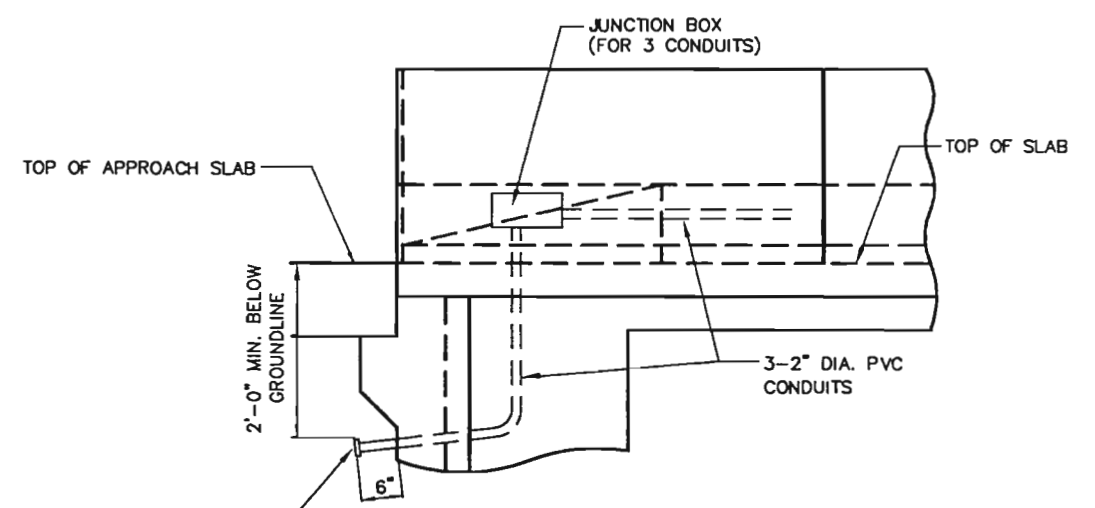
STATE	PROJ. NO.	SHEET NO.
MO.	J610736C	610



**TYPICAL SECTION NEAR SAFETY BARRIER CURB AT SUPPORT LOCATIONS
(OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB)**

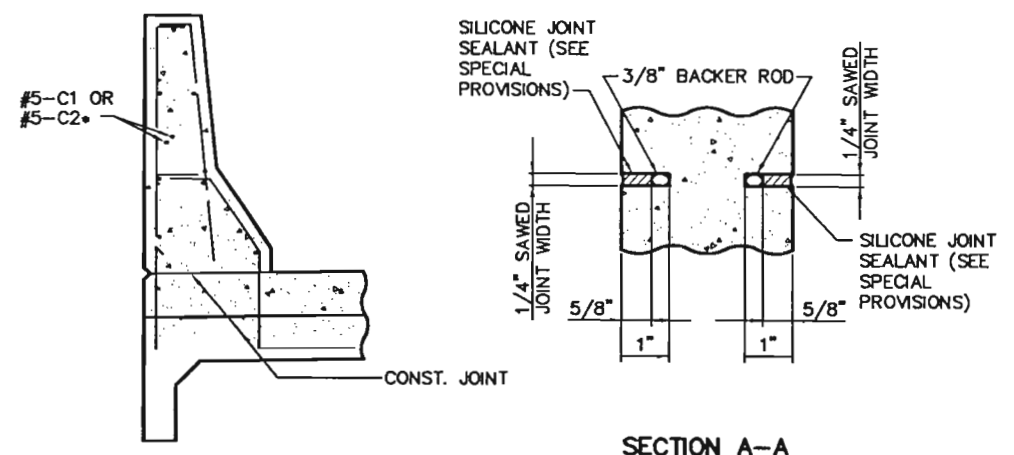
NOTES:
 TOP OF SAFETY BARRIER CURB SHALL BE BUILT PARALLEL TO GRADE WITH SAFETY BARRIER CURB JOINTS EXCEPT AT END BENTS NORMAL TO GRADE.
 WHEN THE SAFETY BARRIER CURB IS BID BY LINEAR FEET, THE CONTRACT UNIT PRICE SHALL INCLUDE THE COST OF ALL CONCRETE AND ALL K1, K2, K9, K10, K11, R1, R2, R5, AND R6 REINFORCING BARS, COMPLETE-IN-PLACE.
 CONCRETE IN THE SAFETY BARRIER CURB SHALL BE CLASS B-1.
 MEASUREMENT OF SAFETY BARRIER CURB IS TO THE NEAREST LINEAR FOOT MEASURED ALONG THE OUTSIDE TOP OF SLAB FROM FILL FACE TO FILL FACE.

NOTE:
 JOINT SEALANT AND BACKER RODS SHALL BE USED ON ALL SLIP-FORM BRIDGE SAFETY BARRIER CURBS INSTEAD OF JOINT FILLER.
 PLASTIC WATERSTOP SHALL NOT BE USED WITH SLIP-FORM OPTION.
 C1 & C2 BARS (SLIP-FORM OPTION ONLY) SHALL BE USED IN ADDITION TO CAST-IN-PLACE CONVENTIONAL FORMING REINFORCEMENT FOR BRIDGE SAFETY BARRIER CURB.



TYPICAL CONDUIT SYSTEM (EAST SIDE ONLY)

NOTES:
 ALL CONDUIT SHALL BE RIGID NON-METALLIC SCHEDULE 40 HEAVY WALL PVC (POLYVINYL CHLORIDE PLASTIC). EACH SECTION OF CONDUIT SHALL BEAR THE UNDERWRITERS' LABORATORIES, INC., (UL) LABEL.
 SHIFT REINFORCING STEEL IN FIELD WHERE NECESSARY TO CLEAR CONDUIT AND JUNCTION BOXES.
 ALL END BENT JUNCTION BOXES SHALL BE PVC MOLDED SURFACE MOUNTED AND EQUAL TO CARLON ELECTRICAL CONSTRUCTION PRODUCTS OR TRIANGLE CONDUIT AND CABLE COMPANY, INC. THE CONDUIT TERMINATIONS SHALL BE PERMANENT OR SEPARABLE. THE TERMINATIONS AND COVERS SHALL BE OF WATERTIGHT CONSTRUCTION. JUNCTION BOXES SHALL HAVE STAINLESS STEEL COVERS.
 WEEPHOLES SHALL BE PROVIDED AT APPROPRIATE LOCATIONS TO DRAIN ANY MOISTURE IN THE CONDUIT LINES.

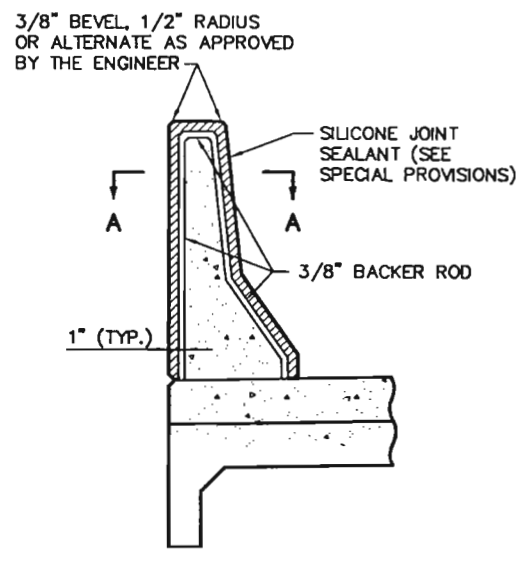


SECTION A-A

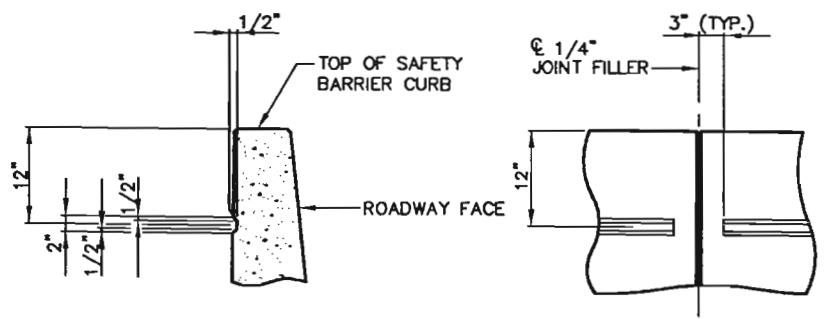
PART SECTION B-B

NOTE:
 • EACH SIDE OF JOINT LOCATION.

NOTE:
 COST OF SILICONE JOINT SEALANT AND BACKER ROD COMPLETE IN PLACE TO BE INCLUDED IN THE CONTRACT UNIT PRICE FOR SAFETY BARRIER CURB.



SECTION THRU JOINT



RUSTICATION DETAIL

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.



JUL 31 2003
 SHEET NO. 10 OF 13

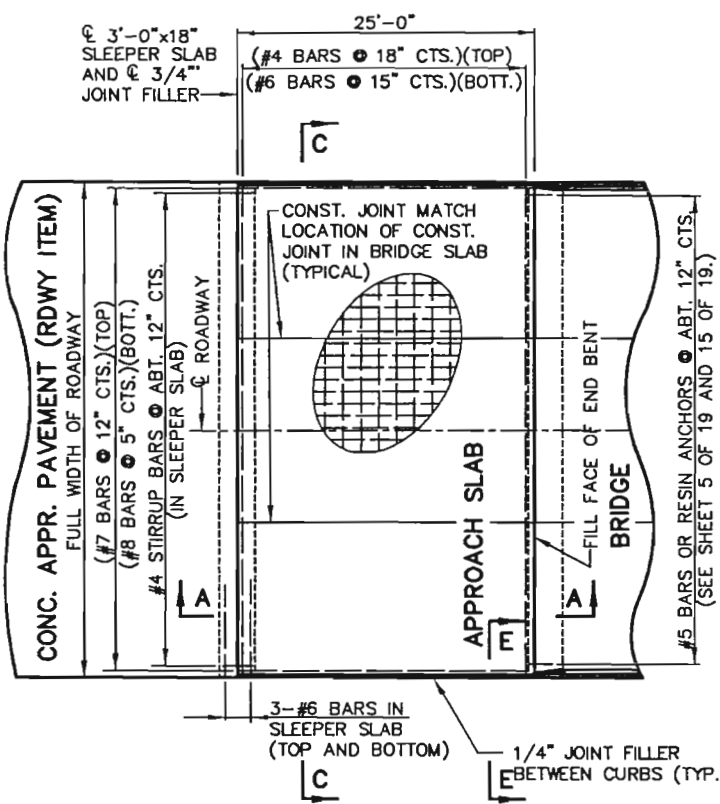
**SLIP-FORM OPTION
 EAST AND WEST
 SAFETY BARRIER CURB**

ST. CHARLES COUNTY

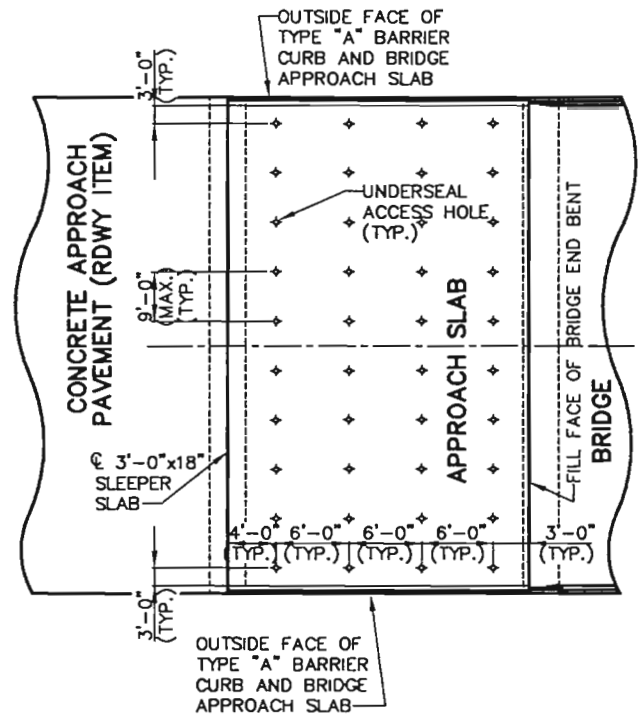
A7043

CAD DWG. TITLE: 65125RBC.DWG
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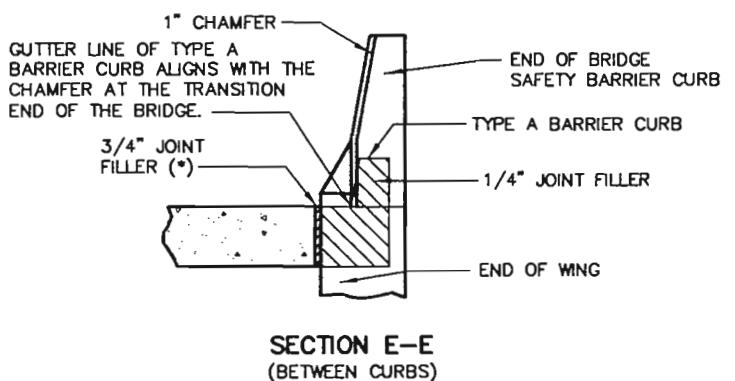
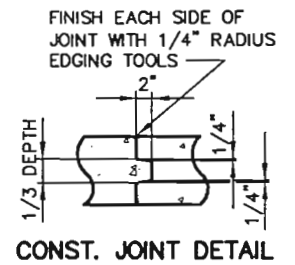
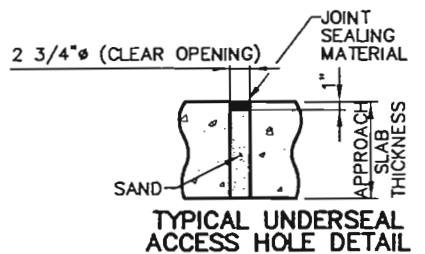
STATE	PROJ. NO.	SHEET NO.
MO.	J60736C	11



PART PLANS SHOWING REINFORCEMENT

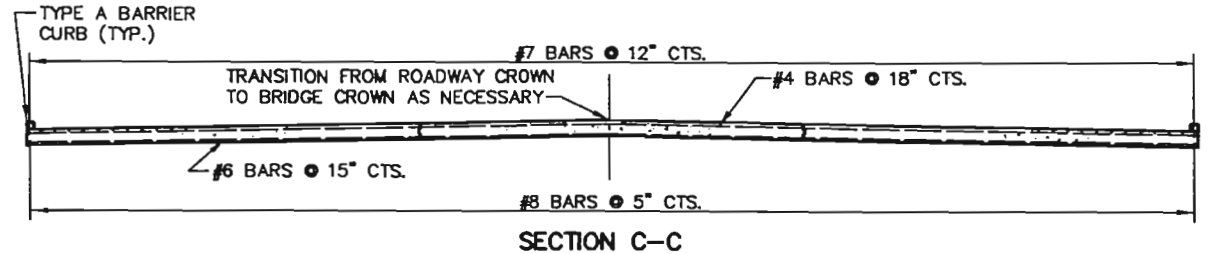


PART PLAN SHOWING TYPICAL UNDERSEAL ACCESS HOLE LOCATIONS

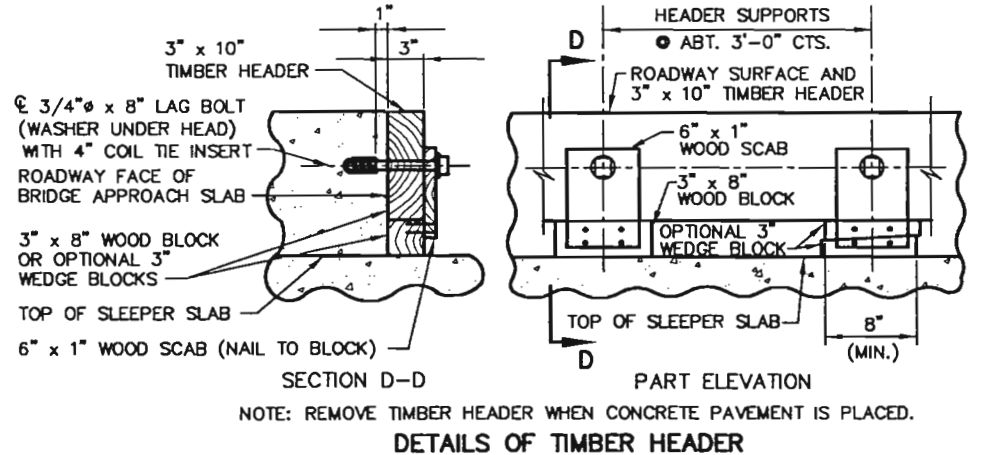


SECTION E-E (BETWEEN CURBS)

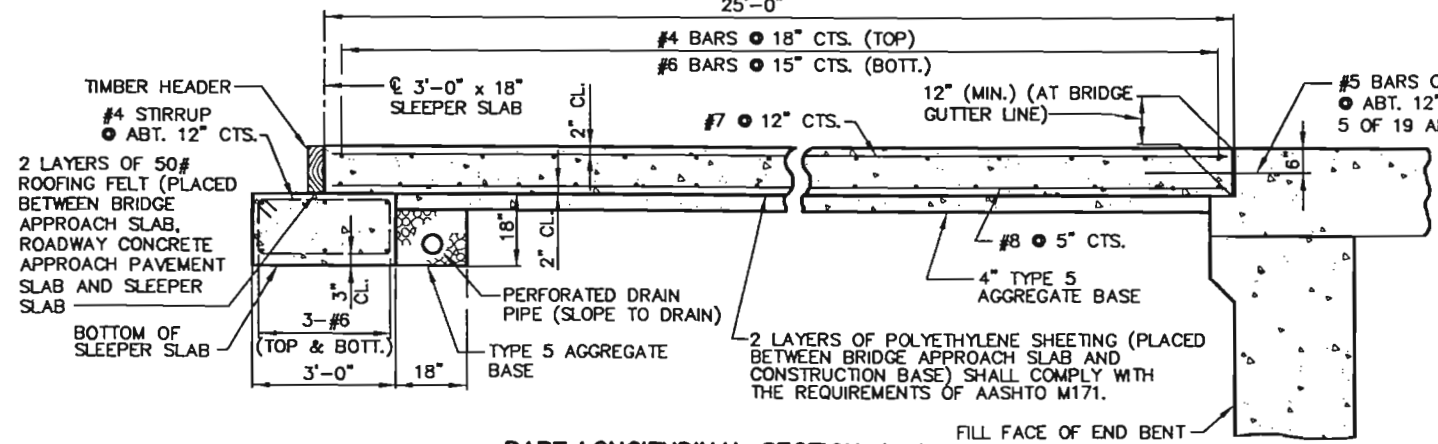
(* USE 3/4" JOINT FILLER BETWEEN VERTICAL FACE OF APPROACH SLAB AND WING, EXCEPT AT THE END OF SAFETY BARRIER CURB/WING FACE USE 1/4" JOINT FILLER. SEAL JOINT WITH JOINT SEALANT. SEE SPECIAL PROVISIONS.



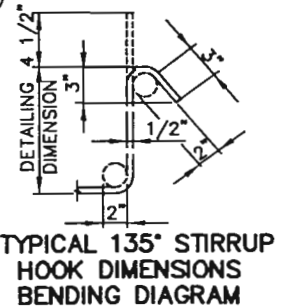
SECTION C-C



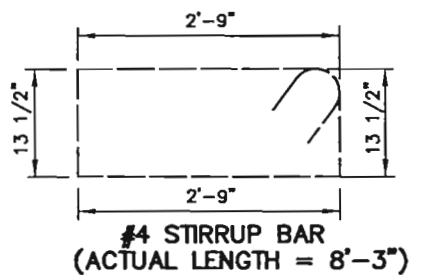
SECTION D-D PART ELEVATION
NOTE: REMOVE TIMBER HEADER WHEN CONCRETE PAVEMENT IS PLACED.



PART LONGITUDINAL SECTION A-A



TYPICAL 135° STIRRUP HOOK DIMENSIONS BENDING DIAGRAM
NOTE: NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAM AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)



GENERAL NOTES:
ALL CONCRETE FOR THE BRIDGE APPROACH SLAB AND SLEEPER SLAB SHALL BE IN ACCORDANCE WITH SECTION 503 (f_c = 4,000 PSI) OF THE MISSOURI STANDARD SPECIFICATIONS.
ALL JOINT FILLER SHALL MEET THE REQUIREMENTS OF SECTION 1057.2.5 OF THE MISSOURI STANDARD SPECIFICATIONS, EXCEPT AS NOTED.
THE REINFORCING STEEL IN THE BRIDGE APPROACH SLAB AND THE SLEEPER SLAB SHALL BE EPOXY COATED GRADE 60 WITH F_y = 60,000 PSI.
MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1 1/2", UNLESS OTHERWISE SHOWN.
THE REINFORCING STEEL IN THE BRIDGE APPROACH SLAB AND THE SLEEPER SLAB SHALL BE CONTINUOUS. THE TRANSVERSE REINFORCING STEEL MAY BE MADE CONTINUOUS BY LAP SPLICING THE #4 & #6 BARS 18" AND 26" RESPECTIVELY.
MECHANICAL BAR SPLICES WILL BE PERMITTED AND SHALL DEVELOP AT LEAST 125 PERCENT OF THE SPECIFIED YIELD STRENGTH OF THE REINFORCING BARS BEING SPLICED. THE CONTRACTOR SHALL FURNISH THE MANUFACTURER'S CERTIFICATION THAT THIS REQUIREMENT IS MET AND IS REQUIRED TO FOLLOW THE MANUFACTURER'S RECOMMENDATION FOR INSTALLATION.
MECHANICAL BAR SPLICES SHALL BE EPOXY COATED IN ACCORDANCE WITH SECTION 710 OF THE MISSOURI STANDARD SPECIFICATIONS.
WHEN A LAP SPLICE IS REQUIRED FOR THE USE OF A MECHANICAL BAR SPLICE, THE MINIMUM LAP LENGTH SHALL BE 40" FOR TRANSVERSE APPROACH SLAB BAR SPLICES.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE C.R.S.I. MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, STIRRUP AND THE DIMENSIONS.
THE CONTRACTOR SHALL POUR AND SATISFACTORILY FINISH THE BRIDGE SLAB BEFORE POURING THE BRIDGE APPROACH SLABS.
LONGITUDINAL CONSTRUCTION JOINTS IN APPROACH SLAB AND SLEEPER SLAB SHALL BE ALIGNED WITH LONGITUDINAL CONSTRUCTION JOINTS IN BRIDGE SLAB.
PAYMENT FOR FURNISHING ALL MATERIALS, LABOR AND EXCAVATION NECESSARY TO CONSTRUCT THE APPROACH SLAB, INCLUDING THE TIMBER HEADER, SLEEPER SLAB, UNDERDRAIN, TYPE 5 AGGREGATE BASE JOINT FILLER AND ALL OTHER APPURTENANCES AND INCIDENTAL WORK AS SHOWN ON THIS SHEET, COMPLETE IN PLACE, SHALL BE CONSIDERED AS COMPLETELY COVERED UNDER THE CONTRACT UNIT PRICE FOR BRIDGE APPROACH SLAB (BRIDGE)", PER SQ. YD.
FOR CONCRETE APPROACH PAVEMENT DETAILS, SEE ROADWAY PLANS.
SEE MISSOURI STANDARD PLANS DRAWING 609.00 FOR DETAILS OF TYPE A BARRIER CURB.
AT THE CONTRACTOR'S OPTION, GRADE 40 REINFORCEMENT MAY BE SUBSTITUTED FOR THE GRADE 60 #5 DOWEL BARS CONNECTING THE BRIDGE APPROACH SLAB TO THE BRIDGE ABUTMENT. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS SUBSTITUTION.
WHEN GRADE 40 REINFORCEMENT IS SUBSTITUTED FOR THE GRADE 60 #5 DOWEL BARS CONNECTING THE BRIDGE APPROACH SLAB TO THE BRIDGE ABUTMENT, THE REINFORCEMENT MAY BE BENT UP TO 90 DEGREES WITH A 2" MINIMUM RADIUS NEAR THE ABUTMENT TO ALLOW COMPACTION OF THE BACKFILL MATERIAL NEAR THE ABUTMENT. DAMAGE TO EPOXY COATING SHALL BE REPAIRED ACCORDING TO SECTION 710.3.3. OF THE MISSOURI STANDARD SPECIFICATIONS.
DRAIN PIPE MAY BE EITHER 6" DIAMETER CORRUGATED METALLIC-COATED PIPE UNDERDRAIN, 4" DIAMETER CORRUGATED POLYVINYL CHLORIDE (PVC) DRAIN PIPE, OR 4" DIAMETER CORRUGATED POLYETHYLENE (PE) DRAIN PIPE.



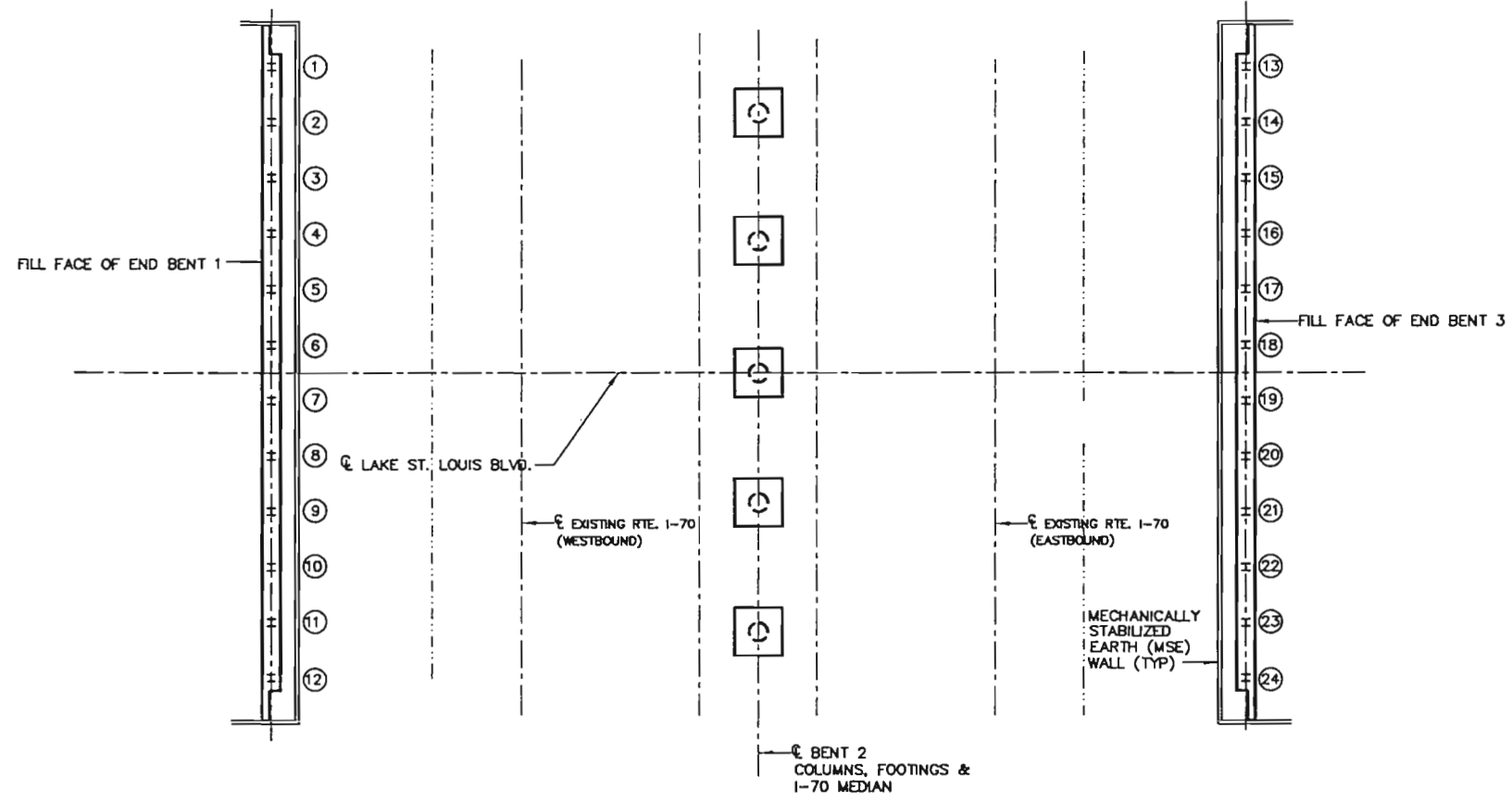
BRIDGE APPROACH SLAB
ST. CHARLES COUNTY
A7043

APP. SLAB, GS 3.30, SQ. I, A
APPROACH SLAB
REVISIONS
AUG. 1994
DECEMBER 1992

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NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 11 OF 13



PART PLAN SHOWING PILE NUMBERING FOR RECORDING "AS BUILT PILE" DATA

"AS BUILT PILE DATA"			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
END BENT NO. 1			
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
END BENT NO. 3			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			



NOTE:
 INDICATE IN REMARK COLUMN
 A.) IF PILING WERE DRIVEN TO PRACTICAL REFUSAL.
 B.) PILE BATTER IF OTHER THAN SHOWN ON BENT DETAIL SHEET.
 C.) TYPE OF PILING USED.

NOTE: THIS SHEET TO BE COMPLETED BY MoDOT CONSTRUCTION PERSONNEL

AS BUILT PILE DATA
 ST. CHARLES COUNTY

A7043

JOB NO. 200022 LAKE ST. LOUIS BLVD. OVER RTE. I-70
 CADD DWG. TITLE: 6012P.DWG

PAY QUANTITIES

ITEM	UNIT	SUBSTR.	SUPERSTR.	TOTAL
5009: REMOVAL OF BRIDGES	LS	1	—	1
CLASS 1 EXCAVATION	CU YD	117.5	—	117.5
5010: TEMPORARY SHORING	LS	1	—	1
BRIDGE APPROACH SLAB (BRIDGE)	SQ YD	—	464	464
STRUCTURAL STEEL PILES (12")	LF	562	—	562
PILE POINT REINFORCEMENT	EACH	12	—	12
CLASS B CONCRETE (SUBSTR.)	CU YD	132.2	—	132.2
5012: CLASS B2 CONCRETE (SUPSTR. CONC. ON BOX GIRDER)	CU YD	—	230.8	230.8
* SAFETY BARRIER CURB	LF	—	268	268
5013: PLAIN NEOPRENE BEARING PADS	EACH	—	88	88
5014: PRESTRESSED CONCRETE BOX GIRDER (66FT SPAN)	EACH	—	42	42
REINFORCING STEEL (BRIDGES)	LBS	—	17,910	17,910
CONDUIT SYSTEM ON STRUCTURE	LS	—	1	1
REINFORCING STEEL (EPOXY COATED)	LBS	—	28,460	28,460
ASPHALT REMOVAL	SQ FT	—	0	0
CURB REMOVAL	LF	—	0	0
PARTIAL REMOVAL OF SUBSTRUCTURE CONCRETE	LS	0	—	0
UNFORMED SUBSTRUCTURE REPAIR	SQ FT	0	—	0
CLASS B-1 CONCRETE SUBSTRUCTURE	CU YD	0	—	0
CLASS B-2 CONCRETE SUPERSTRUCTURE (VOIDED SLABS)	CU YD	—	0	0
REPAIRING CONCRETE DECK (HALF-SOLING)	SQ FT	—	0	0
LOW SLUMP CONCRETE WEARING SURFACE	SQ FT	—	0	0
SLAB DRAINS	EACH	—	0	0
VERTICAL DRAINS AT END BENTS	EACH	—	0	0

GENERAL NOTES:

DESIGN SPECIFICATIONS:
 A.A.S.H.T.O. - 1996 LOAD FACTOR DESIGN AND INTERIMS THRU 2002.
 SEISMIC PERFORMANCE CATEGORY A.
 LOAD FACTOR DESIGN

DESIGN LOADING:
 HS20-MODIFIED MILITARY 24,000# TANDEM AXLE
 MILITARY 24,000# TANDEM AXLE
 35#/SQ. FT. FUTURE WEARING SURFACE.
 EARTH 120#/CU.FT., EQUIVALENT FLUID PRESSURE 45#/CU.FT.
 SUPERSTRUCTURE: SIMPLY-SUPPORTED, NON COMPOSITE FOR DEAD AND LIVE LOAD.

DESIGN UNIT STRESSES:
 CLASS B CONCRETE (SUBSTRUCTURE) $f'_c=3000$ PSI
 CLASS B1 CONCRETE (SAFETY BARRIER, CURB) $f'_c=4000$ PSI.
 CLASS B2 CONCRETE (SUPERSTRUCTURE, EXCEPT PRESTRESSED BOX GIRDERS AND SAFETY BARRIER) $f'_c=4000$ PSI.
 REINFORCING STEEL (GRADE 60) $f_y=60,000$ PSI.
 STEEL PILE (ASTM A709 GRADE 36) $f_b=9,000$ PSI.
 FOR PRESTRESSED GIRDER STRESSES SEE SHEET NOS. 6 & 7.

BEARING PADS:
 BEARINGS SHALL BE 60 DUROMETER NEOPRENE PADS. THE NEOPRENE PAD SHALL BE BONDED TO THE BEARING SEAT WITH AN EPOXY ADHESIVE AS APPROVED BY THE BEARING MANUFACTURER FOR BONDING NEOPRENE TO CONCRETE.

JOINT FILLER:
 ALL JOINT FILLER SHALL MEET THE REQUIREMENTS OF STD. SPEC. 1057.2.4, EXCEPT AS NOTED.

REINFORCING STEEL:
 MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1 1/2", UNLESS OTHERWISE SHOWN.

CONSTRUCTION CLEARANCES:
 A MINIMUM VERTICAL CLEARANCE OF 16'-0" FROM THE CROWN OF THE EXISTING LANES AND A MINIMUM LATERAL CLEARANCE OF 40' CENTERED ON THE EXISTING LANES SHALL BE MAINTAINED DURING CONSTRUCTION.

REMOVAL OF BRIDGE:
 A DEMOLITION PLAN IS REQUIRED FOR THE REMOVAL OF THE EXISTING BRIDGE. THE DEMOLITION PLAN SHALL ANALYZE THE STABILITY OF THE STRUCTURE DUE TO THE REDISTRIBUTION OF FORCES DURING THE DEMOLITION PROCESS.

FINAL PLANS

STATE	PROJ. NO.	SHEET NO.
MD.	J610736C.030124-601.170-4(149)	46

NOTES:

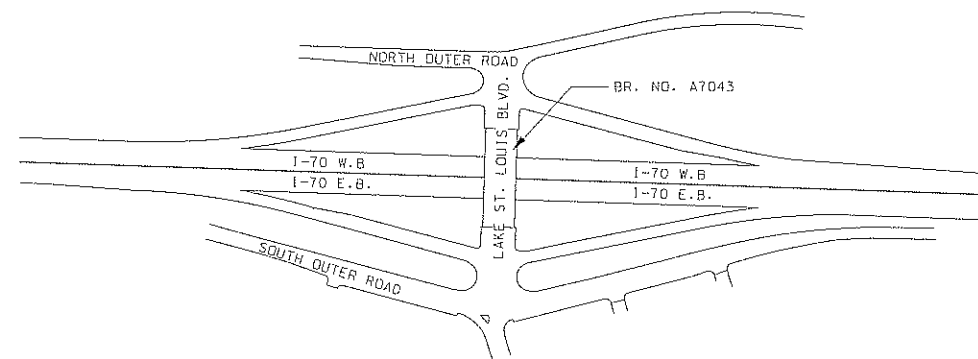
- ALL CONCRETE ABOVE THE LOWER CONSTRUCTION JOINT IN THE END BENTS IS INCLUDED WITH THE SUPERSTRUCTURE QUANTITIES.
- ALL REINFORCEMENT IN THE END BENTS IS INCLUDED WITH THE SUPERSTRUCTURE QUANTITIES.
- * SAFETY BARRIER CURB SHALL BE CAST-IN-PLACE OPTION OR SLIP-FORM OPTION.
- COST OF 3/4" DIAMETER DIAPHRAGM RODS IN BOX GIRDER IS INCLUDED IN THE CONTRACT UNIT PRICE FOR CLASS B2 CONCRETE.
- THE COST OF FURNISHING, FABRICATING, AND INSTALLING NEOPRENE BEARING PADS, COMPLETE-IN-PLACE, INCLUDING DOWEL RODS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR PLAIN NEOPRENE BEARING PADS PER EACH.

PILE AND FOOTING DATA

		BENT NO.	1	2	3
BEARING PILE	PILE TYPE AND SIZE		HP12x53		HP12x53
	NUMBER		12		12
	APPROXIMATE LENGTH (FT.)		29		21
	DESIGN BEARING (TONS)		62		62
	HAMMER ENERGY REQ'D (FT.-LBS.)		13600		13800
SPREAD FOOTING	FOUNDATION MATERIAL			LIMESTONE	
	DESIGN BEARING (TONS/SQFT)			7.7	

NOTES:

- MINIMUM ENERGY REQUIREMENT OF HAMMER BASED ON PLAN LENGTH AND DESIGN BEARING VALUE OF PILES.
- ALL PILES SHALL BE DRIVEN TO PRACTICAL REFUSAL
- MANUFACTURED PILE POINT REINFORCEMENT SHALL BE USED ON ALL PILES AT BENT 1. SEE SPECIAL PROVISIONS.



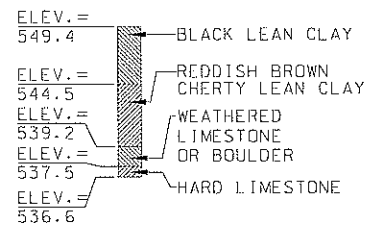
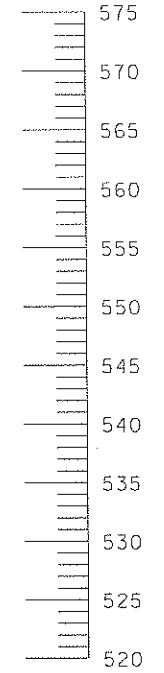
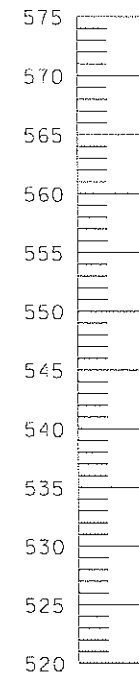
LOCATION SKETCH

FINAL QUANTITIES
 GENERAL NOTES, PILE AND
 FOOTING DATA

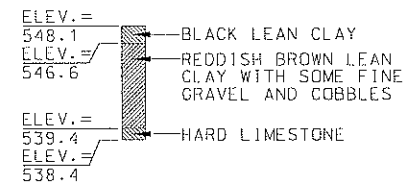
ST. CHARLES COUNTY

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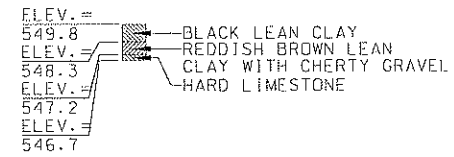
STATE	PROJ. NO.	SHEET NO.
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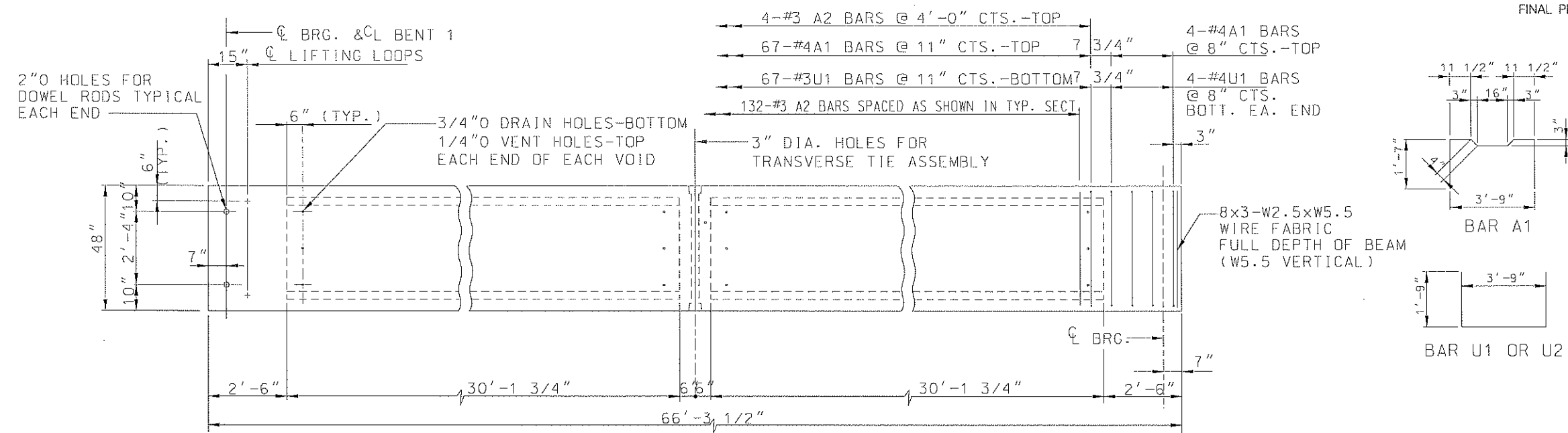
BORING DATA

NOTE:
FOR LOCATION OF BORINGS, SEE SHEET 1.

BORING DATA
ST. CHARLES COUNTY

A7043

STATE	PROJ. NO.	SHEET NO.
MO.	J610736C.031024-601.170-4(148)	50



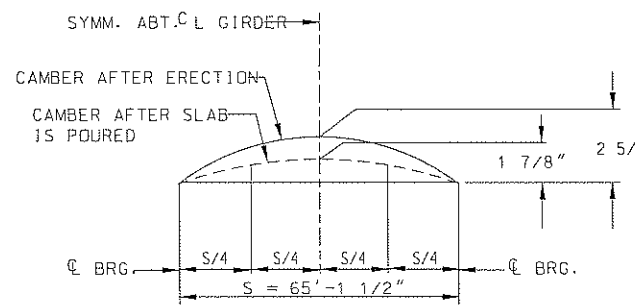
BILL OF REINFORCING EACH GIRDER				
NO.	SIZE	MARK	ACTUAL LENGTH	SHAPE
75	#4	A1	7'-0"	30
140	#3	A2	3'-8"	20
5	#5	B1	66'-0"	20
8	#5	B2	3'-0"	20
4	#4	B3	66'-0"	20
8	#4	U1	7'-0"	10
67	#3	U2	7'-1"	10

NOTES:
 ALL DIMENSIONS ARE OUT TO OUT.
 HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE CRSI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES. STIRRUPS AND TIE DIMENSIONS.
 ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE OF BAR TO THE NEAREST INCH.
 ALL REINFORCING STEEL SHALL BE GRADE 60.

TYPICAL PLAN OF INTERIOR BOX GIRDERS

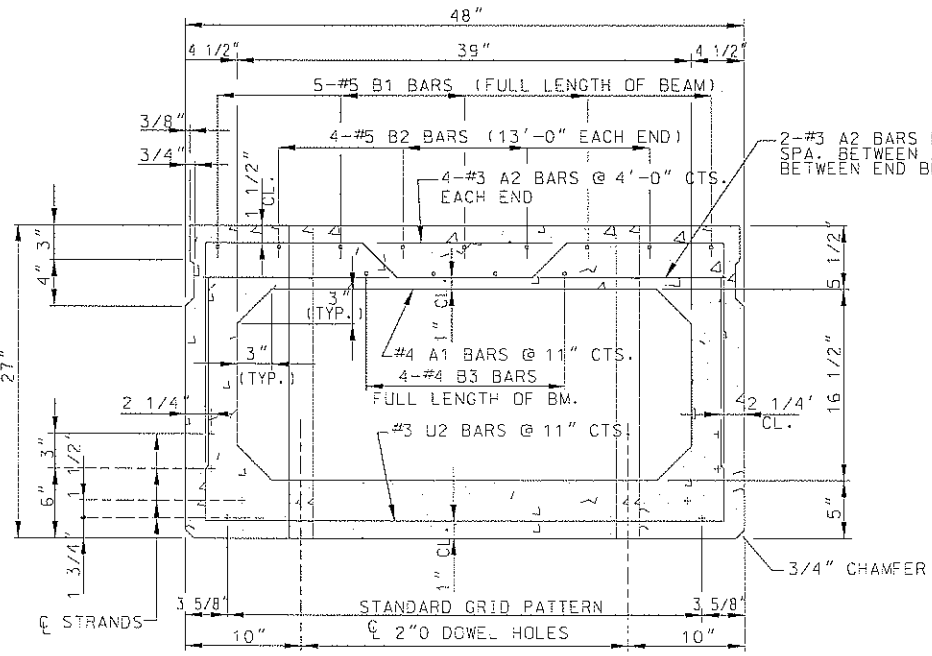
"AS BUILT" QUANTITIES

ITEM (5014)	UNIT	QUANTITY
PRESTRESSED CONCRETE BOX GIRDER- 66'-0" SPAN	EACH	38

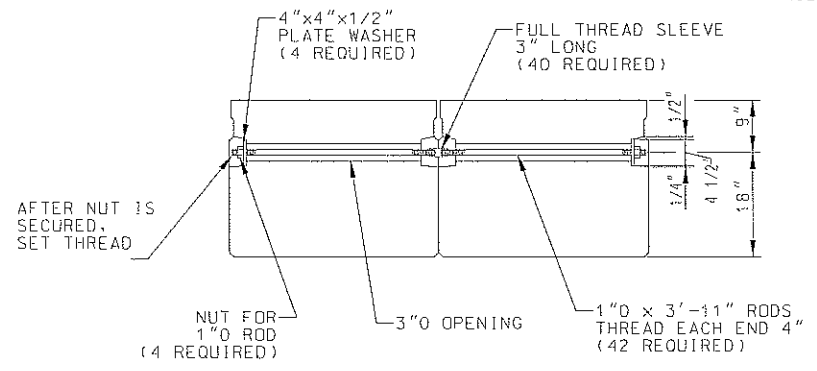


GIRDER CAMBER DIAGRAM
 CONVERSION FACTORS FOR GIRDER CAMBER:
 0.25 PT. = 0.7125 x 0.5 PT.

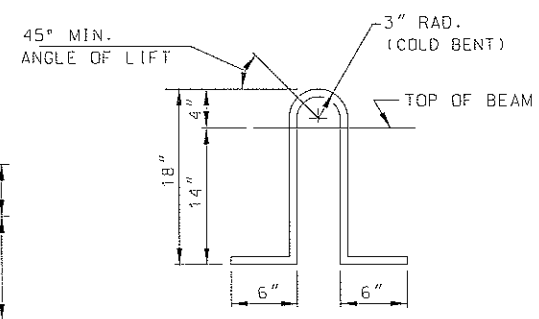
NOTES:
 CONCRETE FOR PRESTRESSED GIRDERS SHALL BE CLASS A-1 WITH $f'_c = 6,000$ PSI AND $f'_{ci} = 5,000$ PSI.
 (+) INDICATES PRESTRESSING STRAND.
 USE 28 STRANDS WITH AN INITIAL PRESTRESS FORCE OF 868 KIPS.
 PRESTRESSING STEEL SHALL BE UNCOATED, SEVEN-WIRE, LOW-RELAXATION STRANDS, CONFORMING TO AASHTO M203, GRADE 270. SEE SECTION 705.4.8 OF THE MISSOURI STANDARD SPECIFICATIONS.
 THE NOMINAL DIAMETER SHALL BE 1/2" AND THE NOMINAL CROSS-SECTION AREA SHALL BE 0.153 SQ. IN.
 THE LIFTING LOOPS SHALL BE 3/4" DIAMETER 6x25 CLASS WIRE ROPE WITH FIBER CORE AND SHALL HAVE A MINIMUM ULTIMATE TENSILE STRENGTH OF 46,000 LBS. OR 3 - 1/2" O 270 KSI STRANDS, AS SHOWN.
 KEYWAY SURFACES SHALL BE CLEANED TO REMOVE FORM OIL OR OTHER BOND BREAKING MATERIAL PRIOR TO SHIPMENT OF THE BEAMS. CLEANING SHALL BE DONE BY SANDBLASTING THE KEYWAY AREAS BETWEEN TOP OF THE BEAM AND THE BOTTOM EDGE OF THE KEY.
 REINFORCEMENT BARS SHALL CONFORM TO AASHTO M-31, M-42 OR M-53, GRADE 60.



TYPICAL SECTION (BEAM "A")
 (12 STRANDS-1 3/4" UP, 12 STRANDS-3 1/4" UP, 2 STRANDS-6" UP, 2 STRANDS 9" UP) STRESSED TO 31,000 LBS EACH PLACE STRANDS SYMMETRICALLY ABOUT L CL BEAM USE STANDARD GRID PATTERNS



TRANSVERSE TIE ASSEMBLY

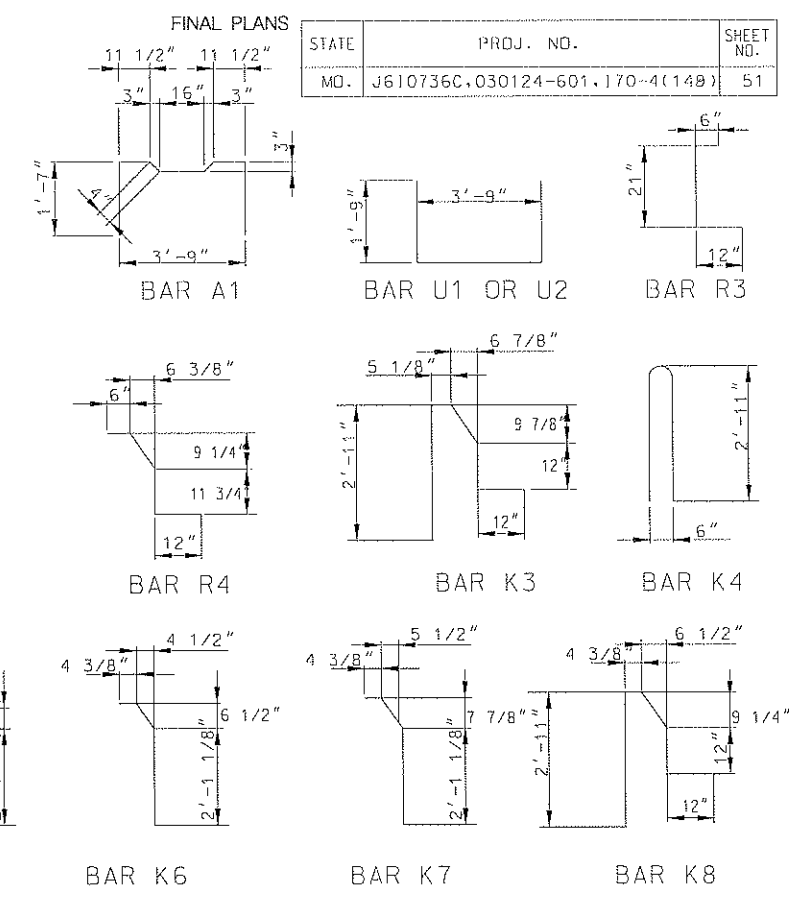
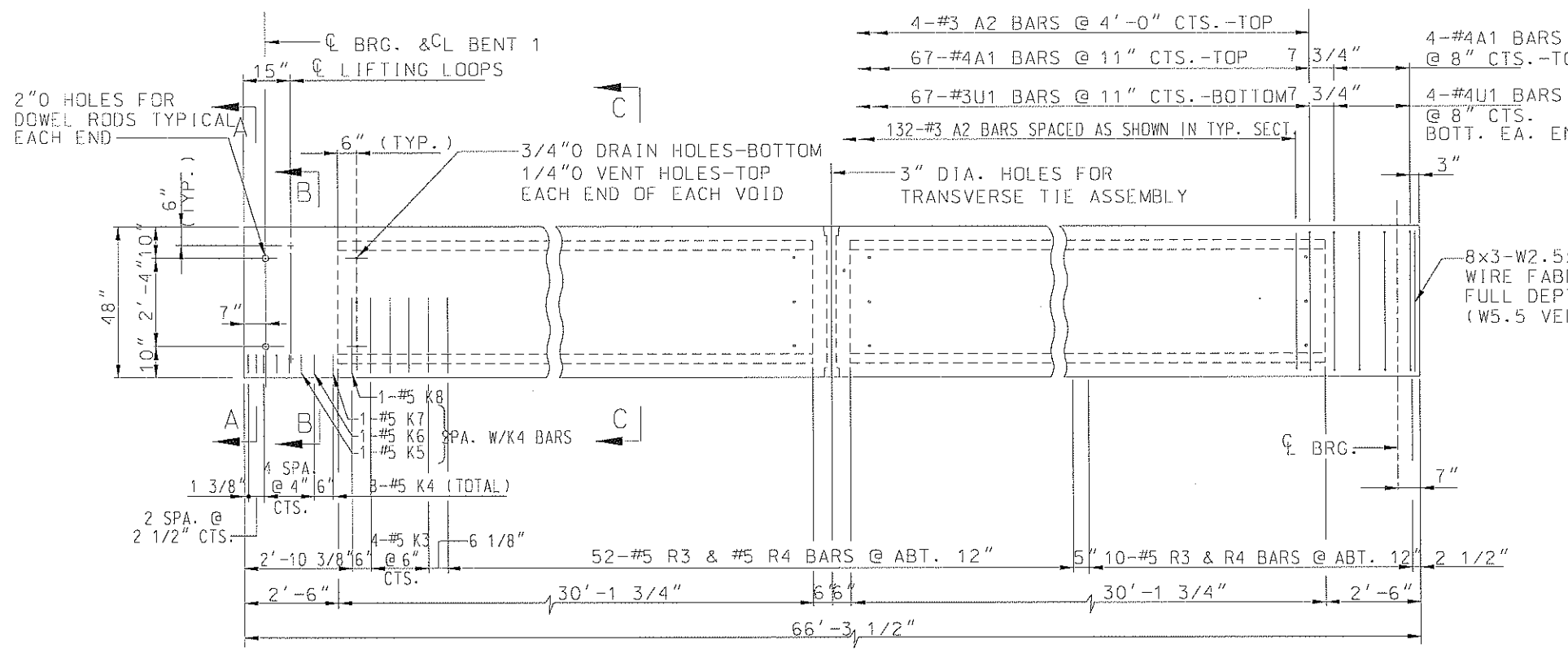


LIFTING LOOP DETAIL
 LIFTING LOOPS SHALL BE BURNED OFF BEFORE SLAB IS POURED.

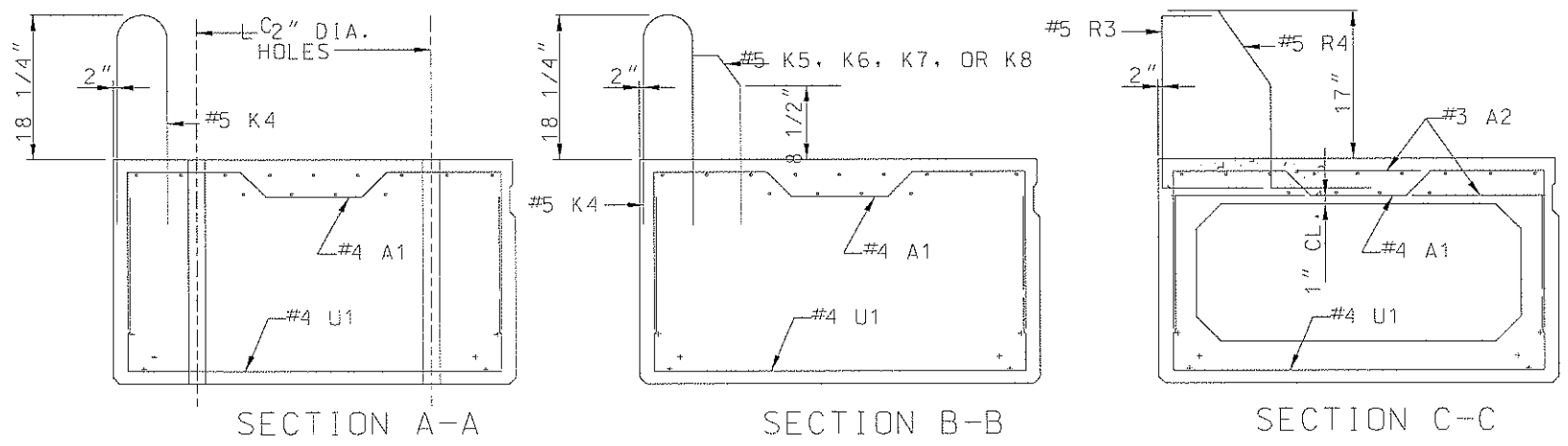
Note: This drawing is not to scale. Follow dimensions.

CRD JOB NO.: 200315 LSLBLVDRED

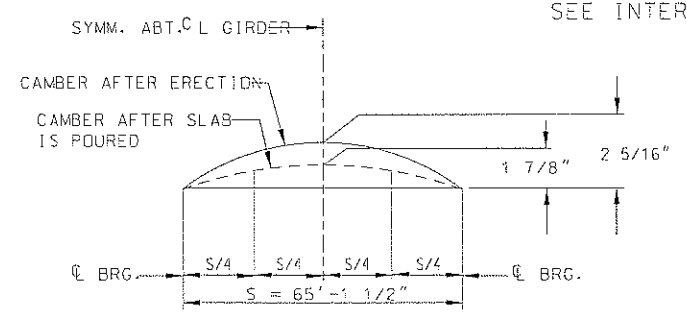
STATE	PROJ. NO.	SHEET NO.
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TYPICAL PLAN OF EXTERIOR BOX GIRDER
 (RIGHT EXTERIOR BOX GIRDER (SPAN 1-2) SHOWN, OTHER EXTERIOR GIRDERS SIMILIAR.)



FOR DETAILS, DIMENSIONS AND REINFORCING NOT SHOWN
 SEE INTERIOR BEAM SHEET NO. 7



CONVERSION FACTORS FOR GIRDER CAMBER:
 0.25 PT. = 0.7125 x 0.5 PT.

"AS BUILT" QUANTITIES

ITEM (5014)	UNIT	QUANTITY
PRESTRESSED CONCRETE BOX GIRDER- 66'-0" SPAN	EACH	4

BILL OF REINFORCING EACH GIRDER				
NO.	SIZE	MARK	ACTUAL LENGTH	SHAPE
75	#4	A1	7'-0"	30
140	#3	A2	3'-8"	20
5	#5	B1	66'-0"	20
8	#5	B2	13'-0"	20
4	#4	B3	66'-0"	20
4	#5	K3	6'-1"	27
8	#5	K4	6'-2"	7
1	#5	K5	3'-0"	25
1	#5	K6	3'-1"	25
1	#5	K7	3'-3"	25
1	#5	K8	6'-0"	27
62	#5	R3	3'-0"	19
62	#5	R4	3'-3"	27
8	#4	U1	7'-0"	10
67	#3	U2	7'-1"	10

NOTES:
 ALL DIMENSIONS ARE OUT TO OUT.
 HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE CRSI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES. STIRRUPS AND TIE DIMENSIONS.
 ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE OF BAR TO THE NEAREST INCH.
 ALL REINFORCING STEEL SHALL BE GRADE 60.
 ALL K-BARS AND R-BARS SHALL BE EPOXY COATED.

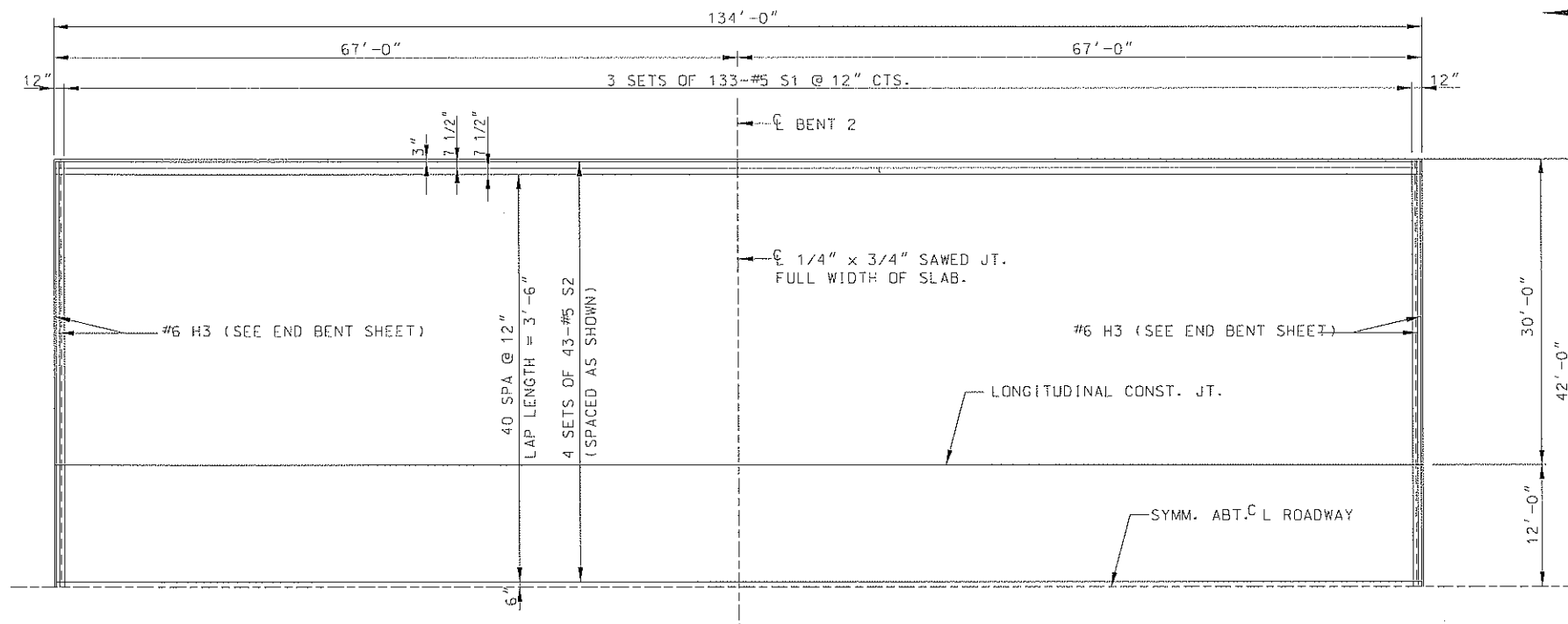
NOTES:
 CONCRETE FOR PRESTRESSED GIRDERS SHALL BE CLASS A-1 WITH $f'c = 6,000$ PSI AND $f'ci = 5,000$ PSI.
 (+) INDICATES PRESTRESSING STRAND.
 USE 28 STRANDS WITH AN INITIAL PRESTRESS FORCE OF 868 KIPS.
 PRESTRESSING STEEL SHALL BE UNCOATED, SEVEN-WIRE, LOW-RELAXATION STRANDS, CONFORMING TO AASHTO M203, GRADE 270. SEE SECTION 705.4.8 OF THE MISSOURI STANDARD SPECIFICATIONS.
 THE NOMINAL DIAMETER SHALL BE 1/2" AND THE NOMINAL CROSS-SECTION AREA SHALL BE 0.153 SQ. IN.
 THE LIFTING LOOPS SHALL BE 3/4" DIAMETER 6x25 CLASS WIRE ROPE WITH FIBER CORE AND SHALL HAVE A MINIMUM ULTIMATE TENSILE STRENGTH OF 46,000 LBS. OR 3 - 1/2" DIA 270 KSI STRANDS, AS SHOWN.
 KEYWAY SURFACES SHALL BE CLEANED TO REMOVE FORM OIL OR OTHER BOND BREAKING MATERIAL PRIOR TO SHIPMENT OF THE BEAMS. CLEANING SHALL BE DONE BY SANDBLASTING THE KEYWAY AREAS BETWEEN TOP OF THE BEAM AND THE BOTTOM EDGE OF THE KEY.
 REINFORCEMENT BARS SHALL CONFORM TO AASHTO M-31, M-42 OR M-53, GRADE 60.
 COST OF FURNISHING AND INSTALLING THE PREFABRICATED JOINT FILLER, TIE ASSEMBLIES, NON-SHRINK GROUT AND ALL REINFORCEMENT SHALL BE INCLUDED IN THE PRICE BID FOR PRESTRESSED CONCRETE BOX GIRDER, PER EACH.
 VENT HOLES AND DRAIN HOLES SHALL BE CAST. DRILLING IS NOT ALLOWED.
 EXTERIOR AND INTERIOR GIRDERS ARE THE SAME EXCEPT FOR THE OMITTED KEY ON THE OUTSIDE FACE AND THE REINFORCING BARS FOR THE BARRIER CURB.

Note: This drawing is not to scale. Follow dimensions.

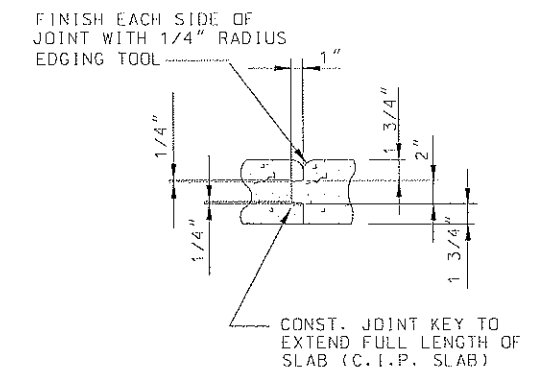
Sheet No. 7 of 13

FINAL PLANS

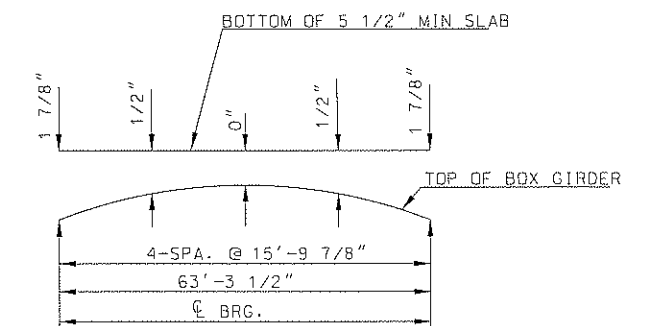
STATE	PROJ. NO.	SHEET NO.
MO.	J610736C.030124-601-170-4(148)	52



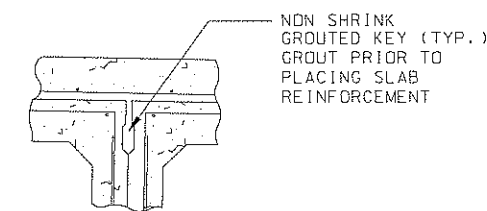
PLAN SHOWING SLAB REINFORCING



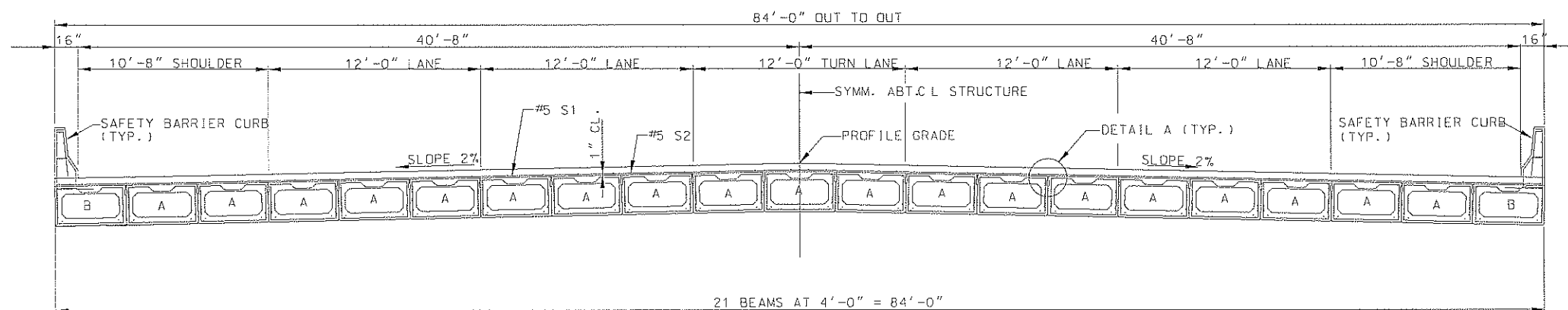
TYPICAL C. I. P. CONST. JOINT



EXTRA SLAB THICKNESS DIAGRAM



DETAIL A



CROSS SECTION

SLAB POURING NOTES:

THE CONTRACTOR SHALL POUR AND SATISFACTORILY FINISH THE SLAB FROM END TO END OF BRIDGE AT A MINIMUM RATE OF POUR OF 25 CU. YDS PER HOUR. RETARDER SHALL BE AN APPROVED TYPE AND RETARD THE SET OF CONCRETE TO 2.5 HOURS.

THE LONGITUDINAL CONSTRUCTION JOINT MAY BE OMITTED WITH THE APPROVAL OF THE ENGINEER. WHEN THE LONGITUDINAL CONSTRUCTION JOINT IS OMITTED THE MINIMUM RATE OF POUR SHALL BE 29 CU. YD. PER HOUR.

NOTES:

IF GIRDER CAMBER IS DIFFERENT FROM THAT SHOWN IN THE CAMBER DIAGRAM, IT SHALL BE NECESSARY TO INCREASE THE SLAB THICKNESS OR RAISE THE GRADE UNIFORMLY THROUGHOUT THE STRUCTURE. NO PAYMENT WILL BE MADE FOR ADDITIONAL LABOR OR MATERIALS REQUIRED FOR VARIATION IN SLAB THICKNESS OR GRADE ADJUSTMENT.

CONCRETE IN THE SLAB IS INCLUDED IN THE ESTIMATED QUANTITIES AS CLASS B-2 CONCRETE.

THE SLAB IS TO BE BUILT PARALLEL TO GRADE AND TO A MINIMUM THICKNESS OF 5 1/2".

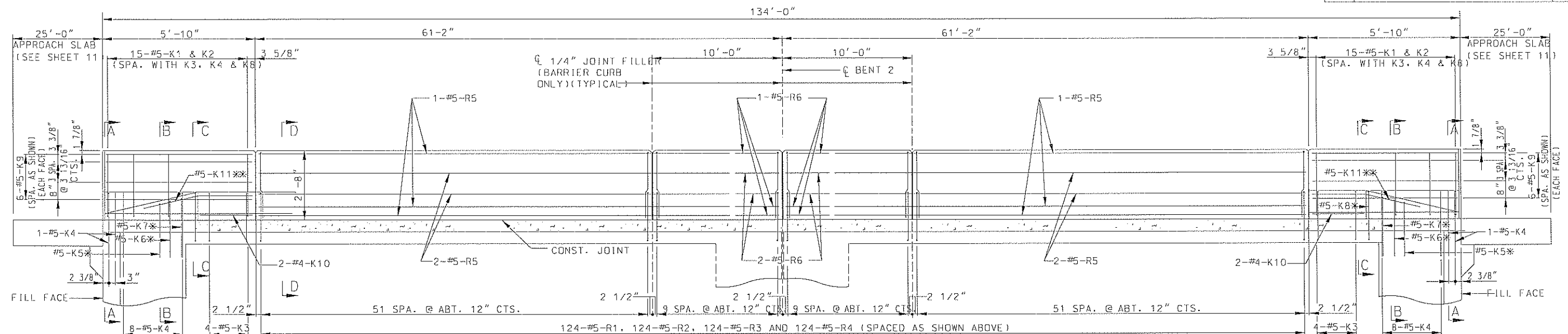
SEE BOX GIRDER SHEET FOR GIRDER CAMBER DIAGRAM.

SEE BOX GIRDER SHEET FOR SPACING OF R-BARS

SLAB AND TYPICAL CROSS SECTION

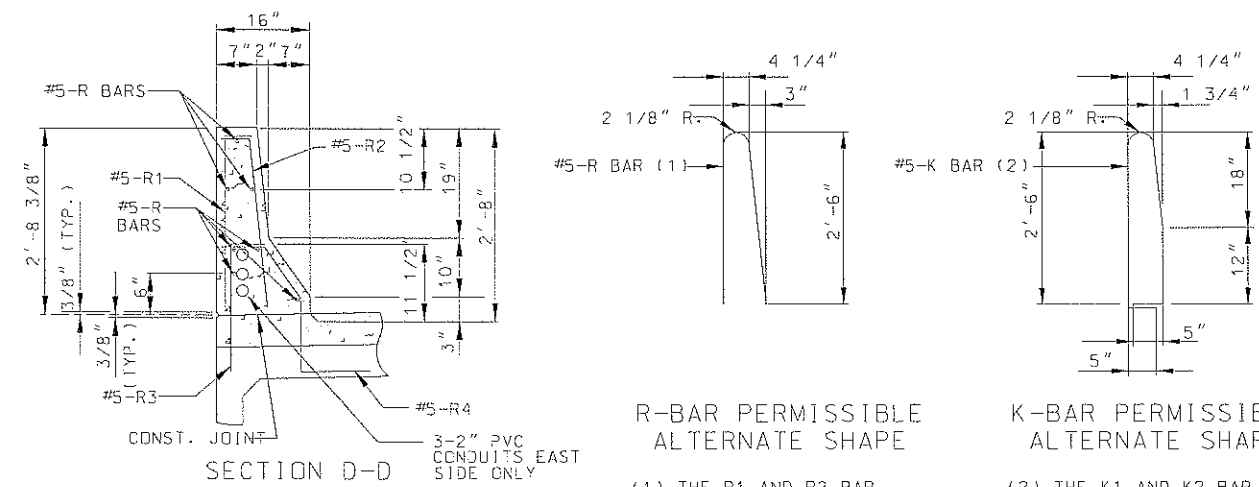
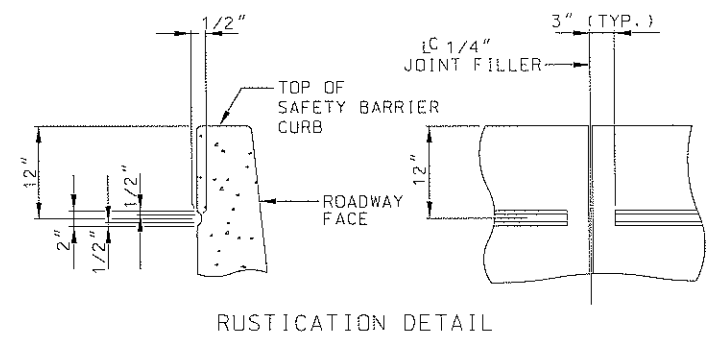
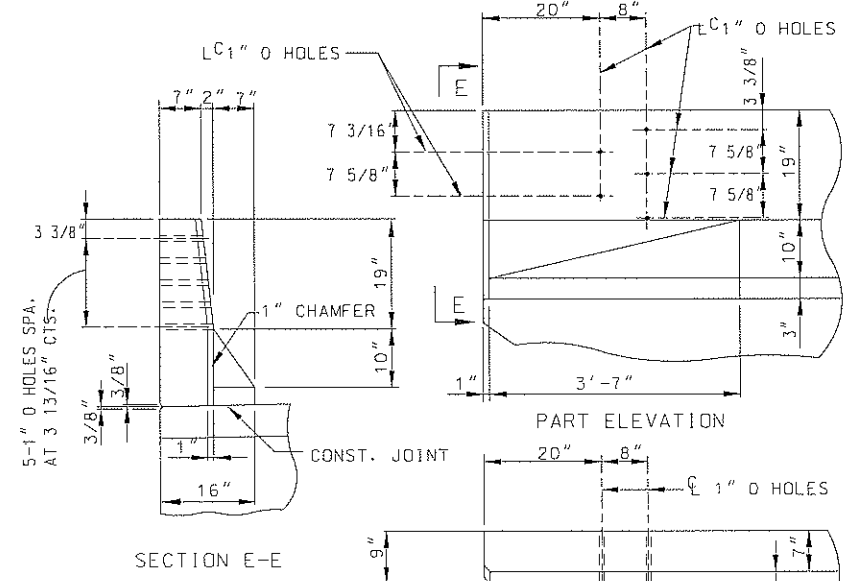
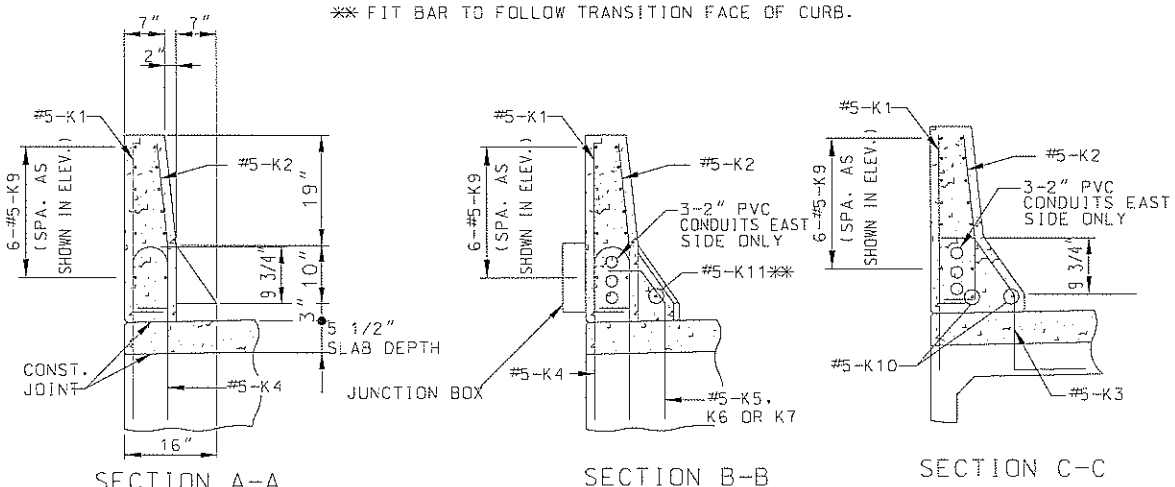
ST. CHARLES COUNTY A7043

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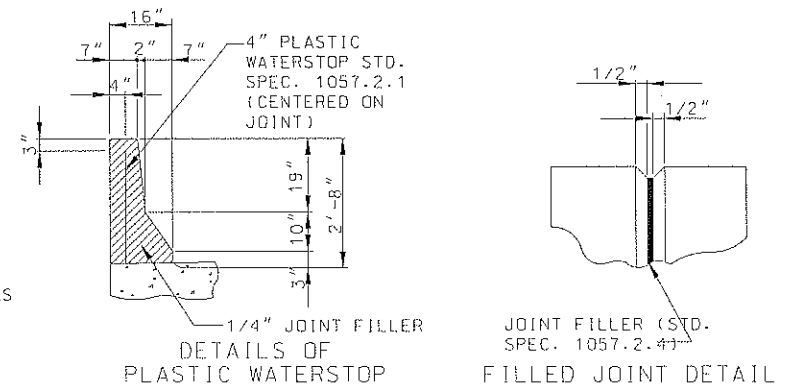


SECTION NEAR LEFT SAFETY BARRIER CURB (RIGHT SAFETY BARRIER CURB, SIMILAR)

* SPACED WITH #5-K4 BARS.
 ** FIT BAR TO FOLLOW TRANSITION FACE OF CURB.



DETAILS FOR GUARDRAIL ATTACHMENT AND BRIDGE ANCHOR SECTION



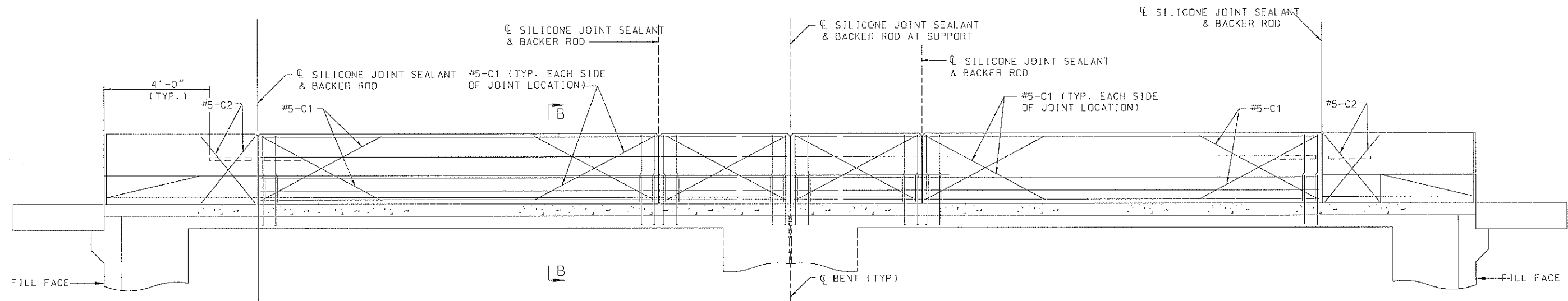
NOTES:
 TOP OF SAFETY BARRIER CURB SHALL BE BUILT PARALLEL TO GRADE WITH SAFETY BARRIER CURB JOINTS EXCEPT AT END BENTS NORMAL TO GRADE.
 ALL EXPOSED EDGES OF SAFETY BARRIER CURB SHALL HAVE EITHER A 1/2" RADIUS OR A 3/8" BEVEL, UNLESS OTHERWISE NOTED.
 WHEN THE SAFETY BARRIER CURB IS BID BY LINEAR FEET, THE CONTRACT UNIT PRICE SHALL INCLUDE THE COST OF ALL CONCRETE AND ALL K1, K2, K9, K10, K11, R1, R2, R5, AND R6 REINFORCING BARS, COMPLETE-IN-PLACE.
 CONCRETE IN THE SAFETY BARRIER CURB SHALL BE CLASS B-1.
 MEASUREMENT OF SAFETY BARRIER CURB IS TO THE NEAREST LINEAR FOOT MEASURED ALONG THE OUTSIDE TOP OF SLAB FROM FILL FACE TO FILL FACE.
 LONGITUDINAL DIMENSIONS ARE HORIZONTAL DIMENSIONS.
 FOR DETAILS OF TYPICAL CONDUIT SYSTEM SEE SHEET 10.

USE A MINIMUM LAP OF 35" FOR #5 HORIZONTAL SAFETY BARRIER CURB BARS.
 THE CROSS-SECTIONAL AREA FOR EACH CURB ABOVE THE SLAB = 2.28 SQ. FT.

(1) THE R1 AND R2 BAR COMBINATION MAY BE FURNISHED AS ONE BAR, AS SHOWN, AT THE CONTRACTOR'S OPTION. (ALL DIMENSIONS ARE OUT TO OUT.)
 (2) THE K1 AND K2 BAR COMBINATION MAY BE FURNISHED AS ONE BAR, AS SHOWN, AT THE CONTRACTOR'S OPTION. (ALL DIMENSIONS ARE OUT TO OUT.)

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NOTES:
 TOP OF SAFETY BARRIER CURB SHALL BE BUILT PARALLEL TO GRADE WITH SAFETY BARRIER CURB JOINTS EXCEPT AT END BENTS NORMAL TO GRADE.

WHEN THE SAFETY BARRIER CURB IS BID BY LINEAR FEET, THE CONTRACT UNIT PRICE SHALL INCLUDE THE COST OF ALL CONCRETE AND ALL K1, K2, K9, K10, K11, R1, R2, R5, AND R6 REINFORCING BARS, COMPLETE-IN-PLACE.

CONCRETE IN THE SAFETY BARRIER CURB SHALL BE CLASS B-1.

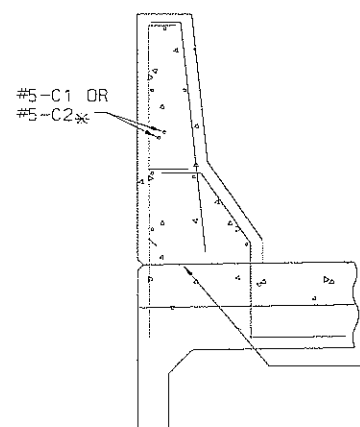
MEASUREMENT OF SAFETY BARRIER CURB IS TO THE NEAREST LINEAR FOOT MEASURED ALONG THE OUTSIDE TOP OF SLAB FROM FILL FACE TO FILL FACE.

TYPICAL SECTION NEAR SAFETY BARRIER CURB AT SUPPORT LOCATIONS (OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB)

NOTE:
 JOINT SEALANT AND BACKER RODS SHALL BE USED ON ALL SLIP-FORM BRIDGE SAFETY BARRIER CURBS INSTEAD OF JOINT FILLER.

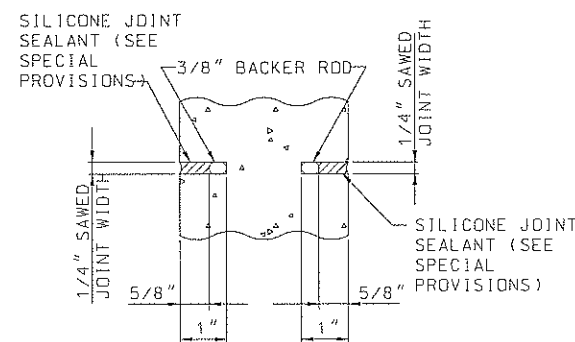
PLASTIC WATERSTOP SHALL NOT BE USED WITH SLIP-FORM OPTION.

C1 & C2 BARS (SLIP-FORM OPTION ONLY) SHALL BE USED IN ADDITION TO CAST-IN-PLACE CONVENTIONAL FORMING REINFORCEMENT FOR BRIDGE SAFETY BARRIER CURB.



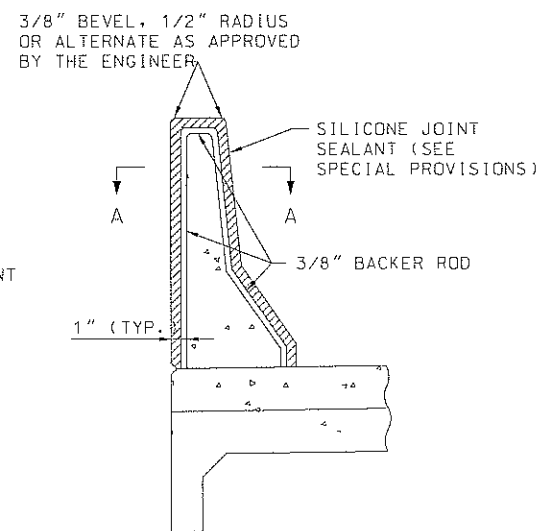
PART SECTION B-B

NOTE:
 * EACH SIDE OF JOINT LOCATION.

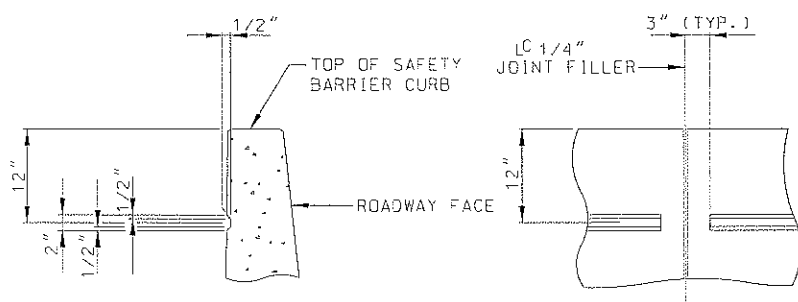


SECTION A-A

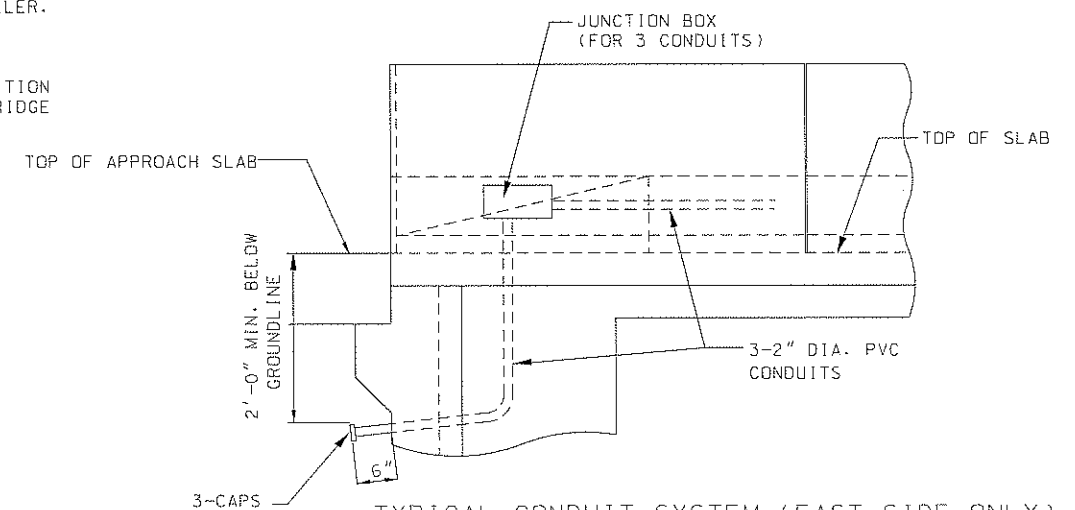
NOTE:
 COST OF SILICONE JOINT SEALANT AND BACKER ROD COMPLETE IN PLACE TO BE INCLUDED IN THE CONTRACT UNIT PRICE FOR SAFETY BARRIER CURB.



SECTION THRU JOINT



RUSTICATION DETAIL



TYPICAL CONDUIT SYSTEM (EAST SIDE ONLY)

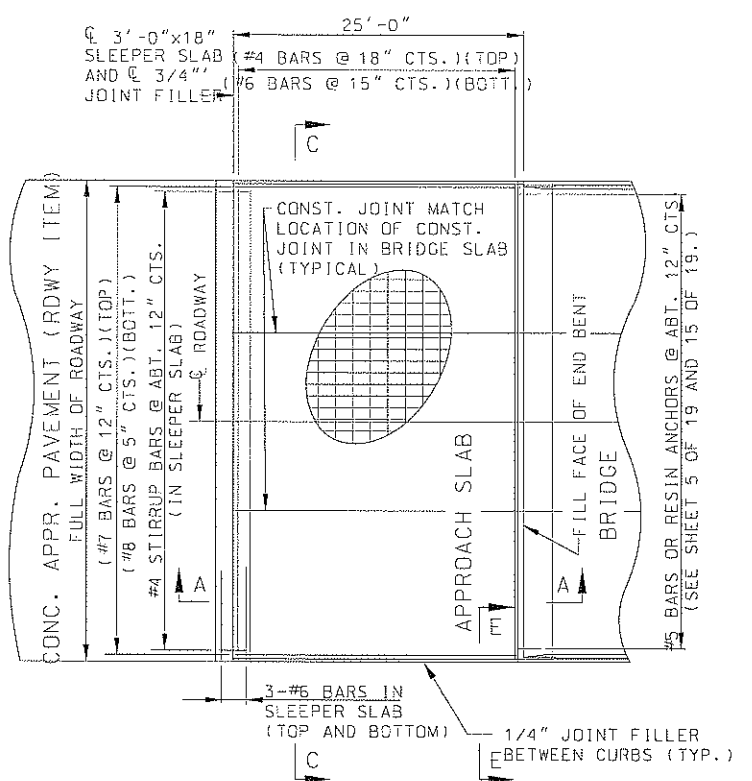
NOTES:
 ALL CONDUIT SHALL BE RIGID NON-METALLIC SCHEDULE 40 HEAVY WALL PVC (POLYVINYL CHLORIDE PLASTIC). EACH SECTION OF CONDUIT SHALL BEAR THE UNDERWRITERS' LABORATORIES, INC., (UL) LABEL.
 SHIFT REINFORCING STEEL IN FIELD WHERE NECESSARY TO CLEAR CONDUIT AND JUNCTION BOXES.

ALL END BENT JUNCTION BOXES SHALL BE PVC MOLDED SURFACE MOUNTED AND EQUAL TO CARLON ELECTRICAL CONSTRUCTION PRODUCTS OR TRIANGLE CONDUIT AND CABLE COMPANY, INC. THE CONDUIT TERMINATIONS SHALL BE PERMANENT OR SEPARABLE. THE TERMINATIONS AND COVERS SHALL BE OF WATERTIGHT CONSTRUCTION. JUNCTION BOXES SHALL HAVE STAINLESS STEEL COVERS.

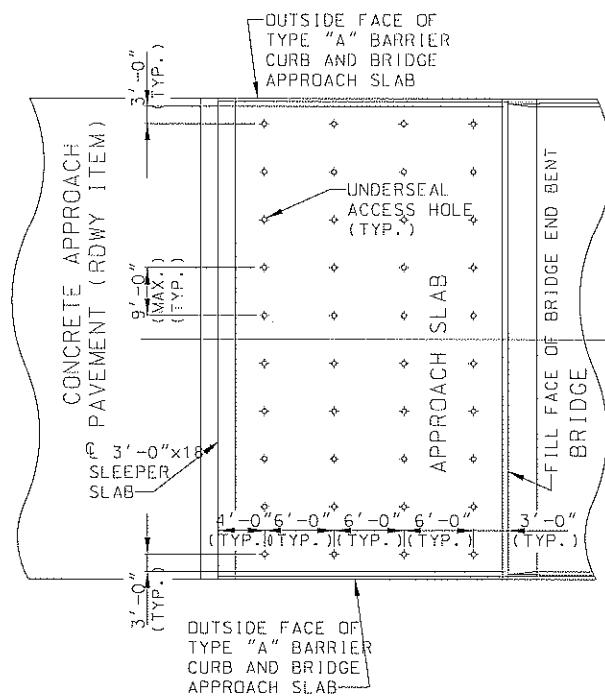
WEEPHOLES SHALL BE PROVIDED AT APPROPRIATE LOCATIONS TO DRAIN ANY MOISTURE IN THE CONDUIT LINES.

SLIP-FORM OPTION
 EAST AND WEST
 SAFETY BARRIER CURB

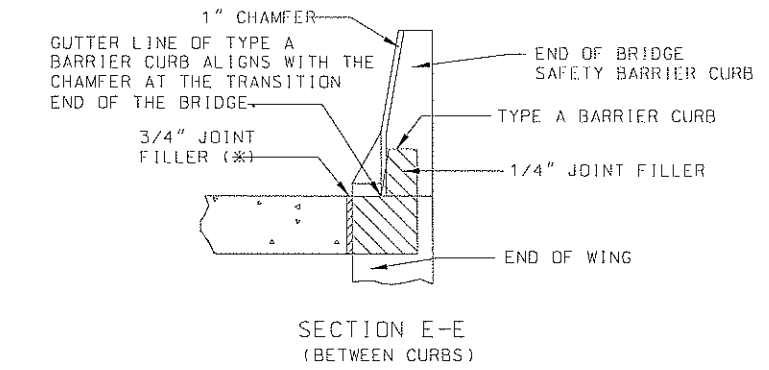
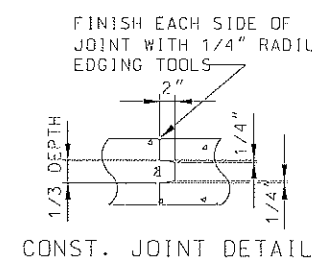
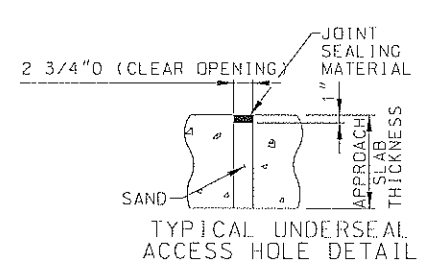
FINAL PLANS		
STATE	PRDJ. NO.	SHEET NO.
MO.	J610736C.030124-601.170-4(1148)	55



PART PLANS SHOWING REINFORCEMENT



PART PLAN SHOWING TYPICAL UNDERSEAL ACCESS HOLE LOCATIONS

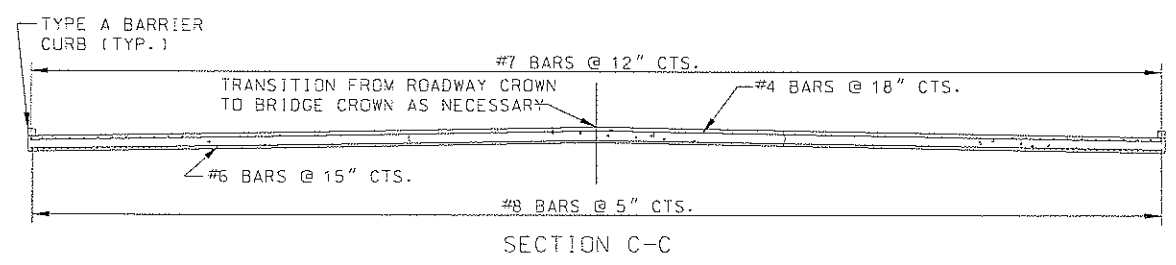


SECTION E-E
(BETWEEN CURBS)

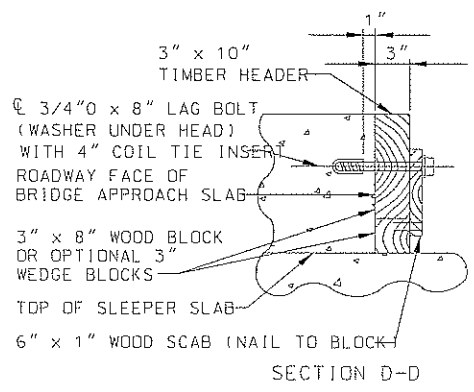
(* USE 3/4" JOINT FILLER BETWEEN VERTICAL FACE OF APPROACH SLAB AND WING, EXCEPT AT THE END OF SAFETY BARRIER CURB/WING FACE USE 1/4" JOINT FILLER. SEAL JOINT WITH JOINT SEALANT. SEE SPECIAL PROVISIONS FOR FURNISHING ALL MATERIALS, LABOR AND EXCAVATION NECESSARY TO CONSTRUCT THE APPROACH SLAB, INCLUDING THE TIMBER HEADER, SLEEPER SLAB, UNDERDRAIN, TYPE 5 AGGREGATE BASE JOINT FILLER AND ALL OTHER APPURTENANCES AND INCIDENTAL WORK AS SHOWN ON THIS SHEET, COMPLETE IN PLACE, SHALL BE CONSIDERED AS COMPLETELY COVERED UNDER THE CONTRACT UNIT PRICE FOR BRIDGE APPROACH SLAB (BRIDGE), PER SQ. YD.

GENERAL NOTES:
 ALL CONCRETE FOR THE BRIDGE APPROACH SLAB AND SLEEPER SLAB SHALL BE IN ACCORDANCE WITH SECTION 503 (f'c = 4,000 PSI) OF THE MISSOURI STANDARD SPECIFICATIONS.
 ALL JOINT FILLER SHALL MEET THE REQUIREMENTS OF SECTION 1057.2.5 OF THE MISSOURI STANDARD SPECIFICATIONS, EXCEPT AS NOTED.
 THE REINFORCING STEEL IN THE BRIDGE APPROACH SLAB AND THE SLEEPER SLAB SHALL BE EPOXY COATED GRADE 60 WITH Fy = 60,000 PSI.
 MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1 1/2", UNLESS OTHERWISE SHOWN.
 THE REINFORCING STEEL IN THE BRIDGE APPROACH SLAB AND THE SLEEPER SLAB SHALL BE CONTINUOUS. THE TRANSVERSE REINFORCING STEEL MAY BE MADE CONTINUOUS BY LAP SPLICING THE #4 & #6 BARS 18" AND 26" RESPECTIVELY.
 MECHANICAL BAR SPLICES WILL BE PERMITTED AND SHALL DEVELOP AT LEAST 125 PERCENT OF THE SPECIFIED YIELD STRENGTH OF THE REINFORCING BARS BEING SPLICED. THE CONTRACTOR SHALL FURNISH THE ENGINEER THE MANUFACTURER'S CERTIFICATION THAT THIS REQUIREMENT IS MET AND IS REQUIRED TO FOLLOW THE MANUFACTURER'S RECOMMENDATION FOR INSTALLATION.
 MECHANICAL BAR SPLICES SHALL BE EPOXY COATED IN ACCORDANCE WITH SECTION 710 OF THE MISSOURI STANDARD SPECIFICATIONS.
 WHEN A LAP SPlice IS REQUIRED FOR THE USE OF A MECHANICAL BAR SPlice, THE MINIMUM LAP LENGTH SHALL BE 40" FOR TRANSVERSE APPROACH SLAB BAR SPLICES.
 HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE C.R.S.I. MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, STIRRUP AND TIE DIMENSIONS.
 THE CONTRACTOR SHALL POUR AND SATISFACTORILY FINISH THE BRIDGE SLAB BEFORE POURING THE BRIDGE APPROACH SLABS.
 LONGITUDINAL CONSTRUCTION JOINTS IN APPROACH SLAB AND SLEEPER SLAB SHALL BE ALIGNED WITH LONGITUDINAL CONSTRUCTION JOINTS IN BRIDGE SLAB.

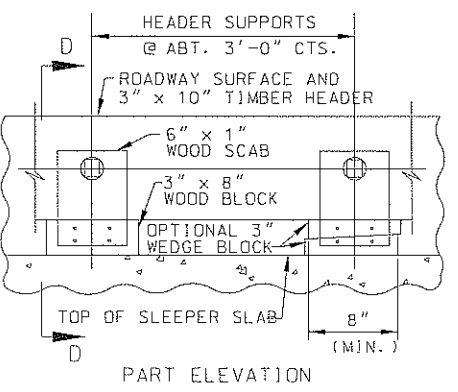
PROVISIONS FOR FURNISHING ALL MATERIALS, LABOR AND EXCAVATION NECESSARY TO CONSTRUCT THE APPROACH SLAB, INCLUDING THE TIMBER HEADER, SLEEPER SLAB, UNDERDRAIN, TYPE 5 AGGREGATE BASE JOINT FILLER AND ALL OTHER APPURTENANCES AND INCIDENTAL WORK AS SHOWN ON THIS SHEET, COMPLETE IN PLACE, SHALL BE CONSIDERED AS COMPLETELY COVERED UNDER THE CONTRACT UNIT PRICE FOR BRIDGE APPROACH SLAB (BRIDGE), PER SQ. YD.
 FOR CONCRETE APPROACH PAVEMENT DETAILS, SEE ROADWAY PLANS.
 SEE MISSOURI STANDARD PLANS DRAWING 609.00 FOR DETAILS OF TYPE A BARRIER CURB.
 AT THE CONTRACTORS OPTION, GRADE 40 REINFORCEMENT MAY BE SUBSTITUTED FOR THE GRADE 60 #5 DOWEL BARS CONNECTING THE BRIDGE APPROACH SLAB TO THE BRIDGE ABUTMENT. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS SUBSTITUTION.
 WHEN GRADE 40 REINFORCEMENT IS SUBSTITUTED FOR THE GRADE 60 #5 DOWEL BARS CONNECTING THE BRIDGE APPROACH SLAB TO THE BRIDGE ABUTMENT, THE REINFORCEMENT MAY BE BENT UP TO 90 DEGREES WITH A 2" MINIMUM RADIUS NEAR THE ABUTMENT TO ALLOW COMPACTION OF THE BACKFILL MATERIAL NEAR THE ABUTMENT. DAMAGE TO EPOXY COATING SHALL BE REPAIRED ACCORDING TO SECTION 710.3.3. OF THE MISSOURI STANDARD SPECIFICATIONS.
 DRAIN PIPE MAY BE EITHER 6" DIAMETER CORRUGATED METALLIC-COATED PIPE UNDERDRAIN, 4" DIAMETER CORRUGATED POLYVINYL CHLORIDE (PVC) DRAIN PIPE, OR 4" DIAMETER CORRUGATED POLYETHYLENE (PE) DRAIN PIPE.



SECTION C-C

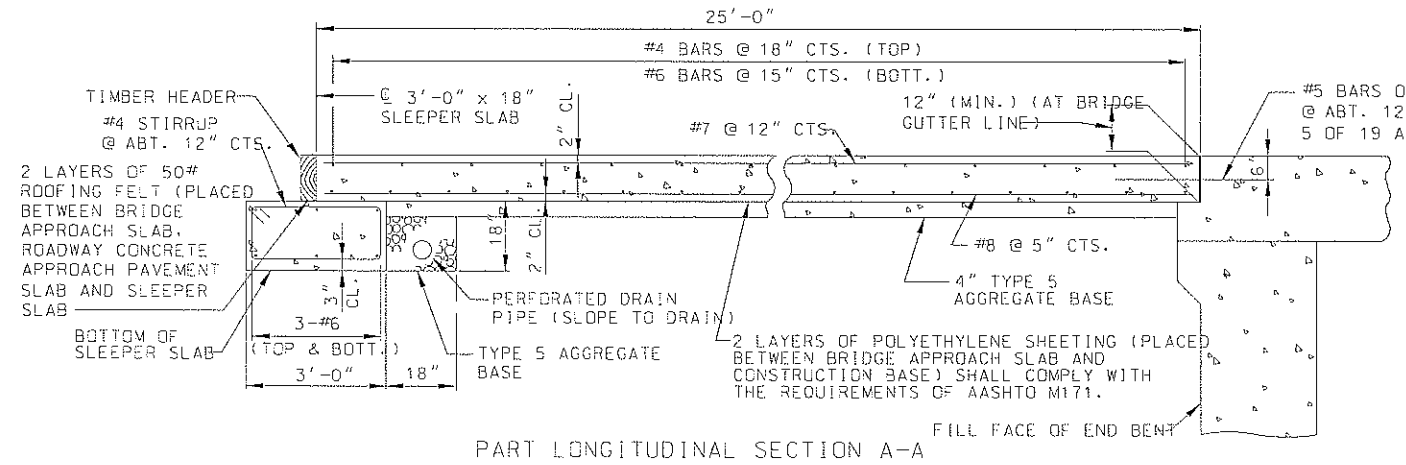


SECTION D-D

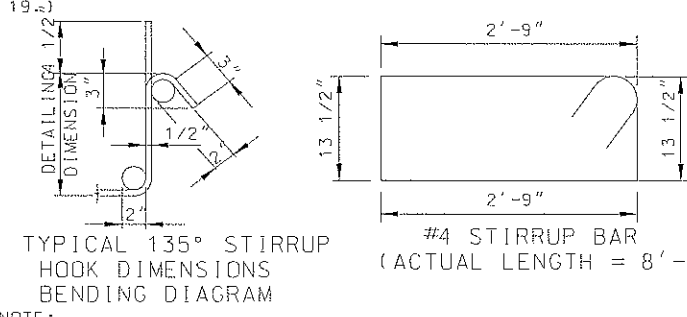


PART ELEVATION

NOTE: REMOVE TIMBER HEADER WHEN CONCRETE PAVEMENT IS PLACED.
 DETAILS OF TIMBER HEADER



PART LONGITUDINAL SECTION A-A



NOTE: NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAM AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)

APPROACH SLAB AUG. 1994
 DECEMBER 1992
 JED NO. 1: 200027ALAC ST. LOUIS BLVD. OVER RTE. 1-70

COMPLETE BILL OF REINFORCING STEEL

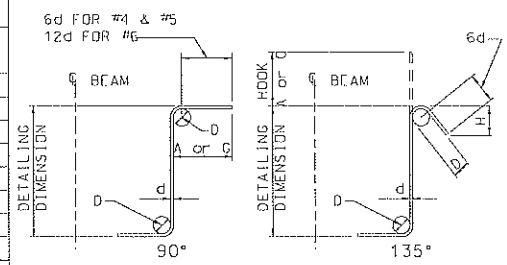
NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIABLES (V)	DIMENSIONS										NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
								B	C	D	E	F	H	K	IN FT.	IN FT.	IN FT.			
SUBSTRUCTURE																				
INTERMEDIATE BENT 2																				
45	B D21	FOOTING/COLUMN		17	X			6	2							7 1	7 1	851		
60	7 D22	FOOTING		18	X			6	0						7 8	7 8	941			
7	B H20	BEAM		20	X			11	0						11 0	11 0	206			
14	B H21	"		17	X			17	0						17 11	17 11	670			
28	B H22	"		20	X			17	0						17 0	17 0	1271			
21	B H23	"		20	X			31	6						31 6	31 6	1766			
B	H 24	"		20	X			43	8						43 8	43 8	525			
B	H 25	"		10	X					3	0	2	7		8 7	8 3	99			
104	4 P22	COLUMN		16	X			2	3						8 1	8 1	562			
34	B U21	BEAM		13	X			2	9	2	3	2	9	2	3	11 4	10 10	553		
32	B U22	"		13	X			2	9	2	5	2	9	2	6	11 10	11 4	545		
32	B U23	"		13	X			2	9	2	9	2	9	2	9	12 4	11 10	569		
B	B U24	"		13	X			2	9	3	0	2	9	3	0	12 10	12 4	333		
18	B V20	COLUMN		17	X			21	1						22 0	22 0	1037			
18	B V21	"		17	X			25	1						26 0	26 0	625			
9	B V22	"		17	X			27	1						28 0	28 0	673			
9	B V23	"		17	X			25	1						26 0	23 7	567			
SUBTOTAL																				
SUPERSTRUCTURE																				
END BENT 1																				
12	4 H1	BACKWALL		20				30	8						30 8	30 8	246			
8	6 H2	BEAM		17				16	6						17 10	17 10	214			
4	6 H3	BACKWALL/SLAB	E	20				46	6						46 6	46 6	279			
12	6 H4	BEAM		20				44	3						44 3	44 3	798			
4	6 H5	"		20				10	6						10 6	10 6	63			
16	6 H6	"		20				16	6						16 6	16 6	397			
32	6 H7	WING		20				4	9						4 9	4 9	228			
4	6 H8	"		20				4	9						4 9	4 9	29			
3	4 H9	APPR. HAUNCH		20				29	1						29 1	29 1	58			
24	5 U1	BEAM		13				2	3	2	9	2	3	2	9	10 9	10 5	261		
24	5 U2	"		13				2	3	3	0	2	3	3	0	11 3	10 11	273		
24	5 U3	"		13				2	3	3	3	2	3	3	3	11 9	11 5	286		
9	5 U4	"		13				2	3	3	6	2	3	3	6	12 3	11 11	112		
B3	4 U5	APPR. HAUNCH		10						11	6				2 4	2 2	120			
B3	5 U6	BACKWALL/SLAB	E	19				2	0	2	0				4 0	3 11	339			
166	5 V1	BACKWALL	E	20				3	9						3 9	3 9	649			
20	6 V2	WING	E	20				5	6						5 6	5 6	165			
SUBTOTAL																				
SLAB																				
399	5 S1	SLAB	E	20				30	3						30 3	30 3	12589			
344	5 S2	SLAB	E	17				36	1						36 1	36 1	12946			
SUBTOTAL																				
BARRIER CURB																				
60	5 K1	BARRIER CURB	E	19				3	1	5.125					5.125	3 6	3 5	214		
60	4 K2	BARRIER CURB	E	14				5.125	1	7.125	1	6			2	1 5.875	3 6	3 5	137	
48	5 K9	BARRIER CURB	E	20				5	7						5 7	5 7	280			
8	4 K10	BARRIER CURB	E	20				9	11						9 11	9 9	30			
4	5 K11	BARRIER CURB	E	13				2	2.125				2	2	2.375	4 4	4 4	18		
248	5 R1	BARRIER CURB	E	19				2	6	3.5					2 9	2 8	690			
248	5 R2	BARRIER CURB	E	15				2	6.25	3.5			2	6	3	2 10	2 9	711		
28	5 R5	BARRIER CURB	E	20				50	11						50 11	50 11	1487			
28	5 R6	BARRIER CURB	E	20				9	9						9 9	9 9	285			
SUBTOTAL																				

COMPLETE BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIABLES (V)	DIMENSIONS										NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
								B	C	D	E	F	H	K	IN FT.	IN FT.	IN FT.			
END BENT 3																				
12	4 H1	BACKWALL		20				30	8						30 8	30 8	246			
8	6 H2	BEAM		17				16	6						17 10	17 10	214			
4	6 H3	BACKWALL/SLAB	E	20				46	6						46 6	46 6	279			
12	6 H4	BEAM		20				44	3						44 3	44 3	798			
4	6 H5	"		20				10	6						10 6	10 6	63			
16	6 H6	"		20				16	6						16 6	16 6	397			
32	6 H7	WING		20				4	9						4 9	4 9	228			
4	6 H8	"		20				4	9						4 9	4 9	29			
3	4 H9	APPR. HAUNCH		20				29	1						29 1	29 1	58			
24	5 U1	BEAM		13				2	3	2	9	2	3	2	9	10 9	10 5	261		
24	5 U2	"		13				2	3	3	0	2	3	3	0	11 3	10 11	273		
24	5 U3	"		13				2	3	3	3	2	3	3	3	11 9	11 5	286		
9	5 U4	"		13				2	3	3	6	2	3	3	6	12 3	11 11	112		
B3	4 U5	APPR. HAUNCH		10						11	6				2 4	2 2	120			
B3	5 U6	BACKWALL/SLAB	E	19				2	0	2	0				4 0	3 11	339			
166	5 V1	BACKWALL	E	20				3	9						3 9	3 9	649			
20	6 V2	WING	E	20				5	6						5 6	5 6	165			
SUBTOTAL																				
SLAB																				
399	5 S1	SLAB	E	20				30	3						30 3	30 3	12589			
344	5 S2	SLAB	E	17				36	1						36 1	36 1	12946			
SUBTOTAL																				
BARRIER CURB																				
60	5 K1	BARRIER CURB	E	19				3	1	5.125					5.125	3 6	3 5	214		
60	4 K2	BARRIER CURB	E	14				5.125	1	7.125	1	6			2	1 5.875	3 6	3 5	137	
48	5 K9	BARRIER CURB	E	20				5	7						5 7	5 7	280			
8	4 K10	BARRIER CURB	E	20				9	11						9 11	9 9	30			
4	5 K11	BARRIER CURB	E	13				2	2.125				2	2	2.375	4 4	4 4	18		
248	5 R1	BARRIER CURB	E	19				2	6	3.5					2 9	2 8	690			
248	5 R2	BARRIER CURB	E	15				2	6.25	3.5			2	6	3	2 10	2 9	711		
28	5 R5	BARRIER CURB	E	20				50	11						50 11	50 11	1487			
28	5 R6	BARRIER CURB	E	20				9	9						9 9	9 9	285			
SUBTOTAL																				

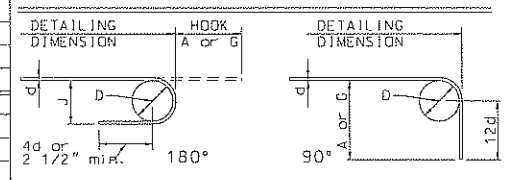
FINAL PLANS

STATE	PROJ. NO.	SHEET NO.
MO. 0610736C.030124-601.170-11148		56



STIRRUP HOOK DIMENSIONS			
GRADES 40 - 50 - 60 KSI			
BAR SIZE	D	90° HOOK	
		HOOK A or G	HOOK A or G
#4	2"	4 1/2"	3"
#5	2 1/2"	6"	3 3/4"
#6	4 1/2"	12"	4 1/2"

NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



END HOOK DIMENSIONS			
ALL GRADES			
BAR SIZE	D (IN.)	180° HOOKS	
		A or G	J
#3	2 1/4"	5"	3"
#4	3"	6"	4"
#5	3 3/4"	7"	5"
#6	4 1/2"	8"	6"
#7	5 1/4"	10"	7"
#8	6"	11"	8"
#9	9 1/2"	15"	11 3/4"
#10	10 3/4"	17"	13 1/4"
#11	12"	19"	14 3/4"
#14	18 1/4"	2'-3"	21 3/4"

NOTES:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.

E - EPOXY COATED REINFORCEMENT.
S - STIRRUP.
X - BAR IS INCLUDED

