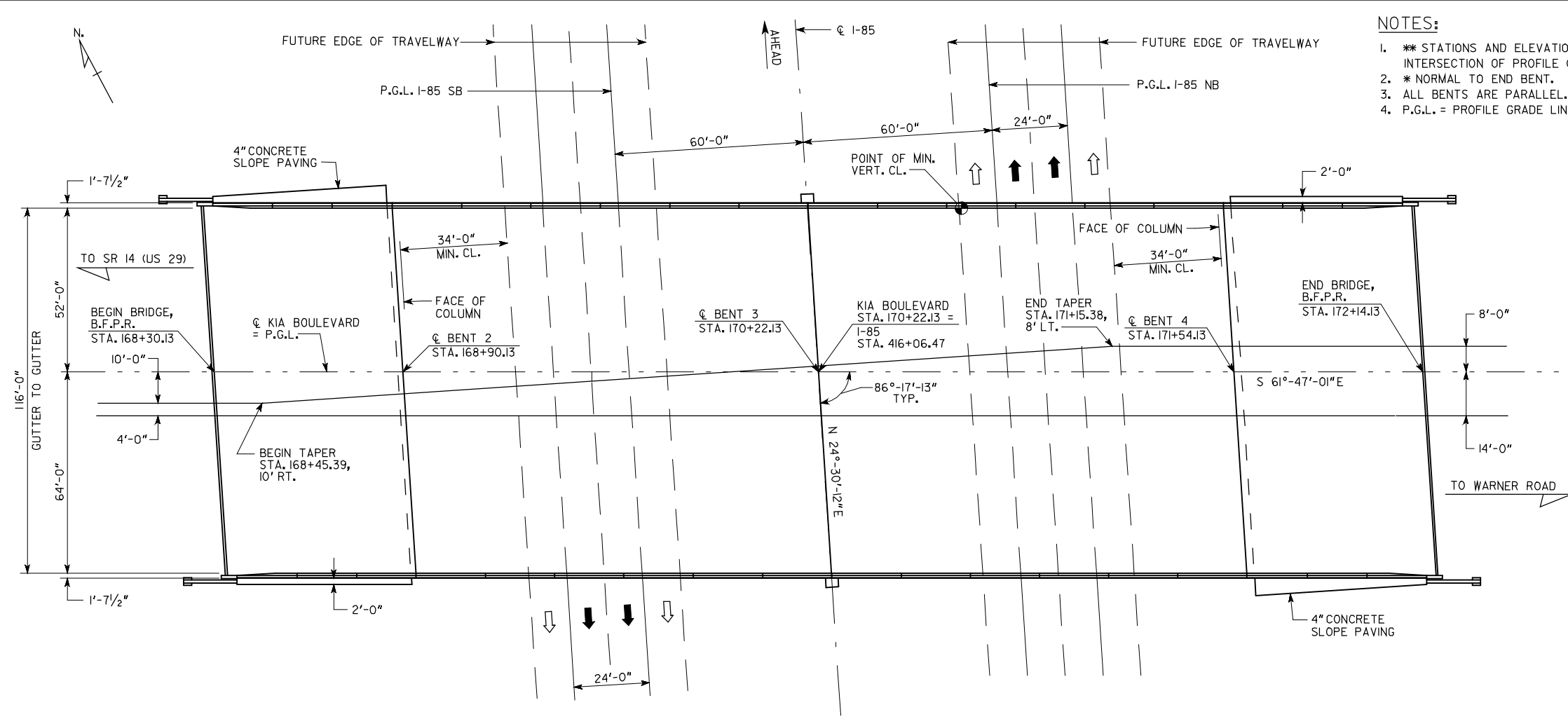


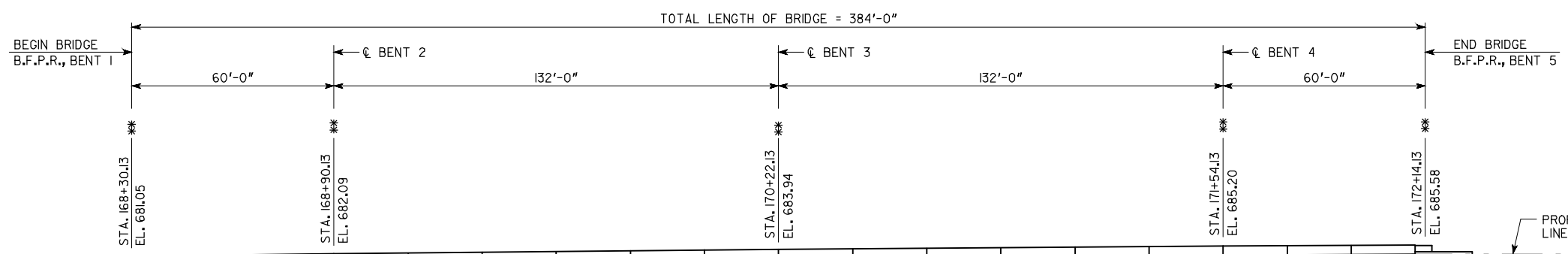
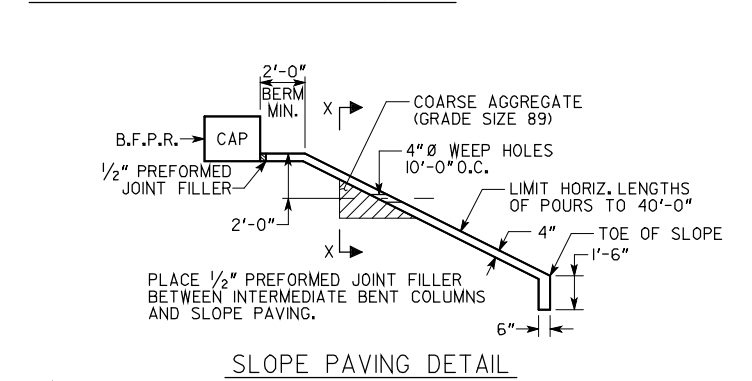
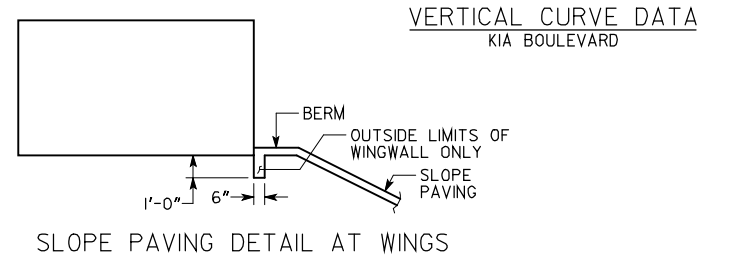
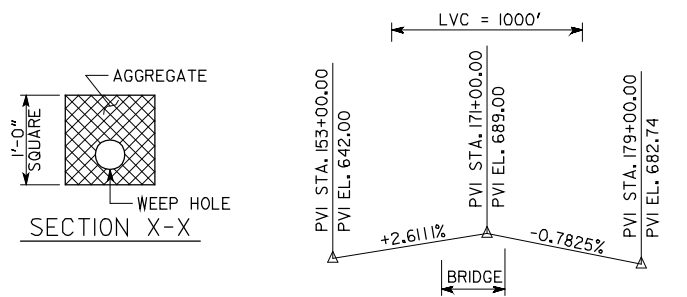
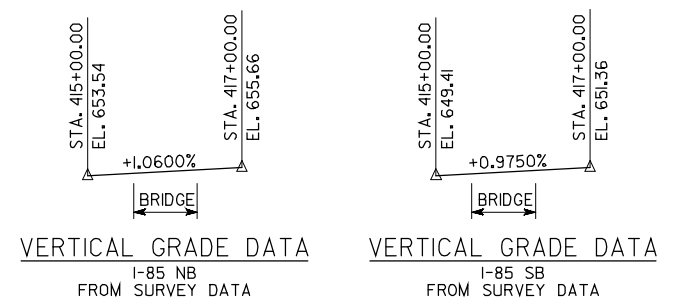
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.	CSNHS-0008-00(232)	573	839

**NOTES:**

- \* STATIONS AND ELEVATIONS ARE ALONG PROFILE GRADE LINE AT THE INTERSECTION OF PROFILE GRADE LINE AND B.F.P.R. OR  $\phi$  BENT.
- \* NORMAL TO END BENT.
- \* ALL BENTS ARE PARALLEL.
- \* P.G.L. = PROFILE GRADE LINE.



PLAN  
SCALE: 1" = 30'-0"



ELEVATION  
SCALE: 1" = 30'-0"

<p>APPROVED</p> <p>FOR CONSTRUCTION JAN. 19, 2008</p>	<p>APPROVED</p> <p>FOR CONSTRUCTION JAN. 19, 2008</p>						
<p>REVISIONS</p> <table border="1"> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td>1</td> <td>3/05/08</td> <td>REVISED EXP. END</td> </tr> </table>	NO.	DATE	DESCRIPTION	1	3/05/08	REVISED EXP. END	<p>BRIDGE SHEET 1 OF 20</p>
NO.	DATE	DESCRIPTION					
1	3/05/08	REVISED EXP. END					

BRIDGE NO. 1

2849 PACES FERRY ROAD, SUITE 400  
ATLANTA, GEORGIA 30339  
TEL: 770/431-8666 FAX: 770/435-2666

GEORGIA  
DEPARTMENT OF TRANSPORTATION  
PRECONSTRUCTION DIVISION-OFFICE OF BRIDGE DESIGN

PLAN AND ELEVATION  
CR 98 (KIA BOULEVARD) OVER I-85

TROUP COUNTY CSNHS-0008-00(232)

SCALE: AS SHOWN JULY 2007

DESIGNED: JPT	CHECKED: RHC	REVIEWED: WMD
DRAWN: MLF	DESIGN GROUP: SWW	APPROVED: PVL

User Name: MLF Date: 1/19/2010 Time: 9:59:40 AM File name: g:\tra\63732-kia\bridge\final\bridge\_1\63732br-ee.dgn

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.	CSNHS-0008-00(232)	574	839

BRIDGE CONSISTS OF

- 2 - 132' - 0" BULB TEE, 72 IN, PSC BEAM SPANS ----- SPECIAL DESIGN
- 2 - 60' - 0" TYPE II PSC BEAM SPANS WITH BULB TEE, 72 IN, PSC FACIA BEAMS ----- SPECIAL DESIGN
- 2 - STEEL H PILE END BENTS ----- SPECIAL DESIGN
- 3 - CONCRETE INTERMEDIATE BENTS WITH PRECAST CAPS AND COLUMNS ----- SPECIAL DESIGN
- 4 - END POST AND GUARDRAIL ATTACHMENT DETAIL ----- GA. STD. 3054 (9-30-02) (L = 4'-0"; W = 1'-1"; H = 2'-8")
- BAR BENDING DETAILS ----- GA. STD. 3901 (8-69)
- TYPICAL FILL DETAIL AT END OF BRIDGE ----- GA. STD. 9037 (9-99)

DESIGN DATA

- SPECIFICATIONS ----- AASHTO 17TH EDITION, 2002 (DESIGNED FOR SEISMIC PERFORMANCE CATEGORY A)
- TYPICAL HS20-44 AND/OR MILITARY LOADING ----- IMPACT ALLOWED
- FUTURE PAVING ALLOWANCE ----- 30 LBS PER SQ FT
- CONCRETE: SUPERSTRUCTURE ----- CLASS AA,  $f'_c = 3,500$  PSI
- PSC BEAMS ----- CLASS AAA,  $f'_c =$  SEE BEAM SHEETS
- PSC BEAM ALLOWABLE TENSION ----- SEE BEAM SHEETS
- SUBSTRUCTURE, CAST-IN-PLACE ----- CLASS AA,  $f'_c = 3,500$  PSI
- SUBSTRUCTURE, PRECAST ----- CLASS AAA,  $f'_c = 4,500$  PSI
- REINFORCEMENT STEEL: ----- GRADE 60,  $f_y = 60,000$  PSI
- PRETENSIONING STRANDS: -----  $f_p = 270,000$  PSI

TRAFFIC DATA

- TRAFFIC ----- ADT = 14,200 (2009)  
ADT = 27,900 (2029)
- DESIGN SPEED ----- 45 MPH
- TRUCKS ----- 8%
- 24 HR TRUCKS ----- 10%
- DIRECTIONAL DISTRIBUTION ----- 54% / 46%

UTILITIES

- 1 - 2" Ø CONDUIT ----- GEORGIA DOT

GENERAL NOTES

- SPECIFICATIONS - GEORGIA STANDARD SPECIFICATIONS, 2001 EDITION, AS MODIFIED BY CONTRACT DOCUMENTS.
- REINFORCING STEEL - PLACE AND TIE ALL REINFORCING STEEL IN ACCORDANCE WITH THE GEORGIA DOT SPECIFICATIONS. DO NOT WELD REINFORCING STEEL.
- CHAMFER - CHAMFER ALL EXPOSED CONCRETE EDGES  $\frac{3}{4}$ " UNLESS OTHERWISE NOTED.
- PROTECTIVE PLATFORMS - PROVIDE PROTECTIVE PLATFORMS AT THIS SITE, SEE SECTION 510 OF THE GEORGIA DOT SPECIFICATIONS. MAINTAIN A MINIMUM VERTICAL CLEARANCE OF 17'-0" ABOVE I-85.
- WAITING PERIOD - NONE REQUIRED.
- FOUNDATION BACKFILL MATERIAL - PLACE 1'-0" OF TYPE II FOUNDATION BACKFILL MATERIAL UNDER EACH FOOTING AT BENT 3. THE QUANTITY IS BASED ON THE PLAN FOOTING DIMENSIONS PLUS 2'-0".
- PLAN DRIVING OBJECTIVE - SEE SUBSTRUCTURE DETAILS.
- DRIVING DATA PILES - ONE DRIVING DATA PILE SHALL BE REQUIRED AT EACH OF BENTS 1 AND 3.
- SMOOTH DOWEL BARS - PLACE SMOOTH DOWEL BARS IN FORMED 3" DIAMETER X 12" DEEP HOLES AND GROUT IN PLACE SIMILAR TO ANCHOR BOLTS, SEE SUB-SECTION 501.3.05.B.3 OF THE GEORGIA DOT SPECIFICATIONS. STIRRUPS MAY BE SHIFTED SLIGHTLY TO CLEAR FORMED HOLES.
- STANDARD PLAN MODIFICATION - MODIFY THE APPROACH SLAB STANDARD TO INCREASE THE  $\frac{3}{4}$ " EXPANSION JOINT SHOWN BETWEEN THE APPROACH SLAB AND THE BACK FACE PAVING REST AND END POST TO 1".
- GROOVED CONCRETE - GROOVE THE ENTIRE LENGTH OF THE BRIDGE TRANSVERSELY AS PER SUB-SECTION 500.3.05.T.9.C OF THE GEORGIA DOT SPECIFICATIONS. GROOVE UNDER THE MEDIAN.
- RIDING QUALITY - THE FINISHED BRIDGE DECK AND APPROACH SLABS SHALL MEET THE RIDE QUALITY REQUIREMENTS AS SPECIFIED IN SUB-SECTION 500.3.06.E OF THE GEORGIA DOT SPECIFICATIONS FOR STATE ROUTES WITH FOUR LANES OR MORE.
- WELDING - ALL WELDING ON GEORGIA DOT PROJECTS SHALL BE PERFORMED BY CERTIFIED WELDERS THAT HAVE IN THEIR POSSESSION A CURRENT WELDING CERTIFICATION CARD ISSUED BY THE OFFICE OF MATERIALS AND RESEARCH. USE ONLY E70XX (EXCLUDING E7014 AND E7024) LOW HYDROGEN ELECTRODES FOR MANUAL SHIELDED METAL ARC WELDING.

SUMMARY OF QUANTITIES  
(FOR INFORMATION ONLY)

PAY ITEM NUMBER	QUANTITY	UNIT	PAY ITEM
207-0203	24	CY	FOUND BK FILL MATL, TP II
211-0200	475	CY	BRIDGE EXCAVATION, GRADE SEPARATION
441-0004	1700	SY	CONC SLOPE PAV, 4 IN
500-0100	4780	SY	GROOVED CONCRETE
500-1006	LUMP	LS	SUPERSTR CONCRETE, CL AA, BR NO - 1 (1456)
500-2100	756	LF	CONCRETE BARRIER
500-3002	864	CY	CLASS AA CONCRETE
507-9002	1412	LF	PSC BEAMS, AASHTO TYPE II, BR NO - 1
507-9032	3910	LF	PSC BEAMS, AASHTO, BULB TEE, 72 IN, BR NO - 1
511-1000	109688	LB	BAR REINF STEEL
511-3000	LUMP	LS	SUPERSTR REINF STEEL, BR NO - 1 (317907)
520-1147	9600	LF	PILING IN PLACE, STEEL H, HP 14 X 73
520-4147	1	EA	LOAD TEST, STEEL H, HP 14 X 73 (IF REQD)

APPROVED FOR CONSTRUCTION 1/19/08

BRIDGE NO. 1



2849 PACES FERRY ROAD, SUITE 400  
ATLANTA, GEORGIA 30339  
TEL: 770/431-8666 FAX: 770/435-2666

GEORGIA  
DEPARTMENT OF TRANSPORTATION  
PRECONSTRUCTION DIVISION-OFFICE OF BRIDGE DESIGN

GENERAL NOTES  
CR 98 (KIA BOULEVARD) OVER I-85

TROUP COUNTY CSNHS-0008-00(232)

SCALE: NO SCALE JULY 2007

DESIGNED	JPT	CHECKED	RHC	REVIEWED	WMD
DRAWN	MLF	DESIGN GROUP	SWW	APPROVED	PVL

BRIDGE SHEET  
2 OF 20

DATE	
REVISIONS	
BY	

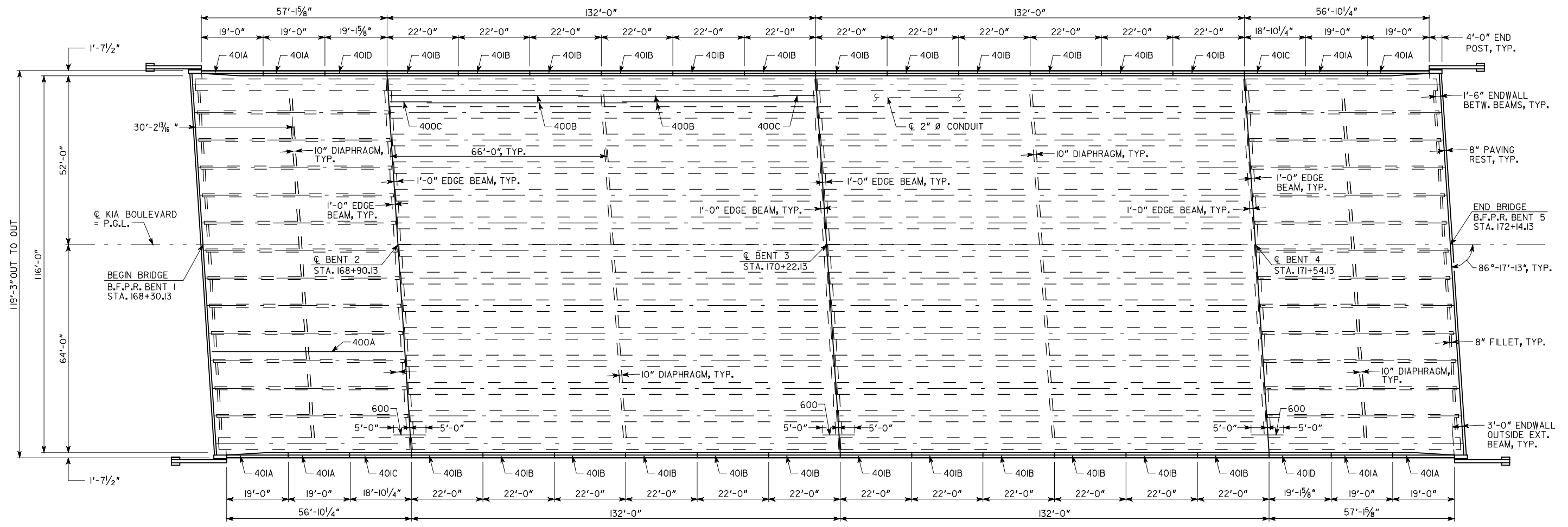
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Date: 1/19/2008

User Name: MLF

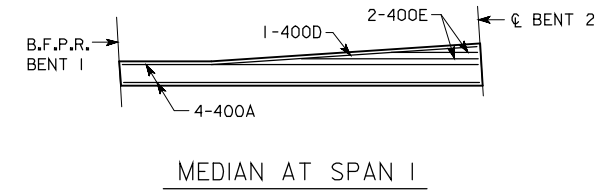


DECK PLAN

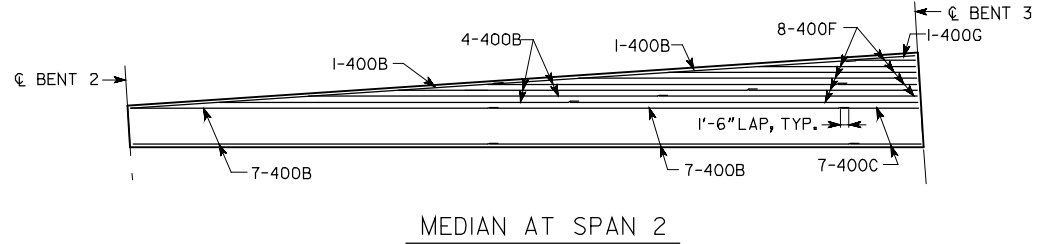
SUPERSTRUCTURE QUANTITIES					
ITEM	SPAN 1	SPAN 2	SPAN 3	SPAN 4	TOTAL
LUMP - SUPERSTR CONCRETE, CY, CLASS AA	226.0	483.7	501.5	244.8	1456.0
LUMP - SUPERSTR REINF STEEL, LB	54826	103953	102949	56179	317907

NOTE: END POST CONCRETE AND REINFORCEMENT INCLUDED IN END SPAN QUANTITIES. 600 BARS ARE INCLUDED IN SPANS 1, 2 AND 4.

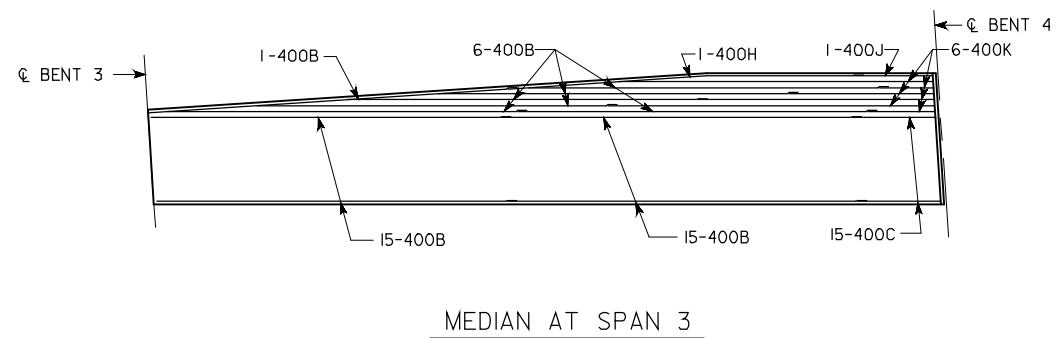
APPROVED FOR CONSTRUCTION 1/19/08



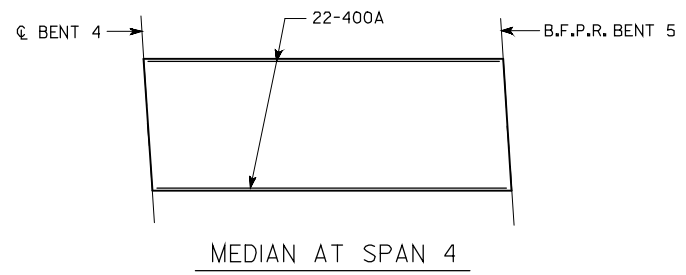
MEDIAN AT SPAN 1



MEDIAN AT SPAN 2



MEDIAN AT SPAN 3



MEDIAN AT SPAN 4

- NOTES:
- MEDIAN NOT SHOWN IN DECK PLAN.
  - DIAPHRAGMS ARE PARALLEL TO BENTS.



GEORGIA DEPARTMENT OF TRANSPORTATION  
PRECONSTRUCTION DIVISION-OFFICE OF BRIDGE DESIGN

DECK PLAN  
CR 98 (KIA BOULEVARD) OVER I-85

TROUP COUNTY CSNHS-0008-00(232)

SCALE: NO SCALE JULY 2007

DESIGNED	JPT	CHECKED	RHC	REVIEWED	WMD
DRAWN	MLF	DESIGN GROUP	SWW	APPROVED	PVL

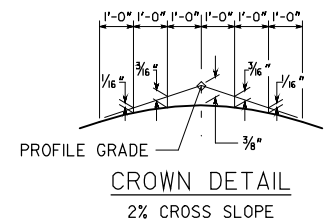
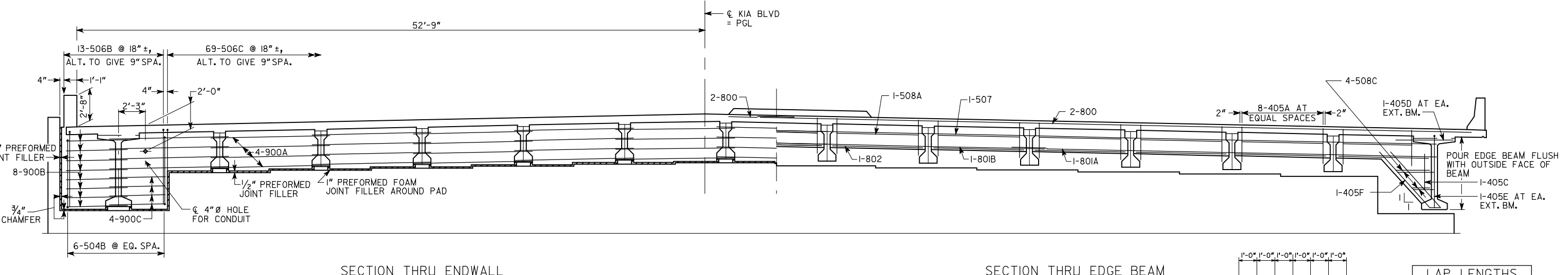
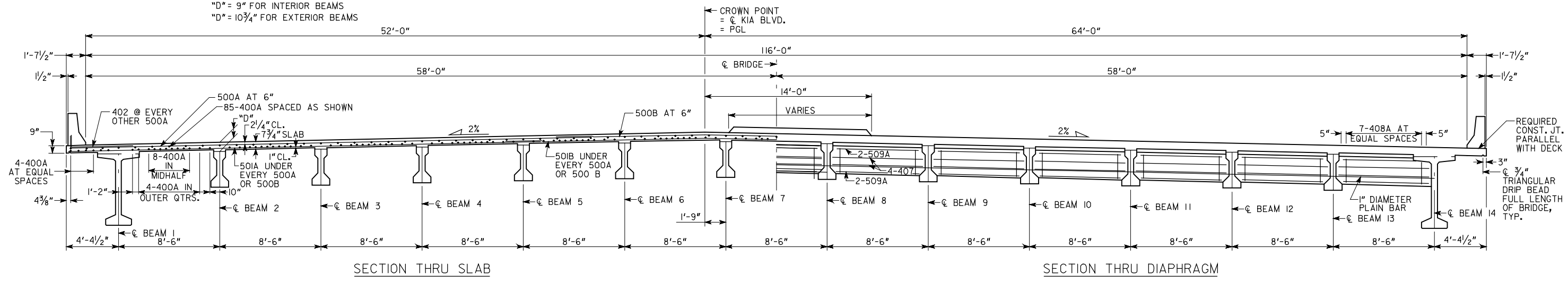
BRIDGE SHEET  
3 OF 20

PLAN DATE: 01-25-08

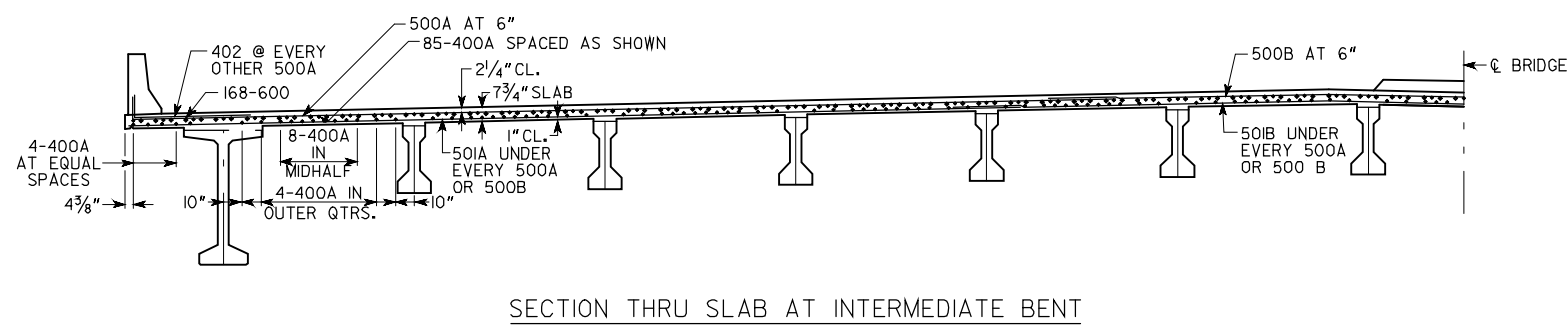
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STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.	CSNHS-0008-00(232)	576	839

DIMENSION "D" IS MEASURED FROM TOP OF SLAB TO TOP OF BEAMS AT CENTERLINE BEARING. VARY "D" BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTION AND VERTICAL CURVE. MAINTAIN A CONSTANT SLAB THICKNESS OF 7 3/4" BETWEEN BEAMS AND 9" AT THE OVERHANGS.  
 "D" = 9" FOR INTERIOR BEAMS  
 "D" = 10 3/4" FOR EXTERIOR BEAMS



LAP LENGTHS	
BAR SIZE	LAP LENGTH
#4	1'-6"
#5	1'-9"
#8	3'-0"



- NOTE:
- 1) PLACE 500A, 500B, 501A, 501B AND 402 BARS PARALLEL TO BENTS.
  - 2) MAINTAIN 2" COVER ON ALL REINFORCING UNLESS NOTED.
  - 3) TOP OF MEDIAN MATCHES DECK CROSS-SLOPE.
  - 4) PROVIDE 4" Ø HOLE FOR CONDUIT IN EDGE BEAM AND DIAPHRAGMS BETWEEN BEAMS 1 AND 2.

APPROVED FOR CONSTRUCTION 1/19/08



GEORGIA  
 DEPARTMENT OF TRANSPORTATION  
 PRECONSTRUCTION DIVISION-OFFICE OF BRIDGE DESIGN

DECK SECTIONS SPANS 1 & 4  
 CR 98 (KIA BOULEVARD) OVER I-85

TROUP COUNTY CSNHS-0008-00(232)  
 SCALE: NO SCALE JULY 2007

DESIGNED	JPT	CHECKED	RHC	REVIEWED	WMD
DRAWN	MLF	DESIGN GROUP	SWW	APPROVED	PVL

BRIDGE SHEET  
 4 OF 20

PLAN DATE: 01-25-08

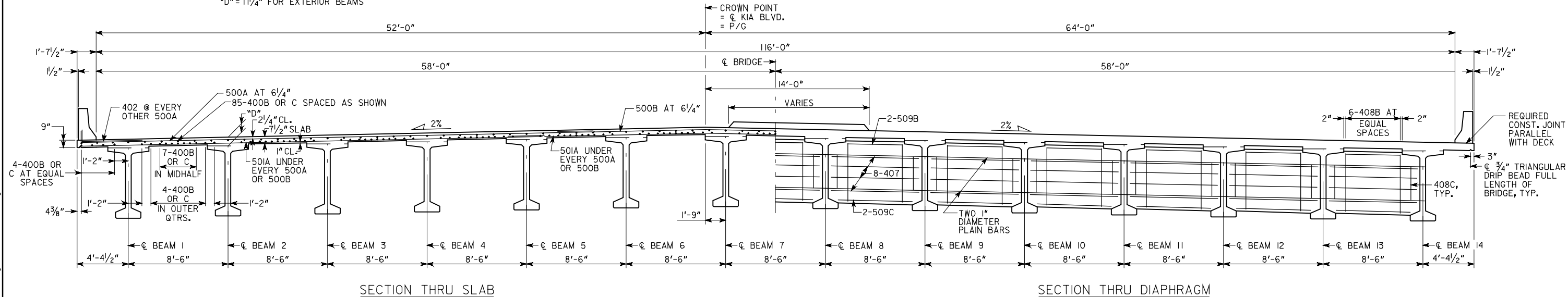
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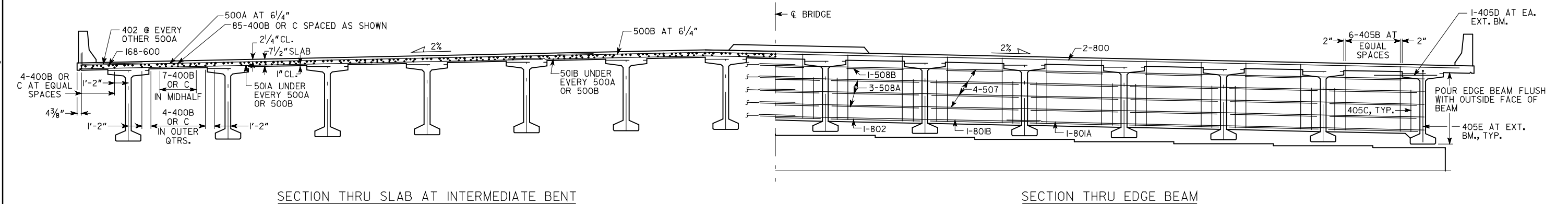
User Name: MLF

DIMENSION "D" IS MEASURED FROM TOP OF SLAB TO TOP OF BEAMS AT CENTERLINE BEARING. VARY "D" BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTION AND VERTICAL CURVE. MAINTAIN A CONSTANT SLAB THICKNESS OF 7 1/2" BETWEEN BEAMS AND 9" AT THE OVERHANGS.  
 "D" = 9 3/4" FOR INTERIOR BEAMS  
 "D" = 11 1/4" FOR EXTERIOR BEAMS



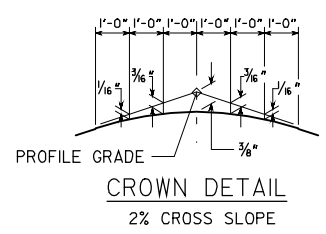
SECTION THRU SLAB

SECTION THRU DIAPHRAGM



SECTION THRU SLAB AT INTERMEDIATE BENT

SECTION THRU EDGE BEAM



LAP LENGTHS	
BAR SIZE	LAP LENGTH
#4	1'-6"
#5	1'-9"
#8	3'-0"

- NOTES:
1. MAINTAIN 2" CL. ON ALL REINFORCEMENT UNLESS OTHERWISE NOTED.
  2. PLACE 500A, 500B, 501A, 501B, AND 402 BARS PARALLEL TO BENTS.
  3. TOP OF MEDIAN MATCHES DECK CROSS-SLOPE.
  4. PROVIDE 4" Ø HOLE FOR CONDUIT IN EDGE BEAM AND DIAPHRAGM BETWEEN BEAMS 1 AND 2.

APPROVED FOR CONSTRUCTION 1/19/08

BRIDGE NO. 1



GEORGIA  
 DEPARTMENT OF TRANSPORTATION  
 PRECONSTRUCTION DIVISION-OFFICE OF BRIDGE DESIGN

DECK SECTIONS SPANS 2 & 3  
 CR 98 (KIA BOULEVARD) OVER I-85

TROUP COUNTY CSNHS-0008-00(232)

SCALE: NO SCALE JULY 2007

DESIGNED	JPT	CHECKED	RHC	REVIEWED	WMD
DRAWN	MLF	DESIGN GROUP	SWW	APPROVED	PVL

BRIDGE SHEET  
 5 OF 20

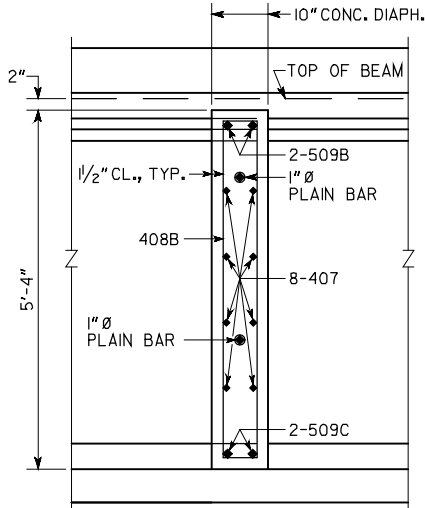
DATE	REVISIONS

PLAN DATE: 01-25-08

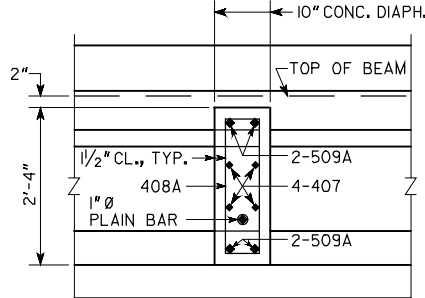
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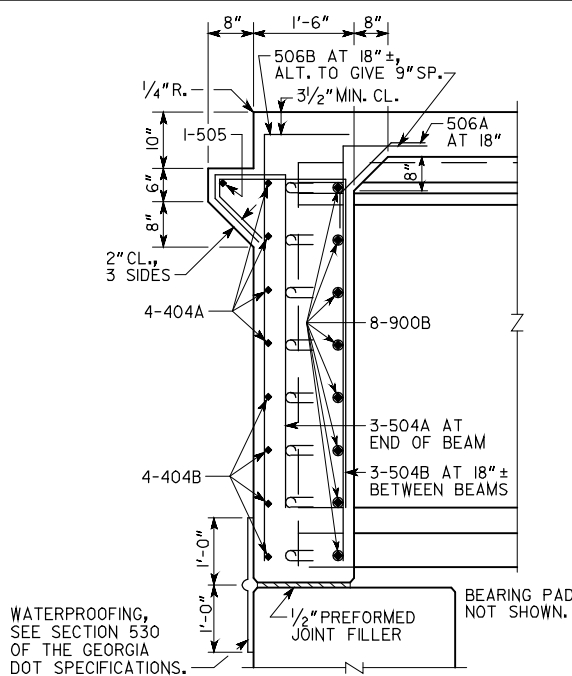
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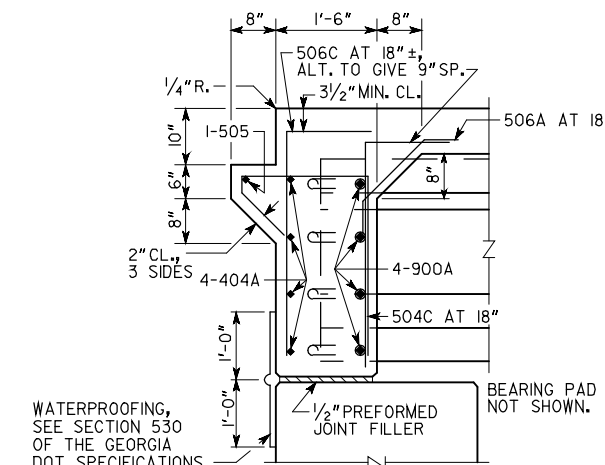
SLAB REINFORCEMENT NOT SHOWN.  
SECTION THRU DIAPHRAGM  
SPANS 2 AND 3



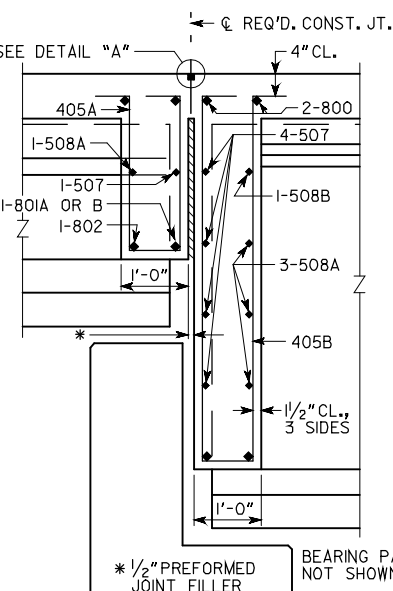
SLAB REINFORCEMENT NOT SHOWN.  
SECTION THRU DIAPHRAGM  
SPANS 1 AND 4



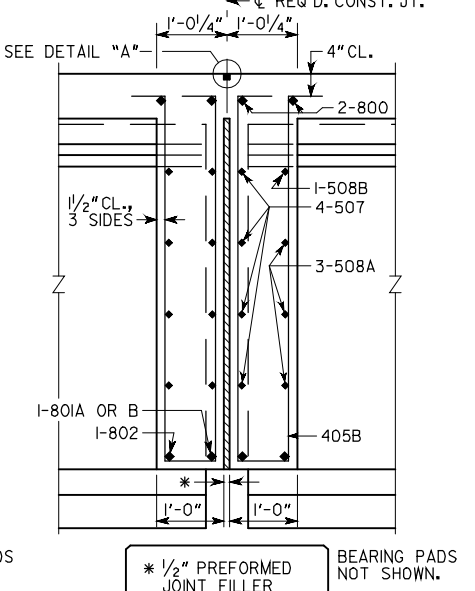
WATERPROOFING, SEE SECTION 530 OF THE GEORGIA DOT SPECIFICATIONS.  
SLAB REINFORCEMENT NOT SHOWN.  
SECTION AT ENDWALL  
EXTERIOR BEAM



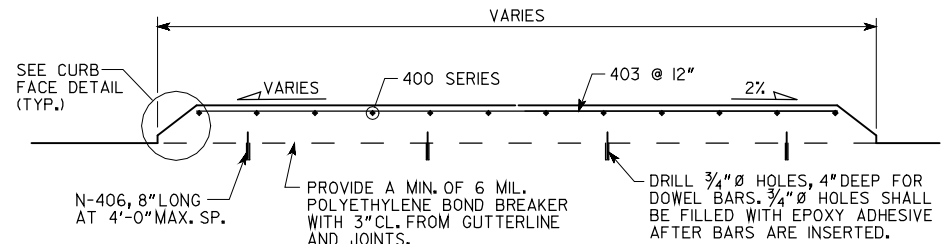
WATERPROOFING, SEE SECTION 530 OF THE GEORGIA DOT SPECIFICATIONS.  
SLAB REINFORCEMENT NOT SHOWN.  
SECTION AT ENDWALL  
INTERIOR BEAM



SLAB REINFORCEMENT NOT SHOWN.  
SECTION THRU EDGE BEAM  
BENTS 2 AND 4

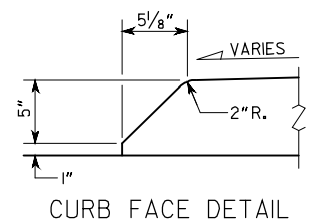


SLAB REINFORCEMENT NOT SHOWN.  
SECTION THRU EDGE BEAM  
BENT 3

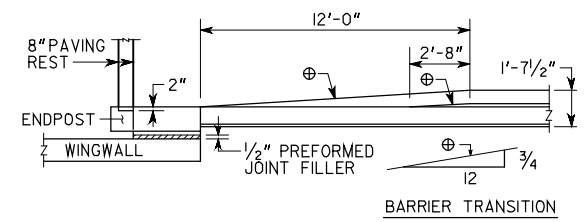


RAISED MEDIAN DETAILS

MEDIAN WIDTH	N
4'	2
VARIABLE	3
22'	4

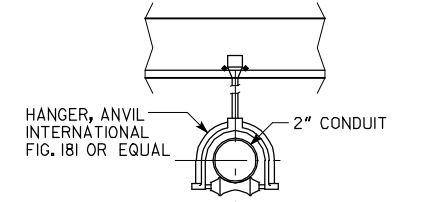


CURB FACE DETAIL



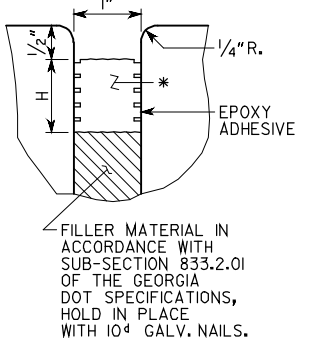
BARRIER TRANSITION DETAIL

USE ANVIL INTERNATIONAL UNIVERSAL CONCRETE INSERT FIG. 282 OR EQUAL. HANGERS SHALL BE SPACED AT A MAXIMUM OF 8'-0" O.C. SEE TRAFFIC SIGNAL PLANS FOR CONDUIT DETAILS.

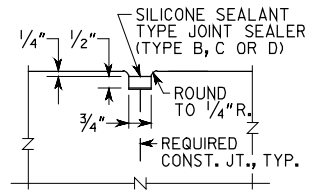


CONDUIT SUPPORT DETAILS

\* SEAL AS PER GEORGIA DOT SPECIFICATIONS SECTION 449.2.D. SEAL SHALL BE 2" (H) BY 1 1/4" WIDE PRIOR TO INSTALLATION.

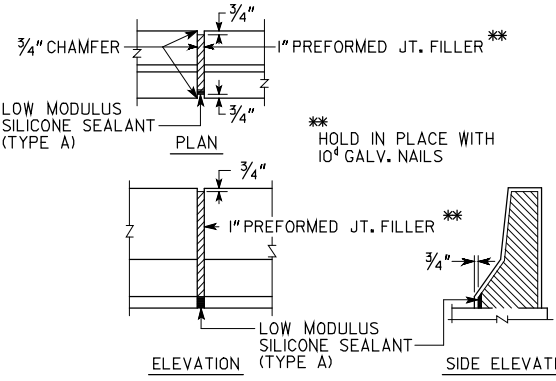


SECTION THROUGH EXPANSION JOINT AT APPROACH SLAB

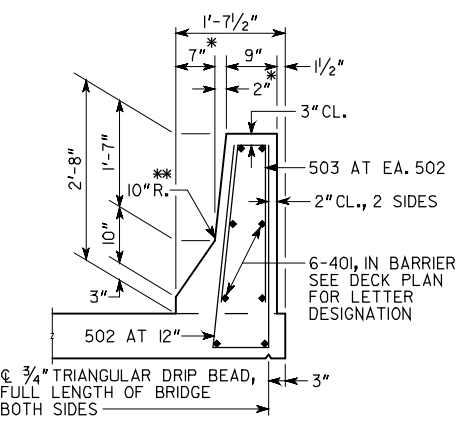


DETAIL "A"

\* TAPERS TO 0" AT END POST  
\*\* AT CONTRACTOR'S OPTION, 10" RADIUS MAY BE REPLACED BY STRAIGHT INTERSECTING SLOPES.



DETAILS OF 1" EXPANSION JOINT IN BARRIER



BARRIER DETAIL

APPROVED FOR CONSTRUCTION 1/19/08



GEORGIA  
DEPARTMENT OF TRANSPORTATION  
PRECONSTRUCTION DIVISION-OFFICE OF BRIDGE DESIGN

SUPERSTRUCTURE DETAILS  
CR 98 (KIA BOULEVARD) OVER I-85

TROUP COUNTY CSNHS-0008-00(232)

SCALE: NO SCALE JULY 2007

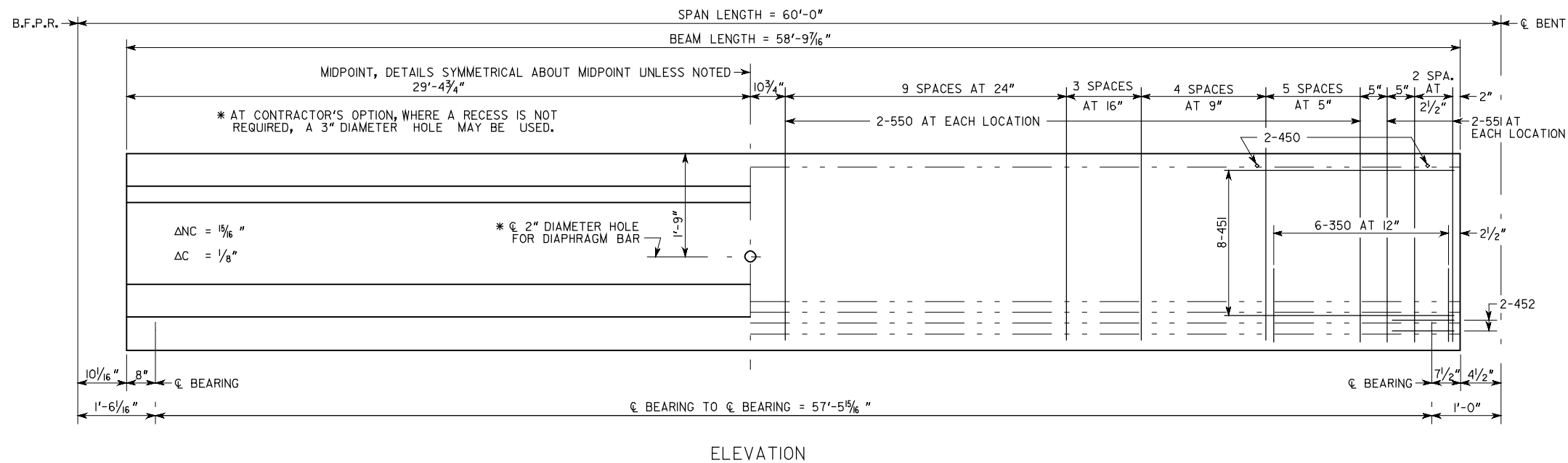
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DRAWN	MLF	DESIGN GROUP	SWW	APPROVED	PVL

BRIDGE SHEET  
6 OF 20

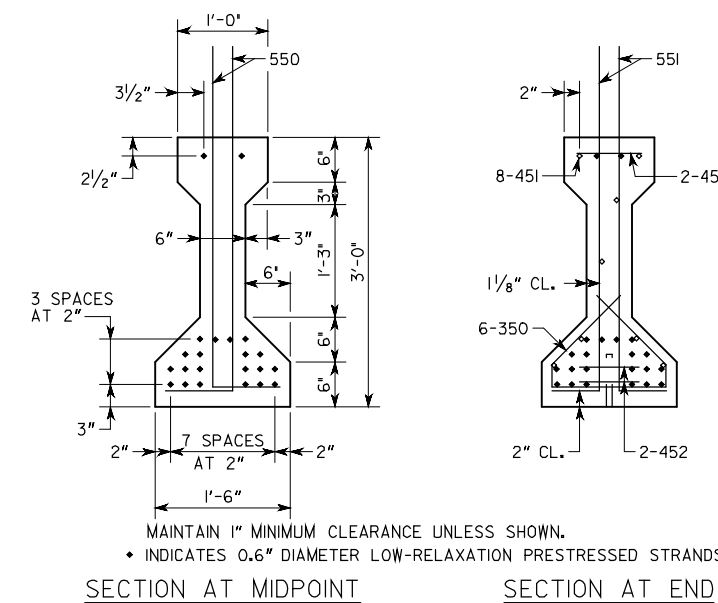
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STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.	CSNHS-0008-00(232)	579	839

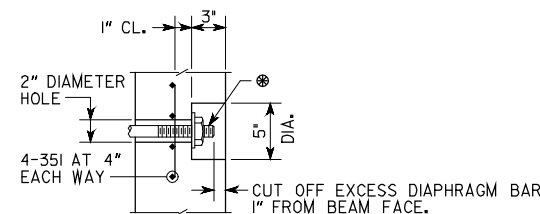


ELEVATION



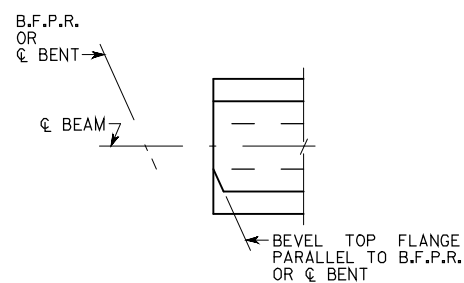
NOTES

- BEAMS SHALL BE MAINTAINED IN AN UPRIGHT POSITION AT ALL TIMES AND SHALL BE PICKED UP WITHIN 4'-6" FROM THEIR ENDS. DISREGARDING THIS REQUIREMENT COULD LEAD TO COLLAPSE OF THE BEAM. PICK-UPS SHALL BE EMBEDDED TO WITHIN 4" OF THE BOTTOM OF THE BEAM. DETAILS OF PICK-UPS SHALL BE INCLUDED IN THE SHOP DRAWINGS.
- CHAMFER EDGES OF BEAMS 1/2" OR 3/4".
- HORIZONTAL DIMENSIONS ARE IN PLACE DIMENSIONS. THE BEAM LENGTH INCLUDES THE 1/8" EPOXY MORTAR AT EACH END. SHOP DRAWINGS SHALL ADJUST HORIZONTAL DIMENSIONS FOR GRADE AND FABRICATION EFFECTS SUCH AS SHRINKAGE AND ELASTIC SHORTENING.
- AT  $\varnothing$  BEARING, FORM A 1 1/2" DIAMETER X 7" DEEP HOLE AT THE FIXED ENDS AND A 4" X 1 1/2" X 7" DEEP SLOT AT THE EXPANSION ENDS FOR A 1 1/4" DIAMETER SMOOTH DOWEL. SEE PLAN AND ELEVATION SHEET FOR LOCATION OF FIXED AND EXPANSION ENDS.
- TOPS OF BEAMS SHALL BE ROUGH FLOATED AT APPROXIMATELY THE TIME OF INITIAL SET. ENTIRE TOP SHALL BE SCRUBBED TRANSVERSELY WITH A COARSE BRUSH TO REMOVE ALL LAITANCE AND TO PRODUCE A ROUGHENED SURFACE FOR BONDING TO THE SLAB. ROUGHENED SURFACE SHALL HAVE AN AMPLITUDE OF APPROXIMATELY 1/4". CONCRETE FINS OR PROJECTIONS SHALL BE REMOVED TO PRODUCE A VERTICAL FACE AT THE EDGE OF THE BEAM.
- NON-COMPOSITE DEAD LOAD DEFLECTION ( $\Delta NC$ ) AT THE MIDPOINT IS DUE TO THE WEIGHT OF THE SLAB AND COPING.
- COMPOSITE DEAD LOAD DEFLECTION ( $\Delta C$ ) AT THE MIDPOINT IS DUE TO THE WEIGHT OF BARRIER AND MEDIANS.
- STRANDS SHALL MEET ALL REQUIREMENTS OF ASTM A 416 GRADE 270.
- PRESTRESSING DATA IS AS FOLLOWS:
  - USE 22 - 0.6" DIAMETER LOW-RELAXATION (A=0.217 SQ IN) STRANDS PRETENSION. STRANDS TO 43,943 LBS EACH.
  - PRETENSIONED STRANDS SHALL BE RELEASED AFTER THE CONCRETE HAS REACHED A MINIMUM STRENGTH ( $f'_c$ ) OF 7,500 PSI.
  - THE TOTAL JACKING FORCE OF PRETENSIONING IS 966,746 LBS.
  - THE NET PRESTRESSING FORCE OF THE STRANDS AFTER LOSSES IS 703,647 LBS.
- CONCRETE STRENGTH ( $f'_c$ ) = 7,500 PSI.
- ALLOWABLE PSC BEAM TENSION = 520 PSI.

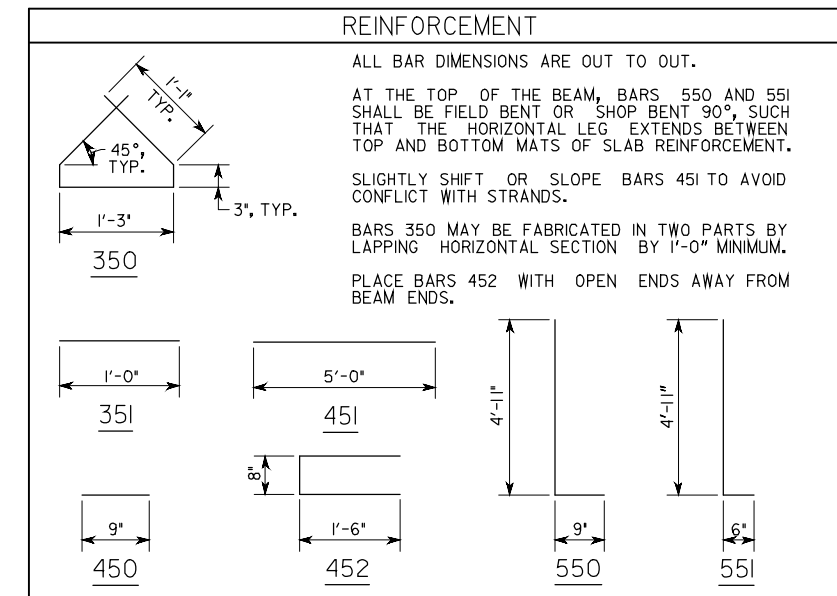


⊙ DIAPHRAGM BAR SHALL BE A 1" DIAMETER PLAIN BAR, THREADED 5" ON EACH END, WITH 1/4" X 3/2" DIAMETER WASHERS AND HEX NUTS (ASTM A 709 GRADE 36). DIAPHRAGM BAR SHALL BE TIGHTENED AS PER SUB-SECTION 507.3.05.C OF THE GEORGIA DOT SPECIFICATIONS. AFTER EXCESS DIAPHRAGM BAR HAS BEEN CUT OFF, END OF DIAPHRAGM BAR, WASHER, AND NUT EXPOSED IN RECESS SHALL BE PAINTED WITH SPECIAL PROTECTIVE COATING NO. 2 P AS PER SECTION 535 OF THE GEORGIA DOT SPECIFICATIONS. AFTER PAINTING, THE RECESS SHALL BE FILLED WITH AN APPROVED EPOXY GROUT. GALVANIZING OF DIAPHRAGM BAR AS PER SUB-SECTION 865.2.01.B.12 OF THE GEORGIA DOT SPECIFICATIONS IS NOT REQUIRED.

RECESS DETAIL FOR DIAPHRAGM BAR ENDS



BEVEL DETAILS



APPROVED FOR CONSTRUCTION 1/19/08

BRIDGE NO. 1



GEORGIA  
DEPARTMENT OF TRANSPORTATION  
PRECONSTRUCTION DIVISION-OFFICE OF BRIDGE DESIGN

TYPE II PSC BEAM - END SPANS  
CR 98 (KIA BOULEVARD) OVER I-85

TROUP COUNTY CSNHS-0008-00(232)

SCALE: NO SCALE JULY 2007

DESIGNED	JPT	CHECKED	RHC	REVIEWED	WMD
DRAWN	MLF	DESIGN GROUP	SWW	APPROVED	PVL

BRIDGE SHEET  
7 OF 20

PLAN DATE: 01-25-08

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User: MLF

Date: 1/19/2008

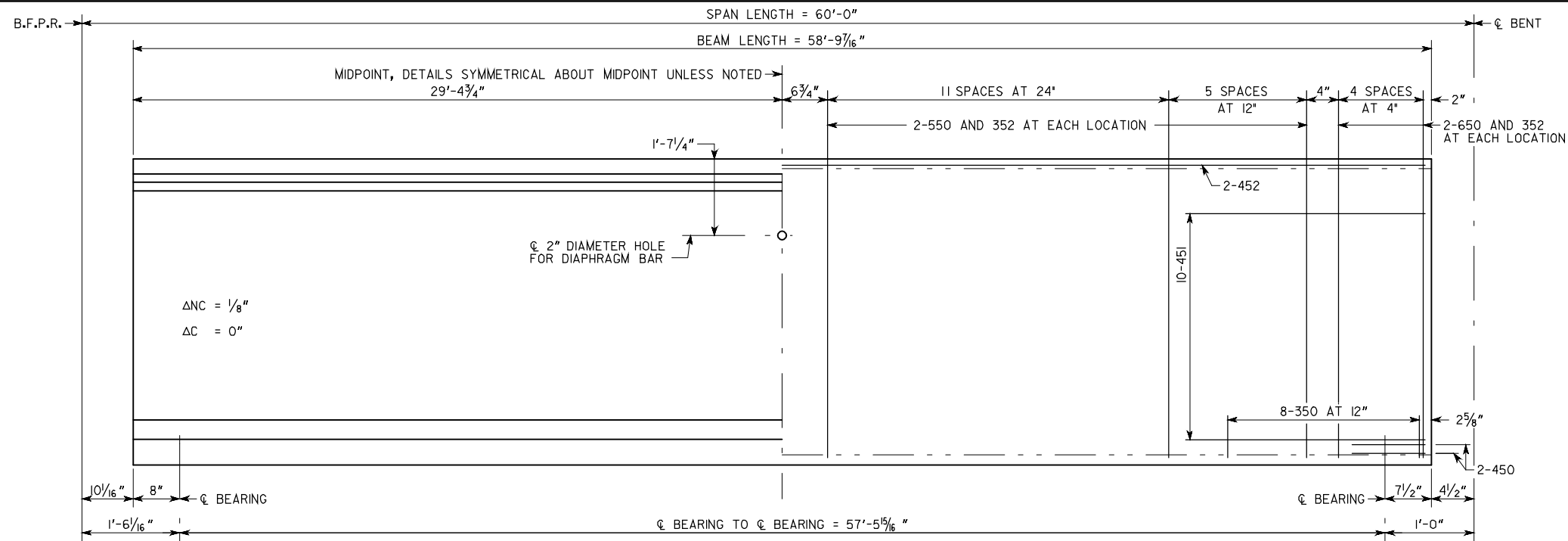
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Date: 1/19/2010

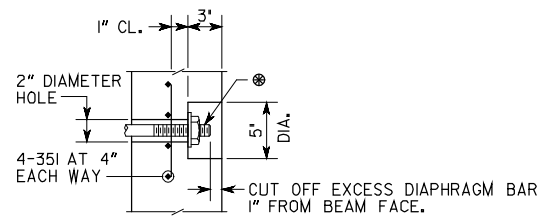
User Name: MLF



ELEVATION

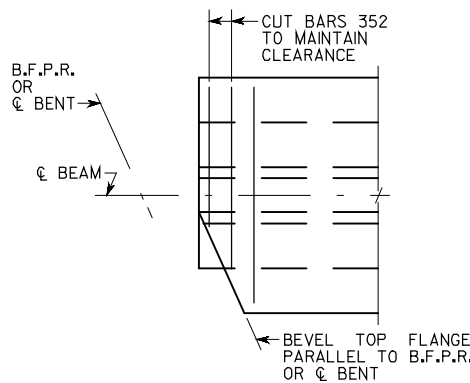
NOTES

- BEAMS SHALL BE MAINTAINED IN AN UPRIGHT POSITION AT ALL TIMES AND SHALL BE PICKED UP WITHIN 9'-0" FROM THEIR ENDS. DISREGARDING THIS REQUIREMENT COULD LEAD TO COLLAPSE OF THE BEAM. PICK-UPS SHALL BE EMBEDDED TO WITHIN 4" OF THE BOTTOM OF THE BEAM. DETAILS OF PICK-UPS SHALL BE INCLUDED IN THE SHOP DRAWINGS.
- CHAMFER EDGES OF BEAMS 1/2", 3/4" OR 1".
- HORIZONTAL DIMENSIONS ARE IN PLACE DIMENSIONS. THE BEAM LENGTH INCLUDES THE 1/8" EPOXY MORTAR AT EACH END. SHOP DRAWINGS SHALL ADJUST HORIZONTAL DIMENSIONS FOR GRADE AND FABRICATION EFFECTS SUCH AS SHRINKAGE AND ELASTIC SHORTENING.
- AT  $\phi$  BEARING, FORM A 1 1/2" DIAMETER X 7" DEEP HOLE AT THE FIXED ENDS AND A 6" X 1 1/2" X 7" DEEP SLOT AT THE EXPANSION ENDS FOR A 1 1/4" DIAMETER SMOOTH DOWEL. SEE PLAN AND ELEVATION SHEET FOR LOCATION OF FIXED AND EXPANSION ENDS.
- TOPS OF BEAMS SHALL BE ROUGH FLOATED AT APPROXIMATELY THE TIME OF INITIAL SET. ENTIRE TOP SHALL BE SCRUBBED TRANSVERSELY WITH A COARSE BRUSH TO REMOVE ALL LAITANCE AND TO PRODUCE A ROUGHENED SURFACE FOR BONDING TO THE SLAB. ROUGHENED SURFACE SHALL HAVE AN AMPLITUDE OF APPROXIMATELY 1/4". CONCRETE FINS OR PROJECTIONS SHALL BE REMOVED TO PRODUCE A VERTICAL FACE AT THE EDGE OF THE BEAM.
- NON-COMPOSITE DEAD LOAD DEFLECTION ( $\Delta_{NC}$ ) AT THE MIDPOINT IS DUE TO THE WEIGHT OF THE SLAB AND COPING.
- COMPOSITE DEAD LOAD DEFLECTION ( $\Delta_C$ ) AT THE MIDPOINT IS DUE TO THE WEIGHT OF BARRIER AND MEDIAN.
- STRANDS SHALL MEET ALL REQUIREMENTS OF ASTM A 416 GRADE 270.
- PRESTRESSING DATA IS AS FOLLOWS:
  - USE 12 - 0.6" DIAMETER LOW-RELAXATION ( $A = 0.217$  SQ IN) STRANDS. PRETENSION TOP FOUR (4) STRANDS TO 10,000 LBS EACH. PRETENSION BOTTOM STRANDS TO 43,943 LBS EACH.
  - PRETENSIONED STRANDS SHALL BE RELEASED AFTER THE CONCRETE HAS REACHED A MINIMUM STRENGTH ( $f_{ci}$ ) OF 4,500 PSI.
  - INCLUDING THE TOP STRANDS, THE TOTAL JACKING FORCE OF PRETENSIONING IS 391,544 LBS.
  - INCLUDING THE TOP STRANDS, THE NET PRESTRESSING FORCE OF THE STRANDS AFTER ALL LOSSES IS 331,206 LBS.
- CONCRETE STRENGTH ( $f'_c$ ) = 5,000 PSI.
- ALLOWABLE PSC BEAM TENSION = 424 PSI.

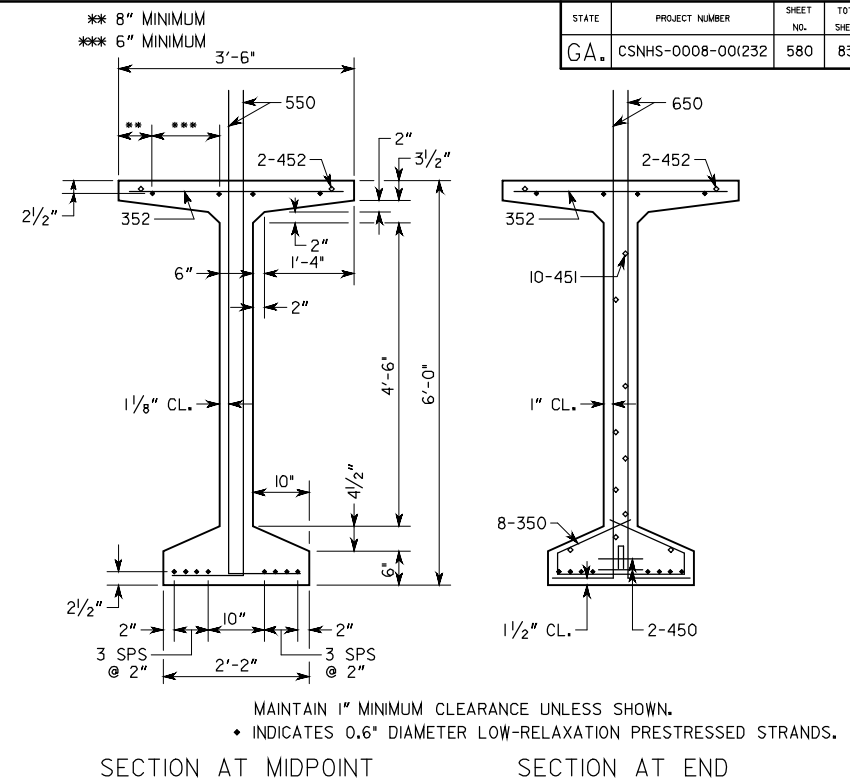


DIAPHRAGM BAR SHALL BE A 1" DIAMETER PLAIN BAR, THREADED 5" ON EACH END, WITH 1/4" X 3/2" DIAMETER WASHERS AND HEX NUTS (ASTM A 709 GRADE 36). DIAPHRAGM BAR SHALL BE TIGHTENED AS PER SUB-SECTION 507.3.05.C OF THE GEORGIA DOT SPECIFICATIONS. AFTER EXCESS DIAPHRAGM BAR HAS BEEN CUT OFF, END OF DIAPHRAGM BAR, WASHER, AND NUT EXPOSED IN RECESS SHALL BE PAINTED WITH SPECIAL PROTECTIVE COATING NO. 2 P AS PER SECTION 535 OF THE GEORGIA DOT SPECIFICATIONS. AFTER PAINTING, THE RECESS SHALL BE FILLED WITH AN APPROVED EPOXY GROUT. GALVANIZING OF DIAPHRAGM BAR AS PER SUB-SECTION 865.2.01.B.12 OF THE GEORGIA DOT SPECIFICATIONS IS NOT REQUIRED.

RECESS DETAIL FOR DIAPHRAGM BAR ENDS

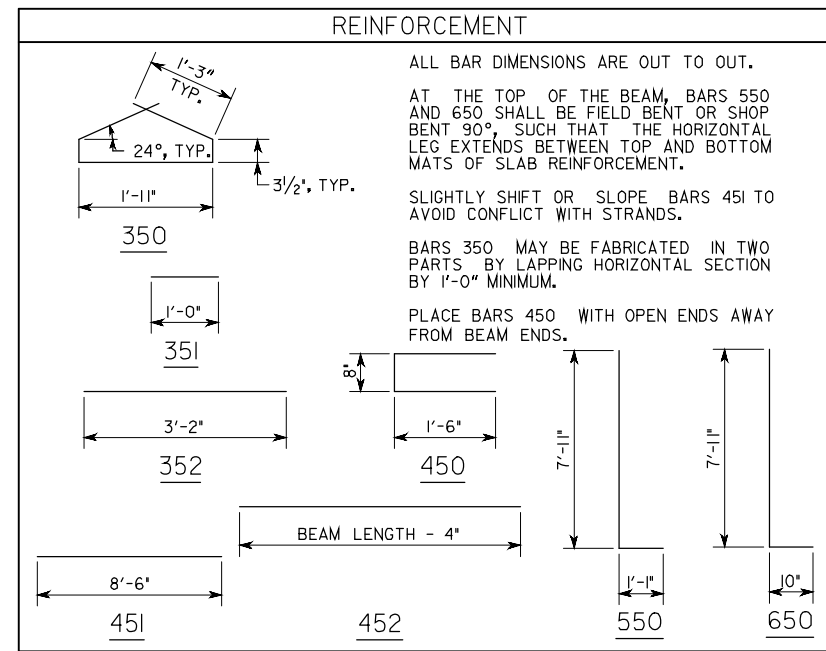


BEVEL DETAILS



MAINTAIN 1" MINIMUM CLEARANCE UNLESS SHOWN.  
 • INDICATES 0.6" DIAMETER LOW-RELAXATION PRESTRESSED STRANDS.

SECTION AT MIDPOINT SECTION AT END



REINFORCEMENT

ALL BAR DIMENSIONS ARE OUT TO OUT. AT THE TOP OF THE BEAM, BARS 550 AND 650 SHALL BE FIELD BENT OR SHOP BENT 90°, SUCH THAT THE HORIZONTAL LEG EXTENDS BETWEEN TOP AND BOTTOM MATS OF SLAB REINFORCEMENT. SLIGHTLY SHIFT OR SLOPE BARS 451 TO AVOID CONFLICT WITH STRANDS. BARS 350 MAY BE FABRICATED IN TWO PARTS BY LAPPING HORIZONTAL SECTION BY 1'-0" MINIMUM. PLACE BARS 450 WITH OPEN ENDS AWAY FROM BEAM ENDS.

APPROVED FOR CONSTRUCTION 1/19/08



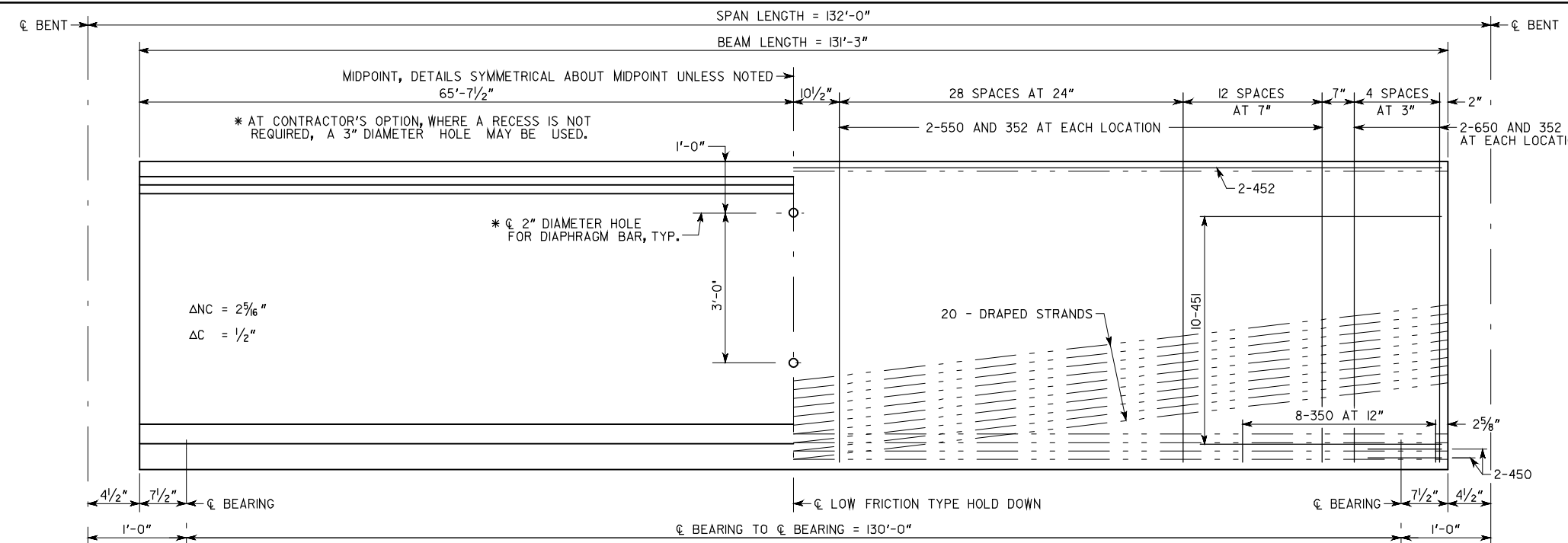
BRIDGE NO. 1		GEORGIA DEPARTMENT OF TRANSPORTATION PRECONSTRUCTION DIVISION-OFFICE OF BRIDGE DESIGN	
BULB TEE, 72 IN PSC BEAM - END SPANS CR 98 (KIA BOULEVARD) OVER I-85		TROUP COUNTY CSNHS-0008-00(232)	
SCALE: NO SCALE		JULY 2007	
DESIGNED JPT	CHECKED RHC	REVIEWED WMD	APPROVED PVL
DRAWN MLF	DESIGN GROUP SWW		

BRIDGE SHEET  
8 OF 20

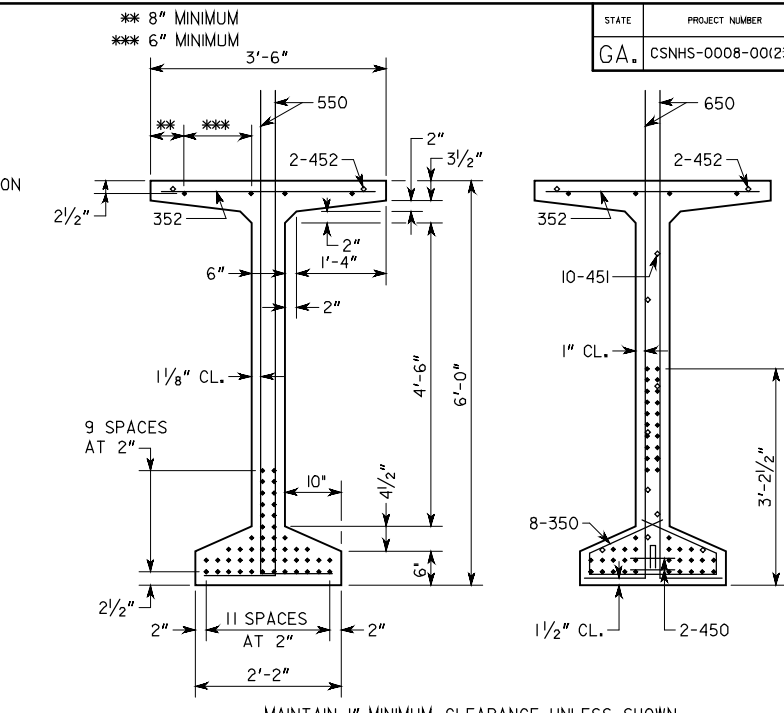
PLAN DATE: 01-25-08



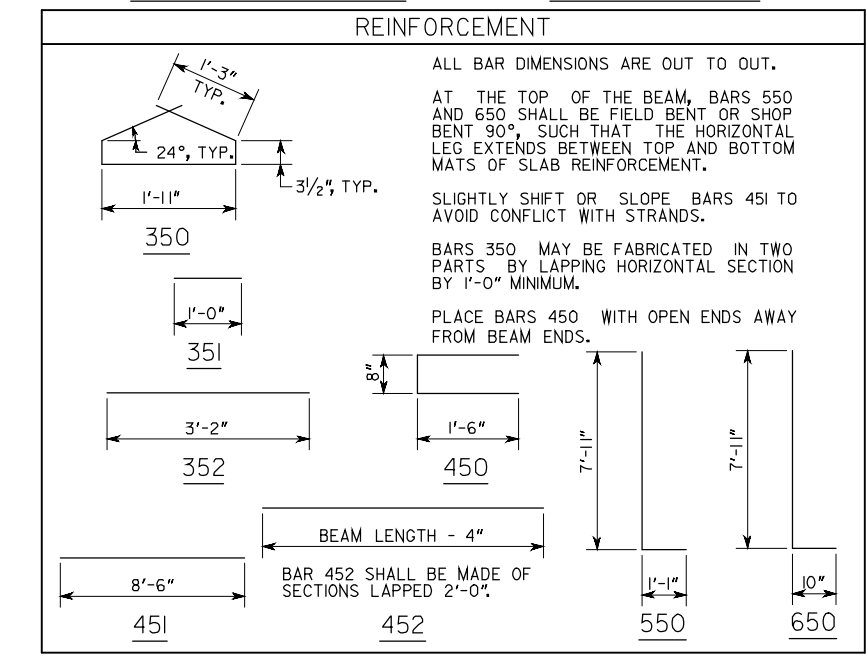
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.	CSNHS-0008-00(232)	581	839



ELEVATION



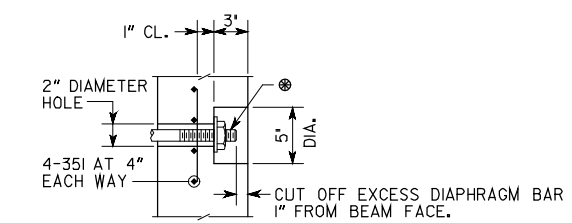
SECTION AT MIDPOINT SECTION AT END



REINFORCEMENT

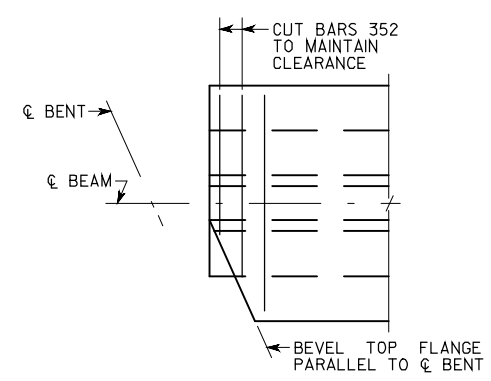
NOTES

- BEAMS SHALL BE MAINTAINED IN AN UPRIGHT POSITION AT ALL TIMES AND SHALL BE PICKED UP WITHIN 9'-0" FROM THEIR ENDS. DISREGARDING THIS REQUIREMENT COULD LEAD TO COLLAPSE OF THE BEAM. PICK-UPS SHALL BE EMBEDDED TO WITHIN 4" OF THE BOTTOM OF THE BEAM. DETAILS OF PICK-UPS SHALL BE INCLUDED IN THE SHOP DRAWINGS.
- CHAMFER EDGES OF BEAMS 1/2", 3/4" OR 1".
- HORIZONTAL DIMENSIONS ARE IN PLACE DIMENSIONS. THE BEAM LENGTH INCLUDES THE 1/8" EPOXY MORTAR AT EACH END. SHOP DRAWINGS SHALL ADJUST HORIZONTAL DIMENSIONS FOR GRADE AND FABRICATION EFFECTS SUCH AS SHRINKAGE AND ELASTIC SHORTENING.
- AT  $\phi$  BEARING, FORM A 1 1/2" DIAMETER X 7" DEEP HOLE AT THE FIXED ENDS AND A 6" X 1 1/2" X 7" DEEP SLOT AT THE EXPANSION ENDS FOR A 1 1/4" DIAMETER SMOOTH DOWEL. SEE PLAN AND ELEVATION SHEET FOR LOCATION OF FIXED AND EXPANSION ENDS.
- TOPS OF BEAMS SHALL BE ROUGH FLOATED AT APPROXIMATELY THE TIME OF INITIAL SET. ENTIRE TOP SHALL BE SCRUBBED TRANSVERSELY WITH A COARSE BRUSH TO REMOVE ALL LAITANCE AND TO PRODUCE A ROUGHENED SURFACE FOR BONDING TO THE SLAB. ROUGHENED SURFACE SHALL HAVE AN AMPLITUDE OF APPROXIMATELY 1/4". CONCRETE FINS OR PROJECTIONS SHALL BE REMOVED TO PRODUCE A VERTICAL FACE AT THE EDGE OF THE BEAM.
- NON-COMPOSITE DEAD LOAD DEFLECTION ( $\Delta_{NC}$ ) AT THE MIDPOINT IS DUE TO THE WEIGHT OF THE SLAB AND COPING.
- COMPOSITE DEAD LOAD DEFLECTION ( $\Delta_C$ ) AT THE MIDPOINT IS DUE TO THE WEIGHT OF BARRIER AND MEDIAN.
- STRANDS SHALL MEET ALL REQUIREMENTS OF ASTM A 416 GRADE 270.
- PRESTRESSING DATA IS AS FOLLOWS:
  - USE 52 - 0.6" DIAMETER LOW-RELAXATION ( $A = 0.217 \text{ SQ IN}$ ) STRANDS. PRETENSION TOP FOUR (4) STRANDS TO 10,000 LBS EACH. PRETENSION BOTTOM STRANDS TO 43,943 LBS EACH.
  - PRETENSIONED STRANDS SHALL BE RELEASED AFTER THE CONCRETE HAS REACHED A MINIMUM STRENGTH ( $f_{ci}$ ) OF 8,400 PSI.
  - INCLUDING THE TOP STRANDS, THE TOTAL JACKING FORCE OF PRETENSIONING IS 2,149,264 LBS.
  - INCLUDING THE TOP STRANDS, THE NET PRESTRESSING FORCE OF THE STRANDS AFTER ALL LOSSES IS 1,409,470 LBS.
- CONCRETE STRENGTH ( $f'_c$ ) = 8,400 PSI.
- ALLOWABLE PSC BEAM TENSION = 550 PSI.



DIAPHRAGM BAR SHALL BE A 1" DIAMETER PLAIN BAR, THREADED 5" ON EACH END, WITH 1/4" X 3/2" DIAMETER WASHERS AND HEX NUTS (ASTM A 709 GRADE 36). DIAPHRAGM BAR SHALL BE TIGHTENED AS PER SUB-SECTION 507.3.05.C OF THE GEORGIA DOT SPECIFICATIONS. AFTER EXCESS DIAPHRAGM BAR HAS BEEN CUT OFF, END OF DIAPHRAGM BAR, WASHER, AND NUT EXPOSED IN RECESS SHALL BE PAINTED WITH SPECIAL PROTECTIVE COATING NO. 2 P AS PER SECTION 535 OF THE GEORGIA DOT SPECIFICATIONS. AFTER PAINTING, THE RECESS SHALL BE FILLED WITH AN APPROVED EPOXY GROUT. GALVANIZING OF DIAPHRAGM BAR AS PER SUB-SECTION 865.2.01.B.12 OF THE GEORGIA DOT SPECIFICATIONS IS NOT REQUIRED.

RECESS DETAIL FOR DIAPHRAGM BAR ENDS



BEVEL DETAILS

APPROVED FOR CONSTRUCTION 1/19/08

DATE	
REVISIONS	
BY	

BRIDGE NO. 1

2849 PACES FERRY ROAD, SUITE 400  
ATLANTA, GEORGIA 30339  
TEL: 770/431-8666 FAX: 770/435-2666

GEORGIA  
DEPARTMENT OF TRANSPORTATION  
PRECONSTRUCTION DIVISION-OFFICE OF BRIDGE DESIGN

BULB TEE, 72 IN PSC BEAM - INTERMEDIATE SPANS  
CR 98 (KIA BOULEVARD) OVER I-85

TROUP COUNTY CSNHS-0008-00(232)

SCALE: NO SCALE JULY 2007

DESIGNED	JPT	CHECKED	RHC	REVIEWED	WMD
DRAWN	MLF	DESIGN GROUP	SWW	APPROVED	PVL

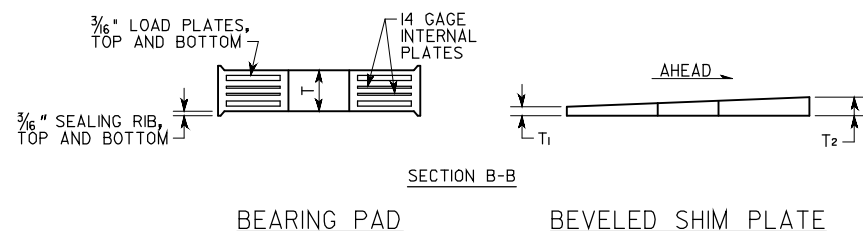
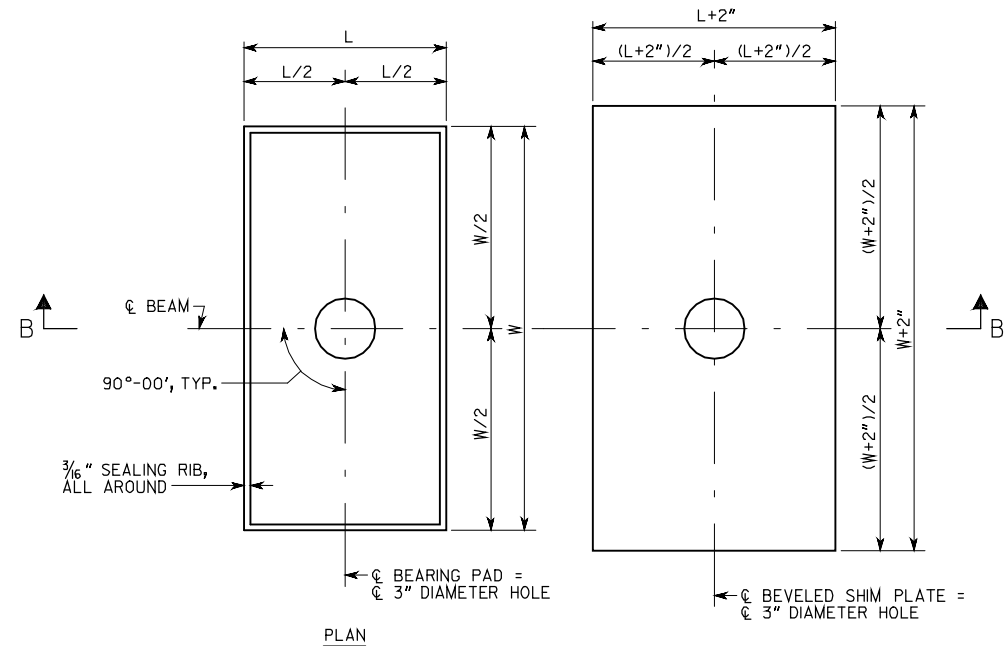
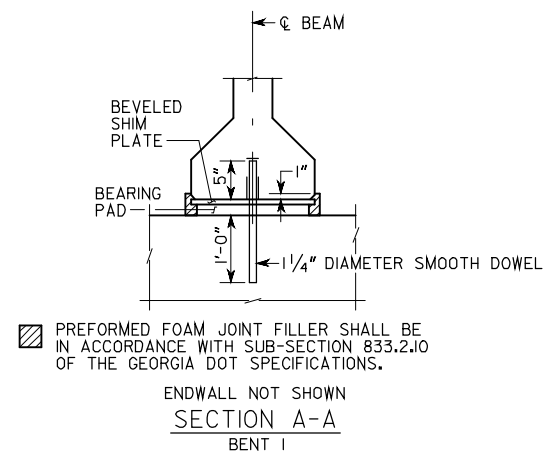
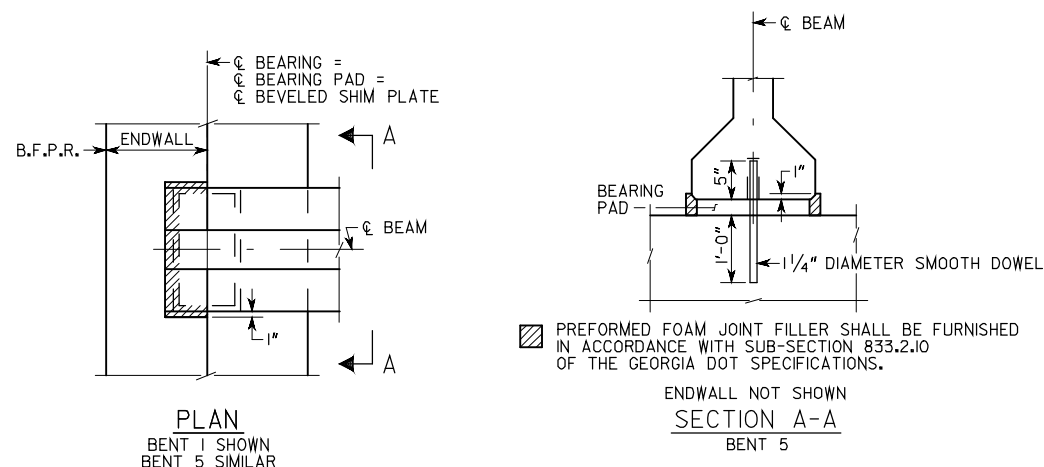
BRIDGE SHEET  
9 OF 20

PLAN DATE: 01-25-08

User Name: MLF Date: 1/19/2008 Time: 10:00:42 AM File Name: g:\Tran\63732-Kia\br\bridge\final\br\bridge\_1\63732pl-bm3.dgn

NOTES

- 1) BEARING PADS HAVE BEEN DESIGNED ACCORDING TO 1992 AASHTO SPECIFICATIONS ARTICLE 14.6.6, METHOD A AND SHALL BE FURNISHED IN ACCORDANCE WITH AASHTO SPECIFICATIONS DIVISION II, SECTION 18, BEARINGS.
- 2) 1/4" DIAMETER SMOOTH DOWELS SHALL BE ASTM A 709 GRADE 36.
- 3) BEARING PADS SHALL BE MADE OF 60 DUROMETER HARDNESS NEOPRENE, GRADE 2 OR HIGHER.
- 4) 3" DIAMETER HOLE IN BEARING PADS MAY BE FORMED OR DRILLED.
- 5) BEARING PADS SHALL HAVE 1/4" COVER ON THE TOP, BOTTOM, AND SIDES AND AROUND THE HOLE.
- 6) 3/16" LOAD PLATES AND 14 GAGE INTERNAL PLATE(S) (IF REQUIRED) SHALL BE ASTM A 709 GRADE 36 OR ASTM A 1011 GRADE 36.
- 7) NUMBER OF INTERNAL PLATES SHOWN FOR ILLUSTRATION PURPOSES ONLY. THE NUMBER OF INTERNAL PLATE(S) SPECIFIED SHALL BE EQUALLY SPACED BETWEEN LOAD PLATES.
- 8) USE OF 1/2° MOLD DRAFT IS OPTIONAL.



BENT	BEARING PADS								BEVELED SHIM PLATES	
	W	L	T	NUMBER OF INTERNAL PLATE(S)	DESIGN SHEAR DEFLECTION	DESIGN LOADS (KIPS)			T1	T2
						DEAD LOAD	LIVE LOAD (NO IMPACT)	DEAD LOAD + LIVE LOAD		
1 INT BMS	15	10	2 3/4	5	0.55	51.8	51.1	102.9	1/4"	7/16"
1 EXT BMS	22	8	2	2	0.55	61.1	49.7	110.8	1/4"	7/16"
2 BK INT BMS	15	10	1/2	1	0.38	51.8	51.1	102.9	1/4"	7/16"
2 BK EXT BMS	22	8	1/2	1	0.38	61.1	49.7	110.8	1/4"	7/16"
2 AHD	22	11	1/2	1	0.38	147.1	56.1	203.2	1/4"	7/16"
3 BK	22	11	1	0	0	147.1	56.1	203.2	-	-
3 AHD	22	11	1	0	0	147.1	56.1	203.2	-	-
4 BK	22	11	1/2	1	0.38	147.1	56.1	203.2	-	-
4 AHD INT BMS	15	10	1/2	1	0.38	51.8	51.1	102.9	-	-
4 AHD EXT BMS	22	8	1/2	1	0.38	61.1	49.7	110.8	-	-
5 INT BMS	15	10	2 3/4	5	0.55	51.8	51.1	102.9	-	-
5 EXT BMS	22	8	2	2	0.55	61.1	49.7	110.8	-	-

DIMENSIONS ARE IN INCHES

APPROVED FOR CONSTRUCTION 1/19/08

BRIDGE NO. 1



GEORGIA  
DEPARTMENT OF TRANSPORTATION  
PRECONSTRUCTION DIVISION-OFFICE OF BRIDGE DESIGN

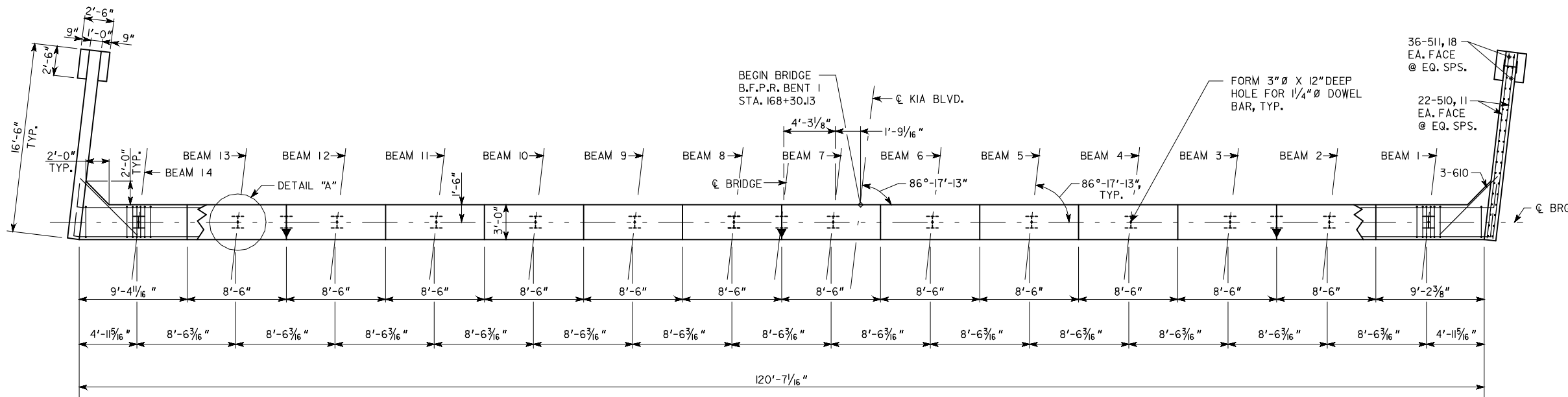
BEARING DETAILS  
CR 98 (KIA BOULEVARD) OVER I-85

TROUP COUNTY CSNHS-0008-00(232)

SCALE: NO SCALE JULY 2007

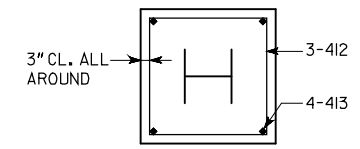
DESIGNED	JPT	CHECKED	RHC	REVIEWED	WMD
DRAWN	MLF	DESIGN GROUP	SWW	APPROVED	PVL

PLAN DATE: 01-25-08

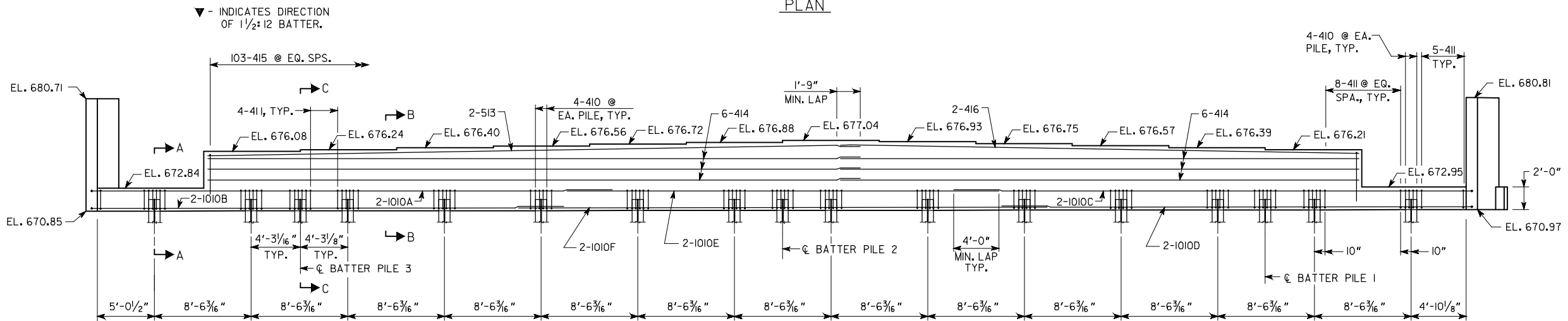


PLAN

- NOTES:
- POUR WINGWALLS MONOLITHICALLY WITH CAP.
  - MAINTAIN 2" CL. ON ALL REINFORCEMENT UNLESS OTHERWISE NOTED.
  - WINGWALL PILES NOT SHOWN IN ELEVATION VIEW.
  - SEE GA. STD. 9037 FOR DRAINAGE DETAILS AT END BENTS.
  - TOPS AND BOTTOMS OF WINGWALL ARE LEVEL.



PILE BOX DETAIL

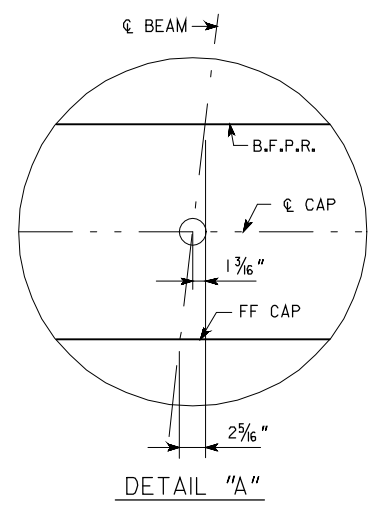


ELEVATION  
(END BENT 1 LOOKING BACK)

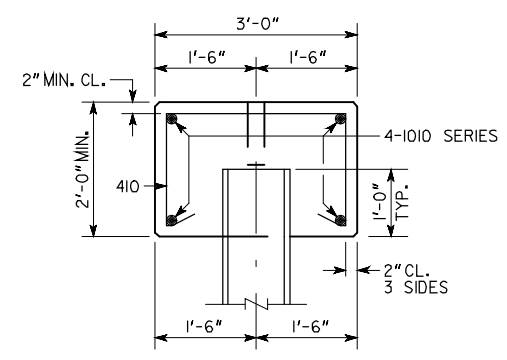
SUBSTRUCTURE QUANTITIES	
ITEM	BENT 1
CLASS AA CONCRETE, CY	811
BAR REINF STEEL, LB	6,322

PLAN DRIVING OBJECTIVE  
ALL PILES SHALL BE DRIVEN TO A DRIVING RESISTANCE OF 96 TONS AFTER A MINIMUM TIP ELEVATION OF 605 IS ACHIEVED. ALL PILES ARE STEEL H, HP 14 X 73.

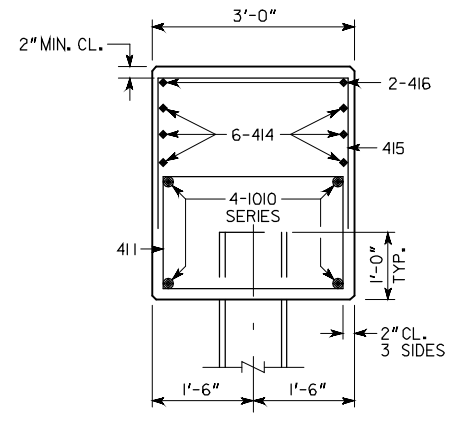
APPROVED FOR CONSTRUCTION 1/19/08



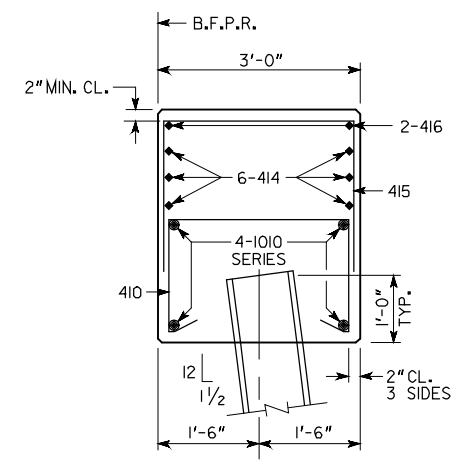
DETAIL "A"



SECTION A-A



SECTION B-B



SECTION C-C

DATE	REVISIONS

BRIDGE NO. 1

2849 PACES FERRY ROAD, SUITE 400  
ATLANTA, GEORGIA 30339  
TEL: 770/431-8666 FAX: 770/435-2666

GEORGIA  
DEPARTMENT OF TRANSPORTATION  
PRECONSTRUCTION DIVISION-OFFICE OF BRIDGE DESIGN

END BENT 1  
CR 98 (KIA BOULEVARD) OVER I-85

TROUP COUNTY CSNHS-0008-00(232)

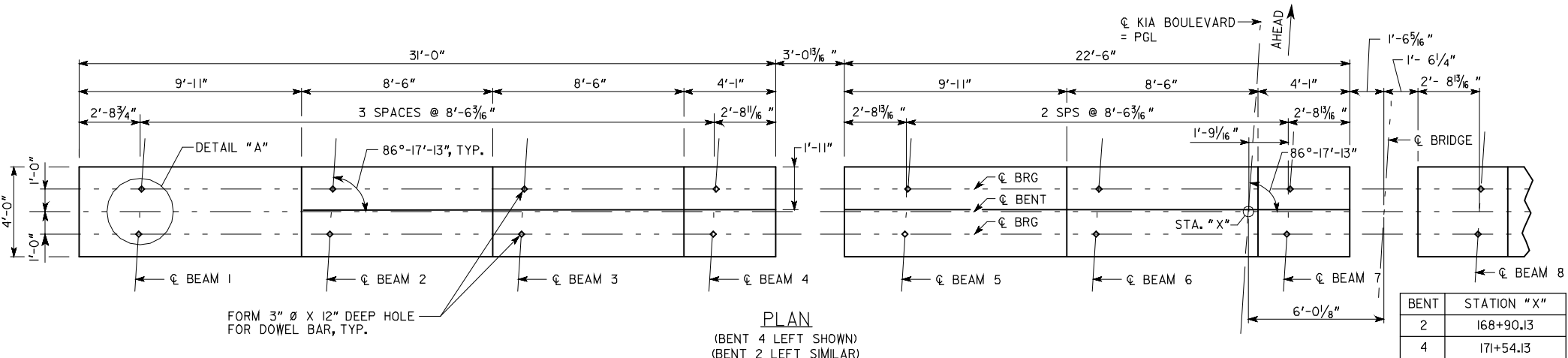
SCALE: NO SCALE JULY 2007

DESIGNED	JPT	CHECKED	RHC	REVIEWED	WMD
DRAWN	JJA	DESIGN GROUP	SWW	APPROVED	PVL

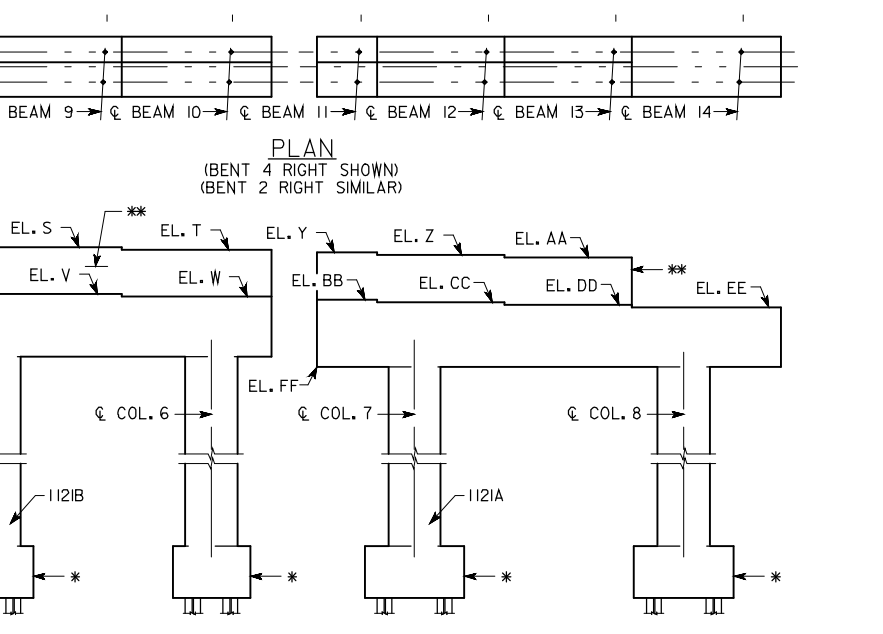
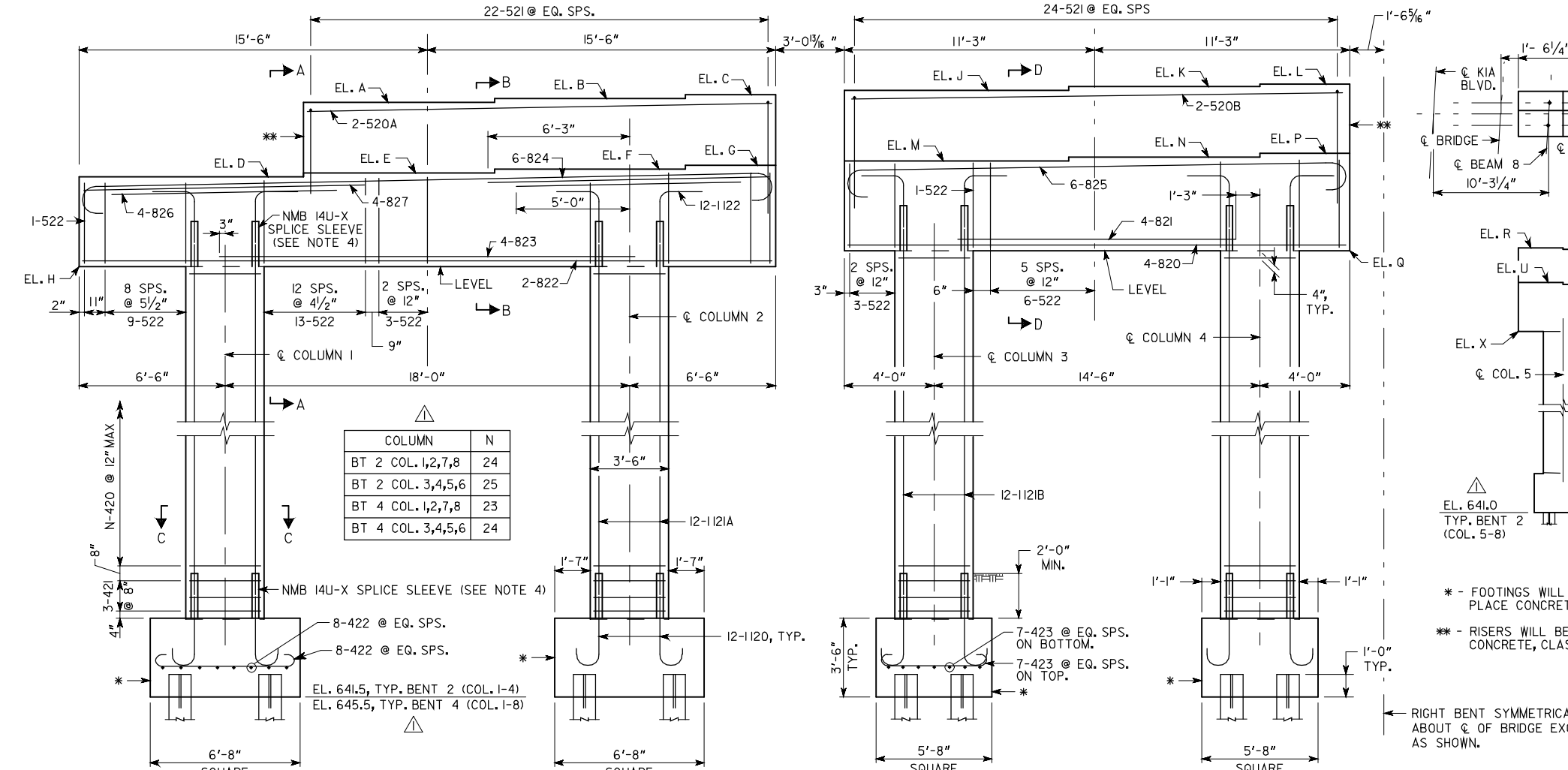
BRIDGE SHEET  
11 OF 20

PLAN DATE: 01-25-08

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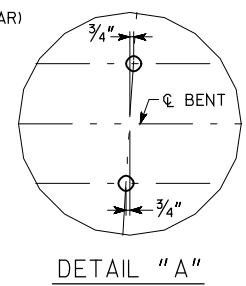


	A	B	C	D	E	F	G	H	J	K
BENT 2	677.31	677.50	677.67	673.98	674.28	674.46	674.64	669.98	677.85	678.03
	L	M	N	P	Q	R	S	T	U	V
	678.14	674.82	675.00	675.11	670.82	677.98	677.82	677.66	674.95	674.79
	W	X	Y	Z	AA	BB	CC	DD	EE	FF
	674.63	670.63	677.49	677.33	677.17	674.46	674.30	674.14	673.86	669.86
BENT 4	A	B	C	D	E	F	G	H	J	K
	680.50	680.67	680.85	677.12	677.42	677.59	677.77	673.12	681.02	681.19
	L	M	N	P	Q	R	S	T	U	V
	681.30	677.94	678.12	678.22	673.94	681.13	680.97	680.80	678.05	677.89
	W	X	Y	Z	AA	BB	CC	DD	EE	FF
	677.72	673.72	680.63	680.47	680.30	677.56	677.39	677.22	676.93	672.93



ITEM	BENT 2 LEFT EXT.	BENT 2 LEFT INT.	BENT 2 RIGHT INT.	BENT 2 RIGHT EXT.	BENT 4 LEFT EXT.	BENT 4 LEFT INT.	BENT 4 RIGHT INT.	BENT 4 RIGHT EXT.
CLASS AA CONCRETE, CY	61.8	53.6	53.5	61.5	62.8	54.7	54.5	62.6
BAR REINF STEEL, LB	8,360	7,292	7,292	8,360	8,577	7,480	7,480	8,577

NOTE: CONCRETE QUANTITY IS SHOWN AS CLASS AA. SEE NOTE 5.



- NOTES:
- 424 BARS NOT SHOWN IN ELEVATION VIEW.
  - CAP REINFORCEMENT IS SYMMETRICAL ABOUT C OF CAP EXCEPT AS SHOWN.
  - MAINTAIN 2" CL. ON ALL REINFORCEMENT UNLESS NOTED.
  - UNLESS NOTED OTHERWISE, ALL CAP AND COLUMN ELEMENTS ARE TO BE PRECAST. SEE "PRECAST DETAILS" SHEET FOR NOTES AND CONNECTION DETAILS.
  - USE CLASS AAA CONCRETE WITH A MINIMUM 28-DAY STRENGTH OF 4500 PSI FOR THE PRECAST CAPS AND COLUMNS. USE CLASS AA CONCRETE FOR THE RISERS AT BENTS 2 AND 4 AND FOR ALL OF THE FOOTINGS. THE QUANTITY SHOWN FOR CLASS AA CONCRETE INCLUDES THE CLASS AA AND THE CLASS AAA CONCRETE.
  - POUR THE RISERS ON THE BENTS 2 AND 4, INTERIOR AND EXTERIOR AFTER THE CAP HAS BEEN SET ON THE COLUMNS. APPLY EPOXY RESIN ADHESIVE TYPE II TO THE TOP OF CAP JUST PRIOR TO POURING THE RISER CONCRETE.

APPROVED FOR CONSTRUCTION 1/19/08

BRIDGE NO. 1

2849 PACES FERRY ROAD, SUITE 400  
ATLANTA, GEORGIA 30339  
TEL: 770/431-8666 FAX: 770/435-2666

GEORGIA  
DEPARTMENT OF TRANSPORTATION  
PRECONSTRUCTION DIVISION-OFFICE OF BRIDGE DESIGN

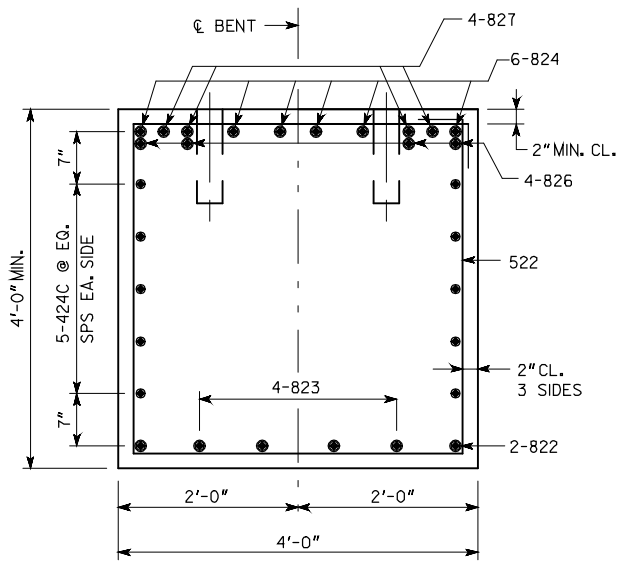
INTERMEDIATE BENTS 2 & 4  
CR 98 (KIA BOULEVARD) OVER I-85

TROUP COUNTY CSNHS-0008-00(232)

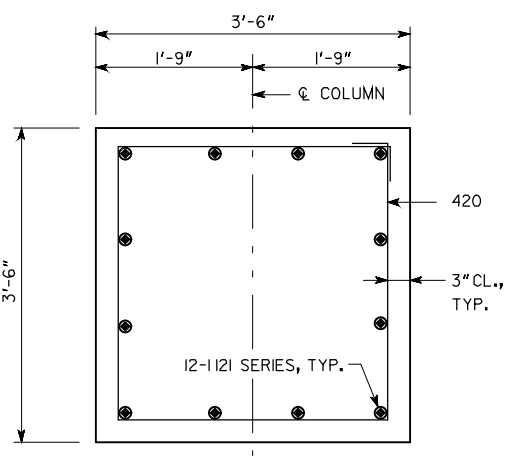
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DESIGNED	JPT	CHECKED	RHC	REVIEWED	WMD
DRAWN	JJA	DESIGN GROUP	SWW	APPROVED	PVL

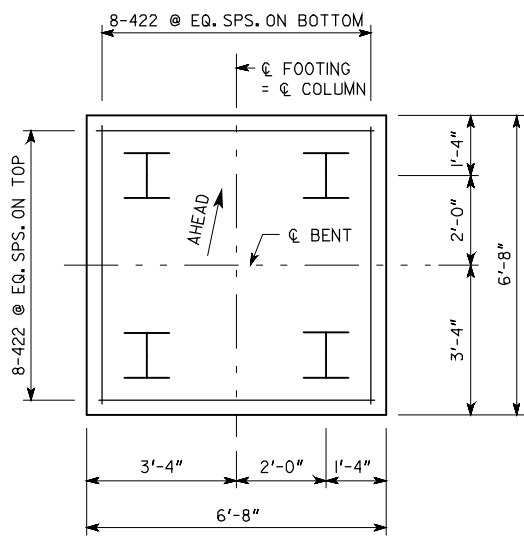
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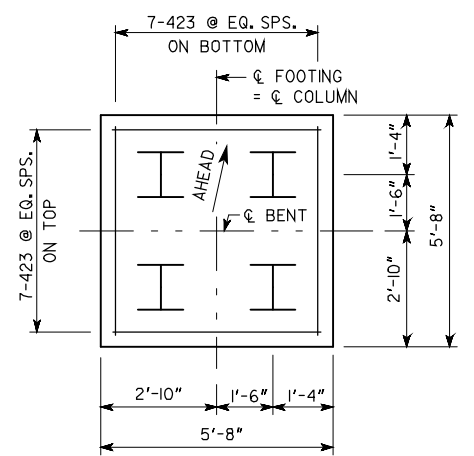
SECTION A-A  
(BENTS 2 AND 4 EXT. SHOWN)



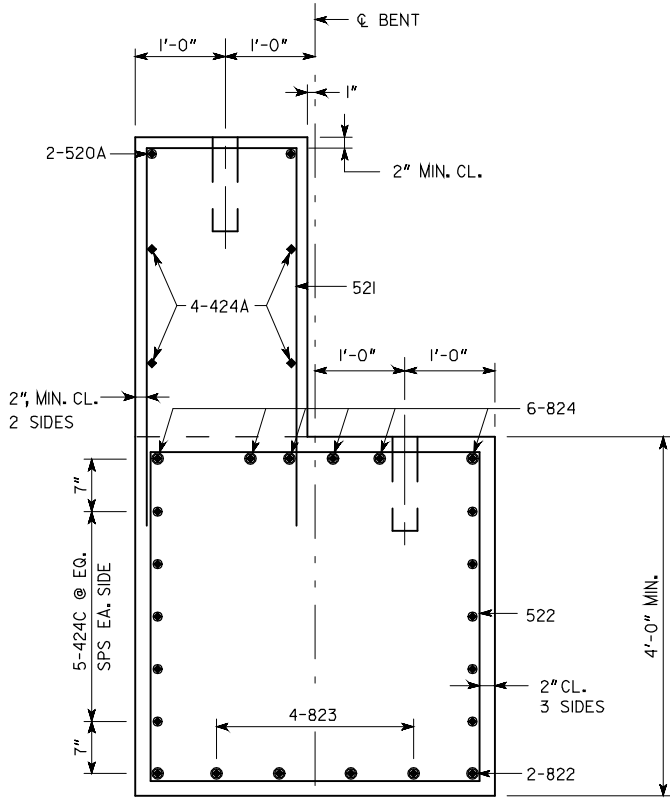
SECTION C-C  
(BENTS 2 AND 4 INT. AND EXT.)



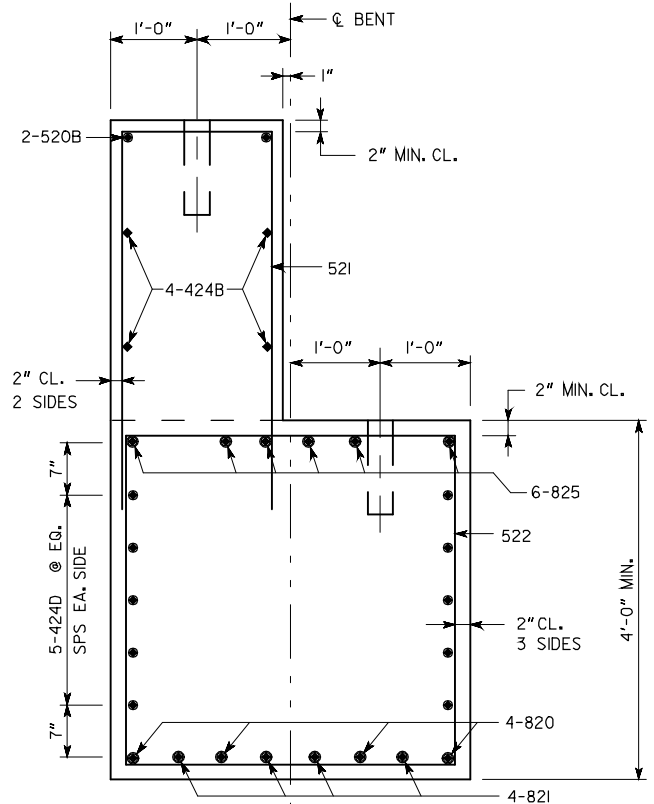
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(BENT 2 AND 4 EXT.)



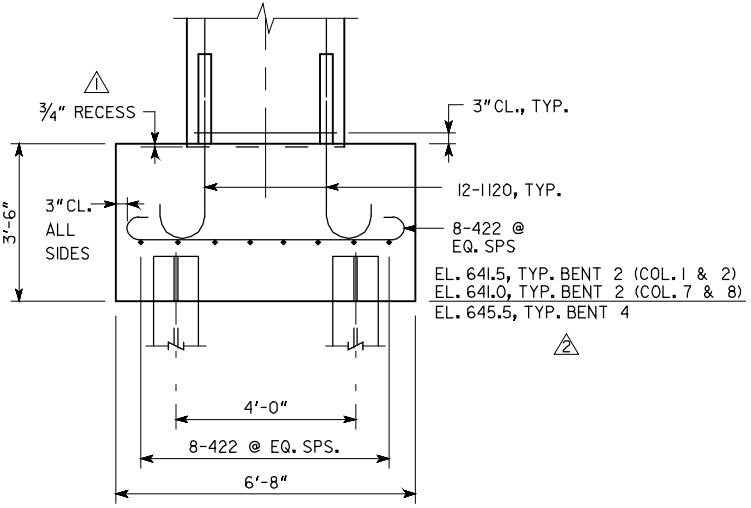
FOOTING PLAN  
(BENT 2 AND 4 INT.)



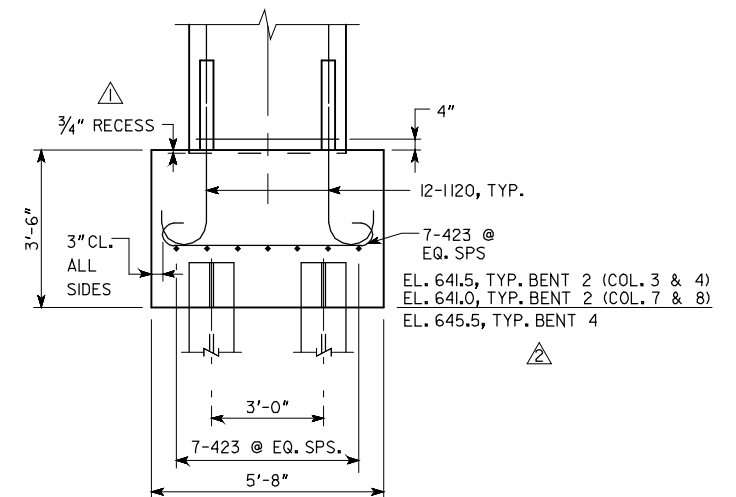
SECTION B-B  
(BENTS 2 AND 4 EXT. SHOWN)



SECTION D-D  
(BENTS 2 AND 4 INT. SHOWN)



FOOTING DETAIL  
(BENT 2 AND 4 EXT.)



FOOTING DETAIL  
(BENT 2 AND 4 INT.)

NOTE: RISER IS TO BE CAST AFTER CAP HAS BEEN SET.

NOTE: RISER IS TO BE CAST AFTER CAP HAS BEEN SET.

APPROVED FOR CONSTRUCTION 1/19/08

BRIDGE NO. 1



2849 PACES FERRY ROAD, SUITE 400  
ATLANTA, GEORGIA 30339  
TEL: 770/431-8666 FAX: 770/435-2666

GEORGIA  
DEPARTMENT OF TRANSPORTATION  
PRECONSTRUCTION DIVISION-OFFICE OF BRIDGE DESIGN

BENTS 2 & 4 SECTIONS  
CR 98 (KIA BOULEVARD) OVER I-85

TROUP COUNTY CSNHS-0008-00(232)

SCALE: NO SCALE JULY 2007

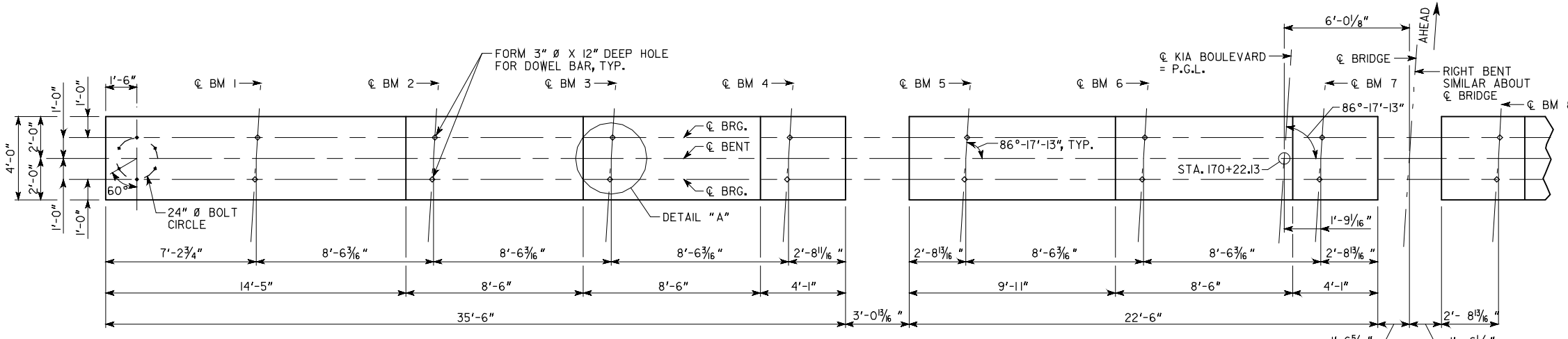
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DRAWN	JJA	DESIGN GROUP	SWW	APPROVED	PVL

BRIDGE SHEET  
13 OF 20

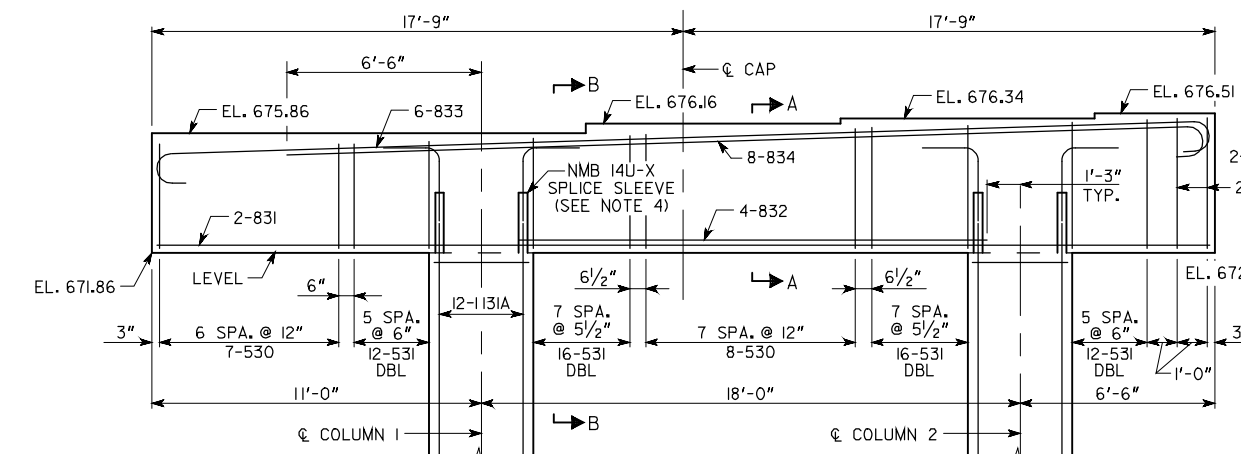
REVISIONS	DATE
BY	
JPT	3/05/08
JJA	3/27/08
REVISOR	REVISION
REVISOR	REVISION
REVISOR	REVISION

PLAN DATE: 01-25-08

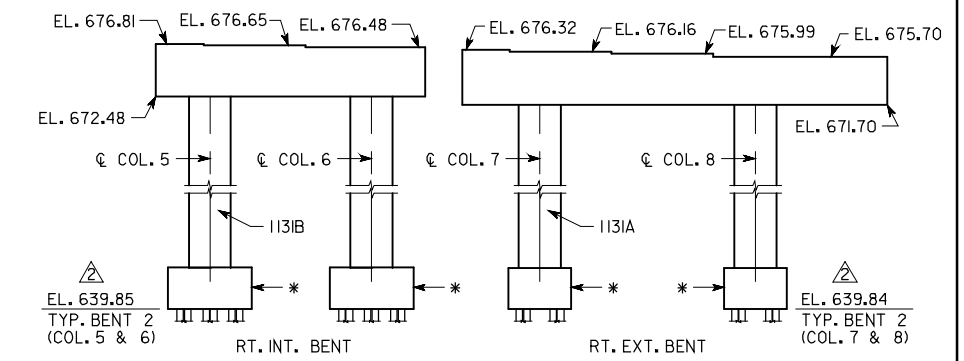
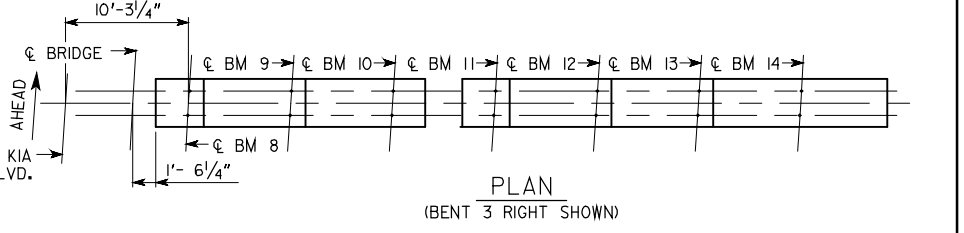
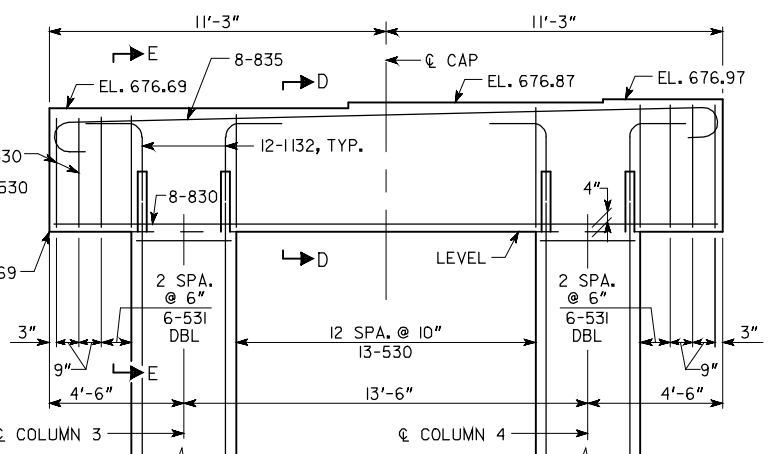
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- NOTES:
- 1) 434 BARS NOT SHOWN IN ELEVATION VIEW.
  - 2) CAP REINFORCEMENT IS SYMMETRICAL ABOUT  $\phi$  CAP EXCEPT AS SHOWN.
  - 3) MAINTAIN 2" CL. ON ALL REINFORCEMENT UNLESS NOTED.
  - 4) UNLESS NOTED OTHERWISE, ALL CAP AND COLUMN ELEMENTS ARE TO BE PRECAST. SEE "PRECAST DETAILS" SHEET FOR NOTES AND CONNECTION DETAILS.
  - 5) USE CLASS AAA CONCRETE WITH A MINIMUM 28-DAY STRENGTH OF 4500 PSI FOR THE PRECAST CAPS AND COLUMNS. USE CLASS AA CONCRETE FOR THE RISERS AT BENTS 2 AND 4 AND FOR ALL OF THE FOOTINGS. THE QUANTITY SHOWN FOR CLASS AA CONCRETE INCLUDES THE CLASS AA AND THE CLASS AAA CONCRETE.



COLUMN	N
COL. 1,2,7,8	27
COL. 3,4,5,6	28



\* - FOOTINGS WILL BE CAST IN PLACE CONCRETE, CLASS AA.

ALL PILES ARE STEEL H, HP 14 X 73.

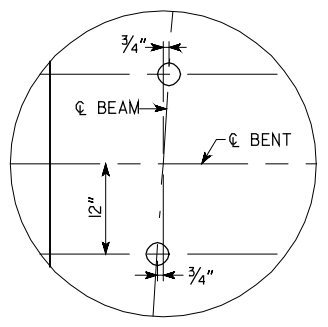
PLAN DRIVING OBJECTIVE

ALL PILES SHALL BE DRIVEN TO A DRIVING RESISTANCE OF 96 TONS AFTER A MINIMUM TIP ELEVATION OF 595 IS ACHIEVED.

APPROVED FOR CONSTRUCTION 1/19/08

SUBSTRUCTURE QUANTITIES				
ITEM	BENT 3 LEFT EXT.	BENT 3 LEFT INT.	BENT 3 RIGHT INT.	BENT 3 RIGHT EXT.
CY CLASS "AA" CONCRETE	63.2	55.2	55.0	63.2
LB BAR REINFORCEMENT STEEL	9,115	7,698	7,698	9,115

NOTE: CONCRETE QUANTITY IS SHOWN AS CLASS AA. SEE NOTE 5.



REVISIONS	DATE
REVISED RECESS	3/05/08
REV. BOT. FOOT. ELEV.	3/27/08

BRIDGE NO. 1

**ARCADIS**  
2849 PACES FERRY ROAD, SUITE 400  
ATLANTA, GEORGIA 30339  
TEL: 770/431-8666 FAX: 770/435-2666

GEORGIA  
**DEPARTMENT OF TRANSPORTATION**  
PRECONSTRUCTION DIVISION-OFFICE OF BRIDGE DESIGN

INTERMEDIATE BENT 3 DETAILS  
CR 98 (KIA BOULEVARD) OVER I-85

TROUP COUNTY CSNHS-0008-00(232)

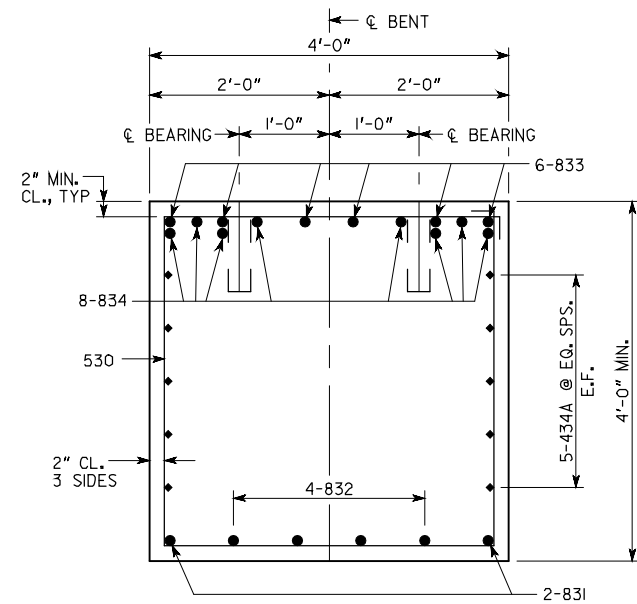
SCALE: NO SCALE JULY 2007

DESIGNED	JPT	CHECKED	RHC	REVISED	WMD
DRAWN	MLF	DESIGN GROUP	SWW	APPROVED	PVL

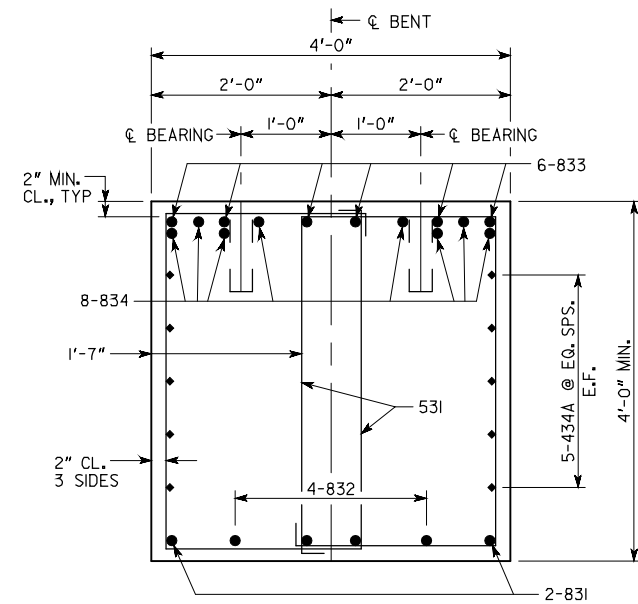
BRIDGE SHEET  
14 OF 20

PLAN DATE: 01-25-08

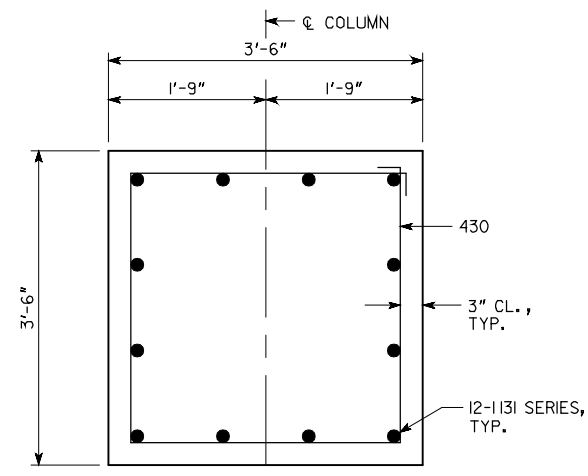
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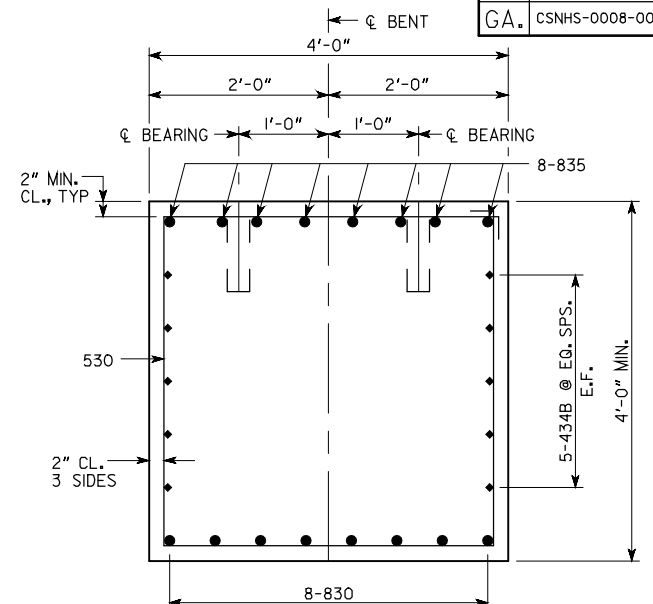
SECTION A-A



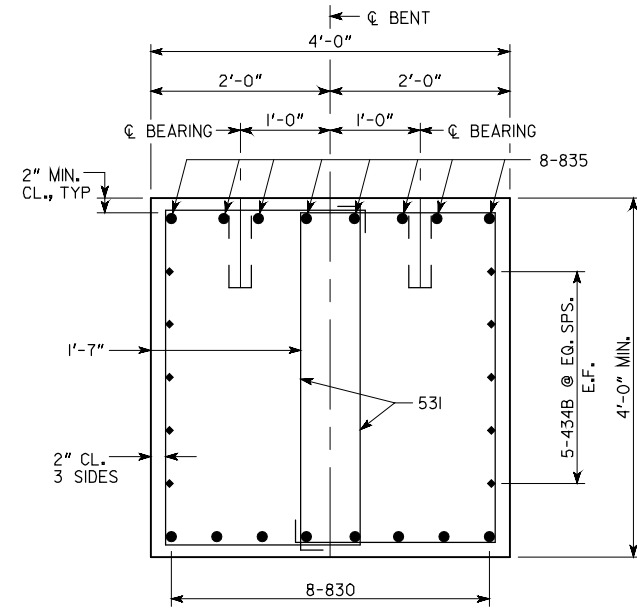
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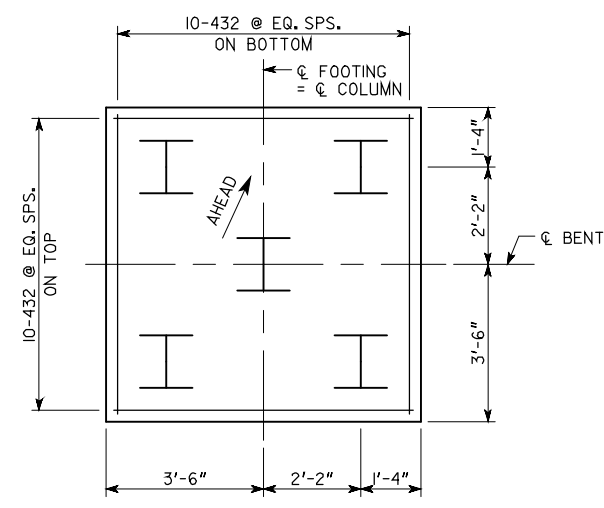
SECTION C-C



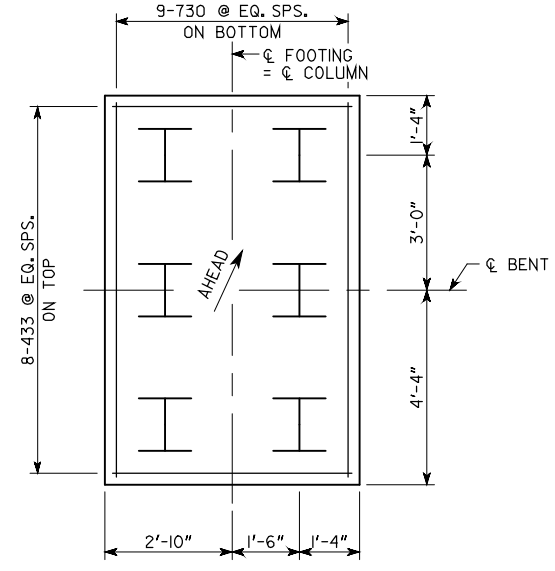
SECTION D-D



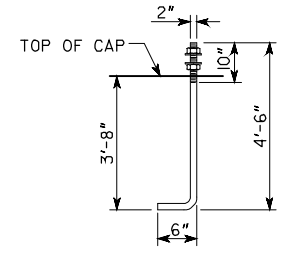
SECTION E-E



FOOTING PLAN  
INTERIOR BENTS



FOOTING PLAN  
EXTERIOR BENTS



(6)-ANCHOR BOLTS WITH (2) HEX NUTS, (2) FLAT WASHERS AND (1) LOCK WASHER PER BOLT WITH THREADED END GALVANIZED 12" MINIMUM.

POLE ANCHOR BOLT

NOTES:

- FOR DETAILS OF STRAIN POLE, SEE SIGN PLANS.
- ANCHOR BOLTS SHALL BE AASHTO M-314-90, GR. 55-SI AND GALVANIZED PER ASTM A 153.
- USE BASE PLATE FOR POLE AS TEMPLATE FOR ANCHOR BOLTS.

APPROVED FOR CONSTRUCTION 1/19/08

BRIDGE NO. 1



2849 PACES FERRY ROAD, SUITE 400  
ATLANTA, GEORGIA 30339  
TEL: 770/431-8666 FAX: 770/435-2666

GEORGIA  
DEPARTMENT OF TRANSPORTATION  
PRECONSTRUCTION DIVISION-OFFICE OF BRIDGE DESIGN

BENT 3 DETAILS  
CR 98 (KIA BOULEVARD) OVER I-85

TROUP COUNTY CSNHS-0008-00(232)

SCALE: NO SCALE JULY 2007

DESIGNED	JPT	CHECKED	RHC	REVIEWED	WMD
DRAWN	MLF	DESIGN GROUP	SWW	APPROVED	PVL

BRIDGE SHEET  
15 OF 20

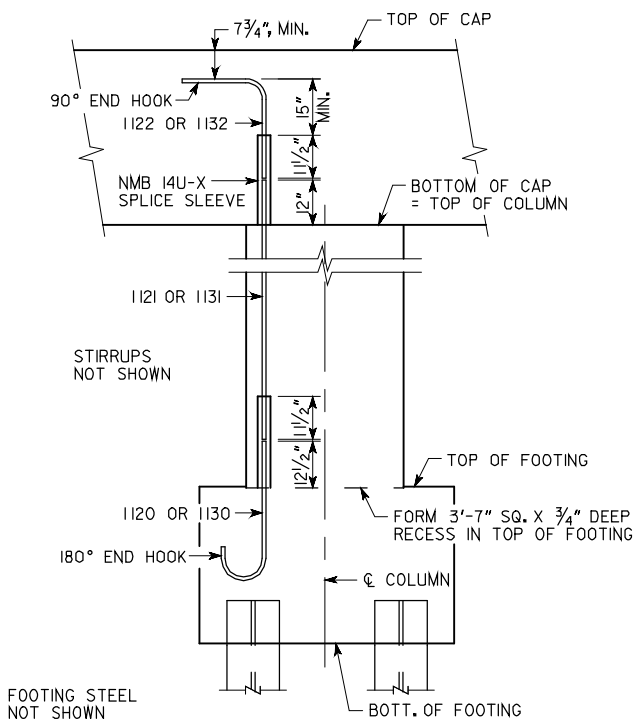
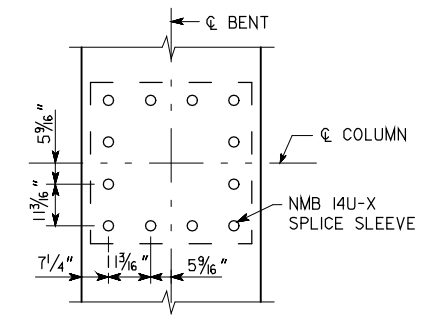
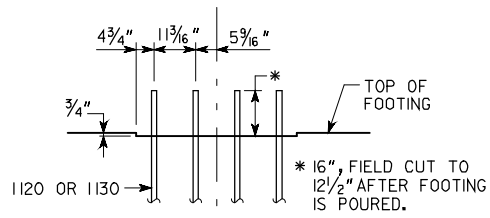
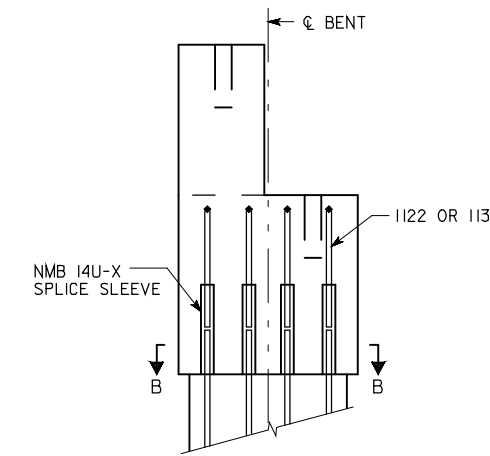
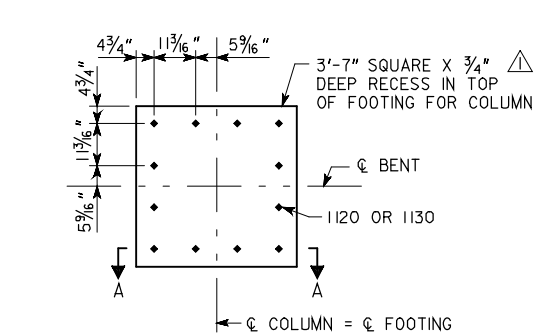
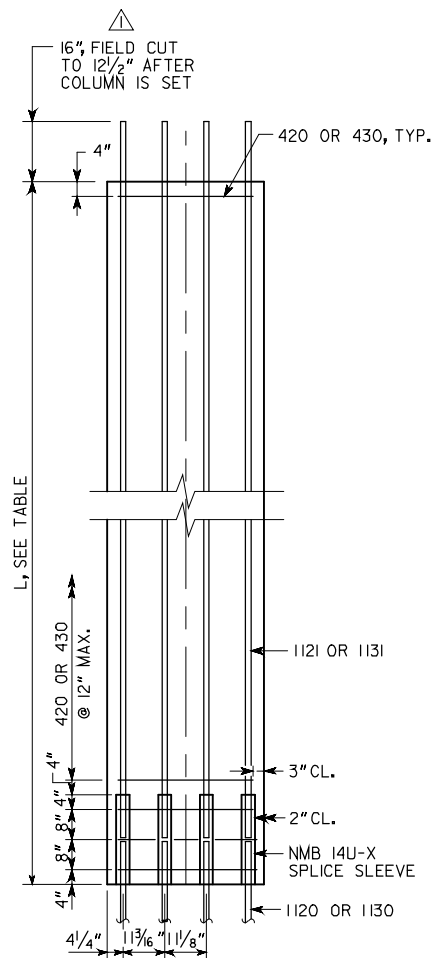
BY	DATE
JPT	3/05/08
MLF	3/27/08
JMA	
REVISIONS	
REVISOR	
REVISION	
ELEVATIONS	

PLAN DATE: 01-25-08

User Name: MLF Date: 1/19/2010 Time: 10:00:54 AM File Name: g:\tr\ra\63732-kia\bridge\final\bridge\1\63732pl-b13b.dgn

**NOTES:**

- 1) USE CLASS AAA CONCRETE WITH A MINIMUM 28-DAY STRENGTH OF 4500 PSI FOR THE PRECAST CAPS AND COLUMNS. USE CLASS AA CONCRETE FOR THE RISERS AT BENTS 2 AND 4 AND FOR ALL OF THE FOOTINGS. THE QUANTITY SHOWN FOR CLASS AA CONCRETE INCLUDES THE CLASS AA AND THE CLASS AAA CONCRETE.
- 2) FILL THE RECESS IN THE TOP OF THE FOOTING WITH EPOXY GROUT JUST PRIOR TO SETTING THE COLUMN. MAKE THE EPOXY GROUT USING A TYPE IV EPOXY ON THE GEORGIA DOT OFFICE OF MATERIALS AND RESEARCH QUALIFIED PRODUCTS LIST. ONCE THE COLUMN IS PLACED ON THE FOOTING AND BEFORE THE GROUT HAS SET, THE CONTRACTOR SHALL ENSURE THAT THE COLUMN IS PLUMB IN BOTH DIRECTIONS AND IN THE PROPER HORIZONTAL LOCATION ON THE FOOTING. COLUMNS SHALL BE ADEQUATELY BRACED UNTIL THE SPLICE SLEEVES ARE GROUTED AND THE GROUT IN THE SLEEVES AND THE JOINT DEVELOPS SUFFICIENT STRENGTH FOR THE COLUMN TO BE SELF-SUPPORTING (MINIMUM 24 HOURS AFTER GROUTING SLEEVES).
- 3) HORIZONTAL TOLERANCE FOR PLACEMENT OF FOOTING DOWEL BARS IS  $\pm 1/8"$ .
- 4) NMB SPLICE SLEEVES SHALL BE INSTALLED AND GROUTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMENDATIONS.
- 5) DO NOT SET THE COLUMNS ON THE FOOTINGS UNTIL THE FOOTING CONCRETE IS AT LEAST 4 DAYS OLD. DO NOT SET BEAMS ON THE CAPS UNTIL THE FOOTING, COLUMN, RISER, AND CAP CONCRETE ACHIEVES A STRENGTH OF 2500 PSI.
- 6) COAT THE TOP OF THE COLUMN WITH APPROXIMATELY  $1/2"$  OF EPOXY GROUT JUST PRIOR TO SETTING CAP. MAKE THE EPOXY GROUT USING A TYPE IV EPOXY ON THE GEORGIA DOT OFFICE OF MATERIALS AND RESEARCH QUALIFIED PRODUCTS LIST. ONCE THE CAP IS PLACED ON THE COLUMN AND BEFORE THE GROUT HAS SET, THE CONTRACTOR SHALL ENSURE THAT THE CAP FACES ARE PLUMB AND THAT THE CAP IS IN THE PROPER HORIZONTAL LOCATION ON THE COLUMNS. CAPS SHALL BE ADEQUATELY BRACED UNTIL THE SPLICE SLEEVES ARE GROUTED AND THE GROUT IN THE SLEEVES AND THE JOINT DEVELOPS SUFFICIENT STRENGTH FOR THE CAP TO BE SELF-SUPPORTING (MINIMUM 24 HOURS AFTER GROUTING SLEEVES).
- 7) HORIZONTAL TOLERANCE FOR THE #1 COLUMN BARS IS  $\pm 1/8"$  AT TOP OF COLUMN.
- 8) POUR THE RISERS ON THE BENTS 2 AND 4, INTERIOR AND EXTERIOR AFTER THE CAP HAS BEEN SET ON THE COLUMNS. APPLY EPOXY RESIN ADHESIVE TYPE II TO THE TOP OF CAP JUST PRIOR TO POURING THE RISER CONCRETE.



BENT	COLUMN	L	BENT	COLUMN	L
2	1	24'-11 1/2"	4	1	24'-13 1/16"
	2	24'-11 1/2"		2	24'-13 1/16"
	3	25'-9 3/16"		3	24'-11"
	4	25'-9 3/16"		4	24'-11"
	5	26'-1 9/16"		5	24'-8 3/8"
	6	26'-1 9/16"		6	24'-8 3/8"
	7	25'-4 1/16"		7	23'-10 9/16"
	8	25'-4 1/16"		8	23'-10 9/16"
3	1	28'-5 1/2"			
	2	28'-5 1/2"			
	3	29'-3 3/16"			
	4	29'-3 3/16"			
	5	29'-1 9/16"			
	6	29'-1 9/16"			
	7	28'-4 1/16"			
	8	28'-4 1/16"			

APPROVED FOR CONSTRUCTION 1/19/08

BRIDGE NO. 1

2849 PACES FERRY ROAD, SUITE 400  
ATLANTA, GEORGIA 30339  
TEL: 770/431-8666 FAX: 770/435-2666

GEORGIA  
**DEPARTMENT OF TRANSPORTATION**  
PRECONSTRUCTION DIVISION-OFFICE OF BRIDGE DESIGN

PRECAST DETAILS  
CR 98 (KIA BOULEVARD) OVER I-85

TROUP COUNTY CSNHS-0008-00(232)

SCALE: NO SCALE JULY 2007

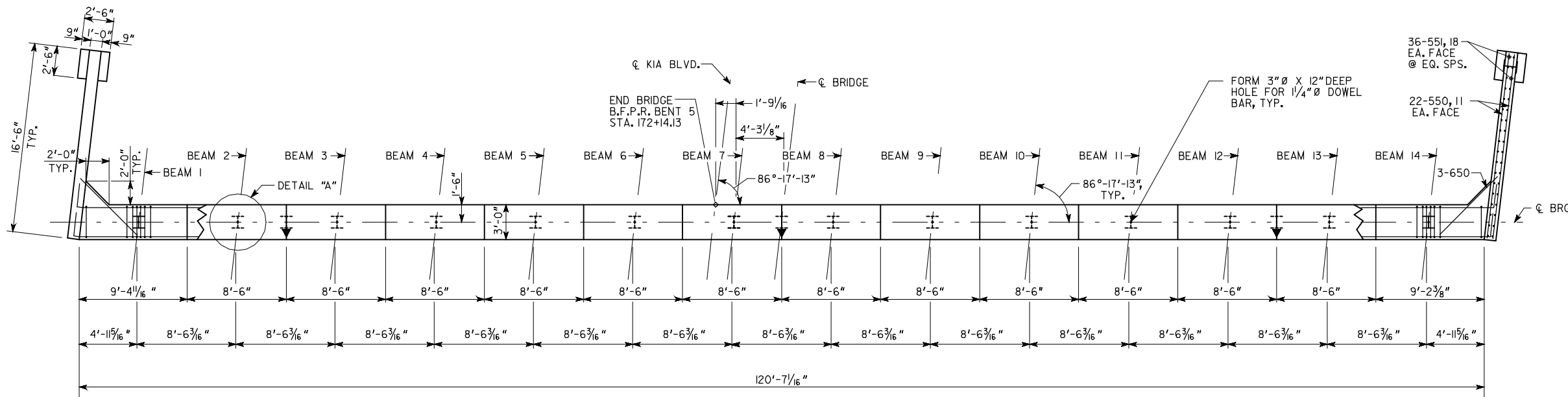
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DRAWN	MLF/JJA	DESIGN GROUP	SWW	APPROVED	PVL

BY	DATE
JPT	3/05/08
JMA	3/27/08
REVISIONS	
REVISOR	
REVISION	

BRIDGE SHEET  
16 OF 20

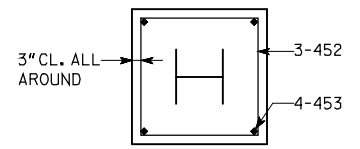
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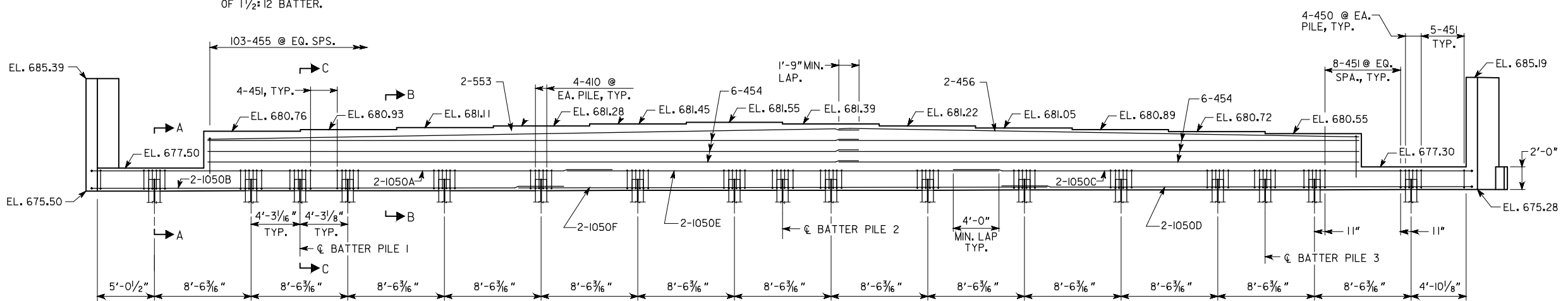


PLAN

- NOTES:**
- POUR WINGWALLS MONOLITHICALLY WITH CAP.
  - MAINTAIN 2" CL. ON ALL REINFORCEMENT UNLESS OTHERWISE NOTED.
  - WINGWALL PILES NOT SHOWN IN ELEVATION VIEW.
  - SEE GA. STD. 9037 FOR DRAINAGE DETAILS AT END BENTS.
  - TOPS AND BOTTOMS OF WINGWALL ARE LEVEL.



PILE BOX DETAIL

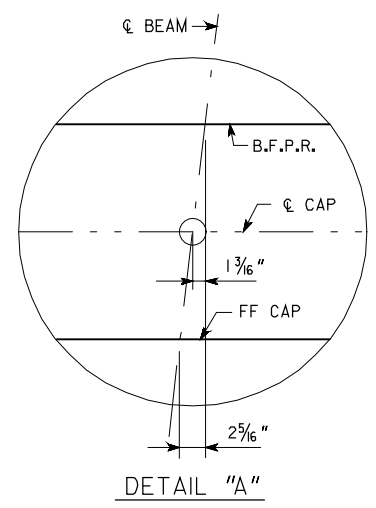


ELEVATION  
(END BENT 5 LOOKING AHEAD)

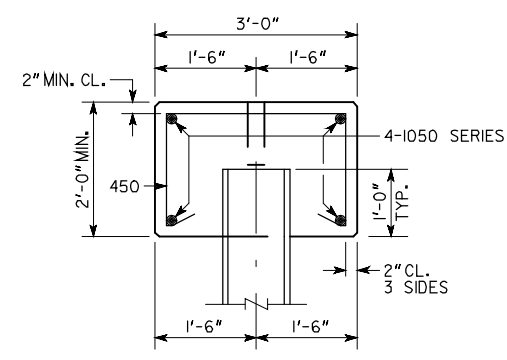
SUBSTRUCTURE QUANTITIES	
ITEM	BENT 5
CLASS AA CONCRETE, CY	80.8
BAR REINF STEEL, LB	6,322

**PLAN DRIVING OBJECTIVE**  
 ALL PILES SHALL BE DRIVEN TO A DRIVING RESISTANCE OF 96 TONS AFTER A MINIMUM TIP ELEVATION OF 600 IS ACHIEVED. ALL PILES ARE STEEL H, HP 14 X 73.

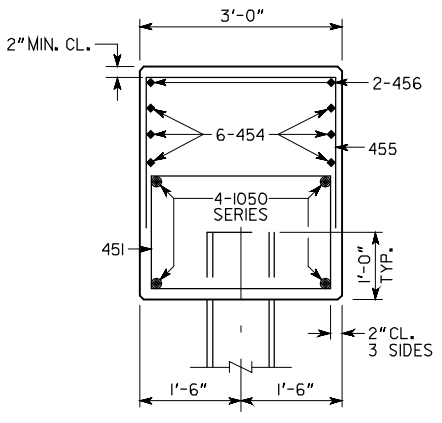
APPROVED FOR CONSTRUCTION 1/19/08



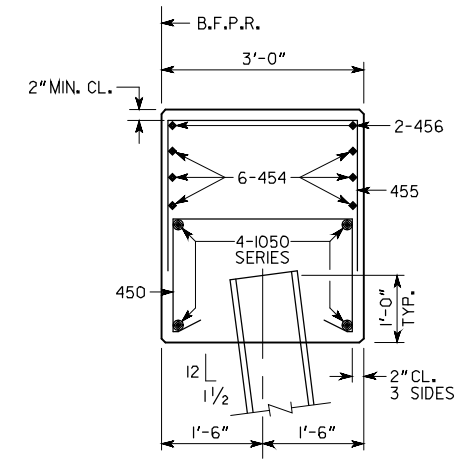
DETAIL "A"



SECTION A-A



SECTION B-B



SECTION C-C

DATE	REVISIONS

BRIDGE NO. 1

2849 PACES FERRY ROAD, SUITE 400  
 ATLANTA, GEORGIA 30339  
 TEL: 770/431-8666 FAX: 770/435-2666

GEORGIA  
**DEPARTMENT OF TRANSPORTATION**  
 PRECONSTRUCTION DIVISION-OFFICE OF BRIDGE DESIGN

END BENT 5  
 CR 98 (KIA BOULEVARD) OVER I-85

TROUP COUNTY CSNHS-0008-00(232)

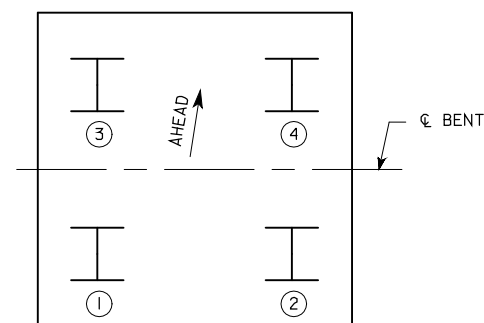
SCALE: NO SCALE JULY 2007

DESIGNED	JPT	CHECKED	RHC	REVIEWED	WMD
DRAWN	JJA	DESIGN GROUP	SWW	APPROVED	PVL

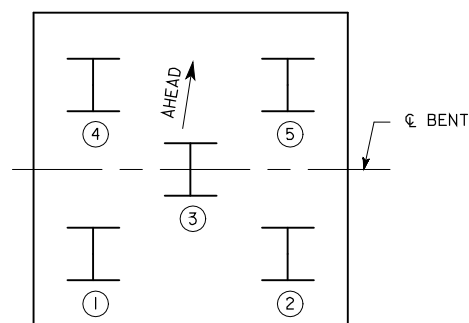
BRIDGE SHEET  
17 OF 20

PLAN DATE: 01-25-08

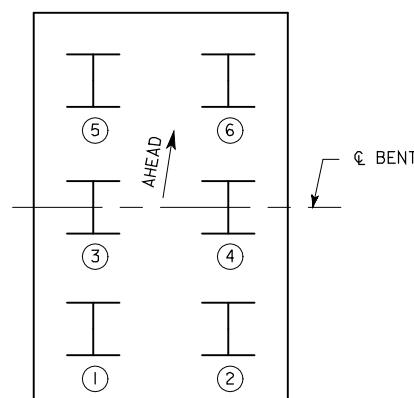
User Name: MLF Date: 1/19/2008 Time: 10:00:42 AM  
 File Name: g:\tr\ra\63732-kia\bridge\final\brldge\_1\63732bl-eb5.dgn



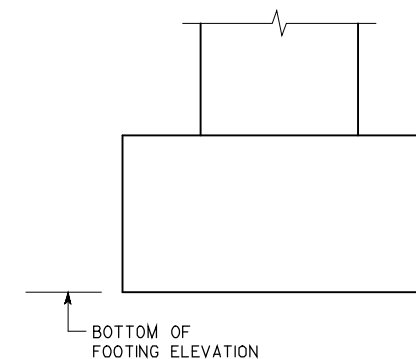
4-PILE FOOTING



5-PILE FOOTING



6-PILE FOOTING



FOOTING ELEVATION SCHEMATIC

PILE TIP ELEVATIONS							
PILE LOCATION	PILE 1	PILE 2	PILE 3	PILE 4	PILE 5	PILE 6	BOTTOM OF FTG. ELEV.
BENT 2 COL. 1							
BENT 2 COL. 2							
BENT 2 COL. 3							
BENT 2 COL. 4							
BENT 2 COL. 5							
BENT 2 COL. 6							
BENT 2 COL. 7							
BENT 2 COL. 8							
BENT 3 COL. 1							
BENT 3 COL. 2							
BENT 3 COL. 3							
BENT 3 COL. 4							
BENT 3 COL. 5							
BENT 3 COL. 6							
BENT 3 COL. 7							
BENT 3 COL. 8							
BENT 4 COL. 1							
BENT 4 COL. 2							
BENT 4 COL. 3							
BENT 4 COL. 4							
BENT 4 COL. 5							
BENT 4 COL. 6							
BENT 4 COL. 7							
BENT 4 COL. 8							

PILE TIP ELEVATIONS		
PILE LOCATION	BENT 1	BENT 5
LT WING PILE		
BEAM 1		
BEAM 2		
BATTER PILE 1		
BEAM 3		
BEAM 4		
BEAM 5		
BEAM 6		
BEAM 7		
BATTER PILE 2		
BEAM 8		
BEAM 9		
BEAM 10		
BEAM 11		
BEAM 12		
BATTER PILE 3		
BEAM 13		
BEAM 14		
RT WING PILE		

THIS SHEET IS TO BE FILLED IN BY THE PROJECT ENGINEER AND FORWARDED TO THE BRIDGE DESIGN OFFICE AFTER INSTALLATION OF ALL PILES AND FOOTINGS FOR POSTING TO THE PLANS AS A PERMANENT RECORD OF THE BRIDGE CONSTRUCTION.

PROJECT ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

( ) TELEPHONE NUMBER \_\_\_\_\_

APPROVED FOR CONSTRUCTION 1/19/08

BRIDGE NO. 1



GEORGIA DEPARTMENT OF TRANSPORTATION  
PRECONSTRUCTION DIVISION-OFFICE OF BRIDGE DESIGN

AS-BUILT FOUNDATION DATA  
CR 98 (KIA BOULEVARD) OVER I-85

TROUP COUNTY CSNHS-0008-00(232)

SCALE: NO SCALE JULY 2007

DESIGNED	JPT	CHECKED	RHC	REVIEWED	WMD
DRAWN	JJA	DESIGN GROUP	SWW	APPROVED	PVL

PLAN DATE: 01-25-08

User Name: MLF Date: 1/19/2008 Time: 10:00:45 AM File name: g:\tra\63732-ka\bridge\final\bridge\1\63732pl-abr.dgn

REVISIONS	DATE



