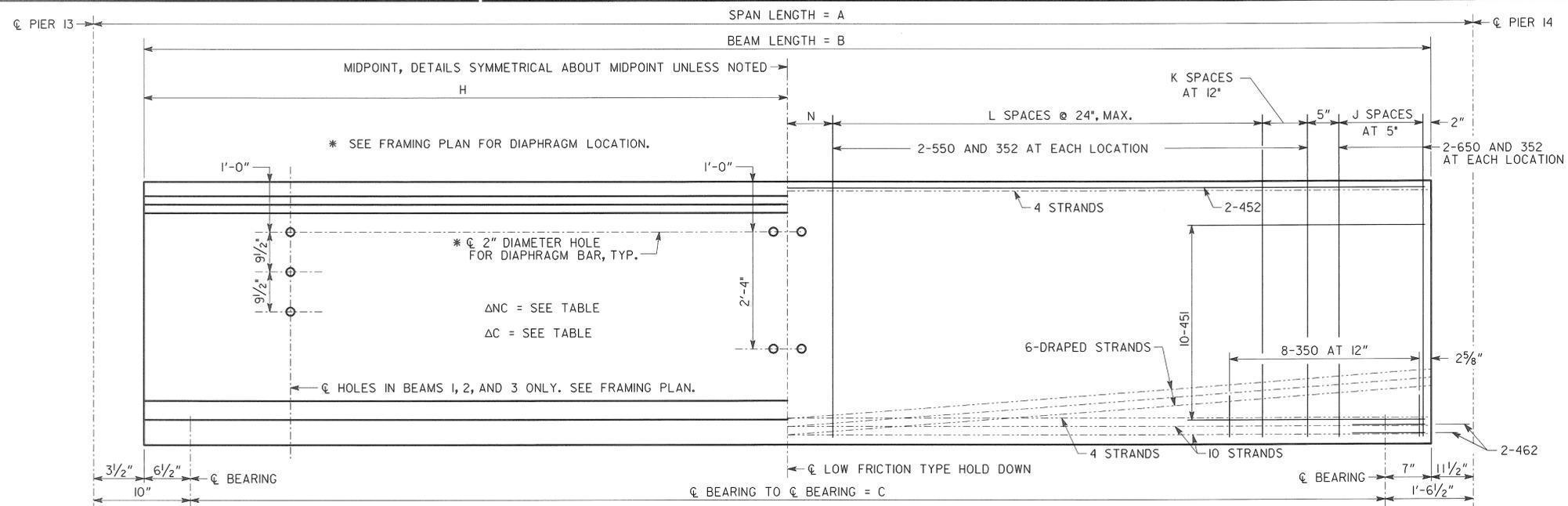
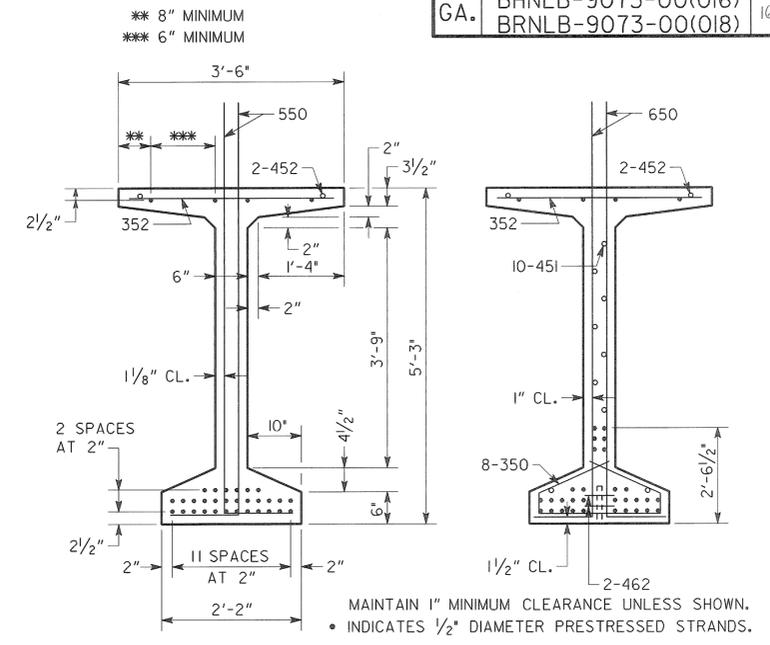


STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.	BHNLB-9073-00(016) BRNLB-9073-00(018)	160	424



ELEVATION



SECTION AT MIDPOINT

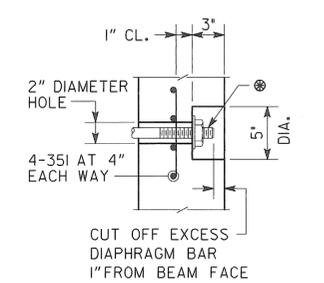
SECTION AT END

NOTE:  
FIELD VERIFY LOCATION OF EXISTING  
PIER 13 PRIOR TO ORDERING BEAMS.

NOTES

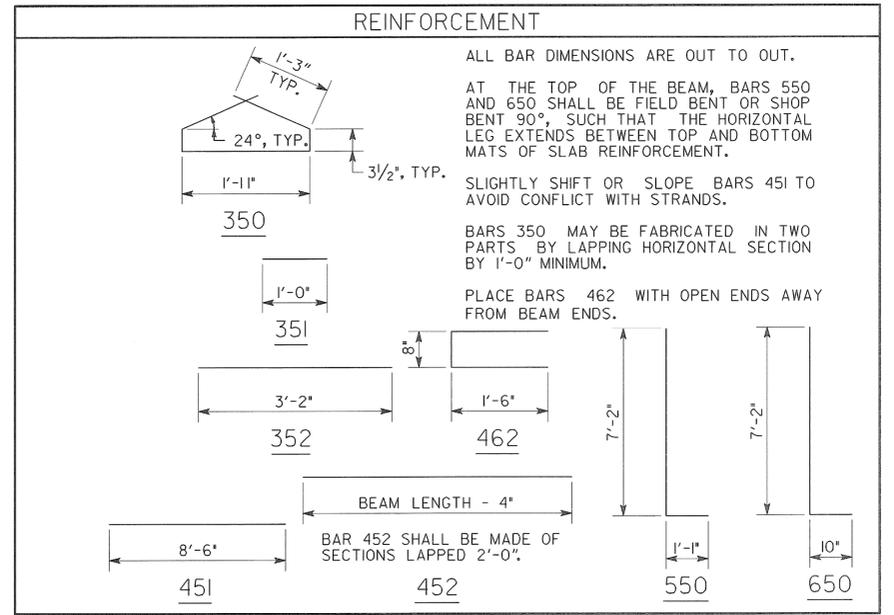
- BEAMS SHALL BE MAINTAINED IN AN UPRIGHT POSITION AT ALL TIMES AND SHALL BE PICKED UP WITHIN 7'-9" FROM THEIR ENDS. DISREGARDING THIS REQUIREMENT COULD LEAD TO COLLAPSE OF THE BEAM. PICK-UPS SHALL BE EMBEDDED TO WITHIN 4" OF THE BOTTOM OF THE BEAM. DETAILS OF PICK-UPS SHALL BE INCLUDED IN THE SHOP DRAWINGS.
- 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 SIDEWALK AND PARAPET.
- STRANDS SHALL MEET ALL REQUIREMENTS OF ASTM A 416 GRADE 270.
- PRESTRESSING DATA IS AS FOLLOWS:
  - USE 34 - 1/2" DIAMETER SPECIAL LOW-RELAXATION ( $\lambda = 0.167$  SQ IN) STRANDS. PRETENSION TOP FOUR (4) STRANDS TO 10,000 LBS EACH. PRETENSION BOTTOM STRANDS TO 33,818 LBS EACH.
  - PRETENSIONED STRANDS SHALL BE RELEASED AFTER THE CONCRETE HAS REACHED A MINIMUM STRENGTH ( $f'_c$ ) OF 5,000 PSI.
  - THE TOTAL JACKING FORCE OF PRETENSIONING IS 1,054,540 LBS.
  - THE NET PRESTRESSING FORCE OF THE STRANDS IS 800,637 LBS AFTER ALL LOSSES.
- CONCRETE STRENGTH ( $f'_c$ ) = 6,500 PSI.
- PSC BEAM ALLOWABLE TENSION = 484 PSI.

SPAN	BEAM	A	B	C	H	J	K	L	N	$\Delta_{NC}$	$\Delta_C$
SPAN 14	BEAM 1	95'-11 1/16"	94'-8 3/8"	93'-6 1/16"	47'-4 1/4"	3	5	20	6 1/4"	3/4"	1/8"
	BEAM 2	94'-7 5/8"	93'-4 5/8"	92'-3 3/8"	46'-8 5/16"	3	4	20	10 5/16"	1/16"	1/8"
	BEAM 3	92'-11 3/8"	91'-8 3/8"	90'-6 3/8"	45'-10 3/16"	4	5	19	7 3/16"	1/16"	1/8"
	BEAM 4	91'-3 1/8"	90'-0 1/8"	88'-10 9/16"	45'-0 1/16"	4	4	19	9 1/16"	5/16"	1/8"
	BEAM 5	89'-6 7/8"	88'-3 7/8"	87'-2 3/8"	44'-1 1/16"	3	4	19	3 5/16"	9/16"	1/8"
	BEAM 6	87'-10 5/8"	86'-7 5/8"	85'-6 1/8"	43'-3 3/16"	3	5	18	5 1/16"	9/16"	1/16"
	BEAM 7	86'-2 3/8"	84'-11 3/8"	83'-9 7/8"	42'-5 1/16"	3	4	18	7 1/16"	1/2"	1/16"
	BEAM 8	84'-6 1/8"	83'-3 1/8"	82'-1 5/8"	41'-7 7/16"	3	3	18	9 3/16"	1/2"	1/16"
	BEAM 9	82'-9 1/16"	81'-6 1/16"	80'-5 1/16"	40'-9 3/8"	3	4	17	11 3/8"	1/16"	1/16"



RECESS DETAIL FOR DIAPHRAGM BAR ENDS

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.2 OF THE GEORGIA DOT SPECIFICATIONS IS NOT REQUIRED.



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 462 WITH OPEN ENDS AWAY FROM BEAM ENDS.

BRIDGE NO. 1

**H&L** Heath & Lineback Engineers  
INCORPORATED  
2390 CANTON ROAD, BUILDING 200  
MARIETTA, GEORGIA 30066-5393  
(770)424-1668

GEORGIA  
**DEPARTMENT OF TRANSPORTATION**  
ENGINEERING DIVISION-OFFICE OF BRIDGES AND STRUCTURES  
BULB TEE, 63 IN PSC BEAM  
SPAN 14  
SPRING STREET VIADUCT OVER  
CSX TRANSPORTATION  
FULTON COUNTY  
NO SCALE  
JULY 2013

BHNLB-9073-00(016)  
BRNLB-9073-00(018)

DESIGNED: KAK  
CHECKED: RLF/GBL  
REVIEWED: WMD/DLC  
DRAWN: JRL  
DESIGN GROUP: SWW  
APPROVED: BFR

DRAWING NO. 35 - 043	BRIDGE SHEET 43 OF 79
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1 INCH WHEN PRINTED FULL SIZE