

INVERSE BRIDGE NOTES

1. CONCRETE IN THE DECK SLAB SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF ____ PSI AT 28 DAYS.
2. {DESIGNER - USE ONLY ONE OF THE FOLLOWING NOTES.}
- 2A. ASTM A709, GRADE 50W STEEL SHALL BE USED AS STRUCTURAL STEEL, AND THE HIGH STRENGTH BOLTS USED IN DIAPHRAGM CONNECTIONS SHALL BE ASTM A325, TYPE III.
- 2B. ASTM A709, GRADE 36 STEEL SHALL BE USED AS STRUCTURAL STEEL, AND THE HIGH STRENGTH BOLTS USED IN DIAPHRAGM CONNECTIONS SHALL BE ASTM A325, TYPE I.
3. THE BRIDGE SUPERSTRUCTURE IS A PATENTED STRUCTURAL SYSTEM. THE ONLY COMPANY IN THE AREA LICENSED TO MANUFACTURE THE UNITS IS THE FORT MILLER COMPANY INC., P.O. BOX 98, SCHUYLERVILLE, NEW YORK 12871 (TELEPHONE NUMBER: 518-695-5000).
4. SHOP DRAWINGS FOR THE UNITS SHALL CONTAIN, AS A MINIMUM, THE FOLLOWING:
 - A. MINIMUM CONCRETE STRENGTHS FOR ROTATION, LIFTING AND TRANSPORTATION.
 - B. DEFLECTION REQUIRED TO PROPERLY PRESTRESS THE STEEL BEAMS.
 - C. DESIGN LOADS.
 - D. TRANSPORTATION POINTS.
5. TO ENSURE FULL AND EVEN BEARING BETWEEN BOTTOM OF BEAMS AND MASONRY PLATES, THE BOTTOM SURFACES OF BEAMS IN THE BEARING AREAS SHALL, WITHIN EACH PANEL, BE FABRICATED TO BE TRULY IN ONE PLANE.
6. THE ____ BEAMS SHALL BE SEGREGATED INTO ____ SETS WITH EACH SET MATCHED AS CLOSELY AS POSSIBLE FOR CAMBER. EACH SET SHALL THEN BE USED TO FABRICATE A BRIDGE PANEL. AT THE TIME OF PANEL MANUFACTURE (BEAMS ABOVE DECK), THE NATURAL BEAM CAMBER SHALL BE UP.

APPENDIX B

INVERSE BRIDGE NOTES

7. THE MICROTEXTURE OF THE BRIDGE DECK SHALL BE OBTAINED BY CASTING THE BRIDGE DECK AGAINST THE SCOTT SYSTEM FLEX-LINER SAND BLAST NO. 3 FORM LINER.
8. ALL REINFORCEMENT SHALL HAVE A COVER OF 2 INCHES UNLESS SHOWN OTHERWISE. THE TOP BARS IN THE DECK AND APPROACH SLAB SHALL BE GALVANIZED.
9. AFTER THE INVERSE UNITS ARE CAST, THEY SHOULD BE MEASURED FOR SWEEP AND THE BEARING ANCHOR BOLT LOCATIONS RECALCULATED AND CHANGED AS NEEDED TO CLEAR THE BEAMS. ANCHOR BOLTS MAY BE CAST INTO THE BRIDGE SEATS, OR AT THE CONTRACTOR'S OPTION, DRILLED AND GROUTED INTO THE ABUTMENTS, AT NO ADDITIONAL COST TO THE AUTHORITY.
10. {DESIGNER - CHOOSE ONLY ONE OF THE FOLLOWING AND FOR NOTE 10A, DESIGNATE COLOR WITH EITHER FEDERAL STANDARD 595a NUMBER OR MUNSELL BOOK NOTATION NUMBER TO WHICH COLOR CONFORMS.}
- 10A. STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED UNDER ITEM _____. AFTER CLEANING, MILL SCALE SHALL NOT BE PRESENT. AT THE TIME OF SHIPMENT OF THE UNITS TO THE JOB SITE, THE 3 COATS OF PAINT SHALL HAVE BEEN APPLIED. THE COLOR OF THE FINISH COATING SHALL BE _____. THE COLOR SHALL CONFORM TO _____. VIEWING SHALL BE DONE UNDER NORTH STANDARD DAYLIGHT. FOLLOWING THE WELDING OF THE BEAMS TO THE SOLE PLATES AND THE INSTALLATION OF THE DIAPHRAGMS, THE EXPOSED STEEL, HIGH STRENGTH BOLTS AND DAMAGED PAINT SURFACES IN THESE AREAS SHALL BE PAINTED IN ACCORDANCE WITH THE PROVISIONS OF ITEM _____.
- 10B. CLEANING (ASTM A709, GRADE 50W STEEL):
 - A. **IN THE FABRICATION SHOP:**
THE OUTSIDE SURFACE OF THE FASCIA STRINGERS SHALL BE CLEANED OF ALL DIRT, GREASE, PAINT, MILL SCALE OR OTHER FOREIGN MATERIAL PRIOR TO SHIPPING. THE PURPOSE OF THE CLEANING IS TO PRODUCE FASCIA SURFACES WHICH WILL WEATHER UNIFORMLY.

B. IN THE FIELD:

THE OUTSIDE SURFACE OF THE FASCIA STRINGERS SHALL BE CLEANED SO THAT ALL DIRT, GREASE, PAINT OR OTHER FOREIGN MATERIAL IS REMOVED AT THE COMPLETION OF THE BRIDGE CONSTRUCTION. THE PURPOSE OF THE CLEANING IS TO RETURN THE FASCIA SURFACES TO THE CONDITION IN WHICH THEY LEFT THE FABRICATION SHOP.

THE COST OF CLEANING THIS STEEL IN THE FABRICATION SHOP AND THE FIELD SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE VARIOUS ITEMS IN THE CONTRACT.

11. THE INVERSE SET UNITS MAY BE CONSTRUCTED WITHOUT DIAPHRAGMS. HOWEVER, PRIOR TO TRANSPORTATION TO THE BRIDGE SITE, ALL DIAPHRAGMS INTEGRAL TO ANY ONE UNIT SHALL BE INSTALLED.
12. GRIND ALL EDGES OF STEEL AS NEEDED TO REMOVE SHARP EDGES PRIOR TO CLEANING FOR PAINTING.
13. BEARING ANCHOR BOLT NUTS SHALL BE FINGER TIGHT ONLY.
14. AFTER THE INVERSE SET UNITS ARE IN PLACE AND THE BEAMS ARE WELDED TO THE BEARINGS, THE UNITS SHALL BE POST LOADED AS APPROVED BY THE ENGINEER TO BRING THE EDGES OF THE ADJACENT DECK PANELS TO THE SAME ELEVATION. IN THIS CONDITION, THE SHEAR KEYS SHALL BE FILLED AND THE DIAPHRAGMS INSTALLED. POST LOADING SHALL CONTINUE WITHOUT THE ADDITION OF ANY OTHER SIGNIFICANT LIVE LOADS UNTIL THE SHEAR KEY GROUT HAS CURED AND THE DIAPHRAGMS HAVE BEEN MADE FULLY FUNCTIONAL. (PRIOR TO PLACING SHEAR KEY GROUT MATERIAL, COAT SHEAR KEY WITH GROUT CONFORMING TO MATERIAL SPECIFICATION 721-03 EPOXY POLYSULFIDE GROUT.)
15. SHEAR KEYS AND OTHER HOLES IN THE DECK SHALL BE FILLED IN ACCORDANCE WITH MATERIAL SPECIFICATION 701-06 CEMENT BASED GROUT MATERIALS FOR SHEAR KEYS FOLLOWING THE CONSTRUCTION PROCEDURE CONTAINED IN THE PCCM SECTION 400, MATERIAL REQUIREMENTS. SECTION 400 SHALL BE MODIFIED BY THE FOLLOWING PARAGRAPH AND AS ALLOWED BY THE ENGINEER:

16. SHEAR KEYS OR SLAB EDGES SHALL BE CLEANED PRIOR TO SHIPMENT OF THE UNITS AND TOUCH UP CLEANED AT THE JOB SITE AS ORDERED BY THE ENGINEER. GROUT MAY BE PLACED DOWN TO A TEMPERATURE OF 35 DEGREES F. HOWEVER, CURE TIME SHALL BE EXTENDED UNTIL THE ENGINEER DETERMINES THAT THE GROUT HAS BECOME HARD. DURING CURE TIME, GROUT SHALL BE PROTECTED FROM FREEZING.
17. ALL EXPOSED EDGES OF CONCRETE, INCLUDING EDGES OF EXPANSION, CONTRACTION AND CONSTRUCTION JOINTS, SHALL BE CHAMFERED 1 INCH.
18. RUB FINISHING OF CONCRETE SURFACES SHALL NOT BE REQUIRED. HOWEVER, VOIDS FOUND IN THE CONCRETE UPON REMOVAL OF FORMS SHALL BE FILLED WITH MORTAR. DECKS SHALL BE TEXTURED AS DESCRIBED ELSEWHERE IN THE CONTRACT.
19. THE MACROTEXTURE OF THE BRIDGE DECK SHALL BE OBTAINED BY LONGITUDINAL SAWCUT GROOVING ITEM _____.

PRESTRESSED CONCRETE NOTES

1. THE PRESTRESSING STRANDS SHALL BE 0.6 INCH DIAMETER WITH A GUARANTEED ULTIMATE STRENGTH OF 270 KSI, LOW RELAXATION. JACKING FORCE = 44 KIPS PER STRAND.
2. REQUIRED MINIMUM CONCRETE STRENGTH AT TRANSFER = 8 KSI.
REQUIRED MINIMUM CONCRETE STRENGTH AT 56 DAYS = 10 KSI.
3. THE ALLOWABLE TENSION IN THE PRESTRESSED CONCRETE UNITS AT TRANSFER = ____ f_{ci} PSI; AT 28 DAY STRENGTH = ____ f_c PSI.
4. DOWNWARD DEFLECTION UNDER DEAD LOAD (SLAB) = ____ INCH.
5. DOWNWARD DEFLECTION UNDER DEAD LOAD (SUPERIMPOSED) = ____ INCH.
6. UPWARD CAMBER AT TRANSFER DUE TO PRESTRESS FORCE AND BEAM DEAD LOAD = ____ INCH.
7. UPWARD CAMBER AFTER ALL LOSSES DUE TO PRESTRESS FORCE AND BEAM DEAD LOAD = ____ INCH.
8. THE LOCATION AND TYPE OF ALL TEMPORARY INSERTS SHALL BE APPROVED BY THE DIRECTOR, STRUCTURAL DESIGN BUREAU, AND DETAILED ON THE PRESTRESSED CONCRETE "WORKING DRAWINGS".
9. BAR REINFORCEMENT SHALL BE ASTM A615, GRADE 60. MINIMUM CONCRETE COVER TO MILD STEEL SHALL BE AS SHOWN ON THE NYS BD SHEETS.
10. THE TOPS OF PRESTRESSED UNITS SHALL RECEIVE A TRANSVERSE STIFF BROOM FINISH WITH AN AMPLITUDE OF ¼ INCH.
11. ALL EXPOSED CORNERS, EXCEPT THE TOP, SHALL BE CHAMFERED ¾ INCH.
12. THE TRANSVERSE TENDONS SHALL BE ½ INCH DIAMETER STRAND WITH A GUARANTEED ULTIMATE STRENGTH OF 270 KSI. THE TRANSVERSE TENDONS SHALL BE POLYSTRAND, GALVANIZED STRAND OR EQUAL, AND SHALL BE TENSIONED TO A FORCE OF 28 KIPS.

APPENDIX B

PRESTRESSED CONCRETE NOTES

13. PREMOULDED BITUMINOUS JOINT FILLER SHALL MEET THE REQUIREMENTS OF MATERIAL SPECIFICATION 705-08 AND BE PAID FOR UNDER THE BEARING ITEM.
14. THE ENDS OF BEAMS AND ANCHOR DOWEL HOLES SHALL BE MADE VERTICAL ¼ INCH UNDER FULL D.L. AND GRADE. ANCHOR DOWELS TO BE PAID FOR UNDER THE BEARING ITEMS.
15. {DESIGNER - USE NOTE 15A WHEN THE DESIGN REQUIRES DEBONDING OF STRANDS.}
- 15A. THE STRANDS SHALL BE BLANKETED (DEBONDED) TO THE LENGTHS SHOWN ON THE CONTRACT PLANS. THE BLANKETING SHALL BE DONE BY:
 - A. 1 WRAP SPLIT PLASTIC SHEATHING, OR
 - B. SOLID PLASTIC SHEATHING

WHEREVER REQUIRED, THE SHEATHING SHALL BE THOROUGHLY SEALED WITH TAPE TO PREVENT BLEED-THROUGH OF CONCRETE. THE MINIMUM THICKNESS SHALL BE 0.025 INCHES.

GREASE OR CHEMICALS SHALL NOT BE USED FOR BLANKETING THE STRANDS. THE METHOD OF BLANKETING THE STRANDS SHALL BE SHOWN ON THE WORKING DRAWINGS FOR APPROVAL BY THE DIRECTOR, STRUCTURAL DESIGN BUREAU.

THE UNIT PRICE BID FOR THE PRESTRESSED UNITS SHALL INCLUDE THE COST OF BLANKETING THE STRANDS.

16. ANCHOR DOWEL HOLE FILL MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ELASTOMERIC BEARING, ITEM 565.XXXX, AND SHALL MEET MATERIAL REQUIREMENTS AS FOLLOWS:
 - A. EXPANSION END MATERIAL OPTION:
 - NEW YORK STATE MATERIAL SPECIFICATION 702-0700 - ASPHALT FILLER
 - FEDERAL MATERIAL SPECIFICATION SS-S-00200D - ELASTOMERIC POLYMER TYPE, TWO-COMPONENT, JET FUEL RESISTANT, COLD APPLIED

APPENDIX B

PRESTRESSED CONCRETE NOTES

- FEDERAL MATERIAL SPECIFICATION TT-2-00227E - ELASTOMERIC TYPE, MULTI-COMPONENT
- FEDERAL MATERIAL SPECIFICATION TT-2-00230C - ELASTOMERIC TYPE, SINGLE COMPONENT

B. FIXED END MATERIAL OPTION:

- NEW YORK STATE MATERIAL SPECIFICATION 701-05 - CONCRETE GROUTING MATERIAL
- NEW YORK STATE MATERIAL SPECIFICATION 701-06 - CEMENT BASED GROUTING MATERIAL FOR SHEAR KEY
- NEW YORK STATE MATERIAL SPECIFICATION 721-01 - EPOXY RESIN SYSTEM WITH SAND*
- NEW YORK STATE MATERIAL SPECIFICATION 721-03 - EPOXY POLYSULFIDE GROUT WITH SAND*

* BONE-DRY, SANDBLAST SAND SHALL BE ADDED IN THE RATIO OF (1) PART EPOXY TO (2) PARTS SAND BY VOLUME.

APPENDIX B

CAMBER/ERECTION MONITORING NOTES

5. DURING THE DECK POURING OPERATION, THE CONTRACTOR SHALL MONITOR THE ACTUAL DECK THICKNESS AT TENTH POINTS ALONG THE CENTERLINE OF EACH GIRDER TO INSURE THE MINIMUM THICKNESS AND REINFORCING COVER AS SHOWN ON THESE PLANS. IF THIS IS NOT THE CASE, THE DIRECTOR OF STRUCTURES DESIGN SHALL BE IMMEDIATELY NOTIFIED OF THE SITUATION AND POSSIBLE RAMIFICATIONS (IE SUBSTANDARD DECK THICKNESS). IN THIS SITUATION, NO WORK SHALL PROGRESS UNTIL THE PROBLEM IS RESOLVED TO HIS SATISFACTION.

6. THE CONTRACTOR AND FABRICATOR SHALL NOTE THE CAMBER TOLERANCES SHOWN ON THE CAMBER TABLE SHEET.