NEXT D BEAMS

76. NEXT D BEAMS ARE A NON-PROPRIETARY SHAPE DEVELOPED BY PCI NORTHEAST ("PCINE"). STANDARDIZED SECTION PROPERTIES AND DETAILS MAY BE FOUND AT http://www.pcine.org.

77. DESIGN VALUES
    A. CONCRETE COMPRESSIVE STRENGTH: f'c = 10,000 PSI
    B. CONCRETE COMPRESSIVE STRENGTH AT RELEASE: f'ci = 7,000 PSI
    C. PRESRTESSING STRANDS: 0.6 INCH DIAMETER, 270 KSI, LOW-RELAXATION 7-WIRE STRANDS
    D. ASSUMED MODULUS OF ELASTICITY = 28,500 KSI
    E. THE JACKING FORCE PER STRAND = 47 KIPS
    F. SERVICE LOADS

MEMBER MOMENT		685 K-FT
NON-COMPOSITE SUPERIMPOSED DEAD LOAD MOMENT	(INT)	36 K-FT
	(EXT)	18 K-FT
COMPOSITE SUPERIMPOSED DEAD LOAD MOMENT		520 K-FT
LIVE LOAD AND IMPACT MOMENT	(INT)	948 K-FT
	(EXT)	1362 K-FT
DEAD LOAD REACTION	(INT)	81 KIPS
	(EXT)	80 KIPS
LIVE LOAD AND IMPACT REACTION	(INT)	87 KIPS
	(EXT)	59 KIPS
TOTAL REACTION	(INT)	168 KIPS
	(EXT)	138 KIPS
FINAL CAMBER AT ERECTION		3⅛ INCHES

78. ENDS OF FLANGES IN CONTACT WITH GROUT SHALL BE SAND BLASTED PRIOR TO DELIVERY AND POWER WASHED WITH WATER PRIOR TO ERECTION OF THE BEAMS.

79. FILL FLANGE CONNECTION WITH HIGH PERFORMANCE RAPID SETTING CONCRETE ACCORDING TO ITEM 900.608, "SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET)". CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 7000 PSI. FLANGE CONNECTION SHALL BE PAID FOR UNDER ITEM 900.608, "SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET)".

80. METHOD OF FORMING FLANGE CONNECTION SHALL BE DETERMINED BY THE CONTRACTOR. THE FORMS SHALL BE REMOVABLE AND ABLE TO ACCOMMODATE DIFFERENTIAL CAMBER. FORM SUPPORTS SHALL NOT PENETRATE THROUGH THE TOP OF POUR UNLESS APPROVED BY THE ENGINEER.

81. THE FABRICATOR MAY ALTER THE DESIGN AS DETAILED IN THESE PLANS TO ACCOMMODATE THEIR SPECIFIC OPERATION. THIS ALTERATION MUST BE DESIGNED BY A PROFESSIONAL ENGINEER AND MEET THE ABOVE CRITERIA AND SHALL BE APPROVED BY THE PROJECT MANAGER.

82. NEXT BEAMS AND CURTAIN WALLS SHALL BE PAID FOR AS ITEM 900.640 SPECIAL PROVISION (PRESTRESSED CONCRETE NEXT D BEAMS) (NEXT 28 D). CAST-IN-PLACE CONCRETE PARAPETS SHALL BE PAID FOR UNDER ITEM 900.640 SPECIAL PROVISION (BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION) (COATED BLACK).

83. PROPOSED SEQUENCE OF CONSTRUCTION
    A. LAYOUT WORKING LINES THE ENTIRE WIDTH OF THE BRIDGE ALONG CENTERLINE OF BEARING, MEASURED FROM A SINGLE WORKING POINT. THE WORKING LINES SHALL BE BASED ON THE NOMINAL BEAM WIDTHS.
    B. VERIFY THE BEAM SEAT ELEVATIONS AND TAKE CORRECTIVE ACTION IF NECESSARY.
    C. BACKFILL AND PREPARE GRADE TO BOTTOM OF CURTAIN WALL.
    D. INSTALL BEARINGS
    E. ERECT THE BEAMS TO FIT WITHIN THE WORKING LINES AND CHEEKWALLS.
    F. ADJUST FASCIA BEAM TO FIT SNUG AGAINST CORK ON INTERIOR OF CHEEKWALL.
    G. CONSTRUCT FORMS FOR THE FLANGE AND CURTAIN WALL CONNECTION POURS.
    H. GROUT CONNECTIONS BETWEEN BEAM FLANGES AND CURTAIN WALLS AND CURE.
    I. COMPLETE PLACEMENT OF BACKFILL AND PREPARE GRADE FOR APPROACH SLABS.
    J. PLACE APPROACH SLABS
    K. GROUT REBAR DOWELS IN APPROACH SLAB.
    L. COMPLETE LONGITUDINAL CLOSURE POURS OF APPROACH SLAB.

84. ALTERNATE SEQUENCE OF CONSTRUCTION MAY BE SUBMITTED FOR APPROVAL BY THE PROJECT MANAGER.

MISCELLANEOUS

85. ITEM 520.10, "MEMBRANE WATERPROOFING, SPRAY APPLIED" SHALL BE APPLIED TO THE TOP OF OVERLAY AS PER THE MANUFACTURER'S INSTRUCTIONS AND EXTEND ONTO THE APPROACH SLABS TWO FEET BEYOND THE BEGIN BRIDGE/END OF BRIDGE.

BRIDGE RAILING, GALVANIZED STEEL TUBING CONCRETE COMBINATION (COATED BLACK)

86. ALL WORK AND MATERIALS SHALL CONFORM TO SECTION 525.

87. PRIOR TO GALVANIZING THE ASSEMBLED POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF 1/16".

88. ALL POSTS SHALL BE SET NORMAL TO GRADE.

89. SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO BRIDGE POSTS AND PREFERABLY TO AT LEAST 4 POSTS.

90. HOLES IN RAILS FOR TUBE ATTACHMENT MAY BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO INSTALLATION.

91. BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 100 FT-LB).

92. RAIL TUBES SHALL BE ATTACHED USING ¾" FULL DIAMETER BODY ASTM A 449 (TYPE 1) ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE TUBE.

93. SEE STANDARD DRAWING G-1 FOR DETAILS OF DELINEATORS. A DELINEATOR SHALL BE INSTALLED AT 30 FOOT SPACING OR THE NEAREST POST. WHITE IS TO BE INSTALLED ON THE DRIVER'S RIGHT. FOR ONE WAY BRIDGES, YELLOW IS TO BE INSTALLED ON THE DRIVER'S LEFT. PAYMENT FOR DELINEATORS SHALL BE INCIDENTAL TO OTHER ITEMS.

94. BRIDGE RAILING SHALL HAVE A RUBBED FINISH IN ACCORDANCE WITH SECTION 501.

GENERAL CONSTRUCTION SEQUENCE

97. PROPOSED SEQUENCE OF CONSTRUCTION
    A. CLOSE ROADWAY, DEMO EXISTING BRIDGE.
    B. EXCAVATE FOR ABUTMENT NO 1 AND NO 2 FOOTINGS, INCLUDING SOLID ROCK EXCAVATION, PREPARE LEDGE FOR SUBFOOTINGS.
    C. PREPARE LEDGE FOR ARCH FOOTINGS.
    D. PLACE SUBFOOTINGS AND ARCH FOOTINGS.
    E. PLACE PRECAST FOOTINGS FOR ABUTMENT NO 1 AND NO 2. LEVEL FOOTINGS AND GROUT.
    F. ERECT PRECAST ARCH PER MANUFACTURER'S RECOMMENDATION.
    G. ERECT PRECAST ABUTMENT NO 1 AND NO 2 STEMS AND PRECAST WINGWALLS. GROUT CONNECTIONS AND KEYWAYS.
    H. FORM, CAST, AND CURE ABUTMENT NO 2 CAST-IN-PLACE WINGWALL EXTENSIONS.
    I. BACKFILL ABUTMENT NO 1 TO BOTTOM OF CURTAIN WALL ELEVATION.
    J. BACKFILL ABUTMENT NO 2 TO BOTTOM OF CURTAIN WALL ELEVATION.
    K. ERECT STEEL SUPPORT BEAMS.
    L. ERECT PRECAST NEXT BEAMS (SEE NEXT D BEAM PROPOSED SEQUENCE OF CONSTRUCTION FOR ADDITIONAL INFORMATION).
    M. INSTALL WATERLINE ON APPROACHES TO EACH ABUTMENT.
    N. BACKFILL TO BOTTOM OF APPROACH SLAB SEAT AND PLACE APPROACH SLABS (SEE NEXT D BEAM PROPOSED SEQUENCE OF CONSTRUCTION FOR ADDITIONAL INFORMATION).
    O. INSTALL WATERLINE UNDER NEXT BEAM SUPERSTRUCTURE.
    P. FORM, CAST, AND CURE BRIDGE RAIL PARAPETS.
    Q. PLACE CONCRETE OVERLAY AND CURE.
    R. FORM, CAST, AND CURE SIDEWALK ON BRIDGE.
    S. INSTALL APPROACH RAILING.
    T. ERECT PRECAST ARCHITECTURAL PANELS. (THIS TASK MAY BE COMPLETED AFTER BRIDGE IS OPEN TO TRAFFIC AS APPROVED BY RESIDENT ENGINEER).
    U. FORM, CAST, AND CURE BRIDGE COPING. (THIS TASK MAY BE COMPLETED AFTER BRIDGE IS OPEN TO TRAFFIC AS APPROVED BY RESIDENT ENGINEER).
    V. FINAL GRADE AND PAVE ON BRIDGE AND APPROACHES.
    W. OPEN BRIDGE TO TRAFFIC.
    X. FINAL PAVING, STRIPING, AND SLOPE RESTORATION USING TEMPORARY ONE-LANE CLOSURES, AS APPROVED BY THE RESIDENT ENGINEER.

98. ALTERNATE SEQUENCE OF CONSTRUCTION MAY BE SUBMITTED FOR APPROVAL BY THE PROJECT MANAGER.

WATERLINE

99. SEE WATERLINE LAYOUT SHEET FOR WATERLINE NOTES AND ADDITIONAL INFORMATION.