

STRUCTURE GENERAL NOTES

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

23
38

**LAK-90-328
LAKE COUNTY**

DESIGN SPECIFICATIONS

THE MODIFICATION OF THESE STRUCTURES CONFORMS TO THE "STRUCTURAL SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS 1989, ALONG WITH THE OHIO SUPPLEMENTS TO THESE SPECIFICATIONS.

DESIGN DATA

DESIGN LOADING - HS 20-44 AND ALTERNATE MILITARY LOAD

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 P.S.I. FOR SUPERSTRUCTURE

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 P.S.I. FOR SUBSTRUCTURE

EXISTING STRUCTURAL STEEL - ASTM A-7 (ASSUMED) UNIT STRESS 18,000 P.S.I.

NEW STRUCTURAL STEEL - ASTM A-36 UNIT STRESS 20,000 P.S.I.

REINFORCING STEEL - ASTM A615, A616, OR A617 - GRADE 60, MINIMUM YIELD STRENGTH 60,000 P.S.I.

DECK PROTECTIVE METHOD - EPOXY COATED REINFORCING STEEL, TOP AND BOTTOM MAT AND SEALING OF CONCRETE SURFACES

MONOLITHIC WEARING SURFACE - MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1" THICK

REFERENCES

REFERENCE SHALL BE MADE TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS AND STANDARD DRAWINGS OF THE STATE OF OHIO:

SS 852 - GROUT ANCHORING WITH POLYESTER AND VINYLESTER MORTARS

SS 952 - POLYESTER, VINYLESTER, AND EPOXY MORTARS FOR ANCHORING.

STANDARD DRAWING AS-1-81 - REINFORCED CONCRETE APPROACH SLABS SHEETS 1 THROUGH 3, DATED 11-27-81.

STANDARD DRAWING SD-1-69 - SUPERSTRUCTURE DETAILS, SHEETS 1, 2 and 3, DATED 6-12-69.

STANDARD DRAWING EXJ-4-87 - STRIP SEAL EXPANSION JOINTS AT ABUTMENTS FOR STEEL STRINGER STRUCTURES, SHEETS 1 THROUGH 5, DATED 1-05-89.

VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURES HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURES. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURES AND THE PROPOSED WORK, BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURES BY THE CONTRACTOR, HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

ORIGINAL EXISTING STRUCTURE PLANS MAY BE REVIEWED AT THE OFFICES OF THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 12, 5500 TRANSPORTATION BOULEVARD, GARFIELD HEIGHTS, OHIO 44125-5396.

PROTECTION OF TRAFFIC

PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT HIS PLANS FOR THE PROTECTION OF TRAFFIC UNDER THE STRUCTURE TO THE DIRECTOR FOR APPROVAL. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. THE TEMPORARY VERTICAL CLEARANCE UNDER THE STRUCTURE SHALL BE NOT LESS THAN 14'-6" OVER THE ROADWAYS EXCEPT FOR SHORT PERIODS WHERE TRAFFIC CONTROL IS APPROVED BY THE DIRECTOR AND PROVIDED BY THE CONTRACTOR. THE COST FOR THIS WORK SHALL BE INCLUDED WITH ROADWAY QUANTITIES (ITEM 614 - MAINTAINING TRAFFIC) FOR PAYMENT.

CONTINGENCY QUANTITIES

SPECIFIC LOCATIONS AND USAGE OF ESTIMATED QUANTITIES SET UP ON THIS PLAN TO BE USED "AS DIRECTED BY THE ENGINEER" SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT. ESTIMATED QUANTITIES OF MATERIALS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED" SHALL NOT BE ORDERED FOR DELIVERY TO THE PROJECT UNLESS AUTHORIZED BY THE ENGINEER.

SEQUENCE OF CONSTRUCTION

PHASE I (NORTHBOUND LANES)

- IMPLEMENT PHASE I MAINTENANCE OF TRAFFIC.
- REMOVE PORTION OF SUPERSTRUCTURE INCLUDING RAILINGS, ASPHALT OVERLAY AND DECK AS SHOWN ON PLANS.

INSTALL TEMPORARY SHEETING BETWEEN NORTHBOUND AND SOUTHBOUND LANES AT EACH END OF THE BRIDGE.

REMOVE THE APPROACH SLABS FOR THE NORTHBOUND LANES AT EACH END OF THE BRIDGE.

REMOVE PORTIONS OF BACKWALL AND WINGWALL FOR THE EAST HALF OF THE BRIDGE FOR BOTH ABUTMENTS.

AFTER CUTTING CROSSFRAMES AS SHOWN ON SHEET 10, IMPLEMENT THE JACKING PROCEDURE AT ABUTMENT NO. 1 AND PIER NO. 1 FOR THE EAST HALF OF THE STRUCTURE.

RECONSTRUCT FIVE BEARING SEATS ON THE EAST HALF OF ABUTMENT NO. 1 AND ADJUST SEAT ELEVATIONS ON THE EAST HALF OF PIER 1.

CLEAN AND RESET FIVE BEARINGS AT ABUTMENT 1 AND PIER 1.

IMPLEMENT THE JACKING PROCEDURE FOR ABUTMENT NO. 2. NOTE THAT ALL BEAMS AT ABUTMENT 2 ARE JACKED SIMULTANEOUSLY AND THAT THE WEST HALF OF THE BRIDGE WILL BE CARRYING TRAFFIC. CLEAN AND RESET ALL BEARINGS AT ABUTMENT NO. 2.

CONSTRUCT ALL PHASE I END CROSS FRAMES AND THE CONCRETE DECK SLAB.

CONSTRUCT PHASE I PORTION OF THE NEW ABUTMENT BACKWALLS AND APPROACH SLABS.

PHASE II

- IMPLEMENT PHASE II MAINTENANCE OF TRAFFIC.
- PHASE II CONSTRUCTION PROCEEDS IN THE SAME MANNER AS PHASE I EXCEPT ABUTMENT BEARINGS AT ABUTMENT 2 WERE ALREADY CLEANED AND RESET IN PHASE I.
- AFTER THE ENTIRE DECK IS POURED, REPAIR CROSS FRAMES PREVIOUSLY CUT IN PHASE I AS SHOWN IN THE PLANS.

PATCHING REPAIRS TO THE CONCRETE SUBSTRUCTURE AND CONSTRUCTION OF SLOPE PROTECTION ARE NOT PHASE DEPENDENT AND MAY PROCEED ANY TIME.

EXISTING REINFORCING STEEL

ANY REINFORCING STEEL DESIGNATED IN THE CONTRACT PLANS TO REMAIN THAT IS EXPOSED IN THE PROCESS OF REMOVING THE DISINTEGRATED CONCRETE FOR THE REHABILITATION OF ABUTMENT AND WINGWALLS SHALL BE THOROUGHLY CLEANED AND ANY APPRECIABLE REDUCTION OF AREA RESTORED AS DIRECTED BY THE ENGINEER.

PAYMENT FOR CLEANING OF THE REINFORCING STEEL WILL BE INCLUDED UNDER THE APPROPRIATE ITEM. PAYMENT FOR ANY NEW REINFORCING STEEL WILL BE UNDER THE UNIT PRICE BID FOR ITEM 509. WHERE EXISTING REINFORCING BARS WHICH ARE TO REMAIN ARE FOUND TO BE BROKEN OR HAVE AN APPRECIABLE REDUCTION OF AREA, NEW BARS OF THE SAME SIZE SHALL BE LAPPED OR DOWELED INTO THE EXISTING CONCRETE IF NECESSARY AND SHALL BE PAID FOR UNDER THE UNIT PRICE BID FOR ITEM 509 - EPOXY COATED REINFORCING STEEL, GRADE 60. WHERE EXISTING REINFORCING BARS, WHICH ARE TO REMAIN, ARE DAMAGED OR BROKEN BY THE CONTRACTOR'S REMOVAL PROCEDURES, DOWELS OR LAP BARS WILL BE FURNISHED AT THE CONTRACTOR'S EXPENSE.

CUTTING OF EXISTING REINFORCING BARS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 202 - PORTIONS OF STRUCTURES REMOVED.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED

THIS ITEM SHALL CONSIST OF, BUT NOT BE LIMITED TO THE COMPLETE REMOVAL OF THE CONCRETE DECK, INCLUDING THE CURBS, SIDEWALK, PARAPETS, SCUPPERS, AND THE ASPHALT RESURFACING. ALL ASPHALT MUST BE REMOVED FROM THE CONCRETE DECK AND THE DECK SHALL BE BROOM CLEANED PRIOR TO BEGINNING DECK REMOVAL. THE REMOVAL OF THE ABUTMENT BACKWALLS, PORTIONS OF THE WINGWALLS, ALL END CROSS FRAMES AND THE EXISTING BRIDGE RAILING (RAIL AND POST) ON THE PARAPETS SHALL ALSO BE INCLUDED IN THIS ITEM OF WORK. ONLY THE CURVED END SECTIONS OF THE BRIDGE RAILING SHALL BE CAREFULLY DISMANTLED AND STORED FOR SALVAGE AT A LOCATION ON THE PROJECT SITE SPECIFIED BY THE ENGINEER. SALVAGE MATERIAL SHALL BECOME THE PROPERTY OF THE STATE AND SHALL BE REMOVED BY THE DISTRICT 12 FORCES.

NO EXPLOSIVES, HEADACHE BALLS OR HOE RAMS SHALL BE USED. THE CONCRETE DECK MAY BE REMOVED BY SAWING AND LIFTING WITH THE FOLLOWING RESTRICTIONS:

- 1) BEFORE ANY SAWING OR LIFTING FOR REMOVAL OF THE DECK, THE CONTRACTOR SHALL PLACE WOOD DECKING BETWEEN THE BOTTOM FLANGES OF THE BEAMS. IN ADDITION, CONTRACTOR SHALL PLACE FALSEWORK FOR REMOVAL OF CONCRETE BEYOND THE EXTERIOR BEAMS. DRAWINGS AND CALCULATIONS FOR THIS WORK (BOTH INTERIOR AND EXTERIOR BEAMS) SHALL BE SUBMITTED TO THE DISTRICT CONSTRUCTION ENGINEER FOR APPROVAL.
- 2) BEFORE SAWING, THE OUTLINES OF THE TOP FLANGES OF ALL BEAMS ARE TO BE DRAWN ON THE BRIDGE DECK AND ONE (1) INCH DIAMETER PILOT HOLES SHALL BE DRILLED OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF THE FLANGES. PILOT HOLES SHALL NOT BE DRILLED OVER BEAM FLANGES.
- 3) POWER SAWS USED TO CUT TRANSVERSELY ACROSS THE FLANGES SHALL HAVE THE CUT RESTRICTED TO A MAXIMUM DEPTH OF SIX (6) INCHES.
- 4) REMOVAL OVER BEAMS SHALL BE DONE IN A MANNER AS TO NOT DAMAGE THEM.

(CONTINUED ON SHT. 24 of 38)

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STRUCTURE GENERAL NOTES					1/16
BRIDGE N° LAK-90-0328					
S.R. 91 OVER I-90					
LAKE COUNTY			WILLOUGHBY HILLS		
STA 26+74.51 TO STA 33+04.07					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
JEL	JWH		BKL	JJP	12/18/90