

# STRUCTURE GENERAL NOTES

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

24  
38

LAK-90-3.28  
LAKE COUNTY

## ABBREVIATIONS

ALT	- ALTERNATE
B.O.S.	- BOTTOM OF SLAB
BOTT.	- BOTTOM
BRG	- BEARING
CLR.	- CLEARANCE
E.B.	- EASTBOUND
E.F.	- EACH FACE
F.F.	- FAR FACE
JT.	- JOINT
MIN.	- MINIMUM
N.F.	- NEAR FACE
SPA.	- SPACES
SER.	- SERIES
SHT.	- SHEET
T.O.S.	- TOP OF SLAB
TYP.	- TYPICAL
W.P.	- WESTBOUND
W/	- WITH
OPP.	- OPPOSITE
U.N.O.	- UNLESS NOTED OTHERWISE

### ITEM 511 - CLASS "C" CONCRETE - ABUTMENTS

THIS ITEM SHALL CONFORM TO ITEM 511 AND SHALL CONSIST OF THE COMPLETE REPLACEMENT OF CONCRETE IN PORTIONS OF THE BACKWALL AND WINGWALL PARAPETS AS INDICATED IN THE CONTRACT PLANS OR AS DIRECTED BY THE ENGINEER. THE REMOVAL OF CONCRETE TO ACCOMPLISH THIS WORK SHALL BE INCLUDED UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED. THE PLACEMENT OF CONCRETE WORK UNDER THIS ITEM SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER CUBIC YARD FOR ITEM 511 - CLASS "C" CONCRETE - ABUTMENTS AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

JACKING THE STRUCTURAL STEEL AT ABUTMENT 1 WILL REQUIRE THE EXISTING GAS LINE TO BE RAISED APPROXIMATELY 6". THE CONTRACTOR'S JACKING PLAN SHALL INCLUDE A PROCEDURE TO PROTECT THE GAS LINE AND COORDINATE HIS WORK WITH WORK REQUIRED BY EAST OHIO GAS. JACKING AT ABUTMENT NO. 2 WILL TAKE PLACE UNDER TRAFFIC. GIRDERS SHALL BE RAISED A MAXIMUM OF 1/2".

TEMPORARY SHORING OF THE END DAM IN THE CENTER BAY AT ABUTMENT NO. 1 SHALL BE IN PLACE PRIOR TO PLACING CONCRETE FOR THE PHASE I DECK POUR. SHORING SHALL REMAIN IN PLACE UNTIL IT IS REPLACED BY THE NEW END CROSS FRAME. SHORING SHALL BE ADEQUATE TO SUPPORT A WHEEL LOAD FROM AN HS20-44 TRUCK. THE CONTRACTORS SHALL SUBMIT HIS SHORING PLAN, DESIGNED BY A PROFESSIONAL ENGINEER, TO THE DIRECTOR FOR APPROVAL.

### ITEM 517 - RAILING, CONCRETE PARAPET WITH TYPE CL FENCE, AS PER PLAN

THIS ITEM SHALL CONSIST OF THE FURNISHING AND INSTALLING IN PLACE THE RAILING CONSISTING OF THE CONCRETE PARAPET (2'-4" X 1'-0") AND CHAIN LINK FENCE WITHIN THE LIMITS SPECIFIED IN THE CONTRACT PLANS.

THE CHAIN LINK FENCE SHALL COMPLY WITH ITEM 607 AND SECTION 710.03. BEVELED PLATES, IF REQUIRED, SHALL BE CONSIDERED INCIDENTAL. (SEE SHT. 36.)

PAYMENT SHALL BE AT THE CONTRACT UNIT PRICE BID PER LINEAR FOOT FOR ITEM 517 - RAILING, CONCRETE PARAPET WITH TYPE CL FENCE, AS PER PLAN.

### ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

THIS ITEM SHALL BE USED TO MAKE STRUCTURAL REPAIRS TO THE EXPOSED FACES OF ABUTMENTS AND WING WALLS AS DIRECTED BY THE ENGINEER. AN ESTIMATED QUANTITY IN SQUARE FEET IS PROVIDED FOR THIS REPAIR. ALL SURFACES TO BE PATCHED AND THE EXPOSED REINFORCING STEEL WITHIN SHALL BE THOROUGHLY CLEANED BY SANDBLASTING PRIOR TO THE CLEANING SPECIFIED IN 519.04.

PAYMENT SHALL BE AT THE CONTRACT UNIT PRICE BID PER SQUARE FOOT FOR ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN, AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

### ITEM SPECIAL - PNEUMATICALLY PLACED MORTAR, MISCELLANEOUS COLUMN REPAIR

THIS ITEM SHALL BE USED TO MAKE STRUCTURAL REPAIRS TO THE EXPOSED FACES OF PIER COLUMNS AS DIRECTED BY THE ENGINEER. AN ESTIMATED QUANTITY IN SQUARE FEET IS PROVIDED FOR THIS REPAIR. REFER TO THE PROPOSAL NOTE FOR ADDITIONAL REQUIREMENTS. PAYMENT WILL BE AT THE PRICE BID PER SQUARE FOOT FOR ITEM SPECIAL - PNEUMATICALLY PLACED MORTAR, MISCELLANEOUS COLUMN REPAIR, AND SHALL INCLUDE ALL LABOR MATERIAL, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

### ITEM SPECIAL - STRUCTURAL STEEL MISC. CROSS FRAME REPAIR

THE ITEM SHALL CONSIST OF FURNISHING ALL MATERIAL, LABOR, TOOLS, AND EQUIPMENT TO REPAIR THE CENTER BAY, INTERMEDIATE CROSS-FRAMES IN ACCORDANCE WITH 513 OF THE CONSTRUCTION AND MATERIALS SPEC AND THE DETAILS SHOWN ON THE PLANS.

NO SEPARATE PAYMENT WILL BE PAID FOR CUTTING THE CROSS FRAMES PRIOR TO PHASE I JACKING; HOWEVER, THE COST THEREOF SHALL BE INCLUDED IN THE PRICE BID FOR EACH CROSS FRAME FOR ITEM SPECIAL - STRUCTURAL STEEL MISC. INTERMEDIATE CROSS-FRAME REPAIR.

### ITEM SPECIAL - RECONSTRUCT CONCRETE BEARING SEATS

THIS ITEM SHALL CONSIST OF FURNISHING ALL MATERIAL, LABOR, TOOLS, AND EQUIPMENT TO RECONSTRUCT THE BEARING SEATS AT ABUTMENT NO. 1 IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLAN. THE WORK SHALL BE IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF 519. PAYMENT SHALL BE AT THE UNIT PRICE BID PER EACH FOR ITEM SPECIAL - RECONSTRUCT CONCRETE BEARING SEATS.

### ITEM SPECIAL - SEALING OF CONCRETE SURFACES

A CONCRETE SEALER SHALL BE APPLIED TO THE TOP AND FACE OF CURBS, SIDEWALK, AND PARAPETS. SEE THE CONTRACT DRAWINGS FOR DETAIL OF AREA TO BE TREATED. THE SURFACES SHALL BE SEALED USING EITHER A SILANE OR AN EPOXY SEALER. SEE PROPOSAL NOTE FOR SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIALS REQUIREMENTS, AND APPLICATION PROCEDURES.

### MINIMUM BAR LAPS

THE FOLLOWING MINIMUM REINFORCING LAPS SHALL BE USED FOR EPOXY COATED BARS UNLESS OTHERWISE SHOWN ON THE DETAIL DRAWINGS:

BAR SIZE	LAP LENGTH
#4	1'-6"
#5	1'-11"
#6	2'-4"

### ITEM 202 (CONTINUED FROM SHT. 23 of 38)

CONCRETE MAY BE REMOVED BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL EDGED TOOLS. THE WEIGHT OF THE HAMMERS SHALL NOT EXCEED 35 POUNDS WITHIN EIGHTEEN (18) INCHES OF THE BEAM/GIRDER.

ABUTMENT AND WINGWALL CONCRETE MAY BE REMOVED BY HYDRAULIC SPLITTING AFTER DRILLING A LINE OF HOLES ALONG THE REMOVAL LINE AND PER MANUFACTURERS INSTRUCTIONS, SAW CUTTING OR BY USING THIRTY FIVE (35) POUND AND LIGHTER JACK HAMMERS. ANY REINFORCING STEEL DESIGNATED FOR SALVAGE THAT IS DAMAGED DURING THE CONCRETE REMOVAL OPERATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. NO EXTRA PAYMENT SHALL BE MADE FOR REPLACING RE-STEEL DAMAGED OR CUT RE-STEEL SHALL BE REPLACED BY DOWELING REINFORCING BARS A MINIMUM OF 15" INTO SOLID CONCRETE PER CMS TB 510

PAYMENT FOR THE ABOVE WORK SHALL BE AT THE UNIT PRICE BID PER LUMP SUM FOR ITEM 202 PORTIONS OF STRUCTURE REMOVED AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

### ITEM 516 - BEARING RESET, AS PER PLAN

THIS ITEM SHALL CONSIST OF FURNISHING ALL MATERIALS, LABOR, TOOLS, AND EQUIPMENT NECESSARY TO CLEAN AND RESET THE ROCKER BEARINGS AT THE PLAN ELEVATIONS.

BEARINGS SHALL BE CLEANED IN ACCORDANCE WITH THE REQUIREMENTS OF 514.06. AT ABUTMENT 2 BEARING NEED NOT BE REMOVED BUT SHALL BE CLEANED IN PLACE.

PAYMENT FOR THIS ITEM SHALL BE AT THE PER EACH CONTRACT PRICE BID FOR ITEM 516 - BEARINGS RESET, AS PER PLAN. THIS PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR ALL MATERIALS, LABOR, TOOLS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

FOR INFORMATIONAL PURPOSES ONLY: 20 ABUTMENT BEARINGS NEED TO BE RESET. 10 PIER BEARINGS NEED TO BE RESET.

### ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

THE WORK INCLUDES THE RAISING, SUPPORTING, AND LOWERING OF THE GIRDERS IN ACCORDANCE WITH THE PHASE CONSTRUCTION REQUIREMENTS SHOWN IN THE PLAN. CARE SHALL BE TAKEN TO RAISE THE BEAMS UNIFORMLY TO AVOID TWISTING THE SUPERSTRUCTURE. THE JACKING HEIGHT MEASURED FROM THE FINAL BEAM SEAT TO THE BOTTOM GIRDER FLANGE PLATE SHOULD BE MAXIMUM OF 14 1/4" AT ABUTMENT 1 AND 21 1/2" AT PIER 1. THIS WILL PROVIDE APPROXIMATELY 1/2" CLEARANCE FOR REPLACEMENT OF THE BEARINGS AFTER BEARING SEAT ELEVATIONS ARE ADJUSTED. JACKING SHALL PROCEED SIMULTANEOUSLY AT A1 AND PIER 1. THE GIRDER SHALL BE LIFTED APPROXIMATELY 1" AT ABUTMENT 1 FOR EACH 1/2" AT PIER 1 UNTIL THE FINAL JACKING HEIGHT IS ACHIEVED. THE CONTRACTOR SHALL SUBMIT HIS DETAILED JACKING PROCEDURE TO THE DIRECTOR FOR APPROVAL.

<b>URS</b>					
<b>STRUCTURE GENERAL NOTES</b>					2/16
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
Jrc	JWW		BKc	gof	12/18/90