ESTIMATED QUANTITIES

ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPER-STRUCTURE	GENERAL
202		LUMP SUM	LUMP SUM	PORTIONS OF STRUCTURES REMOVED				LUMP SUM
503		LUMP SUM	LUMP SUM	COFFERDAMS, CRIBS AND SHEETING				LUMP SUM
503		480	CU. YD.	UNCLASSIFIED EXCAVATION	404	76		
505		LUMP SUM	LUMP SUM	PILE DRIVING EQUIPMENT MOBILIZATION				LUMP SUM
507		3455	LIN. FT.	12" CAST-IN-PLACE REINFORCED CONCRETE PILES	2,655	800		
509		45,309	POUND	REINFORCING STEEL, GRADE 60	37,316	7,493		500
510		184	EACH	DOWEL HOLES	184			
511		568	CU. YD.	CLASS S CONCRETE, SUPERSTRUCTURE*			568	
511		171	CU. YD.	CLASS C CONCRETE, FOOTINGS*	147	24		
511		153	CU. YD.	CLASS C CONCRETE, ABUTMENTS & WINGWALLS ABOVE FOOTINGS*	153			
511		19	CU. YD.	CLASS C CONCRETE, PIERS ABOVE FOOTINGS*		19		
512		13	SQ. YD.	TYPE B WATERPROOFING	13			
513		135,800	POUND	STRUCTURAL STEEL A36 (AISC CATEGORY III)*			135,800	
513		4,032	EACH	WELDED STUD SHEAR CONNECTORS			4,032	
513		LUMP	LUMP	STRUCTURAL STEEL, MISCELLANEOUS			LUMP SUM	
516		211	LIN. FT.	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			211	
517		650	LIN.FT.	RAILING (CONCRETE PARAPET WITH BRIDGE SIDEWALK RAILING)	125		525	
518		78	CU. YD.	POROUS BACKFILL, AS PER PLAN	78			
601		377	SQ. YD.	CRUSHED AGGREGATE SLOPE PROTECTION	377			
509		134,721	POUND	EPOXY COATED REINFORCING STEEL, GRADE 60			134,721	
SPECIAL		125°	SQ. FT.	PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR	125			
SPECIAL		529	SQ.YD.	SEALING OF CONCRETE SURFACES (EPOXY)*	262	267		
SPECIAL		967	SQ. YD.	SEALING OF CONCRETE SURFACES*	90		877	
SPECIAL		LUMP	LUMP	FIELD PAINTING OF EXISTING STEEL, SURFACE PREPARATION, SYSTEM OZEU*			LUMP SUM	
SPECIAL		LUMP	LUMP	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU*			LUMP SUM	
SPECIAL		LUMP	LUMP	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COAT, SYSTEM OZEU*			LUMP SUM	
SPECIAL		LUMP	LUMP	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU*			LUMP SUM	
SPECIAL		475	LIN. FT.	CAULKING, SYSTEM OZEU*			475	

° Fedral Participation 50% only

*SEE PROPOSAL NOTE

ITEM 202, PORTIONS OF STRUCTURE REMOVED SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND ARE NOT SEPARATELY LISTED FOR PAYMENT. THE FOLLOWING MAJOR ITEMS ARE INCLUDED:

ITEM	APPROXIMATE QUANTITY
STRUCTURAL STEEL	19,000 POUNDS
SUPERSTRUCTURE CONCRETE	430 CU. YD.
RAILING (ALUMINUM RAILING WITH CONCRETE PARAPET)	660 LIN. FT.
SUBSTRUCTURE CONCRETE	145 CU. YD.

QUANTITY CALCULATIONS	BY	DATE
CALC.	LNJ	2/88
CHKD.	CT	3/88

GENERAL NOTES - STRUCTURE OVER 20 FT.

FHWA REGION	STATE	PROJECT	
5	OHIO		

16/32

LAKE COUNTY
LAK-20-19.39

1. DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, DATED 1983, INCLUDING THE 1984 THRU 1987 INTERIM SPECIFICATIONS AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA

DESIGN LOADING - HS20-44 CASE II AND THE ALTERNATE MILITARY LOADING.

CONCRETE CLASS S - COMPRESSIVE STRENGTH F'c = 4500 PSI FOR SUPERSTRUCTURE.

CONCRETE CLASS C - UNIT STRESS Fc = 1333 PSI FOR SUBSTRUCTURE.

REINFORCING STEEL - ASTM A615, A616, A617 - GRADE 60 - MINIMUM YIELD STRENGTH Fy = 60,000 PSI.

STRUCTURAL STEEL - ASTM A36 - YIELD STRENGTH 36,000 PSI.

DECK PROTECTION METHOD - EPOXY COATED REINFORCING STEEL, BOTH MATS AND SEALING OF CONCRETE SURFACES.

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

2. SUPPLEMENTAL SPECIFICATIONS

REFERENCE SHALL BE MADE TO SUPPLEMENTAL SPECIFICATIONS ; 836 DATED 11/12/85; 845 DATED 2/25/86; 853 DATED 6/26/78; 953 DATED 8/21/80; AND 956 DATED 6/26/78.

3. REFERENCE DRAWINGS

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS AS-1-81, DATED 11/27/81; SD-1-69, DATED 6/12/69; EXJ-2-81, DATED 4/2/84; RB-1-55, DATED 2/2/59 AND BR-2-82, DATED 11/1/82.

4. EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND/OR FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE 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 STRUCTURE 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.

5. UTILITIES

INFORMATION SHOWN IN THE PLANS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL - INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

THE FOLLOWING UTILITY FACILITIES ARE CARRIED ON OR ARE ATTACHED TO OR CROSS OVER OR CROSS UNDER THE EXISTING BRIDGE AS SHOWN IN ROADWAY PLANS.

A. PAINSVILLE MUNICIPAL POWER COMPANY'S OVERHEAD POWERLINES.
B. ONE - 6-IN. EAST OHIO GAS COMPANY (EOG) LINE.
C. OHIO BELL COMPANY'S OVERHEAD LINE.

6. REMOVAL

A. THE CONTRACTOR SHALL REMOVE THE DESIGNATED PORTIONS OF THE EXISTING BRIDGE TO THE LIMITS SHOWN ON THE PLANS OR TO THE LIMITS DIRECTED BY THE ENGINEER. PARTS DESIGNATED BY THE PLANS FOR REMOVAL MAY BE REMOVED BY METHODS OF THE CONTRACTOR'S SELECTION. NO PART OR DEBRIS SHALL BE PERMITTED TO BE DROPPED ON THE S.R. 2 FREEWAY. THE PLANS FOR SCAFFOLDS OR PLATFORMS TO ENSURE THE PROTECTION OF VEHICULAR TRAFFIC SHALL BE SUBMITTED FOR APPROVAL PRIOR TO THE START OF THE WORK. THE PLANS OF THE EXISTING BRIDGE ARE AVAILABLE FOR PERUSAL AT O.D.O.T. DISTRICT 12 OFFICE, BOX 05931 NEWBURGH STATION, CLEVELAND, OHIO, 44105.

B. THE REMOVAL SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

REINFORCED CONCRETE FOR DECK SLAB, SAFETY CURB, MEDIAN AND PARAPET, BRIDGE HAND RAILING (ALUMINUM), STRUCTURAL STEEL FOR END DAM AND PORTION OF END CROSSFRAMES, APPROACH SLABS AND OTHER ITEMS ASSOCIATED WITH THE EXISTING BRIDGE DECK. REMOVAL OF THE DECK SHALL BE PERFORMED WITH SUFFICIENT CARE AS TO NOT DAMAGE THE TOP FLANGE OF THE EXISTING BEAMS. IN CASE OF DAMAGE, REPAIR OR REPLACEMENT SHALL BE MADE AT CONTRACTOR'S EXPENSE AND TO THE APPROVAL OF THE ENGINEER.

C. PORTIONS OF EXISTING ABUTMENTS AND WINGWALLS SHALL BE REMOVED AS PER PLAN AND PER ITEM 202 OF CONSTRUCTION & MATERIAL SPECIFICATIONS. CONCRETE SHALL BE REMOVED BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS, OR BY A METHOD FIRST APPROVED BY THE ENGINEER. THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. REMOVAL AT EXPOSED SURFACES SHALL BE TO A NEAT SAW CUT LINES AS SHOWN IN THE PLANS. SEE NOTE 11 FOR CONSTRUCTION JOINT PREPARATION.

D. TO MINIMIZE DAMAGE TO PORTIONS OF THE ABUTMENTS WHICH ARE TO BE REUSED, LIMIT CONCRETE REMOVALS WITHIN 18 INCHES OF REMOVAL BOUNDARY LINES TO MANUAL EQUIPMEMNT UNLESS THE USE OF MECHANICALLY MOUNTED EQUIPMENT IS APPROVED BY THE ENGINEER.

E. THE CURVED END TERMINALS OF THE ALUMINUM RAILING SHALL BE CAREFULLY DISMANTLED AND STORED BY THE CONTRACTOR FOR LATER PICKUP BY STATE FORCES.

F. ALL OTHER MATERIALS REMOVED FROM THE STRUCTURE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED BY HIM FROM THE SITE.

G. UNDER NO CIRCUMSTANCES SHALL THE MATERIALS BE PERMITTED TO REMAIN ON THE PREMISES, RIGHT-OF-WAY OR STREETS PENDING DISPOSAL OF SAME OR FOR ANY OTHER PURPOSES, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

H. THE CONTRACTOR SHALL SUBMIT A REMOVAL PLAN TO THE ENGINEER FOR HIS APPROVAL PRIOR TO THE EXISTING DECK REMOVALS.

7. TEMPORARY FALSEWORK AND PROTECTIVE STRUCTURES

A. GENERAL

THIS WORK SHALL CONSIST OF CONSTRUCTING AND REMOVING RIGID TEMPORARY CONSTRUCTIONS REQUIRED TO COMPLETE THE WORK IN ADDITION TO THE FORMWORK AND ITEMS WHICH ARE SPECIFICALLY INCLUDED ELSEWHERE. THE WORK INCLUDES TEMPORARY PLATFORMS OR OTHER MEANS TO PREVENT LOOSE MATERIALS FROM FALLING DURING THE CONSTRUCTION OF SUPERSTRUCTURE OVER THE S.R. 2 FREEWAY.

B. REQUIREMENTS

IN ORDER TO PROTECT AGAINST DAMAGE FROM FALLING MATERIAL AND DEBRIS, WHILE SUPERSTRUCTURE CONCRETE IS BEING PLACED OR WHILE WORK IS IN PROGRESS OVERHEAD, THE CONTRACTOR SHALL FURNISH AND ERECT TEMPORARY PROTECTIVE STRUCTURES. THE FLOORING AND SIDING OF THE STRUCTURES SHALL HAVE NO CRACKS OR OPENINGS THROUGH WHICH MATERIAL PARTICLES MAY FALL. AS PART OF THIS PROTECTION, ONE 3/4-INCH LAYER OF PLYWOOD WITH LAPPED JOINTS OR AN EQUIVALENT DESIGN MAY BE PLACED BETWEEN THE LOWER FLANGES OF THE STRUCTURAL STEEL GIRDERS. THE PROTECTION IN ALL CASES SHALL EXTEND BEYOND THE EXTERIOR STRUCTURAL GIRDERS A SUFFICIENT DISTANCE TO PROTECT UNDER THE BRIDGE RAILINGS.

AFTER THE TEMPORARY FALSEWORK AND PROTECTIVE STRUCTURES HAVE SERVED THEIR PURPOSE, AND WHEN SO DIRECTED BY THE ENGINEER, THEY SHALL BE REMOVED. ALL MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR AT HIS OWN EXPENSE.

DETAILS OF THE TEMPORARY FALSEWORK AND PROTECTIVE STRUCTURES INCLUDING THE PROPOSED TEMPORARY UNDER-CLEARANCES TO MILES ROAD SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

C. PAYMENT

TEMPORARY FALSEWORK AND PROTECTIVE STRUCTURES WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED WITH THE UNIT PRICE BID FOR ITEM 513 STRUCTURAL STEEL.

8. REPLACEMENT OF EXISTING REINFORCING STEEL

ANY EXISTING REINFORCING BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND WHICH ARE MADE UNUSABLE BY THE CONTRACTOR'S CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW REINFORCING STEEL AT HIS COST. ANY EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION SHALL BE REPLACED WITH NEW STEEL. AN ALLOWANCE OF 500 POUNDS IS INCLUDED IN ITEM 509 FOR THIS PURPOSE.

9. DIMENSIONS

DIMENSIONS GIVEN ARE MEASURED HORIZONTALLY AT 60°F, UNLESS OTHERWISE NOTED.

10. APPROACH SLAB, AS PER PLAN

APPROACH SLAB SHALL BE CONSTRUCTED AS PER STANDARD DRAWING AS-1-81. DUE TO THE STAGE CONSTRUCTION OF THE PROJECT, MECHANICAL CONNECTORS SHALL BE REQUIRED IN THE APPROACH SLAB FOR THE TRANSVERSE TOP AND BOTTOM BARS. THE MECHANICAL CONNECTORS SHALL MEET THE REQUIREMENTS OF SECTION 509.08, THE CURB ON THE APPROACH SLAB FOR THE SOUTH SIDE OF THE ROADWAY SIDEWALK SHALL BE CONSTRUCTED IN STAGE III. THE COST OF PROVIDING MECHANICAL CONNECTORS IN THE APPROACH SLAB SHALL BE INCLUDED WITH ROADWAY ITEM 611-REINFORCED CONCRETE APPROACH SLAB, AS PER PLAN FOR PAYMENT.

POLYTECH, INC. 2/18
CONSULTING ENGINEERS CLEVELAND, OHIO

ESTIMATED QUANTITIES AND GENERAL NOTES

BRIDGE NO. LAK-20-1939
OVER S.R.2. (EAST BOUND)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
CT	MAC	—	GA	BS	4/88	