

DESIGN SPECIFICATIONS

THESE STRUCTURES CONFORM TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1989 AND THE OHIO SUPPLEMENT TO THESE SPECIFICATIONS.

THE DESIGN DATA IS AS FOLLOWS:

- DESIGN LOADING - HS20-44 CASE II AND THE ALTERNATE MILITARY LOADING.
- CONCRETE CLASS S - COMPRESSIVE STRENGTH 1500 PSI SUPERSTRUCTURE.
- CONCRETE CLASS C - UNIT STRESS 1,333 PSI SUBSTRUCTURE.
- STRUCTURAL STEEL (ASTM A572 UNLESS NOTED) - UNIT STRESS 27,000 PSI
- REINFORCING STEEL - ASTM A615, A616, OR A617
GRADE 60 UNIT STRESS 24,000 PSI
- SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615

REFERENCE SHALL BE MADE TO:

STANDARD DRAWINGS:

- AS-1-81 DATED 11-27-81
- BR-2-82 DATED 11-1-82
- EXJ-4-87 DATED 1-5-89
- GR-3.1 DATED 5-6-91
- GR-3.2 DATED 5-6-91
- HL-30.31 DATED 5-1-87
- RB-1-55 DATED 2-2-59
- SD-1-69 DATED 6-12-69

SUPPLEMENTAL SPECIFICATIONS:

- NO. 836 - CONCRETE CURING AND PROTECTIVE MEMBRANE DATED 11-12-85
- NO. 910 - OZEU STRUCTURAL STEEL PAINT DATED 5-20-91

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL, TOP AND BOTTOM MAT. SEALING OF CONCRETE SURFACES.

MONOLITHIC WEARING SURFACE

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

EXISTING STRUCTURE VERIFICATION

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

PLANS OF EXISTING STRUCTURES ARE AVAILABLE FOR EXAMINATION AT THE OHIO DEPARTMENT OF TRANSPORTATION; DISTRICT 12 OFFICE; 5500 TRANSPORTATION BOULEVARD, GARFIELD HTS, OHIO.

ITEM 202 - PORTIONS OF STRUCTURES REMOVED

THIS ITEM SHALL INCLUDE BUT NOT LIMITED TO THE COMPLETE REMOVAL OF THE EXISTING REINFORCED CONCRETE DECK AND PARAPETS, THE COMPLETE REMOVAL OF THE PARAPETS AT THE WEST WINGWALLS, THE REMOVAL OF THE EAST WINGWALLS AND THE REMOVAL OF A PORTION OF THE ABUTMENT AND FOOTING TO THE EXTENT SHOWN ON THE ABUTMENT DEMOLITION AND REPAIR DRAWING, SHEET [9/29], THE REMOVAL OF ALL SCUPPERS, THE COMPLETE REMOVAL OF ALL EXPANSION JOINT HARDWARE INCLUDING THE END DAM CROSSFRAMES AT BOTH ABUTMENTS. ALSO INCLUDED IS THE COMPLETE REMOVAL OF THE BACKWALLS AS INDICATED ON THE ABUTMENT DEMOLITION AND REPAIR DRAWING, AS WELL AS ANY OTHER REMOVALS INDICATED IN THE PLANS. IN ADDITION TO THE REQUIREMENTS LISTED HEREIN, THIS WORK WILL ALSO CONFORM TO THE REQUIREMENTS OF 202.03.

FOR APPROACH SLABS TO BE REMOVED, SEE ROADWAY PLANS, SHEETS [40/92] & [41/92].

THE ABOVE MATERIALS SHALL BE REMOVED IN TWO PHASES AS SHOWN ON SHEET [7/29] AND [9/29] IN THE PROJECT PLANS. EXCAVATION NECESSARY TO REMOVE AND MODIFY PORTIONS OF THE EXISTING STRUCTURE SHALL BE INCLUDED WITH THIS ITEM FOR PAYMENT. THE EXCAVATION NECESSARY TO CONSTRUCT THE ABUTMENT AND WINGWALL EXTENTION AND THE PIER EXTENTION SHALL BE PAID UNDER ITEM 503.

ONLY PNEUMATIC OR HAND TOOLS THAT WILL GIVE RESULTS SATISFACTORY TO THE ENGINEER SHALL BE USED IN THE REMOVAL OF CONCRETE. HYDRAULIC HOE-RAM TYPE HAMMERS SHALL NOT BE USED FOR ABUTMENT REMOVAL. THEY WILL BE PERMITTED FOR SUPERSTRUCTURE REMOVAL EXCEPT FOR THOSE AREAS DIRECTLY ABOVE THE EXISTING GIRDERS. EXTREME CARE SHALL BE TAKEN TO AVOID DAMAGING THE EXISTING STRUCTURAL STEEL AND REINFORCING STEEL WHICH IS TO REMAIN IN PLACE. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 90 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. ANY SALVAGED REINFORCING STEEL WHICH IS MADE UNUSABLE BY THE CONTRACTOR'S CONCRETE REMOVAL OPERATION SHALL BE REPLACED WITH NEW STEEL AT HIS COST. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

REMOVAL OF EXISTING SUPERSTRUCTURE CONCRETE SHALL BE BY MEANS OF EQUIPMENT AND PROCEDURES, APPROVED BY THE ENGINEER, WHICH ARE CHOSEN AND EMPLOYED SO AS TO PREVENT DAMAGE, SUCH AS SAW CUTS AND DENTS, TO THE EXISTING STEEL AND TO PROVIDE PROTECTION FOR THE ROADWAY BELOW.

ITEM 202 - BRIDGE RAILING REMOVED FOR STORAGE, AS PER PLAN

THE EXISTING RAILING, THE PLYWOOD, AND 2X8 WOOD JOISTS BETWEEN THE GIRDERS, SHALL BE REMOVED AND STORED AT THE SITE, AS PER 202.02, FOR SUBSEQUENT PICKUP BY THE LAKE COUNTY ENGINEERS OFFICE. ALL THE REMOVAL, AND HANDLING OF THE RAILING, PLYWOOD, AND WOOD JOISTS SHALL BE PAID FOR UNDER ITEM 202 - BRIDGE RAILING REMOVED FOR STORAGE, AS PER PLAN.

MAINTENANCE OF TRAFFIC

TWO LANES OF TRAFFIC WITH A MINIMUM HORIZONTAL WIDTH OF 26'-0" AND A MINIMUM VERTICAL CLEARANCE OF 13'-8" SHALL BE MAINTAINED ON S.R. 2 AT ALL TIMES. FOR DETAILS OF TRAFFIC PROTECTION AND TRAFFIC MAINTENANCE, SEE MAINTENANCE OF TRAFFIC PLANS, SHEETS THRU [17/92].

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 13'-8" 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.

CONSTRUCTION JOINT PREPARATION

WHERE POSSIBLE, SAW CUT BOUNDRIES OF PROPOSED CONCRETE REMOVALS 1" DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. RETAIN EXISTING REINFORCING STEEL AS INDICATED IN PLANS. INSTALL DOWEL BARS AS SPECIFIED. PRIOR TO CONCRETE PLACEMENT, ABRASIVELY CLEAN JOINT SURFACE AND EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THEN, THE JOINT SURFACE AND THE EXPOSED REINFORCEMENT SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATERIALS BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHOD THAT PRODUCES RESULTS SATISFACTORY TO THE ENGINEER. THE CONCRETE BONDING SURFACE SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED.

DISPOSAL OF REMOVED MATERIAL

ALL CONCRETE, STEEL, REINFORCING STEEL, ETC. REMOVED FROM THE STRUCTURES, UNLESS OTHERWISE SPECIFIED, SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED BY HIM FROM THE SITE.

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

UTILITY LINES


ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) ANY AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNER(S). THE CONTRACTOR AND OWNER(S) ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

EXTREME CARE SHALL BE TAKEN BY THE CONTRACTOR TO AVOID DAMAGING EXISTING UTILITY LINES THAT ARE TO REMAIN IN SERVICE THROUGH THE DURATION OF THE PROJECT.

✓ ITEM 509 - EPOXY COATED REINFORCING STEEL, GRADE 60

A CONTINGENCY QUANTITY TO REPLACE REINFORCING STEEL WHICH IS BENT, ELONGATED, MISSING OR EXTREMELY CORRODED IS PROVIDED FOR HEREIN. BARS SHALL BE THE SAME SIZE AS ORIGINAL BARS AND SHALL BE PLACED AS NEAR AS POSSIBLE TO THEIR ORIGINAL LOCATION. BARS SHALL BE DRILLED AND DOWELLED A MINIMUM OF 12", AS PER 510 AND SHALL BE LAPPED ACCORDING TO SECTION 509.08. PAYMENT FOR THIS ITEM SHALL INCLUDE THE COST OF ALL MATERIALS AND LABOR NECESSARY TO COMPLETE THE ABOVE WORK, INCLUDING REMOVAL OF EXISTING STEEL. ANY EXISTING REINFORCING BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND WHICH ARE MADE UNUSABLE BY THE CONTRACTOR'S REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW STEEL AT HIS COST.

THE ESTIMATED QUANTITY OF REINFORCING STEEL TO BE USED FOR THIS PURPOSE WHEN AND AS DIRECTED BY THE ENGINEER SHALL BE 200 POUNDS.

 CT Consultants, Inc. Engineers • Architects • Planners Willoughby • Mentor • Columbus • North Canton • Youngstown						3/29
GENERAL NOTES BRIDGE NO. LAK-306-0691 OVER STATE ROUTE 2 LAKE COUNTY						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JEA	JEA	JEA	J.P.R.	BJA	8/31/90	