

**DESIGN SPECIFICATIONS**

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996, THE 1997, 1998, 1999 AND 2000 INTERIMS, AND THE ODOT BRIDGE DESIGN MANUAL, APRIL, 2000.

**DESIGN DATA:**

DESIGN LOADING: HS20-44 CASE II AND THE ALTERNATE MILITARY LOADING, AND A 60 PSF FUTURE WEARING SURFACE.

HIGH PERFORMANCE CONCRETE - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

HIGH PERFORMANCE CONCRETE - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615, A616, OR A617  
GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI  
SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615

STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50,000 PSI  
(UNLESS NOTED OTHERWISE)

**REFERENCE SHALL BE MADE TO:**

**STANDARD DRAWINGS:**

AS-1-81	REVISED	4-20-01
BR-2-98	DATED	12-29-98
BS-1-93	DATED	12-19-94
EXJ-4-87	REVISED	4-20-01
GSD-1-96	DATED	4-20-01
VPF-1-90M	DATED	3-20-95

**SUPPLEMENTAL SPECIFICATIONS:**

NO. 842	DATED	1-6-99
NO. 843	DATED	5-5-98
NO. 844	DATED	1-6-99
NO. 863	DATED	10-12-99
NO. 866	DATED	7-11-00
NO. 899	DATED	10-21-98
NO. 954	DATED	9-9-97

**DECK PROTECTION METHOD**

EPOXY COATED REINFORCING STEEL, 2 1/2" CONCRETE COVER, SEALING OF CONCRETE SURFACES.

**MONOLITHIC WEARING SURFACE**

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

**UTILITY LINES**

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

**PROPOSED WORK**

THE FOLLOWING WORK SHALL BE COMPLETED IN ONE CONSTRUCTION STAGE. S.R. 615 SHALL BE CLOSED AT THE BRIDGE SITE WHILE A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION ON I-90 SHALL BE MAINTAINED AT ALL TIMES.

THIS WORK INCLUDES THE FOLLOWING:

1. REMOVAL OF THE REINFORCED CONCRETE DECK, SAFETY CURBS AND RAILINGS, AND APPROACH SLABS.
2. REMOVAL OF ALL STEEL SUPERSTRUCTURE MEMBERS.
3. REMOVAL OF THE REINFORCED CONCRETE PIER CAPS ONLY. REPAIRING UNSOUND AREAS ON THE PIER COLUMNS.
4. REMOVAL OF THE REINFORCED CONCRETE BACKWALLS ABOVE THE ABUTMENT SEATS AND WINGWALLS ABOVE THEIR FOOTINGS.

5. EXCAVATING THEN DRIVING PILES TO SUPPORT ABUTMENT AND PIER EXTENSIONS.
6. CONSTRUCTING ABUTMENT EXTENSIONS AT BOTH ENDS OF THE EXISTING ABUTMENTS. CAPPING THE EXISTING ABUTMENT SEATS AND CONSTRUCTING LONGER REINFORCED CONCRETE BACKWALLS AND NEW TURNED-BACK WINGWALLS. INSTALLING POROUS BACKFILL WITH GEOTEXTILE FABRIC AND DRAINAGE PIPE BEHIND THESE MODIFIED ABUTMENTS.
7. CONSTRUCTING A NEW REINFORCED CONCRETE FOOTING AND COLUMN, EXTENDING EACH EXISTING COLUMN, AND CONSTRUCTING A LONGER CAP AT ALL FIVE PIERS.
8. ERECTING SHOP-PAINTED STEEL BEAMS ON ELASTOMERIC BEARINGS AND BOLTING CROSSFRAMES BETWEEN THE BEAMS. FIELD WELDING STUD SHEAR CONNECTORS TO THE BEAM'S TOP FLANGES.
9. CONSTRUCTING A NEW COMPOSITE REINFORCED CONCRETE DECK AND NEW APPROACH SLABS, INCLUDING EXJ-4-87 STRIP SEAL EXPANSION JOINTS.
10. CONSTRUCTING 6'-0" WIDE REINFORCED CONCRETE SIDEWALKS AND 2'-8" HIGH PARAPETS ABOVE THEM ON THE DECK AND APPROACH SLABS.
11. SEALING OF CONCRETE SURFACES.
12. INSTALLING 6'-0" HIGH VANDAL PROTECTION FENCING.
13. INSTALLING BRIDGE TERMINAL ASSEMBLIES.
14. RE-GRADE THE SLOPES BELOW THE END SPANS, PLACE TOP SOIL OVER THE EXISTING CRUSHED AGGREGATE SLOPE PROTECTION AND SEED WITH CROWN VETCH.

**ITEM 202 - PORTIONS OF STRUCTURE REMOVED OVER 20-FOOT SPAN. AS PER PLAN**

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES AND HEADACHE BALLS WILL NOT BE PERMITTED. HOE RAMS WILL NOT BE PERMITTED FOR REMOVAL OF ITEMS WITHIN TWO (2) FEET OF PORTIONS OF STRUCTURE TO REMAIN. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. ALL WORK SHALL BE DONE IN A MANNER THAT WILL NOT CUT, ELONGATE, OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND (41 KILOGRAM) CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

**PROTECTION OF TRAFFIC:**

PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT HIS PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, ETC.) ADJACENT TO AND/OR 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. TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR.

PAYMENT: THIS WORK WILL BE INCLUDED FOR PAYMENT IN THE LUMP SUM PRICE BID FOR ITEM 614-MAINTAINING TRAFFIC, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THESE REQUIREMENTS, WITH PERTINENT PROVISIONS OF 202, AND TO THE SATISFACTION OF THE ENGINEER.

**CUT LINE CONSTRUCTION JOINT PREPARATION**

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS ONE-INCH (25 MM) DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, SHALL BE LEFT IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THE JOINT SURFACE AND EXPOSED REINFORCEMENT SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, RUST, OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH BUT ALL PACK AND LOOSE RUST SHALL BE REMOVED.

EXISTING CONCRETE SURFACES WHICH NEW CONCRETE WILL BE PLACED AGAINST SHALL BE WET, BUT WITHOUT FREE WATER, AT THE TIME OF CONCRETE PLACEMENT.

**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 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 513.02/863.07.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PRE-BID 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.

PLANS OF THE EXISTING STRUCTURE ARE AVAILABLE FOR EXAMINATION AT: THE OHIO DEPARTMENT OF TRANSPORTATION; DISTRICT 12 OFFICE; 5500 TRANSPORTATION BOULEVARD, GARFIELD HEIGHTS, OHIO 44125.

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DATE	10/26/01
REMOVED J.E.A.	4304055
STRUCTURE FILE NUMBER	
DRAWN R.L.B.	
REVISION	
DESIGNED J.P.R.	
CHECKED I.A.S.	

GENERAL NOTES  
BRIDGE NUMBER LAK-90-0945  
S.R. 615 OVER INTERSTATE 90

LAK-IR90/SR615-  
9.26/1.51

3 / 41

330  
393