

STRUCTURE GENERAL NOTES

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATION

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

AS-1-81	REVISED	04/20/01
GSD-1-96	REVISED	04/20/01
RB-1-55	REVISED	02/02/59
SICD-1-96	REVISED	04/20/01
VPF-1-90M	DATED	03/20/95

AND TO SUPPLEMENTAL SPECIFICATIONS:

SS 815 - 02/22/00	SS 864 - 07/11/00
SS 842 - 01/06/99	SS 899 - 10/21/98
SS 843 - 05/05/98	SS 910 - 07/11/00
SS 844 - 02/06/99	SS 911 - 07/11/97
SS 863 - 10/12/99	SS 954 - 09/09/97

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996, INCLUDING THE 2001 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING

HS20, CASE II AND THE ALTERNATE MILITARY LOADING.
FUTURE WEARING SURFACE (FWS) - NO PROVISION

DESIGN STRESSES DATA

CONCRETE - HIGH PERFORMANCE CONCRETE HPC SS 844 FOR SUPERSTRUCTURE
COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE - HIGH PERFORMANCE CONCRETE HPC SS 844 FOR SUBSTRUCTURE
COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615M, A616M OR A617M - GRADE 60 MINIMUM
YIELD STRENGTH 60,000 PSI

STRUCTURAL STEEL ASTM A7 (ASSUMED) - YIELD STRENGTH 33,000 PSI

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.

CONVERSION OF STANDARD BRIDGE DRAWINGS

SOME OF THE STANDARD BRIDGE DRAWINGS REFERENCED IN THIS PLAN ARE METRIC. ANY CONVERSION OF DIMENSIONS REQUIRED TO CONSTRUCT THE ITEMS SHOWN ON THE STANDARDS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONVERSIONS SHALL BE MADE USING THE SI (METRIC) TO ENGLISH CONVERSION FACTORS PROVIDED IN SECTION 109.011 OF THE 1997 CONSTRUCTION AND MATERIALS SPECIFICATIONS. THE APPENDIX OF ASTM E380 SHALL BE UTILIZED FOR ANY ADDITIONAL CONVERSION FACTORS REQUIRED. CONVERSIONS SHALL BE APPROPRIATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE.

PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

DESCRIPTION:

THIS WORK SHALL CONSIST OF THE REMOVAL OF CONCRETE DECK INCLUDING SIDEWALKS, PARAPETS, RAILINGS, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, CROSS FRAMES, ETC.). CARE SHALL BE TAKEN DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. IN THIS RESPECT, THE USE OF EXPLOSIVES, HEATACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED.

PROTECTION OF TRAFFIC:

PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT 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. TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR.

PROTECTION OF STEEL SUPPORT SYSTEMS:

BEFORE DECK SLAB CUTTING IS PERMITTED, THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK SHALL BE DRAWN ON THE SURFACE OF DECK. SMALL DIAMETER PILOT HOLES SHALL BE DRILLED 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. DURING CUTTING OF THE DECK SLAB, CARE SHALL BE TAKEN NOT TO DAMAGE STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. DESIGN AND REPAIR OF DAMAGED MEMBERS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. REPAIRS SHALL BE PROPOSED BY A REGISTERED PROFESSIONAL ENGINEER AND APPROVED BY THE DIRECTOR.

REMOVAL METHODS:

CONCRETE MAY BE REMOVED BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER BRIDGE MEMBERS, (STEEL BEAM, ETC.), A HAMMER HEAVIER 35 POUNDS BUT NOT TO EXCEED 90 POUNDS MAY BE USED AT THE APPROVAL OF THE ENGINEER. REMOVAL METHODS OVER BRIDGE MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STEEL MEMBERS.

DECK REMOVALS:

DUE TO THE POSSIBLE PRESENCE OF WELDING ATTACHMENTS TO EXISTING STRUCTURAL STEEL (FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) CARE SHALL BE TAKEN DURING DECK REMOVAL TO AVOID DAMAGING STRINGERS WHICH ARE TO REMAIN. STRINGERS DAMAGED BY THE CONTRACTOR'S REMOVAL OPERATIONS SHALL, AT NO COST TO THE PROJECT, BE REPLACED OR REPAIRED. PROPOSED REPAIRS, DEVELOPED BY A OHIO REGISTERED PROFESSIONAL ENGINEER, SHALL BE SUBMITTED IN WRITING FOR REVIEW AND APPROVAL BY THE DIRECTOR.

EXTRANEOUS MEMBERS:

EXISTING EXTRANEOUS MEMBERS (I.E., FINISHING MACHINE AND FORM SUPPORTS, ETC., AND THE SUPPORT FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) ATTACHED BY WELDED CONNECTIONS TO THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS, SHALL BE REMOVED AND THE FLANGE SURFACES GROUND SMOOTH. GRINDING SHALL BE CAREFULLY DONE AND PARALLEL TO THE FLANGES.

LOADING LIMITATIONS:

NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF THE ALLOWABLE UNIT STRESSES GIVEN IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. STRUCTURAL ANALYSIS COMPUTATIONS, BY A OHIO REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE CONTRACTOR'S METHODS OR EQUIPMENT SHALL BE SUBMITTED TO THE DIRECTOR FOR REVIEW AND APPROVAL AT LEAST TWO WEEKS PRIOR TO THE START OF THE WORK.

DISPOSAL OF REMOVED MATERIAL:

ALL STRUCTURAL STEEL, CONCRETE, REINFORCING STEEL, BEARINGS, RAILING, ETC., REMOVED BY THE CONTRACTOR SHALL BECOME HIS PROPERTY AND SHALL BE REMOVED BY HIM FROM THE SITE. UNDER NO CIRCUMSTANCE SHALL THE MATERIAL BE PERMITTED TO REMAIN ON THE PREMISES, RIGHT-OF-WAY OR STREETS PENDING DISPOSAL OF OR FOR ANY OTHER PURPOSE, UNLESS APPROVED BY THE ENGINEER.

CUT LINE CONSTRUCTION JOINT PREPARATION:

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH 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.

SUBSTRUCTURE CONCRETE REMOVAL:

SUBSTRUCTURE CONCRETE REMOVAL SHALL BE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, HAMMERS NOT EXCEEDING 90 POUNDS, MAY BE USED UPON THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

PAYMENT:

THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID, 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.

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503 EXCEPT THAT THE BACK FILL MATERIAL BEHIND THE ABUTMENTS SHALL BE 304 AGGREGATE BASE PLACED IN THE 6" LIFTS AND COMPACTED IN ACCORDANCE WITH 304.05.

EMBANKMENT CONSTRUCTION, AS PER PLAN

FOR DETAILS REGARDING EMBANKMENT CONSTRUCTION, IN THE VICINITY OF THE ABUTMENTS, SEE THE ROADWAY GENERAL NOTES SHEET NO. 3 OF 29.

UTILITY LINES

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.

ANY EXISTING, PRIVATELY-OWNED UTILITY FACILITIES ENCOUNTERED AT THE SITE OF THE WORK WHICH WILL INTERFERE WITH PORTIONS OF THE FINISHED ROADWAYS OR STRUCTURE SHALL BE REMOVED OR RELOCATED BY THE OWNER.

ALL EXPENSE INVOLVED IN REPLACING THE AFFECTED UTILITY LINE SHALL BE BORNE BY THE UTILITY. THE CONTRACTOR AND UTILITY ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

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, 513.02 AND 863.07.

CONCRETE 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 EXISTING BRIDGE

CONSTRUCTION PLANS FOR THE EXISTING BRIDGE ARE ON FILE AT THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 12 OFFICE, 5500 TRANSPORTATION BLVD. GARFIELD HEIGHTS, OHIO 44125 AND ARE AVAILABLE FOR REFERENCE.

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 STEEL AT THEIR COST. ANY EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION, SHALL BE REPLACED WITH NEW STEEL. THE COST FOR THIS WORK IS INCLUDED IN ITEM 842: CONCRETE MISC. - REPLACEMENT OF CORRODED REINFORCING STEEL.

ITEM SPECIAL - HEAT STRAIGHTENING OF DAMAGED STRUCTURAL STEEL

THE DAMAGED BEAMS SHALL BE REPAIRED IN ACCORDANCE WITH THE PROPOSAL NOTE PRIOR TO THE NEW DECK CONCRETE BEING PLACED.

INSPECTION OF EXISTING STRUCTURAL STEEL

THE ENGINEER WILL VISUALLY INSPECT ALL EXISTING BUTT-WELDED SPLICES AND/OR TOP FLANGE COVER PLATE FILLET WELDS TO ENSURE THE WELDS, PLATES AND BEAMS OR GIRDERS ARE FREE OF DEFECTS AND CRACKS. IF THE DECK SLAB HAUNCH FORMS IMMEDIATELY ADJACENT TO SUCH WELDS INTERFERE WITH THE ENGINEER'S INSPECTION THEY SHALL BE REMOVED OR NOT BE ERECTED UNTIL AFTER THE INSPECTION. THE INSPECTION SHALL NOT TAKE PLACE UNTIL AFTER THE TOP FLANGES ARE CLEANED AS SPECIFIED IN SS 842.08, BUT IT SHALL BE DONE BEFORE THE DECK SLAB REINFORCEMENT IS INSTALLED. THE COST ASSOCIATED WITH THIS INSPECTION SHALL BE INCLUDED WITH ITEM SS 844, HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE (DECK), AS PER PLAN FOR PAYMENT. ANY CRACKS FOUND SHOULD BE REPORTED TO THE OFFICE OF STRUCTURAL ENGINEERING, BRIDGE CONSTRUCTION SPECIALIST, ALONG WITH SPECIFIC INFORMATION ON LOCATION OF THE CRACKS, LENGTH, AND DEPTH SO AN EVALUATION AND REPAIR OR REPLACEMENT RECOMMENDATION CAN BE MADE.