

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	1-20-2023
AS-2-15	REVISED	1-20-2023
EXJ-4-87	REVISED	1-20-2023
GSD-1-19	REVISED	1-15-2021
SBR-1-20	REVISED	1-20-2023

**DESIGN SPECIFICATIONS**

THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

**OPERATIONAL IMPORTANCE**

A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL.

**DESIGN LOADING**

VEHICULAR LIVE LOAD: HL-93

FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/FT<sup>2</sup>

**DESIGN DATA**

CONCRETE CLASS QC2 WITH QC/QA - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 WITH QC/QA - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

**CONCRETE REINFORCEMENT:**

EPOXY COATED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI (DECK, APPROACH SLABS, ABUTMENTS, PIERS)

GFRP REINFORCEMENT (PARAPETS)

STRUCTURAL STEEL - ASTM A709 GRADE 50W - YIELD STRENGTH 50 KSI (GIRDER, CROSSFRAMES, BEARINGS)

STEEL H-PILES - ASTM A572 - YIELD STRENGTH 50 KSI

**MONOLITHIC WEARING SURFACE**

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

**PILES TO BEDROCK**

DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECEIVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 273 KIPS PER PILE FOR THE REAR ABUTMENT PILES.

**ABUTMENT PILES:**

REAR ABUTMENT - HP10X42 PILES, 55 FEET LONG, ORDER LENGTH

**PILE SPLICES**

IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN C&MS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION  
 8 WOOD HOLLOW RD. PLAZA 1  
 PARSIPPANY, NEW JERSEY 07054

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

**FOUNDATION BEARING RESISTANCE**

FORWARD ABUTMENT FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LIMIT STATE BEARING PRESSURE OF 5.7 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF 10.9 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 15.5 KIPS PER SQUARE FOOT.

**FOOTINGS**

PLACE FOOTINGS IN BEDROCK AT THE ELEVATION SHOWN.

**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 C&MS, SECTIONS 102.05, 105.02, AND 513.04. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

**DECK PLACEMENT DESIGN ASSUMPTIONS**

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.3 KIPS. A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103 INCHES.

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 INCHES.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65 INCHES.

**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. 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 DEPARTMENT WILL NOT PERMIT THE USE OF EXPLOSIVES OR HEADACHE BALLS. HOE-RAMS MAY BE USED AT THE EXISTING ABUTMENTS AFTER THE SUPERSTRUCTURE HAS BEEN REMOVED. DO NOT BEGIN WORK UNTIL THE ENGINEER ACCEPTS THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING CONCRETE REINFORCEMENT TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH CONCRETE REINFORCEMENT THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05.

**ASBESTOS NOTIFICATION**

A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST SURVEYED THE BRIDGE STRUCTURE SCHEDULED FOR DEMOLITION AND/OR REHABILITATION; THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE BRIDGE STRUCTURE.

ODOT SHALL PROVIDE A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO ONE OF THE ADDRESSES BELOW AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION.

ASBESTOS PROGRAM OHIO EPA, DAPC  
 P.O. BOX 1049  
 COLUMBUS, OH 43216-1049

OR

ASBESTOS PROGRAM OHIO EPA, DAPC  
 50 W. TOWN ST., SUITE 700  
 COLUMBUS, OH 43215

THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION. THE FORM SHALL INCLUDE: 1) THE CONTRACTOR'S NAME AND ADDRESS, 2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL AND 3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED. COPIES OF THE OEPA FORM AND BRIDGE INSPECTION REPORT ARE AVAILABLE FOR REVIEW AT THE ODOT DISTRICT 12 OFFICE, 5500 TRANSPORTATION BLVD., GARFIELD HEIGHTS, OHIO 44125.

BASIS FOR PAYMENT THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202 PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

**ITEM 503 - SHALE EXCAVATION, AS PER PLAN**

IN ADDITION TO THE REQUIREMENTS OF CMS 503, FILL THE PORTION OF THE EXCAVATION INTO ROCK OR SHALE THAT IS ABOVE THE FOOTING TOE WITH CLASS QC1 CONCRETE TO THE TOP OF THE EXPOSED ROCK SURFACE.

**ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN**

PRIOR TO THE SURFACE CLEANING SPECIFIED IN C&MS 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED STEEL REINFORCEMENT. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

A CAUSEWAY IS NOT ALLOWED.

BOATS AND/OR WORKERS MAY BE REQUIRED TO BE IN THE WATER. NO MACHINERY WILL BE ALLOWED IN THE WATER.

**511 - CLASS QC1 CONCRETE, MISC.: CLASS QC1 CONCRETE WITH QC/QA, FILL VOIDS AT PIERS**

DURING THE FIELD INSPECTION, VOIDS AROUND THE FOOTINGS WERE FOUND AT PIERS 2 AND 3. INCIDENTAL TO THIS ITEM, THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SEDIMENT, DEBRIS, AND LOOSE MATERIALS AT PIERS 2 AND 3 FOOTINGS TO THE SATISFACTION OF THE ENGINEER TO PERFORM THE WORK.

A CAUSEWAY IS NOT ALLOWED.

DEWATERING IS NOT ALLOWED.

BOATS AND/OR WORKERS MAY BE REQUIRED TO BE IN THE WATER. NO MACHINERY WILL BE ALLOWED IN THE WATER.

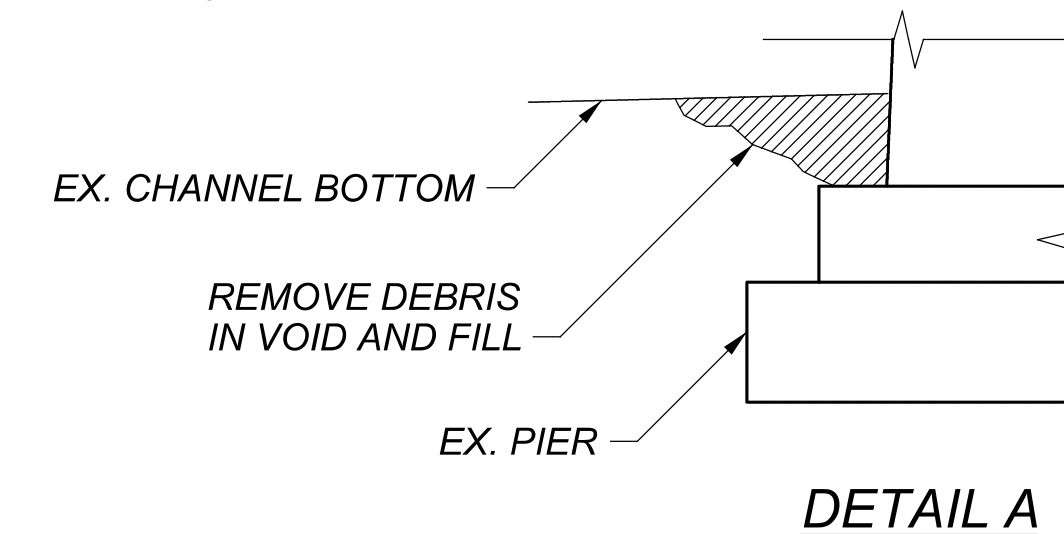
VOIDS TO BE FILLED WITH CLASS QC1 CONCRETE WITH QC/QA.

REQUIRED VOLUME OF CONCRETE IS UNKNOWN. AN ESTIMATED QUANTITY OF 62 CY IS PROVIDED.

FREE FALL CONCRETE PLACEMENT SHALL NOT BE USED.

PLACEMENT OF CONCRETE SHALL OCCUR AT LOW RIVER FLOWS. NOTICE SHALL BE PROVIDED BY THE CONTRACTOR TO THE ENGINEER 3 DAYS IN ADVANCE OF CONCRETE PLACEMENT. THE ENGINEER SHALL APPROVE THE FLOW OF THE RIVER IS LOW ENOUGH FOR PLACEMENT.

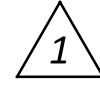
FILL VOIDS TO MATCH ADJACENT CHANNEL BOTTOM ELEVATIONS. REFER TO DETAIL A.



**601 - CHANNEL PROTECTION, MISC.: FILL VOIDS AT PIERS**

CONTRACTOR TO FURNISH, INSTALL, AND MAINTAIN FLOATING CONTAINMENT BOOMS AROUND PIERS WHILE VOIDS ARE BEING FILLED WITH CONCRETE.

100 FT. OF CONTAINMENT BOOM AT PIER 2.  
 125 FT. OF CONTAINMENT BOOM AT PIER 3.



REVISION	NUMBER	DATE	DESCRIPTION
	1	7/26/24	REVISED NOTE

GENERAL NOTES  
 BRIDGE NO. LAK-00006-04.610  
 U.S. 6 OVER CHAGRIN RIVER

SFN	4302044
DESIGNER	CARPENTER MARTY
CHECKER	JMV
REVIEWER	AMR
PROJECT ID	113000
SUBSET	3
TOTAL	37
SHEET	25
TOTAL	70