

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 INTERIMS, AND THE ODOT BRIDGE DESIGN MANUAL, JANUARY, 1995.

DESIGN DATA:

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

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

CONCRETE CLASS F - COMPRESSIVE STRENGTH 3000 PSI (BACKFILL)

REINFORCING STEEL - ASTM A615, A616, OR A617  
GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI

STRUCTURAL STEEL ASTM A588 - YIELD STRENGTH 50,000 PSI (U.N.O.)

REFERENCE SHALL BE MADE TO:

STANDARD DRAWINGS:

AS-1-81	REVISED	9-15-94
BR-2-98	DATED	12-29-98
BS-1-93	DATED	12-19-94
DBR-2-73	REVISED	9-15-94
DS-1-92	REVISED	12-15-94
ICD-1-82	REVISED	8-1-94

SUPPLEMENTAL SPECIFICATIONS:  
NO. 863 DATED 9-9-97

DIRECTOR/ENGINEER

ON THIS PROJECT, ALL REFERENCES TO "DIRECTOR" APPEARING IN THE ODOT CMS MANUAL SHALL BE SUBSTITUTED WITH "ENGINEER".

DECK PROTECTION METHOD

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

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.

INSTREAM WORK

INSTREAM WORK WILL BE LIMITED WHERE PRACTICABLE AND ONLY CLEAN NON-ERODIBLE MATERIAL WILL BE USED FOR FORDS OR COFFERDAMS. THIS TEMPORARY PLACED MATERIAL WILL BE REMOVED AND THE STREAM BOTTOM RESTORED TO NEAR NATURAL CONDITIONS WHEN THE WORK IS COMPLETED.

DEMOLITION DEBRIS

THE CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID AND/OR LIMIT DEMOLITION DEBRIS FROM ENTERING THE STREAM. ANY MATERIAL THAT DOES FALL INTO THE STREAM SHALL BE REMOVED AS SOON AS POSSIBLE.

ITEM 202 - STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

REMOVAL OF EXISTING STRUCTURE: WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC, THE EXISTING STRUCTURE SHALL BE REMOVED, AND THE EXISTING ABANDONED ABUTMENT AND TYPE A ROCK CHANNEL PROTECTION (GROUTED IN PLACE) SHALL BE PARTLY REMOVED AS DESCRIBED HEREIN:

1. THE CONCRETE DECK AND OTHER SUPERSTRUCTURE ELEMENTS SHALL BE REMOVED;
2. THE REAR (WEST) ABUTMENT SHALL BE REMOVED TO ELEVATION 654.0;
3. PIER 1 (WEST) WALL SHALL BE REMOVED TO ITS FOOTING LEVEL;
4. PIER 2 (EAST) WALL SHALL BE REMOVED TO ITS FOOTING LEVEL. REMOVE PORTIONS OF ITS FOOTING AS NEEDED FOR EXCAVATING THE PROPOSED PIER 2 FOOTING;
5. THE FORWARD (EAST) ABUTMENT BREASTWALL AND WINGWALLS SHALL BE REMOVED. ITS NORTH PEDESTAL SHALL BE REMOVED TO THE LEVEL OF THE PROPOSED FORWARD ABUTMENT'S FOOTING BOTTOM;
6. THE EXISTING ABANDONED ABUTMENT SHALL BE REMOVED TO ELEVATION 654.0. ITS SOUTH WINGWALL END SHALL BE REMOVED TO THE LEVEL OF THE PROPOSED REAR ABUTMENT'S FOOTING BOTTOM WITHIN THE LIMITS NECESSARY FOR EXCAVATING THE FOOTING.
7. THE EXISTING 3'-0"± TYPE A ROCK CHANNEL PROTECTION (GROUTED IN PLACE) SHALL BE REMOVED AT THE FOLLOWING LOCATIONS:  
  
-AT THE SOUTH END OF THE PROPOSED REAR ABUTMENT WITHIN THE FOOTING EXCAVATION LIMITS, THE POROUS BACKFILL LIMITS AND THE 6" PLASTIC DRAINAGE PIPE TRENCH.

-AT THE PROPOSED FORWARD ABUTMENT, WITHIN THE FOOTING EXCAVATION LIMITS AND THE TRIANGULAR AREA BETWEEN THE PROPOSED AND EXISTING ABUTMENT BREASTWALLS AND THE 6" PLASTIC DRAINAGE PIPE TRENCH.

BASED ON THE ABOVE REMOVAL LIMITS, THE ESTIMATED REINFORCED CONCRETE REMOVAL QUANTITIES ARE:

-DECK SLAB,	343 CU.YD.
-ABUTMENTS,	38 CU.YD.
-PIERS,	62 CU.YD.
-ABANDONED ABUTMENT,	38 CU.YD.

AND THE ESTIMATED GROUTED TYPE A ROCK CHANNEL PROTECTION REMOVAL IS 110 CU.YD.

THIS REMOVAL WORK (AND ANY ADDITIONAL NOT DESCRIBED) AND ALL EXCAVATION ASSOCIATED WITH IT SHALL BE PAID UNDER THE LUMP SUM PRICE BID FOR ITEM 202 - STRUCTURE REMOVED, OVER 20 FOOT LONG SPAN, AS PER PLAN.

EXISTING STRUCTURE VERIFICATION

QUANTITIES INDICATED IN THESE PLANS PERTAINING TO THE REMOVAL OF THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE.

THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02. 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.

PLANS OF THE EXISTING STRUCTURE ARE AVAILABLE FOR EXAMINATION AT: CT CONSULTANTS, INC., 35000 KAISER COURT, WILLOUGHBY, OHIO 44094.

EXISTING ROCK CHANNEL PROTECTION TO REMAIN

TYPE A ROCK CHANNEL PROTECTION, 3'-0" THICK, IS GROUTED IN PLACE AT BOTH EXISTING ABUTMENTS OF THE S.R. 615 BRIDGE. IT SHALL BE INCORPORATED INTO THE NEW WORK AS FOLLOWS:

- AT THE REAR (WEST) ABUTMENT, LEAVE THE EXISTING GROUTED ROCK IN PLACE. REMOVE ONLY GROUTED ROCK AT THE SOUTH END OF THE PROPOSED REAR ABUTMENT AS DESCRIBED IN THE ITEM 202 GENERAL NOTE. AFTER ABUTMENT CONSTRUCTION IS COMPLETE, REPAIR THE DISLOCATED AREAS USING ITEM 601. PLACE NEW GROUTED TYPE A ROCK CHANNEL PROTECTION ADJACENT TO THE EXISTING AT LOCATIONS SHOWN ON THE SITE PLAN.
- AT THE FORWARD (EAST) ABUTMENT, LEAVE THE EXISTING GROUTED ROCK IN PLACE. REMOVE ONLY GROUTED ROCK NEAR THE PROPOSED FORWARD ABUTMENT AS DESCRIBED IN THE ITEM 202 GENERAL NOTE. PLACE NEW GROUTED TYPE A ROCK CHANNEL PROTECTION ON TOP OF THE EXISTING AND ADJACENT TO IT AT LOCATIONS SHOWN ON THE SITE PLAN. FILTER FABRIC SHALL NOT BE PLACED UNDER NEW GROUTED ROCK PLACED ON EXISTING GROUTED ROCK.

DISPOSAL OF REMOVED MATERIAL

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

EXISTING TYPE A ROCK CHANNEL PROTECTION THAT IS REMOVED FROM AREAS DESCRIBED IN ITEM 202 GENERAL NOTE MAY BE PLACED AS BANK PROTECTION AS DIRECTED BY THE ENGINEER.

PILE DRIVING CONSTRAINTS

PRIOR TO DRIVING ABUTMENT PILES, THE EXISTING GROUTED ROCK CHANNEL PROTECTION SHALL BE REMOVED FROM THE AREAS DESCRIBED IN THE ITEM 202 GENERAL NOTE AND EXCAVATION COMPLETED FOR THE ABUTMENT FOOTINGS.

PILES DRIVEN TO BEDROCK

PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK. REFUSAL SHALL BE CONSIDERED AS OBTAINED BY PENETRATING SOFT BEDROCK FOR SEVERAL INCHES WITH A MINIMUM RESISTANCE OF 20 BLOWS PER INCH OR REFUSAL SHALL BE CONSIDERED AS OBTAINED AFTER THE PILE HAS CONTACTED HARD BEDROCK AND THE PILE HAS THEN RECEIVED AT LEAST 20 BLOWS.

THE ULTIMATE BEARING VALUE IS 80 TONS PER PILE FOR THE ABUTMENT PILES.

ABUTMENT PILES:

16 PILES 15 FEET LONG, ESTIMATED LENGTH AND ORDER LENGTH;  
8 SPLICES

STREAM CHANNEL EXCAVATION

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT ANY INCIDENTAL DISCHARGES ASSOCIATED WITH THE EXCAVATION AND HAULING OF MATERIAL FROM THE STREAM CHANNEL. THIS PERTAINS TO ANY EXCAVATION OPERATIONS SUCH AS, FOUNDATION PIER OR ABUTMENT EXCAVATION, CHANNEL CLEAN OUT, EXCAVATION FOR ROCK CHANNEL PROTECTION AND REMOVAL OF ANY TEMPORARY FILL ASSOCIATED WITH CONSTRUCTION OPERATIONS.

STRUCTURE EXCAVATION: NOT MADE AS PART OF 202, 518, 601 OR 503 - SHALE EXCAVATION, AND ALL NECESSARY BACKFILL, SHALL BE INCLUDED IN THE LUMP SUM BID ITEM "UNCLASSIFIED EXCAVATION, AS PER PLAN" FOR PAYMENT.

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CT Consultants, Inc.  
Engineers - Architects - Planners  
Surveyors - Interior - Exterior - Land - Water - Marine - Transportation

DATE	1/03/00
REVIEWED	J.E.A.
STRUCTURE FILE NUMBER	
DRAWN	R.L.B.
REVISION	R.L.B.
DESIGNED	J.P.R.
CHECKED	I.A.S.

GENERAL NOTES  
BRIDGE NO. LAK-615-0029  
OVER EAST BRANCH CHAGRIN RIVER

LAK-615-0.00

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