

FHWA REGION	STATE	PROJECT	
5	OHIO		

3
9

LAKE COUNTY
LAK-2-17.35

PLAN NO. BR-25-87

PROPOSED WORK

1. CONSTRUCT ADJACENT CONCRETE ABUTMENT WALL
2. INSTALL JOINT SEALS.
3. INSTALL PRESSURE RELIEF JOINTS.

DESIGN DATA

DESIGN LOADING: HS20-44 AND THE ALTERNATIVE MILITARY LOADING
DESIGN STRESSES: CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 P.S.I.
REINFORCING STEEL - ASTM A 615, A 616, A 617, GRADE 60;
MINIMUM YIELD STRENGTH 60,000 P.S.I.

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/OR 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 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 EXISTING STRUCTURES ARE AVAILABLE FOR EXAMINATION AT THE OHIO DEPARTMENT OF TRANSPORTATION; DISTRICT 12 OFFICE; 10100 BROADWAY AVENUE; GARFIELD HEIGHTS, OHIO.

DESIGN SPECIFICATIONS

THE REPAIR OF THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF HIGHWAY TRANSPORTATION OFFICIALS, THIRTEENTH EDITION, 1983, INCLUDING THE 1984 AND 1985 INTERIM SPECIFICATIONS AND THE OHIO SUPPLEMENT TO THESE SPECIFICATIONS.

STANDARD DRAWINGS

BP-5 DATED 1-11-85
TC-35.10 DATED 10-5-77
BP-11 DATED 1-3-84

SUPPLEMENTAL SPECIFICATION

853 DATED 6-26-78
956 DATED 6-26-78

RIGHT OF WAY

ALL WORK SHALL BE PERFORMED WITHIN THE EXISTING RIGHT-OF-WAY.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR PLAN ITEMS SET UP TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER.

UTILITIES

THE CONTRACTOR'S ATTENTION SHALL BE DIRECTED TO SECTION 105.06 OF THE CMS.

LIMITATION OF OPERATIONS

NO LANE CLOSURES SHALL BE IMPLEMENTED OR IN PLACE DURING THE NIGHTTIME HOUR. (8:00 P.M. TO 6:00 A.M.)

THE CONTRACTOR'S ATTENTION IS SPECIFICALLY DIRECTED TO SECTION 105.07 OF THE CMS.

CHECKING FOR LOCATION OF EXISTING REBAR

BEFORE ANY DOWELING IS DONE THE LOCATION OF ALL EXISTING REBARS IN THE AREA OF THE DOWEL HOLE SHALL BE LOCATED WITH THE AID OF A PACHOMETER. IT IS IMPORTANT THAT NO EXISTING BARS BE DAMAGED DURING THE DOWELING PROCESS. IF AN EXISTING BAR IS ENCOUNTERED AT THE SAME LOCATION AS A PROPOSED DOWEL HOLE THE DOWEL HOLE SHALL BE MOVED TO EITHER SIDE OF THE BAR SO AS NOT TO DAMAGE THE REBAR. THE COST FOR THE PACHOMETER TESTING SHALL BE INCLUDED WITHIN THE PAY ITEM OF THE DOWEL HOLES AND OVERHEAD DOWELS.

OPTIONAL CONSTRUCTION JOINT

AS SHOWN ON THE DETAIL ON PAGE 6 OF 9 A CONSTRUCTION JOINT, AT THE TOP OF THE ABUTMENT WALL, MAY BE USED IF THE CONTRACTOR FINDS IT NECESSARY TO SIMPLIFY THE CONCRETE PLACING PROCEDURE. IF THE CONTRACTOR FEELS A CONSTRUCTION JOINT IS NECESSARY THE DEPTH SHALL BE AT A LOCATION WHERE THE VERTICAL BARS (INCLUDING THE DOWELS INTO THE SLAB) SHALL BE INCLUDED IN BOTH PLACEMENTS. ALSO, AT LEAST ONE ROW OF HORIZONTAL BARS SHALL BE INCLUDED ABOVE THE CONSTRUCTION JOINT. ALL MATERIALS AND PROCEDURES SHALL BE ACCORDING TO THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED

THIS ITEM SHALL CONSIST OF BUT NOT LIMITED TO REMOVING ALL UNSOUND CONCRETE AT THE TOP OF THE EXISTING WEST ABUMENT, AS DIRECTED BY THE ENGINEER. CONCRETE MAY BE REMOVED BY CHIPPING OR HAND DRESSING. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 35 POUND CLASS. CARE SHALL BE USED IN WORKING NEAR REINFORCING STEEL SO AS NOT TO DAMAGE OR DEBOND THE STEEL, OR TO SHATTER THE CONCRETE AROUND IT.

ITEM 503, COFFERDAMS, CRIBS, AND SHEETING

THIS ITEM SHALL BE CONSISTENT WITH THE CONSTRUCTION AND MATERIAL SPECIFICATIONS MAKING SURE THAT THE FOOTER IS DEWATERED AND CLEANED, AS APPROVED BY THE ENGINEER, SO THAT THE DOWELING PROCEDURE SHALL BE COMPLETED ACCORDING TO THE SPECIFICATIONS.

ITEM 510 - DOWEL HOLES, AS PER PLAN

CELTITE'S PRE-PACKAGED POLYESTER RESIN ANCHOR BONDS SHALL BE USED IN ACCORDANCE TO THE THE MANUFACTURER'S SPECIFICATION. THE ADDRESS OF CELTITE INC. CAN BE FOUND IN THE NOTE ITEM SPECIAL-OVERHEAD DOWEL GROUTING SYSTEM. THE DOWEL HOLE DIAMETERS SHALL BE 1/8" LARGER THAN THE NOMINAL REBAR DIAMETER. APPROPRIATE SECTIONS OF SS-853 AND SS-956 SHALL HOLD TRUE.

ITEM 511, CLASS C CONCRETE, SUBSTRUCTURE, AS PER PLAN

1.0 DESCRIPTION

THIS WORK SHALL CONSIST OF FURNISHING THE NECESSARY LABOR, MATERIALS AND EQUIPMENT TO PLACE CONCRETE IN ACCORDANCE WITH THE SPECIFICATIONS, THE PLANS OR AS DIRECTED BY THE ENGINEER.

2.0 MATERIALS

THE MATERIALS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

FINE AGGREGATE (NATURAL SAND)	703.02
COURSE AGGREGATE (NO.8) (LIMESTONE OR SLAG)	703.02
PORTLAND CEMENT, TYPE I OR IA	704.04 OR 701.01
WATER	499.02
CHEMICAL ADMIXTURE	705.12, ASTM C 494, TYPE A OR D
AIR-ENTRAINING ADMIXTURE	705.10
SUPERPLASTICIZING ADMIXTURE (HIGH RANGE WATER REDUCER)	705.12, ASTM C 494 TYPE F

THE FOLLOWING PROPORTIONS ARE SHOWN FOR INFORMATION ONLY AND ARE BASED UPON A FINE AGGREGATE WITH 83 PERCENT PASSING THE NO. 8 SIEVE AND COARSE AGGREGATE WITH THREE PERCENT PASSING THE NO. 8 SIEVE.

QUANTITIES OF MATERIAL PER CUBIC YARD (DRY WEIGHTS*)

TYPE OF COARSE AGGREGATE	COURSE AGGREGATE (LBS.)	FINE AGGREGATE (LBS.)	CEMENT (LBS.)	MAXIMUM WATER-CEMENT RATION
LIMESTONE	1500	1450	600	0.40
SLAG	1300	1450	600	0.40

* THE SPECIFIC GRAVITIES USED FOR DETERMINING THE ABOVE WEIGHTS ARE: NATURAL SAND 2.62, LIMESTONE 2.65 AND SLAG 2.30.

THE BATCH WEIGHTS PREVIOUSLY DESCRIBED SHALL BE CORRECTED TO COMPENSATE FOR THE MOISTURE CONTAINED IN THE AGGREGATE AT THE TIME OF USE.

THE SPECIFIED CEMENT CONTENT SHALL BE MAINTAINED AND A MAXIMUM WATER-CEMENT RATIO OF 0.40 SHALL NOT BE EXCEEDED. ANY ADMIXTURE ADDED AT THE JOB SITE SHALL BE MIXED A MINIMUM OF 5 MINUTES. AFTER ALL COMPONENTS HAVE BEEN ADDED, THE SLUMP RANGE SHALL BE 6±2 INCHES. THE AIR CONTENT OF FRESH UNVIBRATED CONCRETE AT THE TIME OF PLACEMENT SHALL BE 8±2 PERCENT. TWO CYLINDERS SHALL BE MADE FOR EACH READY-MIXED CONCRETE TRUCK LOAD INCORPORATED INTO THE WORK.

3.0 EQUIPMENT

A. MIXERS
CONCRETE SHALL BE MIXED IN A CENTRAL MIXING PLANT OR BY A READY-MIXED CONCRETE TRUCK CAPABLE OF DISCHARGING CONCRETE HAVING A MAXIMUM WATER-CEMENT RATIO OF 0.40. MIXING EQUIPMENT SHALL MEET THE REQUIREMENTS OF 499.04(B). ADMIXTURES SHALL BE INTRODUCED INTO THE CONCRETE IN SUCH A MANNER THAT WILL DISPENSE IT THROUGHOUT THE ENTIRE LOAD. BATCH PLANTS SHALL MEET THE REQUIREMENTS OF 499.04(A) AND SHALL BE LOCATED SUCH THAT THE MAXIMUM TIME REQUIRED FROM START OF MIXING TO COMPLETION OF DISCHARGE OF THE CONCRETE AT THE SITE OF WORK SHALL NOT EXCEED 90 MINUTES.

4.0 PROPORTIONING AND MIXING

THE PROPORTIONING OF COARSE AND FINE AGGREGATES SHALL BE BASED UPON A MORTAR CONTENT OF 62 PERCENT WHERE ALL AGGREGATE PASSING A NO. 8 SIEVE IS CONSIDERED AS FINE AGGREGATE. THE CONTRACTOR WILL BE SUPPLIED DESIGN CHARTS AT THE PRE-CON TO DETERMINE THE BATCH WEIGHTS BASED UPON THE SIEVE ANALYSIS OF THE AGGREGATE USED.

IF A SLUMP LOSS OCCURS AFTER MIXING AND BEFORE PLACEMENT OF THE CONCRETE THE CHARGE MAY BE "RETEMPERED" WITH THE ADMIXTURE TO RESTORE PLASTICITY. THE SLUMP RANGE AND AIR CONTENT SHALL BE RECHECKED TO ENSURE CONFORMANCE TO THE ALLOWABLE VALUES. IF THE CONSISTENCY OF THE CHARGE AFTER "RETEMPERING" IS SUCH AS TO CAUSE SEGREGATION OF THE COMPONENTS, THIS WILL BE CAUSE FOR REJECTION ON THE LOAD.

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 12 BRIDGE DEPARTMENT

GENERAL NOTES
BRIDGE NO LAK-2-1735 L & R
S.R. 2 OVER RED CREEK

DESIGNED B.S.H.	TRACED K.S.D.	CHECKED D.W.Z.	REVIEWED J.W.M.	REVISED
DATE 6/87	DATE 6/87	DATE 6/87	DATE 6/87	SHEET 3/9