

GENERAL NOTES

CALC. BY: _____	LAK-90-8.77/29.20	OHIO	3 101
DATE _____		FHWA 5	
CHKD. BY: _____		REGION	
DATE _____			

ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN

THIS ITEM SHALL INCLUDE REMOVAL OF THE ASPHALT CONCRETE WEARING SURFACE AND WATERPROOFING FABRIC, IF PRESENT.

ITEM 509 - REINFORCING STEEL, GRADE 60, AS PER PLAN

THIS ITEM SHALL BE USED TO REPLACE REINFORCING STEEL WHICH IS BENT, ELONGATED, MISSING OR EXTREMELY CORRODED. BAR SHALL BE THE SAME SIZE AS ORIGINAL BARS AND SHALL BE PLACED AS NEAR AS POSSIBLE TO THEIR ORIGINAL LOCATION. BARS SHALL BE LAPPED ACCORDING TO SECTION 509.08. PAYMENT FOR THIS ITEM SHALL INCLUDE THE COST OF ALL MATERIALS AND LABOR NECESSARY TO COMPLETE THE ABOVE WORK, INCLUDING REMOVAL OF EXISTING STEEL. ANY EXISTING REINFORCING BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND WHICH ARE MADE UNUSABLE BY THE CONTRACTOR'S REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW STEEL AT HIS COST.

THE FOLLOWING ESTIMATED QUANTITY OF REINFORCING STEEL IS TO BE USED WHERE AND AS DIRECTED BY THE ENGINEER.

ITEM 509 - REINFORCING STEEL, GRADE 60, AS PER PLAN 10000 POUNDS

TYING REBARS

THE PURPOSE OF THIS NOTE IS TO TIE EXPOSED STEEL REINFORCING BARS WHICH ARE IN CROSS CONTACT OR LAPPED. TACK WELDING SHALL NOT BE PERMITTED. THIS WORK SHALL BE PERFORMED WHERE AND AS DETERMINED BY THE ENGINEER TO RESTRICT THE RELATIVE MOVEMENT OF THE REINFORCING BARS.

PAYMENT FOR THIS WORK INCLUDING EXTRA REMOVAL OF CONCRETE TO PERMIT TYING SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 845 - LATEX MODIFIED CONCRETE OVERLAY.

ITEM 510 - DOWEL HOLES, AS PER PLAN

IN LIEU OF THE REQUIREMENTS OF ITEM 510, SUPPLEMENTAL SPECIFICATIONS 853 AND 956 SHALL APPLY EXCEPT FOR MEASUREMENT AND PAYMENT WHICH SHALL CONFORM TO ITEM 510. THE FURNISHING AND PLACING OF STEEL FOR DOWELS IS INCLUDED WITH ITEM 509 REINFORCING STEEL.

ITEM 511 - CLASS C CONCRETE BACKWALL REPLACEMENTS, AS PER PLAN

THIS ITEM SHALL CONSIST OF FURNISHING AND PLACING PORTLAND CEMENT CONCRETE IN ACCORDANCE WITH 511 WITH THE FOLLOWING ADDITIONS:

ALL CONCRETE SURFACES THAT WILL BE IN CONTACT WITH CLASS C CONCRETE SHALL BE THOROUGHLY SANDBLASTED AND AIR CLEANED.

ITEM 516 - VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS, AS PER PLAN

THIS ITEM SHALL CONSIST OF INSTALLING THE STRUCTURAL EXPANSION JOINTS AS PER ITEM 516 OF THE CMS AND AS DETAILED ON SHEET 31/37

PAYMENT SHALL BE INCLUSIVE OF ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY TO COMPLETE THE WORK AND SHALL BE MADE AS FOLLOWS:

FOR STRUCTURES LAK-90-1370L&R, 1641L, 1641R (REAR ONLY), 2003L&R AND 2110L&R
ITEM 516-VERTICAL EXPANSION OF STRUCTURAL EXPANSION JOINTS, AS PER PLAN
(1"x1" BAR) & (7"x1" BAR)

FOR STRUCTURES LAK-90-1487L&R AND 1641R (FORWARD ONLY)
ITEM 516-VERTICAL EXPANSION OF STRUCTURAL EXPANSION JOINTS, AS PER PLAN
(2"x2" BAR) & (7"x1" BAR)

ITEM 518. POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN

POROUS BACKFILL SHALL BE GRAVEL AND ENCASED WITH FILTER FABRIC TO THE LIMITS SHOWN IN THE PLANS. THE FILTER FABRIC SHALL CONFORM TO ITEM 712.09, TYPE A AND SHALL BE INCLUDED WITH ITEM 518 - POROUS BACKFILL FOR PAYMENT.

ITEM 518 - PIPE CONDUCTOR, 8"Ø GALVANIZED STEEL PIPE 707.08, INCLUDING SPECIALS

THIS ITEM SHALL CONSIST OF INSTALLING THE NEW COLLECTOR PIPE SYSTEM, AS SHOWN IN THE PLANS. THE LEADER BOXES, BENDS, AND PIPE SUPPORTS ARE INCLUDED IN THIS ITEM. PAYMENT FOR THIS ITEM SHALL INCLUDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO COMPLETE THE WORK AS SHOWN ON THE PLANS.

ITEM 518 - 6" PERFORATED & NON-PERFORATED HELICAL CORRUGATED STEEL PIPE

THIS ITEM SHALL CONSIST OF DRILLING THROUGH THE WINGWALLS AND INSTALLING THE NEW FOOTING PIPE SYSTEM, ON LAK-90-2920, AS SHOWN IN THE PLANS. PAYMENT FOR THIS ITEM SHALL INCLUDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO COMPLETE THE WORK.

ITEM SPECIAL-CONCRETE BRIDGE DECK SURFACE PREPARATION USING HYDRODEMOLITION

In lieu of the requirements noted in SS845, the surface preparation and variable thickness removal shall be accomplished with the use of hydrodemolition equipment instead of conventional scarifying and hand chipping. Additionally, the entire top surface of the reinforced concrete bridge deck shall be completely removed to a depth of 1 1/4". This depth shall be the nominal measurement from the original grade to the top of the remaining mortar line. This removal shall be made with the use of hydrodemolition equipment as described below. The intent of this project is to perform removal of unsound concrete using hydrodemolition equipment. The Contractor may choose to use conventional scarifying equipment to make an initial pass across the deck to remove a portion of the total depth required. In any case, hydrodemolition equipment shall be used for the final pass. If conventional scarifying equipment is used for the first pass, it is imperative that reinforcing steel not be "snagged". If reinforcing steel is encountered, the conventional scarifying equipment shall be immediately removed from the deck, the damaged reinforcing steel repaired at the Contractor's expense and the remaining removal completed with hydrodemolition equipment.

The requirement to provide a minimum 3/4" clearance around all reinforcing bars that are more than 1/2 exposed is waived, providing that the concrete is sound and not fractured. Likewise, the bonding grout requirement is also waived. All other requirements of SS845 not specifically waived or modified by this plan note shall remain in effect.

THE EQUIPMENT SHALL BE A SELF-PROPELLED MACHINE THAT UTILIZES A HIGH PRESSURE WATER JET STREAM CAPABLE OF REMOVING CONCRETE TO THE DEPTH SPECIFIED HEREIN AND/OR AS SHOWN ON THE PLANS AND BE CAPABLE OF REMOVING RUST AND CONCRETE PARTICLES FROM REINFORCING STEEL. HAND HELD HIGH PRESSURE WANDS SHOULD BE USED IN AREAS THAT ARE INACCESSIBLE TO THE SELF-PROPELLED MACHINE OR IN PATCHING AREAS THAT REQUIRE MINOR "TRIM" WORK TO REMOVE THE REMAINING UNSOUND CONCRETE.

POSSIBLE SOURCES OF EQUIPMENT FOR THIS PURPOSE ARE:

- | | |
|--|---|
| 1. FIP
INTERNATIONAL MARKETING CORPORATION
DRAWER 147
SOMERDALE, NJ 08083
(609) 784-8811
(609) 783-6384 | 4. NLB Spin-Jet Concrete Buster
NLB Corp.
29830 Beck Road
Wixom, MI 48096
313-624-5555 |
| 2. Flow Systems
Flow International Corp.
1009 Etherton Drive
St. Louis, MO. 63126-1108
314-962-8855 | 5. Hy-Jet
Allied Hy Jet
5800 Harper Road
Solon, Ohio 44139
216-248-2600 |
| 3. Hydro-Tech, Inc.
1810 South Floyd St.
Louisville, KY 40217
502-637-5919 | 6. Jet Edge Construction, Inc.
825 Rhode Island Ave, South
Minneapolis, MN. 55426
612-545-1477 |

THE CONTRACTOR MAY CHOOSE TO USE OTHER MAKES OF EQUIPMENT PROVIDING THEY ARE MANUFACTURED SPECIFICALLY FOR CONCRETE REMOVAL.

SPECIAL CONDITIONS

WATER

STREAM OR LAKE WATER WILL NOT BE PERMITTED FOR USE IN THE HYDRODEMOLITION MACHINE. ALL WATER USED MUST BE POTABLE.

DRAINS

SCUPPER DRAINS THAT ARE WITHIN 100 FEET OF THE REMOVAL PROCESS SHALL BE PLUGGED OR SCREENED TEMPORARILY TO ASSURE THAT REMOVAL MATERIAL WILL NOT CLOG DRAINS.

SHIELD

THE CONTRACTOR IS RESPONSIBLE FOR SHIELDING THE HYDRODEMOLITION MACHINE AND HIGH PRESSURE WAND TO CONTROL FLYING DEBRIS FROM MAINTAINED TRAFFIC (BOTH ON THE BRIDGE AND BELOW).

RESOUNDING

AFTER THE HYDRODEMOLITION OPERATION HAS COMPLETED THE INITIAL PASS, AND THE DECK IS ALLOWED TO SURFACE DRY, THE DECK SHALL BE RESOUNDED TO ASSURE THAT ALL UNSOUND MATERIAL HAS BEEN REMOVED. THE FINAL SOUNDING SHALL BE DONE AFTER THE DECK IS DRY AND FROST FREE. ADDITIONAL REMOVAL WILL BE PERFORMED WITH THE HAND HELD WAND OR 15 LB. MAXIMUM JACKHAMMER.

CLEANING

CLEANING SHALL BE PERFORMED WITH A VACUUM SYSTEM CAPABLE OF REMOVING WET DEBRIS AND WATER ALL IN THE SAME PASS. THE DECK SHOULD THEN BE BLOWN DRY WITH AIR TO REMOVE EXCESS WATER.

ABRASIVE BLASTING

NOT MORE THAN 24 HOURS PRIOR TO PLACING THE OVERLAY, ALL EXPOSED STEEL SURFACES, INCLUDING RESTEEL AND STRUCTURAL STEEL, AND THE CURB FACES SHALL BE CLEANED AS PER 845.05.

MEASUREMENT AND PAYMENT

Concrete removal shall be paid for at the contract unit price bid per square yard which shall include payment for removal to a depth of 1 1/4" removal to any depth beyond 1 1/4" which occurs as part of the uniform 1 1/4" removal any additional removal to attain sound concrete and as required by this plan note and SS845. No full depth removal shall be included with this item. All parts of the operation including water, shielding, resounding, cleanup, abrasive blasting, jackhammer work, etc. necessary to prepare the surface for the overlay, in accordance with this plan note and SS845, shall be included in the price bid for item special, sq. yds, "Concrete Bridge Deck Surface Preparation Using Hydrodemolition."

ITEM 845, LATEX MODIFIED CONCRETE OVERLAY, VARIABLE THICKNESS, AS PER PLAN

LMC overlay variable thickness shall conform to SS845 except payment for this item shall be for the LMC concrete (material only), furnished to the job site in place. No separate payment shall be made for placement of the concrete or for any tools, labor, equipment or incidentals necessary for such placement, complete and in conformance with these plan notes and SS845. The intent of this item is to pay material costs only for all material above that used for item 845, Latex Modified Concrete Overlay (1 1/4" thick), As Per Plan, regardless of depth of removal incurred and including any material required for grade correction.

ITEM 845, LATEX MODIFIED CONCRETE OVERLAY, (1 1/4" thick), As Per Plan

- See Item Special-"Concrete Bridge Deck Surface Preparation using Hydrodemolition"
- The overlay shall be finished to the same grade as the original deck.
- LMC overlay (1 1/4" thick) shall be measured as per SS845. The price bid for this item shall include the cost of furnishing, placing, finishing, texturing and curing the 1 1/4-inch thick overlay. It also includes the cost of all other labor, material and equipment required to complete this work, but not specifically included in other items for payment.

ITEM SPECIAL-SOUNDING OF CONCRETE DECK BOTTOMS

This work shall consist of supplying the materials, labor and equipment necessary for sounding deck bottoms in order that the Engineer may outline the delaminated areas. After all all deck removal operations on the bridge are completed, the Contractor shall sound the entire deck bottom w/ hammers and the Engineer shall outline all unsound areas for epoxy injection. The footage for this item shall be the number of square foot of deck bottom that are satisfactorily sounded and accepted. The accepted quantities of deck bottom sounding will be paid for at the contract unit price per square foot which price & payment shall be full compensation for furnishing all material, labor & equipment necessary for Item Special-Sounding Concrete Deck Bottoms.

Revised 9/1/89