

BR-1-89

ITEM SPECIAL - PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR

A. DESCRIPTION: THIS ITEM CONSISTS OF THE REMOVAL OF ALL LOOSE AND DISINTEGRATED CONCRETE, PREPARATION OF THE SURFACE, AND THE MIXING, PLACING, FINISHING AND CURING OF THE PATCHES AS DIRECTED BY THE ENGINEER. THE WORK SHALL BE PERFORMED UPON THE FOLLOWING CONCRETE BRIDGE COMPONENTS IN ACCORDANCE WITH THESE SPECIFICATIONS, AND IN REASONABLY CLOSE CONFORMITY WITH THE PLANS AND THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS:

- 1) CURBS, SIDEWALKS, MEDIAN & PARAPETS (TOP & ROADWAY FACES ONLY)
- 2) PIER CAPS, COLUMNS & STEMS (DOWN TO THE GROUND OR WATER LINE)
- 3) ABUTMENTS

THE ABOVE COMPONENTS SHALL BE PATCHED ON BRIDGES AS SHOWN ON SHEET 5 OF 13.

B. MATERIALS: THE PATCHING MATERIAL SHALL BE SIKATOP 122 AND 123, THERMAL-CHEM PRODUCT NO. 304, POLYCARB MARK 193.4 AND 194, FIVE STAR HIGHWAY PATCH, UPCO BOSTICK 964, EUCLID CHEMICAL EUCCO VERTICOAT, MASTER BUILDERS SET VERTIPATCH OR DURALTOP AND DURALPATCH GEL. THE MATERIAL SHALL BE TINTED TO CURE TO THE COLOR OF THE EXISTING CONCRETE. ALL MATERIALS SHALL BE STORED AND INCORPORATED IN THE WORK AS RECOMMENDED BY THE MANUFACTURER. A MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT AT THE JOB SITE UNTIL SUCH A TIME AS HE AND THE ENGINEER ARE SURE THAT THE CONTRACTOR IS QUALIFIED IN ALL ASPECTS OF PATCHING CONCRETE STRUCTURES WITH THE SELECTED MATERIAL.

C. REMOVAL OF CONCRETE: THE ENGINEER SHALL SOUND THE STRUCTURE ACCORDING TO ITEM SPECIAL - SOUNDING OF CONCRETE BRIDGE COMPONENTS AND OUTLINE THE AREAS TO BE REMOVED. ALL LOOSE, SOFT, HONEY-COMBED, AND DISINTEGRATED CONCRETE, PLUS ONE-FORTH OF AN INCH DEPTH OF SOUND CONCRETE SHALL BE REMOVED. WHERE THE BOND BETWEEN THE CONCRETE AND A REINFORCING BAR HAS BEEN DESTROYED, OR WHERE MORE THAN ONE-HALF OF THE PERIPHERY OF SUCH A BAR HAS BEEN EXPOSED, THE ADJACENT CONCRETE SHALL BE REMOVED TO A DEPTH THAT WILL PROVIDE A MINIMUM ONE-HALF OF AN INCH CLEARANCE AROUND THE BAR EXCEPT WHERE OTHER REINFORCING BARS MAKE THIS IMPRACTICAL. AFTER COMPLETION OF THE SECONDARY REMOVAL OPERATION, THE ENGINEER WILL RE-SOUND THE AREAS TO ENSURE THAT ONLY SOLID CONCRETE REMAINS. ALL WORK SHALL BE DONE IN A MANNER THAT WILL NOT DAMAGE OR SHATTER THE CONCRETE THAT IS TO REMAIN, AND WILL NOT CUT, ELONGATE OR DAMAGE THE REINFORCING STEEL IN ANY WAY, CONCRETE MAY BE REMOVED BY CHIPPING OR HAND DRESSING. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 35-POUND CLASS. WHERE EXISTING REINFORCING BARS WOULD BE LESS THAN ONE INCH FROM THE PROPOSED FINISHED SURFACE OF CONCRETE, THEY SHALL, IF PRACTICAL, BE DRIVEN BACK INTO RECESSES CUT IN THE MASONRY TO OBTAIN THAT COVERAGE UNLESS OTHERWISE APPROVED BY THE ENGINEER.

D. SURFACE PREPARATION: CLEANING SHALL PRECEDE APPLICATION OF THE PATCHING MATERIAL BY NOT MORE THAN 24 HOURS. THE SURFACE TO BE PATCHED AND THE EXPOSED REINFORCING STEEL SHALL BE THOROUGHLY CLEANED BY BLASTING FOLLOWED BY AN AIR BLAST. IT MAY BE NECESSARY TO USE HAND TOOLS TO REMOVE SCALE FROM THE REINFORCING STEEL. THE SURFACE SHALL BE MADE FREE OF SPALLS, LAITANCE AND ALL TRACES OF FOREIGN MATERIAL. IF NECESSARY, DETERGENT CLEANING SHALL PRECEDE BLAST CLEANING TO ENSURE THE REMOVAL OF CONTAMINANTS THAT ARE DETRIMENTAL TO ACHIEVING AND ADEQUATE BOND. THE PREPARED SURFACE SHALL BE LEFT IN THE CONDITION AS RECOMMENDED BY THE MANUFACTURER. ANY ADDITIONAL SURFACE PREPARATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR THE PATCHING MATERIAL WHICH IS USED. ALL UNCHIPPED SURFACES THAT WILL RECEIVE NEW MATERIAL SHALL BE MECHANICALLY ROUGHENED.

E. PATCHING: THE MIXING, PROPORTIONING, PLACING AND CURING PROCEDURES AND TOOLS, EQUIPMENT, LABOR AND MATERIALS USED SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS. THE SURFACE OF THE REPAIR AREA SHALL BE FLUSH WITH THE SURROUNDING AREA.

F. CURING: PATCHES SHALL BE CURED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

G. METHOD OF MEASUREMENT: THE QUANTITY SHALL BE THE ACTUAL AREA IN SQUARE FEET OF THE EXPOSED SURFACE OF ALL COMPLETED PATCHES, IRRESPECTIVE OF DEPTH OR THICKNESS OF THE PATCH COMPLETE, IN PLACE AND ACCEPTED. IF THE PATCH INCLUDES CORNERS OR EDGES OF MEMBERS ALL OF THE EXPOSED SURFACES SHALL BE INCLUDED. SOUNDING OF THESE AREAS IS PAID FOR UNDER ITEM SPECIAL - SOUNDING OF CONCRETE BRIDGE COMPONENTS. THE COST OF ALL LABOR, EQUIPMENT, INCIDENTALS AND MATERIALS FOR PATCHING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

H. BASIS OF PAYMENT: PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
SPECIAL	SQ. FT.	PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR

ITEM SPECIAL - SEALING OF CONCRETE SURFACE (EPOXY)

AN EPOXY SHALL BE APPLIED TO THE FOLLOWING AREAS OF BRIDGES AS SHOWN ON SHEET 5 OF 13:

- 1) CURBS, SIDEWALKS, MEDIANS & PARAPETS
- 2) PIER CAPS, COLUMNS & STEMS (DOWN TO THE GROUND OR WATER LINE)
- 3) ABUTMENTS
- 4) DECK EDGES & UNDERSIDES TO THE FASCIA BEAMS.

SEE THE PROPOSAL FOR SURFACE PREPARATION REQUIREMENTS, APPLICATIONS RATES, MATERIAL REQUIREMENTS AND APPLICATION PROCEDURES.

ITEM SPECIAL - SURFACE PREPARATION FOR MORTAR OVERLAY

I. DESCRIPTION: THIS WORK SHALL CONSIST OF DECK SURFACE PREPARATION FOR MORTAR OVERLAY IN ACCORDANCE WITH THESE SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

II. DEBRIS REMOVAL: ROADWAY DIRT AND DEBRIS SHALL FIRST BE REMOVED FROM THE AREA OF THE DECK WHICH WILL RECEIVE THE MORTAR OVERLAY.

III. BLASTING: AFTER THE HMWM HAS CURED FOR 7 DAYS, WATER BLAST THE EXCESS SAND OFF THE SURFACE PRIOR TO AND WITHIN 24 HOURS OF THE MORTAR PLACEMENT.

THIS BLASTING SHALL REMOVE ALL OILS, DIRT, RUBBER, LAITANCES, DISCOLORED CONCRETE OR OTHER MATERIAL DETRIMENTAL TO PROPER BONDING AND CURING OF THE LMC MORTAR OVERLAY.

IV. CLEANING: IMMEDIATELY BEFORE APPLYING MORTAR, ALL PREPARED SURFACES SHALL BE CLEANED WITH COMPRESSED AIR TO REMOVE DUST AND DEBRIS THEREBY LEAVING A CLEAN, DRY BONDING SURFACE. THE AIR SUPPLY SHALL HAVE THE PROPER OIL FILTERS AND DRIERS TO PREVENT OIL CONTAMINATION OF THE CONCRETE.

V. METHOD OF MEASUREMENT: THE YARDAGE UNDER THIS ITEM WILL BE THE NUMBER OF SQUARE YARDS OF DECK SURFACE PREPARATION COMPLETED AND ACCEPTED.

VI. BASIS OF PAYMENT: THE ACCEPTED QUANTITIES OF SURFACE PREPARATION WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR FURNISHING ALL LABOR, EQUIPMENT AND MATERIALS TO REMOVE DEBRIS, BLAST AND CLEAN THE DECK.

PAYMENT WILL BE MADE UNDER:

ITEM	UNIT	DESCRIPTION
SPECIAL	SQUARE YARDS	SURFACE PREPARATION FOR MORTAR OVERLAY

ITEM SPECIAL - DRIP STRIP

AFTER THE CONCRETE SURFACES HAVE BEEN SEALED A BENT STRIP SHALL BE INSTALLED ALONG THE EDGES OF THE BRIDGE DECKS AS SHOWN ON SHEETS 8/13. THE DRIP-STRIPS SHALL BE EMBEDDED IN A 1/8" X 3" LAYER OF HYPALON SEALANT. THE STRIPS SHALL BE FASTENED AT 0' - 9" C/C MAXIMUM WITH NO. 10 GALVANIZED SCREWS AND EXPANSION ANCHORS, SUBJECT TO THE APPROVAL OF THE ENGINEER. THE STRIPS SHALL BE PLACED THE FULL LENGTH OF THE DECK ENDING AT THE FACE OF THE ABUTMENT WINGWALL, WHERE SPLICES ARE REQUIRED A 3-IN. (MIN.) LAP SHALL BE USED WITH A FASTENER THROUGH THE LAP. STEEL FOR GALVANIZED STRIPS SHALL BE 6" X 0.105" AND SHALL MEET THE REQUIREMENTS OF ASTM A568. GALVANIZING SHALL BE IN ACCORDANCE WITH 711.02. STAINLESS STEEL SHALL BE 14 GAUGE ASTM A167, TYPE 304, MILL FINISH. THE FINAL PAY QUANTITY SHALL BE THE ACTUAL OVERLAP LENGTH OF THE DRIP STRIP. ALL LAPS AND ADDITIONAL STRIPS AT POSTS SHALL NOT BE MEASURED FOR PAYMENT. PAYMENT SHALL BE AT THE CONTRACT PRICE BID FOR ITEM SPECIAL, LIN. FT., STEEL DRIP STRIP, WHICH SHALL INCLUDE ALL MATERIALS, LABOR, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE ITEM.

ITEM SPECIAL - BRIDGE TERMINAL ASSEMBLY REPAIR

WORK SHALL CONSIST OF REMOVING EXISTING BOLTS, PLACING NEW THROUGH BOLTS AND ALL OTHER INCIDENTALS NECESSARY TO COMPLETE THE BRIDGE TERMINAL ASSEMBLY REPAIR. THE BOLTS SHALL BE OF A307 MATERIAL AND SHALL BE ACCORDING TO STANDARD CONSTRUCTION DRAWING GR-3B 1-21-85. THE HOLES SHALL BE CORE DRILLED. PAYMENT SHALL BE MADE UNDER:

ITEM	UNIT	DESCRIPTION
SPECIAL	EACH	BRIDGE TERMINAL ASSEMBLY REPAIR

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 12 BRIDGE DEPARTMENT						3 / 13
GENERAL NOTES BR. NO. LAK-2/44/535-(1354ES)/(0385) (0561 L&R)(0620SW)/0039						
LAKE COUNTY			OHIO			
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BGW	BGW	BGW	EJA	DWL	1-7-89	