2. PASTE EPOXY CRACK SEALER

A. BONDER. AN EPOXY BONDER SHALL BE USED TO SEAL THE CRACKS AND PORTS DURING THE INJECTION PROCESS. A MAXIMUM OF 1/16 IN. THICK (1.59 MM) BY 1 IN. (25.4 MM) SHALL BE SUFFICIENT TO SEAL THE CRACKS FOR INJECTION. THE SEALING EPOXY NEED NOT BE REMOVED FROM THE CONCRETE.

B. COMPONENTS A AND B

1. COLOR (COMBINED) SIMILAR TO CONCRETE GREY

2. DENSITY @ 77℉ (25℃), LBS PER GAL.:

	RAPID CURE	NORMAL CURE
COMPONENT A (UNMIXED)	11.50 – 0.10	11.55 – 0.10
COMPONENT B (UNMIXED)	10.65 – 0.10	10.65 – 0.10
COMPONENTS (COMBINED)	11.35 – 0.10	11.15 – 0.10

C. MIX RATIO, PARTS BY WEIGHT:

	RAPID CURE	NORMAL CURE
COMPONENT A	80	75
COMPONENT B	20	25

D. SHELF LIFE, ORIGINAL UNOPENED SEALED CONTAINER @ 77℉ (25℃) 2 YEARS MIN.

III. PREPARATION: PORTS SHALL BE INSTALLED IN CLEAN HOLES WHICH ARE VACUUM OR WET DRILLED, 3 INCHES DEEP IN THE DECK BOTTOM SO THAT THE EPOXY WILL PENETRATE THE HOLLOW PLANE.
THE FIRST PORT SHALL BE LOCATED NEAR THE EDGE OF THE OUTLINED UNSOUND AREA. ADDITIONAL PORTS SHALL BE PLACED AT DISTANCES SLIGHTLY GREATER THAN THE DISTANCE FROM THE FIRST PORT TO THE VOID EDGE. PORT PLACEMENT MUST ENSURE THAT THE GROUT FACE REACHES THE EDGE OF THE VOID BEFORE REACHING THE NEXT PORT. PORTS AND VISIBLE CRACKS SHALL BE SEALED WITH BONDER TO PREVENT EMISSION OF INJECTION RESIN. THE BONDER SHALL CURE 24 HOURS PRIOR TO INJECTION OF EPOXY RESIN.

IV. INJECTION: THE RESIN SHALL BE INJECTED ONLY WHEN THE DECK IS DRY AND ITS TEMPERATURE IS ABOVE 50 DEGREES F. THE INJECTION RESIN SHALL BE AT 70℉ PRIOR TO MIXING THE COMPONENTS.

THE EPOXY INJECTION EQUIPMENT SHALL BE CAPABLE OF INJECTING THE MATERIAL INTO THE PORTS AT LOW PRESSURES OF 14 TO 20 PSI. THE INJECTION EQUIPMENT SHALL BE CAPABLE OF METERING, MIXING, INJECTING, AND MEASURING THE FLOW THE EPOXY RESIN ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.

THE INJECTION SHALL COMMENCE AT THE EDGE OF THE DELAMINATION AND CONTINUE UNTIL THE EPOXY RESIN APPEARS AT THE NEXT PORT. MOST INCOMPLETELY FILLED VOIDS ARE CAUSED BY THE OPERATOR STOPPING THE INJECTION PROCESS PREMATURELY; THEREFORE, A STEADY, LOW PRESSURE SHALL BE MAINTAINED ON THE EPOXY UNTIL A STEADY CLEAR FLOW APPEARS AT THE NEXT PORT. THEN THE INJECTION NOZZLE IS REMOVED, THE PORT CLOSED AND THE INJECTION CONTINUED FROM PORT TO PORT UNTIL THE VOID IS COMPLETELY FILLED. SINCE THE GROUT FACE IS MOVING UNDER VISCOUS FLOW CONDITIONS WHICH ARE GOVERNED BY FLUID SURFACE FRICTION, THE INJECTION PROCESS IS SLOW. REGARDLESS, INJECTION PRESSURE SHALL BE 20 PSI MAXIMUM SO THAT BOTTOM COVER CONCRETE IS NOT BLOWN OFF. PROGRESS OF THE EPOXY SHALL BE CHECKED WITH A TAPPING HAMMER.

V. TESTING THE INJECTED VOID: THE OUTLINED INJECTED VOID SHALL BE SOUNDED WITH A HAMMER BY THE ENGINEER. ANY REMAINING UNSOUND AREAS SHALL BE MEASURED, RECORDED AND DEDUCTED FROM THE FINAL PAY QUANTITY. ALL EQUIPMENT, LABOR AND MATERIALS REQUIRED BY THE ENGINEER TO ACCOMPLISH THIS WORK SHALL BE SUPPLIED BY THE CONTRACTOR.

VI. METHOD OF MEASUREMENT: THE FOOTAGE UNDER THIS ITEM SHALL BE THE NUMBER OF SQUARE FEET OF DELAMINATED DECK BOTTOM CONCRETE THAT ARE SATISFACTORILY LOW–PRESSURE EPOXY INJECTED AND ACCEPTED.

VII. BASIS OF PAYMENT: THE ACCEPTED QUANTITIES OF LOW–PRESSURE EPOXY INJECTED CONCRETE WILL BE PAID FOR AT THE CONTRACT UNIT BID PRICE PER SQUARE FOOT, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR FURNISHING AND PLACING ALL MATERIALS, SOUNDING THE INJECTED AREAS, SUPPLYING THE MANUFACTURER'S REPRESENTATIVE AND ALL OTHER MATERIAL, LABOR AND EQUIPMENT NECESSARY TO COMPLETE THIS WORK ACCORDING TO SPECIFICATIONS.
PAYMENT WILL BE MADE UNDER:

ITEM SPECIAL – LOW PRESSURE EPOXY INJECTING DELAMINATED CONCRETE.

STRUCTURAL STEEL CLEANING AND COATING

1. ALL EXISTING STRUCTURAL STEEL SHALL BE CLEANED AND COATED WITH PAINT, SYSTEM OZEU AS DESCRIBED IN THE PROPOSAL NOTE.

2. THE TOTAL AREA OF STRUCTURAL STEEL TO BE COATED IS APPROXIMATELY 93,000 SQUARE FEET.

ITEM SPECIAL – CONCRETE REPAIR BY EPOXY INJECTION

THIS WORK SHALL CONSIST OF EPOXY INJECTING THE CRACKS ON THE REAR ABUTMENT FACE AND BACKWALL AS SHOWN ON SHEET 9 / 21 . THIS WORK SHALL ALSO INCLUDE REPAIRING CRACKS ON THE WEST CONCRETE PARAPET BETWEEN PIERS # 3 AND #5 (APROX. 14 L.F.), ON THE EAST CONCRETE PARAPET BETWEEN PIERS #3 AND #4 (APPROX. 17 L.F.)., A CRACK ON THE FACE OF UNIT 8 OF RETAINING WALL #3 (APPROX. 25 L.F.), ANY OTHER CRACKS FOUND BY THE ENGINEER. THE VOID SHALL BE COMPLETELY FILLED BY EPOXY INJECTION AS NOTED IN THE PROPOSAL NOTE ENTITLED, "CONCRETE REPAIR BY EPOXY INJECTION". THIS ITEM OF WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR ITEM SPECIAL – CONCRETE REPAIR BY EPOXY INJECTION.
THIS PRICE SHALL BE PAYMENT IN FULL FOR ALL MATERIAL,EQUIPMENT AND LABOR NECESSARY TO COMPLETE THIS WORK.

ITEM 622 – TEMPORARY CONCRETE BARRIER, BRIDGE MOUNTED, AS PER PLAN

THE TEMPORARY PRECAST CONCRETE BARRIERS ON THESE BRIDGE DECKS DO NOT REQUIRE ATTACHMENT TO THE DECKS. THEREFORE THE REQUIREMENTS ON DRAWING MC–9A TO ANCHOR OR BRACE THE UNITS SHALL BE WAIVED.

PAYMENT FOR "ITEM 622 – TEMPORARY CONCRETE BARRIER, BRIDGE MOUNTED, AS PER PLAN IS CARRIED IN THE MAINTENANCE OF TRAFFIC QUANTITIES.

ITEM 518, POROUS BACKFILL, AS PER PLAN

POROUS BACKFILL SHALL BE 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.

COLPETZER–THOMAS, INC.
AN ENGINEERING GROUP
WILLOUGHBY • MENTOR • NORTH CANTON • STEUBENVILLE • LORAIN
4 / 21

GENERAL NOTES
LAK–615–0402
LAKE COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JPR	R.L.B.	R.L.B.	RJC	JEA 9-22-88	