SHEET NO.	TOTAL SHEETS
30	50

SUPERSTRUCTURE REPAIR PROCEDURES

1. Removal of existing surface: The existing bituminous and concrete surface shall be removed from E.W.S. to E.W.S. and shall be subsidiary to the bid item "Removal of Existing Structure". This material shall be disposed of on sites selected by the Contractor and approved by the Engineer.

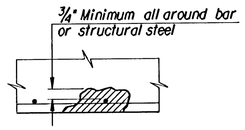
2. Concrete Repair Areas to be as shown on the elevations and sections or as directed by the Engineer.

3. "T" indicates normal thickness of concrete sidewalk or rail.

4. Saw cut (3/4" deep) for the entire area of repair. Remove to depth necessary to reach sound concrete and rust free reinforcing bars. If removal reaches more than 50% of "T" continue to full thickness. In full thickness areas Class AAA Concrete(AE) may be substituted for the specified patch material at no additional cost.

   For underside of deck repair, undercut sides of the repair area as shown in order to "lock" patch in place. Sides shall be sloped so repair size at top is greater than at bottom.

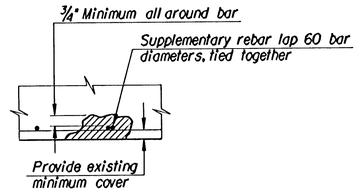
5. All scale and heavy rust shall be removed from all exposed reinforcing bars. Where the bond between existing concrete and reinforcing bar has been destroyed, or where more than half the member is exposed, 3/4" of concrete removal around the member is required.



6. For all types of repairs, new reinforcing bars shall be placed to supplement existing reinforcement when:

   Existing reinforcing bar has lost 25% or more of the original cross-sectional area.

   Existing reinforcing bar is broken.

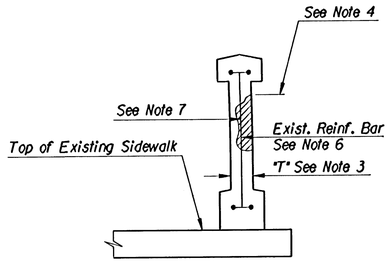


7. Apply an epoxy resin bonding agent to clean concrete surfaces to be repaired. The adhesive material shall be applied just prior to placement of the patching concrete in accordance with the manufacturers recommendations.

8. For all repair types, place Quick Setting Patch Material as per manufacturers specifications.

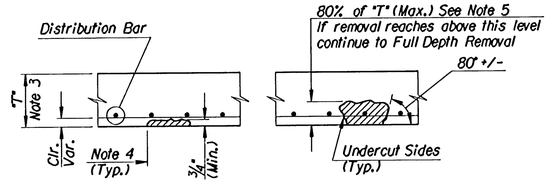
9. Quick setting patch material will be Sikatop 123 Plus or approved equal.

10. Pay items will be "Sidewalk Slab Repair(Underside)", "Bridge Rail Repair", "Diaphragm Repair" or "Concrete Beam Repair". No additional payment will be provided for additional reinforcing steel or full depth/width repairs as applicable.

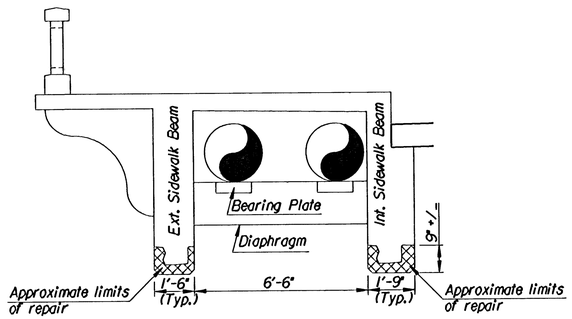


RAIL CONCRETE REPAIR DETAIL

Type A = Crack repair(Partial width)(Sikadur 35, Hi-Mod LV)
Type B = Crack repair (Full width)(Sikatop 123 Plus & Sikadur 35, Hi-Mod LV)



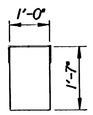
SIDEWALK DECK SLAB



SIDEWALK BEAM SECTION

(Floor beam and end beams)

"Concrete Beam Repair" includes the end beam repair as a linear foot quantity.



DIAPHRAGM SECTION

Diaphragm to be replaced utilizing all existing steel and Class AAA Concrete(AE). Salvage and reuse waterline bearing plates.

SUBSTRUCTURE REPAIR PROCEDURES

Notes for Type I Concrete Repair
(1" min. to 2" max. depth):

1. Concrete Repair Areas to be as shown on the elevations and sections or as directed by the Engineer.

2. Remove all unsound and deteriorated concrete. The edges of the area to be repaired shall be saw cut back sharp,perpendicular to the face of the concrete to at least 3/4" deep.

3. In areas where removal of the deteriorated concrete destroys the bond between the reinforcing bar and the concrete, or where more than half the diameter of the bar is exposed, 1" of concrete removal around the bar is required.

4. Clean to bright metal and epoxy coat all exposed reinforcing bars.

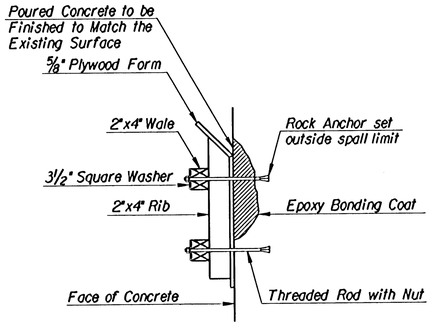
5. Clean concrete surfaces to be repaired and apply an epoxy resin bonding agent.

6. Apply Quick Setting patch material and finish to match existing concrete surfaces and architectural details.

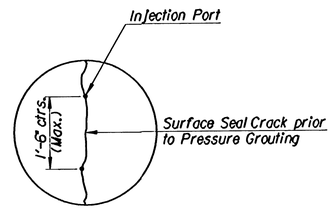
   Patch material shall be hand applied or formed in accordance with the Manufacturers recommendations.

   If cracks in substructure concrete are still present after removal of deteriorated concrete, they shall be pressure injected (See "Typical Crack Repair Detail").

7. Quick setting patch material will be Sikatop 123 Plus or approved equal.



SPALLED CONCRETE REPAIR DETAIL



TYPICAL CRACK REPAIR DETAIL

Note:
All cracks shall be repaired with an approved epoxy resin pressure grout as indicated on the Plans or as directed by the Engineer.
All deteriorated concrete in the vicinity of the crack shall be removed prior to repair.

Epoxy resin pressure grout shall be Sikadur 35, Hi-Mod LV or approved equal. Work shall be in accordance with the manufacturers recommendations.

No.	Revisions	By	Date
1			

CITY OF WICHITA, KANSAS
JAMES L. ARMOUR, P.E.-ACTING CITY ENGINEER
MURDOCK BRIDGE
OVER LITTLE ARKANSAS RIVER
CONCRETE REPAIR PROCEDURES
CITY OF WICHITA PROJECT NO. 472-83895

Professional Engineering Consultants, P.A.
303 S. TOPEKA • WICHITA, KANSAS 67202
316-262-2691 • FAX 316-262-3003

Designed by	R.A.S.	Checked by	R.A.S.	
Drawn by	W.L.L.	Date	March 2004	Job No. 96940-2

l:/1996/96940/002/officecheck/concrep
drawn by: wll
plotted by: ras 3-27-2004