

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

Notes:

Cross-hatched area indicates limits of existing damaged sheetpiling to be removed and repaired. Hand thermal cutting followed by grinding is allowed to remove the existing sheetpiling within the limits shown.

Hatched area indicates limits of existing concrete to be removed and replaced. The depth of concrete removal shall be increased as necessary to remove all loose and unsound concrete. Concrete removal shall be performed prior to ordering reinforcement and the length of the  $h_{10}(E)$  bars shall be increased as necessary to position the reinforcement bars as shown and accommodate any increased depth of concrete removal. Concrete removal and replacement in excess of the limits shown and any required additional reinforcement shall be subject to approval of the Engineer and be paid for according to Article 109.04 of the Standard Specifications.

The Contractor shall take sufficient precautions to prevent construction and demolition debris from falling into the river.

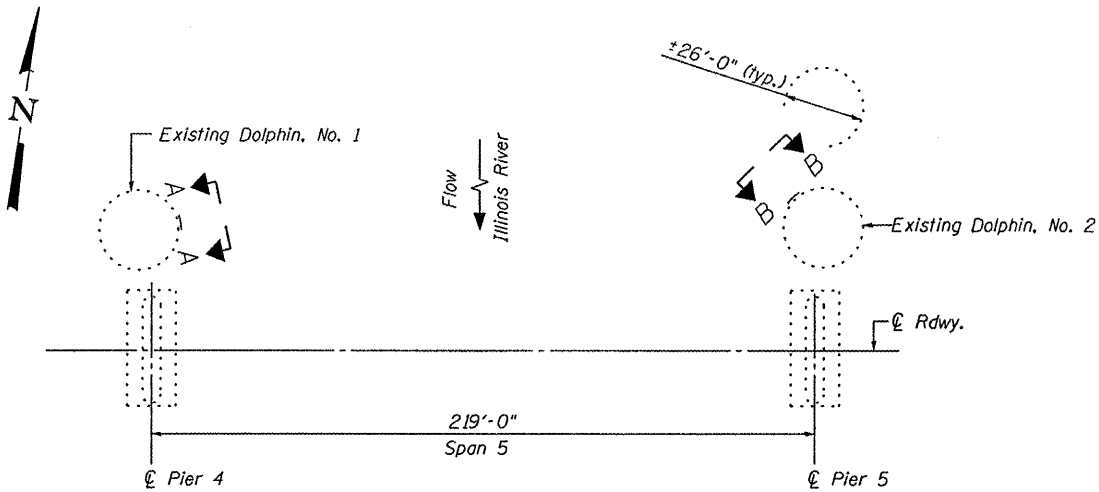
Self-Consolidating Concrete is allowed for the dolphin repairs. Notched openings shall be provided in the top of the curved structural steel plates as necessary to facilitate concrete placement. The concrete shall either be finished flush with the outer face of the steel plate or ground flush with the outer face of the steel plate after the concrete has hardened. Details and number of required notches shall be determined by the Contractor and shall be subject to approval of the Engineer. See special provisions for Self-Consolidating Concrete for Cast-In-Place Construction.

The proposed curved structural steel plates may be field welded to the existing steel sheetpiling or temporary construction accessories may be welded to both of the steel components to facilitate repair of the dolphins. All temporary construction accessories shall be removed after the repairs are complete and any remaining weld material ground smooth.

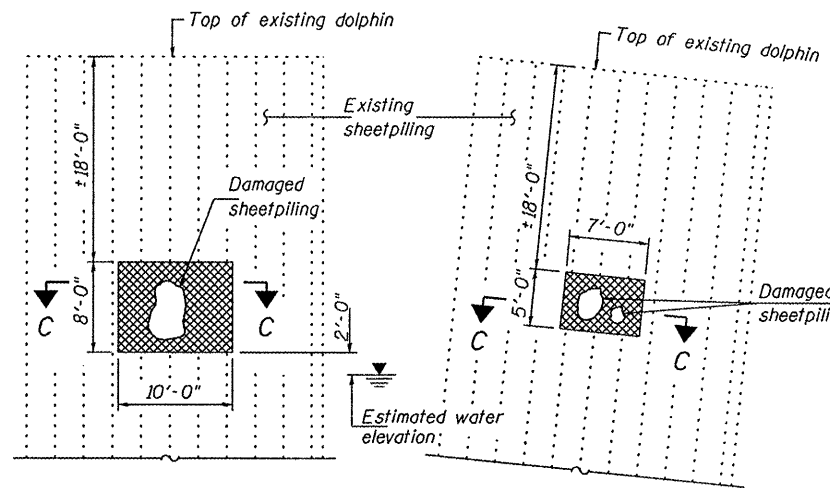
The Contractor shall seal the joints between the proposed steel plate and existing sheetpiling to prevent concrete leakage during concrete placement. Sealing method shall be subject to approval of the Engineer.

Structural steel plates shall conform to the requirements of AASHTO M 270, Grade 36. The estimated radius of the curved structural steel plates is 13'-0". The Contractor shall field verify the radius of the curved structural steel plates such that the outside surface of the plates can be positioned approximately flush with the outside surface of the webs of the existing sheetpiling. Painting or priming the curved structural steel plates is not required.

All work necessary to complete the repair of the dolphins shall be performed in accordance with Sections 501, 503, and 505 of the Standard Specifications, except as indicated on the plans, and be paid for at the unit price lump sum for Dolphin Repair at the location specified. This price shall include all material, labor, and equipment necessary to satisfactorily remove and dispose of existing steel sheetpiling and concrete and furnish and install all proposed steel plates, shear studs, reinforcement, and concrete as indicated in the plans.

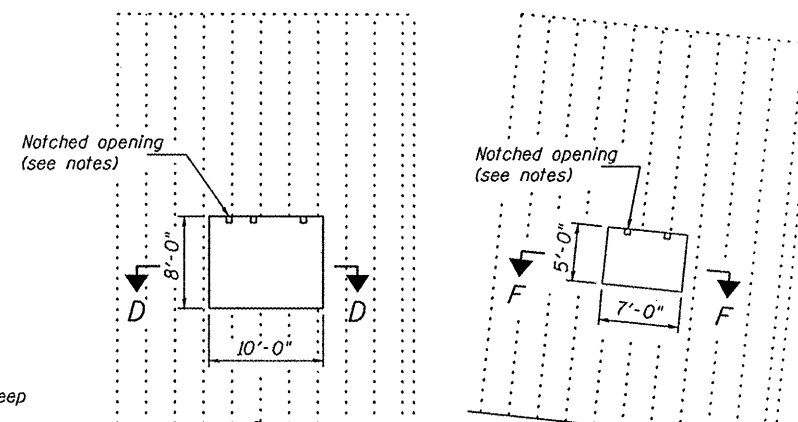


**PARTIAL PLAN**  
(Bridge omitted from view for clarity.)



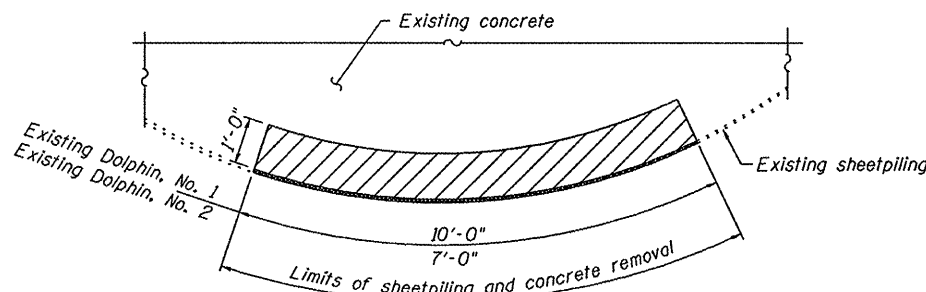
**SECTION A-A**  
(Showing removal details.)

**SECTION B-B**  
(Showing removal details.)



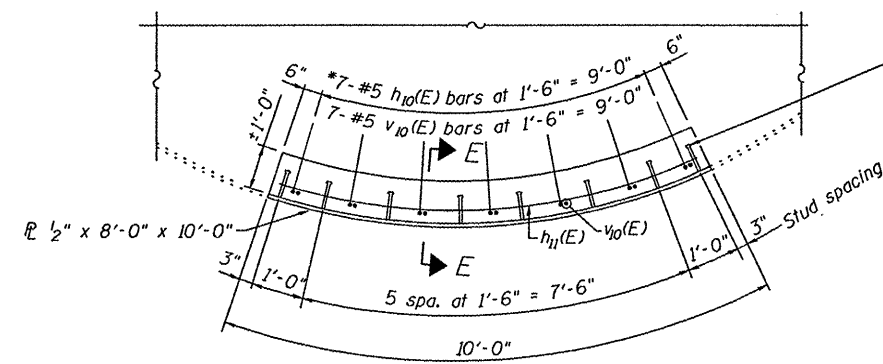
**SECTION A-A**  
(Showing repair details.)

**SECTION B-B**  
(Showing repair details.)



**SECTION C-C**

\* Epoxy grout  $h_{10}(E)$  bars in 9" min. deep drilled holes according to Section 584 of the Standard Specifications. Cost included with Dolphin Repair.

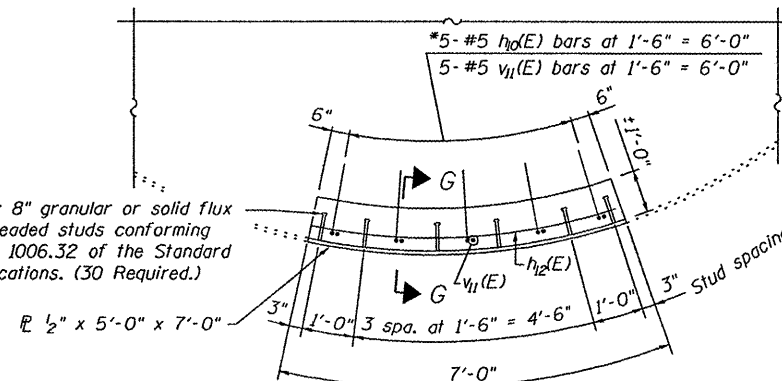


**SECTION D-D**

(All radial dimensions are provided along the 1/2" R.)

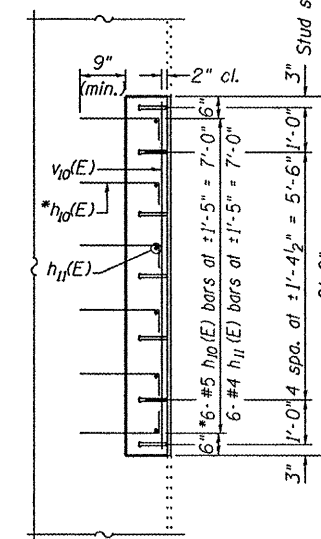
3/4"  $\phi$  x 8" granular or solid flux filled headed studs conforming to Art. 1006.32 of the Standard Specifications. (56 Required)

3/4"  $\phi$  x 8" granular or solid flux filled headed studs conforming to Art. 1006.32 of the Standard Specifications. (30 Required.)

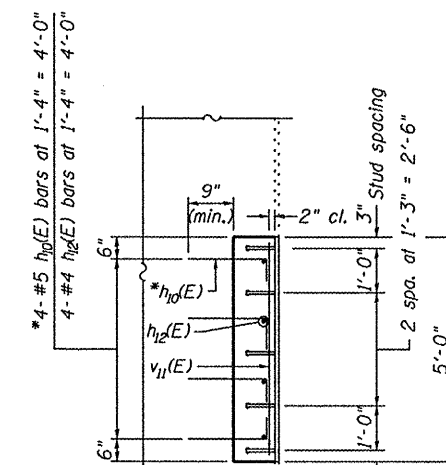


**SECTION F-F**

(All radial dimensions are provided along the 1/2" R.)



**SECTION E-E**

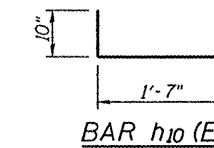


**SECTION G-G**

**BAR LIST**

Bar	No.	Size	Length	Shape
$h_{10}(E)$	62	#5	2'-5"	—
$h_{11}(E)$	6	#4	9'-8"	—
$h_{12}(E)$	4	#4	6'-8"	—
$v_{10}(E)$	7	#5	7'-8"	—
$v_{11}(E)$	5	#5	4'-8"	—

( $h_{11}(E)$  and  $h_{12}(E)$  bars shall be sprung into shape in the field.)



**DOLPHIN REPAIR DETAILS  
ILLINOIS ROUTES 100 & 106 OVER  
ILLINOIS RIVER  
PUBLIC WATERS**

DESIGNED - CEH
CHECKED - SDS
DRAWN - DLH
CHECKED - CEH, SDS

**WHKS & CO.**  
ENGINEERING  
7018 KINGSMILL CT.,  
SPRINGFIELD, IL  
(217) 483-9457  
DESIGN FIRM #184001036

SHEET NO. 12A	F.A.P. RTE. 757	SECTION 20BR-2	COUNTY SCOTT/PIKE	TOTAL SHEETS 30	SHEET NO. 17A
OF 25 SHEETS	SN 086-0001	CONTRACT NO. 72C39			
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					