

**EXISTING SUBSTRUCTURE CONCRETE REPAIR NOTES:**

1. THIS WORK SHALL INCLUDE THE REMOVAL AND DISPOSAL OF UNSOUND AND DELAMINATED CONCRETE FROM ALL ABUTMENTS AND PIERS AS DIRECTED BY THE ENGINEER. UNSOUND CONCRETE SHALL INCLUDE DETERIORATED, LOOSE, SPALLED, POPCORNEDED AND MAP CRACKED CONCRETE. THE PREPARED SURFACES SHALL BE THOROUGHLY SANDBLASTED TO REMOVE ALL LOOSE MATERIAL AND ANY CONTAMINANTS OR EFFLORESCENCE. THE REINFORCING STEEL (IF EXPOSED), SHALL BE SANDBLASTED. THE MATERIAL USED TO FILL A PATCH SHALL BE PLACED AND FINISHED OR FORMED SO THAT THE FINAL SURFACE WILL HAVE THE SAME SCORE MARKS AND EXTERIOR FACE APPEARANCE AS THE ORIGINAL SURFACE BEING REPAIRED. THE SURFACE SHALL BE THOROUGHLY WETTED PRIOR TO PLACEMENT OF PATCHING MATERIAL OR NEW CONCRETE. IMMEDIATELY PRIOR TO PLACEMENT, THE SURFACE SHALL BE COATED WITH NEAT CEMENT PASTE, MIXED TO THE CONSISTENCY OF THICK LATEX PAINT, AND THOROUGHLY BRUSHED INTO THE SURFACE. WHEN "OVERHEAD AND VERTICAL CONCRETE REPAIR MATERIAL" CONFORMING WITH SUPPLEMENTAL SPECIFICATION SECTION 780 IS USED, THE BONDING AGENT (IF ANY REQUIRED) AND ITS APPLICATION PROCEDURE SHALL COMPLY WITH THE REQUIREMENTS OF THE PATCHING MATERIAL MANUFACTURER. PAYMENT FOR BONDING AGENT SHALL BE INCLUDED IN THE APPLICABLE SUBSTRUCTURE REPAIR ITEM.

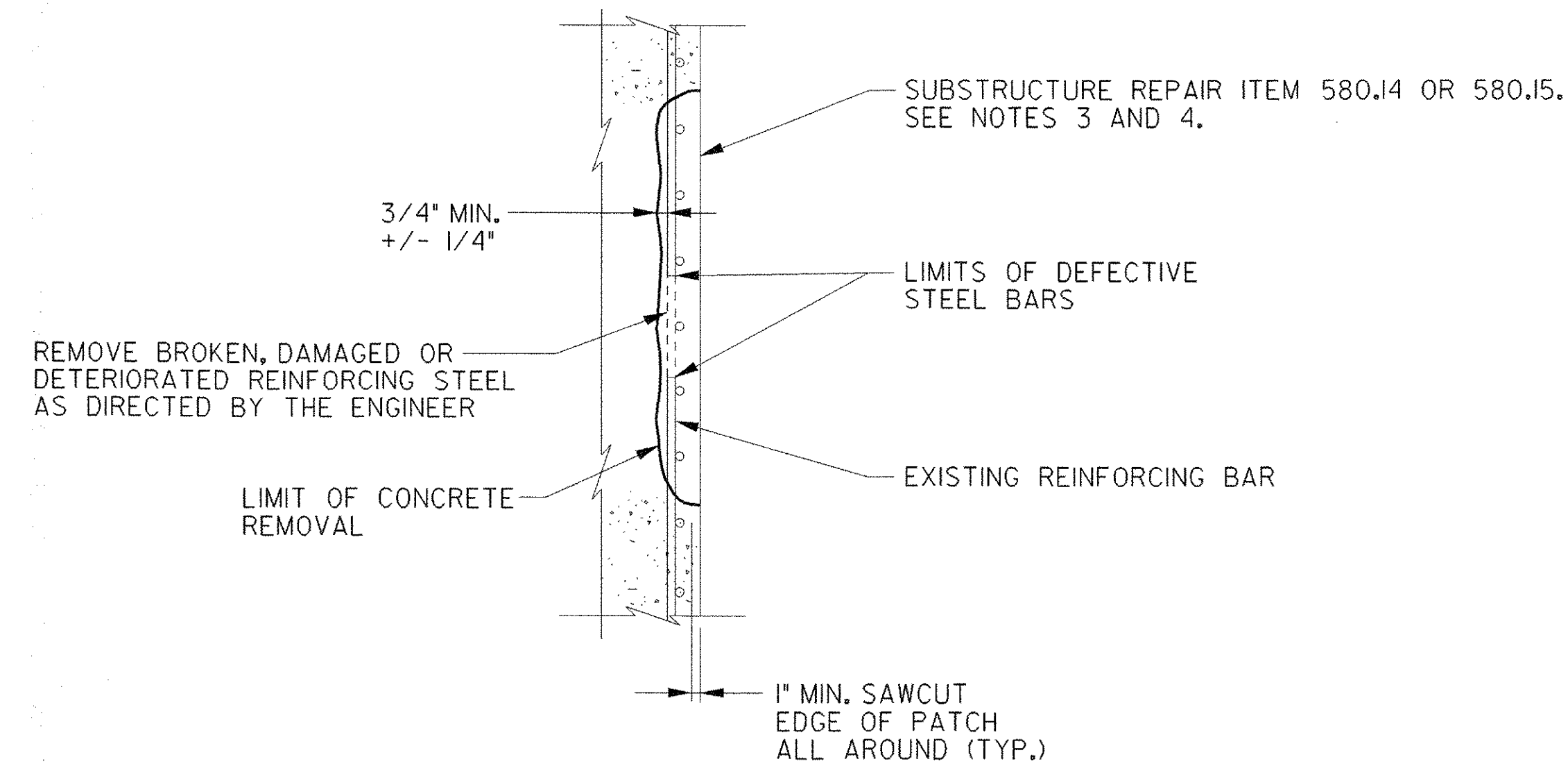
2. THE LIMITS FOR REMOVAL OF CONCRETE UNDER THE ITEM 580.J3 "REPAIR OF CONCRETE SUBSTRUCTURE SURFACE CLASS I" SHALL BE FROM THE EXISTING CONCRETE SURFACE TO A MAXIMUM DEPTH OF THE OUTSIDE FACE OF THE REINFORCING STEEL. ALL WORK AND MATERIALS NECESSARY FOR PREPARING A PATCH AND FILLING IT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 580.J3, "REPAIR OF CONCRETE SUBSTRUCTURE SURFACE CLASS I". THE FILLING MATERIAL SHALL BE "OVERHEAD AND VERTICAL CONCRETE REPAIR MATERIAL" CONFORMING WITH SUPPLEMENTAL SPECIFICATION SECTION 780. THE EDGES OF ALL PATCHES SHALL BE SAW CUT IN STRAIGHT LINES TO A MINIMUM DEPTH OF INCH. IF MORE THAN 1/4 OF THE REBAR IS EXPOSED, OR THE BOND BETWEEN THE REBAR AND THE CONCRETE IS BROKEN, THEN PROCEED TO ITEM 580.J4, "REPAIR OF CONCRETE SUBSTRUCTURE SURFACE CLASS II".

3. THE LIMITS FOR REMOVAL OF CONCRETE UNDER THE ITEM 580.J4, "REPAIR OF CONCRETE SUBSTRUCTURE SURFACE CLASS II" SHALL BE FROM THE EXISTING CONCRETE SURFACE TO A MINIMUM DEPTH OF 3/4" +/- 1/4" INSIDE THE INSIDE FACE OF REINFORCING STEEL AND TO A MAXIMUM DEPTH OF 6" FROM THE EXISTING CONCRETE SURFACE. ALL WORK AND MATERIALS NECESSARY FOR PREPARING A PATCH AND FILLING IT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 580.J4, "REPAIR OF CONCRETE SUBSTRUCTURE SURFACE CLASS II". THE FILLING MATERIAL WILL CONFORM WITH SUPPLEMENTAL SPECIFICATION SECTION 780, "CONCRETE CLASS AA", CLASS A, OR AN ACCEPTABLE PNEUMATICALLY APPLIED CONCRETE. THE EDGES OF ALL PATCHES SHALL BE SAW CUT IN STRAIGHT LINES TO A MINIMUM DEPTH OF INCH.

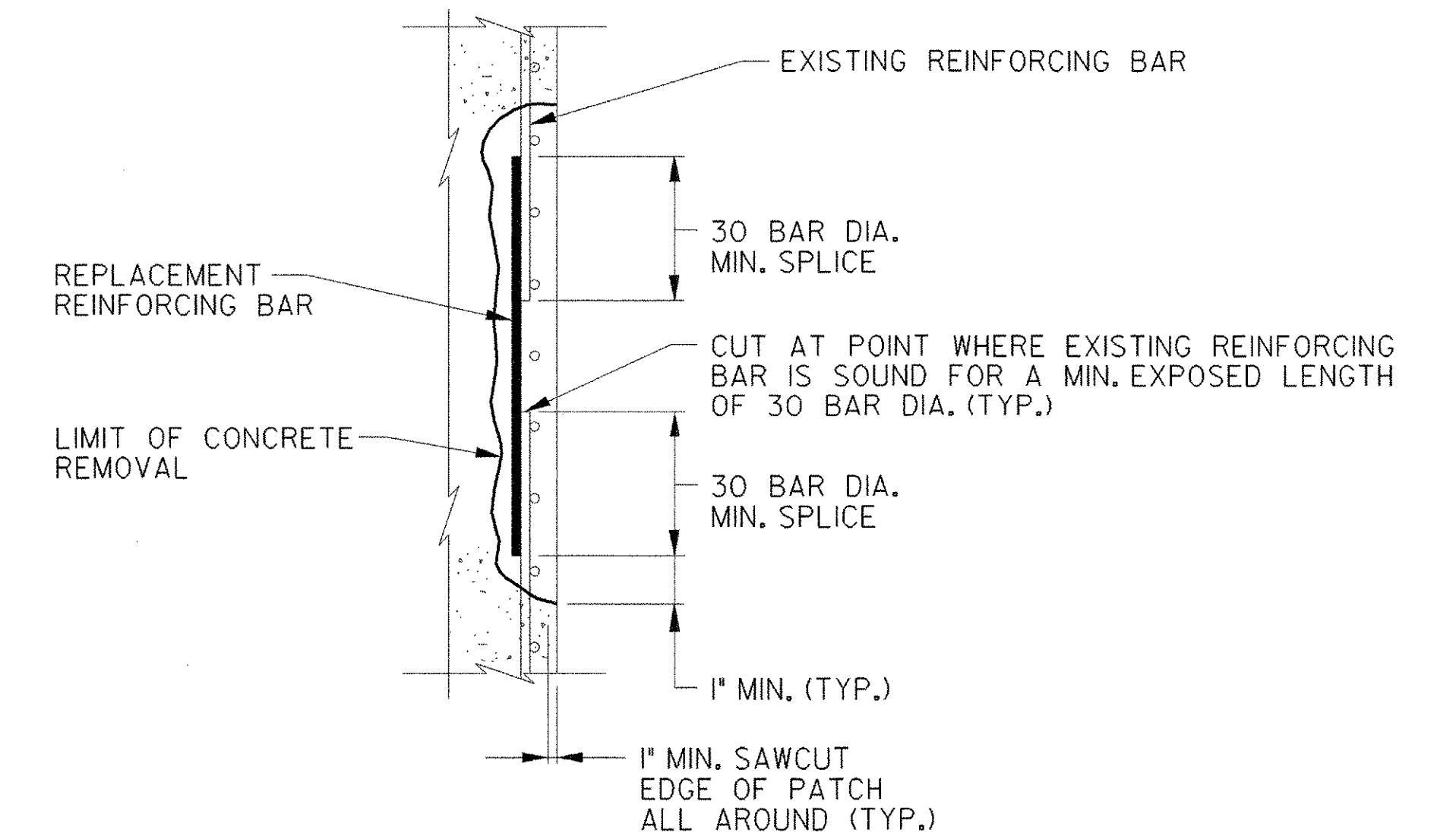
4. THE LIMITS FOR REMOVAL OF CONCRETE UNDER THE ITEM 580.J5, "REPAIR OF CONCRETE SUBSTRUCTURE SURFACE CLASS III" SHALL BE FROM THE EXISTING CONCRETE SURFACE TO A DEPTH OF GREATER THAN 6". ALL WORK AND MATERIALS NECESSARY FOR PREPARING A PATCH AND FILLING IT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 580.J5, "REPAIR OF CONCRETE SUBSTRUCTURE SURFACE CLASS III". THE FILLING MATERIAL MAY BE "CONCRETE CLASS AA", CLASS A, CLASS B OR AN ACCEPTABLE PNEUMATICALLY APPLIED CONCRETE. THE EDGES OF ALL PATCHES SHALL BE SAW CUT IN STRAIGHT LINES TO A MINIMUM DEPTH OF INCH.

5. IF PNEUMATICALLY APPLIED CONCRETE IS SELECTED FOR REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II OR III, THEN THIS TYPE OF CONCRETE REPAIR SHALL BE CONFINED ONLY TO VERTICAL AND OVERHEAD SURFACES OF THE SUBSTRUCTURE. ALSO, THE BRIDGE BEARINGS AND GIRDERS SHOULD BE COMPLETELY PROTECTED FROM REBOUND MATERIAL DURING PNEUMATICALLY APPLIED CONCRETE APPLICATION PROCEDURES.

6. THE ENGINEER SHALL ORDER REPLACEMENT OF ANY EXISTING SUBSTRUCTURE REINFORCING STEEL THAT IS DETERIORATED (WITH MORE THAN 25% SECTION LOSS) WITH NEW REINFORCING STEEL OF THE SAME SIZE. ALL REINFORCING STEEL SHALL HAVE AN APPROPRIATE LAP SPLICE. THE REPLACEMENT REINFORCING STEEL AND ASSOCIATED WORK SHALL BE CONSIDERED INCIDENTAL TO THE PRICE BID FOR THE APPLICABLE REPAIR CATEGORY.



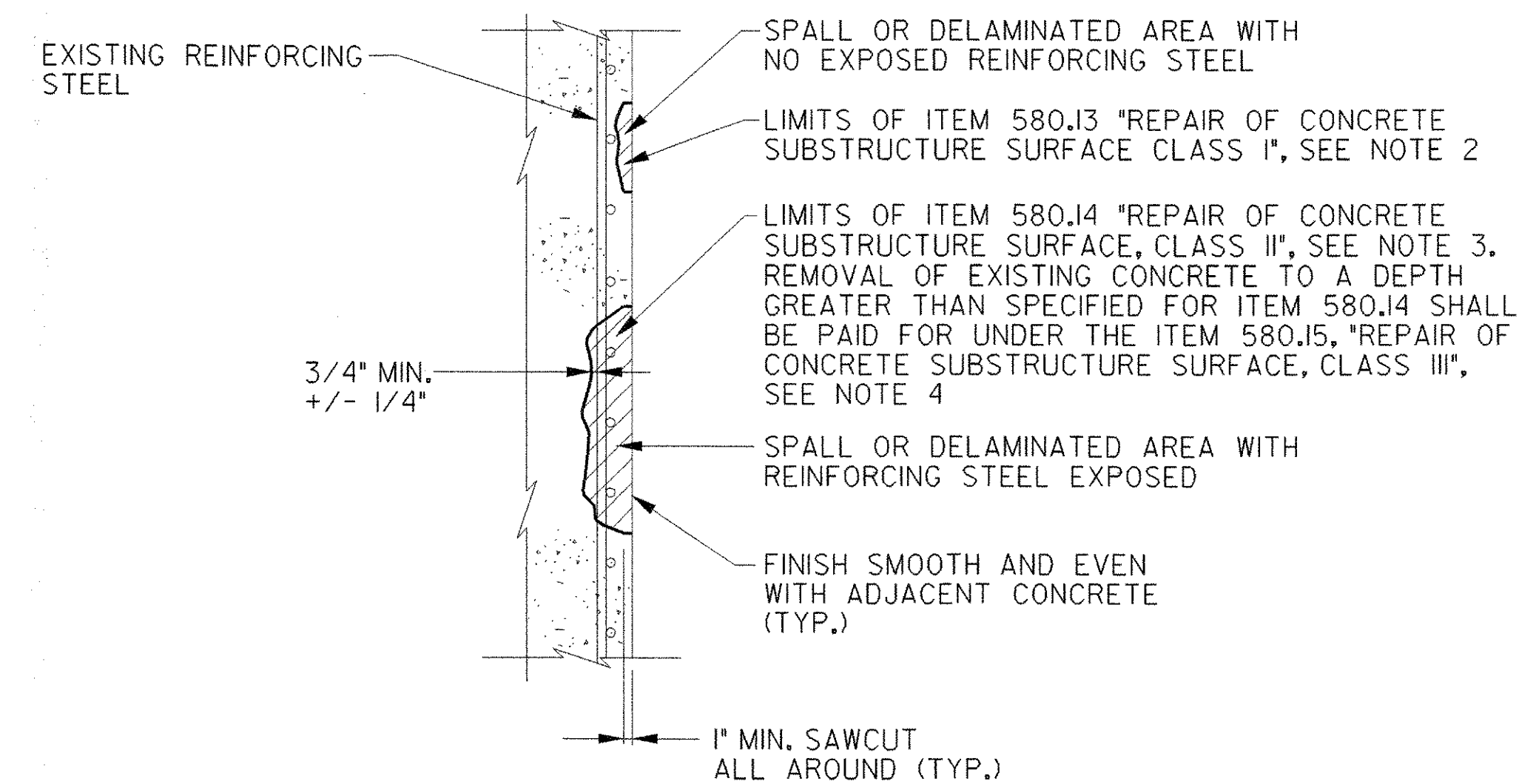
**SECTION OF CONCRETE REMOVAL AREA  
SHOWING EXISTING DEFECTIVE REINFORCING STEEL**



**SECTION SHOWING REPAIR OF DEFECTIVE STEEL BARS**

**REPAIR OF DEFECTIVE REINFORCING STEEL DETAILS**

N.T.S.



**CONCRETE SUBSTRUCTURE REPAIR DETAIL**

NTS

<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>			
Town Of	CAMBRIDGE	Bridge No. 20	
Highway No.	VT 15	Log Sta. Surv. Sta.	
<b>VT 15 OVER LAMOILLE RIVER</b>			
<b>SUBSTRUCTURE CONCRETE REPAIR DETAILS</b>			
Designed By	K. HINSCH	Drawn By	G. HRICKO
Checked By	R. SACCHI	Bridge Design Supervisor	R. R. WHITCOMB
PROJECT	CAMBRIDGE	PROJECT NO.	BHF 030-2(19)S
I.G.C. Info.			zb308sr.ldgn
Bridge Sheet No.			Sheet 51 of 68