

ESTIMATED QUANTITIES

FHWA REGION	STATE	PROJECT	2
5	OHIO		5

MAR-4-11.71

*50% Federal Participation

Type Code - X181

ITEM	DESCRIPTION	UNIT	TOTAL
202	Portions of Structure Removed	Cu. Yds.	94
404	Asphalt Concrete, AC-20	Cu. Yds.	4
407	Tack Coat	Gals.	16
503	Cofferdams, Crib and Sheeting, as per plan		Lump
509	Welded Steel Wire Fabric (709.10)	Lbs.	2060
510	Dowel Holes	Each	256
511	Class S Concrete	Cu. Yds.	14
516	Structural Expansion Joints including Elastomeric Strip Seal	Lin. Ft.	172
* 519	Patching Concrete Structures	Sq. Ft.	350
824	Epoxy Coated Reinforcing Steel	Lbs.	9869
845	Latex Modified Concrete Overlay (1 1/4" thick)	Sq. Yds.	1885
845	Latex Modified Concrete Overlay (variable thickness)	Cu. Yds.	66
614	Temporary Lane Lines, Class II	Mile	0.16
850	Superplasticized Dense Concrete Overlay (5 1/2" thick) AS PER PLAN	Sq. Yds.	622
SPECIAL	Preplaced Aggregate Concrete (See proposal note)	Sq. Ft.	870
SPECIAL	Sealing of Concrete Surfaces (See proposal note)	Sq. Yds.	1860
614	Maintaining Traffic		Lump
624	Mobilization		Lump

ITEM 519-Patching Concrete Structures

Work under this item shall consist of patching disintegrated portions of the abutment, pier, and parapet surfaces in accordance with the plans. Locations and limits of patching shall be at the direction of the Engineer.

ITEM 614 - Maintaining Traffic

Two weeks prior to the beginning of work, the Contractor shall contact the City Engineer of Marion so that the City may set up the detour. The contractor shall cooperate with City of Marion at all times while detour is in effect. The contractor shall place barricades at both ends of the bridge.

PERMANENT PAVEMENT MARKINGS

Permanent pavement markings shall be installed by the City of Marion. The City Engineer shall be notified at least 5 working days prior to opening the road to allow for scheduling of the pavement marking installation. A quantity of 0.16 miles of Temporary Lane Lines, Class II is carried to the General Summary to be used as directed by the Engineer. The road shall not be opened to traffic without either the permanent or temporary pavement markings in place.

ITEM 850 - Superplasticied Dense Concrete Overlay (5 1/2" thick) As Per Plan

Scarifying will not be required in this Item.

GENERAL NOTES

ITEM 202-Portions of Structure Removed

This item shall include all labor and equipment required to remove existing concrete at expansion joints and from the composite deck slab in Section 2.

ITEM 503-Cofferdams, Crib and Sheeting

This item shall include necessary shoring and/or bracing of the existing structure before pier and expansion joint removal and repair is to take place. For further information refer to Item 503 of the C.M.S.

ITEM 516-Structural Expansion Joints including Elastomeric Strip Seal

This item shall include the cost of furnishing an Elastomeric Strip Seal at each exp. joint in accordance with the plans and at the direction of the Manufacturers representative. All materials, labor, equipment and incidentals required to complete this work, except that which is specifically included under separate item, shall be included with this item for payment. The seal shall be furnished and installed without a field splice after all resurfacing and repair operations are complete. The end dam armor steel shall be fabricated in two pieces for each end dam, but the strip seal shall be furnished in one piece. Butt joints shall be furnished in end dam, see Std. Dwg. SD-1-69. Expansion joint steel, except surfaces in direct contact with deck and backwall concrete, shall be painted in accordance with Item 514 of the C.M.S., and the cost shall be included with this item for payment.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS DISTRICT 6 BRIDGE DEPARTMENT						
ESTIMATED QUANTITIES & GENERAL NOTES						
BRIDGE NO. MAR-4-1171 OVER CONRAIL RAILROAD						
DESIGN	DRAWN	TRACE	CHECK	REVIEW	DATE	REVISE
3 a 2	3 a 2	3 a 2		EM	11-4-85	12-10-86 10-27-86

MAR-4-11.71

614 WORK ZONE PAVEMENT MARKINGS

GENERAL

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND WHEN NECESSARY, REMOVE WORK ZONE RETROREFLECTIVE PAVEMENT MARKINGS ON EXISTING, RECONSTRUCTED, RESURFACED OR TEMPORARY ROADS WITHIN THE WORK LIMITS, IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

THE MARKINGS SHALL BE EVALUATED BY THE ENGINEER IN ACCORDANCE WITH THE THREE PERFORMANCE PARAMETERS CONTAINED IN SUPPLEMENT 1047. THE MARKINGS SHALL BE REPAIRED OR REPLACED WHEN THE NUMERICAL RATING OF A PARAMETER IS (a) SIX OR LOWER FOR DURABILITY, (b) FOUR OR LOWER FOR VISUAL EFFECTIVENESS AND (c) FOUR OR LOWER FOR NIGHT VISIBILITY. THE CONTRACTOR SHALL REPAIR OR REPLACE UNSATISFACTORY MARKINGS IMMEDIATELY AND AT NO ADDITIONAL COST TO THE STATE.

THE CONTRACTOR SHALL, IN ADVANCE OF ANY SECTION OF ROADWAY LACKING OMTCD FULL PATTERN STANDARD DIMENSION EDGE LINE OR CENTER LINE MARKINGS, ERECT A "NO EDGE LINES" (OW-167-36) SIGN OR "UNMARKED NO PASSING ZONES" (OW-168-36) SIGN OR BOTH AS MAY BE APPROPRIATE. THESE SIGNS SHALL BE IN PLACE PRIOR TO EXPOSING THE ROADWAY TO TRAFFIC. THESE SIGNS SHALL ALSO BE ERECTED ON EACH ENTRANCE RAMP, AT INTERSECTIONS OF THROUGH ROADS TO WARN ENTERING OR TURNING TRAFFIC OF THE CONDITION AND AT LEAST ONCE EVERY TWO MILES ALONG THE ROADWAY. THESE SIGNS SHALL BE REMOVED WHEN THEY NO LONGER APPLY.

TEMPORARY PAVEMENT MARKING MATERIALS

UNLESS OTHERWISE INDICATED ON THE PLANS, TEMPORARY PAVEMENT MARKINGS MAY BE EITHER 621.02 PAINT OR 947.03 TYPE B OR C PREFORMED MATERIAL.

PAINT

PAINTED MARKINGS SHALL BE IN ACCORDANCE WITH 621 EXCEPT THAT (1) PARAGRAPH 621.14 SHALL NOT APPLY, (2) WHERE THE MARKINGS ARE NOT LIABLE TO BE TRACKED, EITHER CONVENTIONAL OR FAST DRY PAINT MAY BE USED FOR 621.02, AND (3) WHEN APPLIED TO NEW ASPHALT PAVEMENT SURFACES OR PLANED ASPHALT PAVEMENT SURFACES, THE SPECIFIED APPLICATION RATE SHALL BE AS FOLLOWS:

WIDTH OF LINE, IN.	GALLONS PER MILE OF LINE			
4	6	8	12	24
SOLID LINE	24	36	48	144
DASHED LINE	6	9		
DOTTED LINE	8	12		

TYPE B AND TYPE C PREFORMED MATERIAL

PREFORMED MATERIAL SHALL COMPLY WITH 947.03 EXCEPT THAT NO PREFORMED MATERIAL CONTAINING METAL SHALL BE PLACED ON ANY SURFACE UNLESS IT WILL BE REMOVED LATER BY THE CONTRACTOR. TEMPORARY PAVEMENT MARKINGS OF 947.03 PREFORMED MATERIAL SHALL BE REMOVED PRIOR TO PLACEMENT OF 621 OR 847 SURFACE COURSE MARKINGS AT THAT LOCATION. PREFORMED MATERIAL SHALL BE APPLIED IN ACCORDANCE WITH 847 EXCEPT AS MODIFIED HEREIN.

PLACEMENT

TEMPORARY MARKINGS SHALL BE COMPLETE AND IN PLACE ON ALL PAVEMENT, INCLUDING RAMPS, PRIOR TO EXPOSING IT TO TRAFFIC. WHEN TEMPORARY MARKINGS CONFLICT WITH THE TRAFFIC PATTERN, THEY SHALL BE REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH 621.134.

LINE PLACEMENT TOLERANCE FOR FINAL SURFACES SHALL BE IN ACCORDANCE WITH 621.052. ON SURFACES OTHER THAN THE FINAL, THE TOLERANCE PERMITTED SHALL BE TWICE THAT IN 621.052.

LAYOUT AND PREMARKING SHALL BE IN ACCORDANCE WITH 621.051.

TEMPORARY MARKING CLASSES

CLASS I MARKINGS

CLASS I MARKINGS SHALL BE APPLIED TO THE FULL DIMENSIONS AS DEFINED IN 621 WITH THE FOLLOWING ADDITIONS OR EXCEPTIONS:

- 1) TRANSVERSE LINES SHALL BE 8-INCHES IN WIDTH.
- 2) STOP LINES SHALL BE 12-INCHES IN WIDTH.
- 3) CROSS WALK LINES SHALL BE 8-INCHES IN WIDTH.

CLASS II MARKINGS

CLASS II MARKINGS (ABBREVIATED) SHALL BE DEFINED AS FOLLOWS:

CENTER LINES SHALL CONSIST OF SINGLE, YELLOW 4-INCH WIDE BY A MINIMUM OF 48-INCH LONG DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

LANE LINES SHALL CONSIST OF WHITE 4-INCH WIDE BY A MINIMUM OF 48-INCH LONG DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

GORE MARKINGS SHALL BE TWO CONTINUOUS, WHITE 4-INCH LINES PLACED AT THE THEORETICAL GORE OF AN EXIT RAMP OR DIVERGING ROADWAYS.

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 2.4 GALLONS PER MILE FOR LANE LINE AND CENTER LINE AND 24 GALLONS PER MILE FOR GORE MARKINGS.

CONFLICTING EXISTING MARKINGS

THE CONTRACTOR SHALL, PRIOR TO PLACING TEMPORARY MARKINGS, REMOVE ALL CONFLICTING EXISTING MARKINGS VISIBLE TO THE TRAVELING PUBLIC DURING DAYLIGHT OR NIGHTTIME HOURS IN ACCORDANCE WITH 621.134. THE COST FOR REMOVAL OF CONFLICTING MARKINGS SHALL BE INCLUDED IN 614 MAINTAINING TRAFFIC UNLESS SPECIFICALLY ITEMIZED.

THE CONTRACTOR SHALL ALSO REMOVE THE PRISMATIC RETRO-REFLECTOR WITHIN ANY RAISED PAVEMENT MARKER (RPM) WHICH IS IN CONFLICT WITH THE TEMPORARY PAVEMENT MARKINGS. WHEN THE TEMPORARY PAVEMENT MARKINGS ARE REMOVED AND THE RPM IS NO LONGER IN CONFLICT, THE CONTRACTOR SHALL THOROUGHLY CLEAN THE RECESSED REFLECTOR ATTACHMENT AREA OF THE CASTING AND INSTALL A NEW PRISMATIC RETRO-REFLECTOR OF THE SAME KIND AND COLOR. THE COST FOR THIS WORK SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS.

INTERIM MARKINGS

WITHIN 21 CALENDAR DAYS AFTER OPENING ANY LENGTH OF PAVEMENT TO TRAFFIC, THE 621 OR 847 PAVEMENT MARKINGS CALLED FOR IN THE PLANS SHALL BE APPLIED. EQUIVALENT 614 CLASS I, PAINT MARKINGS MAY BE USED IN LIEU OF FINAL MARKINGS. IN THIS EVENT, THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT AND MATERIAL NECESSARY TO PLACE AND MAINTAIN 614 CLASS I PAINT MARKINGS AS PART OF THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC.

FOR EACH CALENDAR DAY BEYOND 21 DAYS THAT THIS WORK SHALL REMAIN UNCOMPLETED, THE SUM OF \$200 PER CALENDAR DAY WILL BE DEDUCTED FROM ANY MONEY DUE THE CONTRACTOR, NOT AS A PENALTY BUT AS LIQUIDATED DAMAGES.

METHOD OF MEASUREMENT

TEMPORARY PAVEMENT MARKINGS WILL BE MEASURED COMPLETE IN PLACE, BY CLASS AND MATERIAL, IN THE UNITS DESIGNATED. LINE QUANTITIES WILL BE THE LENGTH OF THE COMPLETED STRIPE, INCLUDING GAPS, INTERSECTIONS, AND OTHER SECTIONS OF PAVEMENT NOT NORMALLY MARKED.

TEMPORARY PAVEMENT MARKINGS WILL INCLUDE THE LAYOUT, APPLICATION AND REMOVAL OF THE MARKINGS, WHEN REQUIRED.

BASIS OF PAYMENT

PAYMENT FOR ACCEPTED QUANTITIES COMPLETE IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR PLACEMENT, MAINTENANCE AND NECESSARY REMOVAL OF THE MARKINGS.

ITEM	UNIT	DESCRIPTION	QUANTITY
614	MILES	TEMPORARY LANE LINES, CLASS II, *	0.16
614	MILES	TEMPORARY CENTER LINES, CLASS _____, *	
614	LIN. FT.	TEMPORARY CHANNELIZING LINES, CLASS I, *	
614	MILES	TEMPORARY EDGE LINES, CLASS I, *	
614	LIN. FT.	TEMPORARY GORE MARKINGS, CLASS II, *	
614	LIN. FT.	TEMPORARY STOP LINES, CLASS I, *	
614	LIN. FT.	TEMPORARY CROSSWALK LINES, CLASS I, *	
614	EACH	TEMPORARY LANE ARROWS, CLASS I, *	
614	EACH	TEMPORARY RAILROAD SYMBOL MARKINGS, CLASS I, *	
614	EACH	TEMPORARY WORD "ONLY" ON PAVEMENT, 72-INCH, CLASS I, *	
614	LIN. FT.	TEMPORARY TRANSVERSE LINES, CLASS I, *	
614	LIN. FT.	TEMPORARY DOTTED LINES, CLASS I, *	

*TYPE MATERIAL (621 PAINT, 947.03 TYPE B OR 947.03 TYPE C OR LEFT BLANK TO PERMIT ANY OF THE THREE)

fh4

~~621 EDGE LINES ON NEW ASPHALT PAVEMENTS~~

~~EDGE LINES SHALL BE IN ACCORDANCE WITH 621 EXCEPT THAT (1) ON EVERY ROADWAY AND RAMP, EDGE LINES SHALL BE IN PLACE PRIOR TO EXPOSING IT TO TRAFFIC, (2) WHERE THE EDGE LINES ARE NOT LIABLE TO BE TRACKED, EITHER CONVENTIONAL OR FAST DRY PAINT MAY BE USED FOR 621.02, AND (3) WHEN APPLIED TO NEW ASPHALT PAVEMENT THE SPECIFIED APPLICATION RATE SHALL BE 24 GALLONS PER MILE.~~

~~614 WORK ZONE MARKING SIGNS~~

~~THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND SUBSEQUENTLY REMOVE WORK ZONE MARKING SIGNS (OW-167 AND OW-168) WITHIN THE WORK LIMITS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.~~

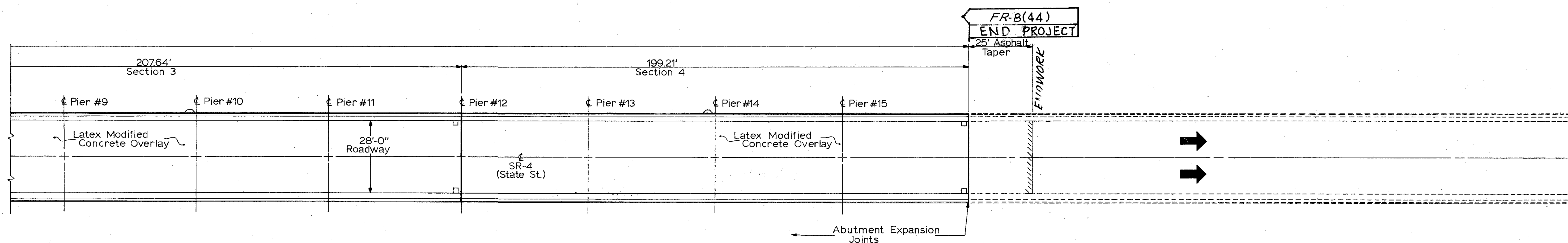
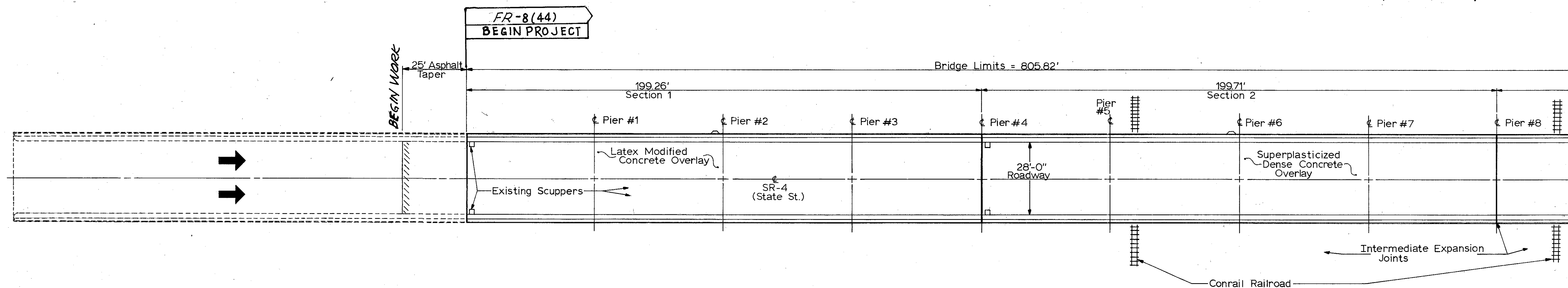
~~THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED BUT GOOD CONDITION PROVIDED THE SIGNS MEET CURRENT DEPARTMENT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF 730.19. WORK ZONE MARKING SIGNS SHALL BE PROVIDED WITH SUITABLE YIELDING SUPPORTS OF SUFFICIENT STRENGTH AND STABILITY.~~

~~WORK ZONE MARKING SIGNS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. ALL OTHER WORK ZONE SIGNS SHALL BE INCLUDED IN 614 MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED.~~

~~PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE, IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR PLACEMENT, MAINTENANCE AND REMOVAL OF THE SIGNS.~~

ITEM	UNIT	DESCRIPTION
614	EACH	WORK ZONE MARKING SIGNS
A QUANTITY OF _____ EACH WORK ZONE MARKING SIGNS (_____ EACH "NO EDGE LINES" OW-167 AND _____ EACH "UNMARKED NO PASSING ZONES" OW-168) ARE CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.		

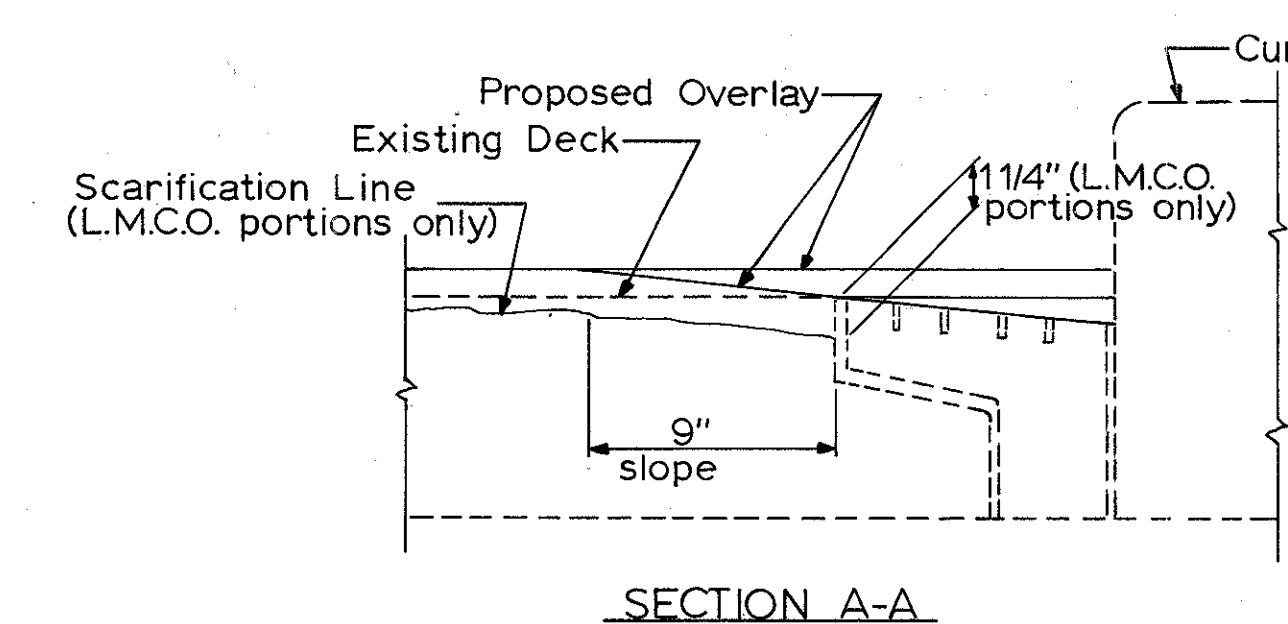
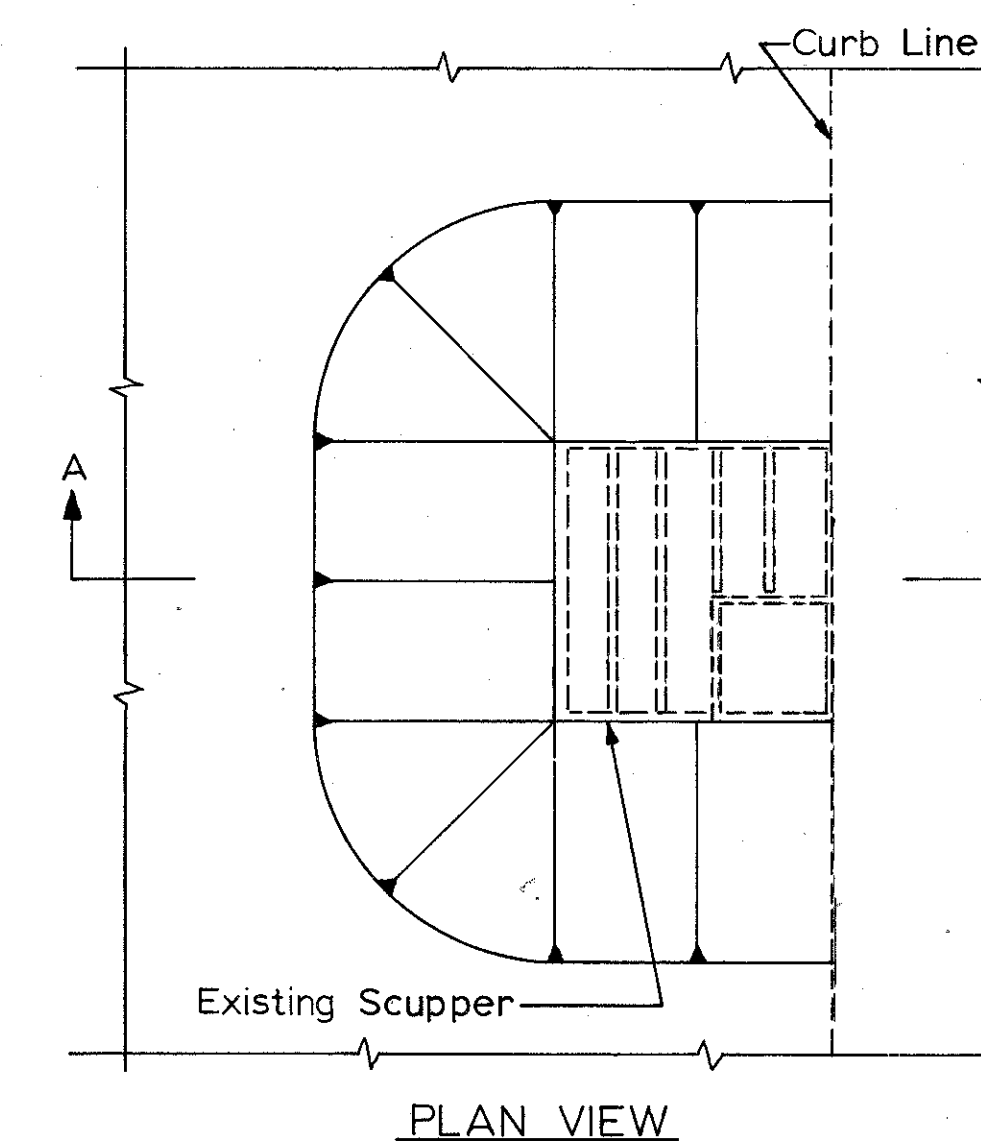
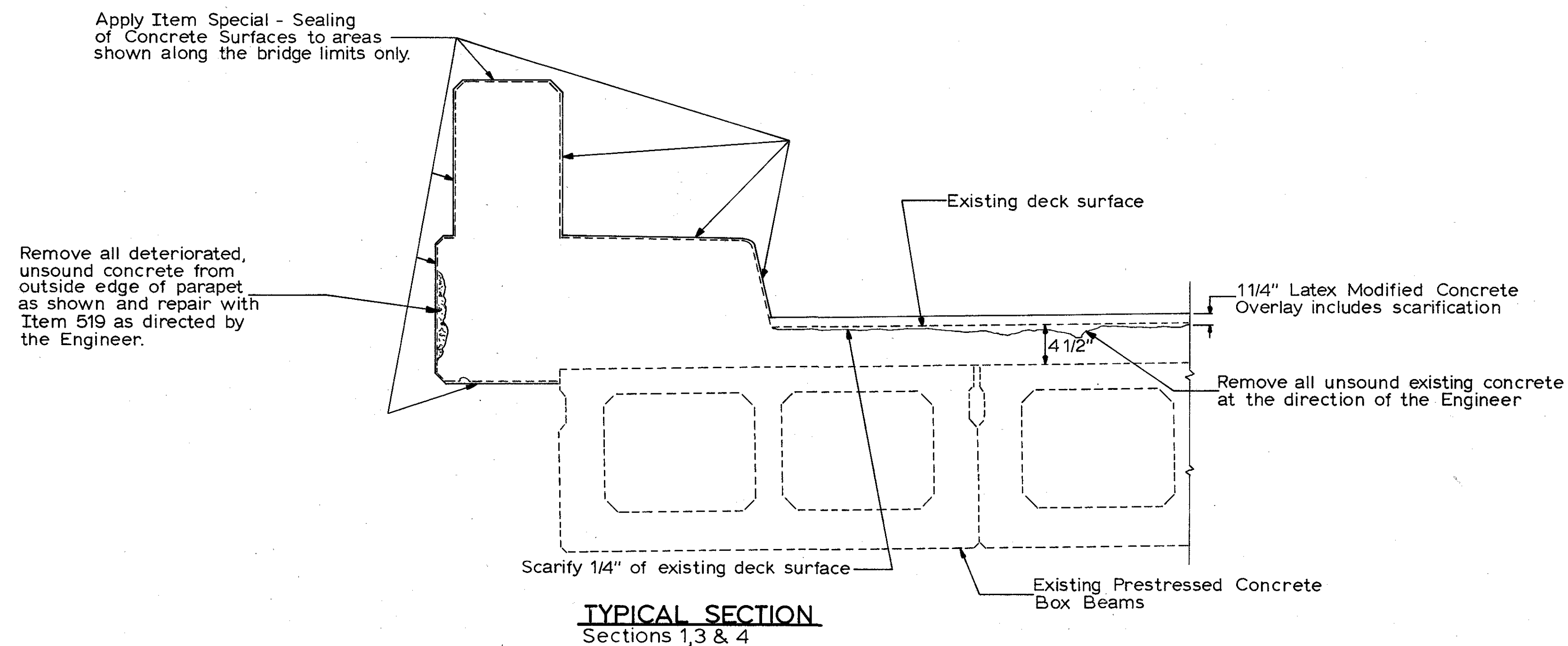
MAR-4-1171



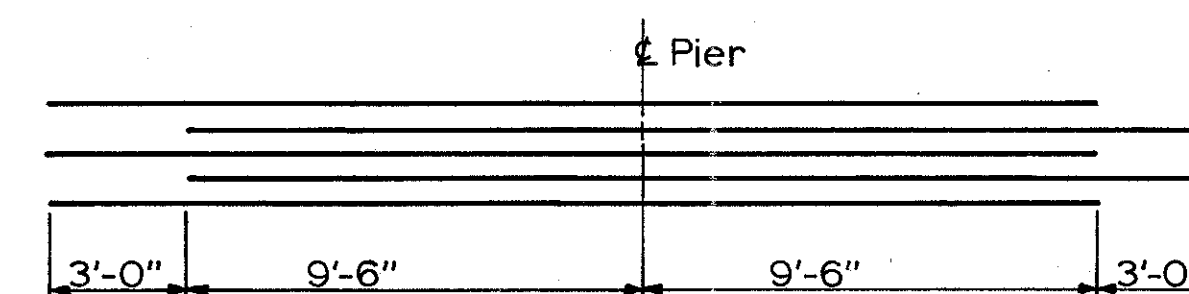
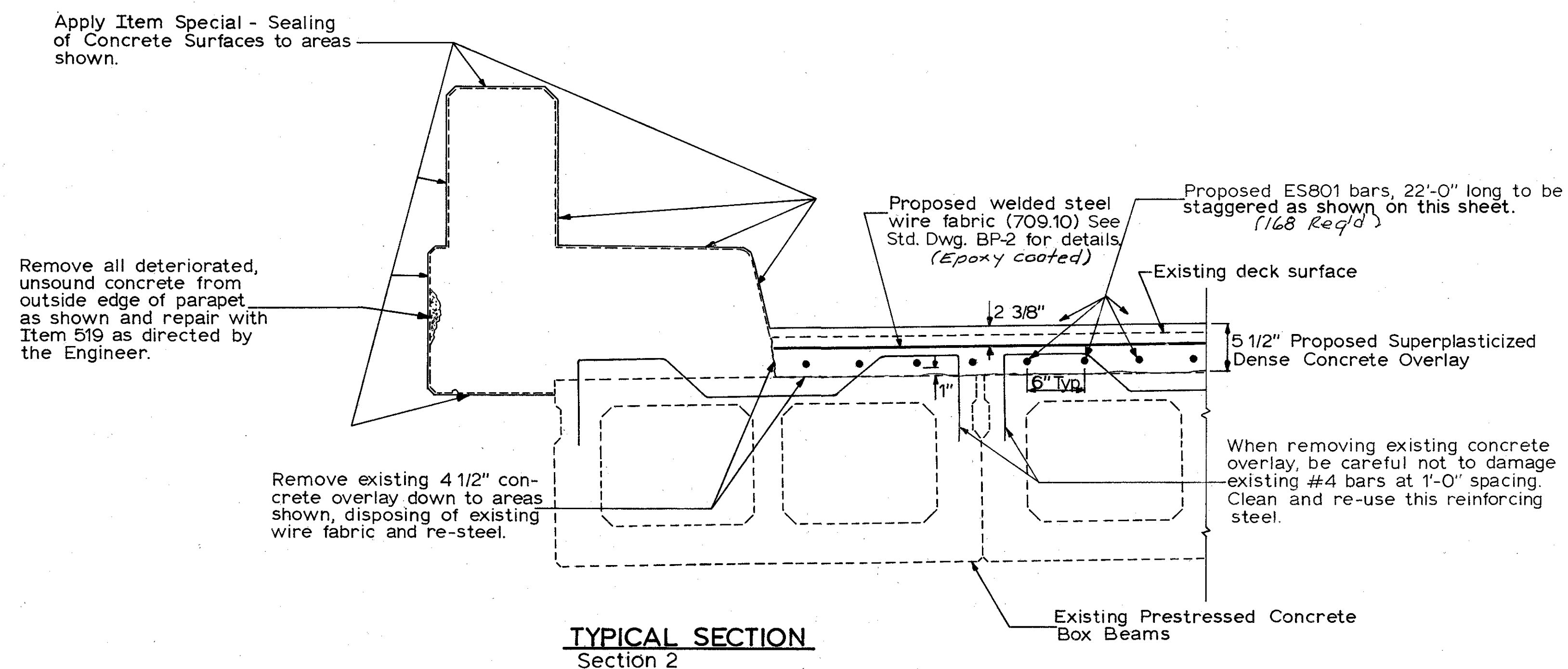
PLAN VIEW
Skew = 0°

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS DISTRICT 6 BRIDGE DEPARTMENT						
PLAN VIEW						
BRIDGE NO. MAR-4-1171 OVER CONRAIL RAILROAD						
DESIGN	DRAWN	TRACE	CHECK	REVIEW	DATE	REVISE
3a2	3a3	3a2		EM	11-4-85	

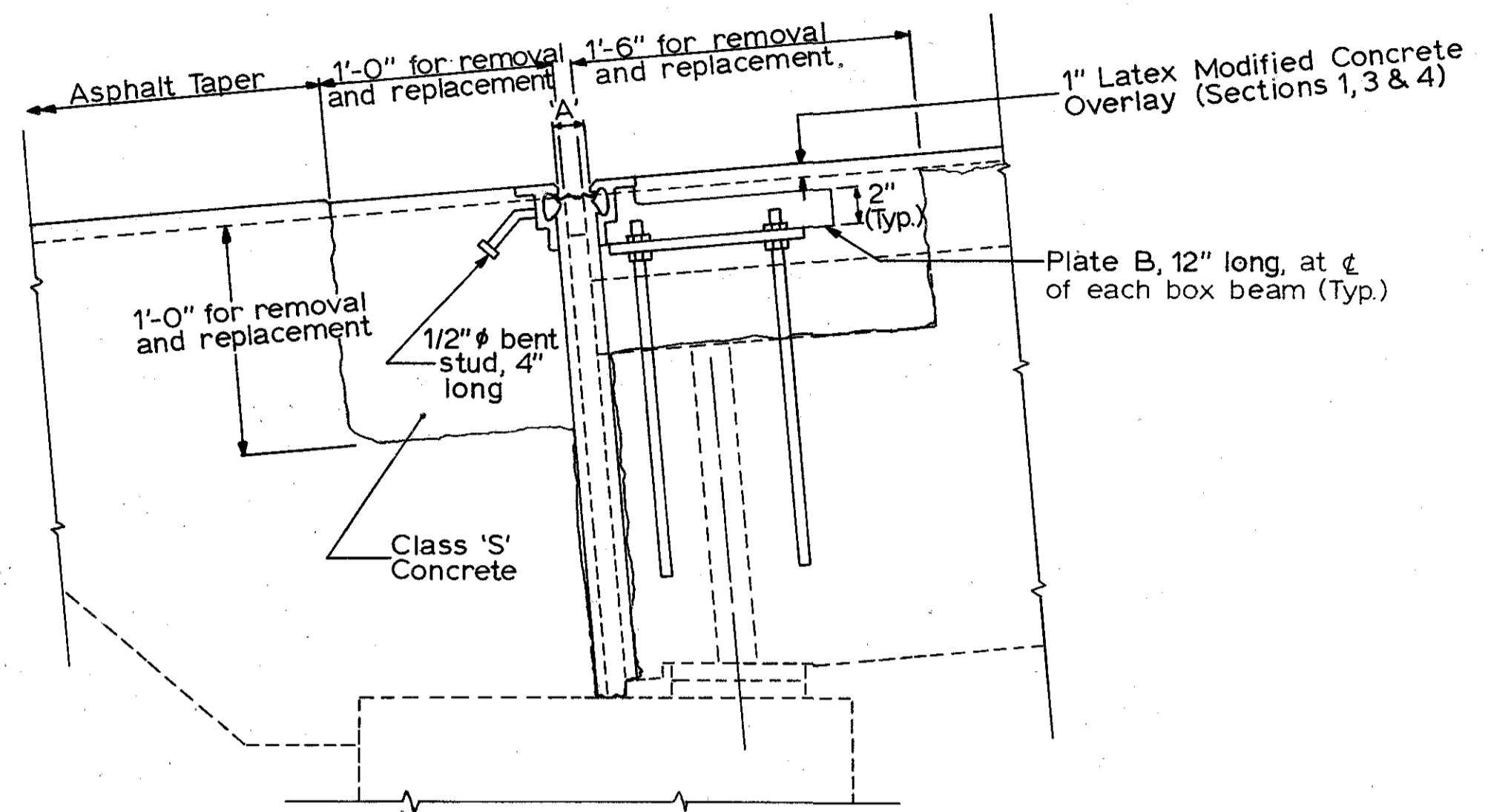
MAR-4-1171



TYPICAL OVERLAY DETAIL AT SCUPPERS

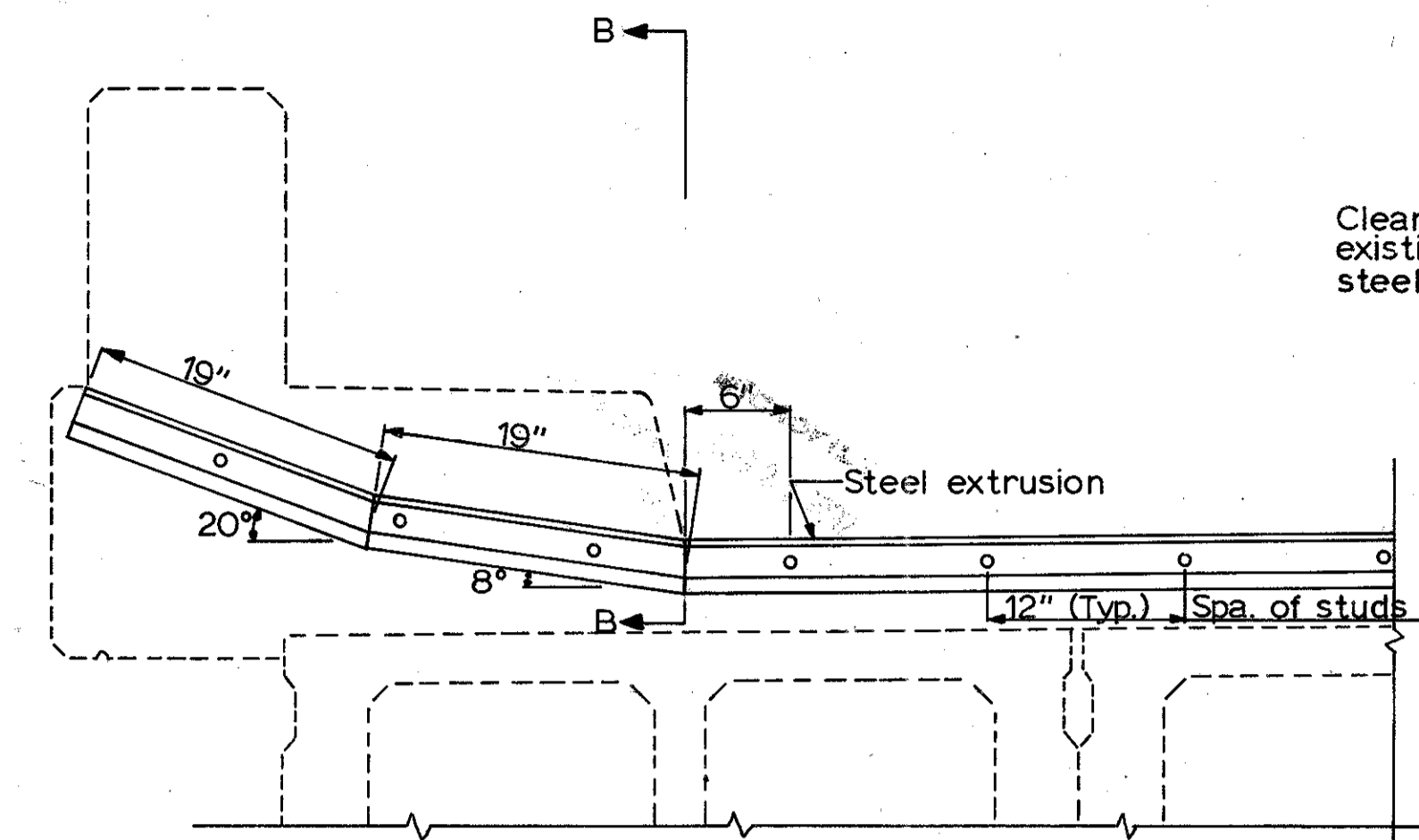


STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS DISTRICT 6 BRIDGE DEPARTMENT						
RESURFACING AND REPAIR DETAILS						
BRIDGE NO. MAR-4-1171 OVER CONRAIL RAILROAD						
DESIGN	DRAWN	TRACE	CHECK	REVIEW	DATE	REVISE
3a2	3a3	3a2		EM	11-4-85	



ABUTMENT EXPANSION JOINT DETAILS

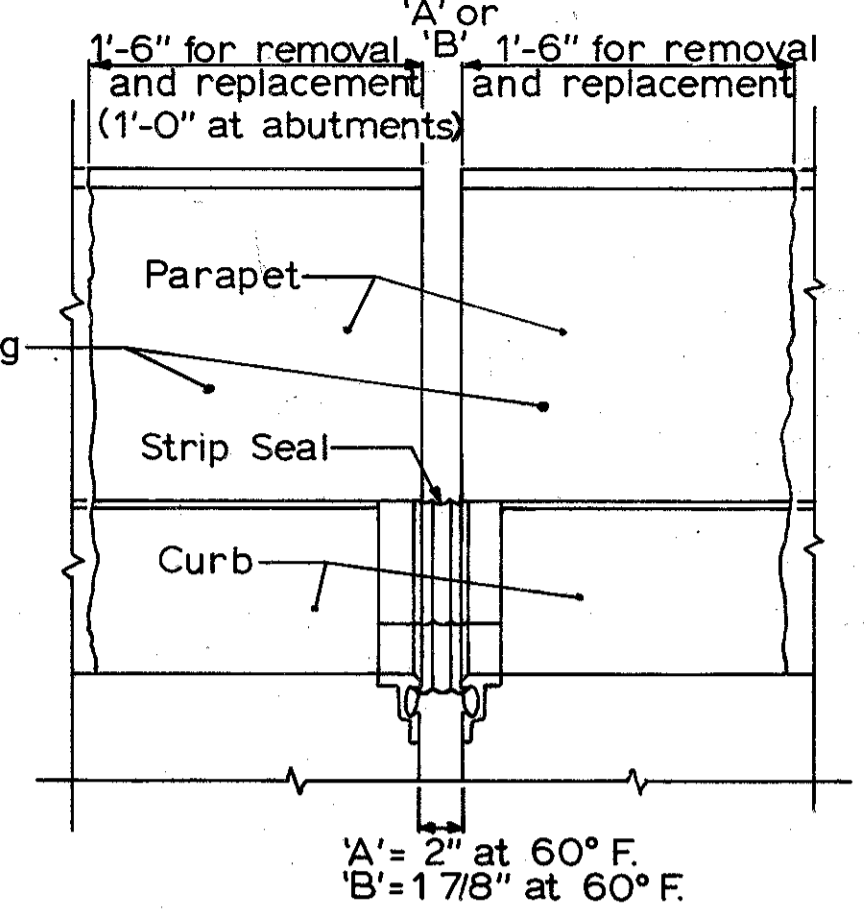
All end dam armor steel shall be included with Item 516 for payment. See Std. Dwg. EXJ-3-82 for details and notes not shown.



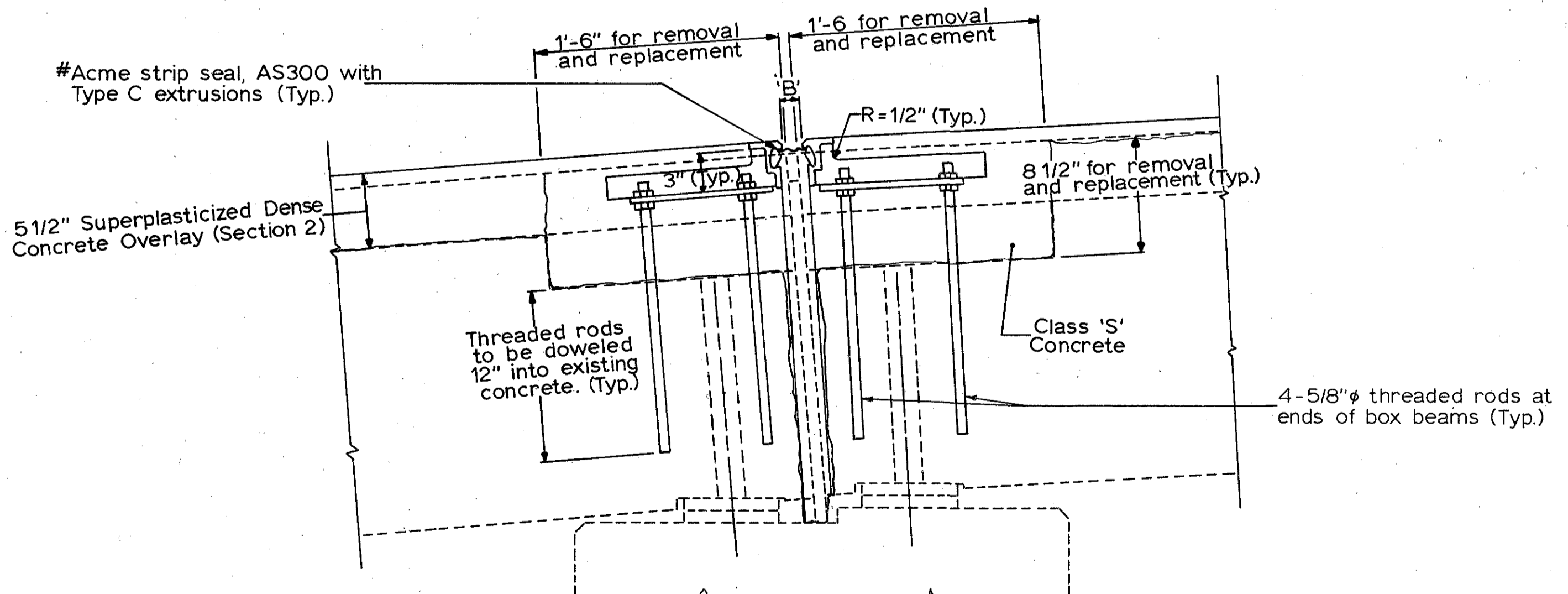
TYPICAL TRANSVERSE SECTION AT EXPANSION JOINTS

Studs only at abutment expansion joints

Clean and re-use existing reinforcing steel.

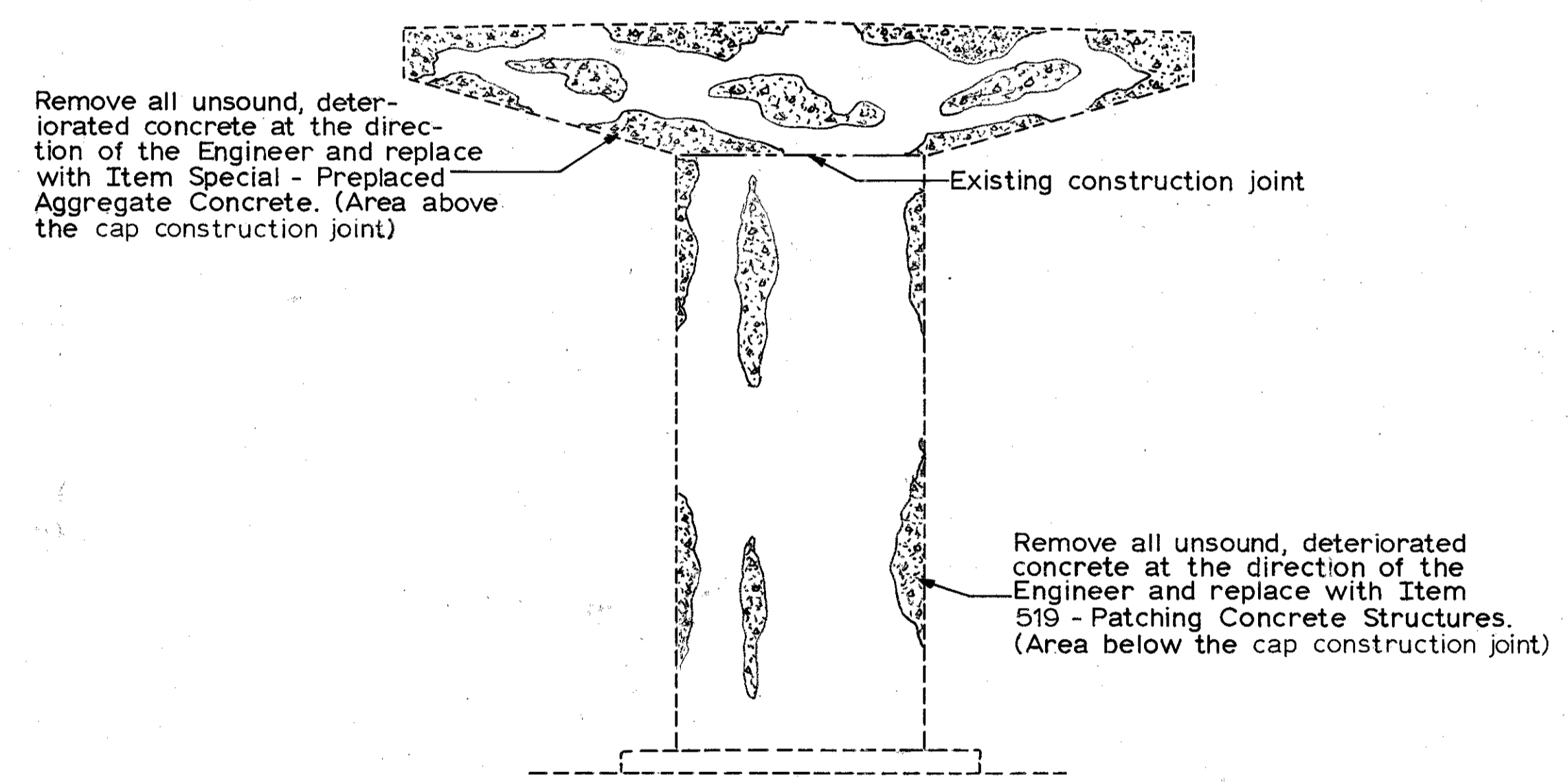


SECTION B-B



INTERMEDIATE EXPANSION JOINT DETAILS

#In lieu of the Acme seal, a Watson-Bowman SE-300 Type M extrusion or a DS Brown 300 SS-C series extrusion may be used. All end dam armor steel shall be included with Item 516 for payment. See Std. Dwg. EXJ-3-82 for details and notes not shown.



PIER REPAIR DETAILS

Pier #4, 8 & 12

Seal	Opening		Temperature Adjustment						
	Min.	Max.	30°F	40°F	50°F	60°F	70°F	80°F	90°F
'A'	1 3/16"	2 1/4"	1 13/16"	1 3/4"	1 11/16"	1 5/8"	1 9/16"	1 1/2"	1 7/16"
'B'	5/8"	2 13/16"	1 15/16"	1 13/16"	1 5/8"	1 1/2"	1 3/8"	1 3/16"	1 1/16"

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT 6 BRIDGE DEPARTMENT

PIER AND EXPANSION JOINT DETAILS

BRIDGE NO. MAR-4-1171
OVER CONRAIL RAILROAD

DESIGN	DRAWN	TRACE	CHECK	REVIEW	DATE	REVISE
3 a 2	3 a 2	3 a 2			EX 11-4-85	