

993

591.68

STATE OF OHIO OHIO DEPARTMENT OF TRANSPORTATION

FHWA REGION	STATE	Federal Project	1 45
5	Ohio	IR-270-4(34)105	

PART	COUNTY	ROUTE	SECTIONS	PROJECT TERMINI		NET LENGTH MILES	TOWNSHIP	CITY	VILLAGE
				BEGIN	END				
1	FRA	270	(43.45)(45.87-46.44) (47.34)	43.45	48.07	4.22		COLUMBUS	
2	FRA	270	(45.52-45.74)(47.28) (48.17)	45.52	48.47	0.70	MADISON		
3	FRA	270	48.07	48.07	48.17	0.10			OBETZ

993-85
FRA-270-43-45
PLAN NO.

The standard 1985 Specifications of the State of Ohio, Department of Transportation, including changes and Supplemental Specifications listed in the plans and proposal shall govern these improvements.

I hereby approve these plans and declare that the making of these improvements will not require the closing of the highway to traffic, and provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.

Approved Date 1-23-85 *Edward L. Jills*
District Deputy Director of Transportation

Approved Date 2-5-85 *Walter J. Costigan*
Engineer, Bureau of Bridges and Structural Design

Approved Date 7-17-85 *Warren Kaubke*
Chief Engineer, Planning and Design

Approved Date 7-17-85 *Warren J. Schmitt*
Director, Department of Transportation

Department of Transportation
Federal Highway Administration
Approved:

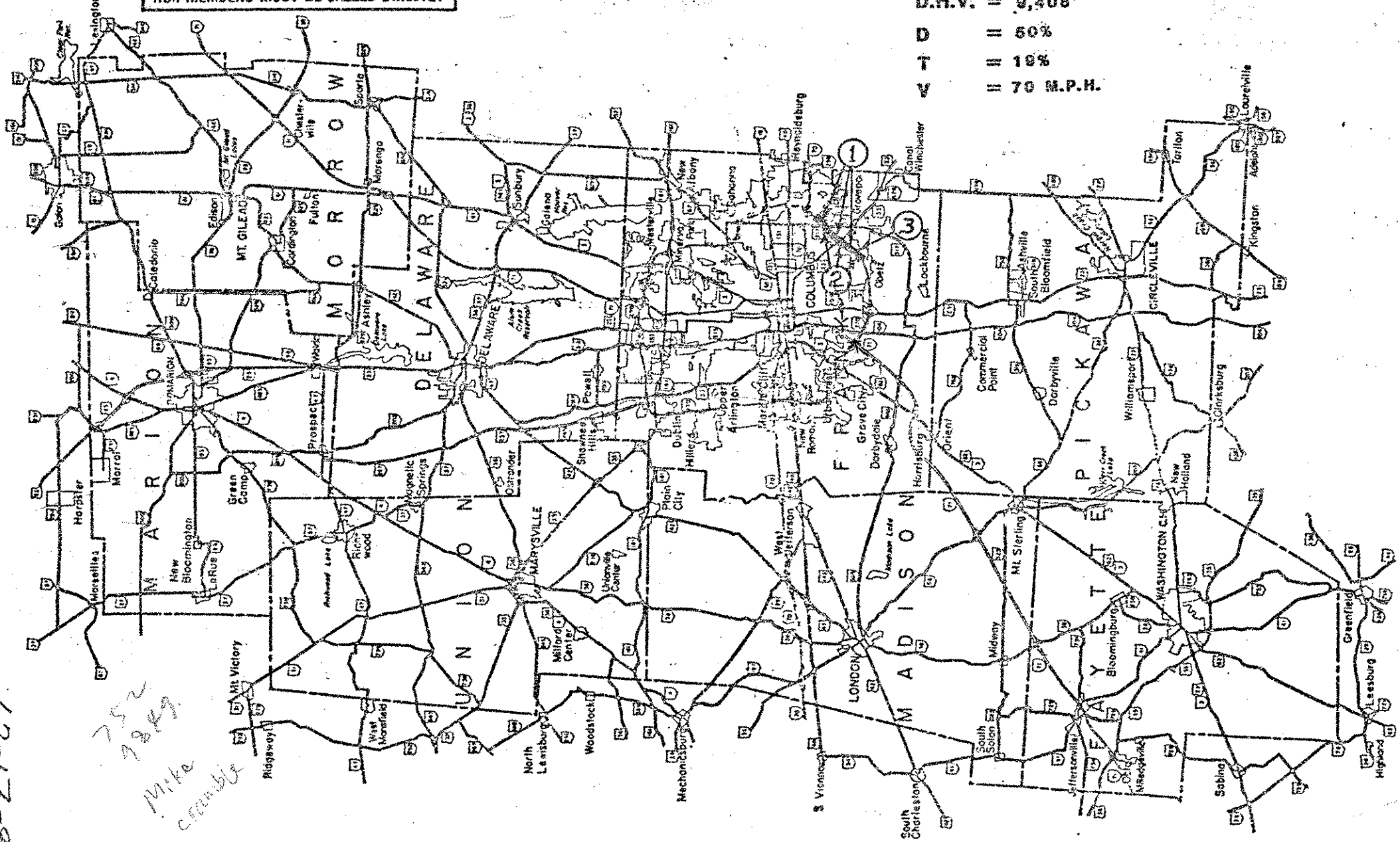
Division Administrator _____ Date _____

Total Project & WORK LENGTH 26,506 LIN. FT. OR 5.02 MILES

TWO WORKING DAYS BEFORE YOU DIG
Call 800-362-2764
TOLL FREE
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS MUST BE CALLED DIRECTLY

LOCATION MAP

DESIGN DESIGNATION
Current A.D.T. (1985) = 31,361
Design A.D.T. (2005) = 62,722
D.H.V. = 2,408
D = 50%
T = 18%
V = 70 M.P.H.



INDEX OF SHEETS

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- TRAFFIC MAINTENANCE 35-45
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STANDARD DRAWINGS		SUPPLEMENTAL SPECIFICATIONS	
BP-3	12-6-78	824	10-8-80
BP-4	1-11-85	845	1-13-80
BP-5	1-11-85	847	10-17-80
GR-1	1-11-85	846	10-3-80
GR-3	1-2-85	947	10-17-80
GR-4	5-29-79	953	8-21-80
SD-1-89	8-12-68		
TC-35.10	8-29-84		
TC-72.20	2-26-82		
BP-13	1-11-85		

Rev. 11-19-85

12-17-85
752
9889
Mike
Cramble

PORTION TO BE IMPROVED

ESTIMATED QUANTITIES

PLAN NO.

ITEM	DESCRIPTION	UNIT	Type Codes - X431		X431	X231	X231	X231	X231	X020	X020	X231	X231	X031	X031	X531	X531	Part 1 TOTAL
			FRA-270 4365L	FRA-270 4365R	FRA-270 4470L	FRA-270 4470R	FRA-270 4488L	FRA-270 4488R	FRA-270 4549L	FRA-270 4549R	FRA-270 4613A	FRA-270 4613L	FRA-270 4742L	FRA-270 4742R	FRA-270 4802L	FRA-270 4802R		
202	Existing Concrete Curbs and Parapets Removed	Cu. Yds.	155	155	62	62	61	61	23	23	97	97	54	54	46	46	996	
510	Dowel Holes	Each	872	872	384	384	404	404	148	148	522	522	334	334	278	278	5884	
511	Class 'C' Concrete for Bridge Railing	Cu. Yds.	109	109	54	54	54	54	21	21	68	68	47	47	40	40	786	
516	Vertical Extension of Structural Expansion Joints	Lin. Ft.	104	104	151	151	139	139	-	-	67	67	102	102	106	106	1338	
824	Epoxy Coated Reinforcing Steel, grade 60	Lbs.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	133225	
845	Latex Modified Concrete Overlay (1 1/2" thick)	Sq. Yds.	2296	2296	1387	1387	1231	1231	525	525	1042	1042	1205	1205	1007	1007	17386	
845	Latex Modified Concrete Overlay (variable thickness)	Cu. Yds.	32	40	20	15	18	13	4	4	19	19	21	21	11	7	244	
845	Full Depth Repair	Cu. Yds.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	
SPECIAL	Sealing of Concrete Surfaces (See proposal note)	Sq. Yds.	1069	1069	481	481	485	485	180	180	690	690	418	418	349	349	7344	
606	Bridge Terminal Assemblies, Standard Type A	Each	3	3	33	3	3	3	3	3	3	3	3	3	3	3	42	

GENERAL NOTES

~~Utilities Notification: At least two working days prior to commencing construction operations in an area which may involve underground utility facilities, the contractor shall notify the Project Engineer, the registered utility protection service and the owners of each underground utility facility shown in the plans. The owner of the underground utility facility shall, within forty-eight hours, excluding Saturdays, Sundays and Legal Holidays, after notice is received, stake, mark or otherwise designate the location of the underground utility facilities in the construction area in such a manner as to indicate their course together with the approximate depth at which they were installed. The marking or locating shall be coordinated to stay approximately two days ahead of the planned construction.~~

Utility which provides the electricity for the light poles: Columbus & Southern Ohio Electric Company, 215 North Front Street, Columbus, Ohio 43215 Telephone (614)-464-7911

*ITEM 202 - Existing Concrete Curbs & Parapets Removed
This item shall include all labor and equipment required to remove existing top rail, and concrete curbs and parapets down to the construction joints as shown on the plans. This item shall also include the removal of the top of the wingwalls above the roadway surface and in accordance with plan sheet no. 29, the removal of existing concrete for end dam extensions as shown on plan sheet no. 34, the removal of concrete extensions

supporting the two light poles on str. FRA-270-4613A in accordance with the plans, and removal of existing bridge terminal assemblies. Aluminum rail, posts, and fittings removed shall become property of the State of Ohio and shall be stored on the right-of-way for removal by State Forces. All other materials removed shall be disposed of by the Contractor.

ITEM 511 - Class 'C' Concrete for Bridge Railing
This item shall include the cost of all labor, equipment and materials required to place bridge railing as shown on the plans, replace portions of wingwalls, to replace portions of concrete removed for end dam extensions, and to replace portions of concrete extensions to support the two light poles on str. FRA-270-4613A.

* Also included with this item for payment shall be the removal and replacement of the light poles and conduit within the work area. Any damaged light poles or conduit shall be replaced and be included with this item for payment.

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

ESTIMATED QUANTITIES & GENERAL NOTES

FRA-270-4365L&R FRA-270-4613A
FRA-270-4470L&R FRA-270-4613L
FRA-270-4488L&R FRA-270-4742L&R
FRA-270-4549L&R FRA-270-4802L&R

DESIGN	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	3a2	3a2		EM	7-18-84	

M & R 695

REINFORCING STEEL LIST

PLAN NO.

MARK	NO.	LENGTH	WEIGHT	SHP.	BENDING DIAGRAMS
XE601	5588	5'-9"	48261	Bent	
XE602	5588	2'-6"	20983	Bent	
XE603	104	5'-1"	794	Bent	
XE604	64	5'-1"	489	Bent	
XE605	64	5'-3"	505	Bent	
XE606	64	5'-5"	521	Bent	
XE607	104	2'-4"	364	Str.	
XE608	64	2'-6"	240	Bent	
XE609	64	2'-6"	240	Bent	
XE610	64	2'-6"	240	Bent	
XE611	48	4'-5"	318	Bent	
XE501	848	30'-0"	26534	Str.	
XE502	16	32'-4"	540	Str.	
XE503	8	17'-7"	147	Str.	
XE504	16	16'-3"	271	Str.	
XE505	8	6'-9"	56	Str.	
XE506	16	26'-1"	435	Str.	
XE507	152	14'-7"	2312	Str.	
XE508	8	8'-0"	67	Str.	
XE509	448	4'-0"	1869	Str.	
XE510	4	17'-2"	72	Bent	
XE511	4	19'-6"	81	Bent	
XE512	4	13'-8"	57	Bent	
XE513	12	12'-7"	157	Bent	
XE514	20	17'-2"	358	Bent	
XE515	20	19'-6"	407	Bent	
XE516	20	13'-8"	285	Bent	
XE517	60	12'-7"	787	Bent	
XE518	8	16'-11"	141	Str.	
XE519	8	19'-5"	162	Str.	
XE520	72	12'-6"	939	Str.	
XE521	24	11'-8"	292	Str.	
XE522	208	14'-2"	3073	Str.	
XE523	32	15'-5"	515	Str.	
XE524	352	13'-9"	5048	Str.	
XE525	528	6'-0"	3304	Str.	
XE526	416	4'-10"	2097	Str.	
XE527	224	13'-4"	3115	Str.	

MARK	NO.	LENGTH	WEIGHT	SHP.	BENDING DIAGRAM
XE528	208	5'-3"	1139	Str.	
XE529	32	15'-8"	523	Str.	
XE530	64	10'-3"	684	Str.	
XE531	32	6'-6"	217	Str.	
XE532	32	6'-3"	209	Str.	
XE533	64	12'-6"	834	Bent	
XE534	16	28'-6"	476	Bent	
XE535	16	28'-6"	476	Bent	
XE536	4	8'-0"	33	Bent	
XE537	4	13'-1"	55	Bent	
XE538	4	8'-2"	34	Bent	
XE539	4	8'-0"	33	Bent	
XE540	4	13'-1"	55	Bent	
XE541	4	8'-2"	34	Bent	
XE542	32	11'-9"	392	Bent	
XE543	4	16'-1"	67	Bent	
XE544	4	16'-1"	67	Bent	
XE545	128	5'-7"	745	Str.	
XE546	48	15'-2"	759	Str.	
XE547	32	9'-6"	317	Bent	
TOTAL			133225	Lbs.	

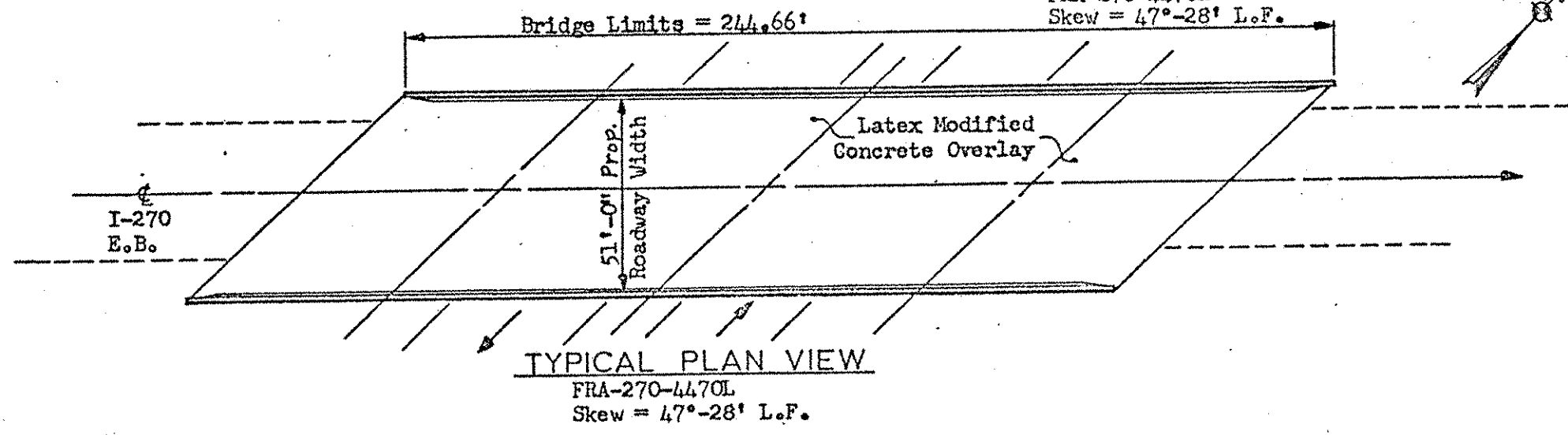
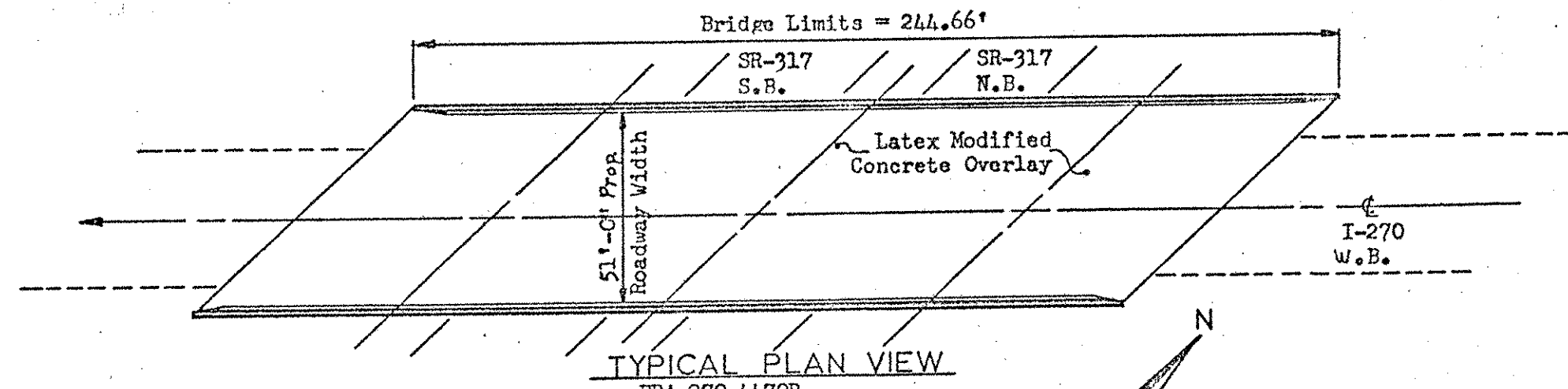
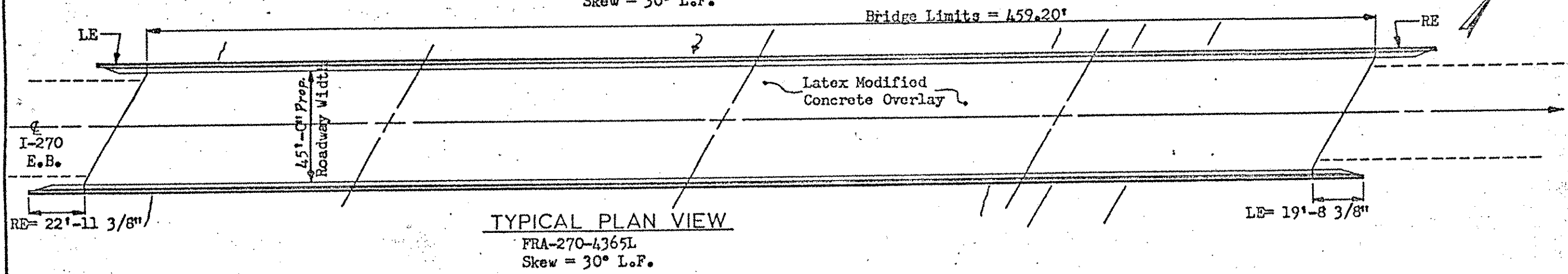
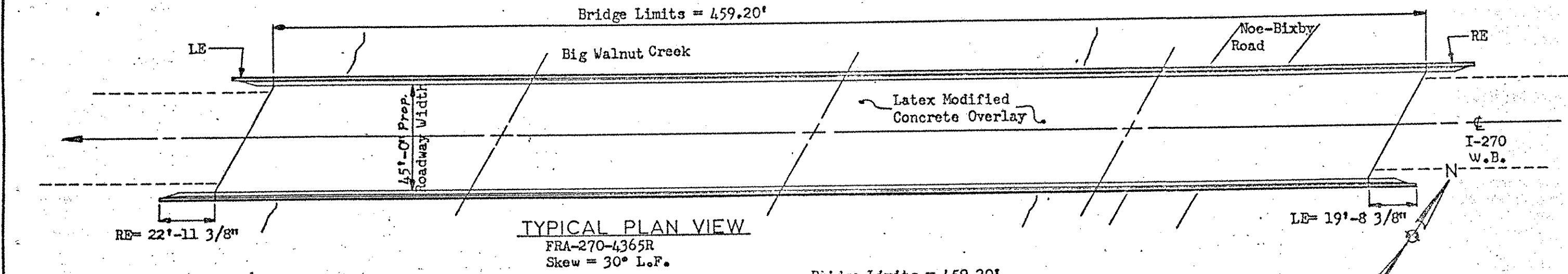
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT 6 BRIDGE DEPARTMENT

REINFORCING STEEL LIST

FRA-270-4365L&R FRA-270-4613A
FRA-270-4470L&R FRA-270-4613L
FRA-270-4488L&R FRA-270-4742L&R
FRA-270-4549L&R FRA-270-4802L&R

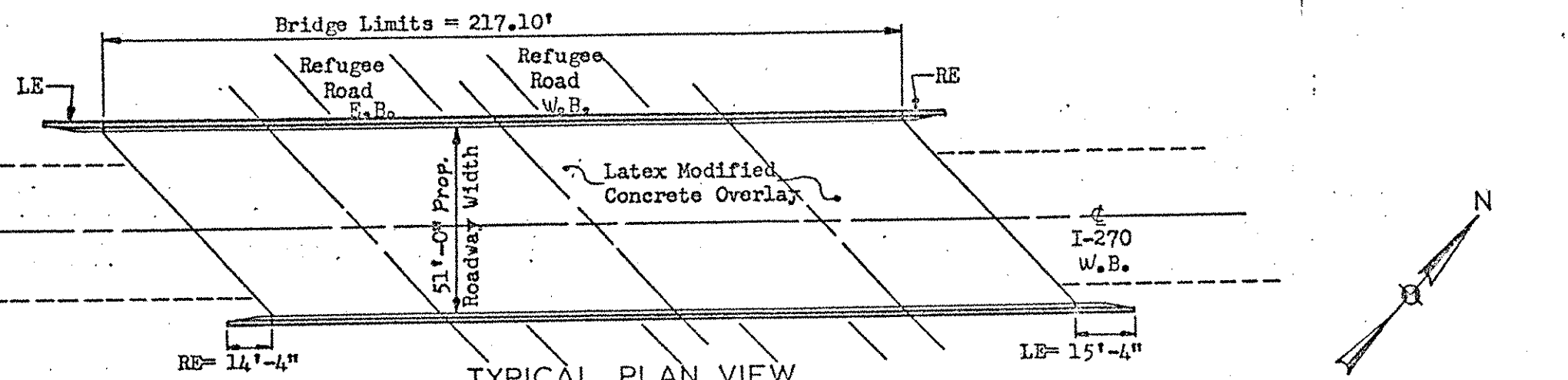
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	3a	3a		EM	7-18-84	

PLAN NO.



STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS DISTRICT 6 BRIDGE DEPARTMENT					
PLAN VIEWS					
FRA-270-4365L&R FRA-270-4470L&R					
DESIGN	DRAWN	TRACED	CHECKED	REVISED	DATE
	ja	ja		EM	7-18-84

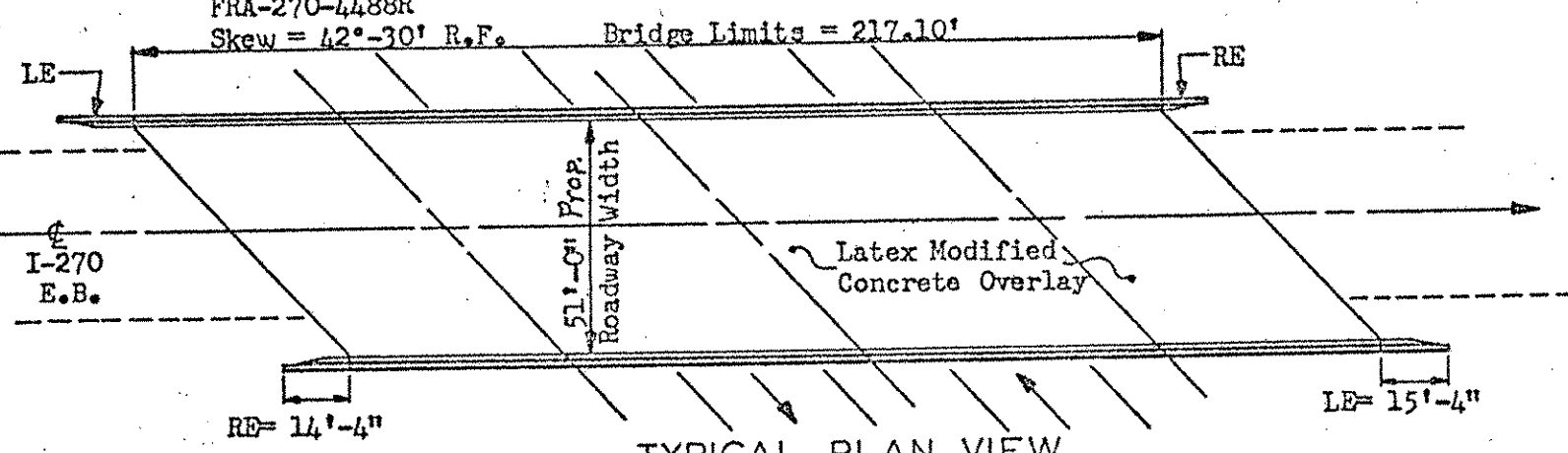
PLAN NO.



TYPICAL PLAN VIEW

FRA-270-4488R

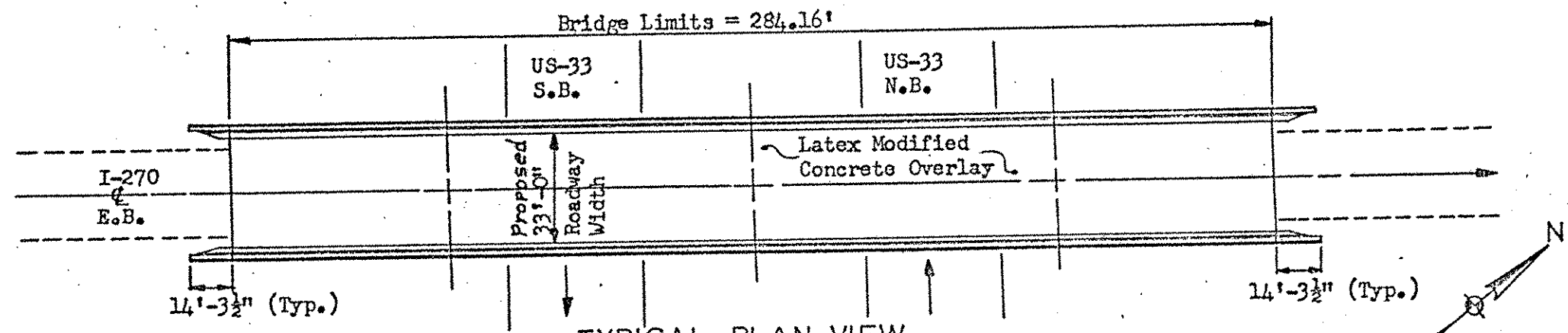
Skew = 42°-30' R.F.



TYPICAL PLAN VIEW

FRA-270-4488L

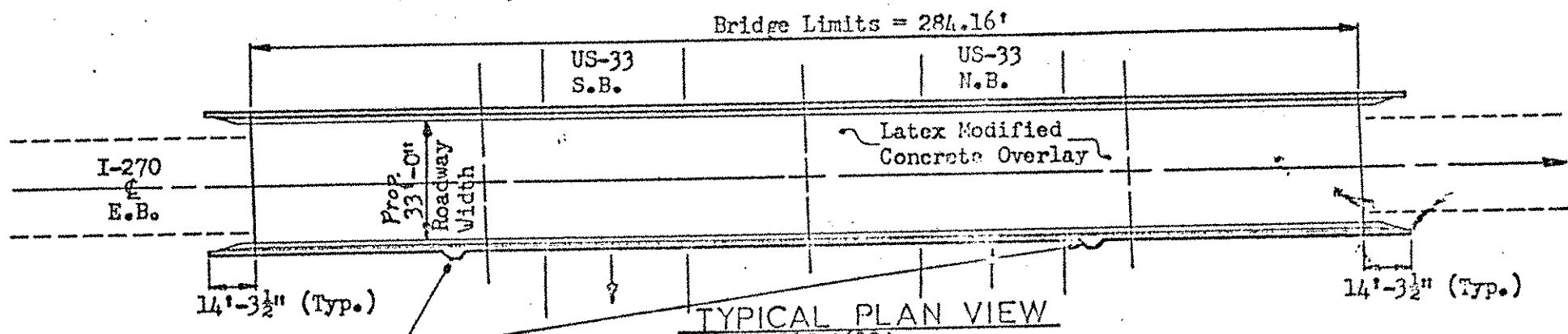
Skew = 42°-30' R.F.



TYPICAL PLAN VIEW

FRA-270-4613L

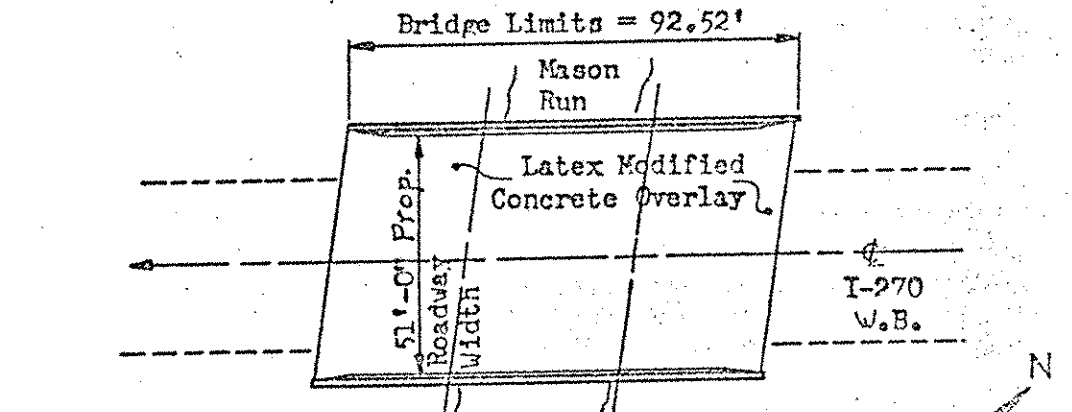
Skew = 1°-50' R.F.



TYPICAL PLAN VIEW

FRA-270-4613A

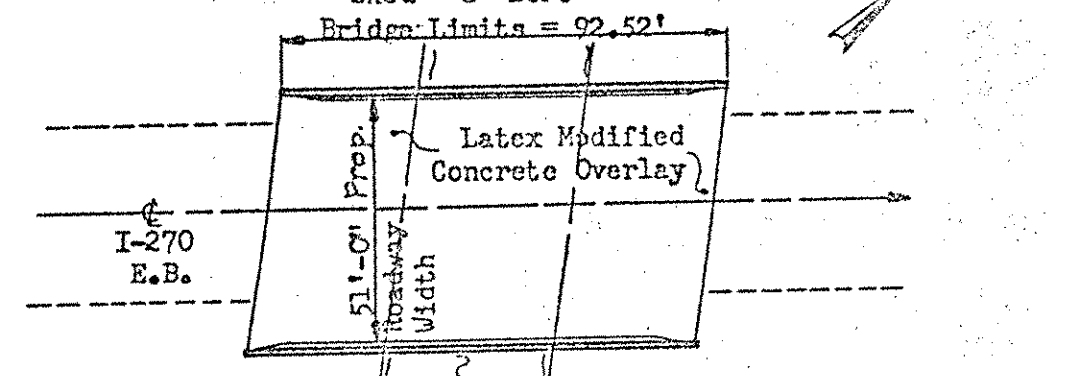
Skew = 1°-50' R.F.



TYPICAL PLAN VIEW

FRA-270-4549R

Skew = 8° L.F.



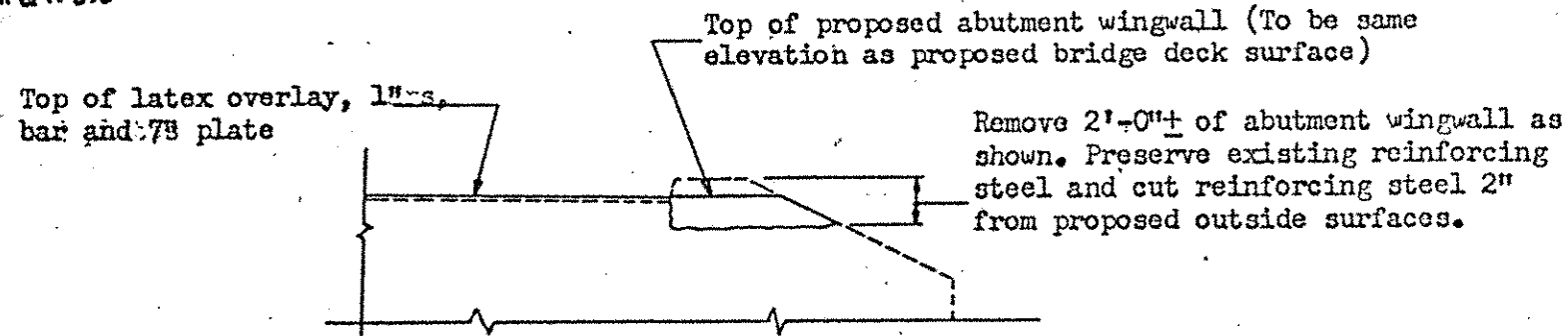
TYPICAL PLAN VIEW

FRA-270-4549L

Skew = 8° L.F.

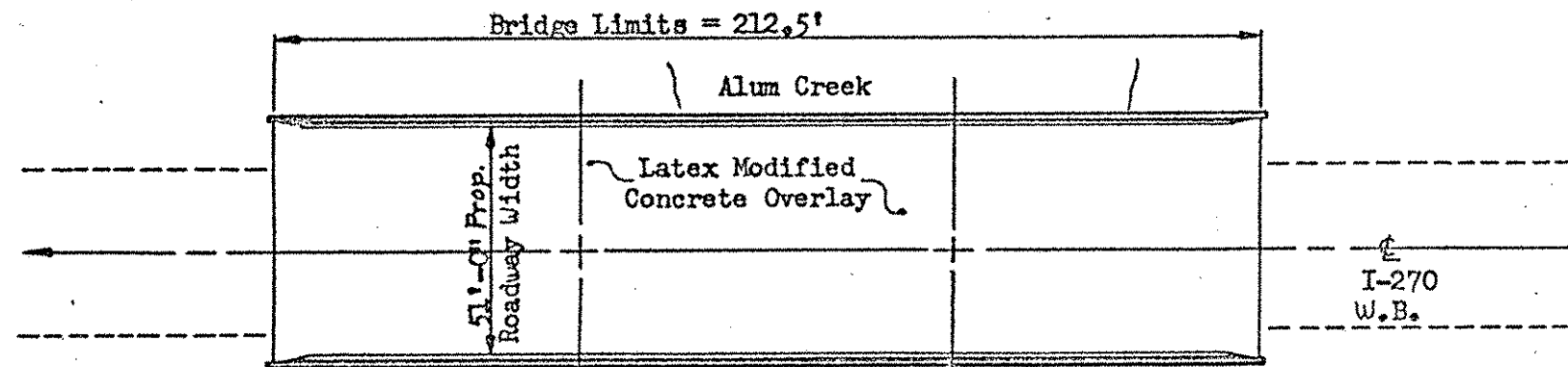
Proposed extensions for light poles, see plan sheet no. 30 for details.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS DISTRICT & BRIDGE DEPARTMENT						
PLAN VIEWS						
FRA-270-4488L&R FRA-270-4549L&R FRA-270-4613A FRA-270-4613L						
DESIGN	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
	3a2	3a2		EM	7-13-84	



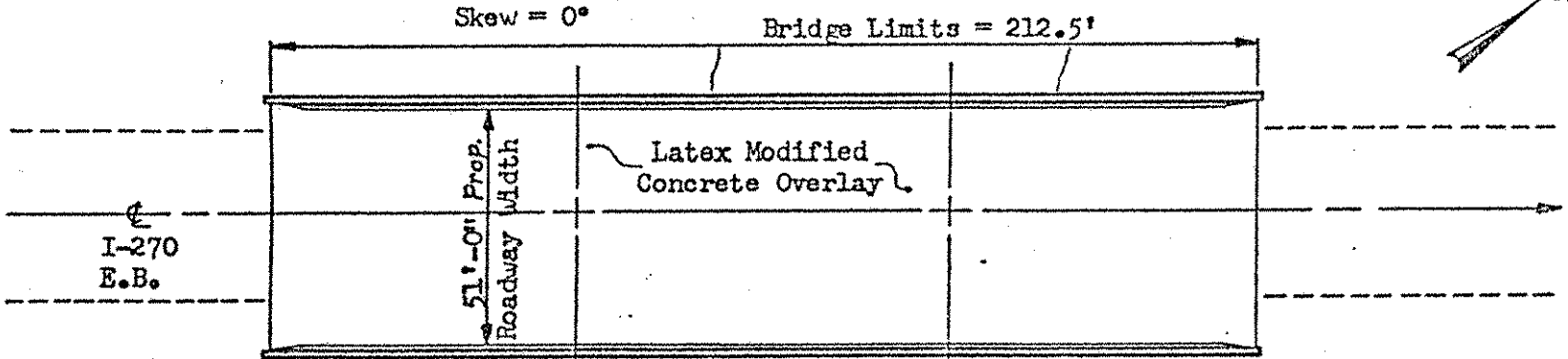
WINGWALL REMOVAL DETAIL

FRA-270-4470L&R
FRA-270-4742L&R
FRA-270-4802L&R



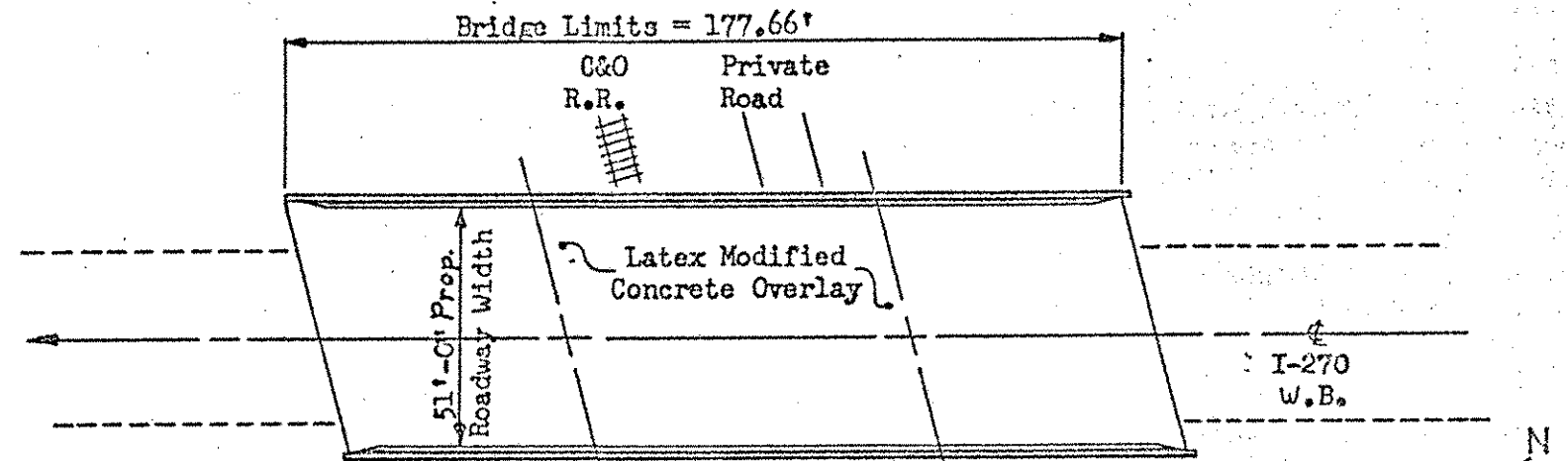
TYPICAL PLAN VIEW

FRA-270-4742R
Skew = 0°



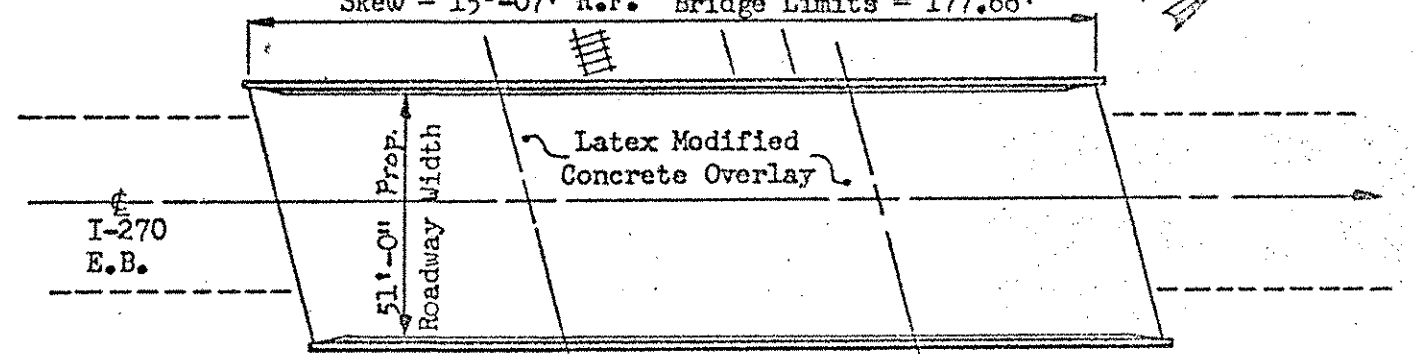
TYPICAL PLAN VIEW

FRA-270-4742L
Skew = 0°



TYPICAL PLAN VIEW

FRA-270-4802R
Skew = 15°-07' R.F. Bridge Limits = 177.66'

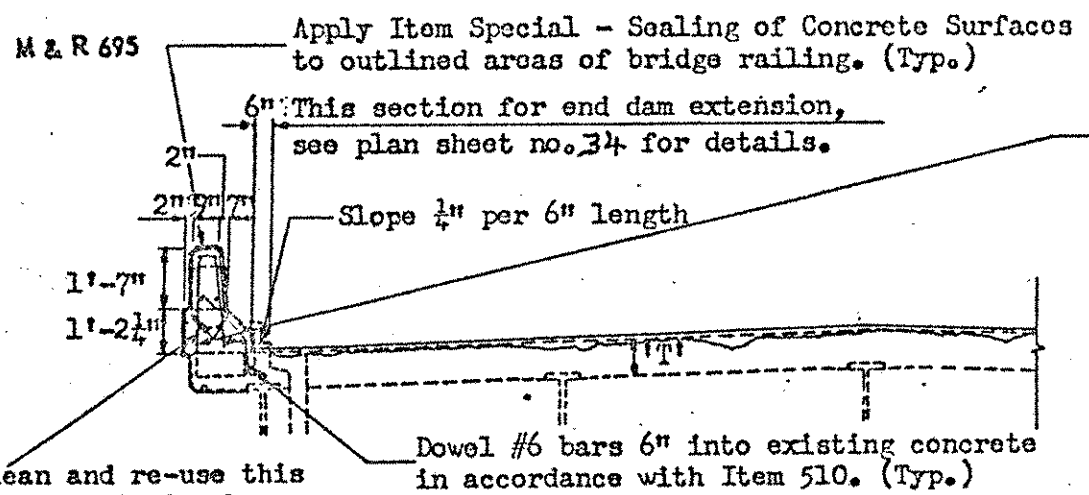


TYPICAL PLAN VIEW

FRA-270-4802L
Skew = 15°-07' R.F.

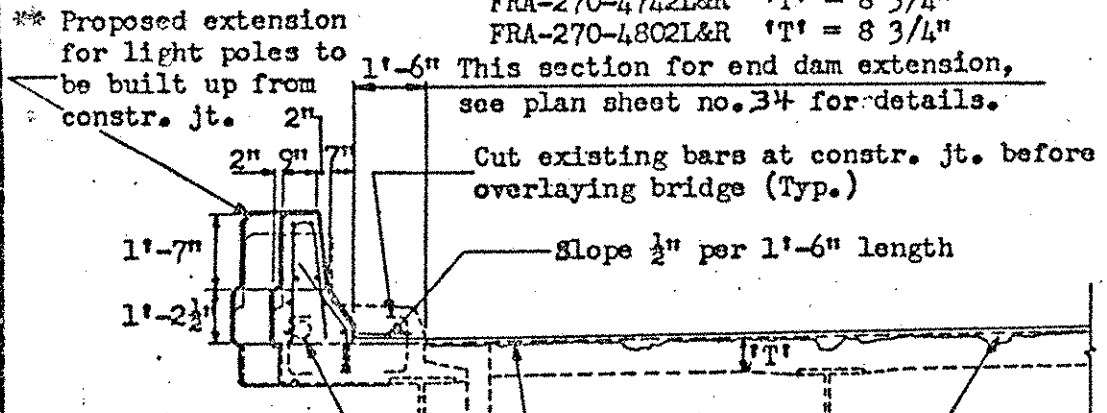
STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS DISTRICT 6 BRIDGE DEPARTMENT						
PLAN VIEWS & WINGWALL REMOVAL DETAIL						
FRA-270-4470L&R FRA-270-4742L&R FRA-270-4802L&R						
DESIGN	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	3a3	3a3		EM	7-18-81	

- FRA-270-4365L&R; 15-XE501 & 1-XE502 each line
- FRA-270-4470L&R; 8-XE501 & 1-XE503 each line (f.s.) & 7-XE501 each line (n.s.)
- FRA-270-4488L&R; 7-XE501 & 1-XE504 each line
- FRA-270-4549L&R; 3-XE501 & 1-XE505 each line (f.s.) & 2-XE501 each line (n.s.)
- FRA-270-4613A; 9-XE501 & 1-XE506 each line
- FRA-270-4613L; 9-XE501 & 1-XE506 each line
- FRA-270-4742L&R; 7-XE501 & 1-XE507 each line (f.s.) & 6-XE501 each line (n.s.)
- FRA-270-4802L&R; 6-XE501 & 1-XE508 each line (f.s.) & 5-XE501 each line (n.s.)



TYPICAL TRANSVERSE SECTION

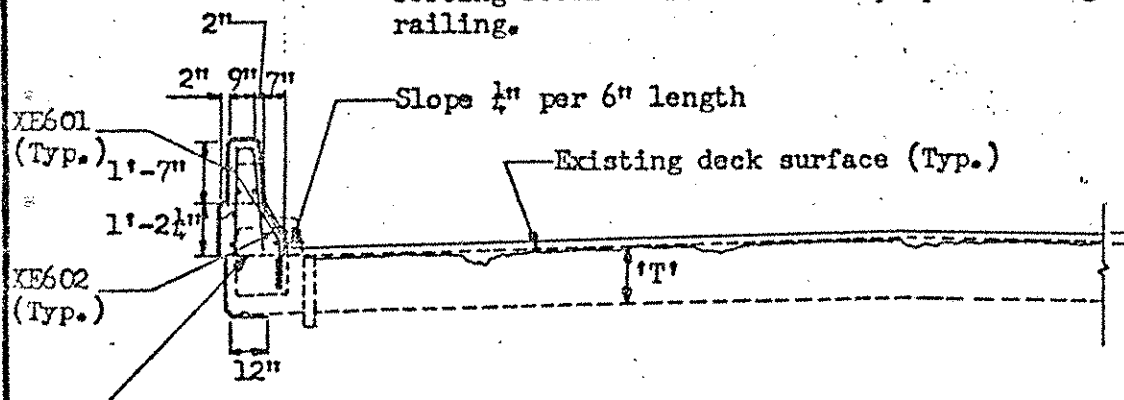
- FRA-270-4470L&R 'T' = 8 3/4"
- FRA-270-4488L&R 'T' = 8 3/4"
- FRA-270-4742L&R 'T' = 8 3/4"
- FRA-270-4802L&R 'T' = 8 3/4"



TYPICAL TRANSVERSE SECTION

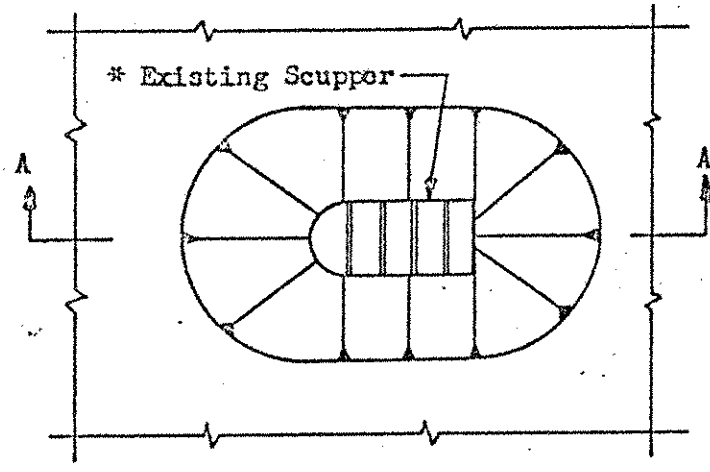
- FRA-270-4365L&R 'T' = 8 3/4"
- FRA-270-4613A 'T' = 8 3/4"
- FRA-270-4613L 'T' = 8 3/4"

** Clean and re-use existing reinforcing steel, spacing horizontal and vertical bars and tying them to proposed reinforcing steel. Cut reinforcing steel 2" from face of proposed bridge railing.

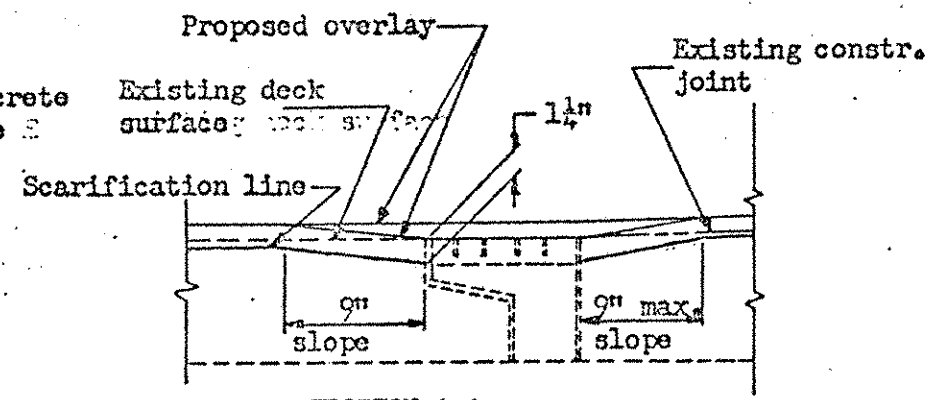


TYPICAL TRANSVERSE SECTION

- FRA-270-4549L&R 'T' = 16"



PLAN VIEW



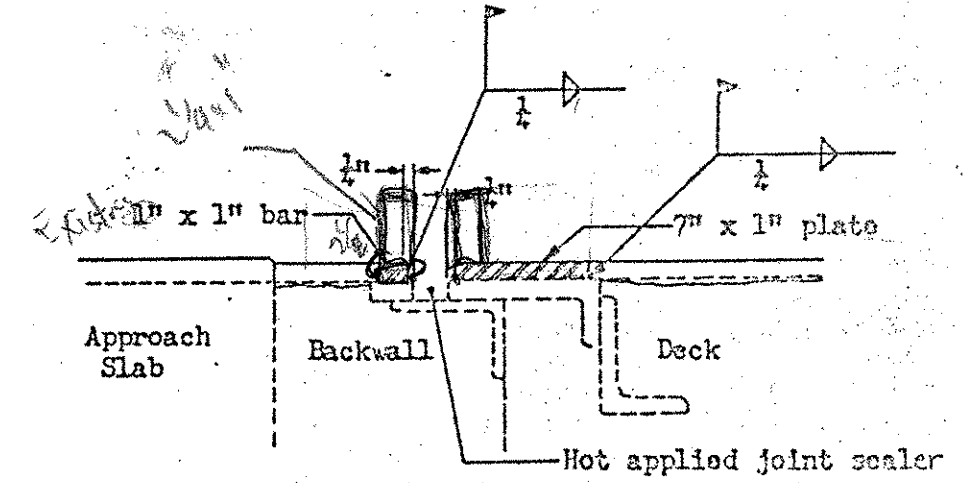
SECTION A-A

TYPICAL OVERLAY DETAIL AT SCUPPERS

* Scuppers found may be reversed 180° or of another type than that shown.

Note: Scarification of the existing bridge decks shown on this sheet shall be by Roto-Mill or by an approved equivalent. Removal of variable thickness shall be by nominal chipping hammer not to exceed the 35 lb. class and shall be operated at an angle of less than 45° with respect to the surface of the decks.

1 1/4" Latex Modified Concrete Overlay includes scarification (Typ.)

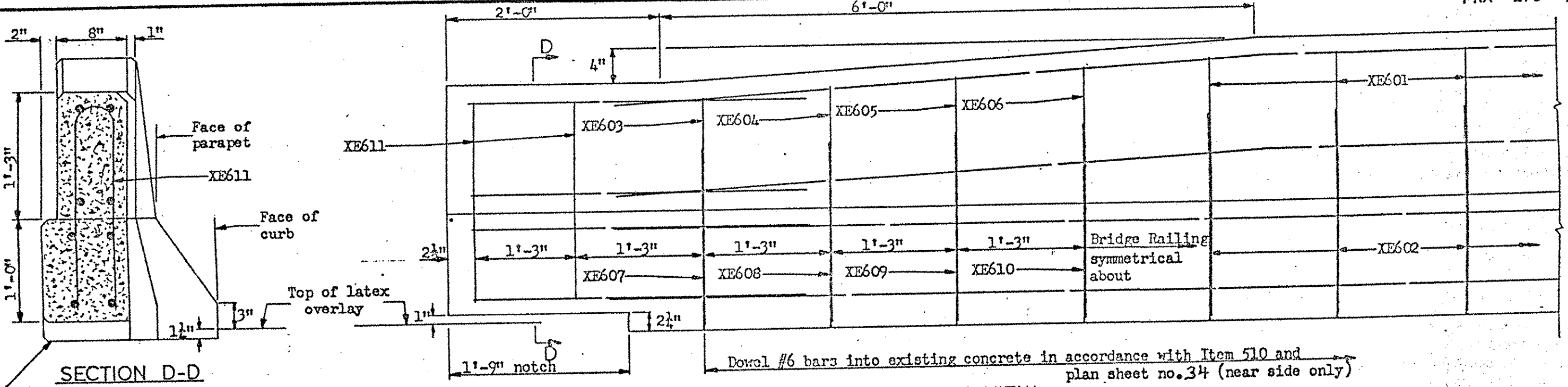


VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS

Surfaces of existing steel end dams to be welded shall be cleaned and free of scale, rust, moisture, grease, paint or other foreign material that will prevent proper weld. See Standard Drawing BP-5 for details not shown.

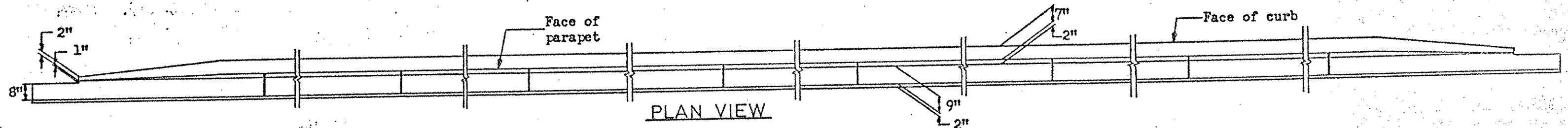
STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS DISTRICT 6 BRIDGE DEPARTMENT						
RESURFACING & REPAIR DETAILS						
FRA-270-4365L&R		FRA-270-4613A		FRA-270-4613L		
FRA-270-4470L&R		FRA-270-4613L		FRA-270-4742L&R		
FRA-270-4488L&R		FRA-270-4742L&R		FRA-270-4802L&R		
FRA-270-4549L&R		FRA-270-4802L&R				
DESIGN	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
2a2	2a2	2a2		EM	7-18-84	

PLAN NO.

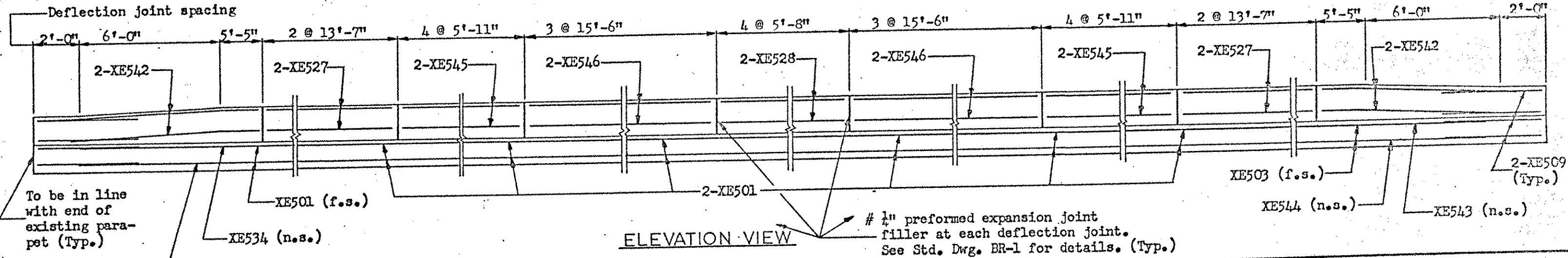


Existing constr. joint

TYPICAL ELEVATION VIEW



PLAN VIEW



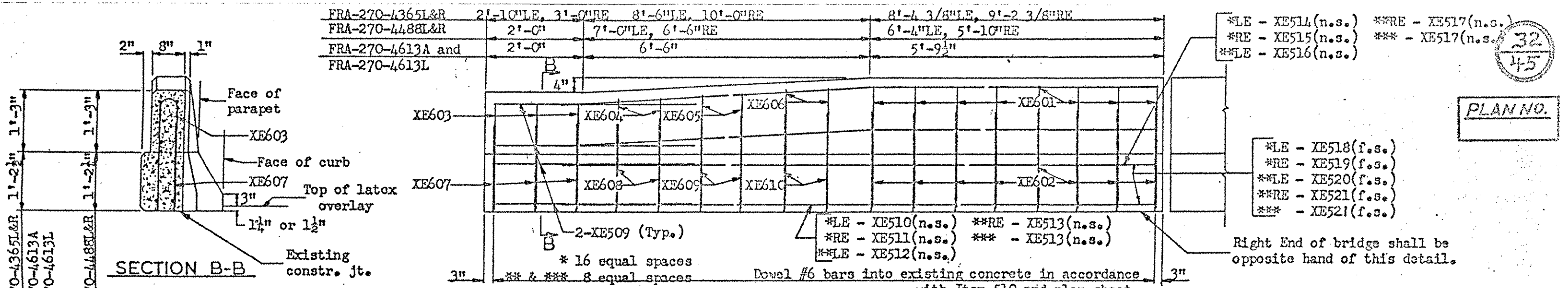
ELEVATION VIEW

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

**BRIDGE RAILING
DETAILS**

FRA-270-4470L&R

DESIGN	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
da ₂	da ₃	da ₃		En	7-18-84	

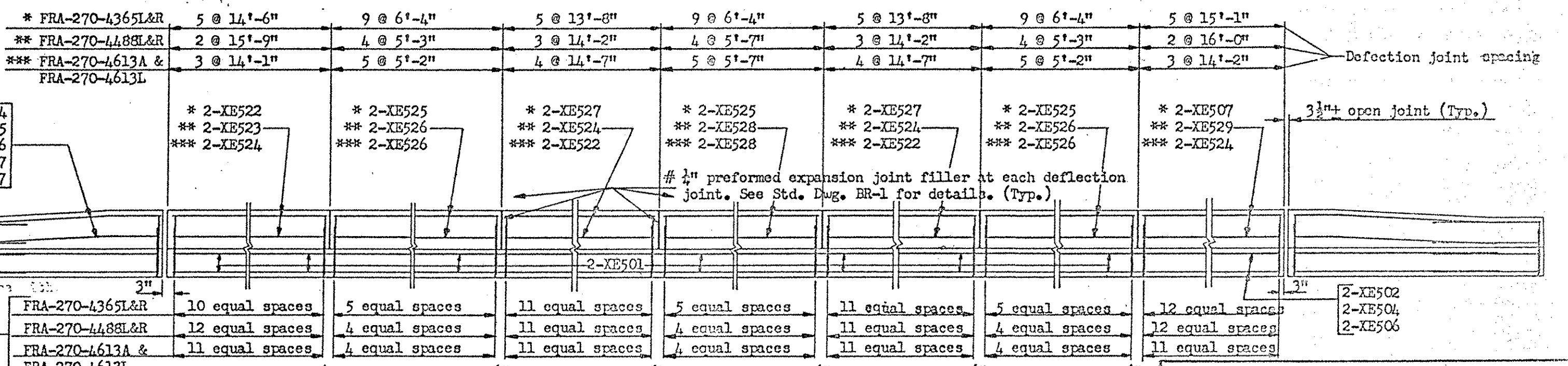
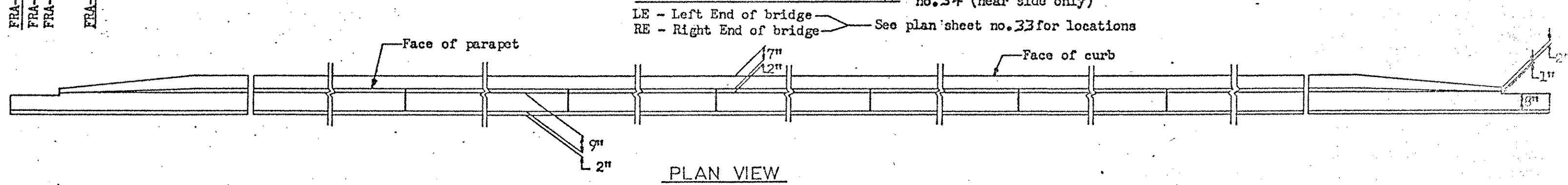


*LE - XE514(n.s.) **RE - XE517(n.s.)
 *RE - XE515(n.s.) *** - XE517(n.s.)
 **LE - XE516(n.s.)

32
45

PLAN NO.

*LE - XE518(f.s.)
 *RE - XE519(f.s.)
 **LE - XE520(f.s.)
 **RE - XE521(f.s.)
 *** - XE521(f.s.)



To be in line with end of existing parapet..(Typ.)

Spacing for XE601 & XE602 bars between deflection joints.

Min. 2" clearance between reinforcing steel and surface of concrete on all bridges.
 Lap #5 bars 1'-8" min.
 # Seal deflection joints with a silicone or polyurethane caulking meeting Federal Specification TT-5-230-A. (Include with Class 'C' Concrete for payment)

n.s. - near side
 f.s. - far side

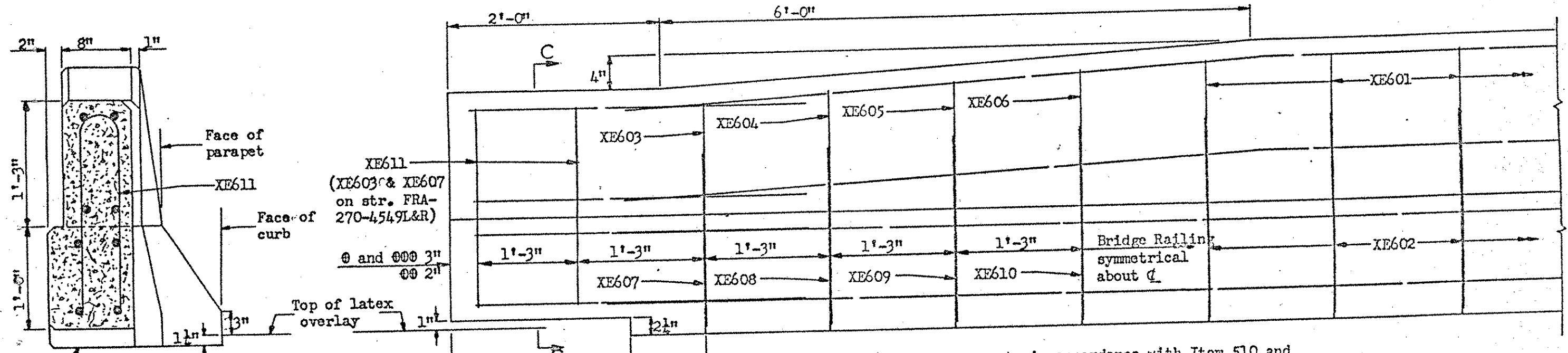
STATE OF OHIO
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 DISTRICT 6 BRIDGE DEPARTMENT

BRIDGE RAILING DETAILS

FRA-270-4365L&R
 FRA-270-4488L&R
 FRA-270-4613A
 FRA-270-4613L

DESIGN	DRAWN	TRACED	CHECKED	REVISIONS	DATE	REV. BY
2a3	3a3	3a3		EM	7-18-84	

PLAN NO.

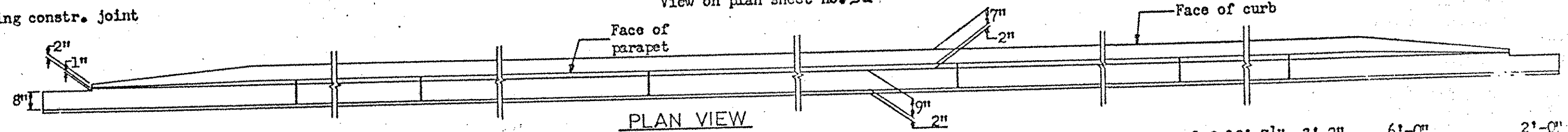


TYPICAL ELEVATION VIEW

End of bridge railing on str. FRA-270-4549L&R to look like Section B-B and Typical Elevation View on plan sheet no. 32

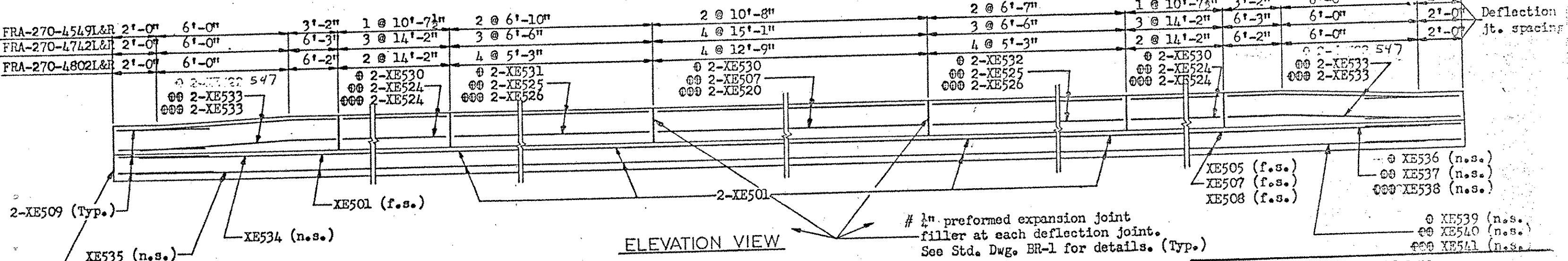
SECTION C-C
FRA-270-4742L&R
FRA-270-4802L&R

Existing constr. joint



PLAN VIEW

ELEVATION VIEW



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

**BRIDGE RAILING
DETAILS**

FRA-270-4549L&R
FRA-270-4742L&R
FRA-270-4802L&R

DESIGN	DRAWN	TRACED	CHECKED	REVIEWED
3/23	3/23	3/23		EM