



**ENGINEERING CONSTRUCTION CONTRACTING SECTION
MONTANA DEPARTMENT OF TRANSPORTATION**

As-Built Drawings

The following are as-built drawings for the structures. MDT provides them for informational purposes only. They do not include drawings for modifications to the structures, such as joint replacements and guardrail revisions and may not completely represent current conditions. Thus, some of the information contained in these documents may be out of date or not applicable with regard to the advertised project. The contractor should not rely solely on the as-built drawings provided for bidding purposes nor does any data in these files supersede the data in the contract documents.

STATE OF MONTANA
DEPARTMENT OF HIGHWAYS

BRIDGE PLANS & QUANTITIES
FEDERAL AID PROJECT NO. I-94-I (3) 45 P.E.
(34) 46 CONST. UNIT 3
CUSTER EAST & WEST (EAST SECTION)
YELLOWSTONE COUNTY

LIST OF DRAWINGS

SHEET NO.	DWG. NO.	TITLE
1	10229	GENERAL LAYOUT
2	10230	FOOTING PLAN
3	10231	ABUTMENTS NO. 1 W.B. & NO. 2 E.B.
4	10232	ABUTMENTS NO. 1 E.B. & NO. 2 W.B.
5	10233	WINGWALL DETAILS
6	10234	ERECTION PLAN & SLAB DETAILS
7	SBR-T5 (Rev. 7-31-72)	STANDARD STEEL BRIDGE RAIL TYPE-NO. 5
8	B-A (Rev. 3-31-72)	STANDARD PRESTRESSED CONCRETE BEAM TYPE A

ESTIMATED BRIDGE PLAN QUANTITIES (Quantities Do Not Include Any Contingencies)												
LOCATION			LENGTH IN FEET	REINFORCING STEEL LBS.	STRUCTURAL STEEL LUMP SUM	CLASS "AD" CONCRETE CU. YDS.	STRUCTURE EXC. TYPE I CU. YDS.	STEEL BRIDGE RAIL TYPE 5 LIN. FT.	PRESTRESSED BEAMS	STEEL BEARING PILES		PROTECTIVE COAT SQ. YDS.
									TYPE "A" EACH 75'	FURNISH LIN. FT.	DRIVE LIN. FT.	
WESTBOUND ROADWAY	ABUTMENT NO. 1			7,303	0.5	102.3 101.839	190 146.9			752 773.9	730 751.9	
	ABUTMENT NO. 2			7,303		102.3 101.830	190 157.1			906 827.2	884 805.2	
	SUPERSTRUCTURE		75.00	23,334	82.1 82.567		235.33	7				415 416.7
	SUB TOTAL		75.00	37,940	0.5	286.7 286.236	380 304.0	235.33	7	1658 1601.1	1614 1557.1	415 416.7
EASTBOUND ROADWAY	ABUTMENT NO. 1			7,303	0.5	102.3 101.830	190 136.8			818 760.1	796 738.1	
	ABUTMENT NO. 2			7,303		102.3 101.839	190 162.0			818 804.5	796 782.5	
	SUPERSTRUCTURE		75.00	23,334	82.1 82.567		235.33	7				415 416.7
	SUB TOTAL		75.00	37,940	0.5	286.7 286.236	380 298.8	235.33	7	1636 1564.6	1592 1520.6	415 416.7
TOTAL			150.00	75,880	1.0	573.4 572.472	760 602.8	470.66	14	3294 3165.7	3206 3077.7	830 833.4

TRAFFIC CONTROL - 56.00 UNITS

CHECKED BY RND 2-23-72
MADE BY L.V.A. 12-16-71

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8	MONT.	I-94-1(34)46	1	8

NOTES

LIVE LOAD: Standard HS 20-44 loading or alternate loading. Alternate loading for bridges and floor systems with spans under 40 feet consists of two axles four feet apart with each axle weighing 24,000 lbs.

FINISHED GRADE: Finished plan grade of bridge at R.Roadway as shown on ELEVATION is 0.32 ft. above profile grade shown on Road Plans.

SPECIFICATIONS: MONTANA STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 1970 EDITION, AND ANY AMENDMENTS THERETO, AND SPECIAL PROVISIONS SHALL GOVERN UNLESS OTHERWISE NOTED. DESIGN PREPARED IN ACCORDANCE WITH A.A.S.H.O. SPECIFICATIONS, 1969 EDITION, AND ANY AMENDMENTS THERETO.

CAST IN PLACE CONCRETE: UNLESS OTHERWISE APPROVED, ALL CONCRETE SHALL BE CLASS "A", AN "AIR ENTRAINING AGENT" SHALL BE ADDED TO ALL CONCRETE EXCEPT CLASS "A". CHAMFER ALL EXPOSED EDGES OF CONCRETE WITH ENCLOSED ANGLE LESS THAN 120°. 3/4" AND FILLET ENTRANT ANGLES 3/4" UNLESS OTHERWISE NOTED. ALL FORMS FOR DECK SLAB SHALL BE REMOVED.

STRUCTURAL STEEL: ALL STRUCTURAL STEEL SHALL BE MEASURED AND PAID FOR ON THE LUMP SUM BASIS AS SET FORTH IN THE STANDARD SPECIFICATIONS. TO AVOID OVERSIGHT THESE REQUIREMENTS SHALL BE CLEARLY NOTED ON THE SHOP DRAWINGS.

FOR REQUIREMENTS GOVERNING THE FABRICATION OF "STRUCTURAL STEEL" SEE THE STANDARD SPECIFICATIONS. TO AVOID OVERSIGHT THESE REQUIREMENTS SHALL BE CLEARLY NOTED ON THE SHOP DRAWINGS.

STRUCTURAL STEEL SHALL RECEIVE ONE (1) SHOP COAT OF RED LEAD OR BASIC LEAD SILTIC CHROMATE PRIMER AND TWO (2) FIELD COATS CONSISTING OF FIRST FIELD OR PRIMER COAT AND ONE (1) COAT OF ALUMINUM PAINT AS SPECIFIED IN THE STANDARD SPECIFICATIONS.

APPROVAL: SHOP PLANS SHALL BE APPROVED BY THE DEPARTMENT OF HIGHWAYS BEFORE FABRICATION IS BEGUN.

SETTING OF MASONRY PLATES: CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL SO AS TO CLEAR ANCHOR BOLTS. MASONRY PLATES SHALL BE PLACED ON THREE LAYERS OF CANVAS THOROUGHLY SHABBED WITH RED LEAD AS CALLED FOR IN THE STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL FINISH CONCRETE UNDER MASONRY PLATES TO THE EXACT ELEVATION SHOWN. BUSH HAMMERING WILL BE PERMITTED AND USED ONLY AS A MEANS OF LEVELING THE CONCRETE SURFACE TO ASSURE FULL AND LEVEL BEARING AND TO REMOVE LAITANCE. LOOSE AND FOREIGN MATERIAL. STEEL SHIMS SHALL BE USED TO BRING THE MASONRY PLATES UP TO GRADE IF NECESSARY. STEEL SHIMS SHALL BE THE SAME SIZE EXCEPT FOR THICKNESS, AS THE MASONRY PLATE. MINIMUM THICKNESS OF ANY SHIMS SHALL BE 1/8". THE COST OF BUSH HAMMERING AND SHIMS, IF ANY, SHALL BE INCLUDED IN THE UNIT PRICES BID FOR CLASS "A" CONCRETE.

FOOTINGS: ELEVATIONS SHOWN FOR BOTTOM OF FOOTINGS ARE APPROXIMATE ONLY. FINAL ELEVATIONS TO BE DETERMINED BY THE ENGINEER.

PROTECTIVE COATING: DECK, CURBS AND CONCRETE END POSTS SHALL BE GIVEN A PROTECTIVE COATING OF BOILED LINSEED OIL. "SEE STANDARD SPECIFICATIONS".

FOUNDATION FILES: FOR BIDDING PURPOSES ONLY, PILE LENGTHS HAVE BEEN ESTIMATED AS SHOWN ON DRAWINGS.

COVERING: THE MINIMUM COVERING, MEASURED FROM THE SURFACE OF THE CONCRETE TO THE FACE OF ANY REINFORCEMENT BAR, SHALL BE NOT LESS THAN 2 INCHES EXCEPT AS FOLLOWS OR OTHERWISE NOTED:

BOTTOM OF SLAB 1 INCH
STIRRUPS AND TIES 1 1/2 INCHES

IN ALL FOOTINGS AND PIER SHAFTS, THE MINIMUM COVERING SHALL BE 3 INCHES.

UTILITIES: FOR LOCATION OF UTILITIES, SEE APPROPRIATE ROAD PLANS SHEET.

STATE OF MONTANA DEPARTMENT OF HIGHWAYS

CUSTER INTERCHANGE
AT STA. 270+52.00
FEDERAL AID PROJECT NO. I-94-1(34)46
YELLOWSTONE COUNTY

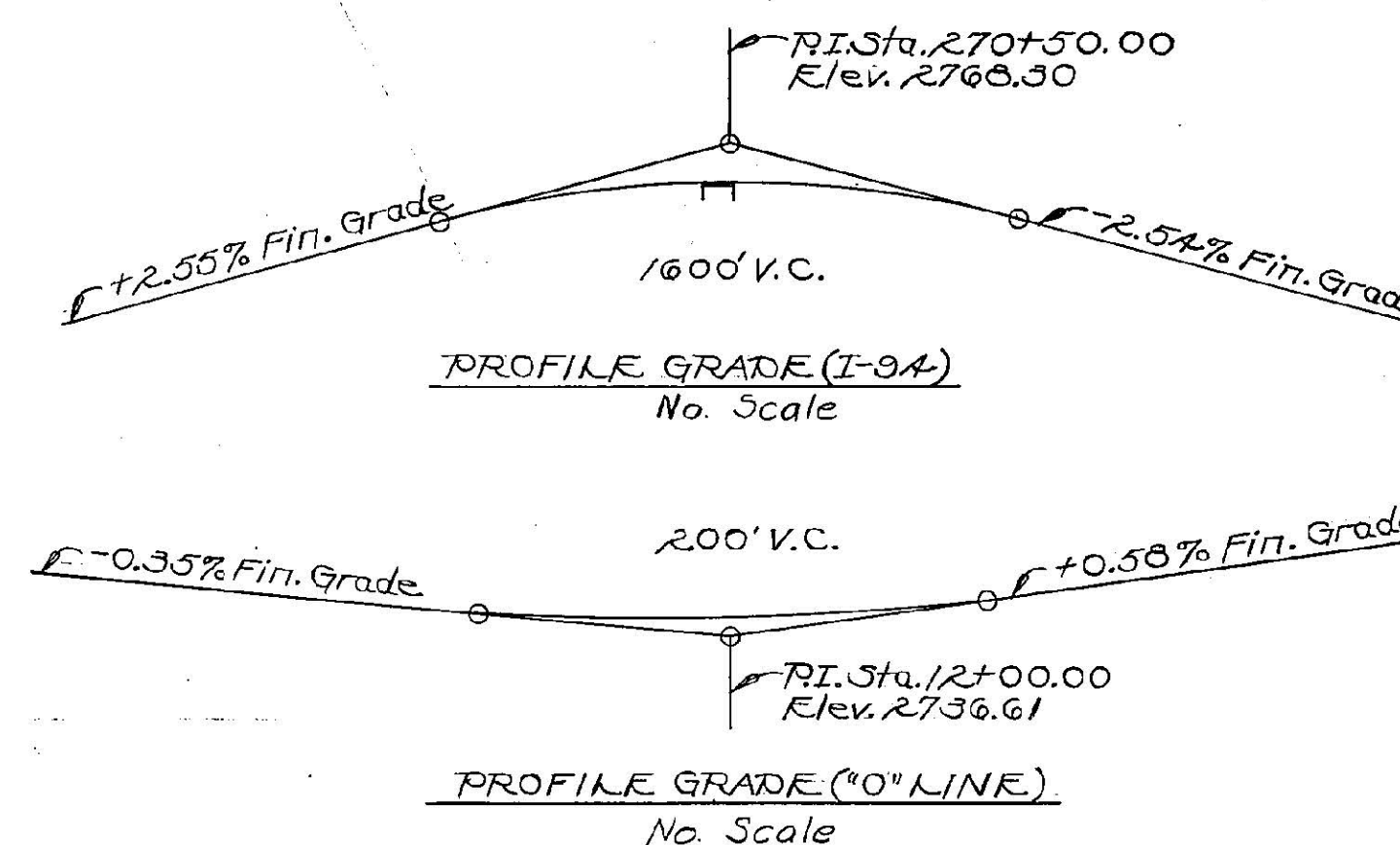
GENERAL LAYOUT

Scale: 1"=20'-0" Except as Noted

DESIGNED	6-25-70 J.C.D.
DRAWN	2-23-72 R.A.D.
CHECKED	7-11-72 Hes.
APPROVED	
REVISED	
REVISOR	

Revised By: D. G. G. 1-30-13

DRAWING NO. 10229



CURVED DATA: Proj. & Median

$\Delta = 6^{\circ}30'00''$ L.A.

$D = 0^{\circ}15'$

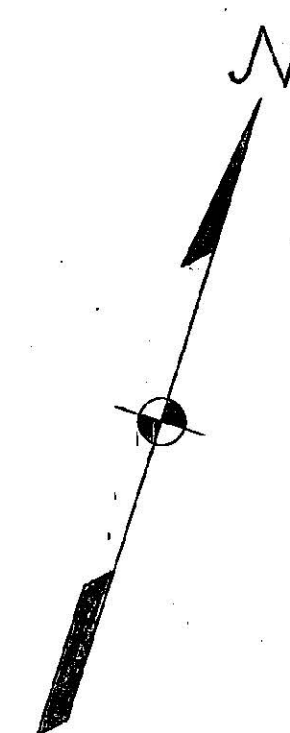
$T = 1501.6'$

$L = 2600.0'$

$R = 22919.32$

$S.E. = N.C.$

$P.I. Sta. 283181.7$



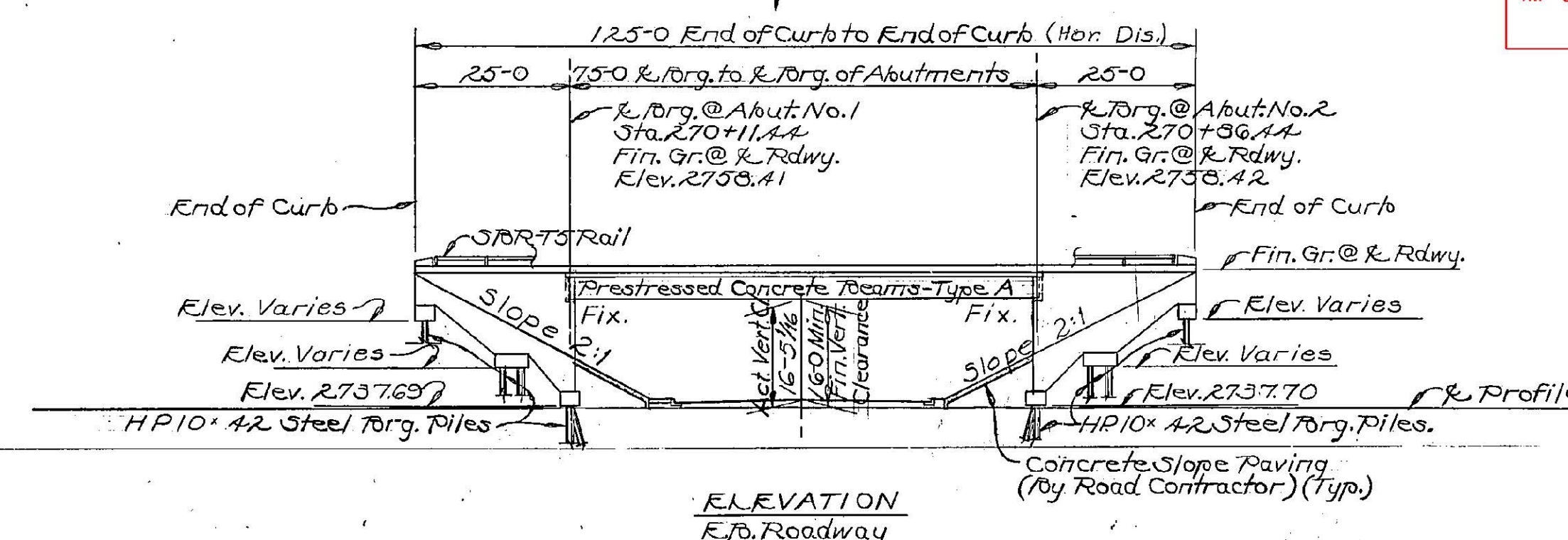
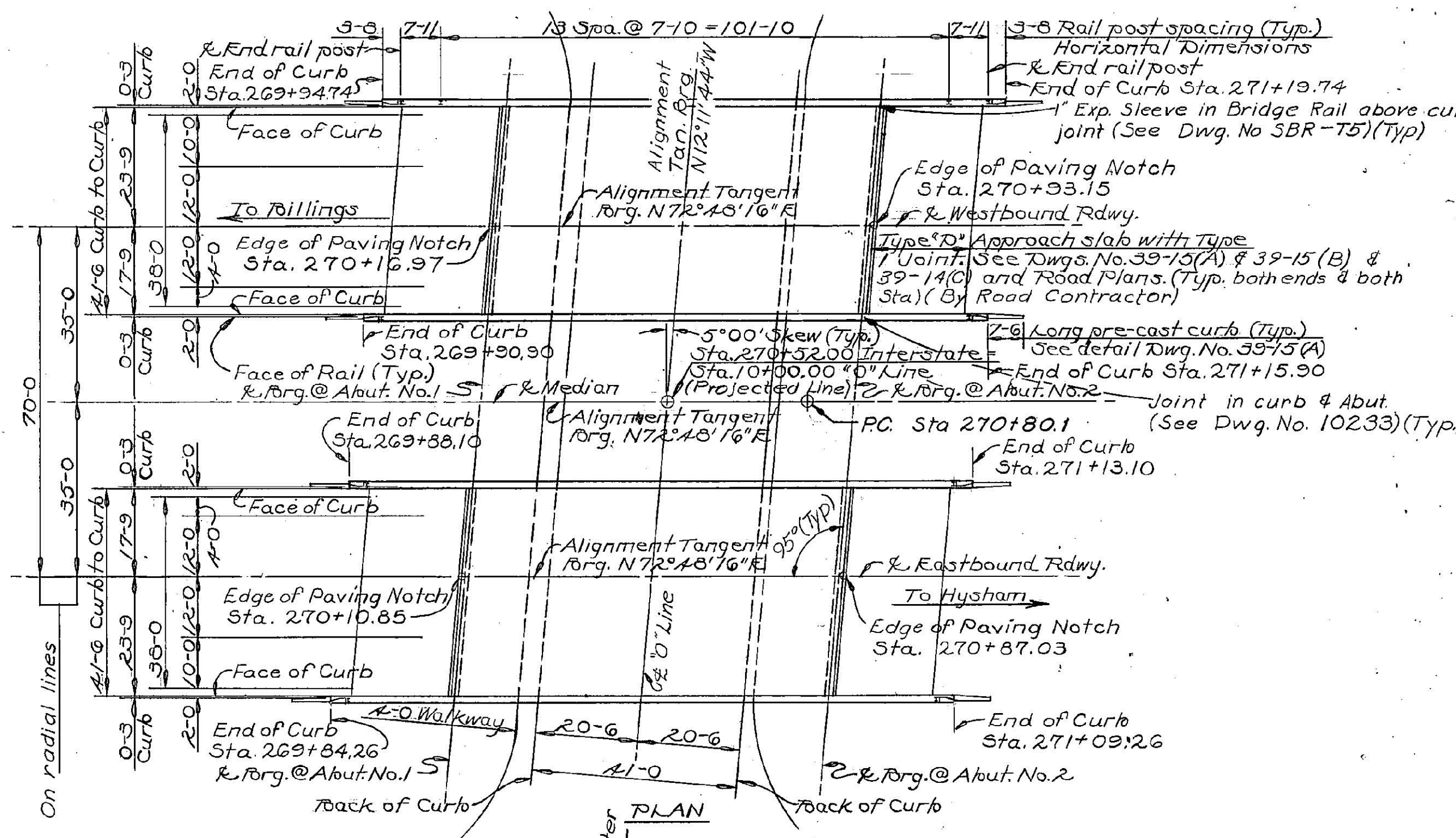
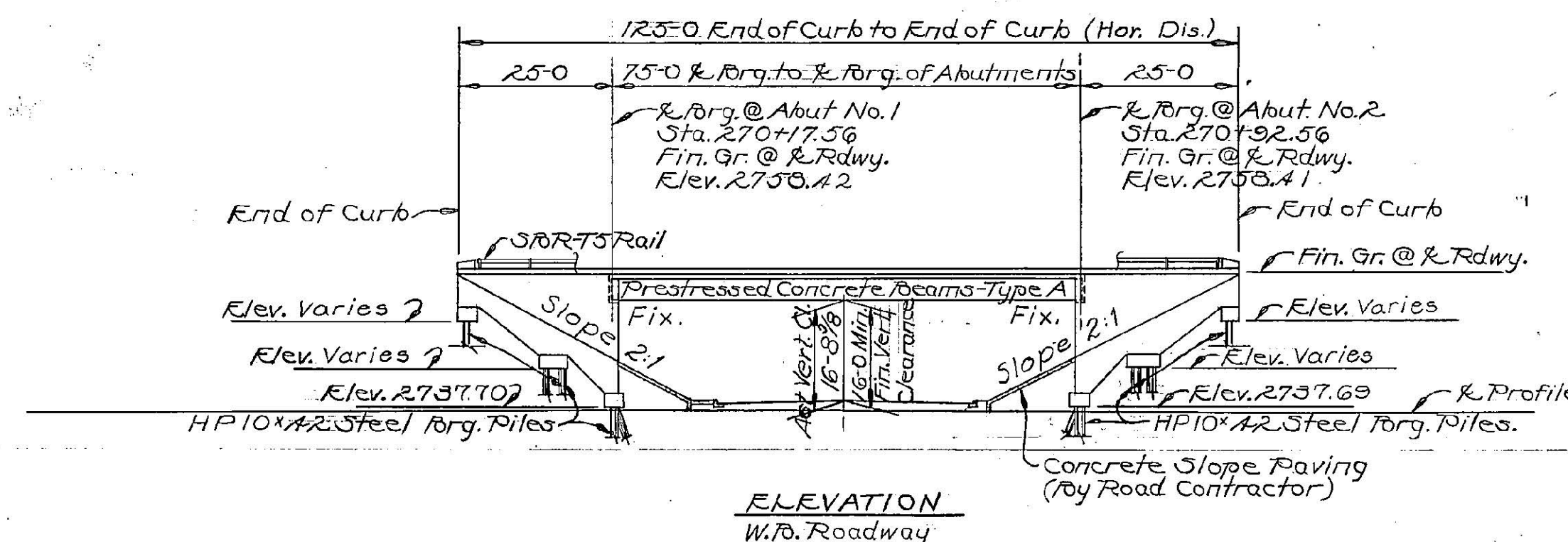
SEQUENCE OF WORK: No work shall be performed on Abutments No. 1 & No. 2 until the approach embankment are constructed to subgrade elevation. (See Special Provisions)

BACKFILL: The superstructure shall be in place prior to placing backfill. Backfill to be kept at approximately the same elevation during the backfill operation. See Art. 11.04(B) of the Standard Specifications.

MAINTENANCE OF TRAFFIC: For Maintenance of Traffic see Special Provisions

THIS CONTRACT
IM 94-1(79)47
Revise Bridge Rail-Concrete Barrier
Bridge Deck Crack Seal
See Dwg. No. 21734

Note: Slab and Curb to be built on tangent to curve @ Med. Sta. 270+52.00
Brq. N 72° 18' 16" E



Datum Elev.
2730.00

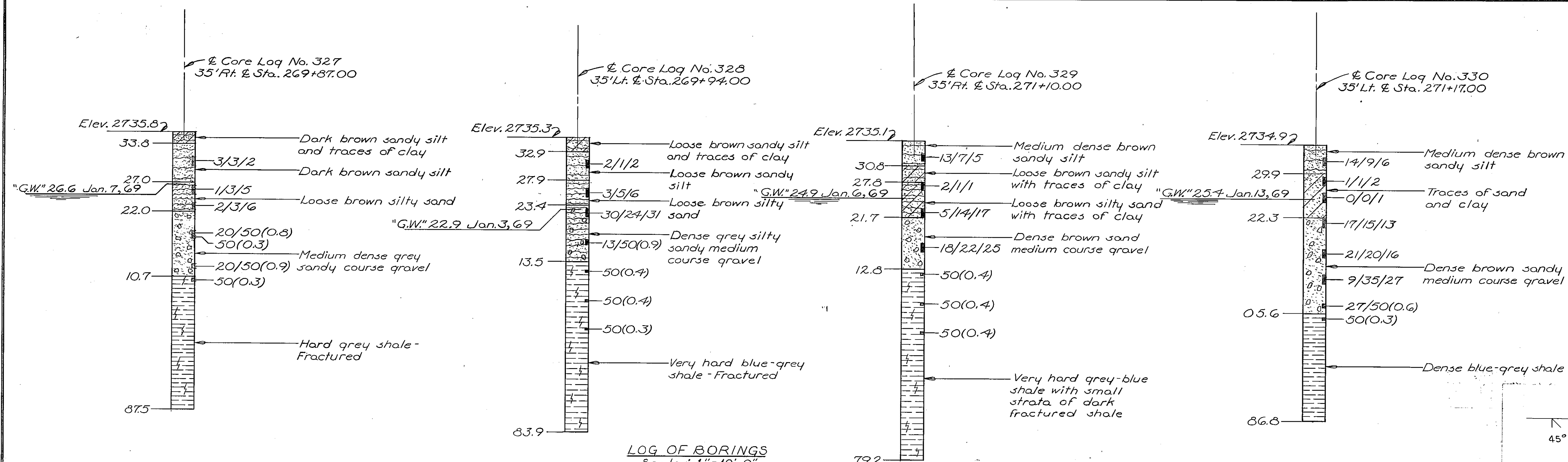
Datum Elev.
2730.00

NOTES

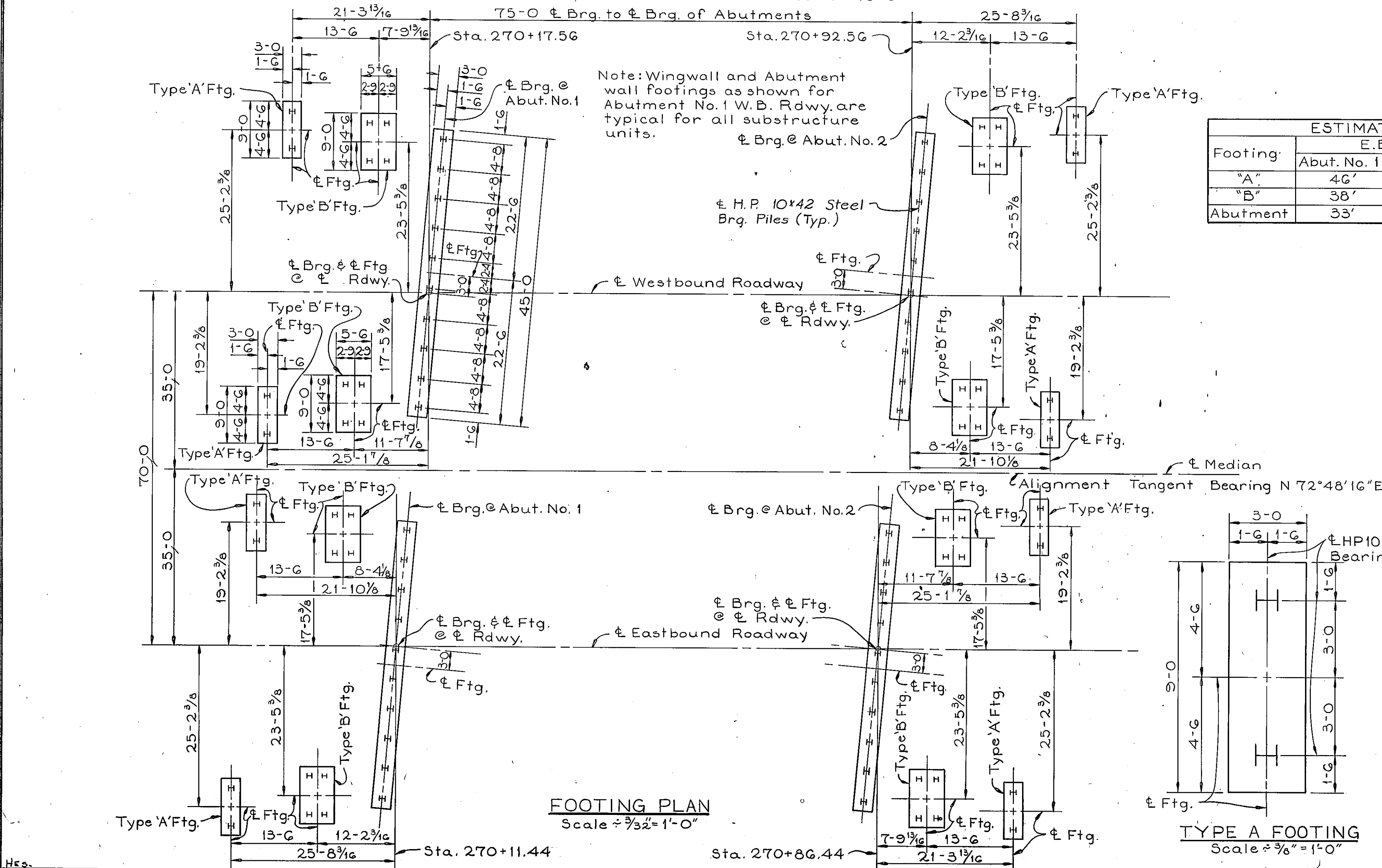
SOILS AND FOUNDATION MATERIALS: BORINGS WERE TAKEN BY THE DEPARTMENT OF HIGHWAYS AT THE POINTS SHOWN ON THE GENERAL LAYOUT OR FOOTING PLAN.

THE SERIES OF NUMBERS SHOWN ON THE LOG OF BORINGS INDICATES THE NUMBER OF BLOWS PER 6" PENETRATION FOR EACH NUMBER OF THE SERIES OF A 2" SAMPLE TUBE WHICH WAS DRIVEN IN ACCORDANCE WITH THE STANDARD PENETRATION TEST MADE WITH A 2" SPLIT TUBE SAMPLER USING A 140# HAMMER HAVING A 30" DROP. THE TOTAL PENETRATION OF THE SAMPLER TUBE IS INDICATED ON THE CORE LOGS AFTER EACH SERIES IF 6" PENETRATION WAS NOT ACHIEVED IN 50 BLOWS.

THE DEPARTMENT OF HIGHWAYS DOES NOT ASSUME ANY RESPONSIBILITY FOR ANY VARIATION OR MISINTERPRETATION OF THE CLASSES OF MATERIALS, AND ADJUSTMENT IN BID PRICES WILL NOT BE MADE IF THE MATERIALS FOUND DO NOT AGREE WITH THOSE SHOWN IN THE LOG OF BORINGS.



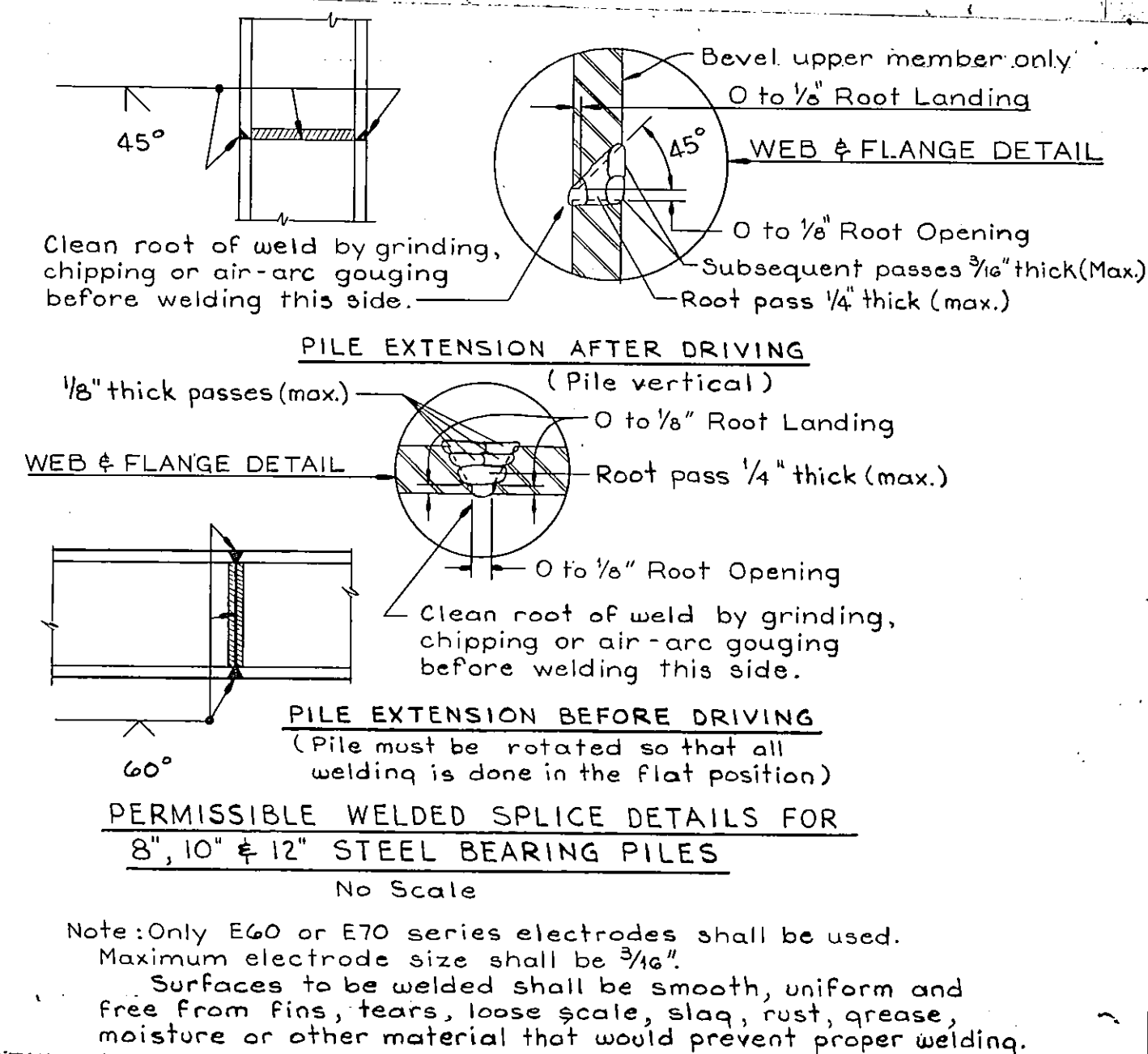
LOG OF BORINGS
Scale 1" = 10'-0"



Footing	E.B. Rdwy.		W.B. Rdwy.	
	Abut. No. 1	Abut. No. 2	Abut. No. 1	Abut. No. 2
"A"	46'	46'	43'	50'
"B"	38'	38'	35'	42'
Abutment	33'	33'	30'	37'

TYPE A FOOTING
Scale 3/8" = 1'-0"

TYPE B FOOTING
Scale 3/8" = 1'-0"



STATE OF MONTANA DEPARTMENT OF HIGHWAYS

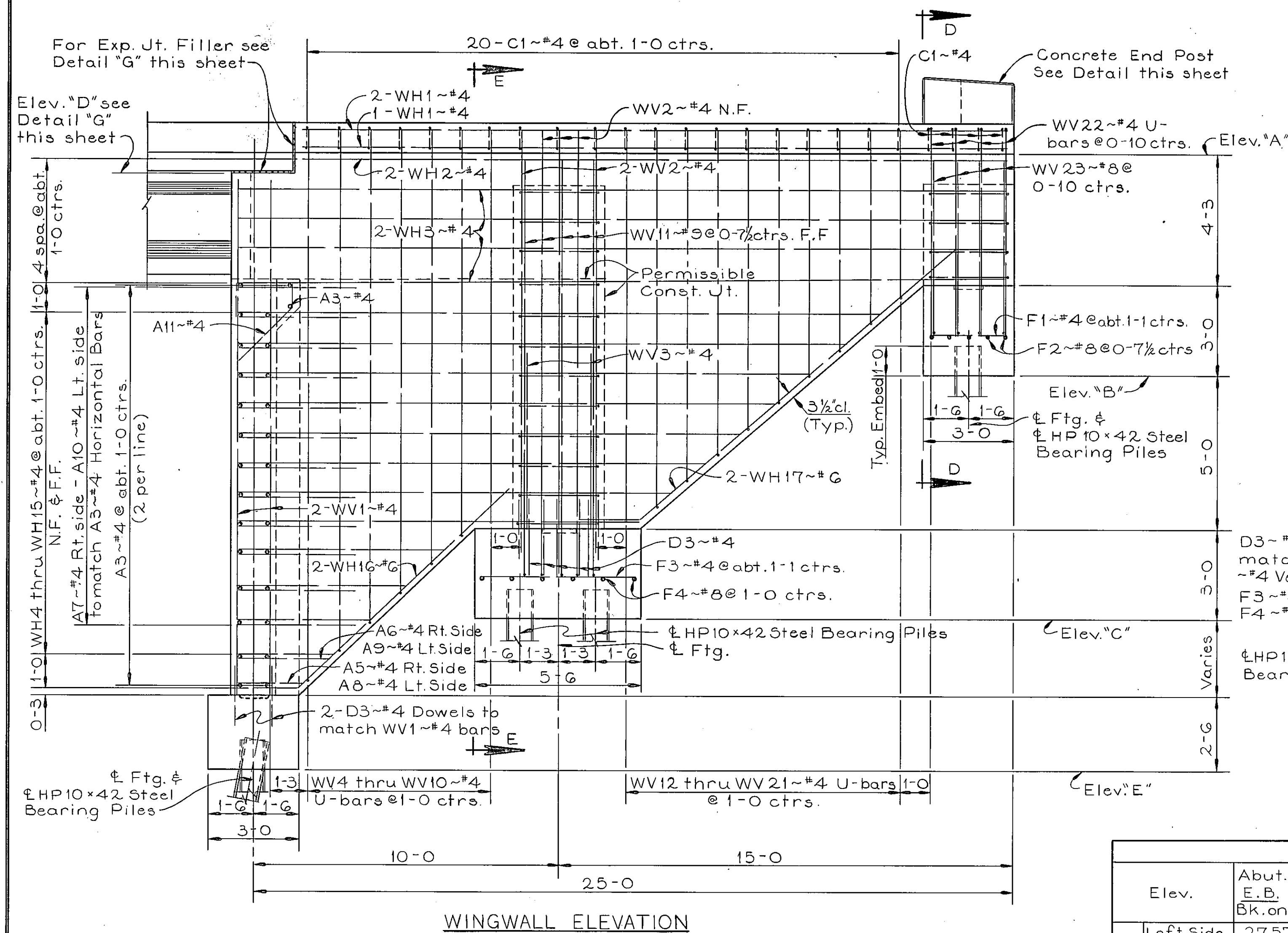
CUSTER INTERCHANGE
AT STA. 270+52.00
FEDERAL AID PROJECT NO. I-94-1(34)46
YELLOWSTONE COUNTY

FOOTING PLAN

Scale As noted

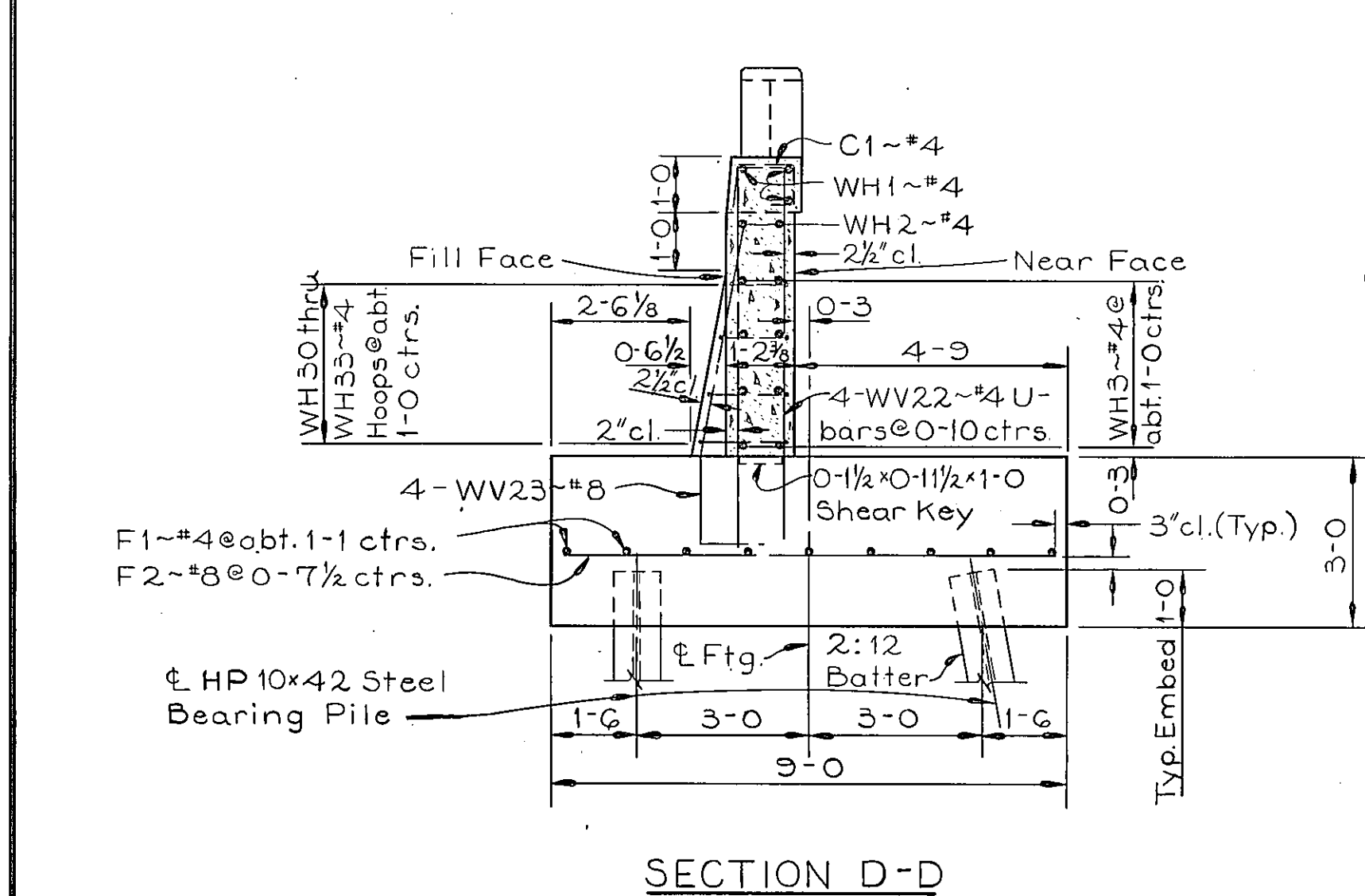
DRAWING NO. 10230

DESIGNED		
DRAWN	2-21-69	PK
TRACED		
CHECKED	2-23-72	RMD
REVISED		
REVISED		

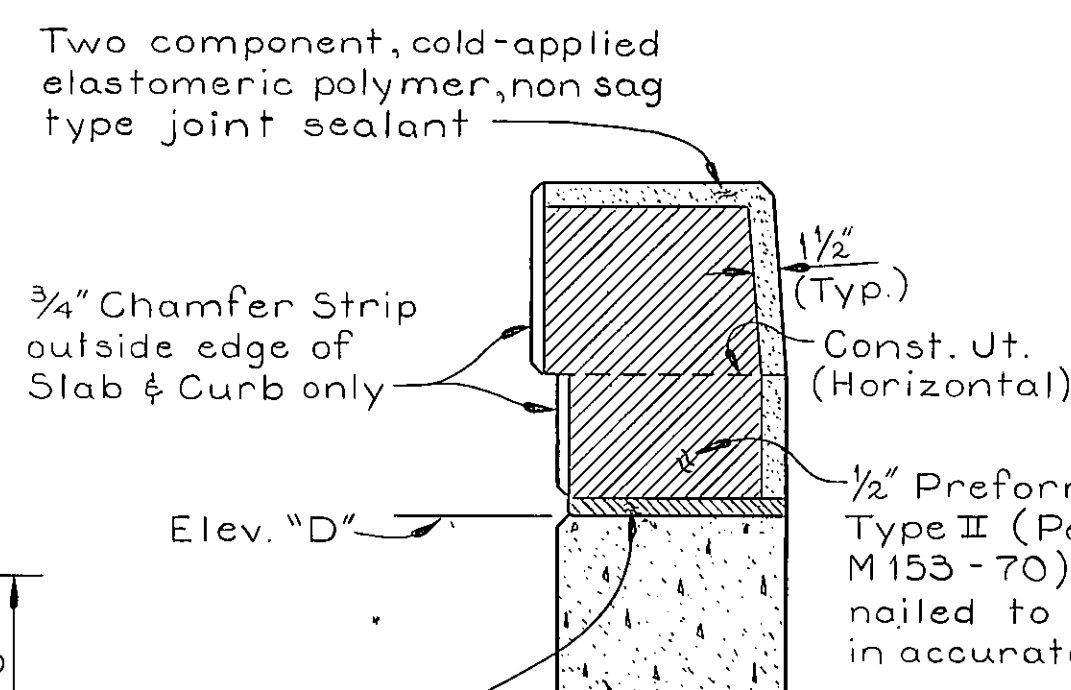


WINGWALL ELEVATION

Note: For estimated pile lengths
see Dwg. No 10230

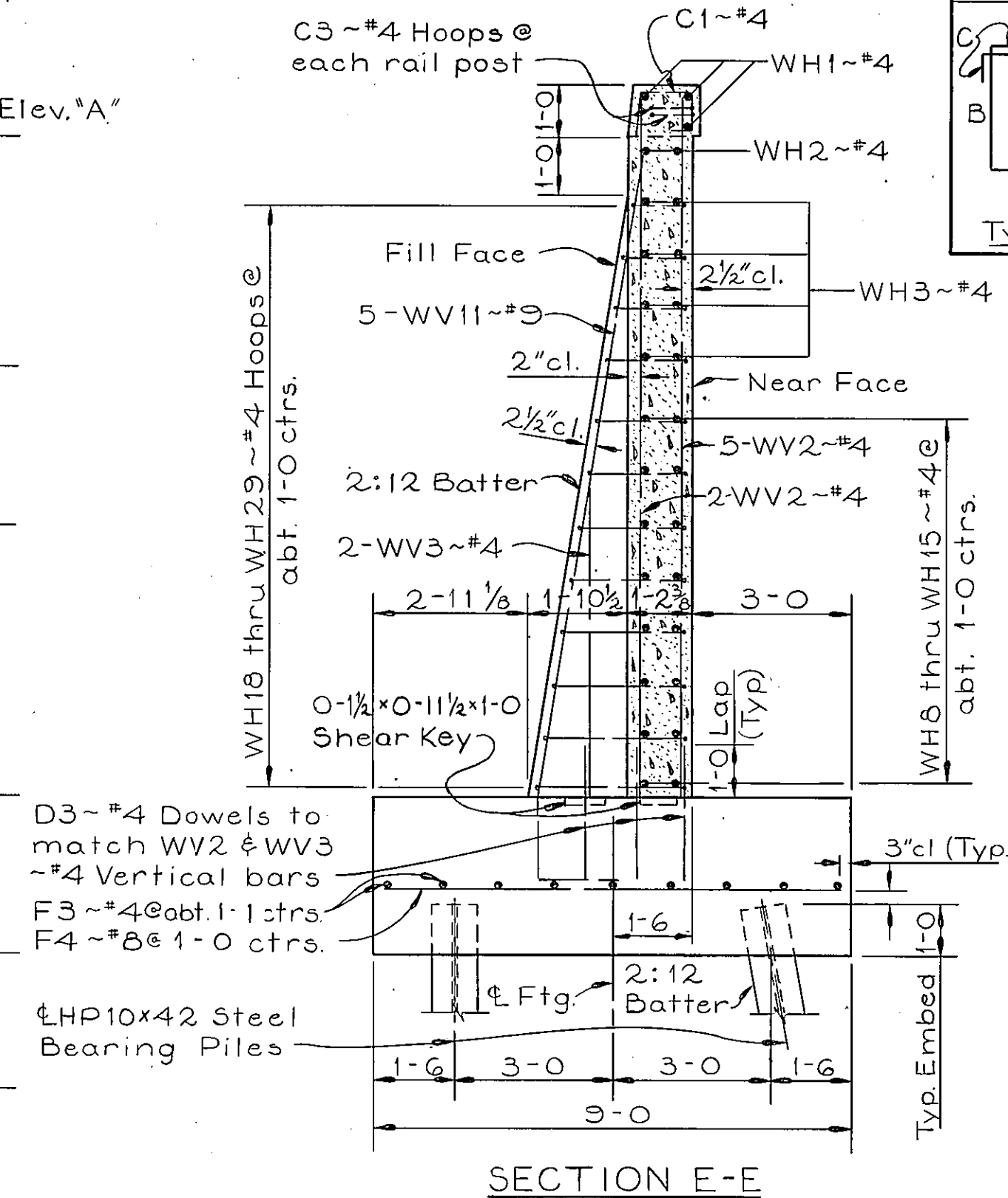


SECTION D-D

DETAIL G

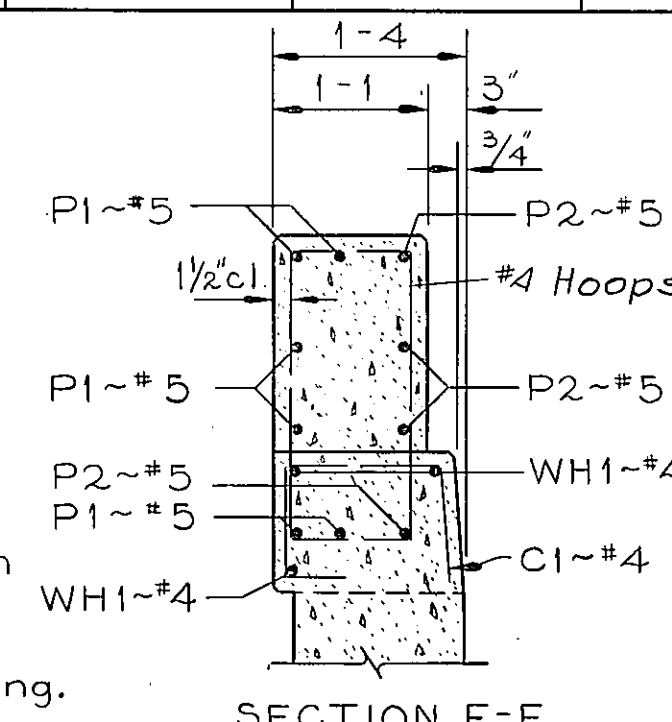
Scale $\approx 1'' = 1' - 0''$

1" Preformed Exp. Ut. Filler
Type II (Per AASHO Designation
M153-70) To be securely
nailed to concrete and held
in accurate position while pouring



SECTION E-E

TABLE OF ELEVATIONS					
Elev.		Abut. No. 1 E.B. Rdwy. Bk. on line	Abut. No. 2 W.B. Rdwy. Ahd. on line	Abut. No. 1 W.B. Rdwy. Bk. on line	Abut. No. 2 E.B. Rdwy. Ahd. on line
A	Left Side	2757.89	2757.89	2758.02	2758.02
	Right Side	2758.02	2758.02	2757.91	2757.91
B	Left Side	2750.64	2750.64	2750.77	2750.77
	Right Side	2750.77	2750.77	2750.66	2750.66
C	Left Side	2742.64	2742.64	2742.77	2742.77
	Right Side	2742.77	2742.77	2742.66	2742.66
D	Left Side	2757.22	2757.22	2757.34	2757.34
	Right Side	2757.34	2757.34	2757.23	2757.23
E		2737.69	2737.69	2737.70	2737.70



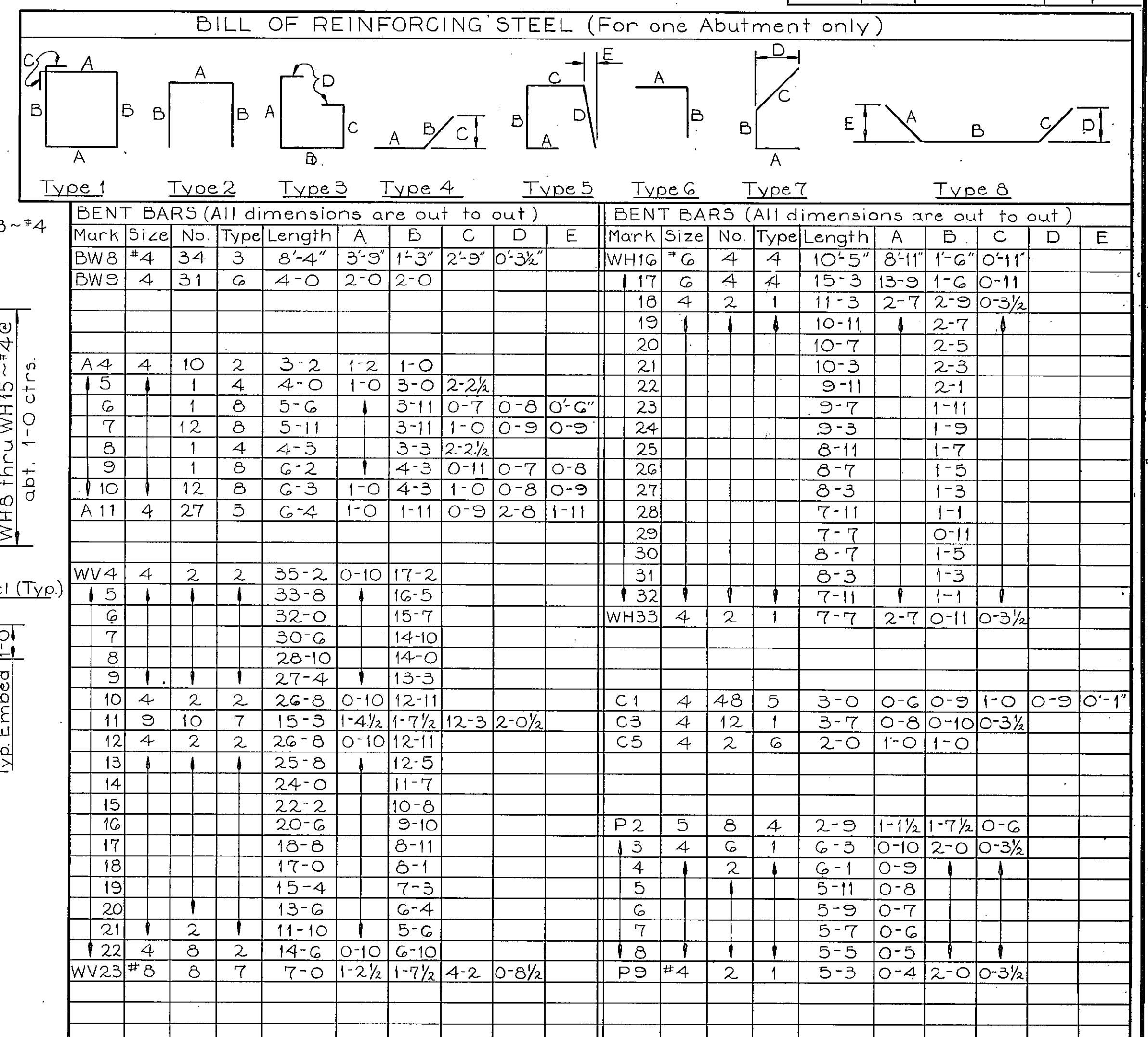
SECTION F-F

Note: For additional
End Post Details
see Dwg. No. SBR-T5.

Note: Curbs and End Postson wingwalls shall not be placed until the backwall has been placed to subgrade elevation and curbs on slab spans are in place.

CONCRETE END POST DETAILS.

Scale $\approx 3/4" = 1'-0"$

[illegible]

* D1 ~ Smooth bars shall conform to ASTM A-36 Steel.

STATE OF MONTANA
DEPARTMENT OF HIGHWAYS

CUSTER INTERCHANGE

AT STA. 270+52.00

FEDERAL AID PROJECT NO. I-94-1(34)46

YELLOWSTONE COUNTY

WINGWALL DETAILS

Scale $\approx \frac{3}{8}'' = 1'-0''$ (Except as noted)

DESIGNED	1-8-71	F.L
DRAWN	3-1-71	ANK
CHECKED	2-23-72	R.NC
REVISED		
REVISED		
REVISED		

